We present a typologically oriented study of reciprocals in Malagasy (W. Austronesian, Madagascar). Of particular interest: (1) Malagasy reciprocals are very productive and expressed exclusively in the verbal morphology; there are no reciprocal pronouns. (2) In distinction to Romance, Germanic and Slavic, reciprocals do not overlap with reflexives, expressed exclusively by pronominal arguments. (3) Reciprocals only overlap some with sociatives; there being a sociative prefix distinct from the reciprocal. (4) Reciprocals are formed (recursively) throughout the grammar, both lexicon and syntax.

Preliminaries

Like Philippine languages generally Malagasy syntax rides on its voice system. Verbs are derived by iteratively affixing roots (radicals) not themselves always words. Here are the four voices that appear dominantly in our examples: AV (active voice): m+pfx+root; TV (theme voice): a+root; PV (passive voice): root+Vna; and CV (circumstantial voice): AV+pfx+root+ana).

1 a. [manolotra (m.aN+tolotra) vary ny vahiny amin’ny lovia vaovao] [izy]DP
   offers pres.act.offer rice det guest prep’det dishes new he/she
   He offers rice to the guests on the new dishes
   (We write the active prefix as aN – the m is present tense active voice only. Present tense in non-active voices is φ, n = past tense and h = future, all voices. The common (level one) active prefixes are aN-, i-, a-).

b. atolony (a+tolotra+ny) ny vahiny amin’ny lovia vaovao [ny vary]DP
   TV+offer+3gen det guest prep’det dishes new det rice
   The rice is offered by him to the guests on the new dishes

c. tolorany (tolotra+ana+ny) vary amin’ny lovia vaovao [ny vahiny]DP
   offer+PV+3gen rice prep’det dishes new det guests
   The guests are offered rice by him on the new dishes

d. anolorany (aN+tolotra+ana+ny) vary ny vahiny [ny lovia vaovao]DP
   av+offer+CV+3gen rice det guests det dishes new
   The new dishes are used by him to offer rice to the guests

This list incorporates several important asymmetries: (1) the active verbs form their imperatives by suffixing -a and shifting stress (phonemic) rightward. The three non-active verbs form their imperatives by suffixing o (= /u/), shifting stress right, unless the root contains an o, in which case it suffixes y (= /i/). (2) The first three voices, (2a,h,c), affix the root directly, but the choice of affix, while subject to some regularities, must be listed. The most usual PV ending is -ina, but in some cases, as here, -ana, (or even -ena or simply -na). We use passive for tv and pv collectively. Whether a root takes tv, pv or both) is not fully predictable. These forms exhibit several irregularities and are clearly lexical.

Circumstantial verb formation, built by suffixing -ana to any of the AV forms, is fully regular. All AV verbs feed circumstantial (cv) forms. It nominalizes by prefixing f- with complete productivity, preserving subcategorization and case marking of arguments. So it is more transparent than gerund formation in English. All non-AV forms present the Agent phrase as a (suffixal) possessor of the verb, whereas AV verbs present it clause finally in the nominative (izy ‘s/he’, -ny ‘his/her’). In all the Ss in (1)
only the clause final nominative DP can be relativized, host the interrogative particle ve, etc. All the verbs in (1) are atelic, and the final DP (the “subject”) in all cases is nominative.

1. Basic Reciprocals

Reciprocal IF (below) applies just to active P2s (two place predicates) φ formed by iteratively prefixing roots in the simplest cases, and forms a higher order one place active predicate IF(φ) taking a set as argument (DMP) interpreted crudely by: \[ IF(\phi)(A) = \{\phi(x,y) \mid x \neq y \in A \} \], all \( x \neq y \in A \), [known to be inadequate] – Here we focus on the formation and distribution of IF(φ)].

1.1 The shape of IF is conditioned by the choice of AV prefix

2 a. manenjika (m+an+enjika) an-dRabe Rakoto
   pres+av+chase acc-Rabe Rakoto
   Rakoto is chasing Rabe

   b. mifanenjika (m+rec+an+chase) Rabe sy Rakoto
   R&R are chasing each other

3 a. Niarahaba (n+i+arahaba) azy aho
greeted pst+av+greet 3acc 1s.nom
   I greeted him

   b. Nifampiarahaba (n+ifamp+i+arahaba) isika
   pst+rec+av+greet we.incl
   We greeted each other

   c. **Nifiarahaba isika
   We greeted each other

φ-prefix verbs behave similarly: \( m+\phi+\text{ino} \) ‘believe’, \mifampino \ ‘believe in each other’

Remark amp- is a causative prefix but in active mi- and ma- verbs it just supports if-. Historically amp- is likely \( aN+f \) = nominalizer, as in synchronic \( aN+fo = ampo (= /a."pu/‘in heart’. And ank- below is likely \( aN+h \) = nominalizer. So historically if just prefixes to aN-active verbs. Analogously for ank(a) with \( m.a-\)prefix verbs): From mahita \( (m+a+\text{hita}) \) ‘sees’:

4. Mifankahita (m+ifank-ahita) Rabe sy Ranaivo
   pres+rec+see Rabe and Ranaivo
   Rabe and Ranaivo see each other

2. P2s may be built from P3s+Argument, and P1s + “accessible” PPs:

5 a. m+aN+tolotra (manolotra) torohevitra an-dRabe Rasoa
   pres+av+offer advice acc-Rabe Rasoa
   Rasoa offers advice to Rabe

   b. m+if+aN+tolotra (mifanolotra) torohevitra Rabe sy Rasoa
   pres+rec+av+offer advice Rabe and Rasoa
   R and R offer each other advice

6 a. manoratra (m+aN+soratra) taratasy ho an-dRabe Rasoa
   writes pres+av+write letter for/to-Rabe Rasoa
   Rasoa writes letters to Rabe

   b. mifanoratra (m+if+aN+soratra) taratasy Rabe sy Rasoa
   pres+rec+av+write letters Rabe and Rasoa
   R&R write letters to e.o.

7 a. manao (m+aN+tao) farafara ho an-dRasoa Rabe
   makes pres+av+make bed for acc-Rasoa Rabe
   Rabe is making a bed for Rasoa
b. mifanao (m+if+aN+tao) farafara Rabe sy Rasoa  
*R and R are making beds for e.o.*

8 a. Mandainga (m+aN+lainga) amin-dRaso Rabe  
pres+av+lie prep-Raso Rabe  
*Rabe lies to Rasoa*

b. Mifandainga (m+if+aN+lainga) Rabe sy Rasoa  
Lie to e.o. pres+rec+av+lie Rabe and Rasoa  
*Rabe and Rasoa lie to each other*

But we cannot reciprocalize out of existence a rich PP (though the idea is expressible):

9 a. Mipetraka (m+i+petraka) akaikin-dRaso Rabe  
pres+av+sit near-Rabe.gen Rasoa  
*Rasoa is sitting near Rabe*

b. *Mifampipetraka Rabe sy Rasoa*  
*Rabe and Rasoa are sitting near e.o.*

c. Mipetraka m+if+an+akaiky Rabe sy Rasoa  
Pres+av+sit pres+rec+av+near Rabe and Rasoa  
*R & R are sitting near e.o.*

*Gen 1 Verbal affix reciprocals only bind one argument of a given verb to an antecedent.*

Pronominal reciprocals can do two: We protected / saved e.o. from e.o.

**Corollary:** Reciprocal -if- does not iterate

10. **Nififaneho isika**  
*We show each other to each other*

Nifaneho sary isika  
*We showed each other pictures*

*Gen 2 (Malagasy) Theme, passive and circumstantial voice verbs do not reciprocalize*  
(But, reciprocal verbs causativize, which then passivize, reciprocalize, then causativize...)

11 a. Enjehin-dRako (enjika+ina+Rako) Rabe  
chase+pass+Rako Rabe  
*Rabe was chased by Rakoto*

b. *Ifenjehin-dRako sy Rabe*  
*Rabe and Rakoto are being e.o. chased*

**2. Reflexives, Sociatives, and Reciprocals**

12 a. Manaja (m+an+haja) azy Rabe\_i  
Rabe respects him (i ≠ j)

b. Manaja tena Rabe  
*Rabe respects himself*

c. Mifanaja Rabe sy Rakoto  
*Rabe and Rakoto respect each other*

13 a. miaraka (m+i+arak\_a) izahay  
pre+av+follow we.excl  
*We are together*

b. miasa (m+i+asa) izy ireo  
pre+av+work 3nom dem.pl  
*They are working*

c. miara-miasa (m+i+ara(ka))-m+i+asa) izahay  
pre+av+follow-pres-av-work we.excl  
*We work together*

d. mpiara-miasa (mp+i+ara(ka))-miasa izahay  
er+av+follow-pres+av+work we.excl  
*We are co-workers*
The prefixal status of *miara-* is shown by the fact that throughout the language compounding *w+w* triggers the loss of final *-ka, -tra*, and *-na* on *w*, mutating an initial continuant of *w* to the corresponding non-continuant: manapaka*+hevitra* ‘decide: lit cut+thought’ = manapa-*kevitra*. But with *miaraka*+verb, usually an initial consonant on *w* just copies that on *miaraka*. So we have hiara-hiasa, hiara-hihira ‘will jointly work, sing, etc. rather than hiara-kiasa, hiara-kihira, etc.

3. Lexical Diversity: Chaining and Inanimates

14 a. mifandimby *(m+if+ aN+dimby) ny taona* The years follow upon one another
    pres+rec+av+successor det year

b. Ohatra ny zaza mifanarakaraka izahay We quarrel all the time (like older and
    Like det child pres.rec.(follow)^2 we.excl. younger siblings)

c. mifanapatapaka *(m+if+an+tapaka) eto ireto* These two lines intersect here
    pres+rec+av+cut here dem.pl two line dem.pl

**notation** *w^2* is the reduplication of *w*. It involves dropping weak endings *-ka, -na, -tra* and some consonant mutation: *tapaka^2 = tapatapaka*; the (non-reciprocal) av form is manapatapaka. Reduplication is widely used, applies to roots (and some aN+root) and so feeds IF(in distinction to Chicewa). Reduplicating after reciprocalization in (14b) we get, incorrectly, *mifanapakapaka*.

4. Some (classically) Lexical Properties of Reciprocals

4.1 Affixless Reciprocals

Malagasy presents some “bare” reciprocal lexical verbs, reminiscent of English *fight, argue, kiss*. Most if not all of these also take reciprocal morphology, so they are cases where the reciprocal and non-reciprocal verb have the same meaning.

15 a. mipaka *(m+i+paka) / mikaona *(m+i+kaona) ireo hazofisaka ireo* These boards touch / are joined
    pres+av+touch pres+av+join these boards these

b. mifampipaka *(m+ifamp+i+paka) / m+ifamp+i+kaona ireo hazofisaka ireo* These boards touch / are joined to each other
    pres+av+join these boards these

16 a. Akaiky ny tranoko ny azy His house is near mine
    near det house.my det his

b. mifanakaiky *(m+if+ an+akiky) ny tranonay* Our houses are near each other
    ny tranonay

17. Mifanasaka / misasaka (< sasaka ‘half’) ny ankizilahy sy ny ankizivavy ao am-pianaranay
    The boys and the girls in our class each number half

Similar are: manatrika / mifanatrika ‘attend to, help’; tandrify / mifanandrify ‘be opposite’

4.2 Allomorphs and Selection of IF vary with lexical properties of verbs

The alternative to treating *if* as a lexical prefix is to derive the set taking reciprocal P1
"mifanenjika" syntactically from a binary relation denoting P2 + a reciprocal pronoun *if*: ["manenjika +..."
But ordinary pronouns do not vary in form with active voice morphology: *manenjika azy izy* lit: chases him he; *mikapoka azy izy* ‘beats him he’; *mahita azy izy* ‘sees him he’. So the attested allomorphy is unexpected on the *if* = pronoun view, natural on the *if* = affix view. Dually pronouns do vary for person and number in Malagasy. E.g. the accusative plurals are: *anay* (us.excl), *antsika* (us.incl), *anareo* (you.pl), and *azy* (*ireo*) (3 (dem.pl)). But *if* marks neither person nor number.

Regarding selection, IF selects active verbs and yields active verbs as values, as shown by their imperative forms.

18 a. M.an.enjika azy izy ‘chases.act him he’  
    pres.av.chase him he

b. Mifanenjika izy ireo ‘  
    pres.rec.act.chase 3nom dem.pl

19 a. Manao (m.an.tao) farafara ho azy Rabe  
    pres.av.do bed for 3acc Rabe

b. Manaova (m.an.taov.a) farafara ho azy!  
    pres.av.do.imp

19 a. Mifanao (m.if.an.tao) farafara Rabe sy Rajaona  
    pres.rec.av.do  

b. Mifanaova (m.if.an.taov.a) farafara!  
    pres.rec.av.do.imp

20 a. Mifanaritarika (m+if+an+tarika²) any an-tsena any ny tovolahy  
    pres+rec+av+lead there loc-market there det young.man

    The young men walk around the market a bit helter-skelter

b. *manarika, *mifanarika. So the apparent sources for the reciprocal in (22a) do not exist.

21 a. ataon-dRabe ho an-dRasoa ny farafara  
    tv.do.imp for her det bed

b. ataovy (a.taov.y) ho azy ny farafara  
    Be made (by you) the bed for her
tv.do.imp for her det bed

c. **ifataon-Rabe sy Rasoa ny farafara  
    The bed is being made for e.o. by R & R

NB: The translations of non-active Ss in English are awkward, but they remind the reader that the verbs are in a different morphology than the “active” one. They are fully natural in Malagasy. Note that in distinction to English all the four non-active voice verbs have imperative forms – indeed they are what you use in practice. The active is more like a hortative.

4.3 Some reciprocal verbs lack a non-reciprocal source

22 a. Nifanena (n.if.an.tsena) t.any an-tsena Rabe sy Ravelo
    pst.rec.av.meet pst.there loc-marked R and R  
    R and R met e.o. at the market

b. *manena ‘meet’; *mitsena = m.i.tsena ‘meet’.

As indicated here, many roots take both *man-* and *mi-* active prefixes, but many also take just *man-* and many also take just *mi-. Again lexical unpredictability.
4.4 Reciprocal verbs which differ in meaning from their non-reciprocal source

24 a. mifampitaritarika any an-tsena any ny tovolahy ‘same meaning as (22a)’

b. mitarika / mitaritarika an-dRanaivo any an-tsena Rabe
   Rabe leads/guides Ranaivo in the market

So in (24a) the root tarika ‘lead’ accepts the av mi prefix, optionally reduplicates, but both uses mean ‘lead, guide’ not ‘enter pele-mele’. So if we thought to interpret the meaning of (24a) using (24 c) below we would not get the right meaning (interpreting if as EACH OTHER):

c. [p,mitaritarika [if]] [Ranaivo sy Rabe]
   *R & R lead each other in the market ✔They moved around pele-mele in the market

25 a. mifanisa (m.if.an.isa) ny ankizivavy sy ny ankizilahy ao am-pianara.nay
   pres.rec.av.count det girls and det boys there at-class.our
   There are the same number of boys as girls in our class

b. manisa ny mpianatra tonga ny mpampianatra The teacher counts the students (who) arrive

So manisa means to count, its reciprocal mifanisa does not mean “Each counts the other(s)”

26 a. M.i.dera azy aho b. M.ifamp.i.dera hery ny candidates
   praise him 1s.nom demonstrate (their) force the candidates

27 a. Kopahy ny vovoka manototra ny akanjo.nao Flap off the dust which covers your clothes
   Brush.off det dust (rel) covers det clothes.your

b. Mifanototra hiditra ao am-pianarana ny ankizy The children want to enter class simultaneously

So reciprocal mifanototra conjures images of children crowding each other to get into class, whereas non-reciprocal manototra (m.an.tototra) means to fill in, cover. A more striking case, beyond the scope of this article is the interrogative verb maninona? ‘What (are you) doing?’ and its “reciprocal” Mifaninona? ‘What kin relation are you?’

4.5 Agent Nominalizations apply to reciprocal verbs: mp+Vav

28 a. Mianatra ‘studies’ → mpianatra ‘student’
   Mampianatra ‘cause to study’ → mpampianatra ‘teacher’
   Mifanampy ‘help e.o.’ → mpifanampy ‘people who are helping e.o.’
   Mifankahalala ‘detest e.o.’ → mpifankahalala ‘people who detest e.o.’
   Mifankatia ‘love e.o.’ → mpifankatia ‘lovers’

NB: Nominalization (here and later) preserves verbal subcategorization:

29 a. ny mpampianatra ahy “my teacher” lit: the teacher me, (ahy is accusative)) b. ny mpampianatro = ‘the teacher-my’ (the teacher I “possess” e.g. hired)

Two properties of reciprocals used in the literature to justify that they are P2s+a pronoun:
4.6 Object comparison readings

(30a) has an object comparison reading, (30b.2), reasonable if the transitive verb has an independent direct object:

30 a. John and Mary like each other more than Bill and Susan
   b.1 J & M like e.o more than they like Bill and Susan (Subject Comparison)
   b.2 J & M like e.o. more than Bill and Susan like them (Object Comparison)

But in Malagasy we find only the subject comparison reading, reasonable if the reciprocal P1 does not consist syntactically of a P2 + object pronoun:

31 a. Mifankatia (m.ifank.tia) kokoa Rabe sy Raso noho Ranaivo sy Ravao
   pres.rec.like more Rabe and Raso than/against Ranaivo and Ravao
   *Rabe and Raso like e.o more than Ranaivo and Ravao like e.o (Object Comparison)

4.7 Event quantifiers

Ss like (32a) are not felt as ambiguous as between (32b) and (32c). A speaker of (32a) might simply not have considered the distinct situation types expressed by (32b,c). So the adverbial modification adds new information.

32 a. Nifandaka (n.if.an.daka) intelo Rabe sy Rakoto ptst.rec.av.kick 3 times R and R
   b. Nifandaka intelo nisesy Rabe and Rakoto They kicked each other three times in a row
   c. Nifandaka intelo avy Rabe and Rakoto They kicked each other three times each

4.8 Quantified antecedents

Worth noting that reciprocal P1s accept quantified DP antecedents just as non-reciprocal ones do (see Keenan 2008, Paul 2012).

33 Mifankahazo / Mifanentana ny mpianatra rehetra (ao an-dakilasy)
   Get-along-with e.o // get-along-with e.o. det student all (there in-class)
   The students in the class all get along with each other

   ny mpianatra rehetra ‘det student all’ can be replaced by: ny ankamaroan ’ny mpianatra ‘the majority of the students’, ny mpianatra vitsivitsy ‘few students’, ny antsasaky ny mpianatra ‘half the students’, ny valompolo isan-zaton ’ny mpianatra ‘80% of the students, ny roa ampahatelon ’ny mpianatra ‘two thirds of the students’. Often non-increasing DPs are expressed predicatively:

34 a. Tsy nisy afa-panadinana ny mpianatra na iray aza No student at all passed the exam
   not was/had free-exam det student or one even
   b. Latsaka ampahatelony ny mpianatra m.ifank.ahazo L Less a-third-of det student pres.rec.receive (get-along-with e.o.)
   Less than a third of the students get along with each other
   c. Antsasaky ny mpianatra katroka no m.if.an.entana half.gen det student exactly FOC get along with each other
   Exactly half the students get along with e.o.
4.9 We vs I readings

In passing, though not clearly relevant to our current concerns, we note that the “I” reading,
(35c) of (35a) is not available in Malagasy:

35 a. John and Mary think they love each other
   b. John and Mary each think “We love each other” (“We” reading)
   c. John thinks he loves Mary and she thinks she loves him (“I” reading)

36 a. Mihevitra Rabe sy Rasoa fa mifankatia R & R think that they love e.o.
    pres.av.think R and R comp love e.o.  
    Each thinks “we love each other” – no other reading

HLM represent the scope ambiguity in (35) according to the landing site of each which flitters. But reciprocal if in Malagasy is synchronically monomorphemic. (But historically the Malagasy reciprocal reconstructs to fai (Blust, pc < paRi). (cf Futunan fe-). Perhaps the i in if is just the active voice i- and the dipthongue ai assimilates to the following vowel.

5.0 Productive Processes which feed Reciprocal Formation

5.1 Circumstantial verbs (cv)

These are formed with full productivity by suffixing -ana to an active form and shifting stress rightward. The active prefix may be aN-, i-, a- as well as the result of prefixing them with reciprocal and causative affixes (plus a few others mentioned in passing below). CV verbs are used when a “subject” DP is oblique: locative, instrumental, temporal, manner,....

37 a. n.an.enjika azy amin'io fiara io Rabe
    pst.av.chase him.acc with that car that Rabe
    Rabe chased him with that car

b. N+aN+enjika+ana+Rabe (nanenjehan-dRabe) azy io fiara io
   pst+[[av chase]+cv]+Rabe him.acc that car that
   That car was used by Rabe to chase him (Rabe ≠ him)

c. nifanenjehan-dRabe sy Rakoto ireto fiara ireto
   pst.rec.av.chase.cv-R and R dem.pl car dem.pl
   Those cars were used by R & R to chase each other in

d. ny fiara (izay) nifanenjehan-dRabe sy Rakoto the car (that) av+chase+cf.Rabe him
   the car(s) in which R & R chased each other

Gen Recall: only subjects relativize, etc. so we often illustrate cv with relative clauses

38 a. ny soa (izay) nifanaovantsika (n+if+aN+tao+ana+ntsika)
    the good (that) was done by us to e.o. pst+[[rec+av+do]+cv]+our.incl

b. ny taratasy nifanoratan-dRabe sy Rasoa n+if+aN+soratra+ana+R&R
    the letters written to e.o by Rabe & Rasoa pst+[[rec+av+write]+cv]+R&R
5.2 Causative verb formation

Causative "amp- (ank-) forms active verbs from active verbs, increasing arity by one (as does cv formation), as with morphological causatives generally (Turkish, Japanese). The "subject" argument of the causativized verb becomes accusative, and any preexisting accusatives remain as such. Unlike cv formation it is not a "voice" and, like reciprocals, just forms imperatives like actives in general.

39 a. Nandihy izy b. nampandihy azy aho (n.amp.aN.dihy)
He danced pst.caus.av.dance him I "I made him dance" pst.caus.av.dance

40 a. manasa (m.aN.sasa) lamba izy b. mampanasa (m.amp.aN.sasa) lamba azy aho
wash clothes he pres.cause.av.wash clothes him I
He is washing clothes I am making him wash clothes

Causativizing ditransitive verbs yielding four arguments is unproblematic, and even iterating amp- (once) is grammatical (but heavy):

41 a. Nanome vola azy aho b. Nampanome vola an-dRabe azy aho
gave money him I made-give money acc-Rabe him I I made him give money to Rabe

c. mampandroso vary ny vahiny an-dRasoa Rabe Rabe made Rasoa offer rice to the guests
cause-offer rice the guest acc-Rasoa Rabe

d. m.amp.amp.i.homehy azy an-dRabe aho I made Rabe make him laugh
pres.caus.caus.av.laugh 3acc acc-Rabe I

But Causatives and Reciprocals commute syntactically: Rahajarizafy 1960. But semantically IFoAMP ≠ AMPoIF. Similar claims hold for Futunan (Moyse-Faurie) and for Chicewa (Mchombo)

42 a. Nifampanoratra taratasy fisaorana ireo ben'ny tanana ireo (n.if.amp.aN.soratra)
pst-rec+caus+av-write letter thanks those mayors those pst.rec.caus.av.write
Those mayors made each other write thank-you letters

b. Nampifanoratra an’ireo zanany ireo ny rainy (n.amp.if.aN.soratra)
pst+cause+rec+av+write acc’those children.his those the father.their pst.caus.rec.av.write
Their father made his children write to each other

43. Mfûmu i+na+mény+án+its+á anyâni (Chicewa; DMP)
9chief 9sub+pst+hit+rec+cause+fv 2baboons
The chief made the baboons hit each other

Alenje a+na+mény+ets+an+a (kw á műbzi)
2hunters 2sub+pst+hit+cause+rec+fv (by 10goats)
The hunters got each other hit (by the goats)

44. na faka-fe-‘u’uti-‘aki a le sã kuli e le toe Futunan; Claire Moyse-Faurie
The child made the two dogs bite each other

The two children made each other move a little

In causatives of reciprocals, e.g. (42b), the antecedent of reciprocal if is the surface object, not the subject, which is the Agent of the causativized verb. This pattern holds for reflexives as well:

45. Nampanono tena an-dRabe ianao You made Rabe kill/hit himself
pst.caus.aN.kill self acc-Rabe 2s.nom

5.3 Causatives of Reciprocals take Passive-INA and Circumstantial-ANA

46a. Tokony h.amp.if.an.entan.ina ve ny isan'ny olom-boafidy sy ny isan'ny mponina? Should [[fut+[[cause+[rec+av+entana]]+pv]] Q the number of officials elected and the number of the inhabitants be made to correspond to e.o.? (Nws92-95)

b. ny taratasy nampifanoratan-dRabe (n+amp+if+an+soratra+ana+gen.Rabe) ny zanany the letters pst+cause+rec+av+soratra+cv-Rabe the children-his
the letter(s) that Rabe made his children write to each other
(The letters that were caused by Rabe to be written by his children to e.o.)

c. ny teny vahiny nifampianarantsika (n + if+ amp + i + anatra + ana + ntsika) the foreign lgs taught to each other by us pst+[[rec+caus+av+study]+cv+1pl.incl.gen]

NB: (46c) shows that reciprocals of causatives (-amp-) undergo Circumstantial Formation

5.4 Iterating Causative and Reciprocals?

(42a,b) show that causative creating AMP applies to active verbs built from reciprocal IF and conversely, so in principle they should iterate.

47a. Nandaka (n+aN+daka) azy isika We kicked him
pst+av+kick 3acc we.incl

b. Nifandaka (n+if+aN+daka) isika We kicked each other
pst+rec+av+kick we.incl

c. Nampifandaka (n+amp+if+aN+daka) antsika Rabe
pst+cause+rec-af+kick us.acc.incl Rabe
Rabe made us kick each other NB: The antecedent of if does not c-command it.

d. Nifampifandaka (n+if+amp+if+aN+daka) isika We made each other kick each other
pst+rec+cause+rec+av+kick we.incl

d’. N.if.amp.if.an.oratra taratasy fisaorana Rabe sy Rakoto Each of Rabe and Rakoto brought it about that the other had letters of thanks written
pst.rec.cause.rec.av.write letter thanks Rabe and Rakoto

Each of Rabe and Rakoto brought it about that the other had letters of thanks written

e. N.amp.if.amp.an.oratra taratasy azy ireo aho (Built from 42b)
Educated non-linguists start pausing at (47d); structural linguists smile but do not reject it — it is well formed morphosyntactically and compositionally interpreted. So we count it grammatical, though it is pushing the performance boundary. Another example that was interpreted correctly with only modest exasperation was (47b). But (47c) seems clearly to cross the performance boundary:

48 a. Mampifanome vola an-dRabe sy Rakoto aho  
\textit{I had Rabe and Rakoto give each other money}

\begin{align*}
\text{pres.rec.give money acc-R and R 1s.nom}
\end{align*}

b. M.if.amp.if.an.ome vola Rabe sy Rakoto  
\textit{Each of R and R had the other given money}

\begin{align*}
\text{pres.rec.caus.rec.av.give money R and R}
\end{align*}

c. M.amp.if.amp.if.an.ome vola azy ireo aho  
\textit{I made them each have the other given money}

\begin{align*}
\text{pres.caus.rec.caus.rec.av.give money 3acc dem.pl I}
\end{align*}

5.5 Abstract Circumstantial Nominalizations \textit{f+Vcv}

Nominalization of circumstantial verbs (preserving subcategorization and case marking of arguments) is highly productive. Reciprocal verbs fully participate; the reciprocal may have an Agent phrase antecedent or be abstracted to mean “mutual”.

49 a. Mifanolotra (m.if.aN.tolotra) f.an.omez.ana isan-taona isika  
\textit{We offer e.o. gifts each-year}

\begin{align*}
\text{pres.rec.av.offer nom.av.give.cv each-year we.incl}
\end{align*}

b. Ho.tohizana ny fifanolorantsika (f.if.aN.tolotra.ana.ntsika) fanomezana isan-taona  
\textit{Our mutual offering of gifts each year will be continued (textual example)}

\begin{align*}
\text{fut.continued det nom.rec.av.offer.circ.our gifts each-year}
\end{align*}

c. f.if.anka.tiav.ana ‘mutual love’; ny fifankatiavan-dRabe sy Rasoa  
\textit{R&R’s mutual love}

\begin{align*}
\text{nom.rec.caus.love.cv det mutual love-gen.Rabe and Rasoa}
\end{align*}

50 a. Nanameloka ny fifamonoana (f.if.aN.vono.ana) niseho tany Rwanda ny ONU  
\textit{The U.N. condemned the killings (which) happened in Rwanda}

\begin{align*}
\text{condemned the genocide nom.rec.av.kill.cv happened pst.there Rwanda det U.N.}
\end{align*}

b. Ny fifandirana (f.if.aN.ditra.ana) ela loatra no tsy mampiroso ny dinika  
\textit{This continual squabbling hinders the deliberations (lit: not make-advance = make not advance)}

\begin{align*}
\text{det squabbling nom.rec.av.dispute.cv long too FOC not advance det careful.study}
\end{align*}

c. Ny polisin’ny tanana no mandamina ny fifamoivoizana  
\textit{mutual going back and forth}

\begin{align*}
\text{det police’gen.det town FOC control det traffic (mutual going back and forth)}
\end{align*}

d. Fifanampiana Malagasy ‘Malagasy Mutual Aid (Society)’  
(F.if.aN.ampy.ana = nom.rec.av.aid.cv)

Morphological reciprocal verbs nominalize in Chicewa (Mchombo) and Futunan (Moyse-Faurie).

5.6 Reciprocal Predicates Coordinate

51 a... ny fanaovana fanasana [ifampiarahabana sy [ifampirariana soa]] amin’ny mpiara-miasa
aminy ... (newspaper example)
b... the doing of banquets in which they and their co-workers greet each other and wish each other well ...

52. Nifampiarahaba sy nitsiky izahay  *We greeted each other and smiled*
greeted e.o. and smiled we.excl

**5.7 Possessive Head Incorporation feeds Reciprocalization**

Keenan & Ralalaoherivony 2000 discuss a highly productive process of Possessor NP Raising with incorporation of the head of the possessive DP incorporated into the predicate:

53 a. Tery [ny trano.nay] *Our house is cramped*
tight det house.our.excl

b. [Tery trano] izahay *We are house-crammed*
Tight house we.excl

Raising + Incorporation from Object also occurs productively and feed Reciprocal Formation:

54 a. Mandidy [ny nonon’ai Soa] ny dokotera
av.cuts det breast’art Soa det doctor

b. [Mandidy nono] an’i Soa ny dokotera
av.cuts breast acc’art Soa det doctor

55 a. mandrirotra ny volon’ai Soa i Vao
pres.act.pull det hair’art Soa art Vao

b. mandriro-bolo an’i Soa i Vao
pull-hair acc’at Soa art Vao

Vao is hair-pulling Soa

c. mifandriro-bolo i Soa sy i Vao
pres.rec.av.pull-hair art Soa and art Vao

*Soa and Vao are hair-pulling each other*

Similarly we have: *nifanongotra nify Rasoa sy Ravelo* ‘R&R reciprocally teeth pulled’; *mifankahita toetra Rasoa sy ny vadiny* ‘Rasoa and her husband know each other’s character’. We might further note that the incorporated possessive head is not fully fused with the host verb, and separates from it when the host verb is non-active and the Agent phrase is present:

56 a. Tsy fantatro izay ifandroritan’ny zazavavy volo
not know.pass.1s comp rec.pull.cv’det young.women hair

*I don’t know why the women pulled e.o.’s hair*

b. Nahagaga anay ny fifanongotan’izy ireo nify
surprised us det nom.rec.av.pull.cv 3dem.pl teeth

Their mutual pulling of teeth surprised us

56 c. Mampalahelo anay ny ifandroritan’i Soa sy i Vao volo
cause-sad us acc det nom.rec.av.pull.cv Soa & Vao hair

*S & V’s mutual hair-pulling saddened us*

There are cases however where a derived form is acceptable but the intermediate stage is not:

57 a. mifangala-bady  (m.if.aN.halatra.vady) Rabe sy Ranaivo  *R&R steal e.o.’s spouses*
rec. steal-spouse pres.rec.av.booty, spouse Rabe and Ranaivo

b. *mangala-bady an-dRanaivo Rabe  *Rabe spouse-steals Ranaivo*

Nor is Raising+Incorporation totally free: the predicates created when Raising is from subject tend to be
individual level, not stage level, and so the possession is often inherent rather than transitory. Notwithstanding these bounds this sequence of operations is widely used, and can iterate at least once:

58 a. Lavitra tokoa [ny lalana halehanay (h.a.leha.nay)]  The route we have to go on is long
    far      very   det   route     fut.tv.go.our-excl

   b. [Lavi-dalan-kaleha tokoa] izahay  We have a long way to go (izahay = we.excl.nom)

We even managed to squeak an acceptance for 58c, whose verb straddles the performance boundary:

   c. Nifampifandaka (n+if+amp+if+aN+daka)  zanaka isika
      pst+rec+cause+rec+av+kick child   we.incl
      We made each other’s children kick each other

5.8 Voice Harmony

Malagasy does not distinguish an infinitival form of a verb from a voiced tensed form, so complex control structures in English correspond to sequences of tensed verbs in which tense on later verbs is usually determined as a function of the tense/root of the earlier verbs. Verbs like mikasa ‘intends’, mitady ‘seeks to’, maniry ‘wants’, mikendry ‘plans’ form complex verbs bound to the same subject and governing future tense. Relativizing (etc) on an argument of the final verb triggers to appropriate voice on all the verbs in the chain – Voice Harmony. (Caveat: Iceberg ahead!). Here is a representative example. Note that the initial verb, mikasa ‘intend’ governs future following on the next verbs (regardless of voice):

59 a. Nikasa hifanampy hitsara ny fanadinana omaly izahay  (All verbs active)
   pst.intend fut.rec.help fut.judge det exam yesterday we.excl/nom
   We intended to help each other grade the exams yesterday

   b. ny fanadinana (izay) no.kasai.nay    h.if.an.ampi.ana h.i.tsara.ina omaly
      det exam      comp   pst.intend.our.excl fut.rec.av.help.pv/cv fut.av.judge.pv yesterday
      the exams that we intended to help each other grade yesterday
      lit: the exams that were intended by us to be helped by each other to be corrected yesterday

   c. Omaly no n.i.kas.an.tsika         h.if.an.ampi.ana hitsarana ireo fanadinana ireo
      yesterday   FOC  pst.av.intend.cv.our-incl fut.rec.av.help.cv fut.av.judge.cv those exams those
      It was yesterday that we intended to help each other grade those exams

A common way of expressing control uses an apparent nominalization of the complement verbs:

60 a. Maniry hiala sigara aho  I want to quit smoking
   pres.av.desire fut.av.lose cigarettes 1s.nom

   b. [Iriko (iry.ina.ko)    hialana]  ny sigara  I want to quit smoking
      desire.pv.1s.gen    fut.lose.pv det cigarettes

   c. Iriko    [dp ny hiala sigara]  I want to quit smoking
      desire.pv.,by.me [det fut. av. lose cigarettes]

The subject of (60a) is “I”, that of (60b) is “the cigarettes” and that of (60c) is the DP “the fut.quitting smoking”. The DP boundary breaks the verbal sequence so the voice of the verb within the DP is active,
independent of that of the matrix verb, which is passive (pv). This use of the DP boundary works in our more complex examples. Thus (59c) above, with all verbs circumstantial, is paraphrased by (60d) below:

d. Omaly no nikasantsika [ny hifanampy hitsara ireo fanadinana ireo]
yesterday FOC intend.cv.our [det fut.rec.av.help fut.av.judge those exams those]

5.9 Cross clausal binding

61 a. Mampanantena an’i Koto ny zokiny fa ho azony ny valisoa (iriny)
cause.hope acc’art Koto det elder sibling comp fut receive.pass.3gen the prize (desired by him)
Koto promises his elder sibling, that the prize will be received by him;

b. Mifampanantena i Koto sy ny zokiny fa hahazo ny valisoa (iriny)
pres.rec.caus.hope art Koto and det elder sibling.his comp fut.av.receive det prize desired by him
Koto and his elder sibling promise each other that he (the other) will get the prize (he desires)

b’. Mifampanantena fa hahazo ny valisoa (iriny) i Koto sy ny zokiny
rec.hope that fut.receive the prize desired by him art Koto and det elder sibling of his

b”’. Mifampanantena hahazo ny valisoa (iriny) i Koto sy ny zokiny
rec.hope fut.receive the prize (desired by him) art Koto and det elder sibling of his

We are clearly just touching serious binding patterns here. Let us note cases where both the matrix and “lower” verb are reciprocal:

62 a. Manome toky Rabe fa hamelona an-dRasoa
av.give trust Rabe comp fut.av.live acc-Rasoa
Rabe promises that (he) will support Rasoa

b. Mifanome toky Rabe sy Rasoa fa hifamelona
R&R promise e.o. to support e.o.

c. Mifanome toky hifamelona Rabe sy Rasoa
R&R promise e.o. to support e.o.

In addition Raising to Object (Paul and Rabaovololona 1998) feeds reciprocalization:

63 a. Miahiahy Rasoa fa manitsakitsaka azy Rabe
suspects Rasoa that unfaithful to her Rabe
Rasoa suspects that Rabe is unfaithful to her Rabe

b. [Miahiahy an-dRabe ho manitsakitsaka azy] Rasoa
suspects acc-Rabe HO deceives her Rasoa
Rasoa suspects Rabe of being unfaithful to her

b. Mifampiahiahy ho manitsakitsaka / mifanitsakitsaka Rabe sy Rasoa
rec.suspect HO deceive e.o. Rabe and Rasoa
Rabe and Rasoa suspect each other of being unfaithful (to e.o.)

Interim Conclusion

Malagasy reciprocals are highly productive. They exhibit most if not all classical properties of being lexical, but also enter many syntactically productive paradigms. Thus our data do not support a universal Lexicon/Syntax parameter (contra Siloni 2012) nor do we see anything conceptually problematic about an operation that introduces bound morphology in the syntax and also has exponents in the lexicon.
References


