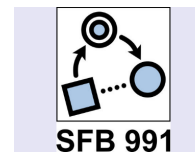


Modeling the semantics of *out-*prefixed verbs

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Intro: polysemy in derivation

- Most derivational processes polysemous (Bauer et al. 2013; Lieber 2004; Rainer 2014)

locative nouns	outhouse, outstation
locative participle adjectives	out-hanging, outstretched
locative verbs	outgas (sth.), outsource sth., out-migrate
comparative verbs	outrun so., outdollar so., outstubborn so.

Intro: polysemy in *out-*?

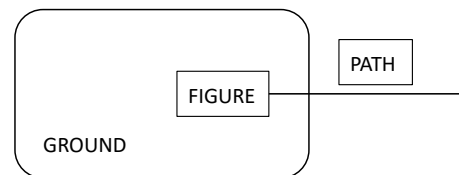
Locative:

1) ...some **energy will be outradiated** in a O₂/N₂ atmosphere only (iWeb)

Comparative:

2) Volume was tough to compare [...] So equipped, it **out-blasted the other two**. (iWeb)

- *out-* introduces a SOURCE-PATH
- PATH=SCALE metaphor?



(Talmy 2000; Tolskaya 2014; see Kotowski 2020 for arguments against)

Intro: polysemy in *out*-?

- What is polysemous, if anything?
- One underspecified affix meaning / polysemy in derivatives?
- Different morphological processes?

- Point of departure: **Synchronic semantic relationship**

(see Lieber 2004; Rainer 2014; Plag 1999; Olsen 2019)

Today: outline

- Based on attestations from (mostly) COCA/iWeb (~1,500 tokens/~800 types; see Davies 2008; 2018)
- Comparative far more productive than locative (see Schröder 2011); only 75 types (exhausts COCA, BNC)

- What are the properties of these two versions of verbal *out*-?
- Same or different (homophonous) derivational processes?
- How can they be modeled?

1. Intro
2. Comparison of (verbal) locative and comparative *out*-
 - Non-semantic properties
 - Semantic properties
3. Frame modeling as descriptive lexeme formation rules
4. Conclusion

2.

Comparing the properties of locative and comparative *out-*

Non-semantic factors: Stress properties

- 1) Hispanics as well as Asians are **óut-marrying** by something like 60%. (COCA)
- 2) ...between 1890 and 1920, black men **out-márried** white men. (iWeb)

3) óutshipped óouthaul óutradiate [locative]

4) outshíp outhául outrádiate [comparative]

- Locative: stress on prefix
- Comparative: stress on base
- No polysemy, but partial homonymy, if stress is a lexical property

Non-semantic factors: Syntactic frames and applicativity

Comparative

- 1) On and off camera, more girls are dishing about discharge, **outfarting their friends...** (COCA)
- 2) We try to **outdrink our friends** and end up as alcoholics. (COCA)
- 3) ??We try to outdrink.

- Always transitive; irrespective of base
- Clearly applicative

Non-semantic factors: Syntactic frames and applicativity

Locative

- 1) ...thousands [...] were **forced to out-migrate** to safe havens such as Eritrea and Sudan. (iWeb)
- 2) I have to run down to the armory **to outprocess a Soldier** mid month. (iWeb)

- Transitivity variable

- 3) They were nearly **forced to migrate to Minnesota** in the mid-1800s (COCA)
- 4) The **PCFs process soldiers** who are returning to military control while in desert status. (COCA)

- Follows properties of base; non-applicative

Non-semantic factors: Competing forms

Locative (cf. *outprocess*, *outload*)

- 1) When he returned to the US last month, he had 90 days **to process out of the Army**. (COCA)
- 2) It may be the friend who's always helping you [...] **load out equipment** at the end of the night. (iWeb)
 - Syntactic paraphrases (PPs/particles)

Comparative

- 3) ??We drank out our friends.
 - No syntactic paraphrases
 - No free form counterpart of *out* (see Tyler & Evans 2003)

Selectional restrictions: locative *out*-

- locative *out*- **not category-changing**
- All verbal bases semantically **dynamic**
- Nearly all base verbs including a **motion component** (see Croft 1990; Dixon 2005; VerbNet, Kipper et al. 2008)

- 1) outpour, outload, outgas (verbs of PUTTING)
- 2) outhaul, outdrag, outship (verbs of CARRYING/SENDING)
- 3) outradiate, outpop, outstream (verbs of EMISSION)

~80% of attested base verbs from these classes(cf. VerbNet)

- PATH-component part of base semantics

Selectional restrictions: comparative *out-*

Stative bases (pace Levin 1999)

1) outweigh, out-know

Change-of-state/Achievement (pace Tolskaya 2014)

2) out-sweeten, out-assassinate, outspot, outwin

Adjectival/nominal/phrasal bases (pace Nagano 2011) --> **category-changing**

3) out-poor, out-obnoxious, out-horsepower, out-industry, out-dirty-mouth, out-good-ol'-boy

- All aspectual classes, all major parts of speech attested as base

Compatibility with result semantics

Both prefix versions compatible with result semantics (Goldberg & Jackendoff 2004; Rappaport-Hovav & Levin 2001)

- 1) CAUSATIVE PROPERTY RESULTATIVE
Semantics: X1 cause [Y2 become Z3]
--> **outsit your neighbors.** (COCA) [comparative *out-*]

- 2) CAUSATIVE PATH RESULTATIVE
Semantics: X1 cause [Y2 go path3]
--> **outblast scent.** (OED) [transitive locative]

- 3) NONCAUSATIVE PATH RESULTATIVE
Semantics: X1 go path2
--> **out-migrate to safe havens** (iWeb) [intransitive locative]

Semantic factors: Event complexity

Comparative *out-* always includes 3 subevents (usually adding 2)

1) **We try to outdrink our friends** and end up as alcoholics. (COCA)

SUB₁: Subject-argument participant (CAUSE) – drink X amount

SUB₂: Object-argument participant (CORRELATION) – drink Y amount

SUB₃: Object-argument participant (EFFECT) – surpassed wrt amount/beaten in competition

2) Whatever you do to stay active this summer, make sure to stay hydrated and to properly fuel with healthy meals pre and post-burn. And remember, **you can never outrun a crappy diet!** (iWeb)

(van Valin & La Polla 1997; Rappaport-Hovav & Levin 1998)

Semantic factors: Event complexity

Locative *out-* adds no or 1 subevent(s)

1) Federally endangered **dry forest species to be outplanted** in the Kaupulehu preserve (COCA)

- Transitives usually include a causative base verb
- *out-*formation takes over causative semantics
- Specifies the EFFECT on Object-argument's RESULT LOCATION

2) ...**gas out-streaming** from the young stars in the clusters can feed [...] the black hole. (iWeb)

- Intransitives are non-causative: RESULT LOCATION is added

Semantic factors: Argument mapping

1) The crane ratchets of the later arrivals could still be heard clearly as **their crews outramped**.
(BNC)

- Intransitive locative: **ACT(SUBJECT) & BE/BECOME(OUT_OF_GROUND(SUBJECT))**

2) Mosquito repellent will **outblast scent**. (OED)

- Transitive locative: **ACT(SUBJECT) &_{CAUSE} BE/BECOME (OUT_OF_GROUND(OBJECT))**

- FIGURE-argument needs to be realized
- Transitive: FIGURE = Object
- Intransitive: FIGURE = Subject

Taking stock

Locative out-

Comparative out-

Differences

Not very productive

Primary stress on prefix

Variable transitivity

Category-preserving

Non-applicative

Equivalent free forms/paraphrases

No stative bases or readings

FIGURE transitivity-dependent

GROUND/GOAL flexible

Addition of 0/1 sub-events

Robustly productive

Primary stress on base

Always transitive

Regularly category-changing

Clearly applicative

No equivalent free forms/paraphrases

Stative bases & readings

(Alleged) FIGURE Subject

(Alleged) GROUND Direct Object

Addition of 2 sub-events

Commonalities

Resultative (change-of-location v change-of-(property-)state)

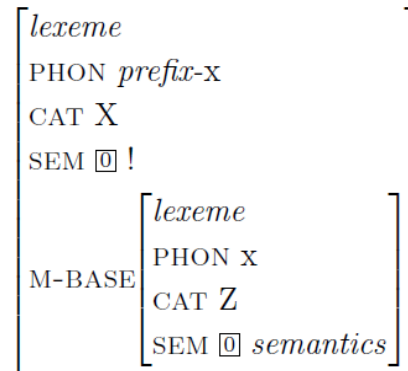
(Sub-event adding)

3.

Modeling lexeme formation rules in frames

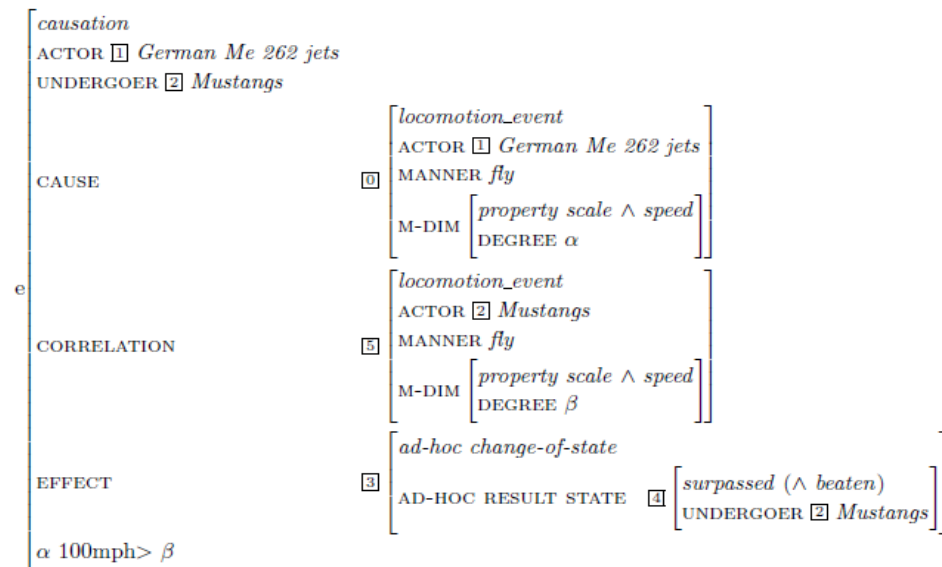
Modeling: Frame semantics

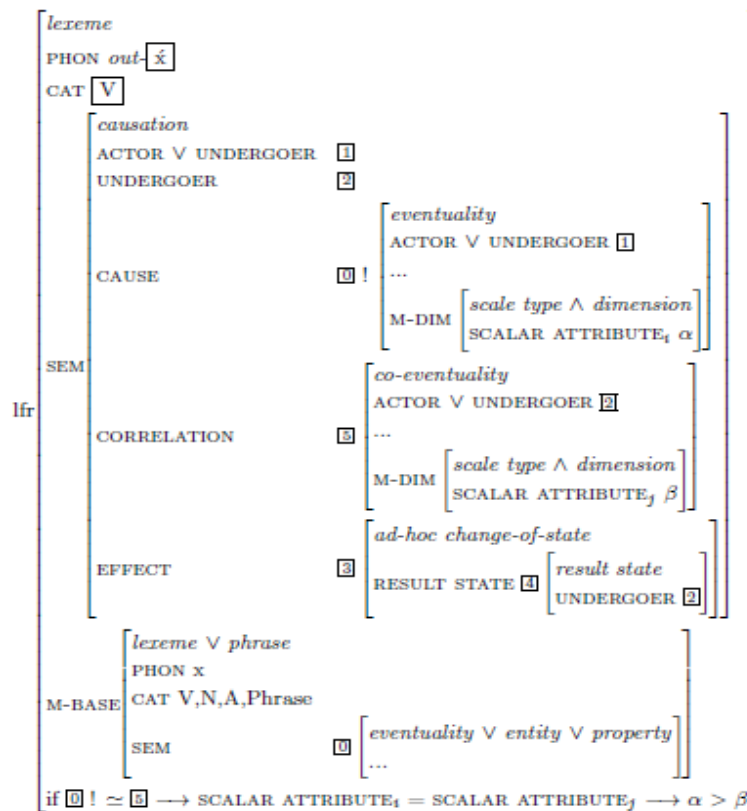
- A frame is a recursive attribute–value structure (Barsalou 1992; Löbner 2014; Petersen 2007)
- Attributes are unique to the attribute holder and take a single value at one point in time
- Lexical rules operating on and manipulating base structures (Andreou 2017; Bonami & Crysmann 2016; Koenig 1999)
- Descriptive rules: generalization over attestations and in consequence the lexicon



Actual example for “comparative” *out-*

The German Me 262 jets could outfly the Mustangs by 100 MPH in level flight. (iWeb)



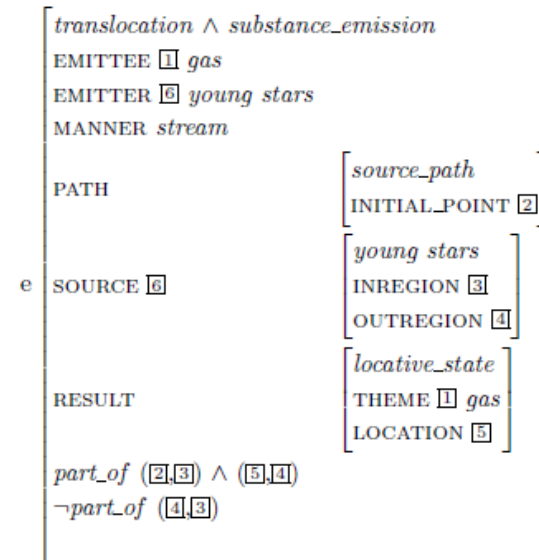
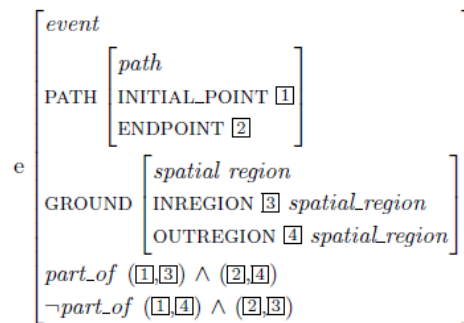


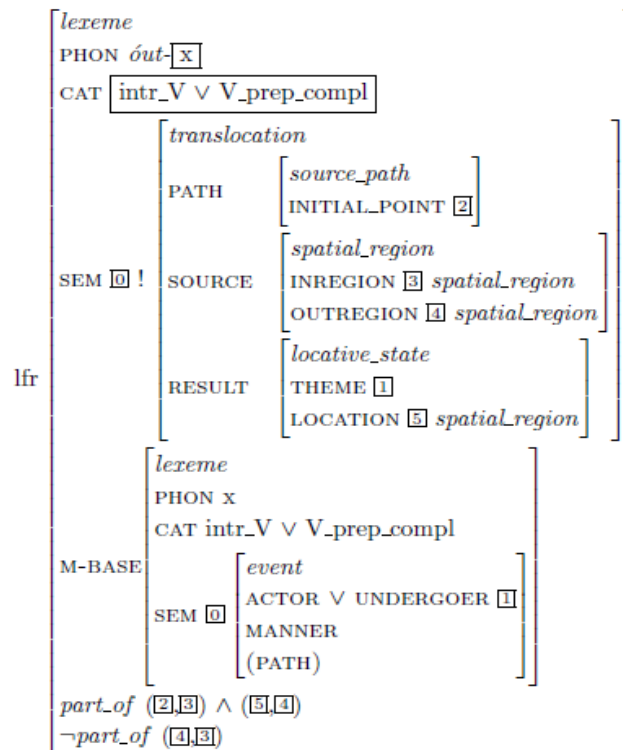
Ifr for “comparative” *out-*

- Based on causation frames in Kallmeyer & Oswald (2013)
- Assumption of 2 new subevents added to the base structure: CORRELATION and EFFECT
- Making use of Andreou’s (2017) “0!”-notation for structure copying (see Sag 2012)
- coerces any base into an eventuality and searches for similarity / compatibility of CAUSE on CORRELATION
- Constraint regulates applicability of comparative semantics

Actual example for intransitive locative *out-*

In turn, **gas out-streaming from the young stars in the clusters can feed and energise the black hole.** (iWeb)





lfr for intransitive “locative” *out-*

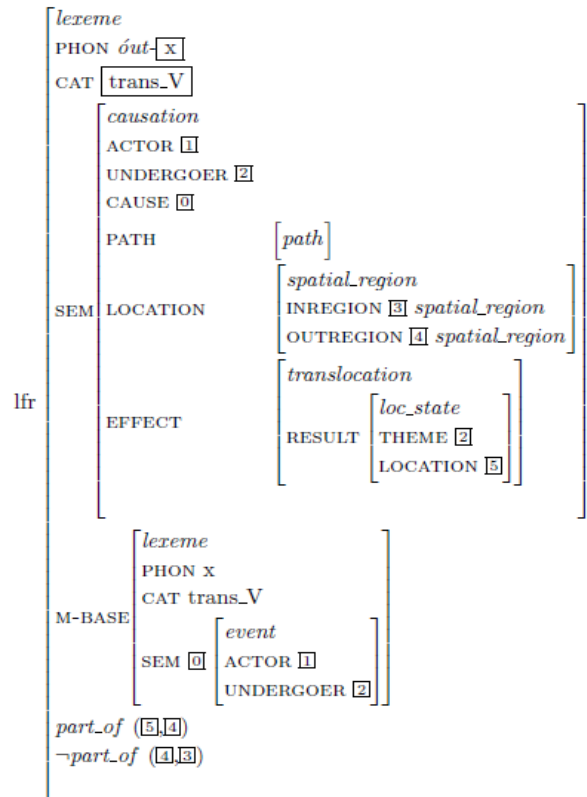
- Denotes *translocation* event
- Assumption of 1 new subevent added to the base structure: EFFECT
- Mereological constraints regulate the configurations between LOCATION (GROUND) and RESULT LOCATION

Conclusion

- Locative/comparative *out*- both fall in the resultative spectrum
- Structural differences between two senses outweigh commonalities by far
- One core meaning for verbal *out*-? Unclear what is gained; large amount of structure needed to disentangle senses
- More likely: locative and comparative *out*- have developed into homophones (and partial ones at best)
- Obviously, there's a historical story to tell

Thank you

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lfr for transitive “locative” *out-*

- Also denotes *causation* event
- Assumption of 0/1 new subevents added to the base structure: EFFECT
- Mereological constraints regulate the configurations between LOCATION (GROUND) and RESULT LOCATION