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Reflexivity and Reciprocity in Two Arabic Varieties: Evidence for REF-REC Category

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Abstract

Languages vary in expressing reflexivity and reciprocity. In some languages, reflexive and reciprocal constructions are formally identical, while in some other languages, they are distinct. The third group comprises languages that have non-reflexive and reflexive–reciprocal (REF-REC) constructions. This paper investigates marking reflexivity and reciprocity in Standard Arabic and Jordanian Arabic. It demonstrates that these two varieties possess a non-reflexive reciprocal category and a REF-REC category, placing them within the third group. However, these varieties are peculiar in terms of having three possible interpretations of a sentence embedding this category: only reflexive, only reciprocal, and simultaneously both. This peculiar case has been interpreted as a case of sentential vagueness: each of the two markers in the target varieties has a univocal meaning, and the range of possible sentential interpretations arises from contextual clues. From a cross-linguistic perspective, this paper also identifies a novel source of reflexive marking: the nominal *haal* in Jordanian Arabic. This nominal, which primitively means ‘(personal) state’, is the conceptual strategy for reflexivity in this variety.

Keywords: reflexivity and reciprocity; REF-REC category; Standard and Jordanian Arabic; grammaticalization source; nominal meaning ‘(personal) state’

1. Introduction

Previous research in Arabic linguistics has explored semantic variation, pragmatic meaning, and context-sensitive interpretation across Arabic varieties (Abu-Rahme et al., 2025; Aburahme, 2021; Alkarazoun & Rizi, 2025; Ja’afreh, 2023; Meqdad et al., 2023; Rizi & Hamdan, 2023). Reflexivity and reciprocity can be regarded as universal categories.¹ Based on Maslova and Nedjalkov’s (2005) survey of reflexivity and reciprocity in 158 languages, Heine and Miyashita (2008) propose that natural languages can be classified into three groups: (1) Languages wherein the reciprocal category is formally distinct from the reflexive one. This group represents most of the surveyed languages (i.e., around two-thirds). (2) Languages that have a REF-REC category. In these languages, reciprocal and reflexive constructions are formally identical, as one grammatical form is used to encode both reflexivity and reciprocity (Heine & Miyashita, 2008, p. 173). This group constitutes almost one-third of the surveyed languages. (3) Only one-tenth of these languages constitute a third group wherein distinct reciprocal and REF-REC categories coexist.

The current study is confined to reflexivity and reciprocity in two Arabic varieties: Standard Arabic (SA) and Jordanian Arabic (JA). Our goal is to determine whether they



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distinguish between reflexive and reciprocal categories and to diagnose the availability of a REC-REF category in these varieties. Can they denote reciprocity along with reflexivity? Given the typology of reflexivity and reciprocity proposed by Heine and Miyashita (2008), this study aims to determine to which group these two Arabic varieties belong.

SA and JA distinguish between reflexive and reciprocal categories. The examples in (1) from SA and those in (2) from JA confirm this distinction. The item *nafs* ‘self’ is reflexive, and *baʿḍ*⁵-V-PRO (*ʔal-baʿḍ*⁵) ‘some’ is reciprocal in SA. Likewise, *haal* ‘self’ is reflexive, whereas *baʿḍ*⁵(-PRO) ‘some’ is reciprocal in JA.

- | | | | | | |
|-----|----|------------------------------|----------------------|---------------------|----------------------------------|
| (1) | a. | <i>laama</i> | <i>ʔar-radʒul-u</i> | <i>nafs-a-hu</i> | |
| | | blame.PFV.3SG.M | DEF-man-NOM | self-ACC-3SG.M.POSS | |
| | | ‘The man blamed himself.’ | | | |
| | b. | <i>laama</i> | <i>ʔar-ridʒaal-u</i> | <i>baʿḍ-a-hum</i> | (<i>ʔal-baʿḍ</i> ⁵) |
| | | blame.PFV.3SG.M | DEF-men-NOM | some-ACC-3PL.M | (DEF-some) |
| | | ‘The men blamed each other.’ | | | |
| (2) | a. | <i>laam</i> | <i>ʔiz-zalameh</i> | <i>haal-o</i> | |
| | | Blame.PFV.3SG.M | DEF-man | self-3SG.M.POSS | |
| | | ‘The man blamed himself.’ | | | |
| | b. | <i>laam</i> | <i>ʔil-zulum</i> | <i>baʿḍ-hom</i> | |
| | | blame.PFV.3SG.M | DEF-men | some-3PL.M | |
| | | ‘The men blamed each other.’ | | | |

Nevertheless, based on SA data, whose semantic acceptability and grammaticality were evaluated by five Arab professors of Arabic linguistics, and JA data, assessed by twenty native JA speakers, this study demonstrates that *nafs* and *haal* are not exclusively reflexive markers in SA. They act as REF-REC markers. Each one contains the meanings of reflexivity and reciprocity. Therefore, each marker conspires with the hosting sentence to cause sentential vagueness: they can express reflexivity, reciprocity, or both simultaneously with multiple referents. For instance, there are three possible interpretations for the SA structure in (3a) and the JA structure in (3b): (a) only reflexive reading: each person helped himself, (b) only reciprocal reading: each person helped the other(s), and (c) reflexive and reciprocal reading: each person helped himself and the other(s). None of these three interpretations can be excluded. Yielding one or both interpretations is decided by various factors, including the contextual clues, the background knowledge of the interlocutors, and the nature of the predicate. We elaborate on this issue in Section 4.

- | | | | |
|-----|----|-----------------|---------------------------|
| (3) | a. | <i>saaʕad-u</i> | <i>ʔanfus-a-hum</i> |
| | | Help.PFV-3PL.M | selves-ACC-3PL.M.POSS |
| | b. | <i>saaʕad-u</i> | <i>haal-hom</i> |
| | | help.PFV-3PL.M | present_moment-3PL.M.POSS |

Interpretation 1 (only reflexive reading): each person helped himself.

Interpretation 2 (only reciprocal reading): each person helped the other(s).

Interpretation 3 (reflexive and reciprocal reading): each person helped himself and the other(s).

Hence, SA and JA have both non-reflexive reciprocal markers and reflexive–reciprocal markers, so-called REF-REC markers (Heine & Miyashita, 2008). The relevant literature on Arabic reflexivity and reciprocity is concerned with the descriptive or syntactic aspects of these concepts (e.g., Wright, 1896; Holes, 2004; Ryding, 2005). It reports that reciprocity is expressed by the construction *baʿḍ*⁵-V-PRO (*ʔal-baʿḍ*⁵) ‘some/few’, but the reciprocal denotation of *nafs* is not investigated in SA. Regarding JA, reflexivity and reciprocity remain fairly unexplored.² Reciprocity is typically expressed by *baʿḍ*⁵ ‘some’ in JA. This implies that there exists, as far as we can tell, no previous study referring to the functional duality

of a reflexive marker in Arabic, particularly in the two targeted varieties. The current study reports that the markers *nafs* in SA and *haal* in JA can denote reciprocity, and this may surface when the subject is plural, which could lead to sentential vagueness. On this basis, they are treated in the current study as REF-REC categories.

The existence of REF-REC markers in these two Arabic varieties implies that, according to Heine and Miyashita's (2008) typology, they join the languages in Group 3, where non-reflexive and reflexive–reciprocal constructions coexist, such as in some European languages and Australian Aboriginal languages (Dixon, 1980; König & Vezzosi, 2002). Nonetheless, the nature of the REF-REC category in SA and JA is distinguished from that reported in Heine and Miyashita (2008); Interpretation 3 (reflexive and reciprocal) was not reported in that typological study. More specifically, it was reported in their study that a REF-REC marker can yield either Interpretation 1 (only reflexive) or Interpretation 2 (only reciprocal). In contrast, in the current study, a third interpretation is reported: the REF-REC category in SA and JA can yield both a reflexive and a reciprocal interpretation simultaneously, leading to sentential vagueness.

The second goal of the current study is to show that JA has a new source of reflexivity from a typological perspective. It is cross-linguistically common that reflexive markers are diachronically derived from body parts and less commonly from other sources, such as lexical words that mean *self* and *soul*, personal pronouns, and locative prepositions (Schladt, 2000; Heine & Miyashita, 2008). This research paper offers a new source of reflexive markers drawn from JA. This marker is *haal*, whose source is the nominal *haal*, which refers to '(personal state)'. Hence, this nominal is the conceptual strategy of reflexivity in this Arabic variety.

The outline of this paper is as follows: Section 2 reviews the conceptual strategies (or sources) of reflexive and reciprocal markers in natural languages. Section 3 offers the two judgment tasks. Section 4 investigates reflexive and reciprocal markers in SA and JA. It shows that both dialects have distinct reciprocal markers and REF-REC markers that could lead to sentential vagueness with multiple referents. Section 5 explores the grammaticalization of REF-REC markers in these two varieties. Section 6 concludes this study.

2. The Development of Reflexive and Reciprocal Markers

In this section, the most common conceptual strategies (or sources) of reflexivity and reciprocity are listed.

2.1. The Development of Reflexive Markers

Syntactically, a reflexive marker relates to an antecedent and indicates co-reference. As shown in (4), the reflexive *elle-même* in French and *haal-o* in JA are in a binding relation with their antecedents *Asma* and *Sami*. From a semantic perspective, the reflexive marker and its antecedent have the same referent in the real world.

- (4) a. *Asma*₁ *parle* *d'elle-même*₁
 Asma talks of_her-REF
 'Asma talks about herself.'
- b. *Sami*₁ *ḍzaraħ* *haal-o*₁
 Sami hurt.3SG.M REF-3SG.M.POSS
 'Sami hurt himself.'

In the relevant literature, one of the most frequent sources of reflexive markers cross-linguistically are pronouns, especially the first- and second-person pronouns (e.g., *mich* 'me' in German (Heine, 2003)). Some other languages that exploit pronouns to express reflexivity are Old English and some Creole and Austronesian languages, such as Haitian

Creole and Jambi Malay (Haspelmath, 2023). Consider the following German and Classical Arabic examples wherein reflexivity is expressed by first- and second-person pronouns, respectively. In (5a), the German first-person pronoun *mich* is co-indexed with the subject pronoun *ich*, and the SA second-person pronominal clitic *-k* in the imperative statement in (5b) is co-referential with a null second-person subject.³

- (5) a. *Gestern habe ich₁ mich₁ im Fernsehen gesehen.*
 yesterday have I me on television seen
 ‘Yesterday I saw myself on television.’ (Lit. ‘I saw me’)
 (Haspelmath, 2023, p. 4)
- b. *ʔunḏ^fur ʔilaj-k*
 look.IMP.2SG.M to-2SG.M.POSS
 ‘Look at yourself!’

On the other hand, a range of nominals can function as reflexive markers in natural languages. Cross-linguistically, intensifiers, which are also called emphatic or intensive reflexives, are a widespread source of reflexive markers (e.g., *mijelp* in Barunga Kriol, an Australian English-based Creole (Ponsonnet, 2016) and the Arabic *nafs* ‘self’). Consider the following examples from Irish where *féin* ‘self’ is an intensifier in (6a) and a reflexive marker in (6b). Note that this type of reflexive marking is commonly combined with a possessive pronoun that agrees with the semantic phi-features of the antecedent.

- (6) a. *an t-easpag é féin*
 DEF bishop 3SG.M REF
 ‘the bishop himself’
 (Faltz, 1977, p. 34)
- b. *ghortaigh Seán é féin*
 hurt Sean 3SG.M REF
 ‘Sean hurt himself.’
 (Faltz, 1977, p. 40)

Nominals referring to *body* and *head* are another common source of reflexivity, such as *raas* ‘head’ in Moroccan Arabic, *kór* ‘head’ in Margi, *ugba* ‘body’ in Xdi, *ksəm* ‘body’ in Mina, and the variants of the nominal *ixf* ‘head’ in western Berber varieties (Frajzyngier, 2000; Evseeva & Salaberri, 2018). In (7), *buru* ‘head’ in Basque is reflexive; however, it may also be non-reflexive (i.e., it literally refers to John’s head), and this yields semantic ambiguity, as shown in the translation:

- (7) *Jon-ek bere buru-a ispilu-a-n ikus-i du*
 John-ERG 3SG.GEN head-DEF mirror-DEF-LOC see-PFV AUX
 ‘John has seen himself/his head in the mirror.’
 (Salaberri, 2020, p. 5)

Nominals referring to other body parts, including *bone*, *skin*, *mind*, and *heart*, are also exploited to develop reflexive markers, such as *lekor* ‘heart’ in Seychelles Creole, a French-based Creole (Corne, 1988). Consider the Japanese examples in (8) wherein *karada* ‘body’ and *kokoro* ‘mind/heart’ are employed as reflexive markers with self-directed actions.

- (8) a. *karada-o arau*
 body-ACC wash
 ‘wash oneself’
- b. *kokoro-o nayamaseru*
 mind/heart-ACC trouble
 ‘trouble oneself’

(Hirose, 2014, p. 100)

express reciprocity in SA is *t*-epenthesis with vowel lengthening, which is a form of partial reduplication, as in *katabu* ‘They wrote (something)’ vs. *takaatabu* ‘They wrote to each other’ and *ʕaawanu* ‘they helped’ vs. *taʕaawanu* ‘they cooperated.’ Note that Semitic languages are generally templatic. Thus, the examples above from Amharic and Arabic (i.e., syllable reduplication and vowel lengthening) should be regarded as cases expressing reciprocity via templatic morphology.

Finally, another common source of reciprocals is reflexives, such as *buru* ‘head’ in Basque (Evseeva & Salaberri, 2018) and *rū* ‘body’ of Ma’di (Heine & Miyashita, 2008). This development can be viewed as functional expansion. A reflexive marker gains a new function, reciprocity, producing a REF-REC marker.

Hence, reflexive markers are most commonly derived from a limited set of sources, including personal pronouns, body-part nouns, and intensifiers, which are pathways that have been extensively documented in the typological and diachronic literature. The development of SA *nafs* closely follows a well-attested grammaticalization trajectory in which a body-part noun denoting the ‘self’ evolves into a marker of reflexivity and related functions. By contrast, the use of JA *haal*, historically a nominal referring to ‘personal state’, falls outside these commonly reported sources for reflexive marking. Concerning their ability to also express reciprocity, it is an uncommon pathway of secondary grammaticalization.

As previously indicated, determining whether *nafs* and *haal* are REF-REC categories is based on two judgment tasks. Section 3 presents the method of eliciting responses. Then, Section 4 discusses reflexivity and reciprocity in SA and JA and their functions. It shows that besides having distinct reciprocal categories, both Arabic varieties have a REF-REC category. This implies that they both belong to Group 3, according to Heine and Miyashita’s (2008) typology.

3. Method

To determine whether SA and JA have a REF-REC category, two acceptability judgment tasks were assigned to two different groups of informants. The first task was assigned to the first group, consisting of 5 informants who are competent in SA, specifically professors of Arabic linguistics from different universities in Jordan. They were assigned 10 contexts comprising 10 sentences. Each sentence contains the reflexive *nafs* and denotes plural reading. The informants were asked to decide the interpretation(s) of each sentence. Is it only reflexive, is it only reciprocal, or are both interpretations possible? The last possible scenario, which causes sentential vagueness, is that all three interpretations are possible. Consider the example in (12) where the target sentence from SA is followed by four possible interpretations. The first three choices do not involve sentential vagueness, unlike (d). The full list of SA contexts and sentences is provided in Appendix A.

(12) Context: Some friends are artists.

rasam-uu

ʔanfus-a-hum

Drew-3PL.M

self.PL-ACC-3PL.M.POSS

This sentence means:

- | | |
|---|---------------------------------------|
| a. Each one drew himself. | (Only reflexive reading.) |
| b. Each one drew the other(s). | (Only reciprocal reading.) |
| c. Each one drew himself and then the other(s). | (Both readings.) |
| d. All of the above. | (All previous readings are possible.) |

Based on the four choices in (13), the following predictions are made: (1) if Choice (a) is invariably (or most frequently) selected, the marker *nafs* should be treated as the only reflexive marker. (2) It is not expected that any informant will select Choice (b), as *nafs* cannot be only reciprocal. (3) If (c) is most frequently selected, *nafs* denotes both reflexivity (the self) and reciprocity (the other(s)). Note here that *nafs* in (c) is a REF-REC marker, yet it

does not cause sentential vagueness. Finally, the selection of (d) indicates that *nafs* in SA is a REF-REC marker, causing sentential vagueness with multiple referents. In other words, none of the following three interpretations is excluded: only reflexive, only reciprocal, and both.

In the second acceptability judgment task, twenty native speakers of JA (10 males and 10 females) whose ages range between 28 and 55 were asked to determine the possible interpretations of 10 sentences from JA (each sentence is paired with a context). These sentences contain the reflexive *haal* and denote a plural reading. Consider the following example in (13). The same predictions that are formulated in Task 1 are also employed in Task 2. The full list of JA sentences is provided in Appendix B.

- (13) Context: friends are artists.
rasam-u *haal-hum*
 drew-PL self-PL

This sentence means:

- | | |
|---|---------------------------------------|
| a. Each one drew himself. | (Only reflexive reading.) |
| b. Each one drew the other(s). | (Only reciprocal reading.) |
| c. Each one drew himself and then the other(s). | (Both readings.) |
| d. All of the above. | (All previous readings are possible.) |

4. Reflexivity and Reciprocity in Arabic

The collected responses in Task 1 are fifty (10 sentences × 5 informants). Choice (d) was invariably selected. On this basis, the prediction that SA has a REF-REC category that causes sentential vagueness is borne out. Regarding Task 2, 100 responses were collected. Choice (d) was selected 96 times, and Choice (a) was selected 4 times by one female informant. This also asserts that JA has a REF-REC category that conspires with contextual clues, interlocutors' previous knowledge, and/or the nature of the predicate in triggering sentential vagueness when the subject is plural.

Based on the results of the two acceptability judgment tasks, the rest of this section discusses the REF-REC categories in SA and JA, namely, *nafs* and *haal*. It first demonstrates that SA and JA make a distinction between reflexive and reciprocal marking and subsequently examines the REF-REC category in these varieties.

4.1. Reflexive and Reciprocal Marking in Standard Arabic

SA makes a distinction between reflexive and reciprocal markers. Reflexivity is expressed by *nafs* 'self',⁴ whereas reciprocity is conveyed by *baʕd*⁵-V-PRO (*ʔal-baʕd*⁵) 'some/few':⁵

- (14) a. *ʔal-walad-u* *raʔaa* *nafs-a-hu* *f-il-mirʔaat-i*
 DEF-boy-NOM see.PFV3SG.M self-ACC-3SG.M.POSS in-DEF-mirror-GEN
 'The boy saw himself in the mirror.'
 b. *jasʕal-uun* *baʕd-a-hum* (*ʔal-baʕd*⁵)
 ask.IPFV-3PL.M some-ACC-3PL.M.POSS DEF-some
 'They ask each other.'

(Ryding, 2005, p. 231)

However, *nafs* does not exclude the reciprocal reading in specific contexts, akin to reflexive markers in several other languages, such as *yè* in Supyire, a Gur language. It can be interpreted as a reciprocal marker in the presence of multiple antecedents (referents). However, the one in SA is peculiar, as it results in three possible interpretations rather than two. Consider the examples in (15) from Supyire. The marker *yè* yields a reflexive

interpretation in (15a) and a reciprocal interpretation in (1b). However, yielding both readings simultaneously is not reported in this language.

- (15) a. *kà pi í pí-yè kéénɲè fyii*
 and they NARR they-REF change pythons
 ‘Then they turned themselves into pythons.’
 b. *pi a pí-yè kánu*
 they PFV they-REF love
 ‘They loved each other.’

(Heine & Miyashita, 2008, p. 193).

Likewise, the verbal suffix *rê* in the Kenyan language Luo could yield a reflexive or reciprocal reading, as shown in (16):

- (16) *wá-lwóko-rê*
 1PL-wash.PRF-REFL/RECP.1PL
 (a) ‘We have washed ourselves.’
 (b) ‘We have washed each other.’

(Heine & Miyashita, 2008, p. 193).

On the other hand, *nafs*, which is a REF-REC category in SA, can yield any one of the three readings when the subject is plural. (a) Reflexive reading: in (17), for example, the sentence may mean that every boy saw himself in the mirror. (b) Reciprocal reading: the same sentence could also mean that every boy saw the other(s) in the mirror. (c) Reflexive and reciprocal reading: the sentence in this case means that every boy saw himself and the other(s) in the mirror.

- (17) *ʔal-ʔawlaad-u ra ʔa-w ʔanfus-a-hum f-il-mirʔaat-i*
 DEF-boys-NOM see.PFV-3PL.M self.PL-ACC-3PL.M.POSS in-DEF-mirror-GEN

Likewise, any of the three interpretations can be yielded in (18):

- (18) a. *ʔal-banaat-u rasam-na ʔanfus-a-hun*
 DEF-girls-NOM draw.PFV-3PL.F selves-ACC-3PL.F.POSS
 Reflexive: ‘each girl drew herself.’
 Reciprocal: ‘each girl drew the other girl(s).’
 Reflexive–reciprocal: ‘each girl drew herself and the other girl(s).’
 b. *hunna saaʔad-na ʔanfus-a-hun*
 they.F help.PFV-3PL.F selves-ACC-3PL.F.POSS
 Reflexive reading: ‘Every woman helped herself.’
 Reciprocal reading: ‘Every woman helped the other(s).’
 Reflexive–reciprocal reading: ‘Every woman helped herself and the other(s).’

The third reading arises when the event is construed as collective but internally differentiated (i.e., each participant acts on themselves and the others simultaneously). In this scenario, it is not sufficient to assume that there is only one possible reading, either reflexive or reciprocal. Let us contextualize the examples in (17) and (18). When several boys stand in front of a mirror, a reflexive reading ignores the group context, while a reciprocal reading is odd, as each participant is expected to see himself/herself. The REF-REC interpretation could capture both scenarios. Note that this meaning is yielded from one grammatical marker in SA and JA, unlike in many European languages, which require explicit coordination (e.g., they saw themselves and each other). Concerning the example in (18), in a classroom context where each girl is tasked with drawing a portrait that includes herself and the other girls, neither the only reflexive reading nor the only reciprocal reading fully captures the intended situation. The reflexive/reciprocal reading,

in which each girl drew herself and the other girls, naturally reflects both individual action and collective participation.

In (19), imagine a situation where only a few people applied for a particular job. During the interview, however, the employer bluntly told them that they were not qualified and did not deserve the position. As a result, the applicants felt embarrassed and humiliated for having applied in the first place. In such a context, all the interpretations mentioned above are possible.

- (19) *hummm* *?aahaan-u* *?anfufus-a-hum*
 They insult.PFV-3PL.M selves-ACC-3PL.M.POSS
 Reflexive reading: ‘each person insulted himself.’
 Reciprocal reading: ‘each person insulted the other(s).’
 Reflexive–reciprocal reading: ‘each person insulted himself and the other(s).’

Likewise, the three readings can be yielded with verbs like *xadaʕa* ‘fooled’ and *δʕalama* ‘oppressed’, as shown in (20) and (21). It is hard to imagine that a person can intentionally fool or oppress himself. Therefore, the adverb *unintentionally* is inserted into the translation when the reflexive reading is available in (20) and (21).

- (20) *hunna* *xadaʕ-na* *?anfufus-a-hun*
 they.F cheat.PFV-3PL.F selves-ACC-3PL.F.POSS
 Reflexive reading: ‘every woman unintentionally cheated herself.’
 Reciprocal reading: ‘every woman cheated the other(s).’
 Reflexive–reciprocal reading: ‘every woman cheated unintentionally herself and the other(s).’
- (21) *hummm* *δʕalam-u* *?anfufus-a-hum*
 they oppress.PFV.3PL.M selves-ACC-3PL.M.POSS
 Reflexive reading: ‘Every man unintentionally oppressed himself.’
 Reciprocal reading: ‘Every man oppressed the other(s).’
 Reflexive–reciprocal: ‘Every man unintentionally oppressed himself and the other(s).’

Similar to the examples in (17) and (10), these in (19), (20), and (21) could exclusively yield the REF-REC interpretations if one or more of the following factors conspire with the REF-REC category and the plural subject to yield this reading: contextual clues, nature of the predicate, and the interlocutor’s (shared) knowledge. In (19), for instance, if the applicants were collectively present during the humiliating interview and witnessed each other’s reactions, the reflexive–reciprocal reading is reinforced. In (20), if the women participated together in a group task where mistakes or deceptions affected all participants, the reflexive–reciprocal reading is naturally licensed. In (21), if the men jointly engaged in oppressive actions within a shared social setting, making each participant both an agent and a recipient of the consequences, the REF-REC interpretation is favored.

An interesting observation of *nafs* in SA is that it cannot be employed exclusively to denote reciprocity. Verbs that imply a mutual action (i.e., require reciprocal interpretation and rule out the reflexive interpretation) are incompatible with *nafs*, as seen in the semantically odd structure in (22a, 23a and 24a), whereas they are compatible with the reciprocal *baʕdʕ-V-PRO* (*?al-baʕdʕʕ*), as shown in (18b, 19b and 20b). This incompatibility emphasizes that *nafs* is a REF-REC maker in SA.

- (22) a. *ʔal-muʕallim-uun qaabal-u* #*ʔanfus-a-hum*
 DEF-teacher-PL.M meet.PFV-3PL.M selves-ACC-3PL.M.POSS
 Intended: 'The teachers met one another.'
- b. *ʔal-muʕallim-uun qaabal-u baʕd^ʕ-a-hum*
 DEF-teacher-PL.M meet.PFV-3PL.M some-ACC-3PL.M.POSS
ʔal-baʕd^ʕ
 DEF-some
 Reciprocal reading: 'They met one another.'
- (23) a. *hummm qabbal-u* #*ʔanfus-a-hum*
 they kiss.PFV-3PL.M selves-ACC-3PL.M.POSS
 Intended: 'They kissed one another.'
- b. *hummm qabbal-u baʕd^ʕ-a-hum ʔal-baʕd^ʕ*
 they kiss.PFV-3PL.M some-ACC-3PL.M DEF-some
 Reciprocal reading: 'They kissed each other.'
- (24) a. *hummm taʕaawan-u maʕ* #*ʔanfus-a-him*
 they cooperate.PFV-3PL.M with selves-ACC-3PL.M.POSS
 Intended: 'They helped each other.'
- b. *hummm taʕaawan-u maʕ baʕd^ʕ-i-him ʔal-baʕd^ʕ*
 they cooperate.PFV-3PL.M with some-GEN-3PL.M DEF-some
 Reciprocal reading: 'They cooperated.'

In a nutshell, SA has a distinct reciprocal category expressed by *baʕd^ʕ-V-PRO* (*ʔal-baʕd^ʕ*). As for reflexivity, it has been demonstrated that *naʕs* is a REF-REC category. It is a marker of reflexivity, but it can make the sentence vague if the subject refers to multiple referents. It may give rise to any of the following readings in contexts wherein reflexivity and reciprocity are possible: reflexive, reciprocal, or reflexive–reciprocal readings.⁶ Hence, *naʕs*, adopting Heine and Miyashita's (2008) terminology, should be regarded as a REF-REC category rather than a pure reflexive category. Nevertheless, it should be noted that it differs from the cases reported in Heine and Miyashita (2008) in that the REF-REC categories in that study with multiple referents give rise to either a reflexive or a reciprocal interpretation. On the other hand, that in SA may yield a third interpretation that involves both reflexivity and reciprocity simultaneously, thereby causing sentential vagueness.

4.2. Reflexive and Reciprocal Marking in Jordanian Arabic

The typical reflexive marker in JA is *ħaal*.⁷ Unlike the reflexive *naʕs* in SA, *ħaal* is invariably singular, as shown in (25).

- (25) a. *dʒarah ħaal-o* b. *labbas ħaal-o*
 hurt.PFV.3SG.M self-3SG.M.POSS wear.PFV.CAUS self-3SG.M.POSS
 'He hurt himself.' 'He put on his clothes.'
- c. *rajjah-u ħaal-hom*
 ease.PFV-3PL.M self-3PL.M.POSS
 'They had some rest.'

Similar to SA, JA has a distinct reciprocal category expressed by *baʕd^ʕ+PRO*, as shown in the following examples:⁸

- (26) a. *sami* *w* *iħmad* *gaabal-u* *baħð*⁵
 Sami and Ahmad meet.PFV-3PL.M some
 Intended: ‘Sami and Ahmad met each other.’
- b. *li-wlaad* *binaad-u* *ʔala* *baħð*⁵
 DEF-kids call.IPFV-3PL.M on some
 Intended: ‘The kids are calling one another.’
- c. *li-mwaθ⁵θ⁵af-iin* *gaaħd-iin* *bisaaħd-u* *baħð*⁵
 DEF-employee-PL.M sit.ACT.PTCP-PL.M help-3PL.M some
 ‘The employees are helping one another.’

The previous examples, at first sight, imply that JA distinguishes between the reflexive category and the reciprocal counterpart, and the reflexive marker *ħaal* does not yield reciprocity. However, the case of *ħaal* in JA is similar to that of *nafs* in SA. It is a REF-REC marker, which may lead to multiple interpretations. This implies that in sentences with multiple referents, it also conspires with contextual clues, the nature of the predicate, and the interlocutor’s (shared) knowledge in causing sentential vagueness. For example, the sentence in (27) is semantically vague. It may yield a reflexive, reciprocal, or reflexive–reciprocal reading. The reflexive reading is that every kid saw himself in the mirror. The reciprocal reading is that every kid saw the other(s) in the mirror, and the reflexive–reciprocal reading is that each kid saw himself and the other(s) in the mirror. The REF-REC interpretation can be the only yielded interpretation in a context where the boys are standing together in front of a large mirror, such that each boy simultaneously sees his own reflection as well as the reflections of the other boys.

- (27) *li-wlaad* *ʃaaf-u* *ħaal-hom* *b-il-imraajeh*
 DEF-boys-NOM see.PFV-3PL.M self-3PL.M.POSS in-DEF-mirror

Consider the following examples wherein any of these three interpretations can be yielded:

- (28) *ʔil-banaat* *rasam-in* *ħaal-hin*
 DEF-girls drew-3PL.F self-3PL.F.POSS
 Reflexive: ‘each girl drew herself.’
 Reciprocal: ‘each girl drew the other girl(s).’
 Reflexive–reciprocal: ‘each girl drew herself and the other girl(s).’
- (29) *hinne* *saaħad-in* *ħaal-hin*
 they.F help.PFV-3PL.F self-3PL.F.POSS
 Reflexive reading: ‘Every woman helped herself.’
 Reciprocal reading: ‘Every woman helped the other(s).’
 Reflexive–reciprocal reading: ‘Every woman helped herself and the other(s).’
- (30) *hummo* *haan-u* *ħaal-hom*
 They insult.PFV-2PL.M self-3PL.M.POSS
 Reflexive reading: ‘each person insulted himself.’
 Reciprocal reading: ‘each person insulted the other(s).’
 Reflexive–reciprocal reading: ‘each person insulted himself and the other(s).’
- (31) *hummo* *ð⁵alam-u* *ħaal-hom*
 they oppress.PFV.3PL.M self-3PL.F.POSS
 Reflexive reading: ‘Every man unintentionally oppressed himself.’
 Reciprocal reading: ‘Every man oppressed the other(s).’
 Reflexive–reciprocal: ‘Every man unintentionally oppressed himself and the other(s).’

Similar to the discussion in Section 4.1, the reflexive–reciprocal interpretation in (28)–(31) is favored in contexts involving shared activities, joint participation, and mutual awareness

among participants. In (28), such a reading arises when the girls are working together on a group art project and, in the process, each girl draws her own portrait while sketching the others. In (29), the reflexive–reciprocal reading is licensed when the women are engaged in a collective task that requires both self-assistance and mutual support, such as organizing an event or coping with a demanding situation. In (30), this interpretation is salient in a context where the group engages in public self-criticism or collective humiliation, for instance, after a failed performance, such that each person reproaches himself while also directing blame at the others. Finally, in (31), the reflexive–reciprocal reading emerges in situations of shared responsibility, where each man both contributes to his own disadvantage and simultaneously wrongs the others, for example, in a poorly managed joint enterprise.

Similar to *nafs* in SA, *haal* cannot denote only reciprocity with verbs that exclude the reflexive reading:

- (32) a. *li-mʕallm-iin* *qaabal-u* *#haal-hum*
 DEF-teacher-PL.M meet.PFV-3PL.M self-3SG.M
 Intended: ‘The teachers met each other.’
- b. *hummo* *baas-u* *#haal-hum*
 they kiss.PFV-3PL.M selves-ACC-3PL.M.POSS
 Intended: ‘They kissed each other.’

Instead, reciprocal *baʕdʕ* must be used with these verbs to denote reciprocity, as shown in (33). The incompatibility of *haal* and such verbs emphasizes that it is a REF-REC marker.

- (33) a. *li-mʕallm-iin* *qaabal-u* *baʕdʕ*
 DEF-teacher-PL.M meet.PFV-3PL.M some
 ‘They met each other.’
- b. *hummu* *baas-u* *baʕdʕ*
 they kiss.PFV-3PL.M some
 ‘They kissed each other.’

To wrap up, this section has demonstrated that JA and SA have a REF-REC category. The former manifests its REF-REC category in *haal* and the latter in *nafs*. Further, both dialects have distinct reciprocal categories. According to Heine and Miyashita’s (2008) taxonomy, these two Arabic varieties should be classified in Group 3 with languages that have a distinct reciprocal category and a REF-REC category. However, it should be emphasized again that this category in SA and JA differs from the cases reported by Heine and Miyashita (2008). This is because it may give rise to a third possible interpretation, the reflexive–reciprocal, which is not reported in that study.

An important question raised by the present analysis concerns actual usage preferences and avoidance of sentential vagueness. Determining whether speakers prefer to avoid such vagueness by resorting to dedicated reciprocal expressions such as *baʕdʕ* is beyond the scope of the current study. This matter needs a new experiment that examines native speakers’ preferences, i.e., whether they prefer sentences with the REF-REC categories and their counterparts with reciprocal markers. Therefore, we leave this question for future research.

In the following section, the grammaticalization pathway of the two REF-REC markers in SA and JA, namely, *nafs* and *haal*, is diagnosed synchronically.

5. The Grammaticalization of REF-REC Markers in Standard and Jordanian Arabic

As discussed earlier, the primary sources of reflexive markers in natural languages are nominals referring to body parts, intensifiers, object personal pronouns, and adverbial *alone* or *only*. For more details on the typology and the diachronic aspects of reflexive markers,

see Heine (2000), Schladt (2000), Heine and Kuteva (2002), Heine and Miyashita (2008), and Evseeva and Salaberri (2018). Below, it is shown that the REF-REC marker *nafs* in SA is developed from the intensifier *nafs*, which is a cross-linguistically not uncommon source of this category. On the other hand, it is demonstrated that the REF-REC marker *haal* in JA suggests, as far as I can tell, a new grammaticalization pathway of reflexive and REF-REC markers in natural languages.

5.1. The Grammaticalization of the REF-REC Category in Standard Arabic

The REF-REC marker *nafs* in SA is primitively a lexical word that means ‘the inner self’, ‘soul’ or ‘the ego’. Consider the examples in (34) where *nafs* is lexical and expresses at least one of these meanings:

- (34) a. *kull nafs ḏaaʔiqā-t-u l-mawt*
 every self/soul/ego taste.ACT.PRCPL-F-NOM DEF-death
 ‘Every soul will taste death.’
 ‘Everyone will die.’
- b. *ʔan-nafs ʔal-ʔinsān-ijj-ah tarfud^ʕ-u*
 DEF-self/soul/ego DEF-human-ATTR-F F.refuse.1.IPFV-NOM
 ʔaḏ^ʕ-ḏ^ʕulm
 DEF-injustice
 ‘The human self/soul/ego rejects injustice.’

In these contexts, the lexical *nafs* refers to any human being or to all human beings. From this lexical *nafs*, the intensifier *nafs* is developed. This process is commonly called primary grammaticalization, where a lexical item is dropped in the grammatical domain of a language (Hopper & Traugott, 1993; Norde, 2019). The main difference between the lexical one and the intensifying counterpart is that the latter must appear to the right of the nominal it intensifies. This implies that the lexical *nafs* is the lexical expression that refers to a referent(s) in the real world. On the other hand, the intensifying counterpart is not directly linked to the real word; it does not refer to an entity. Instead, it merely intensifies the meaning of the referring expression *ʔal-waziir-u*. Consider the example in (35) where *nafs* is an intensifier. From a grammatical perspective, lexical *nafs* is an integral part of the sentence, as its deletion renders the sentence ungrammatical, unlike the intensifying *nafs*, which is optional:

- (35) *ʔal-waziir-u nafs-u-hu ḥad^ʕar*
 DEF-minister-NOM self-NOM-3SG.M.NOM.POSS come.PFV.3SG.M
 ‘The same minister came.’

Then, the intensifying *nafs* undergoes further grammaticalization (so-called secondary grammaticalization (Givón, 1991; Traugott, 2002)), where it evolves into a reflexive marker. In this stage, it turns from an optional intensifying element into a grammatical element that must agree in phi-features with its antecedent, confirming that this process is a form of secondary grammaticalization that draws the target element closer to the grammatical domain. In this stage, the intensification function disappears from the reflexive pronoun.

In Arabic, some features distinguish between the intensifying and reflexive *nafs*, such as the presence of an adpositional disambiguator and the syntactic position of *nafs*. The intensifying *nafs* may host the preposition *bi-*, unlike the reflexive. The main difference between the intensifying *nafs* and the reflexive *nafs* is that the former is an adjunct to an NP or VP, whereas the latter is argumental (i.e., an object of a verb or preposition). Note that in the absence of the preposition *bi-*, the intensifying *nafs* expresses sameness, as in (36b).⁹

- (36) a. *ʔal-waziir-u* *bi-nafs-i-hi* *ħad^ʕar*
 DEF-minister-NOM by-self-GEN-3SG.M.GEN.POSS come.PFV.3SG.M
 ‘The minister himself came.’
- b. *ʔal-waziir-u* *nafs-u-hu* *ħad^ʕar*
 DEF-minister-NOM self-NOM-3SG.M.NOM.POSS come.PFV.3SG.M
 ‘The same minister came.’

The reflexive *nafs* typically appears in object position. On the other hand, the intensifier *nafs* can appear in different places in the sentence if it hosts *bi-*, as shown in (37). Otherwise, it obligatorily appears immediately to the right of the intensified nominal, as shown in (38).

- (37) (*bi-nafs-i-h*) *ʔal-waziir-u* (*bi-nafs-i-h*) *ħad^ʕar*
 by-self-3SG.M.POSS DEF-minister-NOM come.PFV.3SG.M
 (*bi-nafs-i-h*)
 ‘The minister himself came.’
- (38) (**nafs-u-h*) *ʔal-waziir-u* (*nafs-u-h*) *ħad^ʕar*
 self-NOM- DEF-minister-NOM come.PFV.3SG.M
 3SG.M.POSS
 (**nafs-u-h*)

Similar to English and several other languages, SA developed the reflexive marker from the intensifier *nafs* ‘self’, and then this marker evolved further to denote reciprocity. The ability of *nafs* to imply a range of functions in SA (i.e., intensification, reflexivity and reciprocity) does not give a clue about what the source of grammaticalization is, as all of the functions of *nafs* in this variety are productive. However, evidence for the proposal that the intensifier *nafs* is the source of the reflexive *nafs* and the reciprocal *nafs* in SA is drawn from JA. The productive use of *nafs* as an intensifier and its inability to be a reflexive or reciprocal marker in JA should imply that *nafs* is basically an intensifier in both dialects. Then, it undergoes expansion in functionality only in SA, i.e., it gained reflexive and reciprocal functions in SA, and no such grammaticalization occurred in JA.

Another piece of evidence for the directionality of grammaticalization of *nafs* from an intensifier to a reflexive marker is that this direction agrees with the definition of secondary grammaticalization. Secondary grammaticalization is associated with an increase in morphosyntactic bondedness (Traugott, 2002; Norde, 2012, 2019). An increase in bondedness is mainly characterized by phonological reduction, such as reducing English *will* into *’ll*. On the other hand, the increase in bondedness when the intensifying *nafs* is evolved into the reflexive *nafs* is characterized by turning a less grammatical item (an optional intensifying adjunct) into a more grammatical item (an obligatory argument that is co-indexed and renders a sentence with a reflexive reading grammatical). Further, the development of the reflexive *nafs* is accompanied by morphosyntactic reduction, a common mechanism of grammaticalization (Traugott, 2002; Norde, 2012, 2019): the intensifier *nafs* can appear in any possible position in the syntactic representation, whereas the reflexive *nafs* can only occupy the object position or be embedded in a prepositional phrase in a post-verbal position.

What supports the second stage of secondary grammaticalization from a reflexivity marker to that denoting both reflexivity and reciprocity (i.e., a REF-REC marker) is that this scenario is in consonance with functional expansion, which is a common grammaticalization process by which a grammatical item could gain a second grammatical function (Detges & Waltereit, 2002; Kranich, 2010; Waltereit, 2011; Breban, 2014, 2015). The reflexive *nafs* gains a new function, reciprocity, yet it cannot exclusively convey this meaning. It either denotes reflexivity or gives rise to sentential vagueness as a REF-REC category.

To sum up, the development of the REF-REC marker *nafs* in SA is preceded by the following stages: (1) The intensifying *nafs* is evolved from the lexical source *nafs*, which

means ‘the inner self’ or ‘the ego’. (2) The reflexive *nafs* is developed from the intensifier. (3) Reflexive *nafs* gains the function of reciprocity with multiple referents. In this case, *nafs* is a REF-REC marker that results in sentential vagueness: it may yield reflexive reading, reciprocal reading, or reflexive–reciprocal reading.

Worth noting here is that in the relevant literature, the standard view is that reflexive markers can be the source of reciprocity (Heine & Miyashita, 2008). However, the opposite direction of grammaticalization is not unattested. It is proposed in Moyse-Faurie (2008) to account for the emergence of some reflexive markers only in Oceanic languages. The current study supports Heine and Miyashita (2008): *nafs* as a reflexive marker emerges, and then it gains a reciprocal function in some contexts, resulting in a REF-REC marker.

5.2. The Grammaticalization of the REF-REC Marker in Jordanian Arabic

As noted in Section 4.1, the intensifier *nafs* in JA, unlike its counterpart in SA, did not develop into a reflexive marker. Alternatively, JA developed its reflexive marker from the nominal *haal* ‘(personal) state’.

Consider the example in (39b) where *haal* refers to the general state or circumstances. In this context, *haal* does not yet refer to the state of a particular entity or to those of some entities. It instead refers to the general state or circumstances.

- (39) a. Speaker 1: *ʔil-korona xarrab-at it-tidʒaarah ʔu waggaf-at ʔil-safar,*
 DEF-Corona spoil.PFV-F DEF-trade and stop.PFV-F.SG DEF-travel
ʔu ʕatʕal-at ʔil-madaaris
 and close.PFV-F.SG DEF-schools
 ‘The coronavirus ruined trade, halted travel, and shut down schools.’
- b. Speaker 2: *ʔallah jisʕlih ʔil-haal*
 Allah fix.PFV.3SG.M DEF-current moment
 ‘May things get back on track.’

haal can also be used to ask about a person’s state, as in (40a). In this example, the speaker refers to his health in particular. Therefore, the addressee’s answer is expected to be ‘good’, as in (40b). Note that *haal* in (39) and (40) is lexical, which may give rise to two possible meanings.

- (40) a. *kef haal-ak*
 How current_shape-2SG.M.POSS
 ‘How are you?’
- b. *ib-xeer il-hamdu li-llaah*
 in-goodness DEF-praise for-Allah
 ‘I am fine, thank Allah.’

The reflexive *haal* develops from the nominal *haal* when the latter denotes a personal state. This nominal originally encodes the shape, condition, or configuration of an entity at a given moment, allowing it to be conceptualized in relation to itself. Through grammaticalization, *haal* shifts from denoting an abstract property or state to directly referring to the participant itself, thereby establishing co-reference between actor and patient. In effect, the reflexive marker arises from the cognitive process of focusing on the current state or shape of a participant, which is then syntactically encoded. This step bridges the conceptual notion of self-focused attention with its grammatical realization and provides the foundation for reflexivity.

The development of a reflexive pronoun from this nominal results from partial desemanticization, a common process in grammaticalization. Specifically, the nominal *haal* is concerned with the shape of an entity. Regarding the reflexive counterpart, the meaning of ‘entity’ is preserved in it, while the meaning of ‘shape’ is lost. The observation of semantic bleaching supports this grammaticalization pathway, in which a nominal meaning ‘(personal) state’ becomes a reflexive pronoun.

Semantic bleaching is not the only observation that supports this grammaticalization pathway. Another piece of evidence is obligatorification, a common grammaticalization process (Hopper & Traugott, 1993): when a lexical item is incorporated into a language’s grammar, it becomes structurally fixed. To illustrate, *haal* as a reflexive pronoun must appear in the object position and must agree in phi-features with its antecedent, as in (41).

- | | | | | |
|------|----|--|-------------------------------------|-----------------------------|
| (41) | a. | <i>inte</i>
2SG.M
‘You hurt yourself (male).’ | <i>dʒarahit</i>
hurt.PFV.2SG.M | <i>haal-ak</i>
REF-2SG.M |
| | b. | <i>int-i</i>
2SG.F
‘You hurt yourself (female).’ | <i>dʒarahit-i</i>
hurt.PFV-2SG.F | <i>haal-ik</i>
REF-2SG.F |
| | c. | <i>int-u</i>
2PL.M
‘You hurt yourselves.’ | <i>dʒarahit-u</i>
hurt.PFV-2PL.M | <i>haal-ku</i>
REF-2PL.M |

In (42), the feminine pronominal clitic *-ha* is ungrammatical, as it does not agree in gender with the masculine subject *Sami*.

- | | | | |
|------|----------------------|----------------|----------------------------|
| (42) | <i>Sami</i> | <i>dʒarah</i> | <i>haal-u/*ha</i> |
| | Sami | hurt.PFV.3SG.M | REF-3SG.M.POSS/*3SG.F.POSS |
| | ‘Sami hurt himself.’ | | |

This is unlike the lexical counterpart, which is optional and does not require agreement with a subject. In (43a), for example, lexical *haal* can be deleted, as in *keef-ak* ‘how are you?’ Another possible scenario is that the pronominal clitic *-k*, which refers to the addressee, can be dropped, as in *keef il-haal?* ‘how are you?’ On these grounds, it is plausible to propose that the grammaticalization of a reflexive pronoun from a lexical item, which is a nominal that refers to personal state.

Note that decategorization, which is another common process of grammaticalization, adds more credence to this grammaticalization pathway. Once the *haal* one is turned into a reflexive marker (i.e., it is dropped in the grammatical domain), it loses its inflectional morphology; it becomes invariably singular. To explain, the lexical *haal* can be singular or plural, as in (43), whereas the reflexive *haal* is invariably singular in (44).

- | | | | |
|------|----------------------|---|---|
| (43) | a. | <i>keef</i>
how
‘How are you? Or how things?’ | <i>ʔil-haal/ʔil-ʔahwaal</i>
DEF-current moment/DEF-current moment.PL |
| (44) | <i>Sami</i> | <i>dʒarah</i> | <i>haal-o/*hwaal-o</i> |
| | Sami | hurt.PFV.3SG.M | self-3SG.M.POSS/*selves-3SG.M.POSS |
| | ‘Sami hurt himself.’ | | |

Based on the previous discussion, the grammaticalization pathway of the reflexive *haal* is proposed in (45).

- (45) Nominal *haal* ‘(personal) state’ → reflexive marker

This reflexive marker, like the reflexive *nafs* in SA, gained a new function: reciprocity. This gain results in sentential vagueness in contexts where the reflexive and reciprocal readings are possible, as in (46).

- (46) *li-wlaad* *ʃaaf-u* *ħaal-hom* *b-il-imraajeh*
 DEF-boys see.PFV-PL.M REF/REC-3PL.M.POSS in-DEF-mirror
 Reflexive reading: ‘Every kid saw himself in the mirror.’
 Reciprocal reading: ‘Every kid saw the other(s) in the mirror.’
 Reflexive–reciprocal reading: ‘Every kid saw himself and the other(s) in the mirror.’

To wrap up, JA and SA developed REF-REC markers, but they are from different lexical sources. In other words, these varieties have taken two different grammaticalization pathways to develop a REF-REC category.

6. Conclusions

This research paper investigates reflexivity and reciprocity marking in SA and JA. It has been demonstrated that these varieties have taken two different grammaticalization pathways to develop REF-REC markers, namely, *nafs* in SA and *ħaal* in JA. This observation implies that these varieties are classified with languages that have distinct reciprocal markers, but they possess a REF-REC category. However, the REF-REC in these two Arabic varieties is peculiar, as it can trigger any of the following three interpretations, unlike in other studies, where the third interpretation has not been reported: reflexivity, reciprocity, or both at the same time. Note that this interpretation could be yielded by a REF-REC category in one or more of the previously studied languages, but it needs further investigation. In SA and JA, this interpretation has been triggered by both the REF-REC nature of that category and the sentential vagueness that is introduced by multiple referents. This research paper also proposes a new source of reflexive markers from JA: the nominal *ħaal* ‘(personal) state’. It demonstrates that a nominal is the conceptual source of reflexivity in this dialect.

These findings could lead to comparative research on reflexivity and reciprocity with the Arabic dialectal context, as other Arabic varieties may employ other markers, such as *rās* ‘head’ or *rūh* ‘spirit/self’. Future work can examine whether such markers have different grammaticalization pathways or converge on similar REF-REC systems, and whether they likewise allow cumulative reflexive–reciprocal readings. Such investigations would contribute to a more fine-grained typology of reflexivity and reciprocity within Arabic and maybe beyond.

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Abbreviations

1 = first-person	LOC = locative
2 = second-person	M = masculine
3 = third-person	NARR = narrative marker
ACC = accusative	NEG = negative
ATTR = attributive	NOM = nominative
ACT.PTCP = active participle	PASS = passive
AUX = auxiliary	PFV = perfective
CAUS = causative	PL = plural
DEF = definite article	POSS = possessive pronoun
ERG = ergative	PROG = progressive
F = feminine	PTCP = participle
FUT = future	REF = reflexive pronoun
GEN = genitive	SBJ = subject
IMP = imperative	SG = singular
IPFV = imperfective	Q = interrogative particle

Appendix A. Contextualized SA Sentences Comprising *nafs*

1. Some students got prepared for their exams.			2. friends are artists.		
<i>darras-u</i>	<i>ʔanfus-a-hum</i>		<i>rasam-u</i>	<i>ʔanfus-a-hum</i>	
taught-PL	self.PL-ACC-3PL.M.POSS		Drew-3PL.M	self.PL-ACC-3PL.M.POSS	
This sentence means: a. Each one studied alone. b. Each one studied alone and then taught the other(s). c. Each one taught the other(s) a particular subject. d. All of the above.			This sentence means: a. Each one drew himself. b. Each one drew the other(s). c. Each one drew himself and then the other(s). d. All of the above.		

3. Girls were preparing cake:			4. some kids are in a room.		
<i>wassax-na</i>	<i>ʔanfusa-hun</i>	<i>bi-l-t^ʕahiin</i>	<i>raʔaw</i>	<i>ʔanfusahum</i>	<i>fi-l-mirʔaah</i>
make dirty-PL.F	self-PL.F	in-DEF-flour	Saw.PL	self-PL	in-DEF-mirror
This sentence means: a. Each little girl dirtied her clothes. b. Each little girl dirtied her clothes and others'. c. Each little girl dirtied others' clothes. d. All of the above.			This sentence means: a. Each kid saw himself/herself (in the mirror). b. Each kid saw himself/herself and the other(s) (on the mirror). c. Each kid saw the other(s) (on the mirror) d. All of the above.		

5. sisters have great ambitions:			6. friends whose car broke down.		
<i>t^ʕawwar-na</i>	<i>ʔanfusa-huna</i>		<i>saʔal-u</i>	<i>ʔanfusa-hum</i>	<i>ma</i>
improve-PL.F	self.PL-F		asked-PL	self-PL	what
This sentence means: a. Each one improved herself. b. Each one improved herself and the other(s). c. Each one improved the other. d. All of the above.			This sentence means: a. Each one is asking himself. b. Each one is asking himself and the other(s) c. Each one is asking the other(s). d. All of the above.		

7. Two girls are in a perfume store:			8. Not a tight-knit family:	
<i>ʔiʃtaray-na</i>	<i>li-ʔanfusa-hin</i>	<i>ʕitʃr</i>	<i>yakrah-uuna</i>	<i>ʔanfusa-hum</i>
Bought-PL.F	to-self.PL.F	perfume	hate-PL	self-PL
This sentence means: a. Each one bought a perfume (for herself). b. Each one bought a perfume for herself and the other. c. Each one bought a perfume for the other. d. All of the above.			This sentence means: a. Each family member hates himself. b. Each family member hates himself and the other(s). c. Each family member hates the other(s). d. All of the above.	

9. Context: two kids were playing with a blunt instrument:		10. little girls were preparing cake:		
<i>jaraḥ-u</i>	<i>ʔanfusa-hum</i>	<i>wassax-na</i>	<i>ʔanfusa-hun</i>	<i>bi-l-tʃahiin</i>
hurt-PL	self-PL	make dirty-PL.F	self-PL.F	in-DEF-flour
This sentence means: a. Each kid hurt himself. b. Each kid hurt himself and the other. c. Each kid hurt the other. d. All of the above.		This sentence means: a. Each little girl dirtied her clothes. b. Each little girl dirtied her clothes and others'. c. Each little girl dirtied others' clothes. d. All of the above.		

Appendix B. Contextualized JA Sentences Comprising *haal*

1. Some students got prepared for their exams.			2. Friends are artists.		
<i>ʔitʃ-tʃullaab</i>	<i>darras-u</i>	<i>haal-hum</i>	<i>rasam-u</i>	<i>haal-hum</i>	
DEF-students	taught-PL	self-PL	Drew-PL	self-PL	
This sentence means: a. Each student studied alone. b. Each student studied alone and then taught the other(s). c. Each student taught the other(s) a particular subject. d. All of the above.			This sentence means: a. Each one drew himself. b. Each drew himself and then the other(s). c. Each one drew the other(s). d. All of the above.		

3. Context: friends are looking for jobs.			4. Context: some kids are in a room.		
<i>rah</i>	<i>ydabr-u</i>	<i>haal-hum</i>	<i>shaaf-u</i>	<i>haal-hum</i>	<i>bi-li-mraaye</i>
will	manage-PL	self-PL	Saw-PL	self-PL	in-DEF-mirror
This sentence means: a. Each one is looking for a job. b. Each one is looking for a job (for himself and the other(s). c. Each one is looking for a job for his friend. d. All of the above.			This sentence means: a. Each kid saw himself/herself (in the mirror). b. Each kid saw himself/herself and the other(s) (in the mirror). c. Each kid saw the other(s) (in the mirror). d. All of the above.		

5. Context: sisters have great ambitions:		6. Context: friends whose car broke down.			
<i>tʃawwar-in</i>	<i>haal-hin</i>	<i>saʔal-u</i>	<i>haal-hum</i>	<i>ʃuu</i>	<i>s-sabab</i>
improve-PL.F	self-PL.F	asked-PL	self-PL	what	DEF-reason
This sentence means: a. Each one improved herself. b. Each one improved herself and the other(s). c. Each one improved the other. d. All of the above.		This sentence means: a. Each one is asking himself. b. Each one is asking himself and the other(s). c. Each one is asking the other(s). d. All of the above.			

7. Two girls are in a perfume store:			8. Not a tight-knit family:	
<i>ʔiʃar-in</i>	<i>la-ħaal-hin</i>	<i>ʕuTur</i>	<i>bikra-hu</i>	<i>ħaal-hum</i>
Bought-PL.F	to-self-PL.F	perfume	hate-PL	self-PL
This sentence means: a. Each one bought a perfume (for herself). b. Each one bought a perfume for herself and the other. c. Each one bought a perfume for the other. d. All of the above.			This sentence means: a. Each family member hates himself. b. Each family member hates himself and the other(s). c. Each family member hates the other(s). d. All of the above.	

9. Two kids were playing with a blunt instrument:		10. Little girls were preparing cake:		
<i>jarah-u</i>	<i>ħaal-hum</i>	<i>nazaʕ-in</i>	<i>ħaal-hin</i>	<i>bi-l-tʕahiin</i>
hurt-PL	self-PL	make dirty-PL.F	self-PL.F	in-DEF-flour
This sentence means: a. Each kid hurt himself. b. Each kid hurt himself and the other. c. Each kid hurt the other. d. All of the above.		This sentence means: a. Each little girl dirtied her clothes. b. Each little girl dirtied her clothes and others'. c. Each little girl dirtied others' clothes. d. All of the above.		

Notes

- The universality of reflexivity and reciprocity is questionable, as some languages lack these concepts. For example, Ferraz (1979) reports that the Portuguese-based São Tomé Creole has no productive tools to express these concepts.
- Recently, Al-Raba'a and Kitagawa (2022) study reflexivity and reciprocity in Arabic; however, their main concern is the semantic distinction between the argument structure of morphological reflexive and morphological reciprocal construction in JA. They conclude that the former has one-place, whereas the latter has a two-place predicate.
- The use of pronouns as reflexive markers is exceptional in Arabic, and can only occur in very restricted contexts.
- The nominal *naʕs* has a number of lexical denotations. It may refer to *soul* or *blood*. It primarily refers to the aware and thinking entity of human beings.
- baʕdʕ* is a quantifier that compatible with non-countable and plural countable nominals. It is derived from the radicals *bʕdʕ* that means 'to divide'.
- Some researchers treat markers like the polysemous *naʕs* in other languages as cases of homonymy. In the current study, *naʕs* is regarded as a case of polysemy.
- Regarding the functions of intensification and sameness, the intensifier *naʕs* is employed to denote these meanings in JA, but not the reflexive *ħaal*. Note that *ḍaat* is rarely used to convey intensification or sameness in this variety:

a.	<i>ʔal-waziir-u</i> DEF-minister-NOM 'The minister himself came.'	<i>b-(naʕs/*ħaal)-u</i> in-self-3SG.M.POSS	<i>ʔadʒa</i> come.PFV.3SG.M
b.	<i>ʔal-waziir-u</i> DEF-minister-NOM 'The same minister came.'	<i>(naʕs/*ħaal)-u</i> self-3SG.M.POSS	<i>ʔadʒa</i> come.PFV.3SG.M
- Note that Arabic dialects have various strategies to express reflexivity and reciprocity. In Moroccan Arabic and Egyptian Arabic, *raas* 'head' and *rooh* 'soul' are used to express reflexivity. They can also be used as intensifiers (i.e., emphatic reflexives), as it is the case in some dialects in the Arabic peninsula.

a.	It is intensifier in Jordanian Arabic: <i>idʒa</i> come.PFV.3SG.M 'He himself came.'	<i>b-raas-o</i> in-head-3SG.M.POSS
b.	Reflexive marker in Moroccan and others. <i>dirt-ha</i> wrap.PFV-3SG.F 'I made it to myself.'	<i>la-raas-i</i> to-head-1SG.POSS

Heath (2002, p. 347)

⁹ SA has the intensifier *ḍaat* ‘self’ that can replace *nasf* that expresses emphasis and sameness:

- | | | | |
|----|---|--|--|
| a. | <i>ʔal-waziir-u</i>
DEF-minister-NOM
‘The minister himself came.’ | <i>bi-(nafs/ḍaat)-i-hi</i>
by-self-GEN-3SG.M.GEN.POSS | <i>ḥad^sar</i>
come.PFV.3SG.M |
|----|---|--|--|

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