On Underspecification in Voice Systems

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Introduction

- Voice systems show a significant amount of syncretisms, i.e. different semantic Voices share the same morphological marking.
- Languages form subsets of semantic Voices subsumed under the same morphology.

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- I will look at three cases involving the same morphology for two different meanings and argue that these syncretisms should find fundamentally different analyses.

1. Germanic/Romance: *marked anticausatives* $\leftrightarrow$ *semantically reflexive verbs*
   Two fundamentally different syntactic structures involving SE lead to different semantics. The syntax of SE-anaphors is more flexible (or underspecified) than Principle A suggests.

2. Greek: *Nact-passives* $\leftrightarrow$ *Nact-anticausatives*
   Two syntactically identical but semantically different Voice heads feed the same morphological spell-out rule. This morphological rule is underspecified for semantic differences.

3. Greek: *Nact-passives* $\leftrightarrow$ *Nact-reflexives*
   The semantics of the passive Voice head in 2. are underspecified (middle Voice) and adjusted contextually.

- I leave aside dispositional middles (*This book reads well*). There exist proposals that these are parasitic on the syntax/semantics of passives (in Greek and/or Romance; Condoravdi 1989, Lekakou 2005) or marked anticausatives (in Germanic and Romance; Schäfer 2008b) and only add a dispositional operator to these basic structures.

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1 I would like to thank Artemis Alexiadou, Elena Anagnostopoulou, Marcel Pitteroff, Giorgos Spathas and Margot Vivanco for help, discussion and cooperation on the topics presented here.
1. SE-reflexives and SE-anticausatives

- Most Indo-European languages have so-called SE-reflexives (German sich, Spanish si, ...).
- SE-reflexives are involved in the formation of (i) canonical reflexive verbs, (ii) marked anticausatives (as well as (iii) generic middles and, less often, (iv) reflexive passives).

(1)  
| a. Die Mutter wusch Hans       | (canonical reflexive verb) |
|    the mother washed John      |                            |
| b. Hans wusch **sich**         |                            |
|    John washed REF             |                            |

(2)  
| a. Die Mutter öffnete die Tür  | (reflexively marked anticausative) |
|    the mother opened the door  |                            |
| b. Die Tür öffnete **sich**    |                            |
|    The door opened REF         |                            |

- The appearance of the SE-reflexive in (1b) and (2b) is typically taken to be a **syncretism**:  
  - (1b) and (2b) have different semantics.
  - Therefore, the semantic effect of the SE-reflexive should be different.

(3)  
| a. [waschen] = λxλyλe[(wash(e) ∧ AGENT(e, y) ∧ PATIENT(e, x))] |
| b. [sich][[waschen]] = λxλe[(wash(e) ∧ AGENT(e, x) ∧ PATIENT(e, x))] |

--> The SE-reflexive in (1b/3b) acts as a locally bound variable (or a reflexivizer).

(4)  
| a. [causative open] = λx λy [(x) CAUSE [BECOME [(y) open]]] |
| b. [anticausative open]  =   λy [BECOME [(y) open]] |

--> The SE-reflexive in (2b) somehow reflects the absence of an external argument as well as the CAUSE component in anticausatives (4b). It seems to semantically reduce a transitive entry or verb (e.g. Grimshaw 1981, Reinhart 2002, Steinbach 2002):

(4')  
| a. λx λy [(x) CAUSE [BECOME [(y) STATE]]] |
| b. se --> Ø λy [BECOME [(y) STATE]] |

A consequence of (4a/b): The truth of a causative event entails the truth of a corresponding anticausative event, but not the other way around.

(5)  
John opened the door --> The door opened

**Question:** What is the relation between the two uses of SE-reflexives? Since they show up in many languages, this is arguably not homonymy of two fundamentally different operators.

**Problem:** The derivation from (4'a) to (4'b) violates MONOTONICITY (cf. Kiparsky 1982, Koontz-Garboden (K-G) 2007, 2009):

(6)  
**Monotonicity Hypothesis:**
Word-formation operations add, but do not remove, meaning.
1.1 Anticausativization is not Reflexivization (Schäfer & Vivanco 2013)

1. Underspecified external argument condition (UEAC):
   Transitive verbs that cannot form anticausatives restrict their subjects to *agents* or *agents* and *instruments* and disallow *causers*. Transitive verbs that allow anticausative formation have thematically underspecified external arguments. (Levin & Rappaport Hovav 1995, Reinhart 2002; AAS to appear for further discussion)

2. a. The terrorist/*the disease/*the bomb murdered the president. (agent)
   b. *The president murdered.

3. a. The baker / the knife / *the lightning cut the bread. (agent/instrument)
   b. *The bread cut.

4. a. The vandals/the rocks/the storm broke the window. (agent/instr./causer -> effector)
   b. The window broke.

The reflexivization analysis of marked anticausatives (RAoAC; Koontz Garboden 2009 following ideas in Chierchia 2004) assumes that there is no syncretism but that actually the same semantic operator derives (11b) from (11a) and (12b) from (12a): SE is a Reflexivizer

5. a. La madre lava el niño
   the mother washed the boy
   (pat)
   b. El niño se lavó
   the boy REFLEX washed
   (pat)

6. a. Juan rompió el vaso
   Juan broke the glass
   (causer)
   b. El vaso se rompió
   the glass REFLEX broke
   (causer)

   - The RAoAC needs only one entry for SE-reflexives (a reflexivizer, cf. (13)).
   - The RAoAC does not violate MONOTONICTY.
   - The RAoAC DERIVES the UAEC (while other accounts have to stipulate it)
     ▪ Alternating verbs like open or break assign to their external argument the 0-role 'effector', which is underspecified for the agent/causer contrast.
     ▪ The theme of change-of-state verbs is typically inanimate.
     ▪ Under reflexivization, the external and internal 0-role are assigned to the same entity.
     ▪ It is possible only if the ontological properties of this entity are compatible with both roles; only the effector role (not the agent role) can be assigned to inanimate entities.

7. \[se] = \lambda x \lambda \nu [\text{\textbf{?}}(\nu, x)]

8. a. [lavar] = \lambda x \lambda y \lambda e [\text{wash}(e) \land \text{AGENT}(e, y) \land \text{PATIENT}(e, x)]
   b. [se][lavar] = \lambda x \lambda e [\text{wash}(e) \land \text{AGENT}(e, x) \land \text{PATIENT}(e, x)]

9. a. [romper] = \lambda x \lambda y \lambda s \lambda e [\exists \nu [\text{CAUSE}(\nu, e) \land \text{EFFECTION}(\nu, y) \land \text{BECOME}(e, s) \land \text{THEME}(s, x) \land \text{broken}(s)]^2
   b. [se][romper] = \lambda x \lambda s \lambda e [\exists \nu [\text{CAUSE}(\nu, e) \land \text{EFFECTION}(\nu, x) \land \text{BECOME}(e, s) \land \text{THEME}(s, x) \land \text{broken}(s)]^2

---

\(^2\) \nu stands for eventuality, which can be either a state or an event proper.
A consequence of the RAoAC: The truth of a causative does not entail the truth of the corresponding (reflexively marked) anticausative.

(16) John broke the vase  \(-/->\)  The vase broke REFL

K-G sees (16) confirmed in examples such as (17) where a reflexively marked anticausative is negated while its transitive counterpart is asserted:

   ‘What happened, child?’ ‘The glass broke.’
   c. Father: No se rompió sino que lo rompiste tú!
   ‘The glass didn’t break—you broke it!’

"... in [17c] the truth of the sentence headed by the derived inchoative is explicitly denied, at the same time that the truth of a sentence headed by a causative is asserted, showing that contrary to what is widely assumed, it is not the case that a sentence headed by a causative entails a sentence headed by the corresponding inchoative". (K-G 2009:103)

K-G's idea: (17c) denies that the undergoer of the change of state (COS) was also the cause of the COS. It is consistent with a situation in which there does exist a COS, but in which there exists no eventuality v with an EFFECTOR x that is also the Theme of the change e.

Question: But doesn't (17) involve "Metalinguistic Negation" (MN)?


A. Metalinguistic negation does not license negative polarity items (NPIs)

(18) a. John didn’t manage to solve SOME of the problems - he managed to solve ALL of them.
   b. *John didn’t manage to solve ANY of the problems - he managed to solve ALL of them.

B. Claim: Spanish ningún ‘any.neg’ is an NPI, as it is not licensed by MN.

(19) a. No consiguió resolver ALGÚN problema - consiguió solucionar-los todos!
   no managed solve some problem managed solve-them all
   ‘S/he didn’t manage to solve SOME problem - s/he managed to solve them all!’
   b. *No consiguió resolver NINGÚN problema - consiguió solucionarlos todos!
   no managed solve any.neg problem managed solve-them all
   ‘S/he didn’t manage to solve ANY of the problems - s/he managed to solve them all!’

C. Test case: ningún is licensed in a context like (17), as shown in (20). Therefore, (17/20) do not involve MN. What is negated must be the existence of a causing event in which the glasses are the effector of their own change of state.

(20) No se rompió ningún vaso; los rompió Andrés.
   no se broke any.neg glass them broke Andrew
   ‘Any glass didn’t break; Andrew broke them.’
   (lit: Any glass didn’t break itself; Andrew broke them all.)
Our answer: YES, (17) does involve metalinguistic negation (from A + B + C + D).

A: Metalinguistic negation involves scalability.
It negates the assertability of an utterance by means of removing the upper-bounding conversational implicature associated with scalar predications.
Such implicatures are driven by Grice's maxim of Quantity (be as informative as required).

(21) a. It isn't warm, it is hot.
    b. Some men aren't chauvinists -- All men are chauvinists
    c. Around here we don't LIKE coffee -- we LOVE it.
    d. Max doesn't have three children -- he has four.

B: ningún is not an NPI but a negative quantifier, which also triggers negative concord (e.g., Bosque 1980, de Swart 2010).
A negative quantifier (cf. English no) differs from an existential one (cf. English some) in that it does not trigger, by itself, any implicature that could be metalinguistically negated in (19).

ningún is acceptable in (22) which clearly involves metalinguistic negation.
Here, the verb-pair makes available an upper-bounding implicature (only dislike vs. even hate).
Anticausative-causative pairs do exactly the same under the semantics in (4a, b).

(22) Luisa no odia a ningún niño, los aborrece a todos
    Luisa no dislikes to any/no children, them hates to all
    'Luisa dislikes no child; she hates them all.'

C: Real NPIs like SIQUIERA (not even) are out in (22) (cf. 23a) as well as in anticausative/causative pairs (cf. 23b). In reflexive/disjoint pairs, NPIs are licensed (cf. 23c):

(23) a. #Luisa no odia siquiera a los niños, los aborrece
    Luisa no dislikes not.even to the children, them hates
    'Luisa dislikes no child, she hates them all.'
    b. #El vaso no se rompió siquiera, tú lo rompiste
    The glass no REFLECTIVELY broke not.even you it broke
    c. El niño no se lavó siquiera, lo lavó la niñera
    The kid no REFLECTIVELY washed not.even him washed the nanny

D: Further support for MN in (17): Conjunctions like but can diagnose MN (Horn 1985)
But has a concessive (but1) and a corrective (but2) use and both are overtly distinguished in German and Spanish (aber/pero vs. son dern/sino que).
Thus, while 'logical' negation allows but1 and but2, 'metaling. negation' only licenses but2.

(24) a. Er ist nicht reich {aber/son dern} er ist intelligent
    He is not rich but1/but2 he is intelligent
    ("logical negation")
    b. Es ist hier nicht warm {#aber/son dern} es ist heiss
    It is here not warm but1/but2 it is hot
    ("metalinguistic negation")

• The test confirms that (22), indeed, involves MN (cf. 25).

(25) Luisa no odia a ningún niño, {#pero / sino que} los aborrece a todos.
    Luisa no dislikes to any/no children but1 / but2 that them hates to all
• The test shows that reflexively marked anticausatives involve MN (26a).
• They behave thereby exactly as other clearly inchoative predicates (unmarked anticausatives (26b), non-alternating unaccusatives (26c) and combinations of a copula with an adjective (26d))
• Canonically reflexive verbs, on the other hand, involve logical negation (26e).

(26) a. El vaso no se rompió, but1 / but2 that you it broke  
   The glass no refl broke but1 / but2 that you it broke  
   {pero / sino que} tú lo rompiste  
   {pero / sino que} tú lo rompiste.

b. Los precios no aumentaron, but1 / but2 that you them increased  
   The prices no increased but1 / but2 that you them increased  
   {pero / sino que} tú los aumentaste.  
   {pero / sino que} tú los aumentaste.

c. El rosal no floreció, but1 / but2 that you it made blossom  
   The rosebush no blossomed but1 / but2 that the gardener it made blossom  
   {pero / sino que} el jardinero lo hizo florecer  
   {pero / sino que} el jardinero lo hizo florecer.

d. El niño no se puso enfermo, but1 / but2 that you him infected  
   The kid no refl get sick but1 / but2 that you him infected  
   {pero / sino que} tú lo infectaste  
   {pero / sino que} tú lo infectaste.

e. El niño no se lavó, but1 / but2 that him washed the nanny  
   The kid no refl washed but1 / but2 that him washed the nanny  
   {pero / sino que} la niñera lo lavó  
   {pero / sino que} la niñera lo lavó.

• Complex anaphors involving intensifiers (e.g. Spanish sí mismo or German selbst) only have a reflexive construal.
• While anticausatives normally reject a semantically reflexive construal for conceptual reasons (cf. 'The glass broke itself'), in specific contexts, in particular if the nonsensical construal is negated, it becomes available as the licensing of but1 and but2 in (27a) shows.
• But (27a) has nothing to do with anticausativization because unmarked anticausatives enter the reflexive construal under such conditions, too (27b) (cf. 28b).

(27) a. El vaso no se rompió a sí mismo, but1 / but2 that you itself logically, {pero/sino que} tú lo rompiste.  
   The glass no refl broke to himself logically but1/but2 that you it broke  
   lógicamente, {pero/sino que} tú lo rompiste. 
   lógicamente, {pero/sino que} tú lo rompiste.

b. Los precios no se aumentaron a sí mismos, logically, {pero/sino que} Juan los aumentó but1/but2 that Juan them increased  
   The prices no refl increased to themselves logically but1/but2 that Juan them increased  
   lógicamente, {pero/sino que} Juan los aumentó  
   lógicamente, {pero/sino que} Juan los aumentó.

(28) a. Juan aumentó los precios  
   Juan increased the prices  
   Juan aumentó los precios

b. Los precios (*se) aumentaron  
   The prices (REFL) increased  
   Los precios (*se) aumentaron

=> (17) involves MN. The semantics of the causative alternation are (roughly) as in (4a, b).

=> The use of SE-reflexives in canonical reflexive structures and in anticausatives is a case of syncretism: same form, different function.

1.2 The thematic properties of SE-reflexives in anticausative vs. reflexive verbs

• As shown in 1.1, SE-anticausatives lack an overt external effector argument.
• SE-anticausatives also lack an implicit external effector argument, as shown in (29-31) by the 'by-itself test'.

'By itself' (AAS to appear): "By using anaphoric by itself, a speaker denies that anybody or anything can be identified that (directly or indirectly) caused the associate of by itself to participate in the event expressed by the predicate."

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3 The by itself test gives the same result in all languages with marked anticausatives with one exception. In German, the situation is different as 'von selbst' (by itself) does not agree with its semantic associate and, therefore, can, more or less marginally, be related to the implicit argument of passives.
a. John broke the vase by himself
b. *The vase was broken by itself
c. The vase broke by itself

(30) a. *El barco fue hundido por sí solo
     the boat was sunk by SELF only
b. El barco se hundió por sí solo
     the boat REFL sank by SELF only

(31) Die Tür öffnete sich von selbst
     the door opened REFL by self

- The by-itself test differs from most other tests diagnosing implicit arguments in that it is not restricted to agents (AAS to appear):

(32) A: But you didn't take care of the trampoline.
    B: That's not true! I did everything I was supposed to but the trampoline blew away by itself.
    B': ?? That's not true! I did everything I was supposed to but the trampoline was blown away by itself.

=> SE-anticausatives in Romance/Germanic are **semantically intransitive/unaccusative**.

=> SE-anticausatives involve **one thematic argument** (a nominative theme)

=> The **SE-reflexive in anticausatives does not carry a 0-role** (at least not on its own).

• As shown in 1.1, **semantically reflexive verbs involve two 0-roles** (agent & theme)

**Question**: How are the two roles realized?

• Doron & Rappaport Hovav (2009) provide a number of arguments against "**0-Role Bundling**" (Reinhart & Siloni 2005). I apply one of their tests:

• If both 0-roles were assigned to the nominative DP in reflexive structures, it should be impossible to focus only one of the two 0-roles independently of the other.

• This prediction turns out to be wrong. Both the agent and the theme can be focused independently in a reflexive context.

(31) Jean-Pierre s'est dénoncé lui-même.
     Jean-Pierre REFL is denounced himself
(i) ‘Jean-Pierre denounced himself, it was not others who denounced him.’
(ii) ‘Jean-Pierre denounced himself, he did not denounce others.’

(32) Morgens wäscht sie sich immer/erst mal selber.
     at.morning washes she REFL always/first-of-all self
(i) agent focus: She washes herself, no-one else washes her. (She is a disabled patient.)
(ii) theme focus: She washes herself, she washes no-one else. (She is a nurse.)

=> **Reflexive verbs** in Romance/Germanic are **semantically transitive**.

=> **Reflexive verbs** in Romance /Germanic are **syntactically transitive** (see also fn. 4).

=> The **SE-reflexive in reflexive verbs bears a 0-role**. (Which one?)
1.3 The syntax of SE-anticausative and SE-reflexive verbs (Schäfer 2008, 2012)


---> German SE-reflexives originate in DP-positions and cannot be analyzed as functional v/Voice-heads even if they act as Voice markers. The null hypothesis assumes the same for clitic languages.4

* Auxiliary selection: marked anticausatives select ‘have’ while unmarked anticausatives and pure unaccusatives select ‘be’. (see fn. 4 for Romance SE-reflexives triggering be).

(33) a. Die Tür <b>hat</b> sich geöffnet  
    the door has REFLEX opened

b. Die Tür <b>ist</b> aufgegangen  
The door is opened

* Free word order: The reflexive pronoun is, in principle, as flexible as ordinary noun phrases. In Romance, clitic movement masks the DP-nature of SE-reflexives.

(34) dass (<i>langsam</i> <b>sich</b> (<i>langsam</i>) die Rolle der Mutter (<i>langsam</i> <b>sich</b> (<i>langsam</i>) ändert
that (slowly) (REFL) (slowly) the role of-the mother (slowly) (REFL) (slowly) changes

‘That the role of the mother slowly changes’

* Case: Although SE-reflexives often lack an overt case paradigm (but see Icelandic and Romanian), they are clearly case marked (see e.g. Fanselow 1991, Schäfer 2008, 2012). This is revealed in the context of 1st/2nd person themes or in case copying constructions:

(35) a. Du <b>hast</b> dich verändert  
You.NOM have you.ACC changed

b. weil Hans <b>sich</b> als einen Superhelden zeichnet.
   as John.NOM REFLEX.ACC as a.ACC superhero paints
   ‘because John paints (a picture of) himself as a superhero.’

=> Reflexive anticausatives are <b>semantically intransitive but syntactically transitive</b>.

=> Their full DP is a theme.

=> The SE-reflexive is a syntactic argument but lacks a θ-role.

=> Semantically reflexive verbs are <b>syntactically and semantically transitive</b> (cf. 31, 32)

Questions: (i) Which of the two syntactic arguments is internal and which one is external?
(ii) Is the difference between thematic and non-thematic SE-reflexives syntactically reflected?

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4 In German, syntactic transitivity always triggers have-selection. In Romance, SE-reflexives trigger be-selection even though they are syntactically associated with DP/argument positions. This difference as well as the alleged differences in transitivity discussed in Kayne (1975) cannot follow from different underlying syntactic structures (see also Doron & Rappaport Hovav 2009) but must follow from different derivational details. I suspect that they result from clitic movement (e.g. Anagnostopoulou 2005) of SE-reflexives and the fact that these are unvalued for phi-features (see below).
**First steps:**

(i) Syntactic and semantic transitivity are computed in Voice.

(ii) Two syntactic options are, in principle, available

\[(36)\quad a.\quad [TP\ T [\text{Voice}P\ DP_{\text{NOM}}\ \text{Voice} [\text{vp} \ \text{SE}_{\text{ACC}}]]] \quad b.\quad [TP\ T [\text{Voice}P\ \text{SE}_{\text{ACC}}\ \text{Voice} [\text{vp} \ \text{DP}_{\text{NOM}}]]]\]

**Question:** Can we test empirically the base order of SE-reflexive and DP\text{NOM}?

**Answer:** Yes, (cf. A, B, C; Schäfer, 2008 and Pitteroff & Schäfer, to appear)\(^5\)

--> (36a) reflects semantically reflexive verbs,  (36b) reflects SE-anticausatives.

**A. Information structure and basic word order** (e.g. Lenerz 1977): The acceptable orders of a rhematic/focussed DP\text{DAT} and a topical DP\text{NOM} differ in active and passive contexts.

"Don't scramble a focused internal argument!"

(37) Transitive verbs: \((\text{NOM}_{\text{TOP}})\ \text{DAT}_{\text{FOC}}\ (*\text{NOM}_{\text{TOP}})\quad --\quad \text{base order: NOM < DAT}\)

(38) Passive/unaccusative: \((\text{NOM}_{\text{TOP}})\ \text{DAT}_{\text{FOC}}\ \text{NOM}_{\text{TOP}})\quad --\quad \text{base order: DAT < NOM}\)

(39) **SE-anticausative:** \((\text{NOM}_{\text{TOP}})\ \text{DAT}_{\text{FOC}}\ \text{NOM}_{\text{TOP}})\quad --\quad \text{base order: DAT < NOM}\)

Q: Wem öffnet sich heute noch die Tür zum Reichtum? Whom\text{DAT} opens \text{REFL} today yet the\text{NOM} door to the wealth 'Who can become wealthy these days?'

A: Heute öffnet sich (die Tür zum Reichtum) today opens \text{REFL} the\text{NOM} door to the wealth nur noch dem Zocker (die Tür zum Reichtum). only yet the\text{DAT} gambler the\text{NOM} door to the wealth 'During the financial crisis, only a gambler can become wealthy.'

(40) **sem. reflexive:** \((*\text{DAT}_{\text{FOC}})\ \text{NOM}_{\text{TOP}}\ \text{DAT}_{\text{FOC}})\quad --\quad \text{base order: NOM < DAT}\)

Q: Wem vertraut sich der Arbeitnehmer heute noch an? Whom\text{DAT} entrusts \text{REFL} the\text{NOM} employee today yet on 'Whom does the employee confide in these days?'

A: Heute vertraut sich (der Arbeitnehmer) nur noch today trusts \text{REFL} the\text{NOM} employee only yet dem Psychologen (*der Arbeitnehmer) an. the\text{DAT} psychologist the\text{NOM} employer on 'Nowadays, the employer only confides in the psychologist.'

**B. Wh-indefinites** cannot be scrambled (e.g. Haider 1993).

(37) Transitive verbs: \((\text{NOM}_{\text{TOP}})\ \text{wh}_{\text{DAT}}\ (*\text{NOM}_{\text{TOP}})\quad --\quad \text{base order: NOM < DAT}\)

(38) Passive/unaccusative: \((\text{NOM}_{\text{TOP}})\ \text{wh}_{\text{DAT}}\ \text{NOM}_{\text{TOP}})\quad --\quad \text{base order: DAT < NOM}\)

\(^5\) See Schäfer, 2008, 2012 and Pitteroff & Schäfer, to appear, for more tests and a more detailed discussion of unaccusativity diagnostics applied to marked anticausatives/middles and semantically reflexive verbs. Most tests build on properties of German (e.g. scrambling, nominatives can stay inside the \text{vP}; Haider 1993, Wurmbrand 2006). The null hypothesis is, however, that the theoretical results hold in other languages with SE-reflexives as well.
(42) **SE-anticausative:** \((\text{NOM}) \text{WH}_{\text{DAT}}(\text{NOM})\)  
\(\rightarrow\) base order: \(\text{DAT} < \text{NOM}\)  
\(\text{weil sich (der Gewinn) wem (der Gewinn) verdoppelte.}\)  
because REFL the\(\text{NOM}\) profit someone\(\text{DAT}\) the\(\text{NOM}\) profit doubled  
'because the profit of someone doubled.'

(43) **sem. reflexive:** \((\text{NOM}) \text{WH}_{\text{DAT}}(*\text{NOM})\)  
\(\rightarrow\) base order: \(\text{NOM} < \text{DAT}\)  
\(\text{weil sich (der Arbeitnehmer) wem (*der Arbeitnehmer) anvertraute.}\)  
because REFL the\(\text{NOM}\) employee someone\(\text{DAT}\) the\(\text{NOM}\) employee entrusted  
'because the employee entrusted himself to someone.'

- **The weak/strong reading of indefinites and bare plurals:** The first VP-border is the domain of existential closure (a.o., Kratzer 1989, DeHoop 1992, Diesing 1992). An NP that is scrambled out of the VP loses its existentially bound, weak reading.

(44) **Transitives**  
\(\rightarrow\) base order: \(\text{NOM} < \text{ACC}\)  
\(\text{a. dass Hans einen Fisch bestellte}\)  
\(\text{that Hans a fish ordered}\)  
\(\text{(specific, existential)}\)

\(\text{b. dass einen Fisch Hans bestellte}\)  
\(\text{‘that Hans ordered a fish’}\)

\(\text{c. dass ja Max Primaballerinas bewundert}\)  
\(\text{that PRTL Max prima ballerinas admires}\)

\(\text{d. dass ja Primaballerinas Max bewundert}\)  
\(\text{‘that Max admires prima ballerinas’}\)

(45) **SE-anticausative:** \((\text{sich}) \text{DP}_{\text{weak}}(*\text{sich})\)  
\(\rightarrow\) base order: \(\text{sich} < \text{NOM}\)  
\(\text{a. weil sich eine Tür öffnete}\)  
because REFL a door opened

\(\text{b. weil eine Tür sich öffnete}\)  
because a door REFL opened

\(\text{c. weil sich Türen öffnen und schließen sollten}\)  
because REFL doors open and close should

\(\text{d. weil Türen sich öffnen und schließen sollten}\)  
because doors REFL open and close should

(46) **sem. reflexive:** \((\text{sich}) \text{DP}_{\text{weak}}(\text{sich})\)  
\(\rightarrow\) base order: \(\text{NOM} < \text{sich}\)  
\(\text{a. als eine Frau sich anmeldete}\)  
when a woman REFL registered

\(\text{b. als sich eine Frau anmeldete}\)  
when REFL a woman registered

\(\text{c. weil Kinder sich mit Schnee bewarfen}\)  
because children REFL with snow on-threw

\(\text{d. weil sich Kinder mit Schnee bewarfen}\)  
because children REFL children with snow on-threw

\(\Rightarrow\) **SE-reflexive verbs** \(\Rightarrow\) **SE-anticausatives**

\(\Rightarrow\) **SE has a thematic role (theme)** \(\Rightarrow\) **SE lacks a thematic role**

(47) \[a. \; [T \; [\text{Voice} \; \text{DP}_{\text{NOM}} \; \text{Voice} \; [\text{VP} \; \text{v} \; \text{SE}_{\text{ACC}}]]]\]  
\[b. \; [T \; [\text{Voice} \; \text{SE}_{\text{ACC}} \; \text{Voice} \; [\text{VP} \; \text{v} \; \text{DP}_{\text{NOM}}]]]\]

\(\Rightarrow\) **Complies with Principle A** \(\Rightarrow\) **Violates Principle A & Case Theory**
The derivation of semantically reflexive verbs:


- **An anaphoric variable is underspecified for φ-features**: it is a set of a categorial D-feature and unvalued φ-features \{D, uφ\} (cf. Burzio 1991, Kratzer 2009, Tucker 2010).

- **The variable is active, and, therefore probes the tree upwards** for a c-commanding antecedent (on upward-probing see Baker 2008, Wurmbrand to appear, Bjorkman 2011 or Zeijlstra 2012).

- **This **AGREE**-relation is evaluated at the interfaces** to compute the morphological form and the semantic value of the variable.

(48) a. daß Hans sich wäscht (also: jean se lave)
   b. TP
       T VoiceP
       DP_{(P,N,G)} Voice'
       Voice_{(uP, uN, uG)} vP
       v SE_{(uP, uN, uG)}

- **Agreement**: Voice heads (Kratzer 1996) come with a set of unvalued φ-features to be valued by the closest DP under m-command.\(^6\) (T takes up this information; Legate 2005)

- **Case**: The valuation of Voice drives a dependent case approach:

(49) a. A DP is realized at PF with dependent case (ACC) if a different DP has valued the accessible phase head (Voice) via **AGREE**.
   b. A DP that is not realized with dependent case appears with default case.

---

\(^6\) (i) **Agree**: (Müller 2004/2009)
   α agrees with β with respect to a feature bundle Γ iff (a), (b), and (c) hold:
   a. α bears a probe feature [*F*] in Γ, β bears a matching goal feature [F] in Γ.
   b. α m-commands β.
   c. There is no δ such that (i) and (ii) hold:
      (i) δ is closer to α than β.
      (ii) δ bears a feature [F] that has not yet participated in Agree.

Müller (2004: 4): "δ is closer to α than β if the path from δ to α is shorter than the path from β to α. The path from X to Y is the set of categories Z such that (a) and (b) hold: (a) Z is reflexively dominated by the minimal XP that dominates both X and Y. (b) Z dominates X or Y. ... The length of a path is determined by its cardinality. It follows that the specifier and the complement of a head qualify as equally close to the head; and that the specifier of a head is closer to the head than a category that is further embedded in the complement of the head."
The derivation of reflexively marked anticausatives:

- **Voice agrees with the variable but**, since both have the same unvalued features, no valuation takes place (AGREE as feature sharing, e.g. Frampton & Gutmann 2000, Pesetsky & Torrego 2007).

- **Voice further probes** its m-command domain until it agrees with the object DP.

- **This DP values** the φ-features of Voice as well as the φ-features of the variable.

- **At PF:** The DP gets NOM due to (49b), the SE-reflexive gets ACC due to (49a).

(50) a. als sich die Tür öffnete (also: El vaso se rompió)
    when REFL the door opened
b. TP
   T      VoiceP
      SE{uP, uN, uG} Voice'
          vP
    Voice{uP, uN, uG} v
      RootP
   DP{P, N, G}  √Root

- **The variable survives the derivation** (all features are valued) although it does not have a c-commanding DP-antecedent.

- **It cannot be translated into a variable at CI but receives a spell-out at PF.**

- **It lacks a denotation** and, therefore, **does not realize a thematic role.**

- **It remains expletive.** No external argument is introduced into the semantics (cf. also Wood (2012, to appear) for a DM framework where syntax gets interpreted at CI in a way similar to PF).

--> We derive a transitive syntax with unaccusative semantics.

**Comment 1:** Causatives and anticausatives do not differ in event complexity (Kratzer 2005, AAS 2006, to appear, Schäfer 2008, 2012b). Otherwise marked and unmarked anticausatives (the latter lack expletive Voice) should differ in event complexity and, in turn, in meaning.

(i) John opened the door: \( λe∃s [\text{agent}(e, \text{John}) \& \text{open}(s) \& \text{theme}(s, \text{door}) \& \text{CAUSE}(e,s)] \)
(ii) The door (REFL) opened: \( λe∃s [\text{open}(s) \& \text{theme}(s, \text{door}) \& \text{CAUSE}(e,s)] \)

**Comment 2:** Movement of the theme should not derive a semantic binding relation with the anaphor in Spec,VoiceP. Since VoiceP is a phase, movement has to lead through the edge/outer specifier of VoiceP. **An outer specifier cannot semantically bind an inner specifier,** as this is a case of empirically well-motivated 'Lethal Ambiguity' (McGinnis 2004).
A typology of Voice (Schäfer 2008, AAS to appear): Subsets of features for syntactic and thematic transitivity (D-feature and thematic-feature)

(51)  

a. thematic active Voice:  
\[
\begin{align*}
\text{VoiceP} \\
\text{DP} & \text{ Voice'} \\
\text{Voice} \ (\text{agent, D})
\end{align*}
\]

b. thematic passive Voice:  
\[
\begin{align*}
\text{VoiceP} \\
\text{Voice} \ (\text{agent, c}) & \ldots \\
\text{Voice} \ (\text{agent, D})
\end{align*}
\]

c. non-thematic (expletive) active Voice:  
\[
\begin{align*}
\text{VoiceP} \\
\text{DP}_{\text{EXPL}} & \text{ Voice'} \\
\text{Voice} \ (\text{c, D})
\end{align*}
\]

d. non-thematic (expletive) passive Voice:  
\[
\begin{align*}
\text{VoiceP} \\
\text{Voice} \ (\emptyset) & \ldots \\
\text{Voice} \ (\emptyset, D)
\end{align*}
\]

• German, Spanish, English and Greek have (51a) (transitives, unergatives)
• (English, German, Spanish analytic passives involve a higher passive head (Bruening 2012, AAS, to appear))
• German and Spanish have (51c) (SE-anticausatives)
• Greek has (51b, d) (section 2)

2. NACT-passives and NACT-anticausatives in Greek

• Marked anticausatives show the same non-active (NACT) morphology as synthetic passives. Note that verbs undergoing the causative alternation often lack a passive as the impossibility of agent-by-phrases shows.

(52)  

a. To pani skis-tike (*apo ti Maria) (anticausative)  
The cloth tore-NACT by the Mary  
‘The cloth tore (by itself)’

b. O Janis kajtori-thike (apo ti Maria) (passive)  
the John accused-NACT by the Mary  
‘John was accused (by Mary)’

• Is the identical morphological marking of passives and anticausatives a syncretism?
• Kalluli 2007: No. Anticausatives are a special case of passives. They differ from ordinary passives in that they restrict their implicit argument to causers and disallow agents.
• Across languages, anticausatives reject agentive by-phrases but allow causer-PPs. In Greek and Albanian, causer-PPs are introduced by the same preposition as passive by-phrases.

(53)  

To pani skis-tike (apo tin kategida)  
The cloth tore-NACT by the storm  
‘The cloth tore (from the storm)’

Problem 1: We find, across languages, causer-PPs with marked and unmarked anticausatives (and with causatives). But passives always show morphological marking (Haspelmath 1990).
The clothes dried—Act by the sun

‘The clothes dried by the sun’

Problem 2: The by itself test shows that passives but not anticausatives involve an implicit external argument.

(55) a. I porta anikse (apo moni tis) (unmarked anticausative)
The door opened—Act by alone-sg hers
‘The door opened by itself’
b. To pani skis-tike (apo mono tu) (marked anticausatives)
The cloth tore—NACT by alone-sg its
‘The cloth tore by itself’
c. O Janis katijori-thike (*apo monos tu) (passive)
the John accused—NACT by alone-sg its
‘John was accused (by Mary)’

Note: Causer-PPs cannot be analyzed as Passive by-phrases. The latter take up an implicit argument; the former do not. According to AAS 2006, to appear, Schäfer 2012, they modify a causative event present in causatives as well as anticausatives (inchoatives).

=> The NACT-morphology in anticausatives and passives involves a syncretism:

• There is no indication for a syntactic difference.

(56) Voice -> Voice[NonAct]/ ___No DP specifier

--> thematic passive Voice (51b) and expletive passive Voice (51d) get the same spell-out.

3. NACT-passives and NACT-reflexives: Middle Voice (Spathas, Alexiadou & Schäfer ms.)

• NACT-morphology can also appear in the context of semantically reflexive predicates (agent = theme).

(57) a. O Janis pli-thike apo ti daskala (passive)
the John washed—NACT by the teacher
‘John was washed by the teacher’
b. O Janis pli-thike (reflexive/passive)
the John washed—NACT
‘John washed/John was washed’

(58) a. O Janis katijori-thike (passive)
the John accused—NACT
‘John was accused’
b. O Janis afto-katijori-thike (reflexive)
the John self-accused—NACT
‘John accused himself’
Verbs which allow a reflexive interpretation with NACT without the prefix afto- are naturally reflexive (Embick 2004).

Naturally Reflexive Verbs come from a number of semantic subclasses which all represent events that carry “... inherent in their meaning [...] the lack of expectation that the two semantic roles they make reference to will refer to distinct entities ...” (Kemmer 1993, 58).

Verbs that need afto- in addition to NACT are naturally disjoint.

Naturally Disjoint Verbs carry the expectation that the two semantic roles they make reference to will refer to distinct entities.

3.1 Ambiguity or vagueness?

Question: Is the use of NACT-morphology in passives and reflexive verbs a syncretism?

Hypothesis: Yes. The semantics of passives and reflexivize verbs are very different, it seems.

• According to (56), the NACT-morphology involved in reflexive verbs reflects a Voice-head without a specifier (unaccusative syntax for reflexive verbs).
• Assume that passives involve a 'passive Voice head' and reflexive verbs involve a 'reflexive Voice head' (cf. Ahn 2012, and to a certain extent Embick 2004).
• Strings as (57b) should be ambiguous under ambiguity tests (Zwicky & Sadock 1975)

(59) a. [PASSIVE VOICE Passive Voice [VP v [\\v \phli [DP o Janis]]]]
   b. [REFLEXIVE VOICE Reflexive Voice [VP v [\\v \phli [DP o Janis]]]]

• Conjunction tests:

(60) a. The colors are light.     b. The feathers are light.
   c. #The colors and the feather are light.

• But surprisingly, the passive and the reflexive reading can be conjoined:

(61) Scenario: John was washed by his mother, Mary washed herself.
    O Janis ke i Maria pli-thikan
    the John and the Mary washed-NACT.3PL
    ‘John was washed and Mary washed.’

(62) Scenario: John was accused by Helen, Mary accused herself.
    O Janis ke i Maria katijori-thikan.
    the John and the Mary accused-NACT.3PL
    ‘John was accused and Mary accused herself.’

(63) Scenario: John was washed by his mother, Mary washed herself.
    a. #John and Mary were washed.     b. #John and Mary washed.

(64) Scenario: John was accused by Helen, Mary accused herself.
    a. #John and Mary were accused.     b. #John and Mary accused themselves.
• Ellipsis test:

(65) Scenario: John went to the river bank, Mary went to the financial institution.
    #John went to the bank and Mary did too.

• The passive and the reflexive reading allow an antecedent-ellipsis relation. If ellipsis is subject to a syntactic identity condition, which is sensitive to the content of Voice (Merchant 2013), the elided phrase must have the same Voice head as its antecedent (see also Alexiadou & Doron 2012).

(66) Scenario: John was washed by his mother, Mary washed herself.
    O Janis pli-thike ke i Maria episis.
    the John washed-NACT.3SG and the Mary too
    ‘John was washed and Mary washed herself too.’

(67) Scenario: John was accused by Helen, Mary accused herself.
    O Janis katijori-thike ke i Maria episis.
    the John accused-NACT.3SG and the Mary too
    ‘John was accused and Mary accused herself too.’

(68) Scenario: John was washed by his mother, Mary washed herself.
    a. # John was washed, because Mary didn’t.
    b. # Mary washed, because John was.
    c. # Mary washed herself, because John was.

(69) Scenario: John was accused by Helen, Mary accused herself.
    a. # John was accused, because Mary didn’t.
    b. # Mary accused herself, because John was.

=> If the same Voice head with the same features is involved, we do not face a syncretism.

Question: But how can we derive the two different meanings?
Related Question: What is afto-?

3.2 Afto- is not a reflexivizer: evidence from correction

Traditional answer: A reflexivizer (while naturally reflexive verbs have a reflexive lexical entry, naturally disjoint verbs must reflexivize their transitive entry).

• We compare the properties of reflexivizers, bound SE-reflexives and afto- in corrective contexts involving a negation and focus on the reflexivizer/SE-anaphor.
• Spathas (2010, 2011) shows that focused anaphoric herself generates two types of alternatives:

(70) a. John praised himSELF.
    b. {John praised x | x in De}
    c. {x praised John | x in De}

• Therefore, the negated sentence in (71a) with focus on the reflexive allows two corrections.

(71) a. John did not praise himSELF.
    b. He praised MARY.
    c. MARY praised him.
• Focused SE-reflexives (bound variables) like German *sich* on the other hand, only give rise to one felicitous correction:

(72)  a. Hans hat nicht SICH gelobt.
    John has not *sich* praised
    ‘John did not praise himself.’
  b. Er hat MARIA gelobt. (object alternative)
    he has Mary praised
    ‘He praised Mary.’
  c. #MARIA hat ihn gelobt. (#subject alternative)
    Mary has him praised
    ‘Mary praised him.’

• Greek also has an anaphoric reflexive strategy using the heavy reflexive anaphor to *eafto tu* (the self his). As was the case with SE-reflexives, the focused Greek reflexive anaphor *o eaftos tu* ‘the self his’ in the scope of negation gives rise to the first inference only:

(73)  a. O Janis dhen katijori-se ton EAFTO tu.
    the John.NOM not accused-ACT.3SG the self.ACC his
    ‘John did not accuse himself.’
  b. Katijori-se ti MARIA. (object alternative)
    accused-ACT.3SG the Mary.ACC
    ‘He accused Mary.’
  c. #Ton katijori-se i MARIA. (#subject alternative)
    him accuse-ACT.3SG the Mary.NOM
    ‘Mary accused him.’

• Crucially, focused *afto-* under negation behaves unlike all reflexive elements we have discussed so far. It gives rise to the second inference, only:

(74)  a. O Janis dhen AFTO-katijori-thike
    the John.NOM not self-accused-NACT.3SG
    ‘John did not accuse himself.’
  b. #Katijori-se ti MARIA. (#object alternative)
    accused-ACT.3SG the Mary.ACC
    ‘He accused Mary.’
  c. Ton katijori-se i MARIA. (subject alternative)
    him accuse-ACT.3SG the Mary.NOM
    ‘Mary accused him.’

3.3 *Afto-* is an anti-assistive intensifier

• English *herself* in non-argumental position is either an adnominal or an adverbial adjunct.

(75)  a. John *himself* came to the party. (adnominal)
    ‘John, not someone related to John, came to the party.
  b. John built the house *himself*. (adverbial)
    ‘John built the house without help.’

• The adnominal *himself* acts as an identity intensifier (Eckhardt 2001). It introduces a set of alternatives to the associate and stresses via focus that none of them holds true.

• The adverbial *himself* can have an agentive interpretation. According to Howell (2012: 144), agentive adverbial intensifiers "signal the direct involvement of an agent", typically as non-assistance or non-delegation. We call this the anti-assistive reading and roughly paraphrase it with the phrase ‘without help’.
• **Distributional tests** discriminate between identity intensifiers and anti-assistive intensifiers (Howell 2012, Tavano 2006; see Spathas et al. ms.):

i) modification with degree expressions (76)
ii) aspectual (i.e. agentivity) restrictions (77, 78)
iii) association with focus sensitive operators (79)

(76) a. John built the house almost/ partly/ half/ completely *himself*.
    b. *The king almost/ partly/ half/ completely *himself* came to the party.

(77) a. Every man built the house *himself*. (accomplishment)
    b. Every man pushed the cart *himself*. (activity)
    c. *Every man arrived in Detroit *himself*. (*achievement)
    d. *Every man owns a Porsche *himself*. (*state)

(78) a. John *himself* built the house. (accomplishment)
    b. John *himself* pushed the cart. (activity)
    c. John *himself* arrived in Detroit. (achievement)
    d. John *himself* owns a Porsche. (state)

(79) a. John didn’t built the house **himSELF**. He built it with Mary.
    b. It is not John **himSELF** that built the house. #He built it with Mary.

• **Anti-assistive intensifiers are Voice adjuncts** (Bruening 2012). They select for a thematic/agentive Voice.

(80) a. John was accused by Mary.
    b. John baked a cake with Mary.
    c. John cut the bread with a knife.
    d. John baked a cake himself.

The meaning of anti-assistive intensifiers: (81) asserts that there is no other agent than John in all sub-events of the event of baking a cake. It follows that no one other than John baked the cake in e, but also that no one assisted him in baking the cake, since he is the only agent in all the relevant sub-events.

(81) \[ [[ \text{John baked the cake himself } ]] = \lambda e. \text{baked}(e) \& \text{theme}(\text{the cake})(e) \& \text{agent}(\text{john})(e) \& \forall e' \forall x. (e' \leq e \& \text{agent}(x)(e')) \rightarrow x=\text{john} \]

• Greek afgo- behaves like an anti-assistive intensifier.
• It licenses degree modification that measures the involvement of the agentive associate

(80) O Janis shedhon/merikos **AFTO-ektoristi-ke**.
    the John.NOM almost/ partly self-exiled-NACT.3SG
    ‘John exiled himself almost/ partly without help.’

• It is compatible with accomplishment and activity predicates, but not with achievements and states, (Alexiadou to appear).
(81) a. O Janis afto-katijori-thike. (accomplishment)
   the John.NOM self-accused-NACT.3SG
   ‘John accused himself.’

b. O Janis afto-thavmaze-te. (activity)
   the John.NOM self-admire-NACT.3SG
   ‘John admires himself.’

c. *O Janis afto-vre-thike sti fotografia. (*achievement)
   the John.NOM self-found-NACT.3SG in.the photo
   ‘John found himself in the photo.’

d. *O Janis afto-agapie-te. (*state)
   the John.NOM self-love-NACT.3SG
   ‘John loves himself.’

• *Afto* - an anti-assistive intensifier. As such it attaches to an agentive VoiceP.

• Greek *afto*- special in that it c-selects for an agentive Voice that lacks a specifier
  (middle Voice; see below). Alexiadou (to appear) shows that *afto*-prefixation is possible
  only with verbs that form a real passive. It is out with unaccusatives involving NACT-
  morphology as well as with transitive deponents involving NACT-morphology.

• *afto*- is never free, but always appears as a prefix, in a way similar to cases of ‘adverb
  incorporation’ in Greek (Rivero 1992).

3.4 Analysis

• Active Voice

(82) a. John washed Mary.
   b. [VoiceP John [Voice’ Voice [vP v [√wash Mary]]]]

(83) a. [[vP]] = λe. wash(e) & theme(e, mary)
   b. [[Voice’]] = λxλe. [agent(x)(e)]
   c. [[Voice’]] = λxλe. wash(e) & theme(mary)(e) & agent(x)(e)
   d. [[VoiceP]] = λe. wash(e) & theme(mary)(e) & agent(john)(e)

The difference between passives and middle Voice:

• Passive involves a Disjoint Reference Effect between the implicit external argument and
  any internal argument (e.g. Baker et al. 1989, Kratzer 1996, Bruening 2012).

• Middle Voice is like passives in that it introduces an existentially bound implicit
  argument, but there is no Disjoint Reference Effect; context determines whether the
  external argument is understood as disjoint from internal arguments, or not (Alexiadou &
  Schäfer to appear, Spathas et al. ms.).

• The English/German passive Voice is merged with the ordinary active Voice head, but
  before an external argument can be merged (Bruening 2012, cf. also Kiparsky 2013) (I leave by-
  phrases aside here):

(84) a. Mary was washed.
   b. [PASSP Pass [VOICEP Voice [vP v [√wash Mary]]]]
(85) a. \[[\text{VoiceP}]\] = \(\lambda x \lambda e. \text{wash}(e) \& \text{theme}(\text{mary})(e) \& \text{agent}(x)(e)\)
b. \[[\text{Pass}]\] = \(\lambda f_{\varepsilon,e:st} \lambda e \exists x. f(x)(e)\)
c. \[[\text{PassP}]\] = \(\lambda e \exists x. \text{wash}(e) \& \text{theme}(\text{mary})(e) \& \text{agent}(x)(e)\)

Update (VERY DESCRIPTIVELY) to capture the disjoint reference effect:

(86) \[[\text{Pass}]\] = \(\lambda f_{\varepsilon,e:st} \lambda e \exists x. f(x)(e) \& \forall f_{\varepsilon,e:st}. f(x)(e) \rightarrow f \neq \text{theme}\)

--> The implicit agent cannot be a theme/internal argument.

- Middle Voice

(87) a. O Janis pli-thike.
    the John.NOM washed-NACT.3SG
    ‘John washed/ John was washed.’
b. \[[\text{Middle VoiceP}]\] Middle Voice \([\text{VP} \lor [\sqrt{\text{pli}} [\text{DP i Maria}]]]\)

(88) a. \[[\text{vP}]\] = \(\lambda e. \text{wash}(e) \& \text{theme}(\text{mary})(e)\)
b. \[[\text{Middle Voice}]\] = \(\lambda e \exists x. [\text{agent}(x)(e)]\)
c. \[[\text{Middle VoiceP}]\] = \(\lambda e \exists x. \text{wash}(e) \& \text{theme}(\text{mary})(e) \& \text{agent}(x)(e)\)

- The meaning in (88c) is true of both reflexive and non-reflexive events (vagueness).
- What has been usually taken to be the meaning of sentences like (87) is simply a description of one of the events of which (88c) is true:
  - One is reflexive events: \(\text{John washed John.}\)
  - One is non-reflexive events: \(\text{Someone other than John washes John.}\)
  - In both cases, it is true that \(\text{someone washes John}\)
- Resolving the vagueness: In out-of-the-blue contexts and without contextual clues to the contrary, examples like (87) are taken to be descriptions of reflexive events.
  - This should follow from conceptual information associated with verbs like \(\text{wash}\), i.e. the fact that they are Naturally Reflexive Verbs.
  - In out-of-the-blue contexts, a hearer uses all available information in order to specify the event that is being described. A reflexive event not only makes the meaning in (88c) true, but also conforms to the expectations generated by the conceptual information associated to the verb, so that (87) will be understood to describe a reflexive event.
- With Naturally Disjoint Verbs, the conceptual expectation is exactly the opposite and examples like (89) are taken to be descriptions of disjoint events.

(89) a. I Maria katijori-thike
    the Mary.NOM accused-NACT.3SG
    ‘Mary was accused.’
b. \[[\text{Middle VoiceP}]\] Middle Voice \([\text{VP} \lor [\sqrt{\text{katijor}} [\text{DP i Maria}]]]\)

(90) a. \[[\text{vP}]\] = \(\lambda e. \text{accuse}(e) \& \text{theme}(\text{mary})(e)\)
b. \[[\text{Middle Voice}]\] = \(\lambda e \exists x. \text{agent}(x)(e)\)
c. \[[\text{Middle VoiceP}]\] = \(\lambda e \exists x. \text{accuse}(e) \& \text{theme}(\text{mary})(e) \& \text{agent}(x)(e)\)
To overcome the conceptual expectation, the anti-assistive intensifier is added:

- The syntactic structure of (89a) in (89b) lacks a suitable attachment site for afto-.
- Consider the semantic derivation in (90): The semantics of afto- require that it composes with an element of type <e,st>, but none of the nodes in (90) has a meaning of this type.
- A suitable node is created after covert movement of the object DP to the edge of MiddleVoiceP. The movement creates a derived predicate (Heim and Kratzer 1998, Nissenbaum 2000).
- We assume the analysis of movement in Heim and Kratzer (1998), such that every movement operation forces the insertion of a variable binder to the target of movement and the creation of a predicate abstract in the syntax.
- After movement, the syntactic structure is as in (92).
- The meaning of Middle VoiceP1 is given in (93).
- MiddleVoiceP1 is of type <e,st> and an appropriate attachment site for afto-.
- MiddleVoiceP1 also satisfies the e-selectional restriction associated with Voice Adjuncts; it is a projection of Voice with an unsaturated argument.
- Adjunction of afto- is counter-cyclic (cf. Lebeaux 1988); it can only occur after movement of the object DP and the adverbial ‘tucks in’ below the moved phrase.

(91) \[\text{MiddleVoiceP} \text{ Middle Voice [vp v [v ROOT DP]]}\]

--> movement of the theme to the edge:

(92) \[\text{MiddleVoiceP-2 [DP i Maria]1 MiddleVoiceP-1 1 MiddleVoiceP Middle Voice [vp v [v katijor t1]]}\]

(93) \[[\text{Middle VoiceP1}] = \lambda y \lambda e \exists x. \text{accuse}(e) \& \text{theme}(y)(e) \& \text{agent}(x)(e)\]

--> Tucking in:

(94) \[\text{MiddleVoiceP-3 [DP i Maria]1 MiddleVoiceP-2 MiddleVoiceP-1 1 MiddleVoiceP Middle Voice [vp v [v katijor t1]]] \text{afto}\]

(95) \[[\text{Middle VoiceP3}] = \lambda e. \exists x. \text{accuse}(e) \& \text{theme}(\text{mary})(e) \& \text{agent}(x)(e) \& \forall e' \forall y. (e' \leq e \& \text{agent}(y)(e')) \rightarrow y=\text{mary}\]

(95) is a description of an event e of someone accusing Mary such that every agent in all sub-events of e is identical to Mary.

- This is a reflexive interpretation; the DP is identified as both the theme and the agent. It is identified as the theme by composing with the root, and as the agent by being the associate of the anti-assistive intensifier.
- The associate of the intensifier is determined by what argument slot is open in the predicate the intensifier attaches to. In (95) it is the theme argument, so that the agent and theme arguments end up predicated over the same individual.
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