

# Combined marking of reflexivity: An FDG account

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FDG online lecture 9/06/2023

# 1. Introduction

**Topic:** Combination of two or more separate grammatical markers to express reflexivity (CMRs)

(1) Oklahoma Cherokee (Iroquoian)

*uutaatvvhnilvvi*                      *uwaasa*

uu-**ataat**-vvhnil-vvi              **uu-vvsa**

3B-REFL-hit:COMPL-EXP              **3B-SELF**

‘He hit himself.’ (Montgomery-Anderson 1993: 73)

Lit. “he self-hit himself”

## **Aims:**

- Typological overview of the construction-types
- Pathway of grammaticalization
- FDG analysis

# Outline

- ~~1. Introduction~~
2. Data and methods
3. Typology of combined marking
4. Grammaticalization
5. FDG analysis
6. Conclusion

## 2. Data and methods

- Starting point: Dik (1983), Gast & Siemund (2006)
- LINGTYP community (to discover more languages and possible combinations)
- Grammar mining & consultation of experts (to refine analyses and assess gmz stage)
- Convenience sample: 44 typologically and areally diverse languages from 23 families; in total, 66 CMRs
  - Only languages for which we have proof of existence of CMR (impossible to exclude existence thereof when not reported in grammars)
    - Some families overrepresented (3 to 5 languages from different genera)
- FDG analysis, based on Giomi (2021, 2023)

Table 1: Overview of the languages in the sample

N°	Language	Family	Genus	Macro-area
1	Amharic	Afro-Asiatic	Semitic	Africa
2	Kambaata	Afro-Asiatic	Cushitic	Africa
3	Joola Keeraak	Atlantic-Congo	North-Central Atlantic	Africa
4	Yawuru	Nyulnyulan	Yawuric	Australia
5	Dyirbal	Pama-Nyungan	Dyirbal	Australia
6	Kuuk Thaayorre	Pama-Nyungan	Paman	Australia
7	Adyghe	Abkhaz-Adyghe	Circassian	Eurasia
8	Kannada	Dravidian	South Dravidian	Eurasia
9	Dutch	Indo-European	Germanic	Eurasia
10	Sinhala	Indo-European	Indo-Iranian	Eurasia
11	Avar	Nakh-Daghestanian	Avar-Andic-Tsezic; Avar	Eurasia
12	Khwarshi	Nakh-Daghestanian	Avar-Andic-Tsezic; Tsezic	Eurasia
13	Tsakhur	Nakh-Daghestanian	Lezgif	Eurasia
14	Tsez	Nakh-Daghestanian	Avar-Andic-Tsezic; Tsezic	Eurasia
15	Caoden rGyalrong	Sino-Tibetan	Burmo-Qiangic	Eurasia
16	Dulon-Rawang	Sino-Tibetan	Nungish	Eurasia
17	Galo	Sino-Tibetan	Macro-Tani	Eurasia
18	Khaling	Sino-Tibetan	Himalayish	Eurasia
19	Mizo	Sino-Tibetan	Kuki-Chin-Naga	Eurasia
20	Hupa	Athabaskan-Eyak-Tinglit	Pacific Coast Athabaskan	North America
21	Navajo	Athabaskan-Eyak-Tinglit	Apachean	North America
22	Upper Kuskokwim	Athabaskan-Eyak-Tinglit	Central Alaska-Yukon Athabaskan	North America

Table 1: Overview of the languages in the sample (cont'd)

<b>N°</b>	<b>Language</b>	<b>Family</b>	<b>Genus</b>	<b>Macro-area</b>
23	Cherokee (Oklahoma)	Iroquoian	Cherokee	North America
24	Ktunaxa	isolate	isolate	North America
25	Kaqchikel	Mayan	Quichean	North America
26	K'iche'	Mayan	Quichean	North America
27	Mam	Mayan	Mamean	North America
28	Mezquital Otomí	Otomanguean	Western Otomanguean	North America
29	Bwato	Austronesian	Oceanic - North New Caledonia	Papunesia
30	East Futunan	Austronesian	Nuclear Polynesian	Papunesia
31	Mwotlap	Austronesian	Oceanic; Vanuatu	Papunesia
32	Sri Lanka Malay	Austronesian	Malayo-Sumbawan	Papunesia
33	Taba	Austronesian	Southern Halmahera	Papunesia
34	Toba	Guaicuruan	Guaicuru del Sur	South America
35	Hup	isolate	isolate	South America
36	Yahgan	isolate	isolate	South America
37	Yurakaré	isolate	isolate	South America
38	Chimane	Mosetenan	Chimane	South America
39	Moseten	Mosetenan	Moseten	South America
40	Shipibo-Konibo	Pano-Tacanan	Pano Nawa	South America
41	Huallaga Quechua	Quechuan	Quechua I; Central; AP-AM-AH	South America
42	Imbabura Quechua	Quechuan	Quechua II: Chinchay	South America
43	North Junín Quechua	Quechuan	Quechua I; Central; Yaru	South America
44	Wayoró	Tupian	Tupari	South America

## 2. Data and methods

Figure 1: Areal distribution of the languages in the sample



# 3. Typology of combined marking

- Combined-marking reflexives may involve three types of grammatical elements:
  - (i) personal, logophoric or reflexive (pro)noun;
  - (ii) a middle(-like) marker, usually with valency-reducing functions (e.g. reflexive/reciprocal, passive, antipassive, etc.);
  - (iii) an intensifier, either actor-oriented (e.g. *I myself said that; I did that (by) myself*) or non-actor oriented (e.g. *They invited the Queen herself*).
- 5 out of 6 logically possible two-marker combinations attested:

Markers of different classes:	Markers of the same class:
(pro)noun + middle(-like) marker:	<del>(pro)noun + (pro)noun</del>
(pro)noun + intensifier	middle(-like) marker + middle(-like) marker
middle(-like) marker + intensifier	intensifier + intensifier
- Several triple-marking combinations also attested



### 3. Typology of combined marking

Different class (1): (pro)noun + middle(-like) marker

- middle(-like) marker (antipassive) + reflexive noun

(2) Mam (Mayan)

<i>ma</i>	<i>kub'</i>	<i>t-b'iyoo-n</i>	<i>t-iib'</i>	<i>xiinaq</i>
REC.PST	DIR	3SG.erg-kill-ANTP	3SG-REFL/ <b>above</b>	man

'The man killed himself.' (England 1983: 74; glosses adapted)

- middle(-like) marker (several functions) + personal pronoun

(3) Hmwaveke (Austronesian)

<i>yo</i>	<i>ve-ibi</i>	<i>yong</i>
1SG	INTR-pinch	1SG

'I am pinching myself.'

(Moyse-Faurie 2008: 123; glosses adapted)

### 3. Typology of combined marking

Different class (1), continued: (pro)noun + middle(-like) marker

- middle(-like) marker (anticausative, facilitative, grooming) + reflexive pronoun

(4) Kannada (Dravidian)

*hari tann-annu hogaL-i-koND-a*

Hari REFL-ACC praise-PTCP.PST-INTR.PST-3SG.M

'Hari praised himself.' (Lidz 2004: 15; glosses adapted)

# 3. Typology of combined marking

Different class (2): (pro)noun + intensifier

- logophoric pronoun + actor-oriented intensifier (adnominal)

(5) Khwarshi (Nakh-Daghestanian)

*ow-si*    *žik<sup>w</sup>a*    *is-a*    *žu*    *iha-χ-χα*

DEM-OBL    man.ERG    **3SG.GEN1**    **3SG.ABS**    die-CAUS-PST

‘That man killed himself.’ (Testelefs 2019: 87)

Lit. “that man<sub>i</sub> killed him<sub>i/j</sub> by himself”

# 3. Typology of combined marking

Different class (2), continued: (pro)noun + intensifier

- reflexive pronoun + actor-oriented intensifier (adverbial)

(6) Adyghe (Abkhaz-Adyghe)

*s-jə-β<sup>w</sup>əneβ<sup>w</sup>ə-m*

*z-jə-wəč'ə-ž'ə-β*

1SG-POSS-neighbour-OBL

REFL.ABS-3SG.A-kill-REFACT-PST

'My neighbour killed himself' (Arkadiev & Letuchiy 2014: 505)

Lit. "my neighbour killed himself again"

- reflexive pronoun + non-actor-oriented intensifier (adnominal)

(7) Dutch (Indo-European)

*ik*      *zie*      ***me-zelf*** *in*      *de*      *spiegel*

I      see      **me-SELF** in      the      mirror

'I see myself in the mirror.' (An Van linden)

# 3. Typology of combined marking

Different class (3): middle(-like) marker + intensifier

- middle(-like) marker (antipassive, grooming) + actor-oriented intensifier (adnominal)

(8) Dyirbal (Pama-Nyungan)

*bayin-djilu d̪aŋgay-mari-ŋu*

DET-SELF eat-INTR-NFUT

‘He is eating himself.’ (Dik 1983: 244; glosses adapted)

Lit. “he himself is eating”

- middle(-like) marker (anticausative, facilitative, grooming) + actor-oriented intensifier (adverbial)

(9) Sinhala (Indo-European)

*Mamə ibeemə sedhaa/naa gatta.*

1SG by\_SELF wash.PTCP.PERF/bathe.PTCP.PERF INTR.PST

‘I washed/bathed by myself.’ (Beavers & Zubair 2016: 98; glosses adapted)

# 3. Typology of combined marking

Same class (1): middle(-like) general + middle(-like) specific

- middle(-like) general (non-volitional) + middle(-like) specific (reflexive)

(10) Caoden rGyalrong (Sino-Tibetan)

*ogjiʔ-kə*    *ogjiʔ*    *to-gje-nə-səsmet-kjə*  
3SG-A        3SG        PFV.INV-REFL-MID/NVOL-wound-EVID

‘He hurt himself (through his own fault).’ Lit.: (“he hurt himself himself”)

(Lapolla 1996: 1950; glosses adapted)

- middle(-like) general (anticausative, grooming) + middle(-like) specific (reciprocal)

(11) Joola Keeraak (Atlantic-Congo)

a. *ʔɪb-*, ‘cut’

*ʔɪb-ɔ*, ‘get cut’

(Robert & Segerer, fc)

b. *ʔɪkɛr-*, ‘look’

*ʔɪkɛr-ɔɔr*, ‘look at each other’

c. *ʔɪkɛr-*, ‘look’

*ʔɪkɛr-ɔɔr-ɔ*, ‘look at oneself’

### 3. Typology of combined marking

Same class (2): intensifier (actor-oriented adnominal) + intensifier (actor-oriented adverbial)

(12) Mezquital Otomí (Otomanguean)

*Da hyan-sëhë-ʔä.*

3.FUT see-**by\_SELF-3.EMPH**

‘He himself will see himself.’ (Priego-Montfort 1989: 121)

Lit. “he himself will see by himself”

### 3. Typology of combined marking

Table 2: Overview of double-marking reflexive strategies

Strategies	Strategies abbreviated	n
middle(-like) marker + intensifier	aff+ints	16
middle(-like) marker + (pro)noun/intensifier	aff+pron/ints	2
(pro)noun + intensifier	pron+ints	15
middle(-like) marker + (pro)noun	aff+(pro)noun	14
middle(-like) general + middle(-like) specific	aff+aff	8
intensifier (actor-oriented adnominal) + intensifier (actor-oriented adverbial)	ints+ints	1
TOTAL of Constructions in 42 languages		56



### 3. Typology of combined marking

Table 3: Double-marking reflexive strategies across macro-area

Row Labels	Africa	Australia	Eurasia	North America	Papunesia	South America	Grand Total
aff+ints	1	1	5	1		8	16
pron+ints			11		4		15
aff+pron	1	2	3		2	1	9
aff+aff	1	1	1	3		2	8
aff+(pro)noun	1			4			5
aff+pron/ints						2	2
ints+ints				1			1
Grand Total	4	4	20	9	6	13	56

### 3. Typology of combined marking

Table 4: Overview of triple-marking reflexive strategies

Strategies (abbreviated)	n
aff+pron+ints	4
aff+aff+ints	2
aff+ints+pron/ints	1
pron+ints x2	1
pron+ints+ints	1
TOTAL of Constructions in 9 languages	9

# 4. Grammaticalization

Diachronic hypothesis: combined-marking reflexives arise in grammaticalization → 4 stages

Stage 1	Each marker performs its original function: semantics of construction is always compositional, either exceeding reflexivity or not reflexive
Stage 2	Combination of markers starts conventionalizing as a reflexive construction, but compositional interpretation is still possible in context
Stage 3	Compositional interpretation is no longer possible: combination has grammaticalized as full-fledged reflexive construction, but is not strictly obligatory
Stage 4	Combination has become obligatory for the expression of reflexivity

## 4. Grammaticalization

**Stage 1:** Each marker performs its original function: semantics of construction is always compositional, exceeding mere reflexivity

(13) Huallaga Quechua (Quechuan)

*(Kiki-n)            wañu-chi-ku-ra-n*

**Self-3POSS      die-CAUS-REFL-PST-3SBJ**

‘He (himself) killed himself.’ (Weber 1989: 167, ex. (591); glossed adapted)

## 4. Grammaticalization

**Stage 2:** Combination of markers starts conventionalizing as a reflexive construction, but compositional interpretation is still possible in context

E.g. Mezquital Otomí (Otomanguean):

(14) Da hyan-sëhë-?ä.

3.FUT see-**by\_SELF-3.EMPH**

‘He himself will see himself.’ (Priego-Montfort 1989: 121)

(15) *Di ne ge rä Xuwa da hyan-sëhë-?ä ha rä hñe*

1.PRS want COMPL DET Juan 3.FUT see-**by\_SELF-3.EMPH** in DET mirror

‘I want Juan to see himself in the mirror.’ (Priego-Montfort 1989: 121)

## 4. Grammaticalization

- **Stage 3:** Compositional interpretation is no longer possible: combination has grammaticalized as full-fledged reflexive construction, but is not strictly obligatory

(16) Kambaata (Afro-Asiatic)

*ís*            *gag-á-s*            *saaxx-án*            *biir-óochch* *biir-úta*            *zahh-áyyoo'u*  
3M.NOM    SELF-M.ACC-3M.POSS    praise.MID-3M.IPFV.CVB    office-F.ABL    office-F.ACC    walk-3M.PROG  
'he walked from office to office praising himself' (Treis, fc)

(17) Kambaata (Afro-Asiatic)

*Gag-á-s*            *ba'-íshsh-o*  
SELF-M.ACC-3M.POSS    be\_destroyed-CAUS1-3M.PFV  
'He killed himself.' (Treis, fc)

## 4. Grammaticalization

- **Stage 4:** Combination has become obligatory for the expression of reflexivity

(18) Yawuru (Nyulnyulan)

*Inga-rr-**ma**-bura-**nji**-n*                      *kamba-rri.*

3.NOM-AUG-INTR-see-RECP-IPF    DEM-DU

'They two see themselves.' (Hosokawa 1991: 173; glosses adapted)

(19) Yawuru (Nyulnyulan)

*Inga-rr-a-bura-**nji**-n*                      *kamba-rri.*

3.NOM-AUG-TR-see-RECP-IPF    DEM-DU

'They two see each other.' (Hosokawa 1991: 173; glosses adapted)

# 4. Grammaticalization

Toba (Guaicuruan): middle(-like) marker general (grooming, anticausative, antipassive)  
+ middle(-like) marker specific (reflexive)

All four stages attested synchronically, depending on the verb (lexical diffusion)

(22) Stage 1: With verbs that are likely to express self-directed actions, “this strategy is a marked one [implying] maximal agentivity and co-reference” (Zurlo 2019: 49):

a. *maiche an-yo*

alone 2.MID-clean

‘Clean up yourself alone.’

(Sp. *Limpíate solo*)

b. *maiche an-yo-laʔt*

alone 2.MID-clean-REFL

‘Clean up [yourself yourself] alone.’

(Sp. *Limpíate solo, a vos mismo*)



# 4. Grammaticalization

Toba (Guaicuruan): middle(-like) marker general (grooming, anticausative, antipassive)  
+ middle(-like) marker specific (reflexive)

All four stages attested synchronically, depending on the verb (lexical diffusion)

(23) Stage 2: With certain other-directed predicated, the combination is not obligatory, but the reading may be either compositional or non-compositional (depending on the context):

a. *n-alaat*

3.MID-kill

‘s/he kills herself/himself’ or ‘s/he fights’ (Zurlo 2019: 52)

b. *ze yale n-alaah-laʔt*

DEM man 3.MID-kill-REFL

‘That man killed [himself himself]’ or ‘That man committed suicide’ (Zurlo 2019: 52)

(Sp. *Aquel hombre se mató a sí mismo / se suicidó*)

# 4. Grammaticalization

Toba (Guaicuruan): middle(-like) marker general (grooming, anticausative, antipassive)  
+ middle(-like) marker specific (reflexive)

All four stages attested synchronically, depending on the verb (lexical diffusion)

(24) Stage 3: With (certain) verbs of cognition, the combination is still not obligatory but does not seem to add any semantic or pragmatic nuance (i.e. reading non-compositional)

a. *so nsoq n-ʔamaqten, eetega ra i-shet ra Økolee-lek ze awiaq*  
DEM young **3.MID**-believe 3.A-say COMPL 3.A-can SUBORD 3.A.go\_round-APPL DEM mountain

‘This youngster believes in himself, he says he can go round the mountain.’ (Zurlo 2019: 51)

b. *n-ʔamaqtee-laʔt*

**3.MID**-believe-REFL

‘I believe in myself, I am proud.’ (Zurlo 2019: 51)

# 4. Grammaticalization

Toba (Guaicuruan): middle(-like) marker general (grooming, anticausative, antipassive)  
+ middle(-like) marker specific (reflexive)

All four stages attested synchronically, depending on the verb (lexical diffusion)

(25) Stage 4: With yet other verbs, the combination is the only way to obtain a reflexive meaning (i.e. it has become obligatory) and the reading is non-compositional:

a. *i-shiwek*

3A-rock

's/he rocks (something/someone)' (Zurlo 2019: 52)

b. *n-shiwge-laʔt*

**3.MID-rock-REFL**

's/he rocks himself/herself' (Zurlo 2019: 52)

# 4. FDG analysis

- Giomi (2021): Three semantic types of reflexive constructions

	<i>Predication frame</i>	<i>Typical syntactic realization</i>
Type I	$(f_1: [ (\{refl\} f_2: \blacklozenge (f_2)) (v_1)_A (v_1)_\phi ] (f_1))$	Transitive
Type II	$(f_1: [ (refl f_2: \blacklozenge (f_2)) (v_1)_A ] (f_1))$	Intransitive
Type III	$(f_1: [ (f_2: [ (\{refl\} f_3: \blacklozenge (f_3)) (v_1)_\phi ] (f_2)) (v_1)_A ] (f_1))$	Mixed

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Type III	$(f_1: [ (f_2: [ (\{refl\} f_3: \blacklozenge (f_3)) (v_1)_\phi ] (f_2)) (v_1)_A ] (f_1))$	Mixed

- Examples

Type I

(26) English (Indo-European)

a. *I saw myself*

$(f_1: [ (f_2: \text{see } (f_2)) (1x_1)_A (x_1)_U ] (f_1))$

b. *Atheists are able to **self-congratulate themselves***

$(f_1: [ (\underline{refl} f_2: \text{congratulate } (f_2)) (mx_1:-\text{atheist-}(x_1))_A (x_1)_U ] (f_1))$

(Mackenzie 2018: 85)

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- Examples

Type II

(27) Kolyma Yukaghir (Yukaghir)

*tudel*     ***met-juö-j***

he         REFL-see-3.SG.INTR

‘He is looking at himself.’ (Maslova 2007: 1837)

$(f_1: [ (\underline{refl} f_2: juö (f_2)) (1x_1)_A ] (f_1))$

# 4. FDG analysis

- Giomi (2021): Three semantic types of reflexive constructions

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- Examples

Type III

(28) French (Indo-European)

<i>elle</i>	<i>s'</i>	<i>est</i>	<i>vue</i>	$(f_1: [ (f_2: [(f_3: voir (f_3)) (x_1)_U ] (f_2)) (1x_1)_A ] (f_1))$
she	<u>MID.3</u>	AUX( <u>INTR</u> ).PST.3SG	see-PTCP.PST.F.SG	
'she sees herself.'				

# 4. FDG analysis

- Giomi (2021): Three semantic types of reflexive constructions

	<i>Predication frame</i>	<i>Typical syntactic realization</i>
Type I	$(f_1: [ (\{refl\} f_2: \blacklozenge (f_2)) (v_1)_A (v_1)_\phi ] (f_1))$	Transitive
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Type III	$(f_1: [ (f_2: [ (\{refl\} f_3: \blacklozenge (f_3)) (v_1)_\phi ] (f_2)) (v_1)_A ] (f_1))$	Mixed

- Examples

Type III

(29) Wambaya (Mirndi)

<i>Janji</i>	<i>gini-ngg-a</i>	<i>wagardbi.</i>	$(f_1: [(\underline{refl/recp} f_2: [(f_3: \text{wagardbi } (f_3)) (x_1)_U] (f_2)) (1x_1:-\text{janji-}(x_1)_A ] (f_1))$
dog.ABS	<u>3SG.A-REFL/RECP</u> -NFUT	wash	

'The dog is washing himself.' (Nordlinger 1998: 142)



# 4. FDG analysis

- CMRs may belong to any of the three types

Type I       $(f_1: [ (\{refl\} f_2: \blacklozenge (f_2)) (v_1)_A (v_1)_\phi ] (f_1))$

(30) Taba (Austronesian)

*i*      ***do***                  *n-wet*      *i*

3SG   INTS(“alone”)   3SG-hit      3SG

‘he hit himself’ (Lit. “s/he hit her/him alone”)

$(f_1: [ (f_2: wet (f_2)) (1x_1)_A (x_1)_U ] (f_1))$

- second occurrence of pronoun denotes Undergoer;
- intensifier *do* marks co-reference of A and U

# 4. FDG analysis

- CMRs may belong to any of the three types

Type II       $(f_1: [ (\text{refl } f_2: \blacklozenge (f_2)) (v_1)_A ] (f_1))$

(31) Mezquital Otomí (Otomanguean)

*Ra    Šuwa   bi-n-hyó-sɛ*

$(f_1: [ (\underline{\text{refl}} f_2: \text{hyó } (f_2)) (1x_1)_A ] (f_1))$

DET   Juan   3.PST-MID-kill-INTS

‘Šuwa killed himself.’ (Gast & Siemund 2006: 368; glosses adapted)

- *n-* is a general intransitivizer: marks insertion of a 2-place predicate into a 1-place frame;
- the intensifier *-sɛ* makes the detransitivized construction reflexive, i.e. it expresses the operator ‘refl’

# 4. FDG analysis

- CMRs may belong to any of the three types

Type III       $(f_1: [ (f_2: [ (\{refl\} f_3: \blacklozenge (f_3)) (v_1)_\phi ] (f_2)) (v_1)_A ] (f_1))$

(32) Kaqchikel (Mayan)

*K-ix-wiq-o*                      *iw-i'* !                       $(f_1: [ (f_2: [(f_3: wiq (f_3)) (x_1)_U ] (f_2)) (mx_1)_A ] (f_1))$

IMP-2PL.ABS-adorn-DETR    2PL-REFL

'Adorn yourselves/each other!' (Heaton 2017: 362)

- the antipassive/agent-focus marker *-o* is a general intransitivizer (notice only one argument index);
- the reflexive noun *-i* denotes the embedded Undergoer

# 4. FDG analysis

- How can the emergence of CMRs be accounted for in FDG?

Stage 1: Recall that CMRs are originally used for disambiguation and/or reinforcement:

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  - a. middle(-like) marker + (pro)noun
  - b. middle(-like) marker general + middle(-like) marker specific

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a. middle(-like) marker + (pro)noun

(33) Amharic (Afro-Asiatic)

a. *lamma*    ***tə-la-čč'-ə***  
Lemma    MID-shave-PERF-3M  
'Lemma shaved himself / was shaved'  
(Amberber 2000: 326)

b. *lamma*    ***ras-u-n***                      ***tə-lačč'ə***  
Lemma    head-3M.POSS-ACC    MID-shave-PERF-3M  
'Lemma shaved his head'  
With inherently self-directed predicates, only a lexical interpretation (compositional) is available

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 'Lemma shaved himself / was shaved'

b. *lamma*      ***ras-u-n***      ***tə-lač'č'ə***  
 Lemma      head-3M.POSS-ACC      MID-shave-PERF-3M  
 'Lemma shaved his head' (lexical interpretation only)

(34) a. IL:  $(C_1: [ (T_1) (R_1) ] (C_1))$   
 RL:  $(f_1: [ (f_2: la (f_2)) (1x_1)_A ] (f_1))$

b.  $(C_1: [ (T_1) (R_1) (R_2) ] (C_1))$   
 $(f_1: [ (f_2: la (f_2)) (1x_1)_A (1x_1:-ras-(x_2))_U ] (f_1))$

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- b. middle(-like) marker general + middle(-like) marker specific: Caoden rGyalrong (Sino-Tibetan)

The middle marker *nə-* has several functions: non-volitional, anticausative, indirect reflexive; reflexive *gje-* may be added to disambiguate, but the interpretation is always compositional (LaPolla 1996)

(35) *ogjiʔ-kə*      *ogjiʔ*      *to-gje-nə-səsmet-kjə*  
3SG-A            3SG            PFV.INV-REFL-MID/NVOL-wound-EVID

‘He hurt himself (through his own fault).’ (Lit.: “he hurt himself himself”)

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3SG-A            3SG            PFV.INV-REFL-MID/NVOL-wound-EVID

‘He hurt himself (through his own fault).’ (Lit.: “he hurt himself himself”)

(36) IL: (C<sub>1</sub>: [ (T<sub>1</sub>) (R<sub>1</sub>) ] (C<sub>1</sub>))  
RL: (**invol** f<sub>1</sub>: [ (f<sub>2</sub>: [ (f<sub>3</sub>: səsmet (f<sub>3</sub>)) (x<sub>1</sub>)<sub>U</sub> ] (f<sub>2</sub>)) (1x<sub>1</sub>)<sub>A</sub> ] (f<sub>1</sub>))



# 4. FDG analysis

- How can the emergence of CMRs be accounted for in FDG?

Stage 1: Recall that CMRs are originally used for disambiguation and/or reinforcement:

(ii) Reinforcement (+ disambiguation) accounted for at the IL: the reflexive interpretation is not grammaticalized, but is achieved by adding an intensifier to an otherwise non-reflexive or ambiguous construction:

- a. (pro)noun + intensifier
- b. middle(-like) marker + intensifier
- c. intensifier + intensifier

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a. (pro)noun + intensifier

*Not attested in our sample:* all CMRs of this type are Stage 2 or later

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b. middle(-like) marker + intensifier: Hup (isolate)

A middle marker and a homophonous intensifier often cooccur “to clarify that a reflexive activity is indeed involved, particularly in contexts where a single occurrence of *hup* could be ambiguous [...]”; CMR is used to “reinforce the reflexive reading of the clause in potentially ambiguous cases, such as example [34] (as opposed to the alternative passive reading of verbal *hup-*, as in ‘he got cut’ [...].” (Epps 2008: 479-480)

(37) *tîh=hup=yî?*      *hup-kî-t-îy*  
3SG=REFL.INTS=TEL    MID-cut-DYNM  
‘He (himself) cut himself.’ (Epps 2008: 480)

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(37) *tîh=hup=yî?*      *hup-kît-îy*  
3SG=REFL.INTS=TEL MID-cut-DYNM  
'He (himself) cut himself.' (Epps 2008: 480)

(38) IL: (C<sub>1</sub>: [ (T<sub>1</sub>) (R<sub>1</sub>)<sub>CONTR</sub> ] (C<sub>1</sub>))  
RL: (f<sub>1</sub>: [ (f<sub>2</sub>: kît (f<sub>2</sub>)) (1x<sub>1</sub>)<sub>A</sub> ] (f<sub>1</sub>))

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c. intensifier + intensifier: Mezquital Otomí (Otomanguean)

(39) *Da hyan-sëhë-ʔä.*

3.FUT see-by\_SELF-3.EMPH

‘He himself will see himself.’ (Priego-Montfort 1989: 121)

Lit. “he himself will see by himself” or “he himself will himself see”

- only one argument expressed; both intensifiers are actor-oriented
- -ʔä= adnominal (‘he himself’); -sëhë = adverbial (‘will see by himself’ / ‘will himself see’)

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Lit. “he himself will see by himself” or “he himself will himself see”

(40) IL: (C<sub>1</sub>: [ (T<sub>1</sub>) (R<sub>1</sub>)<sub>CONTR</sub> ] (C<sub>1</sub>))

RL: (f<sub>1</sub>: [ (f<sub>2</sub>: hyan (f<sub>2</sub>)) (1x<sub>1</sub>)<sub>A</sub> ] (f<sub>1</sub>): (x<sub>1</sub>)<sub>??</sub> (f<sub>1</sub>))

# 4. FDG analysis

- How can the emergence of CMRs be accounted for in FDG?

Stage 2: In specific (“bridging”) contexts, the reinforcement/disambiguation function bleaches out, so that a non-compositional (plain reflexive) interpretation becomes available

- Thus, whether the interpretation is compositional or not depends on the context
- Attested for all 5 double-marking CMRs, plus some triple-marking CMRs
- Attested for all three RL types of reflexives

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a. intensifier + intensifier: Mezquital Otomí (Otomanguean)

(41) *Di ne ge rä Xuwa da hyan-sëhë-?ä ha rä hñe*  
 1.PRS want COMPL DET Juan 3.FUT see-by\_SELF-3.EMPH in DET mirror

‘I want Juan to see himself in the mirror.’ [No longer ‘Juan himself to see himself’!]

Lit. “he **himself** will see **by himself**” or “he **himself** will **himself** see”

(42) IL: (C<sub>1</sub>: [ (T<sub>1</sub>) (**Emph** R<sub>1</sub>)<sub>CONTR</sub> ] (C<sub>1</sub>)) or (C<sub>1</sub>: [ (T<sub>1</sub>) (R<sub>1</sub>)<sub>CONTR</sub> ] (C<sub>1</sub>))  
 RL: (f<sub>1</sub>: [ (f<sub>2</sub>: hyan (f<sub>2</sub>)) (1x<sub>1</sub>)<sub>A</sub> ] (f<sub>1</sub>)) (f<sub>1</sub>: [ (f<sub>2</sub>: hyan (f<sub>2</sub>)) (1x<sub>1</sub>)<sub>A</sub> ] (f<sub>1</sub>): (**x<sub>1</sub>**)<sub>?</sub> (f<sub>1</sub>))

- No explicit reflexive marker: reflexive interpretation emerges in the Contextual Component



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b. (pro)noun + middle(-like) marker: Mose ten (Mose tenan)

(43) *Tyashi tata joyetein. Khin'-dyem' **khaei'**-dye-si' jo-yi-ti-in.*  
 first father serve.3PL now-still EMPH.REFL-BEN-F serve-CL-MID-PL

‘First they serve (it to) the priest. Finally they serve themselves.’ [Lit. (roughly) “they self-serve themselves”]

(Sakel 2004: 137; glosses adapted)

(44) IL: (C<sub>1</sub>: [ (T<sub>1</sub>) (R<sub>1</sub>) (R<sub>2</sub>)<sub>CONTR</sub> ] (C<sub>1</sub>))  
 (f<sub>1</sub>: [ (f<sub>2</sub>: [ (f<sub>3</sub>: jo (f<sub>3</sub>)) (**x<sub>1</sub>**)<sub>U</sub> ] (f<sub>2</sub>)) (mx<sub>1</sub>)<sub>A</sub> ] (f<sub>1</sub>))

- Reflexive meaning captured at RL because the pronoun is reflexive; but at the same time, also contrast at IL

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b. (pro)noun + middle(-like) marker: Mosesten (Mosestenan)

(45) *Alfredo khäei' wae-ti-ø.*

Alfredo EMPH.REFL hit-MID-M.S

‘Alfredo hit himself.’ [Lit. (roughly) “self-hit himself”]

(Sakel 2011: 137; glosses adapted)

(46) IL: (C<sub>1</sub>: [ (T<sub>1</sub>) (R<sub>1</sub>) (R<sub>2</sub>) ] (C<sub>1</sub>))

(f<sub>1</sub>: [ (f<sub>2</sub>: [ (f<sub>3</sub>: jo (f<sub>3</sub>)) (x<sub>1</sub>)<sub>U</sub> ] (f<sub>2</sub>)) (mx<sub>1</sub>)<sub>A</sub> ] (f<sub>1</sub>))

- Reading no longer compositional: captured at RL only

# 4. FDG analysis

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c. (pro)noun + intensifier: Tsez (Nakh-Daghestanian)

(47) *ʕAl-ä nesi-t-äy-tow wac'al-ɣo esir-si.*  
Ali-ERG DEM.I-INESS-ABL-FOC cousin-POSS.ESS ask-PST.WITN  
'Ali<sub>i</sub> asked his cousin<sub>j</sub> about himself<sub>i</sub>/\*him<sub>j</sub>.' (Polinsky 2015: 388)  
[Lit. “about him himself”, i.e. not about him (his cousin)]

(48) IL: (C<sub>1</sub>: [ (T<sub>1</sub>) (R<sub>1</sub>) (R<sub>2</sub>) (R<sub>3</sub>)<sub>CONTR</sub> ] (C<sub>1</sub>))  
RL: (f<sub>1</sub>: [ (f<sub>2</sub>: esir (f<sub>2</sub>)) (1x<sub>1</sub>)<sub>A</sub> (1x<sub>2</sub>)<sub>U</sub> (x<sub>1</sub>)<sub>L</sub> ] (f<sub>1</sub>))

- The CMR still serves to disambiguate/reinforce reflexive reading in contrastive contexts

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c. (pro)noun + intensifier: Tsez (Nakh-Daghestanian)

(49) *Pat'i-r            že-tow            y-eti-x.*  
Fatima-DAT    3SG.ABS-FOC    3-like-PRS  
'Fatima loves herself.' (Polinsky & Comrie 2003: 280)  
[Lit. “loves her herself”]

(50) IL: (C<sub>1</sub>: [ (T<sub>1</sub>) (R<sub>1</sub>) (R<sub>2</sub>) ] (C<sub>1</sub>))  
RL: (f<sub>1</sub>: [ (f<sub>2</sub>: esir (f<sub>3</sub>)) (1x<sub>1</sub>)<sub>R</sub> (x<sub>1</sub>)<sub>U</sub> ] (f<sub>1</sub>))

- Disambiguation/reinforcement no longer involved; RL only

## 4. FDG analysis

- How can the emergence of CMRs be accounted for in FDG?

Stage 2: In specific (“bridging”) contexts, the reinforcement/disambiguation function bleaches out, so that a non-compositional (plain reflexive) interpretation becomes available

d. middle(-like) marker + intensifier: Khaling (Sino-Tibetan)

(51)

*g<sup>h</sup>ole kēm-ʔε ʔu-tāɪp sēi-si-nε, sār-si-nε,*  
much work-ERG 3SG-self look.at-REFL-INF wash-REFL-INF  
*hār-si-nε mu-jat-w-ε*  
wash.hair-REFL-INF NEG-have.time-IRR-2/3

Because of all this work, she did not have time to look after herself, to wash  
(her body) and her hair. (Solme Lamalit 31)

Lit. “she herself did not have time to self-look, self-wash, etc.”

- -*si* has several other “middle” readings, but these are not available in this context

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wash.hair-REFL-INF NEG-have.time-IRR-2/3

Because of all this work, she did not have time to look after herself, to wash

(her body) and her hair.

(Solme Lamalit 31)

- “The emphatic pronoun [ʔu]-tā:p is optional” (Jacques et al. 2016: 7)
- The sentence is “compatible” with the reading “she washes herself by herself” (Guillaume Jacques, pc)

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(51)

*g<sup>h</sup>ole kēm-ʔε ʔu-tāɪp sēi-si-nε, sār-si-nε,*  
 much work-ERG 3SG-self look.at-REFL-INF wash-REFL-INF  
*hār-si-nε mu-jat-w-ε*  
 wash.hair-REFL-INF NEG-have.time-IRR-2/3

Because of all this work, she did not have time to look after herself, to wash  
 (her body) and her hair. (Solme Lamalit 31)

(52) a. IL: (C<sub>1</sub>: [ (T<sub>1</sub>) (R<sub>1</sub>) ] (C<sub>1</sub>))

RL: (f<sub>1</sub>: [ (refl f<sub>2</sub>: sēi (f<sub>2</sub>)) (1x<sub>1</sub>)<sub>A</sub> ] (f<sub>1</sub>): (1x<sub>1</sub>)<sub>?</sub> (f<sub>1</sub>))

or b. IL: (C<sub>1</sub>: [ (T<sub>1</sub>) (R<sub>1</sub>) ] (C<sub>1</sub>))

RL: (f<sub>1</sub>: [ (refl f<sub>2</sub>: sēi (f<sub>2</sub>)) (1x<sub>1</sub>)<sub>A</sub> ] (f<sub>1</sub>))

# 4. FDG analysis

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Stage 2: In specific (“bridging”) contexts, the reinforcement/disambiguation function bleaches out, so that a non-compositional (plain reflexive) interpretation becomes available

e. middle(-like) marker + middle(-like) marker: Toba (Guaicuruan)

(53) *ʒe yale n-alaah-laʔt*

DEM man 3.MID-kill-REFL

‘That man killed [himself himself]’ or ‘That man committed suicide’ (Zurlo 2019: 52)

(Sp. *Aquel hombre se mató a sí mismo / se suicidó*)

(54) a. IL: (C<sub>1</sub>: [ (T<sub>1</sub>) (R<sub>1</sub>)<sub>CONTR</sub> ] (C<sub>1</sub>))  
 RL: (f<sub>1</sub>: [ (f<sub>2</sub>: alaah (f<sub>2</sub>)) (1x<sub>1</sub>)<sub>A</sub> ] (f<sub>1</sub>))

or

b. IL: (C<sub>1</sub>: [ (T<sub>1</sub>) (R<sub>1</sub>) ] (C<sub>1</sub>))  
 RL: (f<sub>1</sub>: [ (refl f<sub>2</sub>: alaah (f<sub>2</sub>)) (1x<sub>1</sub>)<sub>A</sub> ] (f<sub>1</sub>))



# 4. FDG analysis

- How can the emergence of CMRs be accounted for in FDG?

Stage 3: A compositional interpretation is no longer available: the CMR has fully grammaticalized as a “plain” reflexive cxn, but is still not obligatory (reflexivity may be expressed by a single marker)

- In our sample, attested for 4 out of 5 double-marking CMRs, plus some triple-marking CMRs
- Not attested for intensifier + intensifier, probably due to rarity of this CMR type (1 language only)
- For all strategies, plain reflexivity captured at RL only

# 4. FDG analysis

- How can the emergence of CMRs be accounted for in FDG?

Stage 3: A compositional interpretation is no longer available: the CMR has fully grammaticalized as a “plain” reflexive cxn, but is still not obligatory (reflexivity may be expressed by a single marker)

a. (pro)noun + middle(-like) marker: Yurakaré (isolate)

(55) a. *latijsha shuyuj-ta-m*  
then hide-MID-2SG.S  
'then you hid yourself' (van Gijn 2006: 305)

b. *bějta-ta-y ti-manchijsha ti-buybu ka-n-dyuju-y=ja*  
see-MID-1SG.S 1SG-SELF 1SG-language 3SG-BEN-INFORM-1SG.S=CE  
'I saw myself teaching my language (on video).'

(56) IL: (C<sub>1</sub>: [ (T<sub>1</sub>) (R<sub>1</sub>) (R<sub>2</sub>) ] (C<sub>1</sub>))  
RL (f<sub>1</sub>: [ (f<sub>2</sub>: [ (f<sub>3</sub>: bėjta (f<sub>3</sub>)) (x<sub>1</sub>)<sub>U</sub> ] (f<sub>2</sub>)) (1x<sub>1</sub>)<sub>A</sub> ] (f<sub>1</sub>))

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b. (pro)noun + intensifier: Mwotlap (Austronesian)

(57) a. *Kōyō*    *mu-wuh*    *mat*    ***kōyō***.  
 3DU          PERF-hit          dead          3DU

‘They killed them / themselves / each other’

b. *Kōyō*    *mu-wuh*    *mat*    ***lok***            ***kōyō***.  
 3DU          PERF-hit          dead          INTS(“again”)          3DU

‘They killed them themselves’ (Alex François, p.c.)

(58) IL: (C<sub>1</sub>: [ (T<sub>1</sub>) (R<sub>1</sub>) (R<sub>2</sub>) ] (C<sub>1</sub>))

RL (f<sub>1</sub>: [ (f<sub>2</sub>:-wuh mat-(f<sub>2</sub>)) (x<sub>1</sub>)<sub>A</sub> (x<sub>1</sub>)<sub>U</sub> ] (f<sub>1</sub>))

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c. middle(-like) marker + intensifier: Dyirbal (Pama-Nyungan)

(59) a. *bayin-djilu*    *danggay-mari-nu*

DET-SELF            eat-INTR-NFUT

‘He is eating himself.’ (Dik 1983: 244; glosses adapted)

b. *balan*    *mugu*    *wug-ari-nu*    *diranayaju*    *minbali*    *gamangu*

DET.NOM    PTC            give-INTR-NFUT    threaten.REL.NOM    shoot.PURP    gun.INST

‘she had to give herself, having been threatened that she would be shot with the gun’ (Dixon 1973: 223)

(60) IL: (C<sub>1</sub>: [ (T<sub>1</sub>) (R<sub>1</sub>) ] (C<sub>1</sub>))

RL: (f<sub>1</sub>: [ (**refl** f<sub>2</sub>: *danggay* (f<sub>2</sub>)) (x<sub>1</sub>)<sub>A</sub> ] (f<sub>1</sub>))

# 4. FDG analysis

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d. middle(-like) marker general + middle(-like) marker specific: Upper Kuskokwim (Athabaskan-Eyak-Tlingit)

(61) a. *ts'a-ho-na-n-en-di-yut*

PREF-REFL-PREF-ASP-2SG.NOM-MID-wake

‘You woke yourself up’ (Kibrik 2001)

b. *ney'nan-ji-?enh*

‘I am hiding (myself)’ (where *-ji* is an allomorph of the middle marker *-di* above) (Andrej Kibrik, p.c.)

(62) IL: (C<sub>1</sub>: [ (T<sub>1</sub>) (R<sub>1</sub>) ] (C<sub>1</sub>))

RL: (f<sub>1</sub>: [ (refl f<sub>2</sub>: yut (f<sub>2</sub>)) (x<sub>1</sub>)<sub>A</sub> ] (f<sub>1</sub>))

# 4. FDG analysis

- How can the emergence of CMRs be accounted for in FDG?

Stage 4: Not only is a compositional interpretation no longer available, but the CMR is now obligatory (it is the only possible way to express reflexivity) in at least some lexical or morphosyntactic contexts

- Attested for all three RL reflexive types and for at least three types of combinations (plus 2 triple CMRs)
  - a. (pro)noun + intensifier
  - b. (pro)noun + middle(-like) marker
  - c. middle(-like) + middle(-like) marker
  - (d.? middle(-like) marker + intensifier: maybe in Dyirbal, for some verbs only)
- Not attested for the rare intensifier + intensifier
- Over 1/3 of Stage 4 CMRs are of the otherwise rare type middle(-like) + middle(-like) marker; probably due to these constructions having grammaticalized from CMRs of other types

# 4. FDG analysis

- How can the emergence of CMRs be accounted for in FDG?

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a. (pro)noun + intensifier: Tsakhur (Nakh-Daghestanian)

(63) *Rasul-e: wuž-e: wuž get-u.*  
rasul-ERG INTS-ERG LOG.ABS beat-PFV  
'Rasul beat himself.' (Lyutikova 2000: 229)

(64) IL: (C<sub>1</sub>: [ (T<sub>1</sub>) (R<sub>1</sub>) (R<sub>2</sub>) ] (C<sub>1</sub>))  
RL: (f<sub>1</sub>: [ (f<sub>2</sub>: get (f<sub>2</sub>)) (1x<sub>1</sub>)<sub>A</sub> (x<sub>1</sub>)<sub>U</sub> ] (f<sub>1</sub>))

- CMR obligatory for direct objects and with other-directed predicates

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b. middle(-like) marker general + middle(-like) marker specific: Ktunaxa (isolate)

(65) *hu-n*            *?iktuqu?-m-ik*  
1SG-PRED    wash-MID(ASSOC)-REFL  
'I washed myself'.

(66) IL: (C<sub>1</sub>: [ (T<sub>1</sub>) (R<sub>1</sub>) ] (C<sub>1</sub>))  
RL: (f<sub>1</sub>: [ (refl f<sub>2</sub>: ?iktuqu? (f<sub>2</sub>)) (x<sub>1</sub>)<sub>A</sub> ] (f<sub>1</sub>))

- CMR obligatory with all predicates and in all syntactic environments



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c. (pro)noun + middle(-like) marker: Sri Lanka Malay (Austronesian)

(67) *Se*     *se=ppe*     *diiri=yang*     *su-poothong*     ***ambel***  
1SG     1SG=POSS     body=ACC     past-CUT     MID.AUX  
'I cut myself.' (Nordhoff 2009: 584)

(68) IL: (C<sub>1</sub>: [ (T<sub>1</sub>) (R<sub>1</sub>) (R<sub>2</sub>) ] (C<sub>1</sub>))  
RL: (f<sub>1</sub>: [ (f<sub>2</sub>: [(f<sub>3</sub>: poothong (f<sub>2</sub>)) (x<sub>1</sub>)<sub>U</sub> ] (f<sub>3</sub>)) (1x<sub>1</sub>)<sub>A</sub> ] (f<sub>1</sub>))

- if *ambel* is left out, the pronoun must take on the emphatic clitic *jo* (intensifier); both can cooccur
- that is, combined expression of reflexivity is obligatory (PRON+MID, PRON+INTS or PRON+MID+INTS)

# 4. FDG analysis

## Summary & Conclusions

- Synchronically, all types of CMRs can be described in FDG terms
  - three semantic types of reflexives
  - further variation stems from IL/RL alignment
- Diachronically, the case of CMRs involving an intensifier grammaticalizing as “plain” reflexives is potentially problematic for FDG: **decrease in scope?**
  - This type of change is only discussed in the literature for “emphatic reflexive” pronouns, e.g. English *X-self*:
    - (pro)noun + intensifier > Type I reflexive: **IL > RL ?**  
OE: *Judas<sub>i</sub> aheng [hine<sub>i/j</sub> + selfne]* > *Judas<sub>i</sub> hang himself<sub>i/\*j</sub>* : ‘Judas hang [him himself]’ > ‘J. hang himself’
  - In Giomi (2020, 2023), it was argued that this is not a problem: Type I reflexives merely mark *coindexation*, hence the intensifier *does not* turn into a RL operator or function

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  - This study has revealed that CMRs involving an intensifier may also turn into *Type II* reflexives

a. middle(-like) marker + intensifier: IL:  $(R_1)_{\text{CONTR}}$  > RL:  $(\text{refl } f_1)$

e.g. Dyirbal *bayin-djilu danggay-mari-nu*: “he himself eats” > “he eats himself”

IL: [ (T)  $(R_1)_{\text{CONTR}}$  ] > [ (T)  $(R_1)$  ]

RL: [  $(f_1)$   $(x_1)$  ] [  $(\text{refl } f_1)$   $(x_1)$  ]

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b. intensifier + intensifier: IL: (**{Emph}** R<sub>1</sub>)<sub>CONTR</sub> > RL: (refl f<sub>1</sub>)

e.g. M. Otomí: *da hyan-sëhë-?ä*: “he himself will himself see” > “he will see himself”

IL: [ (T) ( <b>Emph</b> R <sub>1</sub> ) <sub>CONTR</sub> ]	>	[ (T) (R <sub>1</sub> ) ]
RL: [ (f <sub>1</sub> ) (x <sub>1</sub> ) ]		[ ( <b>refl</b> f <sub>1</sub> ) (x <sub>1</sub> ) ]

# 4. FDG analysis

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  - This study has revealed that CMRs involving an intensifier may also turn into *Type II* reflexives
  - But perhaps this is not a problem, if we assume that it is the CMR as a whole, not just the intensifier that turns into a Reflexive operator at the RL (?)

*looking forward to your feedback!!*