

Delimiting Voice in Germanic: on object drop and naturally reflexive verbs

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Main goals

In this talk we focus on the intransitive use of two verb classes with optional syntactic adicity:

- intransitive **Naturally Reflexive Verbs** (iNRVs) as in (1), and
- intransitive **Non-Core Transitives** (iNCTs) as in (2).

(1) Mary washed.

(2) Mary ate.

We develop a **unified account**, according to which both iNRVs and NCTs involve

- **Active Voice**,
- an **unergative syntax**, and

We argue that there is **no need for**

- **Reflexive Voice** (or any designated reflexivization operation) to account for English iNRVs,
or
- **Anti-passive Voice** to account for object drop in Germanic.

And develop an account of **intra-Germanic variation** in the availability of (1) in terms of an **economy metric that is sensitive to syntactic encoding** of reflexive interpretations.

Structure of the talk

Section 1 considers briefly previous analyses of iNRVs.

Section 2 presents our unified account of iNRVs and iNCTs.

Section 3 discusses inter-Germanic variation in the case of NRVs.

1. Reflexivization and intransitive Naturally Reflexive Verbs

Intransitive NRVs are taken to involve reflexivization, so that (1) has the meaning in (3).

(1) Mary washed. (3) $\lambda e. \text{wash}(\text{mary}, e) \ \& \ \text{agent}(\text{mary})(e)$

Some **terminology**:

- The meaning of a syntactic constituent is **reflexive** iff it is only verified by events in which a single individual fulfils two distinct theta-roles (a reflexive event) and is not verified by events, in which distinct theta-roles are fulfilled by distinct individuals (a non-reflexive event).
- A **reflexivizer** is any element or operation whose designated function is to impose identity between two co-arguments of a verbal predicate.

Previous analyses: All accounts of iNRVs we know of claim that (1) involves **some kind of reflexivizer** leading to a reflexive interpretation. Three representatives are:

- **Reinhart and Siloni 2005:** iNRVs are derived *in the lexicon* by a *reflexivization operation*, which turns two-place predicates into reflexive properties. As a result, the syntax involves an unergative verb which assigns both the agent and the theme role to its external argument.

(4) $\lambda f_{e,et} \lambda x. f(x)(x)$ (cf. "theta-role bundling" in Reinhart & Siloni 2005)

- **Bergeton 2004, Pancheva and Bergeton 2012:** The structure of (1) includes a *null reflexive anaphor* (e.g. a designated bound variable subject to Principle A).

(5) Mary β_1 washed $\emptyset_1$.

- **Ahn 2012:** Reflexive interpretations depend on a *Reflexive Voice head* that identifies the two arguments of a predicate.

(6) $[\text{Voice}_{\text{REFL}} \text{ Mary } [\text{Voice}_{\text{REFL}} [\text{VP } v \text{ washed}]]]$

- In **all accounts**, application of the reflexivization operation depends on the fact that the relevant predicates are Naturally Reflexive Verbs; **being an NRV is a necessary and sufficient condition to license the reflexivization operation**.

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).

We argue that **being a NRV is not sufficient to license an intransitive construal with a reflexive interpretation.**

The **necessary condition is being a Non-Core Transitive verb**, i.e. the class of predicates that allow object drop.

- (2) Mary ate. (7) $\lambda e \exists x. \text{eat}(e) \ \& \ \text{theme}(x)(e) \ \& \ \text{agent}(\text{mary})(e)$

2 The analysis

2.1 Object drop

The meaning in (7) has been proposed to be the result of a **lexical detransitivization rule**. The rule has as input the transitive variant of *eat* and as output an intransitive variant, with the meaning in (8). (Bresnan 1978, Fodor and Fodor 1980, Dowty 1982, a.m.o.):

- (8) Detransitivization Rule (simplified): $\llbracket \text{DETRANS} \rrbracket = \lambda f_{e,et} \lambda y \exists x. f(x)(y)$

- In the literature on **ergative languages**, similar rules have been deployed in analyses of **Anti-passive morphemes** (e.g. Wharram 2003 for Inuktitut).
- In **Germanic languages**, however, **no designated morphology** is used in object-drop. We take this as an indication that **no designated Anti-passive rule** exists in these languages.

- | | | |
|----------------------|----------------|-------------|
| (9) a. John ate. | b. John drank. | (English) |
| (10) a. Jan at. | b. Jan dronk. | (Dutch) |
| (11) a. Hans aß. | b. Hans drank. | (German) |
| (12) a. John spiste. | b. John drakk. | (Norwegian) |
| (13) a. John åt. | b. John drack. | (Swedish) |

A syntactic re-interpretation of Bresnan's analysis within the framework of **Distributed Morphology**:

- **The external argument** is introduced by the functional head **Voice**, which composes with its complement via Event Identification. (Kratzer 1996)
- **Internal arguments** (of Non Core Transitive verbs) are arguments of the **root** (Embick 2004, Harley 2005).
- A **verbalizer v** assigns category V to the root (Marantz 1997).



(14) Mary ate the cake.

- a. $\llbracket vP \rrbracket = \lambda e. \text{eat}(\text{the cake})(e)$
- b. $\llbracket \text{Voice} \rrbracket = \lambda x \lambda e. \text{agent}(x)(e)$
- c. $\llbracket \text{Voice}' \rrbracket = \lambda x \lambda e. \text{eat}(\text{the cake})(e) \ \& \ \text{agent}(x)(e)$
- d. $\llbracket \text{VoiceP} \rrbracket = \lambda e. \text{eat}(\text{the cake})(e) \ \& \ \text{agent}(\text{mary})(e)$

In the case of **intransitive Non-Core Transitives**

- The relevant Voice head is **Active**.
- The internal argument slot has not been saturated; **vP** is of type e, st .
- **Existential Closure (EC)** closes off the open argument slot (cf. Chung and Ladusaw 2003).



(2) Mary ate.

- a. $\llbracket vP \rrbracket = \lambda x \lambda e. \text{eat}(x)(e)$
- b. $\llbracket \text{EC} \rrbracket = \lambda f_{e, st} \lambda e \exists x. f(x)(e)$
- c. $\llbracket vP1 \rrbracket = \lambda e \exists x. \text{eat}(x)(e)$
- d. $\llbracket \text{Voice} \rrbracket = \lambda x \lambda e. \text{agent}(x)(e)$
- e. $\llbracket \text{Voice}' \rrbracket = \lambda y \lambda e \exists x. \text{eat}(x)(e) \ \& \ \text{agent}(y)(e)$
- f. $\llbracket \text{VoiceP} \rrbracket = \lambda e \exists x. \text{eat}(x)(e) \ \& \ \text{agent}(\text{mary})(e)$

Question: When can a transitive verb leave its internal argument syntactically unexpressed?

Levin 1999, Levin & Rappaport Hovav 1998, Rappaport Hovav & Levin 1999:

- **Non-core transitive verbs (NCT)** allow omission of the internal argument.
- **Core transitive verbs (CT)** do not.

(15) a. Leslie ate (cookies) this morning. (NCT)
b. Leslie swept/scrubbed (the floor) this morning.

(16) a. John destroyed *(all the pencils) this afternoon. (CT)
b. John broke *(the window) this afternoon.
c. *Leslie broke again tonight when she did the dishes.

- The two classes differ with respect to **a number of tests**, all of them replacing the semantically selected object DP with a non-selected complement (see Bresnan 1982, Levin & Rappaport Hovav 1998, 1999, Levin 1999, Kratzer 2005):

- **Resultative formation:**

- (17) a. The child rubbed [the tiredness out of his eyes]. (NCT)
b. Cinderella scrubbed [her hands raw].

- (18) a.*The clumsy child broke [the beauty out of the vase]. (CT)
b.*The clumsy child broke [his knuckles raw].

- **'Fake' reflexives** (a special case of resultative formation):

- (19) a. John sang [himself sore]. (NCT)
b. John read [himself tired].

- (20) a.*The butcher killed [himself bloody/thirsty]. (CT)
b.*The vandal broke [himself tired/thirsty].

- **X-way construction** (a special case of the resultative formation):

- (21) a. John danced his way out of the room. (NCT)
b.*The butter melted its way off the turkey. (unaccusative)
c.*He destroyed his way into history books (CT)

- **out-prefixation:**

- (22) a. John out-ate Mary. (NCT)
b.*John out-broke Mary. (CT)

- The two classes differ in **event complexity**: Non-core transitives are **mono-eventive** while core transitive verbs are **bi-eventive** (resultative).

- (23) a. Leslie swept the floor. (NCT)
b. [x ACT <sweep> y]

- (24) a. John broke the vase. (CT)
b. [[x ACT] CAUSE [y BECOME <broken>]]

- The distribution of object drop follows from the Argument Realization Principle (ARP).

(25) **Argument Realization Principle** (Rappaport Hovav and Levin 2001: 779)

There must be one argument XP in the syntax to identify each sub-event in the event structure template.

- The object of a NCT (e.g. *sweep*) is an argument of the root/constant (**a constant participant**). The object of a CT (e.g. *break*) it is an argument of the result state (**a structure participant**).
- **Object drop in the case of a CT violates the ARP** since the result state is not identified by any argument.
- The **internal argument of mono-eventive predicates**, NCT, is an argument of the root, not of the event template. An arguments of roots, while semantically present, **does not have to be projected to the syntax**.
- **Note:** In all the acceptable constructions in (17-22), the verb combines with a **non-selected complement phrase**. The accusative DP is not the argument of the root, but the argument of a secondary predicate (e.g. *out of his eyes* in (17a), *sore* in (19a), *out* in (22)).
- The argument of the root, while not syntactically represented, is, nevertheless understood (e.g. some surface in the case of *rub*, some text in the case of *read*, and some song in the case of *sing*).
- In the analysis proposed here, the argument of the root is existentially bound in all these cases.
- As in examples with overt indefinites in out-of-the-blue contexts, we take the existential quantifier to be witnessed by something that is prototypically related to the verbal event.
- In the case of *eat*, the implicit object will be understood to be something prototypically edible (e.g. an apple, not a shoe). For *read*, it will be a text, not someone's face or lips.

The **interpretation** of intransitive NCTs

Evidence that the **implicit theme argument** is existentially bound and **not interpreted as a variable**: It can **never** receive a **bound variable interpretation**: (26a) corresponds to (26b) never (26c).

(26) **Context:** a magical world in which apples talk and wish to be devoured by Alice.

- a. Every apple told Alice that she should eat.
- b. Every apple told Alice that she should eat something.
- c. Every apple told Alice that she should eat it.

- The continuation in (27) is incompatible with the meaning of the first sentence: Whenever Sally cooks mushrooms, John never eats anything.

(27) Whenever Sally cooks mushrooms, John never eats. [#]Instead, he eats pasta with tomato sauce. (Martí 2006, (27))

- As (27) and (28), below, show, the existentially bound implicit argument **interacts with other operators**, like, e.g., **negation**. As is well known, only the narrow scope reading of the existential is possible (Fodor and Fodor 1980). In earlier approach this is the result of object drop being a lexical rule. In our analysis, **EC applies very low** (below the Voice head). In all accounts, negation attaches higher than that, so it will take wide scope over the existential.

(28) John didn't eat.

'John ate nothing. / [#]There is something that John did not eat.'

Evidence that the implicit theme argument is **not syntactically projected**.

- If the implicit argument were a null indefinite pronoun (cf. Merchant 2013 for passives) we would have to stipulate that it cannot undergo QR to exclude the wide scope reading.
- Implicit theme arguments license **no secondary predication** (Landau 2010):

(29) *John ate raw.

- Furthermore, *out*-prefixation and resultative formation discussed above should be impossible, as a verb cannot take more than one complement.

- (30) a. John out-ate (*pizza) Mary (*pizza)
 b. John ate (*pizza) himself (*pizza) fat (*pizza)
 c. Mary drank (*the water) teapot dry

Challenges to existential binding

- (2) can also have deictic readings. Andrew in (26b) is understood to be eating the mushrooms they just collected.

(31) a. **Context:** Klaus, Luisa and Andrew are in the kitchen. They have been discussing the dangers of the poisonous mushrooms they have just gathered in the forest.

b. **Luisa to Klaus (pointing at Andrew):** Look! He's eating! (Martí 2006, (2))

(32) $\llbracket \text{He's eating} \rrbracket^g = \lambda e \exists x. \text{eat}(e) \ \& \ \text{theme}(x)(e) \ \& \ \text{agent}(\text{Andrew})(e)$

No need for a free-variable interpretation of (31b) (Martí 2006).

The existential interpretation of (31b) in (32) is true of several events of Andrew eating edible stuff, an event of eating those particular mushrooms among them.

This would be the most relevant in the given context, since it would explain Luisa's expressed surprise and urgency. Confronted with (31b), then, Klaus concludes that it must a description of the most relevant event, an event of Andrew eating the poisonous mushrooms.

- Mittwoch (1982) challenges the existential analysis claiming that iNRVs are atelic, whereas overt indefinites in object position are telic. As Mittwoch herself notes, however, *for*-adverbials are licensed in the right context (34). The same holds for all of the examples in Mittwoch (1982).

(33) a. John ate for 1 hour.
b. *John ate something for 1 hour.

(34) A: John ate porridge for 10 minutes.
B: I do not think it was porridge, but he certainly ate something for 10 minutes.

2.2 Intransitive Naturally Reflexive Verbs

Derivation one: exactly identical to **object drop**.



(1) Mary washed.

- $\llbracket vP \rrbracket = \lambda x \lambda e. \text{wash}(x)(e)$
- $\llbracket EC \rrbracket = \lambda f_{e, st} \lambda e \exists x. f(x)(e)$
- $\llbracket vP1 \rrbracket = \lambda e \exists x. \text{wash}(x)(e)$
- $\llbracket \text{Voice} \rrbracket = \lambda x \lambda e. \text{agent}(x)(e)$
- $\llbracket \text{Voice}' \rrbracket = \lambda y \lambda e \exists x. \text{wash}(x)(e) \ \& \ \text{agent}(y)(e)$
- $\llbracket \text{VoiceP} \rrbracket = \lambda e \exists x. \text{wash}(x)(e) \ \& \ \text{agent}(\text{mary})(e)$

Derivation two: if **EC does not apply**, Voice and vP can compose via a combination of **Event Identification** and **Variable Identification** (Higginbotham 1985) (cf. Doron 2003, Kratzer 2009).¹

(35) Event and Variable Identification

$$\text{EVident}(f_{e,st})(g_{e,st}) \rightarrow h_{e,st} = \lambda x \lambda e. f(x)(e) \ \& \ g(x)(e)$$

The result is a **reflexive interpretation**. Notice, however, that (i) it **can only come about in cases of object-drop** (ii) the rule that identifies the agent and theme arguments is **not a designated reflexivization operation**, but an independently needed operation of predicate conjunction.

<pre> graph TD VoiceP --> DP VoiceP --> VoicePrime[Voice'] DP --> Mary1[Mary] VoicePrime --> Voice VoicePrime --> vP Voice --> Mary2[Mary] vP --> v vP --> WASH </pre>	(1) Mary washed. a. $\llbracket vP \rrbracket = \lambda x \lambda e. \text{wash}(x)(e)$ b. $\llbracket \text{Voice} \rrbracket = \lambda x \lambda e. \text{agent}(x)(e)$ c. $\llbracket \text{Voice}' \rrbracket = \lambda x \lambda e. \text{wash}(x)(e) \ \& \ \text{agent}(x)(e)$ d. $\llbracket \text{VoiceP} \rrbracket = \lambda e. \text{wash}(\text{mary})(e) \ \& \ \text{agent}(\text{mary})(e)$
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Naturally Reflexive Verbs are Non-core Transitives (Alexiadou and Schäfer, 2013)

- They allow **object drop**, **resultative formation**, **out-prefixation**, **fake reflexives as well as the X-way construction** (Goldberg 1997, Jackendoff 1990, 1992, Marantz 1992, Takehisa 2003):

- (36)
- John shaved and shaved and shaved
 - Mary shaved the razor blade edgeless.
 - Mary out-washed her sister.
 - John combed himself tired.
 - John washed/shaved his way into a better job

Importantly, they do so **under both a reflexive and a non-reflexive interpretation**, i.e. regardless of whether the participants are understood to wash or shave themselves or something else. This also holds for **'fake' reflexives**. Under the reflexive reading of *comb*, the

¹ We wish to thank Kyle Johnson for discussing this derivation with us.

result state that the overt reflexive enters is not the result state lexically associated with the verbal root but the one introduced by the secondary predicate

We predict all English NRVs to be mono-eventive, not bi-eventive: The internal argument is an argument of the root, not of the event template. Arguments of roots, while semantically present, do not have to be projected to the syntax.

It follows from the mono-eventivity of NRVs together with the ARP in (26) that **intransitive Naturally Reflexive Verbs are unergative in English.**² Unaccusativity diagnostics confirm this (cf. Reinhart and Siloni 2004). As before the results are identical under both interpretations of iNRVs.

- **Resultative formation** (see above in (36b))
- **Out-prefixation** (see above in (36c))
- **Fake reflexives** (see above (36d))
- **X-way construction** (see above in (36d))
- **er-nominalizations** (Reinhard & Siloni 2004):

- (37) a. She runs so fast because she is an experienced **runner**. (*unergative*)
 b.*She moves so gracefully because she is an experienced **mover**. (*unaccusative*)
 c. She dresses slowly because she is an elegant **dresser**. (*NRV → unergative*)

- Intransitive NRVs cannot license **object comparison readings**, which requires a transitive antecedent. (Dimitriadis & Que 2009)

- (38) John washes himself better than George.
 a. John washes himself more than George washes himself. *sloppy*
 b. John washes himself more than George washes John. *strict*
 c. John washes himself more than he washes George. *object comparison*

- (39) John washes more than George.
 a. John washes himself more than George washes himself. *sloppy*

² Given the Argument Realization Principle, if a language has iNRVs that are **intransitive and bi-eventive** (resultative), this points to an **unaccusative syntax of iNRVs**. This is the case in Greek as Embick (2004), Alexiadou & Schäfer (2013) and Spathas, Alexiadou & Schäfer (ms.) argue.

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| b. John washes more stuff than George washes stuff. | <i>strict</i> |
| c.*John washes himself more than he washes George. | <i>object comparison</i> |

The interpretation of intransitive NRVs

In the **non-reflexive reading (Derivation One)**, the implicit theme argument of iNRVs is **existentially bound**. (40a) corresponds to (40b) not (40c).

- (40) Context: a magical world in which apples talk and wish to be washed by Alice.
- a. Every apple told Alice that she should wash.
 - b. Every apple told Alice that she should wash something/ herself.
 - c. Every apple told Alice that she should wash it.

Scope: in the **non-reflexive reading**, the existential operator necessarily takes scope below negation, like other NCTs, (41). In the **reflexive reading (Derivation Two)**, it is the existence of a reflexive event that is negated: 'John did not wash John.'

- (41) John didn't wash.
'John washed nothing. / #There is something that John did not wash.'

In **out-of-the-blue** contexts and without contextual clues to the contrary (1) is taken to be a **description of a reflexive event**, i.e. to receive a reflexive interpretation.

- Due to **conceptual information** associated with the verbal event in the case of **Naturally Reflexive Verbs** there is a high expectation that agent and theme refer to the same entity.
- Hearers use all available information in order to specify the event that is being described.
- **Contextual clues** can provide further information that can **override** the expectation generated by the conceptual information and **favor the existential interpretation**.

- (42) Context: John works in a hotel. His job is to wash the bed sheets. He goes home in the evening and reports to his wife: A big group left the hotel this morning, so I had to wash all day long.

- (43) hahahaha!! i am SOOOO not good at "housewife" stuff, but i HAVE been keeping on top of laundry for a bit now! a few months ago i had piles so high i had to wash ALL DAY LONG!!³

³ http://community.babycenter.com/post/a23521413/why_i_have_resisted_domestication

- The **reverse holds for Naturally Disjoint Verbs**. In a context that makes the reflexive interpretation the most natural one, NDVs can be used in intransitive construals. Example taken from a forum of Borderline patients.

(44) I need advice before I start cutting again...PLEASE!⁴

- Importantly, we predict that **NDVs will be able to receive reflexive interpretations in intransitive construals only if they are Non-Core Transitive verbs**. Core Transitive verbs, like, e.g., *dry*, *destroy* are never understood reflexively regardless of context. *dry* can appear in an intransitive construal (anti-causative) but does not receive a reflexive interpretation. Notice that *dry* is an NRV (as confirmed by the fact in Dutch *afdrogen* ‘dry’ licenses SE-anaphors): so **being a NRV is not a sufficient condition for intransitive construals to give rise to a reflexive interpretation**.

(45) a. *Mary destroyed.
 b. John dried.
 ‘*John dried himself.’
 c. Jan droogde zich af.
 John dried SE off
 ‘John dried himself.’

4. Intra-Germanic variation

- **Question:** Why are **intransitive NRVs impossible in other Germanic languages** under reflexive interpretations?⁵
- All **other Germanic languages do not give rise to reflexive interpretations of iNRV** (e.g. (48)).
- All **other Germanic languages have to use the SE-reflexive** to derive the reflexive use of NRVs (e.g. (49)).
- Dutch, Norwegian, Swedish, (and probably also Danish and Icelandic) pattern with German.

(46) John washed.
a. 'John washed himself.'
b. 'John washed something, e.g. the dishes.'

(47) John didn't wash Mary, he washed himSELF.

⁴ <http://www.psychforums.com/borderline-personality/topic83088.html>

⁵ But according to Theresa Biberauer (p.c.) Afrikaans is like English.

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| <p>(48) Hans wäscht.
John washes
a.*‘John washes himself.’
b. ‘John washes something (i.e. clothes).’</p> | <p>(49) Hans wäscht sich (German)
John washes REFL
‘John washes himself.’</p> |
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- Recall that the reflexive interpretation of (48) is **not syntactically encoded**.
- The absence of a reflexive reading for (48) seems to be surprising under our analysis of object drop.

(50) **Generalization:** Only languages without SE-anaphors allow iNCTs in reflexive scenarios.

Proposal: The **difference between English and other Germanic languages**, is not a difference in their Voice systems, but a **difference in their anaphoric systems**.

- **SE-anaphors** are interpreted as bound variables due to the syntactic constellation they enter:
- SE-anaphors (bound variables) form a **syntactic Agree-chain** with their local antecedent (Fanselow 1991, Burzio 1991, 1998, Reuland 2001, 2011, Fischer 2006, Heinat 2006, Chomsky 2008, Kratzer 2009, Schäfer 2008, 2012).
- The **dependency** that leads to a bound variable interpretation is **syntactically encoded**.
- As we have been arguing, **English lacks a SE-anaphor** (contra Bergeton 2004, Bergeton and Pancheva 2012), i.e. an anaphoric element that establishes a syntactic dependency with its local antecedent.
- **English *himself*** is not an anaphor but a **reflexivizer** (an arity reducer).
- It does not form a syntactic chain and it is not translated into a bound variable.
- The reflexive semantics follow from the lexical meaning of this element.
- The reflexive interpretation is **not the result of syntactic dependency**.

The **argument from focus** (Spathas 2010, 2011): only **English *himself*** allows **Subject Alternatives**, **German *sich*** does **not**.

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| <p>(51) A: Zelda praised Oscar.
B: No, she praised herSELF.</p> | <p>(52) { Zelda praised x x in D_e} (<i>Object alternatives</i>)</p> |
|---|--|

(53) A: Oscar praised Zelda. (54) { x praised Zelda | x in D_e } (*Subject alternatives*)
 B: No, she praised herSELF.

(55) $[[\text{herself}]] = \lambda f_{e,et} \lambda x. f(x)(x)$
 (Partee and Bach 1981, Szabolcsi 1992, Lechner 2012, a.o)

(56) A: Zelda hat Oscar gelobt. (*Object alternatives*)
 B: Nein, sie hat SICH gelobt.

(57) A: Oscar hat Zelda gelobt. (*#Subject alternatives*)
 B: #Nein, sie hat SICH gelobt.

Understanding **Generalization (50)**:

- A **competition model that prefers syntactic operations to arrive at a specific interpretation over non-syntactic ones** (Reuland 2001).
- It follows that only in languages with SE-anaphors, the reflexive interpretation of iNRVs is blocked.
- **Prediction:** Languages with SE-anaphors should allow a reflexive interpretation of iNRVs in contexts where the use of a SE-anaphor is out for independent reasons. This prediction is borne out, though the set of test cases is very restricted.
- Recall that NCTs enter **resultative formation** involving unselected objects only iff they **drop their lexical object**. (This is also true in German.)

(58) a. John drank the water.
 b. John drank the teapot empty
 'John drank some fluid and as a result the teapot became empty.'
 c.*John drank the water the teapot empty.

- Consider the NRV *rasieren* 'shave'. As discussed above, it behaves like other NRVs in German in that it only allows reflexive interpretations in the presence of *sich*.

(59) Hans rasiert. John shaves a. * 'John shaves himself.' b. 'John shaves someone.'	(60) Hans rasiert sich. John shaves REFL 'John shaves himself.'
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- In **resultative secondary predication**, where ***sich* is disallowed**, (61) can be associated with both reflexive and disjoint interpretations. In out-of-the-blue contexts, the reflexive interpretation is preferred. It thus behaves exactly like intransitive NRVs in English.

(61) Hans rasierte die Klinge stumpf.

John shaved the razor-blade edgeless

- a. 'He shaved himself and as a result the razor blade became edgeless.'
- b. 'He shaved someone/something and the razor blade became edgeless.'

- NDVs like *cut involving* resultative formation get a reflexive reading, too, if the context provides support for such a construal.

(62) Hans schnitt das Messer stumpf.

Mary cut the knife edgeless

- a. 'He cut himself/his arm/his hair and as result the knife became edgeless.'
- b. 'He cut something and as a result the knife became edgeless.'

Dutch (p.c. Hedde Zeijlstra) and Norwegian (p.c. Kristine Bentzen, Terje Lohndal) behave like German. Swedish differs, but only because Swedish speakers do not accept the resultative example in ((62) to start with (p.c. Eva Klingvall, Björn Lundquist).

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