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How do middle voice markers and valency reducing constructions interact? Typological tendencies and diachronic considerations

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Abstract: Middle voice markers are highly polyfunctional items that, among other things, also perform a range of valency-changing operations such as anti-causativization and reflexivization. Typological research has shown that individual markers display a great deal of variation with respect to their inventory of functions. Explaining this variation remains a key question that a comprehensive typology of middle markers needs to address. We now know that only a sub-set of the possible polyfunctionality patterns is actually attested and that existing patterns often represent the result of specific grammaticalization processes. In this paper, I explore yet another possible factor, that is, the interaction between middle markers and other valency-changing constructions within the same language. Based on a study of 129 middle-marking languages, I single out two recurrent patterns, that is, complementarity and competition, and argue that their study offers crucial insights in explaining the synchronic polyfunctionality of middle markers.

Keywords: competition; complementarity; middle voice; valency reduction

1 Introduction

Middle voice markers (henceforth, MMs) are polyfunctional items typically associated with a wide range of valency-changing operations, such as anti-causativization and reflexivization. In a survey of 129 middle-marking languages, Inglese (2021) found that the precise inventory of valency- changing functions associated to individual MMs conspicuously varies across languages. For example, the Laz (Kartvelian) MM *-i-* can be used in passive, anticausative, antipassive, reflexive, reciprocal, and even other functions (Lacroix 2012), while the MM *-uw-* in

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Chuwabu (Niger-Congo) is restricted to anticausative and passive functions (Guérois 2015: 254–257, 269–271). Overall, cross-linguistic variation in this domain is not entirely random, in the sense that, of all the logically possible combinations of valency related functions of MMs, only a subset is actually attested in the world's languages. Why specifically these polyfunctionality clusters exist, and not others, remains an open question.

To account for the observed variation, two main types of explanations have been proposed. On the one hand, constraints on polyfunctionality patterns have synchronically been formulated in terms of a conceptual space of valency-reducing operations (cf. Inglese 2021). On the other hand, the polyfunctionality of individual MMs has been explained in diachronic terms, in the sense that specific polyfunctionality patterns are motivated by the diachronic processes linking the various functions to one another (Bahrt 2021: Ch. 7; Inglese forthcoming).

In this paper, I set out to explore yet one more possible factor that might affect the polyfunctionality of MMs, that is, their interaction with other valency-changing constructions. The general insight is that MMs should not only be studied in isolation, but that a more fine-tuned understanding of why their polyfunctionality varies across languages can be achieved by also taking into consideration their interaction with the overall domain of valency change in individual languages. To this aim, I explore the distribution of MMs in relation to alternative means of encoding valency-changing operations in the language sample of 129 middle-marking languages used in Inglese (2021).

This is not an entirely new topic. Kemmer (1993) already drew several influential generalizations on the relationship between middle marking and reflexive and reciprocal constructions, showing that in languages that feature both reflexive and middle marking, reflexive marking tends to be heavier, more transparent, and dedicated to reflexive situations as opposed to simpler and more polyfunctional MMs. Capitalizing on Kemmer's findings, I discuss how a similar line of reasoning can profitably be extended to other valency-reducing functions of MMs. In addition, I also discuss how MMs may interact with one another in languages that feature multiple MMs. While the aim of the paper is primarily to offer a synchronic description of the interplay between middle marking and alternative valency-changing constructions, I also sketch a number of different historical scenarios that account for the existence of these patterns.

The paper is structured as follows. In Section 2, I introduce the comparative concept of MM that I adopt in this paper. Section 3 offers an overview of the connection between middle marking and the encoding of valency-reducing operations and discusses current explanations for the existence of polyfunctionality patterns. I then move on to discussing possible patterns of interaction between

MMs and alternative means of encoding valency reduction in Section 4. Section 5 is devoted to multiple middle-marking languages. Section 6 offers some general remarks on the possible historical scenarios behind the emergence of the patterns discussed in Sections 4 and 5. Section 7 summarizes the main findings of the paper.

2 A typological definition of middle marker

The cross-linguistic definition of middle voice markers has constituted a matter of long-standing debate in linguistics, to the point that in current typological studies "middles […] represent a major terminological problem area" (Zúñiga and Kittilä 2019: 151). In this paper, I adopt the typological definition of MM proposed by Inglese (2021).

Building on previous typological research on the middle voice (Geniušienė 1987; Kazenin 2001; Kemmer 1993; Klaiman 1991; Kulikov 2013; Zúñiga and Kittilä 2019: 168–177), Inglese (2021) has proposed a comparative concept of MM that focuses on two main criteria. On the one hand, MMs optionally occur with (at least) bivalent verbs to express one or more valency-changing operations including anticausative, antipassive, passive, reflexive, and reciprocal. On the other hand, MMs also obligatorily occur with (monovalent) verbs that lack an unmarked counterpart. The two classes of middle verbs are 'oppositional' and 'non-oppositional' middles, respectively (these correspond to Klaiman's [1991: 106] "alternating" and "nonalternating"), and their combination gives rise to a middle voice system (MVS).[1] This means that the middle is not a single type of voice *sensu stricto* (Zúñiga and Kittilä 2019: 4), but rather a cluster of functions (Kulikov 2013: 265–266). Languages featuring MMs can be described as middle-marking languages.

Latin is a good example of a middle-marking language that conforms to the proposed definition. As is typical of other ancient Indo-European languages, Latin features a system of two inflectional voices: the Active and the Mediopassive. Some verbs can alternate between the Active and the Mediopassive inflection to indicate valency change, as in (1a) (see Cennamo et al. 2015; Pinkster 2015: Ch. 5). These are oppositional middles. In addition, one also finds a sizeable number of non-oppositional verbs that obligatorily occur in the Mediopassive inflection, traditionally called *media tantum* or *deponents* in Latin linguistics (Flobert 1975; Gianollo 2010), as in (1b):

1 Individual MMs may also optionally express other oppositional functions not connected with valency change, such as the encoding of aspect-related functions. I do not discuss these here, and I refer to Inglese (2021) for an extensive treatment.

(1) Latin (Indo-European, Italic)
   a. *vert-**o*** 'I turn.ACT (tr.)' vs. *vert-**or*** 'I turn.MID (intr.)' ANTICAUSATIVE
      *am-**o*** 'I love.ACT' vs. *am-**or*** 'I am loved.MID' PASSIVE
      *lav-**o*** 'I wash.ACT (tr.)' vs. *lav-**or*** 'I wash.MID myself' REFLEXIVE
   b. *gradi**or*** 'walk, go', *amplect**or*** 'embrace', *loqu**or*** 'talk', *mori**or*** 'die'

I refer to Inglese (2021: 6–10) for a full argumentation on the advantages of the definition adopted here and for thorough discussion of the semantics of oppositional and non-oppositional middle verbs across languages. In the remainder of this paper, the focus will be on oppositional middles only.

3 The polyfunctionality of oppositional middle verbs: possible explanations

A key feature of MMs as defined in Section 2 is that they serve as means to encode valency reduction.[2] The main valency operations associated with oppositional MMs are the anticausative, passive, reciprocal, reflexive, and antipassive functions.[3] These can be exemplified by the cognate MMs *-s-* and *-si-* in two Sino-Tibetan languages, that is, Bunan, in (2), and Thulung, in (3).

(2) Bunan (Sino-Tibetan, Tibeto-Burman; Widmer 2018: 363, 366, 340)
   a. *al-* 'open (tr.)' → *al-**s***- 'open (intr.)' ANTICAUSATIVE
   b. *lik-* 'make' → *lik-**s***- 'be made' PASSIVE
   c. *dziŋ-* 'scold' → *dziŋ-**s***- 'scold each other' RECIPROCAL

(3) Thulung (Sino-Tibetan, Tibeto-Burman; Lahaussois 2016: 55, 56)
   a. *blan-* 'let something dry in the sun' → *blan-**si***- 'dry oneself' REFLEXIVE
   b. *mim-* 'think about something' → *mim-**si-*** 'reflect' ANTIPASSIVE

2 Inglese (2021) also discusses three other valency-related functions typical of MMs: self-benefactive (e.g. Italian *Marco **si** compra una casa* 'M. buys a house for himself), impersonal (e.g. Italian *qui **si** balla* 'here there is dancing'), and facilitative (e.g. Italian *la carne **si** taglia facilmente* 'the meat cuts easily'). Unfortunately, as grammars often do not explicit mention these functions, it is not always possible to tell whether they in fact occur in individual languages. For this reason, I do not consider them further in this paper.

3 While acknowledging that these operations each have a distinct effect on the verbs' semantic and syntactic valency (e.g. Kulikov 2010; Zúñiga and Kittilä 2019), for simplicity's sake I refer to these functions as valency reducing in the rest of the paper, to distinguish them from valency-increasing functions (e.g. causative and applicative), which are never associated with MMs.

As observed by Inglese (2021), MMs greatly vary concerning the actual range of oppositional valency reducing functions that they may express. The reasons behind such variation remain in part unexplored. So far, two types of explanations have been proposed.

First, on a synchronic level, Inglese (2021: 18–21) observes that not all possible polyfunctionality patterns among the logically possible ones are actually attested.[4] Constraints on the polyfunctionality of individual MMs can be formulated in terms of a 'semantic map' (or better, a 'conceptual space', cf. Croft 2003: 134) of valency-reducing operations, as shown in Figure 1. Semantic maps primarily constitute a useful tool to visually represent polyfunctionality patterns (Georgakopoulos and Polis 2018: 1) but they also allow typologists to make significant predictions and generalizations about possible and impossible language types (e.g. Haspelmath 2003: 232). Following from the 'semantic map connectivity hypothesis' (see Croft 2003: 133; Georgakopoulos and Polis 2018), the map in Figure 1 predicts that language-specific MMs may only encode functions that are directly connected on the map, without skipping intermediate nodes. In a way, similarly to

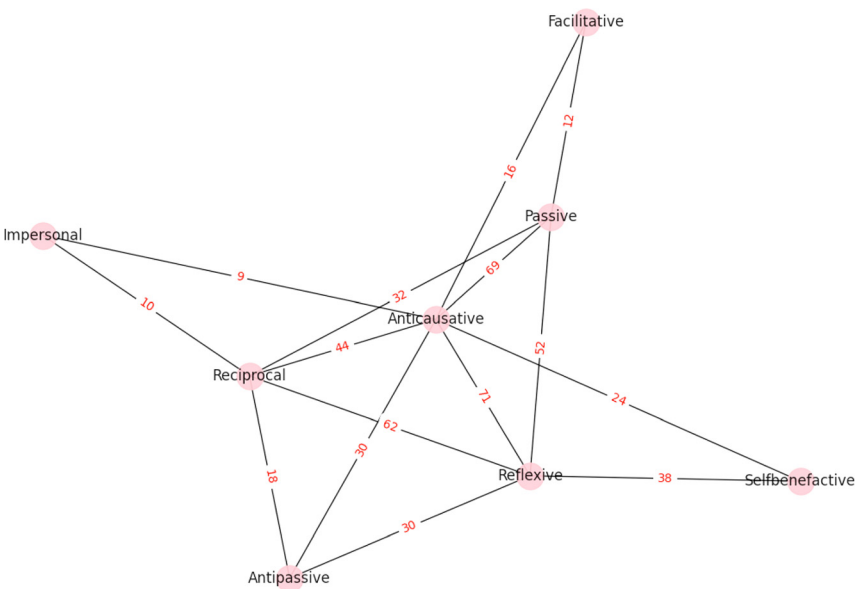

Figure 1: The semantic map of oppositional middle functions (from Inglese 2021: 20).

4 Comparable results have also independently been achieved by Bahrt (2021), who however focuses on syncretic intransitivizers and not on MMs as defined in this paper.

implicational linguistic universals (Moravcsik 2010: 71–74), the semantic map therefore provides a weak explanation, *à la* Heine (1994: 258–259), for the polyfunctionality of language-specific MMs: only those polyfunctionality patterns that comply with the connectivity hypothesis are allowed, while those that do not are impossible. Moreover, the semantic map approach may also offer a cognitive explanation for polyfunctionality patterns in the sense that it (more or less implicitly) assumes that the reason why individual functions are co-expressed iconically reflects their conceptual vicinity in a speaker's mind (Cristofaro 2010b: 231–232).

In the second place, diachronic factors have also been claimed to play a role in explaining the polyfunctionality of MMs.[5] First, as discussed by Inglese (forthcoming), the polyfunctionality of individual MMs may reflect properties of the source constructions out of which they originate. For example, MMs that originate in stative markers are likely to have passive function, while those that originally indicated plurality have a closer affinity to the reciprocal domain. Second, general constraints on the grammaticalization of valency-reducing markers also play a role (Heine 1994; see also discussion in Bahrt 2021: Ch. 7). For example, the reason why in many languages MMs co-express the reflexive, reciprocal, and antipassive functions is that reciprocals have been pointed out as an intermediate step in the grammaticalization of reflexives into antipassives (see Sansò 2017).

While all these observations contribute to shedding light on why MMs are associated with certain clusters of valency-reducing functions and not others, they do not consider more generally how MMs fit within the wider grammatical system in which they occur. Specifically, the question remains open as to whether and how the pattern of polyfunctionality of individual MMs is affected by the interaction with other constructions available for the encoding of valency-reducing operations in the same language.

4 MMs and alternative valency-changing constructions: a typological sketch

Attempts to study the interaction between MMs and other valency-reducing markers have mostly been limited to reflexive and reciprocal functions, thus neglecting to take into account the full range of possible oppositional functions.

5 This is in line with current diachronic source-oriented approaches to the explanation of cross-linguistic regularities, be these formulated in terms of semantic maps (e.g. Cristofaro 2010a; Haspelmath 2003: 235–237; van der Auwera 2013: 164–167), or language universals more generally (e.g. Bybee 2006; Cristofaro 2019, 2021; Moravcsik 2010: 78–82).

Again, this is unfortunate, since a careful consideration of how MMs and other valency reducing markers carve up the domain of valency change can potentially contribute to shedding light on why MVSs are shaped in certain ways.

To explore the interaction between MMs and alternative valency-reducing constructions, I analyze how these distribute in the sample assembled by Inglese (2021). This is a variety and convenience sample of 129 languages in which 149 MMs have been identified, based on the definition given in Section 2. Discussion in this section draws upon on a sub-sample of 109 languages that feature only one MM (I return to the remaining 20 multiple middle-marking languages in Section 5).

I focus here on two main types of interaction: complementary distribution and competition.[6] A third possible pattern, which I will not discuss in detail, is 'combination' (but see Section 5.2). In this case the MM co-occurs (in some of its functions) with another valency-reducing marker, which is also regarded as typical for that function. Historically, these patterns are often the result of an ongoing cyclic change whereby a new construction is replacing an old MM in some or all of its functions (see Section 6). An example of combination comes from the encoding of reflexivity in Hittite. As discussed by Inglese (2020: 159), in Hittite reflexivity can be encoded either by the Middle inflection, as in (4a), by adding an enclitic particle *=za* in sentences with Active voice verbs, as in (4b), or by a combination of the two, as in (4c).

(4) Hittite (Indo-European, Anatolian; Inglese 2020: 159; Neu 1968: 158)[7]

a. *it* ***šuppiyaḫḫut***
go.2SG.IMP purify.2SG.IMP.MM
'Go, purify yourself!' (KBo 3.16 iii 8).

b. *nu=**za*** *6-ŠU* *walḫanzi*
CONN=REFL six_times hit.PRS.3PL
'They beat themselves six times.' (KUB 1.14 ii 8)

c. LUGAL-*uš=**za*** ***šuppiyaḫḫati***
king.NOM=REFL purify.PST.3SG.MM
'The king has purified himself.' (KBo 25.112 ii 14)

6 For this paper, I have distinguished complementarity versus competition based on the available information in the grammars that I have consulted. I am aware that in some cases the classification may not reflect the actual facts of individual languages due to the granularity of the grammatical description in the available sources (see fn. 10). Note also that, at least historically, a blurred line exists between competition and complementarity as the two patterns may feed into one another diachronically (Section 6).

7 Glosses in the example are adapted from the sources, following the Leipzig Glossing Rules. Non-Leipzig abbreviations are: AG = agent, ANIM = animate, CONN = connective, CPR = comparator, EMPH = emphatic, FIN = finite, HGR = aspirating grade. In addition, middle markers have consistently been glossed as MM, irrespective of the glossing in the source.

Cases such as that of Hittite are rather the exception. By far more frequent is the co-occurrence of MMs with additional markers which, however, do not normally occur on their own in the encoding of a specific function (see also Bahrt 2021: 60). This happens when speakers optionally add cues to disambiguate a specific reading of polyfunctional MMs in a given context. Consider the encoding of reflexivity in Toba. As discussed by Zurlo (2016), the Toba verbal system features two series of person-indexing prefixes, Series I and Series II. Series II prefixes in fact function as MMs and they can also express reflexivity, as in (5a). As shown in (5b), reflexive verbs with Series II prefixes may also be double-marked by the addition of the suffix *-laʔt*, which however never occurs on its own as a reflexive marker (see Zurlo 2019 for discussion).

(5) Toba (Guaykuruan, Southern; Zurlo 2019: 44, 51)

a.	*i-yo*		vs.	***n**-yo*
	3SG.I-wash			3SG.II-wash
	'He washes (it).'			'He washes himself.'
b.	***n**-ʔamaqtee-**laʔt***			
	3SG.II-believe-REFL			
	'He believes in himself.'			

Another example concerns reciprocal 'specifiers', that is, "phrases that cannot be used to encode reciprocity on their own [and] co-occur with […] reciprocals either for emphasis or for disambiguation" (Nedjalkov 2007a, 2007b: 167). For instance, the Italian MM *si* is potentially ambiguous between an anticausative, reflexive, or reciprocal reading, so that speakers may add the pronominal construction *l'un l'altro* 'each other' to single out a reciprocal reading (Vezzosi 2010), e.g. ***si** colpiscono (l'un l'altro)* 'they hit one another'.

In all examples discussed so far, additional marking is optional because MMs alone are sufficient to encode the function at hand (for some cases of obligatory additional marking see Bahrt 2021: 61). In this paper, I follow Bahrt (2021: 60–61) and neglect the co-occurrence of additional marking when describing patterns of polyfunctionality of MMs.

4.1 Scenario 1: Complementary distribution

The first scenario that I discuss is complementary distribution. By this, I refer to the pattern whereby some valency-reducing functions are expressed by a MM while the others are expressed by one or more alternative constructions, so that there is no overlap between the two.

Let us consider the encoding of the passive, anticausative, reflexive, and reciprocal functions in Muskogee. In this language, the passive and anticausative functions can only be expressed by the MM *-k-*, as in (6a–b) (Hardy 1994; Martin 2000: 381–387). Other valency-reducing functions are encoded by different constructions: reflexivity is encoded by the prefix *i:-*, as in (6c), while reciprocity is encoded by the prefix *iti-*, as in (6d) (Martin 2011: 409).

(6) Muskogee (Muskogean; Martin 2011: 214, 409)
   a. *calap-itá* 'mix' vs. *caláp-**k**-i:* 'be mixed'
   b. *folot-itá* 'turn (tr.)' vs. *folot-**k**-itá* 'turn (intr.)'
   c. ***i:**-híhc-ey-s*
      REFL-see.HGR-1SG.AG-IND
      'I saw myself.'
   d. ***iti**-híhc-i:-s*
      RECP-see.HGR-1PL.AG-IND
      'We saw each other.'

4.1.1 Complementary distribution: data from the sample

A careful consideration of patterns of complementary distribution enables us to address one initial research question: what is the valency-related oppositional function most conspicuously associated with middle marking? The hypothesis, as put forward by Kemmer (1993), is that reflexivity (and reciprocity) should lie at the core of MVSs. Data on the frequency of oppositional functions reported in Table 1 already casts doubts on the validity of this hypothesis. As expected, reflexives do constitute a frequent function of MMs, but anticausative and passive functions, which are regarded as marginally connected with the middle domain by Kemmer (1993), are also robustly attested.

This evidence becomes even more striking when complementarity patterns are taken into account. The relevant data is reported in Table 2, which should be read

Table 1: Oppositional functions of MMs (adapted from Inglese 2021: 18).

Function	MM
Anticausative	111
Antipassive	38
Passive	86
Reciprocal	68
Reflexive	103

Table 2: MM and other valency-changing constructions.

	MM	Complementary construction	No marking
Anticausative	81 (93%)	6 (7%)	22
Antipassive	30 (83%)	6 (17%)	73
Passive	59 (84%)	11 (16%)	39
Reciprocal	53 (52%)	48 (48%)	8
Reflexive	81 (76%)	26 (24%)	2

as follows: the first column shows how frequently a given function is expressed by a MM only; the second shows how frequently the same function is expressed by a complementary construction; the third reports cases in which the language lacks a grammatical marker for a given function.

A number of interesting generalizations can be drawn from the data in Table 2. The main result is that functions that at face value have a similar absolute frequency in the sample (Table 1) may strongly differ as to their degree of association with middle marking. For example, the reflexive and the anticausative functions roughly show the same frequency in the sample. However, while languages seemingly may do well without anticausativization, if a middle-marking language has an overt anticausativization marker, this will be the language's MM in 93% of the cases, with only a marginal occurrence of alternative constructions (this is in line with findings by e.g. Nichols et al. 2004: 175 and Bahrt 2021: 151 that anticausatives are often expressed by syncretic markers). By contrast, even though languages tend to have overt reflexive marking, they seem to show a less pronounced preference for reflexivity to be encoded either by MMs or by an alternative construction (76 vs. 24%). This speaks to a closer connection of anticausativization with middle marking as compared to reflexivity (the difference is statistically significant, Fisher's Exact Test for Count Data, p-value = 0.001).

Broadening the view to all five valency-reducing operations, it turns out that despite their absolute frequency, it is the anticausative, antipassive, and passive functions that are most likely to be expressed by MMs. The reciprocal function is in this respect an outlier, as this is the only function for which middle marking and alternative constructions are virtually equal in frequency. This means that the reciprocal is the least likely function to be expressed by middle marking. This result is compatible with Bahrt's (2021: 147) finding that, among voice operations, the reciprocal is the one more frequently expressed by dedicated constructions.[8]

8 The counts in Table 2 and those discussed by Bahrt's (2021: 147) are not fully comparable because Bahrt only considers bound verbal markers while I also consider analytical MMs.

Overall, the data suggests that Kemmer's (1993) hypothesis that reflexivity lies at the core of MVSs cannot be upheld, at least not in terms of reflexivity being the most prominent function of MMs across languages.[9]

4.1.2 Complementary distribution and the shape of MVSs

The study of complementarity patterns offers an interesting starting point for assessing which conditions may or may not favor the occurrence of certain configurations of MVSs. This can be illustrated by focusing on the passive/anticausative/reflexive cluster. As anticipated in Section 3, MMs that encode passive and reflexive situations will also tend to be used for anticausativization. In fact, there exist conceptual similarities linking anticausatives to both reflexives and passives. On the one hand, anticausatives with controlling subjects (or 'autocausatives'), which typically include verbs of self-induced motion such as 'turn', are akin to reflexives because their subject volitionally initiates a change-of-state event. On the other hand, anticausatives of the 'decausative' type, which include verbs indicating a spontaneous change of physical state such as 'melt', share with passives the fact that their subject is a non-controlling Patient. Anticausatives have often been pointed to as an intermediate diachronic step in the development of reflexives into passives (cf. Haspelmath 1990; Heine 2002).

While in the sample 39 MMs participate in the expected passive/anticausative/reflexive polyfunctionality pattern, there also exist 13 MMs that fail to do so, as these encode the passive and the reflexive functions but not the anticausative one. A closer look reveals that these languages systematically fall into two distinct types.

The first type consists of languages that feature alternative anticausativization strategies. Consider the case of Drung, where the MM *-ɕŭ* encodes reflexive and (stative) passive function, as in (7a–b), while the prefix *ă-* is used in anticausative and reciprocal contexts, as in (7c–d) (LaPolla and Jiangling 2005).

(7) Drung (Sino-Tibetan, Tibeto-Burman; LaPolla and Jiangling 2005: 2, 9, 2 fn. 6, 3 fn. 8)
a. *ŋà* *sat-**ɕīŋ***
1SG hit-MM.1SG
'I hit myself.'

9 One may object that reflexive middle verbs might still be more frequent in terms of token and type frequency than anticausative middle verbs in individual middle-marking languages, thus ultimately supporting Kemmer's (1993) conclusions. Unfortunately, lack of reliable cross-linguistic data on frequency of middle verbs in corpora makes it impossible to test this hypothesis.

b. *ɕàm* *(àŋ-lĕ)* *a-ɟāŋ-**ɕŭ***
sword 3SG-DAT INTR-see-MM
'The sword is seen/visible to him.'
c. *àŋnē* ***ă**-ɟàŋ*
3PL INTR-look
'They are looking at each other.'
d. *tāl* 'turn (tr.)' vs. ***ă**-tāl* 'turn (intr.)'

The second type is instantiated by languages that lack grammatical marking of anticausativization, mostly because in these languages the anticausative alternation is expressed by adding causative morphology to basic intransitive verbs (these are transitivizing languages in the sense of Nichols et al. 2004). Salish languages offer a case in point. In Halkomelem, the MM *-m* encodes passive and reflexive functions (and also the antipassive), as in (8a–b), whereas the anticausative alternation is expressed by adding a transitive suffix *-t-* to intransitive verb bases, as in (8c) (Gerdts and Hukari 2006).

(8) Halkomelem (Salish, Central Salish; Gerdts and Hukari 2006: 67, 66, 64)
a. *kʷən-ət-**əm*** *(ʔə* *kʷθə* *swəẏqeʔ)*
take-TR-MM OBL DET man
'be taken (by the man)'
b. *ɬəẁš-əṅə-**m***
braid-ear-MM
'braid one's hair'
c. *q̇ʷəl* 'cook (intr.)' → *q̇ʷəl-**ət***- 'cook-TR'

Clearly, the fact that alternative constructions exist to express a given oppositional function is not *per se* an adequate explanation as to why that function is not encoded by a MM. Nevertheless, this at least suggests that configurations that at face value seem to go against general trends in the polyfunctionality of MMs are not randomly distributed but tend to be found when alternative constructions for a given function exist in a language. This raises the question of how these exceptional patterns historically come about. As I discuss in Section 6, more historical research on individual languages is needed so as to shed light on how patterns of complementary distribution come into existence. For example, in the case of the MM *-m* of Salish languages, it seems to be the case that the originally reflexive marker *-m* followed the expected REFLEXIVE > ANTICAUSATIVE > PASSIVE development, but the anticausative function must have been lost in languages such as Halkomelem in (8). In support of this scenario, one finds isolated traces of *-m* in anticausative

functions in Bella Coola (Beck 2000: 228) as well, as in the Musqueam dialect of Halkomelem (Suttles 2004: 230–231).

The existence of alternative constructions is not the only reason why the polyfunctionality of MMs less frequently involves a given function. There is at least another possibility that must be entertained, that is, MMs encode certain functions less frequently because these functions are in general less represented in the languages of the world. Compare in this respect the reciprocal and the antipassive functions. As data in Table 2 illustrates, these are the two valency-related functions of MMs with the least absolute frequency in the sample. However, while the relatively lower frequency of reciprocal MMs correlates with the fact that reciprocity is encoded in almost half of the cases by an alternative construction, the lower frequency of antipassives is simply due to the fact that antipassive constructions are in general less frequently available cross-linguistically (cf. Polinsky 2013), as shown by the fact that 74 middle-marking languages lack means to express the antipassive function altogether.

4.2 Scenario 2: Competition

The second scenario that I discuss is competition, that is, a situation whereby two (or more) forms "can be used more or less interchangeably in the same […] context" (De Smet et al. 2018: 197). In middle-marking languages, competition takes place when a MM may alternate with one (or more) other construction(s) in the encoding of a given valency-related function.

The competition scenario can be further distinguished into two sub-types: competition proper and partial differentiation. The first type subsumes genuine cases of competition, in the sense that MMs and other alternative constructions freely alternate in the encoding of a certain (range of) valency reducing operation(s). In the second type, one finds that middle marking and alternative constructions roughly operate within the same domain, but their distribution is governed by finer-grained distinctions (see e.g. Heaton 2017: Ch. 10 for a discussion of competing antipassive constructions). To illustrate these two types, let us compare the encoding of the passive function in Tzeltal and Tamashek.

Tzeltal features two passive affixes (Polian 2013: Ch. 9, 12): the Passive suffix *-ot* and the Passive-Anticausative infix *<j>*, which behaves as a MM. As remarked by Polian (2013: 291) passives in *-ot* and *<j>* are virtually identical and can felicitously apply even to the same verb base, as shown in (9a–b).

(9) Tzeltal (Mayan, Core Mayan; Polian 2013: 291)
a. *Tsak-**ot*** *ta* *chamel* *te* *alal=e*
take-PASS by illness DET kid=DET
b. *Tsa<**j**>k'* *ta* *chamel* *te* *alal=e*
take<MM> by illness DET kid=DET
'The kid falls sick (lit. is taken by illness).'

Tamashek shows a different situation. In this language, the passive function is expressed by two different prefixes (Heath 2005: 466–476): the Mediopassive prefix *-m-/-n-*, which is in fact a MM, and the Passive prefix *-t-/-tt-/-tvw-*, as shown in (10a–b).

(10) Tamashek (Afro-Asiatic, Berber; Heath 2003: 471)
a. *-vfrvn-* 'choose, select' → ***-n-****vfrvn-* 'be chosen, be the best (in a competition)'
b. *-vfrvn-* 'choose, select' → ***-tvw-****vfrvn-* 'be chosen (by someone)'

However, Tamashek -n- and -tvw- in (10a–b) are not semantically equivalent. Even though the two prefixes can occur with the same verb base, they differ in that the MM -n- always encodes agentless events, while Passive *-tvw-* may occur with agent phrases (see Zúñiga and Kittilä 2019: 83–87).[10]

4.2.1 Kemmer's (1993) typology: one- versus two-form languages

Competition between MMs and alternative constructions has not gone entirely unnoticed, but these patterns have predominantly been discussed with respect to the reflexive and reciprocal domains, for reasons that will become clear below.

Kemmer (1993: Ch. 3) observes that languages differ as to whether they treat direct reflexives, that is, reflexives based on prototypical two-participant events such as 'look' and 'kill', in the same way as they treat grooming events, e.g. 'shave': in Italian, as in (11), both situations are expressed by the MM *si*, while in Somali, grooming verbs are marked by the MM *-at-* (the reference form is the imperative,

10 Distinguishing between genuine types of competition, as in (9), and those of partial differentiation, as in (10), is not always an easy task because grammars may not report information on the forms under analysis in sufficient detail. In general, also taking into consideration the principle of No Synonymy (see Goldberg 1995: 67; Nuyts and Byloo 2015), it cannot be ruled out that even in cases of superficial genuine competition, there exits finer-grained differences based on other linguistic or extra-linguistic parameters, e.g. productivity or lexical restrictions (van Lier and Messerschmidt 2022).

where *-at-* surfaces as *-o*) whereas reflexivization of other verbs is expressed by means of the reflexive pronoun *is*, as in (12a–b).

(11) Italian (Indo-European, Romance; personal knowledge)
a. *Marco* ***si*** *rade* *(la barba)*
M. MM shave.PRS.3SG the beard
'Marco shaves (his beard).'
b. *Marco* ***si*** *guarda* *allo* *specchio*
M. MM look.PRS.3SG to_the mirror
'Marco looks at himself in the mirror.'

(12) Somali (Afro-Asiatic, Cushitic; Saeed 1995: 72, 65)
a. *xiidh**o*** 'shave', *tidc**o*** 'braid one's hair'
b. *waa=uu* ***is*** *dilay*
CLF=3SG self killed
'He killed himself.'

A similar split also concerns reciprocal situations (Kemmer 1993: 95–123). In some languages, the MM is the only available strategy for all reciprocal situations, as is the case again of Italian *si*, e.g. *combatter-**si*** 'fight one another' and *veder-**si*** 'see one another'. Other languages shows a different distribution: a dedicated construction is reserved for reciprocalization of non-reciprocal bivalent verbs, while MMs occur with inherently reciprocal verbs (or natural reciprocals, in Kemmer's terms; see further Nedjalkov 2007b: 101). For example, in Somali the MM *-at-* only occurs with naturally reciprocal events, as in (13a), whereas grammatical reciprocals are built with the pronoun *is* 'self/other', as in (13b).

(13) Somali (Saeed 1995: 67–68)
a. *ganacs**o*** 'trade', *yobso**o*** 'gather together'
b. *waa=ay* *is* ***arkeen***
CLF=3PL self saw
'They saw each other.'

Generalizing over these findings, Kemmer (1993: 24–28) proposes a binary typology of one- versus two-form languages. The former feature only one MM used for all reflexive/reciprocal situations, while the latter feature one MM and another reflexive/reciprocal marker. These two patterns are summarized in Table 3.

Table 3: One- versus two-form languages in the reflexive/reciprocal domains.

	Language	Body action	Reflexive	Natural reciprocal	Reciprocal
One-form	Italian	*si*	*si*	*si*	*si*
Two-form	Somali	*-at-*	*is*	*-at-*	*is*

Two-form languages can further be distinguished into cognate languages, in which the two markers are historically related, e.g. Russian *-sja* and *sebja*, and non-cognate languages, in which the two markers are not connected etymologically, as is the case of Somali *-at-* and *is*.

Kemmer formulates two strong claims regarding the split coding of reflexive/reciprocal situations: in two-form languages (i) it is consistently the case that MMs encode grooming situations and natural reciprocals, while proper reflexives and grammatical reciprocals are encoded by dedicated constructions; (ii) whenever they are distinct, reflexive/reciprocal markers will be heavier, i.e., more complex, than lighter MMs. Complexity is understood as phonological body, which is measured in terms of "number of segments and degree of phonological dependence on the verb" (Kemmer 1993: 25).[11]

4.2.2 Competition: data from the sample

Kemmer's (1993) typology of one- versus two-form languages, while descriptively accurate, is reductive in that, focusing on reflexives and reciprocals, it only captures part of the possible variation. If one broadens the view to the whole range of oppositional functions of MMs, a more complex picture emerges. Table 4 reports the number of one- versus two-form languages in the sample, with respect to each of the valency-reducing functions of MMs analyzed in this paper.[12]

The data in Table 4 shows that in fact languages often feature MMs competing with alternative valency-reducing constructions, and while this is indeed most

Table 4: Middle marking and competing constructions.

	One-form languages	Two-form languages
Anticausative	73 (89%)	9 (11%)
Antipassive	29 (97%)	1 (3%)
Passive	41 (68%)	19 (32%)
Reciprocal	45 (85%)	8 (15%)
Reflexive	50 (61%)	31 (39%)

11 Similar considerations also hold for indirect reflexive/middle situations, which I do not discuss here (Kemmer 1993: 74–81).

12 Counts in Table 4 do not include those languages in which a dedicated valency-reducing construction coexists alongside MMs occurring with semantically related non-oppositional verbs. This is the case of Somali discussed in (13), where the MM *-at-* occurs with non-oppositional reciprocals only, while *is* derives reciprocals from bivalent verbs.

frequently the case with reflexives, the same also holds true, albeit to a lesser extent, for all other oppositional functions of MMs. For example, in the sample one finds 73 languages in which the MM is the only available strategy for anti-causativization, whereas in 9 languages anticausatives MM coexists alongside competing anticausativization strategies. Antipassives seems to disfavor competition of this type, whereas passives, quite surprisingly, rank close to reflexives in terms of the one- versus- two-form languages ratio.

In addition, the data in Table 4 shows that, in general, one-form languages outnumber two-form ones. Within the latter group, non-cognate languages are by far the most frequent ones. The only two-form cognate language attested in the sample is Huron-Wyandot (Iroquoian), in which the marker for direct reflexives and grammatical reciprocal *-atat-* is historically the reduplicated form of the MM *-at-* (Lukaniec 2018: 225–226). Finally, the data from the sample also confirms Kemmer's claim (ii): one never finds MMs that are more complex than competing valency reducing markers, irrespective of the function.

4.2.3 Competition patterns: possible explanations

While patterns of competition can be detected for all the five main oppositional functions of MMs, it appears that interesting typological generalizations can only be made for reflexives and reciprocals. For these, the data from the sample by and large confirms Kemmer's (1993) predictions: either one finds that MMs and alternative reflexive/reciprocal constructions are fully interchangeable, or, if they differ, it is consistently the case that MMs are restricted to grooming situations and inherently reciprocal verbs. Instead, for the other functions one fails to detect a systematic difference between MMs and competing constructions. This is not to say that MMs and competing constructions are semantically equivalent. Quite the contrary, semantic differences can be observed at the language-specific level. For example, as discussed for Tamashek in (10), it is well known that competing passive constructions may differ in encoding e.g. agented versus non-agented passives or eventive versus resultative/stative passives (Keenan and Dryer 2007: 340–341; see also Fried 2006 and Sansò 2011 for discussion). However, the parameters according to which MMs and non-reflexive/reciprocal alternative constructions distribute in individual languages are so varied that no noticeable consistent cross-linguistic pattern can be pinpointed.

It remains to be explained why it is specifically with reflexives and reciprocals that one finds a consistent cross-linguistic distribution. Different explanations have been proposed in the literature. A number of scholars (see *i.a.* Calude 2017: 606; Haiman 1983; König and Peter 2000: 62) have suggested that these patterns are motivated by economy: speakers will use less coding to express events that are

more often performed on oneself or on each other. This is why the situation 'shave oneself' requires less complex marking than 'look at oneself'. In other words, the more coreference/reciprocity is expected, the less marking is required. According to Kemmer (1993), in two-form languages, the distribution of reflexives and MMs reflects instead the semantic notion of degree of elaboration of events: grooming situations are expressed differently from reflexives because they encode situations in which the participants involved are conceptually less distinguishable (see also Næss 2007: 22–24, 27–29).

Both lines of reasoning have been challenged by scholars that view text frequency, and not real-world frequency as the driving factor behind these patterns (e.g. Ariel 2008; Haspelmath 2008). The idea is that less complex marking is triggered not because of the verbs' intrinsic semantics, but because the higher frequency with which these verbs are used in reflexive/reciprocal contexts makes their reflexive/reciprocal interpretation more conventionalized, hence less prone to overt (or heavier) encoding. Such a frequentist approach has serious consequences for Kemmer's (1993) individuation of reflexives as opposed to grooming events because it suggests that the distinction between the two groups cannot be exclusively based on the semantic parameter of relative distinguishability between participants, but that actual patterns of language use contribute to a great extent to motivating the differential marking between the two classes.

At any rate, the general agreement in the literature is that the existence of a split in the domain of reflexives and reciprocals has to do with the fact that within these groups some verbs may be felt as carrying by default a reflexive/reciprocal interpretation thereby requiring less heavy marking. It is therefore not surprising that such a distribution cannot be detected with passive and antipassive verbs. Unlike reflexives and reciprocals, which manipulate the semantic structure of the underling two-participant events (Givón 2001: 95–116), passives and antipassives operate on syntactic valency with no effects on semantic valency (Zúñiga and Kittilä 2019: Ch. 3), and are mostly used for discourse and textual purposes, chiefly to manipulate participants' saliency and topicality (Givón 2001: 122–172). This means that it makes little sense to talk about more or less intrinsically passive or antipassive verbs.

The case of anticausatives is admittedly different. There have been repeated claims that the likelihood of individual verbs to receive anticausative marking depends on their ranking on the so-called 'spontaneity scale', and this scale has been explained as either semantically reflecting the higher likelihood of an event to take place spontaneously (Haspelmath 1993) or as being determined by frequency effects (Haspelmath 2016). However, while the spontaneity scale undoubtedly plays a role in predicting the distribution of a number of (anti-) causativization strategies, I have not found compelling evidence that it also cross-

linguistically accounts for the distribution of MMs in competition with dedicated anticausativization strategies.

5 Multiple-middle-marking languages

Typological research on MVS has mostly focused on languages that feature a single MM. However, as I discuss in the remainder of this section, there also exist languages featuring more than one MM. In the sample, at least 20 languages with two MMs can be identified (see Appendix).[13] Warungu is a good example of a multiple-middle-marking language. As discussed by Tsunoda (2006), Warungu features two distinct MMs, *-li-* and *-gali-*, which cover a similar range of functions, including reflexive, as in (14a–b):

(14) Warungu (Pama-Nyungan, Maric; Tsunoda 2006: 303, 313)
  a. *bangga-* 'paint' → *bangga-**li**-* 'paint oneself'
  b. *jurra-* 'wash' → *jurra-**gali**-* 'wash oneself'

Also due to their rarity in the sample, data on multiple-middle-marking languages is not sufficient to detect significant cross-linguistic tendencies. From the available data, it appears that these languages are quite diverse when it comes to the interaction between two (or more) MMs, whose distribution can be explored based on parameters similar to those discussed in Section 4.

5.1 Multiple MMs: cognancy

As discussed for reflexive and MMs in Section 4.2, MMs in multiple-middle-marking languages may or may not be etymologically related. In the sample, non-cognate MMs outnumber cognate ones (17 vs. 3). Cognate MMs are for example those of Warungu discussed in (14): the heavier marker *-gali-* is likely an innovative form based on *-li-*, itself probably of reflexive origin (Capell 1956: 75). In most languages, the MMs are not etymologically related. This is the case of Movima, where two strategies behave as MMs: reduplication, as in (15a), and the suffix *-che̷ł*, as in (15b) (Haude 2006: 92–94, 332):

13 Only Cavineña possibly features three MMs, depending on whether, besides the Reflexive circumfix *k(a)-…-ti*, one considers the suffix *-ta* and *-tana* as allomorphs of a single suffix *-ta(na)* (Guillaume 2008) or as two distinct suffixes (Guillaume 2012).

(15) Movima (Isolate; Haude 2006: 92, 332)
a. ***tos***~*tos*
MM~peel
'peel (by itself)'
b. *dumme:-**cheɬ***
encounter-MM
'meet/find each other'

5.2 Multiple MMs: combination

Combination concerns whether two MMs can simultaneously co-occur with the same verb base. Only in 6 languages in my sample may MMs co-occur, while in the rest of the languages they are mutually exclusive. The possibility for two MMs to co-occur is subject to language-specific constraints and partly depends on the morphosyntactic nature of the MMs at hand.

Mutually exclusive MMs are attested in Semitic languages. For example, in Akkadian the so-called N- and T-stems may be regarded as MMs (see Kouwenberg 2010: 268–280, 288–300). Because the formation of N-/T-stems involves the combination of specific prefixes with changes in the vowel template, as illustrated in (16a–b), individual verbs can only occur in one stem type at a time.

(16) Akkadian (Afro-Asiatic, Semitic; Huehnergard 2005: 522, 521)
a. N-stem: *šebērum* 'break (tr.)' → ***ne****šburum* 'break (intr.)'
b. T-stem: *šullumum* 'compensate (tr.)' → *uš**ta**llamu* 'they will be compensated'

Co-occurring MMs are found in Hamer-Banna. The two MMs of Hamer-Banna are the Passive suffix *-(a)ɗ-* and a (non-productive) suffix *-Vm-* (Petrollino 2016: 142–150). As shown in (17a–b), the transitive verb *ɗax-* 'tie' can occur with either *-Vm-* or *-(a)ɗ-*, with two slightly different meanings. In addition, as in (17c), one also finds forms carrying both suffixes simultaneously.

(17) Hamer-Banna (Afro-Asiatic, Omotic; Petrollino 2016: 149)

a.	*ɗax-* 'tie' (tr.) → *ɗax-**aɗ-***	'be tied up'	*-ɗ-* derivation
b.	*ɗax-* 'tie' (tr.) → *ɗax-**am-***	'be jailed'	*-Vm-* derivation
c.	*ɗax-* 'tie' (tr.) → *ɗax-**am-ɓ-***	'be tied up'	double derivation

A comparable phenomenon is found in Bunan (Sino-Tibetan, Tibeto-Burman), where the two MMs *-s-* and *-ɕ-* can occur in combination, e.g. *al-tɕ-um* 'open (tr.)' → *al-**s-ɕ**-um* 'open (intr.)' (Widmer 2018: 415).

5.3 Multiple MMs: functions

Similarly to what I have discussed for MMs and alternative constructions in Section 4, multiple MMs can be classified based on whether they stand in a complementary or in a competing distribution in the encoding of valency-related functions. There exists a great deal of language-specific variation in this respect, and languages can be arranged on a scale of overlap of MMs.

On the one end of the scale we find languages in which the two MMs perform an identical range of functions. An example is Udihe, in which the two MMs *-ptV-* and *-kpi-* both have anticausative and passive functions (Nikolaeva and Tolskaya 2001: 303–305, 590–591) and can even apply to the same verb bases, as in (18a–b).

(18) Udihe (Tungusic; Nikolaeva and Tolskaya 2001: 304)
  a. *ise-**pte**- / ise-**kpi**-* 'be seen'
  b. *mala-**pta**- / mala-**kpi**-* 'be sent'

However, even in Udihe one finds that the distribution of the two MMs obeys specific lexical restrictions (van Lier and Messerschmidt 2022), with some verbs selecting only one or the other, e.g. *xolo-pto-* 'be left' versus *olokto-kpi-* 'be cooked' (Nikolaeva and Tolskaya 2001: 304). The same holds for other languages whose MMs seem at first sight fully equivalent, as is the case of Warungu, in which the two MMs *-li-* and *-gali-*, shown in (14), may both perform reflexive, anticausative, and antipassive functions but they differ with respect to the actual verb bases that they apply to.

On the other end of the scale one finds languages such as Vlax Romani. This language features two MMs: the suffix *-uv-* and the Reflexive pronoun *pe-* (Wagner 2012: 136–137, 203–204). When it comes to oppositional functions, the two show an almost perfect complementary distribution: *-uv-* forms passives and anticausatives, as in (19a), while *pe* is primarily a marker of reflexivity/reciprocity, as in (19b), and it is only marginally connected with impersonal and agentless passive-like constructions, as in (19c).

(19) Vlax Romani (Indo-European, Indo-Aryan; Wagner 2012: 203; 69–79)
  a. *šunď-**ol*** 'be heared', *šuť-**ol*** 'dry'
  b. *naďon* *kamenas* ***pe***
    much liked MM
    'They liked one another much.'
  c. *andi* *koňha* *bešen* ***pe*** *maj* *but*
    in kitchen sit MM CPR much
    'In the kitchen people sit most often.'

There are also intermediate types, such as Ho. This language features two middle suffixes: Reflexive *-(e)n* and Middle *-o?* (Pucilowski 2013: 107–111), which largely stand in a complementary distribution: the former expresses reflexive and reciprocal situations, as in (20a), whereas the latter chiefly encodes passives and anticausatives, as in (20b). However, the two converge in the area of anticausative situations, as *-(en)* is sporadically used in anticausative contexts, as in (20c).

(20) Ho (Austro-Asiatic, Munda; Pucilowski 2013: 109, 112, 114)

a. *ini?* *arsi-re=?* *nel-**en**-tan-a*
3SG.ANIM mirror-LOC=3SG see-MM-IPFV-FIN
'S/he is looking at her/himself in the mirror.'

b. *gotom* *ser-**o?**-tan-a*
ghee melt-MM-IPFV-FIN
'The ghee is melting.'

c. *en* *sakam=do* *ae?-te=ge* *uri-**en**-a,* *oco?-**n**-a*
that leaf=FOC 3SG-ALL=EMPH peel_skin-MM-FIN husk-MM-FIN
'The leaves lift up by themselves, they detach.'

A similar situation is also found in Southern Ohlone (Miwok-Costanoan), where the two MMs *-n(i)-* (chiefly passive) and *-pu-* (chiefly reflexive) show a certain degree in overlap only in the anticausative domain (Okrand 1977: 226).

To sum up, multiple-middle-marking languages fall within several possible types when it comes to functional load of their MMs, ranging from those in which the two MMs are fully differentiated and in complementary distribution, e.g. (19), to those in which the MMs are essentially freely interchangeable, e.g. (18).

6 MMs and alternative constructions: historical considerations

In Sections 4 and 5, I have discussed how from a purely synchronic standpoint, the interaction between MMs and alternative valency-reducing constructions (and among multiple MMs) follows three main patterns: complementarity, competition, and combination. In this section, I will illustrate how diachronic considerations may improve our understanding of the nature of these patterns.

The rise of competition patterns has been a core interest of both historical and variationist linguistics, but in spite of the research devoted to the topic, it remains difficult to explain why competition arises in the first place, that is, why innovative constructions are introduced alongside already existing ones, and how

competition patterns play out over time (this is ultimately part of the actuation problem as per Weinreich et al. 1968; see also Croft 2000). Nevertheless, we at least know that patterns of complementarity and competition may be shaped by different diachronic forces. As a full-fledged typological diachronic account of these patterns is beyond the scope of this paper, in the remainder of this section I briefly review some of the diachronic scenarios involved in the interaction between MMs and alternative constructions.

To begin with, complementarity patterns may come about as a result of blocking, which can be defined as "the non-occurrence of some linguistic form, whose existence could be expected on general grounds, due to the existence of a rival form" (Rainer 2016: 1). Blocking has particularly been studied in the domain of morphology (e.g. Aronoff and Lindsay 2014; Rainer 2016), but it has also been shown to be a more general principle operating in the spread of different types of constructions (e.g. De Smet 2013: 61–64). As discussed by De Smet (2013: 62), blocking is likely ultimately due to frequency effects: more frequent forms are more entrenched and autonomously stored and thus less susceptible to being replaced with new forms (e.g. Bybee 2007: Ch. 1). In our case, blocking may prevent one form to extend into the domain of another already existing one, thereby contributing to the creation of a pattern of complementary distribution.

An example of this scenario may come from the history of Germanic languages. In German, the MM *sich* may express, among other things, anticausative and facilitative functions, as in (21a–b), but it is never used in passive contexts proper (Steinbach 2002: 51), in which instead a complementary periphrastic construction featuring the auxiliary *werden* is used, as in (21c).

(21) German (Indo-European, Germanic; Steinbach 2002: 53, 18)

a. *Die Tür öffnet* ***sich***
the door opens MM
'The door opens.'

b. *Das Buch liest* ***sich*** *leicht*
the book read.PRS.3SG MM easily
'The book reads easily.'

c. *Das Brot* ***wird*** ***geschnitten***
the bread AUX cut.PTCP
'The bread is being cut.'

This complementary pattern possibly came about because the two constructions grammaticalized independently and at different times. The German reflexive/anticausative marker *sich* ultimately goes back to the Proto-Germanic reflexive form **sik* (Ottosson 2013: 348–354), while the periphrastic passive goes back to the

combination of the Proto-Germanic verb **warþan* 'become' with passive/resultative participles. Interestingly, in North Germanic languages outcomes of **sik* also extended to the passive function, ultimately giving rise to e.g. the passive suffix *-st* of Modern Icelandic (Hilpert 2011: 711), but this extension did not take place in German. One could speculate that German *sich* failed to extend to the passive function because it was blocked by the existence of the *werden*-Passive. Indeed, there is evidence that the *werden*-passive is older than the anticausative use of reflexive **sik*: in Gothic, the former is already well established, whereas the latter is almost non-existent (Miller 2019: 216–219; Ottosson 2013: 348–349).[14]

When blocking fails to take place, competition may arise. In particular, the relationship between MMs and alternative constructions (or multiple MMs) falls into three main scenarios already discussed in the literature (see De Smet et al. 2018 for discussion and references): 'substitution' (one construction replaces the other), 'differentiation' (two functionally equivalent constructions progressively polarize in their distribution), and 'stability' (the two constructions coexist).

One scenario that has received substantial attention is that of substitution (see De Smet et al. 2018) or renewal (Hopper and Traugott 2003: 122–124; but see the critical discussion in Reinöhl and Himmelmann 2017).[15] The textbook example of this scenario is the rise of the reflexive MMs of modern Indo-European languages of Europe, including Romance languages. The process can be summarized as follows: in the transition from Latin to Romance languages, the Mediopassive voice of Latin in (1) was lost and was replaced in most of its functions by new MMs historically based on the Latin Reflexive pronoun *se*. This development is described by Kemmer (1993: 151–182) as cyclical: once a reflexive marker turns into a new MM, this causes the disappearance of the original MM, followed by the creation of a new dedicated reflexive, and the cycle can start again (on cyclical changes see e.g. Haspelmath 2018; van Gelderen 2013). Comparable developments have been observed in other languages. One example comes from Iroquoian languages, such as Huron-Wyandot, in which the originally reflexive affix *-at-* develops into a MM and is replaced in direct reflexive and reciprocal function by the innovative reduplicated form *-atat-* (Lukaniec 2018: 225–226). What concerns us here is that incipient stages of the REFLEXIVE > MM cycle in fact result in a synchronic situation of competition: as the new reflexive marker starts grammaticalizing into a MM, it

14 Nevertheless, as pointed out to me by Sune Gregersen (p.c.), periphrastic *werden*-passives are also well attested in the early stages of North Germanic languages, so that it remains to be seen why blocking did not affect the development of *s*-passives. More corpus-based research is needed to assess the validity of the scenario sketched here.

15 The two scenarios are not fully equivalent: the substitution scenario as defined by De Smet et al. (2018) presupposes a stage of synchronic competition, whereas the renewal scenario strictly speaking does not.

encroaches upon the functional domain of the original MM so that the two coexist in competing relationship. This is why, for example, in Early Latin texts the anticausative function could be encoded by either the Mediopassive inflection, e.g. *vert-**o*** 'I turn.ACT (tr.)' versus *vert-**or*** 'I turn.MID (intr.)', or by the Reflexive pronoun *se*, e.g. ***se** vertere* 'turn (intr.)' (Cennamo et al. 2015).

In some cases, renewal does not affect entire MVSs but only individual functions. This brings about a pattern of complementary distribution. An interesting case in point is that of the reflexive/reciprocal/antipassive cluster. As discussed by Sansò (2017), in languages that feature polyfunctional reflexive/reciprocal/antipassive markers, there is evidence that it is the reciprocal use that gives rise to the antipassive. Languages that have a reflexive/antipassive MM and a distinct reciprocal construction are therefore problematic. This is the case of a few Pama-Nyungan languages including Warungu. Besides the reflexive function shown in (14), the Warungu MMs *-li-* and *-gali-* may also occur in antipassive contexts (Tsunoda 2006). By contrast, reciprocity is encoded by a distinct Reciprocal suffix *-wa-* (Tsunoda 2007), as in (22).

(22) Warungu (Pama-Nyungan, Maric; Tsunoda 2007: 1404)
kantu-Ø *paja-**wa**-n*
dog-NOM bite-RECP-NFUT
'The dogs bit one another.'

Warungu *-li-* and *-gali-* both go back to a Pan-Australian suffix **-dharri-*, which is commonly reconstructed as reflexive in origin and which shows a widespread reflexive/reciprocal/antipassive polysemy in several languages of Australia (Dixon 2002: 206–207; Terrill 1997). It is therefore plausible that at an earlier stage the precursors of *-li-* and *-gali-* could also express reciprocity, and were subsequently replaced in this function by the innovative form *-wa-* in Warungu (as well as in a few neighboring languages, see Tsunoda 2007: 1432). As Sansò (2017: 195–197) argues, what happens in Warungu and similar cases is that the synchronic reflexive/antipassive polysemy is brought about by the creation of a new reciprocal construction.

Alternatively, there are also cases in which constructions that at the onset potentially coexist in similar contexts become differentiated at a later stage, following a process of polarization (Sansò 2011: 293) or differentiation (De Smet et al. 2018: 271). Consider the history of the Italian passive constructions. Modern Italian features two main passive constructions: a periphrastic passive featuring the auxiliary verb *essere* 'be' (or *venire* 'come') and an impersonal agentless passive built with the MM *si* (from Latin reflexive *se*), as in (23a–b).

(23) Italian (personal knowledge)

a. *I libri **sono letti** dallo studente*
the book.PL be.3PL.PRS read.PTCP from_the student
'The books are read by the student.'

b. *In Italia **si** leggono molti libri*
in Italy MM read.PRS.3PL many.PL book.PL
'Many books are read in Italy.'

As discussed by Sansò (2011), in Old Italian the two constructions were not sharply differentiated as they could occur in similar contexts. For example, both periphrastic and *si*-passives could occur with agent phrases (see also Giacalone Ramat and Sansò 2011). However, over time the two constructions became increasingly associated with a specific set of semantic/pragmatic contexts (e.g. agented vs. agentless contexts), leading to the Modern Italian situation, in which the two constructions have a different distributional profile.

Finally, competing constructions may coexist over time in a pattern of stability (see De Smet et al. 2018). Stability may be favored by competing constructions featuring some distinctive feature, which may diachronically be attributed to the retention of features of their source constructions, following the so-called 'source determination principle' (Bybee et al. 1994: 4; Reinöhl and Himmelmann 2017: 391–395). To illustrate this point, let us consider another example of MMs versus competing passive constructions. In Hittite, two strategies are available for the encoding of the passive function at all language stages: the inherited inflectional Mediopassive voice, cognate to that of Latin in (1), and a periphrastic construction featuring a participle and the verb *eš-* 'be' (Inglese and Luraghi 2020: 132–152, 157–159). Both strategies may even apply to the same verb base, e.g. *tarna-* 'leave, release' in (24):

(24) Hittite (Inglese 2020: 142)

a. EGIR-*an=at=kan **tarnattari***
back=3SG.NOM.N=PTC release.PRS.3SG.MM
'(If there is no male heir), it [i.e. the property] will be released.'

b. *nu=war=at=mu=kan parā **tarnan ešdu***
CONN=QUOT=3SG.NOM.N=1SG.DAT=PTC forth release.PTCP.NOM.N be.IMP.3SG
'(On this tablet these words are not to be found), so let it be permitted for me.'

The two strategies in (24a–b) are not fully equivalent: the inflectional Mediopassive is mostly connected with eventive dynamic passives, while the periphrastic passive frequently has a resultative/stative meaning (Inglese 2020: 157–159). This follows from the fact that the passive function of the middle arose out of the anticausative

function (Inglese 2020: 231–234), that is, from the encoding of dynamic change-of-state events, while the stative flavor of the periphrastic passive is due to the original stative/resultative semantics of the participle (Inglese and Luraghi 2020: 387–388). It is possible that the existence of a semantic distinction between the two constructions ultimately favored their stable coexistence throughout the history of the language.

7 Conclusions

In this paper, I have offered a typologically informed description of how middle markers (MMs) interact with alternative valency-reducing constructions, based on a sample of 129 middle-marking languages. I have focused on two main patterns: complementarity and competition, and, in addition, I have also discussed various ways in which competing MMs interact in multiple-middle-marking languages.

The data from the sample shows that this is a domain in which the range of language-specific variation across MMs is such that it is almost impossible to systematize the observed variation into few discrete types. Nevertheless, a few interesting patterns have emerged. One important finding is that anticausativization shows a privileged connection with middle marking, inasmuch as, if a language possesses a MM, this will be the language's primary anticausativization strategy in the majority of the cases. This calls into question Kemmer's (1993) claim that MMs are especially connected with reflexivity and reciprocity. More generally, the cross-linguistic study of MMs in their relationship with alternative constructions adds another important piece of the puzzle in explaining the observed variation in the shape of MVSs across languages. In particular, I have shown that some typologically unexpected polyfunctionality patterns tend to occur when individual functions typical of MMs are instead encoded by alternative constructions in the language at hand. I have also discussed how the data from my sample essentially confirms Kemmer's (1993) generalization concerning the relationship between MM and reflexive/reciprocal markers in two-form languages, by providing further empirical evidence that MMs tend to be less complex than reflexive/reciprocal markers and that they tend to be associated with grooming and naturally reciprocal situations. However, I have also shown how this typology should be expanded so as to include other functions, such as anticausative and passive.

The results of this paper offer a first step in the study of competition in the domain of middle marking, and more generally of valency reduction, but leave a number of important questions unanswered. Besides the range of functions that they may cover, another relevant factor that may shape the synchronic relationship between MMs and other valency-related constructions is their degree of

productivity. Unfortunately, this is not always easily assessable, partly due to the nature of the available data and partly owing to the inherent difficulties in measuring morphosyntactic productivity (e.g. Barðdal 2008; Hilpert 2013). To address these questions, in-depth corpus studies of the distribution of MMs and alternative constructions in a wide range of languages are needed. Similarly, how the patterns discussed in this paper historically come about remains a largely unexplored topic. I have briefly discussed how the existence of individual patterns may be the result of a variety of historical processes, which have increasingly sparked linguists' interests (see Hilpert 2021: Ch. 6), such as blocking and differentiation. Nevertheless, the validity of these scenarios needs to be tested against more rigorous and empirically grounded historical research on MMs and valency-changing constructions in individual languages and language families.

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