

## Reflexive Verbs: interactions between lexical and compositional semantics

Keir Moulton  
25 October 2006  
NSF Grant Meeting

### Goals

A truth conditional semantics for inherently/lexically reflexive verbs that distinguishes them from their “derived” reflexive counterparts

An account for the way a language’s morphology is sensitive to the distinction between the semantics of inherent reflexives vs. “derived” reflexives (Germanic SE- vs. SELF anaphors) [still in progress!]

### More tentative Goals (Appendix, Section 6)

Explore for English (i) whether we want to invoke this semantics for certain inherently reflexive (or “self-action”) verbs; (ii) whether there are morpho-syntactic reflexes of it and (iii) which reflexive predicates it applies to. [body-part transitive reflexives (*open ones eyes*), unergative intransitive reflexives (*wash, dress, move*), alternating transitive reflexives (*pull oneself*), and transitive absolute reflexives (*behave oneself*).]

### 1. Two ways to do things to yourself

Natural language can express two distinct kinds of reflexive relations with the same verb.

(1) Lilah opened her eyes.

2 meanings:

#### *self-action* (SA)

describes what Lilah would normally do when she wakes up; an action that one can only perform on oneself.

#### *self-as-other action* (SOA)

Lilah’s eyes were shut and she opened them using her fingers; this is just the same thing Lilah would do to open someone else’s eyes.

In some languages, these two meanings appear with distinct morpho-syntax (Kemmer 1993, Reinhart and Reuland 1993, Lidz 1996, Rooryck and Vanden Wyngaerd 1998). In these languages, there are inherently/lexically/intrinsically reflexive verbs, a subset of which denote *self-actions* (Kratzer 2003, class notes).

**Dutch**

**SOA** uses complex anaphor *zichzelf*:

**SA** uses the simplex SE-anaphor *zich*

- (2) a. Münchhausen trok **zichzelf** uit het moeras. *self-as-other*  
 b. Münchhausen trok **zich** uit het moeras. *self-action*
- Münchhausen pulled himself/SEout of the swamp

[Rooryck and van den Wyngaard 1998; attributed to Voskuil and Verhmann 1900]

Other predicates are simply incompatible with a SE-anaphor:

- (3) a. Max haat **zichzelf/ \*zich**. [Reinhart and Siloni 2005 ex54 p413]  
 Max hates himself / \*SE
- b. Max hoorde **zichzelf/ \*zich**  
 Max heard himself / \*SE

A third class of predicates allow both (they can be SA or SAO, and simply other-oriented)

- (4) a. Sally waste **zich/zichzelf/**. [Rooryck and Vanden Wyngaerd 1998]  
 Sally washed SE/himself  
 ‘Sally washed’
- b. Jan verdedigde **zich/zichzelf**  
 Jan defended SE/himself  
 ‘Jan defended himself’

**Kannada** (Lidz (1996, 2001))

**SOA** require the verbal reflexive marker *-Kol-* (when applied to verbs of bodily movement suggest disembodiment).

**SA** uses no special marking

- (5) a. Hari-yu tann-a tale-yannu eTT-í **-koND-**a *self-as-other*  
 Hari-NOM self-GEN head-ACC lift-PP RELF-PAST-AGR  
 ‘Hari lifted his (detached) head’
- b. Hari-yu tann-a tale-yannu eTT-id -a *self-action*  
 Hari-NOM self-GEN head-ACC lift-PAST-AGR  
 ‘Hari lifted his head’

In each of the *self-as-other* actions the agent is performing the kind of action on himself that he would perform on any other person. In the cases of bodily motion, for instance, this has the effect of disembodiment, where the self is treated as another (the ‘duplication’ effect, Rooryck and Vanden Wyngaerd 1998).

**SOA** appear to be the ‘exotic’ alternant in these paradigms. (e.g. Rooryck and Vanden Wyngaerd 1998 argue that they involve different spatio-temporal ‘stages’ of one individual).

But **SOA** are in fact just the result of usual, standard reflexivization operation on predicates.

**SA** predicates require a special semantics.

## 2. Previous proposals for the *zich/zichzelf* ‘alternation’

It is uncontroversial that **SA** alternates are **lexically reflexive**. It seems to be saying that these verbs are *necessarily reflexive*. This is what I will propose.

### Reinhart and Reuland (1993):

The binding conditions are revised so as to make reference to predicates:

- (6) *Binding conditions*
  - A. A reflexive-marked syntactic predicate is reflexive.
  - B. A reflexive semantic predicate is reflexive marked.

The inherent reflexives get the special morphology because of the principles below:

- (7) *Definite of reflexive marked*

A predicate (of P) is *reflexive marked* iff either (i) P is lexically reflexive or (ii) one of P’s arguments is a SELF (complex) anaphor.

Roughly: reflexive predicates (I guess, things with the form  $\lambda x.P(x,x)$ ) must be marked by the morpho-syntax as reflexive.

### Question:

What does it mean for a predicate to be inherently/lexically reflexive? (And why would that make it already “reflexive marked”)

### Answer:

Some property is needed to identify lexical reflexives. And that property needs to be enough to make the predicate “reflexively marked” already.

**Reinhart and Siloni (2005):** the inherent reflexive are derived by a reflexivization operation **in the lexicon** (they state this operation in terms of ‘bundling theta-roles’ but I hope this is a fair interpretation:).

(8) Lexical Reflexivization Operation (OP)

$$OP(\lambda x \lambda y. R(x,y)) \rightarrow \lambda x. R(x,x)$$

This can apply only to certain predicates because it is a lexical operation.  
This is the same Operation used for derived reflexives

### Questions:

1. But what allows it to apply to certain predicates? (Reinhart and Siloni 2005 point out that this class is idiosyncratic, which is definitely true).
2. And when it does, does it deliver the self-action meaning?

### Answers:

1. Some property of lexically reflexive predicates is needed (as with R&R 1993)
2. A mere reflexivization operation will not deliver the meaning distinction between **SA** and **SOA** in (2)a,b. This may not be Reinhart and Siloni’s goal, but it is mine. Furthermore, Reinhart and Siloni’s operation may be necessary but I contend it is not sufficient to deliver the “self-action” meanings of some reflexive verbs. See immediately below. The goal is to supplement these works with a semantics for the reflexive verbs.

## 2. Why reflexivization isn’t enough for Inherent Reflexives/ Self-Action

- (9) Standard reflexivity  
a binary relation R is reflexive iff  $\langle a,a \rangle$  is in R, for every a in the domain of R.

In (2)a, R is *pull* = {  $\langle a,b \rangle$  such that a pull b }.

However reflexivization works, when this happens as in *pull oneself* or *trok zichzelf*, and applied to Münchhausen, R is defined if Münchhausen bears that relation to Münchhausen.

**But the meaning of the actual relation R, here the verb *pull*, is no different than if it isn’t reflexive!!**

- (10) Münchhausen<sub>i</sub> pulled himself<sub>i</sub>  
[ $\lambda x. \text{pull}(x,x)$ ] (Münchhausen)
- (11) Münchhausen pulled Bob out of the swamp.  
[ $\lambda x \lambda y. \text{pull}(x,y)$ ] (Münchhausen)(Bob)

A (standard) reflexive version of *pull* denotes a *self-as-other action* (SOA).

Whatever it means to be in a pulling relation remains constant from (10) to (11).

Turning to *self-action* predicates, such as the reading of *pull* in Dutch in (2b), we can see that reflexivization will not distinguish it from the self-as-other reading.

The generalization about self-action predicates (and all inherent/lexical reflexives) is that they are activities **one can only perform on the self**. They are **necessarily** self-directed actions:

“Consider what one is actually doing when washing or dressing the self. In such actions, an essentially different set of movements is involved from the case in which one washes or dresses another...Grooming or moving oneself are simply semantically distinct actions from grooming or moving another entity.” Kemmer 1993, p60.

### 3. Proposal:

Natural language verbal roots *can* come in two forms, one with the property of **Strong Reflexivity**, the other without it.

Semantic types: *e* individuals, *s* event(ualities), *i* possible worlds, *t* truth values

Verb roots do not have external arguments; they are of type  $\langle e\langle s\langle t \rangle \rangle \rangle$  (Kratzer 1996)

#### (12) **Self-action (aka Inherent Reflexives/lexically reflexive verbs):**

An action verb *R* is self-action relation iff it is Strongly Reflexive

#### (13) **Strong Reflexivity (SR)**

A relation *R* of type  $\langle e\langle s\langle i, t \rangle \rangle \rangle$  is Strongly Reflexive iff in all possible worlds *w*, whenever *R* is true of a triple  $\langle x, e, w \rangle$ , then the Agent of *e* in *w* is identical to *x*.

#### (14) **Other action (aka all non-Inherent reflexive verbs):**

An action verb *R* is an other-action relation iff there is at least one possible world *w'*, event *e*, and distinct individuals *x* and *y*, such that  $R(x, e, w) \ \& \ \text{Agent}(y, e, w)$





Claim 1, I think, is clearly supported in languages that overtly signal the difference. (See below about whether English does).

Claim 2 requires some argumentation, since the assumption has been that the pairs represent an alternation; i.e. one can be derived from the other at some level of linguistic representation (for instance, a reflexivization operation in the lexicon)

[Some fairness to the literature: Reinhart and Reuland 1993 (and Everaert 1986) seem to side on the two lexical entries approach. Later Reinhart (2005) isn't clear; Lidz (2001) appears to give the predicate the same meaning]

### **3.1 Why two roots are better than one: i.e. why you cannot derive SA meanings from SAO meanings (or vice versa)**

#### **Arguments:**

1. either meaning you start with, there is no way to get the other meaning using the tools we have (or want to have) in terms of voice, argument changing alternations (i.e. CAUS, reduction, Voice)
2. there is no stable morphological exponent for lexical reflexives. This is true cross linguistically: some languages put something there, some don't; variation within language
3. not "productive" in a number of senses

#### **3.1.1. No derivational relationship**

To derive SA from SOA (or vice-versa) or to derive both from some neutral root, you would need to identify some common meaning to both and add something to get the two.

What are the candidates?

Do other-actions involve a causative meanings?

No. The other-action isn't anymore causative than the self-action.

Are the Self-actions Internally Caused (like (15))?

(15) The flower wilted/blossomed (see Levin 1993, Alexiadou et al. 2005)

No. Self-action predicates are not internally caused in this way.

### 3.1.2. Different morphology

Certain languages must express self-action/inherent reflexives with special reflexive morphology (e.g. Dutch, Swedish, Norwegian):

In Dutch, a nominal of an inherently (without and reflexive or verbal morphology) is still interpreted as reflexive; an other-action is not.

(16) Nominals in Dutch

- a. Wassen is gezond [Reinhart and Reuland 1993; ft13]  
 Washing is healthy = self-washing
- b. Haten is niet gezond  
 Hating is not healthy = only means Hating someone else.

This is predicted if self-action is a property of verbal roots via Strong Reflexivity constraint. Assuming nominals lack certain amount of verbal functional structure, then what we are seeing in (16a) is closest to the bare root we can.

### Other languages use identical morphology as derived reflexives (Reinhart and Siloni 2005)

(17) SE-clitics in French

*i. lexical reflexives and self-action*

- a. Jean **se** lave. ('alternating' Lexical reflexive)  
 b. Je **me** suis habillé.  
 other verb require SE: *s'évanouir* 'to faint', *se dépêcher* to hurry

*ii. Other-action (Reinhart and Siloni 2005)*

- a. Jean **se** dessine  
 Jean SE draws  
 'Jean draws himself'
- b. Jean **s'** aime  
 Jean SE loves  
 'Jean loves himself'

**Tamil:** two different inflectional verbal morphemes depending on self- vs. other-action.

(18) Verbal inflection in Tamil (Klaiman 1991)

- a. Kuzantai      kalai      utai-**kir**-atu  
 Child-NOM    leg-ACC    kick-**SELF**-PRESENT.SG.NEUTER  
 The child is kicking his legs (in the air)
- b. Kuzantai      ennai      utai-**kkir**-atu  
 Child-NOM    me-ACC    kick-**OTHER**+PRESENT.SG.NEUTER  
 The child is kicking me

Kannada: no marking on the SELF-action, but there is on the other action

- (19) a. Hari-yu    tann-a    tale-yannu eTT-í -**koND**-a      *self-as-other*  
 Hari-NOM self-GEN    head-ACC lift-PP RELF-PAST-AGR  
 ‘Hari lifted his (detached) head’
- b. Hari-yu    tann-a    tale-yannu eTT-id -a      *self-action*  
 Hari-NOM self-GEN    head-ACC lift-PAST-AGR  
 ‘Hari lifted his head’

Fula: (a) Active voice marking on other-action; Middle Voice marking on Self-action (b); reflexive AND middle Voice on Self-as-Other action (Arnott 1970 cited in Embick 2004)

- (20) a. ’O-loot-ii                      biyiko                                      *active; other-action*  
 3SG-wash-ACTIVE            child  
 ‘She washed the child.’
- b. ’O-loot-ake    *middle; self-action*  
 3SG-wash-MIDDLE  
 ‘She washed’
- c. war-t-o    *middle + refl; self-as-other*  
 kill-REFL-MIDDLE  
 comit suicide

The last class ‘refer to actions which it is unusual for a Fulani to perform on himself’ (Arnott 1970; p342). Includes *shaving, dressing hair, cutting* (oddly!)

**English self-action comes in many flavors:**

(21) Forms of self-action (either intransitive or reflexive, depending on class)

- a. John washed/shaved/bathed showered                      unergative intransitive  
   John moved
- b. John behaved himself/prepared himself/                      absolute reflexives  
   absent oneself, perjure oneself, bestir oneself
- c. John lifted his arm/opened his eyes/kicked his legs      Body-part movement

**3.1.3 Not productive**

Only a small class of predicates are lexically reflexive, usually activities naturally directed toward self. Only a tendency (see Fula above)

There are a number of predicates that *could* be Lexically reflexive, but are not.

Reinhart and Siloni (2005)

Hebrew: lexical reflexives for *arm* and *equip* but not for *feed*  
                  [seems that the latter is just as good a candidate for lexical reflexives]

Moreover, predicates that don't in general refer to actions that are inherently different from other actions, *are* lexically reflexive (compare the verbs of toilet *wash, shave* with the verbs of bodily movement).

**Missing Roots:**

If one is derived from the other, we would expect to find more productive alternations. But in English, for instance, there is no other action form for the absolute reflexives:

\**John behaved Fred/absented Bill/?perjured Mary/bestirred Lucy*

\**John showered/bathed Bill vs. John bathed/showered*  
                  (not the same root meaning)

This suggest distinct lexical items. In some cases, the SOA (or simply other action) is no longer part of the lexicon.

#### 4. Interaction between Lexical and Compositional semantics

How does the fact that some roots are specified as Strongly Reflexive regulate the over morpho-syntax in some languages (e.g. Dutch)

How to get the distribution between *zich* and *zichzelf*

##### Attempt #1

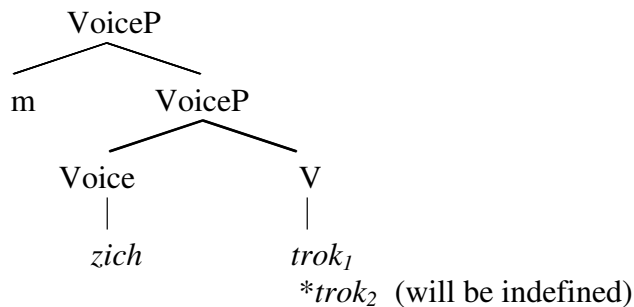
*zich* is a Voice marker that selects for Strongly Reflexive Predicates via presupposition.

[[**zich**]] =  $\lambda R_{\langle e \langle s \langle i, t \rangle \rangle}$ : Strongly Reflexive(R). R

[[**trok<sub>1</sub>**]] =  $\lambda x. \lambda e. \lambda w. \text{trok}(x, e, w)$  & Strongly Reflexive

[[**trok<sub>2</sub>**]] =  $\lambda x. \lambda e. \lambda w. \text{trok}(x, e, w)$

(22) *Zich* as Voice



But *zich* appears elsewhere in the language (same for other SE-anaphors in Germanic, e.g. Norwegian and Swedish *sig*, *seg*)

*zich* occurs as a bound anaphor as the subject of complement infinitivals (ECM), i.e. not as an argument of a lexical reflexive (so not possibly a voice head)

(23) *zich* in ECM (Dutch)

- a. Jan horde [**zich** singen]  
 Jan heard SE sing  
 'Jan heard himself sing'

[R&R 1993 ex75b; p691]

- b. Freddy zag [**zich** in de Spiegel] [Rooryck and Vanden Wyngaerd 1998]  
 Freddy saw SE in the mirror  
 ‘Freddy saw himself in the mirror’

[*zichzelf* is also possible here, more later]

*zich* also occurs in PPs, i.e. not as an argument of a lexical reflexive (so not possibly a voice head)

(24) *zich* in PPs (Dutch)

- a. Max legt het boek achter **zich** [R&R 1993 ex17c; p665]  
 Max put the book behind SE  
 ‘Jan heard himself sing’

**Conclusion: *zich* cannot be a Voice head**

## Attempt #2

*Zich* is a **minimal pronoun**

**Minimal pronouns (Kratzer 2006):** simply enter the syntactic derivation as indices and later get their morpho-phonological form at spell-out by the insertion of a vocabulary item (in this case *zich*, or its various forms inflected for person and number (only in 1<sup>st</sup> and 2<sup>nd</sup>))

As a Minimal Pronoun, *zich* simply serves as a bound variable:

(25) Self-action

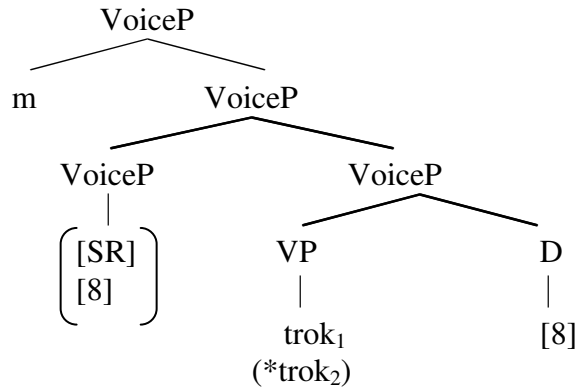
- Münchhausen trok **zich** (uit het moeras).  
 Münchhausen pulled SE (out of the swamp)

A Voice head still selects for Strongly Reflexive (aka Self-action) roots  
 Verbal inflection (like Voice) can carry index features that bind minimal pronouns

Assume a Voice Head [SR] which comes with a binder index (here [8]) which must bind the closest argument.

(26) [[ voice [SR] ]] =  $\lambda R_{\langle e \langle s \langle i, t \rangle \rangle}$ : Strongly Reflexive(R). R

(27) Composition of VoiceP



1.  $[[\mathbf{trok}_1]] = \lambda x.\lambda e.\lambda w.[\text{trok}(x,e,w) \ \& \ \text{SR}(\text{trok}_1)]$
2.  $[[\mathbf{trok}_1]]([8]) = \lambda e.\lambda w.[\text{trok}(8,e,w) \ \& \ \text{SR}(\text{trok}_1)]$
3.  $[[\text{Voice}[\mathbf{SR}][8]]] = \lambda P_{\langle e\langle i,t \rangle \rangle}: \text{SR}(P) = 1. P$
4.  $[[[\mathbf{SR}][8]]](\lambda e.\lambda w.\text{trok}(8,e,w)) = \lambda 8.\lambda e.\lambda w.[\text{trok}(8,e,w) \ \& \ \text{SR}(\text{trok}_1)]$
5.  $[\lambda 8.\lambda e.\lambda w.\text{trok}(8,e,w)]([[m]]) = \lambda e.\lambda w.[\text{trok}(m,e,w) \ \& \ \text{SR}(\text{trok}_1)]$

**Spell-out Pronunciation:**

[index] → *zich*

**Interpretation: (assume E-closure of event, and evaluate at w\*)**

(28)  $\exists e.[\text{trok}(m,e,w^*) \ \& \ \text{SR}(\text{trok}_1)]$

*There is an event of pulling Münchhausen in w\* and that event is Strongly Reflexive.*

But what about the Agent argument? Surely self-action are Agentive predicates.

Given definite of Strong Reflexivity, can we say that the presence (and identity) of an agent is implied? What I want to do is build Agentivity into the meaning of the root via SR.

- (29) A relation  $R$  of type  $\langle e\langle s\langle i,t \rangle \rangle \rangle$  is Strongly Reflexive iff in all possible worlds  $w$ , whenever  $R$  is true of a triple  $\langle x,e,w \rangle$ , then **the Agent of  $e$  in  $w$  is identical to  $x$ .**

?Presupposes there is an agent of *e* in *w* and that it is *Münchhausen*

**Composition of SR predicates with *zichzelf***

Self-action predicate *can* have a *zichzelf* and still be interpreted as self-action

(30) Jan waste *zichzelf*

(31) *zichzelf* is a complex DP with a possessor pronoun *zich* and *zelf* which denotes some contextually supplied function *f* of type  $\langle e, e \rangle$

Lidz (2001); See also Heim 1993 on guises

In these cases *f* has to return the same value, otherwise the predicate won't be SR

When *zichzelf* is used, especially with SAO actions, a doppelganger effect (Jackendoff 1992):

Ringo Starr goes into Madame Tussaud's wax museum, sees his statue, but doesn't like the beard they've put on him. So he shaves his statue:

(i) #Ringo scheert *zich*                      not felicitous              [Lidz 2001, ex (9) p128]  
       Ringo shaves SE

(ii) Ringo scheert *zichzelf*.                felicitous  
       Ringo shaves himself.

So as soon as *zelf* makes a real contribution, you revert to the SAO meaning.

So the following is not grammatical IF *zelf* picks out something like "the statue or representation of [8]"

**5. Other action (i.e. derived reflexivity)**

The non-self-action distribution presents a problem:

**Generalization:**

*zichzelf* must be used with other action when it is a co-argument:

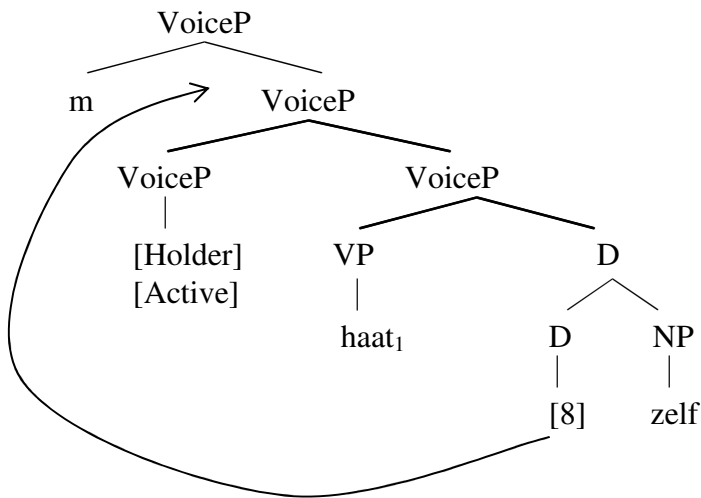
(32) Jan haat *zichzelf*/\*??**zich**            *self-as-other*  
       Jan hates himself.

*zich* must be use with other-action (i.e. no self-action) when it is **not** a co-argument (e.g (ECM))

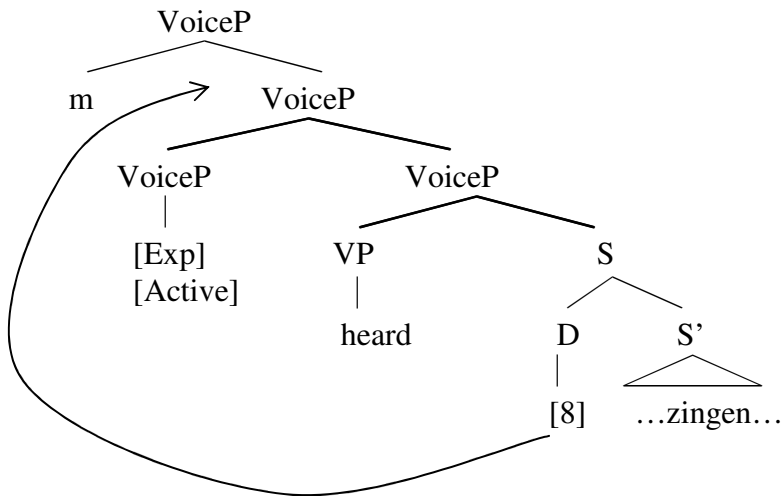
(33) Jan horde [**zich** singen]                [R&R 1993 ex75b; p691]  
       Jan heard SE sing  
       'Jan heard himself sing'

- An active, Voice head (Kratzer 1996) [includes Agents and State holders]
- These Voice heads do not carry indices
- Unlike the SR voice heads, these Agent Voice heads take arguments. So to get binding we need a binder index. Assume movement of the index.

(34) Jan hatt [**zichzelf**] [R&R 1993 ex75b; p691]



Same thing in ECM contexts:



Both cases, however, are movements outside of islands (DP for other-action and S for ECM)

The new generalization:

**Zich** spells out the tail of a chain (i.e. a variable, i.e. a minimal pronoun) in two ways:

- (i) the tail of a local agreement chain between SR Voice head and the object position

(ii) the tail of a movement chain that moves out of islands (=resumptive pronouns). But nothing here rules out *zich* in other-action predicates. Interestingly, R&R point out that the ungrammaticality of *zich* in other-action predicates is only marginal, not completely ungrammatical. I.e. Compared to a condition B violation with a pronoun, which *is* ungrammatical (Reinhart and Reuland 1993; Reinhart and Siloni 2005)

- (35) a. ??Jon<sub>1</sub> haat zich<sub>1</sub>.                      Violation of what?                      [Fox 1993 ex (19a,b)]  
           Jon hates SE.
- b. \*Jon<sub>1</sub> haat hem<sub>1</sub>.                      Violation of Principle B  
           Jon hates him.

What would happen if we allow (35a), but a more general principle of functional distribution makes it odd. You need the *zelf* in order to make this truly an other-action predicate i.e.  $\lambda x.P(x,f(x))$ .

## 6. Appendix ENGLISH: distinct self-action predicates?

English doesn't seem to reliably signal these two meanings with different morphology, which suggests that it just might not play a role in the grammar (well, it does for the so-called "verbs of toilet": 'John washed/bathed/shaved/showered/etc. )

Intuitively, the different meanings are there. So the following can describe typical self-actions, but also actions where the agent opens the eyes or lifts the arms with, say, their other arm—just in the way the Agent would perform the same action on another person.

(2)

- a. John opened his eyes. (e.g. upon waking up vs. with his hands)  
 b. Mary raised her arm. (e.g. to ask a question vs. with her other hand, because her arm was asleep)  
 c. John pulled himself out of the pool (e.g. normally, or a la Munchhausen)

Sometimes, there seems to be an alternation, with the intransitive (unergative) being self-action and the transitive-reflexive being ambiguous:

(3)

- a. John moved out of the way (self-action)  
 b. John moved himself out of the way (compatible with John being in a wheel chair)

The difference seems to come out best in Lakoff sentences:

(4)

- a. John dreamt he was a fireman and moved himself out of the way of the fire.

Can mean: John's dream-self (the fireman) moved John out of the way (other action)

b. John dreamt he was a fireman and moved out of the way to avoid being burned

Can only mean: John's dream-self 'self-moved'.

## 5.1 AMBIGUITY OR VAGUENESS?

### 5.3 Ambiguity Tests:

#### ZEUGMA

Distinct meanings can give rise to zeugma (or yoking) effects; meanings that are simply variants of one vague predicate do not.

So for instance, the two distinct meanings of 'take' give rise to the zeugma effect in (5):

(5) #John took some money out of his savings and then a vacation.

Now testing this with self-action vs. self-as-other action. If the 'self-action' reading of 'open your eyes' is due to a real semantic difference from the action of opening something else, then there should be a zeugma effect when the verb is read as self-action for the first argument and then an "other object" is encountered making the self-action meaning incompatible:

(6)

- a. #John opened his eyes and then his WIFE's.
- b. #The little boy pulled himself and his dog out of the swimming pool.
- c. John combed his hair and then his wife's.
- d. The little boy saw himself and his dog in the mirror.

I think (6ab) are rather odd, compared to non-self-action reflexives (6c,d). And things become clearer when you make the objects very different—i.e. a body part, readily compatible with self-action, vs. some regular object:

(7)

- a. #The little boy opened the present and then his eyes.
- b. #John opened the bottle of wine and his mouth, and drank up.

Notice that the 'absolute reflexives' do not allow coordination.

\*John cut and behaved himself.

#### PRESUPPOSITION

In (8), the second clause has focus on the object and 'too is added', presupposing that I lifted something else. But the first predicate is (most easily) read as a self-action, while

the second must be read as other-action. The same for the other examples which have a self-action predicate in the first clause.

(8)

- a. First, I lifted my arm, and then I lifted the HEAVY BOX too.
- b. First, I opened my eyes and then I opened the PRESENT too.
- c. First, I pulled myself out of the swimming pool and I pulled the INFLATABLE RAFT too.

These I think are marginal, and certainly different from similar examples where the first predicate is not self-action as in (9) (picking up your arm is weird, precisely because it is an other-action performed on the self):

(9)

First, I picked up my arm, and then I picked up the HEAVY BOX too.

The examples in (8) should be good, like (9), if ‘lift’ and ‘open’ and ‘pull’ have the same meaning whether or not they are construed as self- or other-action. Of course here the actual predicates aren't identical, but their focus values should be [ $\lambda y. \text{lift}(I, y)$ ], and that would be all that's needed for the 'too'-presupposition to be satisfied [Thanks to Florian Schwarz for suggesting these tests].

When I turn to other ‘self-actions’ though, especially ‘pull oneself’, things become less clear. In (10) I have used two animate objects, so the meaning difference is probably even less dramatic:

(10) I pulled myself out of the pool and I had to pull my DAUGHTER out too.

I am not sure here. It seems perfectly fine to me, even though the first pull is a self-action and the second an other-action. However, focusing the object in the second clause contrasts it with the object in the first clause. Maybe this coerces the first ‘pull’ into an other-action? Alternatively, this shows that ‘pull’ is really just vague, and encompasses both self-action and the other (or self-as-other) action.

I've been trying to use quantification by ‘only’ to avoid this problem. Judgments (and scenarios) get delicate here. Keeping to a sloppy/bound reading, if the self-action is semantically distinct from the self-as-other action then the following should be possible:

(11) Only I [self-action verb]

(11) would presupposes that no one else “self-acted”. So this should be true if I was the only person who performed a particular self-action, but others performed the related other-action on themselves.

Scenario: When I was recovering from paralysis, I was in a physiotherapy class where we lifted our legs with our arms to exercise the muscles (a self-as-other action). Today, all

the patients continued to lift their legs with their arms, but I had a breakthrough and lifted my legs normally:

(12)

?I was the only patient who lifted his legs today.

This intuitively feels false: I wasn't the only person who lifted his legs, just the only one who did it with the use of their arms. This results suggests then that the self-action and self-as-other actions are not distinct.

### ELLIPSIS

Distinct meanings should be preserved under ellipsis, and ellipsis should prevent distinct meanings from matching in an antecedent-elided VP relation.

If self-action meanings are distinct then they should disallow strict interpretation of pronouns in the ellipsis site. That is, if the predicate is self-action then a strict interpretation would be ruled out because a self-action interpretation is incompatible with a non-coreferent object.

In Dutch and Kannada strict readings are not possible when a self-action SE anaphor is used:

- (13) Zij verdedigde **zich** beter dan Peter  
 She defended SE better than Peter  
 'She defended herself better than Peter defended himself.'  
 \*'She defended herself better than Peter defended her'

Strict reading OK with **zichzelf** (i.e. other directed action)

English:

antecedent: [DP<sub>i</sub> V<sub>SA</sub> DP<sub>i</sub>]  
 ellipsis: [DP<sub>j</sub> V<sub>SAO</sub> DP<sub>i</sub>]

- (14) a. John couldn't lift his arm so the physiotherapist had to.  
 b. Mary opened her eyes before the anesthesiologist could.  
 c. Patients in a vegetative state can't open their mouths so a nurse has to.  
 b. John managed to move his arm out of the fire after the fireman failed to.  
 e. The teacher didn't notice when JOHN raised his hand, so FRED did.

Judgements?: Ungrammatical or just odd?

When a coordinating conjunction is used, the strict reading is definitely pretty bad:

- (14) a?Maybe you can't lift your arm but the physiotherapist can.

- b. ?Mary opened her eyes and often, during the early morning to wake her up, her little boy did too.
- c. ?John managed to move his arm out of the way and Bob did too.

Turning to the reflexive anaphors, getting strict readings with reflexive anaphors is difficult to begin with, so care must be taken in verifying whether readings are odd for that reason. Hestvik argues that a strict interpretation of a reflexive is better when the clause containing the ellipsis is a subordinate clause, so I do that here:

- (14) a. The little boy couldn't pull himself out of the pool so his mother had to.

This should be compared to cases where the reflexive alternant can clearly have an idiomatic reading very different from the non-reflexive one: e.g. 'to find yourself':

- (15) Most troubled teens take longer to find themselves than the authorities do.

This example is certainly odd on the reading: 'most troubled teens take longer to find themselves than the authorities take to find them (the teens).' Is (14) as odd on the reading: 'the boy couldn't pull himself out of the pool so his mother had to pull him out' .?

And finally, switching the location of the two types of predicates also predicts semantic anomaly if they are distinct meanings. In (16), the antecedent VP is an 'other-action', while the ellipsis is biased to a self-action interpretation (say Mary can't open her mouth in the normal way because its frozen):

- (16) a. The dentist had to opened Mary's mouth because she couldn't.  
 b. The little boy's mother had to pull him out of the pool because he couldn't.  
 c. Since she was under anesthetic, the doctor opened Mary's eyes because she couldn't.

These do feel worse than (17) where a non-self-action meaning is needed in the ellipsis site:

- (17) a. Fred opened Mary's purse because she couldn't (she was driving)  
 b. The boy's mother had to drive him to soccer practice because he couldn't.

In sum, when the two meanings are 'mixed' (in zeugma, presupposition, and ellipsis) there is a sense of oddness to the examples, but certainly not outright ungrammaticality. Does this effect just come from choosing different senses of one vague predicate? Or is it due to the fact that we have distinct meanings involved for self-action vs. other-action? If the latter is true, I would have expected more dramatically anomalous sentences.

## References

- Embick, D. 2004. Unaccusative Syntax and Verbal Alternations. In *The Unaccusativity Puzzle*. Alexiadou, A. et al., eds. Oxford: New York. 137-158.
- Heim, I. 1998. Anaphora and semantic interpretation: a reinterpretation of Reinhart's approach. In *The Interpretive Tract, MIT Working Papers in Linguistics 23*. U. Sauerland, and O. Percus, eds. Cambridge, MA: Department of Linguistics and Philosophy.
- Kemmer, S. 1993. *The Middle Voice*. Amsterdam: Benjamins.
- Kratzer, A. 1996. Severing the external argument from the verb. In Rooryck, J. and L. Zaring, eds. *Phrase Structure and the Lexicon*. Dordrecht: Kluwer.
- Kratzer, A. 2003. LING 620 Class notes: Reflexivization strategies in Natural Language.
- Kratzer, A. 2006. Minimal Pronouns. Fake Indexicals as Windows into the Properties of Bound Variable Pronouns. Ms. UMass.
- Lidz, J. 1996. Dimensions of Reflexivity. University of Delaware Dissertation.
- Lidz, J. 2001. Condition R. *Linguistic Inquiry* 32:1. 123-140.
- Reinhart, T. 1990/91. Self Representation. Lecture delivered at Princeton conference on anaphora, October 1990/Ms., Tel-Aviv University.
- Reinhart, T. 1996. Syntactic effects of lexical operations: Reflexives and Unaccusatives. Utrecht: OTS Working Papers.
- Reinhart, T. and E. Reuland. 1993. Reflexivity. *Linguistic Inquiry* 24: 657-720.
- Reinhart, T. and T. Siloni. 1999. Against the Unaccusative Analysis of Reflexives. Ms. Tel-Aviv
- Rooryck, J. and G. Vanden Wyngaerd. 1998. The Self as Other: A minimalist approach to *zich* and *zichzelf* in Dutch. In NELS 28. Tamanji, P. and K. Kusumoto, eds. GLSA: Amherst. 359-373.
- Zwicky, Arnold M., and Jerrold M. Sadock. 1975. Ambiguity tests and how to fail them. In *Syntax and Semantics*, ed. John Kimball. New York: Academic Press. 1-36.