

How to ‘Suppress’ an Internal Argument*

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1 Introduction

- ◆ English has a grammatical construction, “**out-PRED**”, in which *out-* occurs as a prefix¹ to a predicate
- ◆ Some examples of out-PRED, as attested on the internet, in books, and in periodicals:
 - (1) a. Armageddon **outgrossed** Deep Impact. (<http://bit.ly/2wUo66w>)
 - b. Google has **outdone** itself today (<http://bit.ly/1GY0Np0>)
 - c. Neither one **outsang** the other. (<http://bit.ly/19PZpup>)
 - d. Credit where credit is due - no one can **out-Mariah** Mariah. (<http://bit.ly/2x4NLK1>)
 - e. Feral hogs can **outcompete** and **outreproduce** deer. (<http://bit.ly/2NYjpPI>)
 - f. Sweet Potato **Out-Yields** Corn in Ethanol Production Study (<http://bit.ly/2LEllGg>)
 - g. By 2017, connected devices will **outnumber** people. (<http://bit.ly/1BqSr4l>)
 - h. [...] business interests **outresearched**, **outspent**, and **outlobbied** poorly funded and loosely organized groups (<http://bit.ly/1CcGikq>)
- ▶ Salient property: out-PRED is robustly transitive, regardless of the valency/valencies of PRED

TODAY'S QUESTIONS

- ◆ What are the basic grammatical properties of these out-PRED predicates?
- ◆ What are the argument structure properties for out-PREDS? Where do they come from?
- ◆ How much of argument structure depends on the lexical predicate, and how much depends on the surrounding functional structure?

- ◆ Previewing the conclusions:
 - ▶ out-PREDS are **actively derived in the syntax**
 - (*i.e., they are not formed/listed in a pre-syntactic lexicon*)
 - ▶ out-PREDS' **argument structural properties are controlled by *out-*** rather than by PRED
 - out-PRED diverges from PRED's argument structure, in consistent ways

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¹I use this term pre-theoretically, to refer to a morpheme that occurs before a (morphologically free) stem. I will not address the question of whether precisely this morpheme ought to be analyzed as a particle, preposition, or something else.

- ▶ Following these (and other) conclusions, out-PRED will be analyzed (roughly) as:

(2) [_{ExtArgP} Armageddon [_{IntArgP} Deep Impact [_{OutP} out- [_{VP} gross]]]]

▷ (N.B. *ExtArgP/IntArgP* are simply shorthands for argument positions²)

- ◆ Broad conclusions, based on out-PRED:

- ▶ When an object merges with a predicate, it is mediated by functional structure

- Thus transitives like *gross* (cf. (3a)) would be modeled with a structure like (3b):

(3) a. Armageddon grossed *(millions).

b. [_{ExtArgP} Armageddon [_{IntArgP} millions [_{VP} gross]]]

- **The object of a predicate is not the syntactic complement of a lexical head**

- This coheres with well-established analyses of subjects³ and other analyses of objects

- Objects are syntactically introduced in a functional projection of the verbal structure

◊ (Borer 2005a,b, Ramchand 2008, Bowers 2010, Lohndal 2012, Alexiadou 2014, Cuervo 2014, Svenonius 2016, a.o.; *but* see Harley 2014a,b for arguments to the contrary)

- ▶ Also, **the functional structure where the object merges is not obligatory**

- Even robustly transitive predicates (e.g., *gross*) can appear without its object (cf. (2))

- This gives the *appearance* of internal-argument suppression

2 Basic Morphology of Out-PRED

2.1 out-PREDs are Productively Formed

- ◆ There are some very high frequency and salient out-PREDs, which appear to be somewhat idiomatic

(4) a. **out-do oneself**: exceed the (high) standards one had previously established

b. **out-smart / out-wit / out-fox**: to defeat, by using clever thinking

c. **out-gun**: to have more guns/arms

d. **out-number**: to exist in a greater number

- ▶ One might be tempted to say that out-PRED is not the output of morphosyntactic processes

- Even these more idiomatic cases exhibit the grammatical properties common across out-PRED that we will uncover

- ◆ However, the evidence suggests that out-PRED formation is indeed a productive process

- ▶ out-PRED can be formed using new(er) lexical items

(5) a. I'm known as "the researcher", that guy that can **out-Google** anyone (<http://bit.ly/2JZhZl1>)

b. Kate Moore [...] **out-texted** more than 250,000 participants (<http://cnn.it/1xhXHfs>)

²There is almost certainly more structure to predicates, which I will not make explicit in this talk (possibly especially relevant, but not included: projections for dynamicity/stativity, case licensing, etc.)

³External arguments are argued to be severed from the lexical predicate's XP, on the basis of, e.g., verbal morphology, idioms, adverbial modification, semantic composition, and grammatical voice, see *Larson 1988, Marantz 1984, 1997, Hale and Keyser 1993, Chomsky 1995, Kratzer 1996, von Stechow 1996, Pylkkänen 2002, Harley 2013*, among many others.

► out-PRED can be formed on proper names

- (6) a. We would all love to **out-Einstein** Einstein by coming up with a better theory of gravity. (<http://bit.ly/2nctg8B>)
- b. Has Kanye West just **out Kanye’d** himself? (<http://bit.ly/2LsyjAk>)
- c. Goin’ to Lady Gaga tonight? EVERYONE is dressing up! We have everything here to help you **out-Gaga** your fellow concert-goers!! (<http://fb.me/BwjmlpD6>)
- d. Merkel has **out-merkeled** them again (<http://bit.ly/2AeFTcL>)
- While ‘*out-NAME NAME*’ construction has been noted in the past,⁴ ‘*out-NAME*’ is not restricted to this context: (6) shows they can occur with a variety of objects

► The stem to which *out-* attaches can itself be morphosyntactically complex

- (7) a. [*Cleaning products are being compared in effectiveness.*]
This one **out-disinfects** the others.
- b. [*Budweiser/Miller/Coors all make bad beer, but they can spend a lot of money to brainwash people into liking their beer. Smaller companies with bad beer don’t stand a chance to do as well as B/M/C.*]
[...] they don’t have the resources to **outbrainwash** B/M/C. (<http://bit.ly/2oRMnWA>)
- c. [*Jeff has 30 years of experience with sailing and sail racing, making him an expert.*]
Jeff can **out-strategize** any newcomer (<http://bit.ly/2wVluDB>)
- d. [*Two politicians, Mr. Harper and Mr. Martin are trying to show people they are nice guys, doing things all the political niceties of shaking hands, kissing babies, and metaphorically fingerpainting at kindergartens.*]
[Mr. Harper]’s been trying to **out-fingerpaint** Mr. Martin (<https://tgam.ca/2Mdejxk>)
- e. [*You and I were each given the same email to re-word. Your new version of the email is better than mine.*]
You **out-reworded** me.
- f. [*My old oven takes a long time to pre-heat, but my new oven pre-heats very quickly.*]
My new oven **out-preheats** my old oven.

► out-PRED can be formed on an existing out-PRED

- (8) [*I₁ always run faster than everyone in my₁ class, and Kim₂ always runs faster than everyone in their₂ class too. However, Kim₂ always outruns everyone in their₂ class to a much greater extent than I outrun everyone in my class.*]
Kim **out-outruns** me.

- This mostly clearly demonstrates the morphosyntactic productivity of out-PRED:

◇ *out-* prefixation can apply recursively

◆ It must not be the case that each out-PRED is listed in a static lexicon⁵

⁴A post on Language log discusses these examples: <http://itre.cis.upenn.edu/~myl/language-log/archives/003430.html>. Entry 4c(c) for “out-, prefix” provides many examples of this as well. (<http://www.oed.com/viewdictionaryentry/Entry/133398>).

⁵Based on what we have seen so far, it is indeed possible that an out-PRED is formed in an active lexicon, if such a linguistic module exists —though see Marantz 1997, Borer 2005a,b, or Ramchand 2008, among many others, for detailed arguments against such a module— so long as that active lexicon allows for processes that manipulate argument structure properties (valency, types of thematic relations, passivizability, etc.).

2.2 PRED is Active in the Derivation

- ◆ If out-PRED is productive, we should expect PRED to be active in the morphosyntactic derivation
- ◆ Additional evidence of this comes from allomorphy
 - ▶ out-PRED forms inherit all the morphophonological irregularities of the stem to which they attach:

(9) Past forms for “(out)-think”

- a. think + -PAST = thought (*thinked)
 b. out-think + -PAST = out-thought (*out-thinked)

(10) Past and past participle forms for “(out)-drive”⁶

- a. drive + -PAST = drove (*drived)
 b. out-drive + -PAST = out-drove (*out-driven)
 c. drive + -PASTPART = /dɹɪvŋ/ (*/dɹajvŋ/)
 d. out-drive + -PASTPART = out-/dɹɪvŋ/ (*out-/dɹajvŋ/)

(11) Past, past participle, and 3.SG present forms for “(out)-do”

- a. do + -PAST = /dɪd/ (*/dud/)
 b. out-do + -PAST = out-/dɪd/ (*out-/dud/)
 c. do + -PASTPART = /dʌn/ (*/dun/)
 d. out-do + -PASTPART = out-/dʌn/ (*out-/dun/)
 e. do + -3.SG.PRES = /dʌz/ (*/duz/)
 f. out-do + -3.SG.PRES = out-/dʌz/ (*out-/duz/)

- ◆ Premise: irregular morphological forms are tied to particular lexical items
 - ▶ out-PRED *always* uses the same allomorph as PRED would in the same context
 - ▶ If out-PRED and PRED were listed separately in the lexicon, this would be unpredicted
- ◆ If out-PRED were listed as separate lexical items, we should predict (at least some) regularization by *out-* prefixation, along the lines of (12)

(12) Past forms for “(green)-light”

- a. light + -PAST = lit
 b. green-light + -PAST = green-lighted

(13) Past forms for “(pile)-drive”

- a. drive + -PAST = drove
 b. pile-drive + -PAST = pile-driven

- ▶ *light* and *drive* have irregular past forms when occurring alone, but the regular past form can be used when they occur as part of compounds like *green-light* or *pile-drive*⁷
- ▶ Conversely, no speakers (to my knowledge) allow *out-driven*

⁶In the sense of steering a vehicle.

⁷Three possible explanations for *pile-driven*: (i) *pile-drive* is listed as its own atomic lexical item, (ii) *pile-drive* is morphologically derived but *drive* is not treated as a verb in the derivation, (iii) *drive* is treated as a verb in the derivation of *pile-drive*, but not with the right kind of locality or visibility at the relevant level of the derivation where tense enters into play.

LEXICAL STATIVITY/DYNAMICITY

- ◆ Lexical properties⁸ of stativity/dynamicity also suggest PRED is active in the derivation of out-PRED
 - ▶ For so-called lexically stative PREDs, out-PRED also behaves as lexically stative
 - (14) a. #James is weighing 75kg.
 - b. #James is **outweighing** Josh.
 - (15) a. #They are numbering 10,000.
 - b. #They are **out-numbering** us.
 - ▶ Conversely, for any PRED that can appear in the progressive with this interpretation, out-PRED can as well
 - (16) a. Joanna is singing a song.
 - b. Joanna is **out-singing** Louisa.
 - ▶ In this way, the syntax/semantics must also be able to identify PRED in an out-PRED context, so as to identify its lexical stativity/dynamicity

- ◆ **Evidence from productivity, allomorphy, and stativity/dyanmicity suggest that PRED is derivationally active in out-PRED clauses**
 - ▶ Given a model in which such phenomena can only be tied together through syntax, out-PRED must have a core in syntax

PRODUCTIVE AND SYNTACTIC NATURE OF OUT-PRED

(17) out-PRED formation is a productive syntactic process of English

2.3 The Interpretive Core of out-PRED

- ◆ To investigate the basic interpretive properties of out-PRED, let us focus on *outcook* as in (18a)
 - (18) a. Mike clearly **outcooked** everyone else.
 - b. Strontium-based glow-in-the-dark paints **out-glow** zinc-sulfide-based ones.
 - c. Michael can't **outdance** Janet.
 - d. James **outweighs** Josh.
 - e. Connected devices now **outnumber** humans.
 - f. In terms of writing credits, Lennon slightly **outwrote** McCartney for the first two albums
 - g. My book club can **out-drink** your book club. (<http://bit.ly/1HUmVUP>)
 - h. 78-Year-Old Natator Says He Can **Outfloat** Rivals (<http://bit.ly/1FJXJ2w>)
 - ▶ **Abstract interpretation**
 - "SUBJECT was in a PREDICATE event/state, in some way better than OBJECT".⁹

⁸This information could be stored directly in the lexical for the lexical item corresponding to the PRED, or it could be that "PRED" is a shortcut for syntactic structure of a certain size that may include information about 'lexical' stativity/dynamicity.

⁹I do not aim to do full justice to the comparative semantics or its syntactic correlates here. There are indeed issues here which merit their own investigation, and which can yield a more complete view on the structural properties of out-PRED.

- ▶ More concretely for (18a): “Mike cooked better than everyone”
 - On what dimension Mike cooked better than everyone is left unspecified in (18a)
 - ◇ If it is a competition of speed, then he cooked faster; if it is a competition of taste, then his food tasted better; etc.
 - In this way, the object of *outcook*, *everyone*, is not construed as having the same semantic relation to *cook* as typical objects of transitive *cook*
 - ◇ The object is not construed as an object of PRED
- ◆ Note that *out-* does not force the subject/object to be construed as thematically related to PRED in any particular way
 - ▶ **out-PRED’s subjects/objects can be construed as having a range of semantic relations** to the event/state in question, as in in (19)–(21)
 - (19) Volitional initiators of an event
 - a. Gorbachev is **outmaneuvering** his critics. <http://trib.in/1EGgwq6>
 - b. He **outsells** all our other salespeople. <http://bit.ly/1CqpKJV>
 - (20) Undergoers of change in an event
 - a. This food **outlasts** even a Twinkie. <http://bit.ly/1OyYvSw>
 - b. Mustangs are **outselling** all other pony cars now. <http://bit.ly/2O4OQaY>
 - (21) Holder of a mental state in an event
 - a. Students [doing X] **outrecalled** students [doing Y]. <http://bit.ly/1btQXRZ>
 - b. And a bear can **out-smell** even a bloodhound. <http://bit.ly/1BMPvz3>
 - ▶ At the same time, for a given clause, the subject and object of out-PRED **must share the same relation** to that event/state¹⁰
 - A subject/object of *out-sell* could be construed either as volitional initiator, as in (19b), or as an undergoer of change, as in (20b)
 - ◇ But *both* must share the *same* semantic construal
 - ‘*Mustangs outsell all our salespeople*’ would only be coherent in worlds quite dissimilar ours (e.g., one where Mustangs are agentive sellers, or one where salespeople are sold)
 - ◆ Thus out-PRED can be defined on the basis of interpretive characteristics, summarized in (22)

INTERPRETATIVE CORE OF OUT-PRED

- (22) The subject and object of out-PRED are construed as having the same semantic relation to the event/state, and the subject is evaluated doing/being better than the object.

¹⁰Some ‘out-’ prefixed predicates allow an internal argument that is a standard or point on a scale (e.g., ‘*Both of these two portfolios outperformed the market average...*’ [<http://bit.ly/2vv2kVm>], where the market average cannot be said to perform). True examples of out-PRED do *not* allow this: e.g. **John outran the average time*. Examples that allow these sorts of internal arguments also appear to have different grammatical properties; *out-perform* cannot be easily passivized here (?**The market average was outperformed...*), unlike the out-PREDs discussed here (including *out-perform* with different types of arguments); see (41)–(40) and surrounding discussion.

SIDEBAR: A DIFFERENT OUT-

- ◆ The characterization in (22) separates out-PRED from other superficially similar forms
 - ▶ For example, *out-* occur prefixed to other predicates, with a directional meaning, as in (23)
 - (23) Directional *out-* (*not* cases of out-PRED)
 - a. The financial sector outsources technical services. (<http://bit.ly/1HKvRZC>)
 - b. The program won't output the letter grade. (<http://bit.ly/1ETW6MS>)
 - c. They [...] outrighted right-hander Todd Williams to Tacoma. (<https://nyti.ms/2CzerYu>)
 - ▶ Supporting evidence to separate these superficially similar forms comes from stress
 - ◇ Directional *out-* bears word-level stress in these examples (like the first member of a two-word compound) – i.e., *óutsource*, *óutput*, and *óutright*
 - ◇ But the *out-* of out-PRED is less stressed than the predicate to which it prefixes – e.g., *outnúmero* or *outcóok*.
 - ▶ Most importantly, directional *out-* predicates **do not exhibit the grammatical properties of out-PRED** that we will uncover in the remainder of this talk

3 out-PRED's Argument Structure

3.1 Number of Arguments

- ◆ out-PREDs are robustly mono-transitive

- ▶ Unaccusative¹¹ PRED

- (24) a. In math class, this student shines.
- b. In math class, this student **outshines** others.

- (25) a. This candidate polls well.
- b. This candidate **outpolls** that candidate.

- (26) a. The signs hung for a long time.
- b. The signs with name-brand tape **out-hung** those with store-bought tape.

- ▶ Unergative PRED

- (27) a. Mike danced.
- b. Mike **outdanced** Janet.
- (28) a. Sleeping Beauty slept.
- b. Sleeping Beauty **outslept** the dwarves.

- ▶ Monotransitive PRED

- (29) a. She thinks about syntax.
- b. She **outthinks** them.

¹¹By 'unaccusative', I simply mean that an internal argument ends up as the subject, without passive voice. In this way, it is a cover-term, encompassing anticausatives, ergatives, etc.

- (29) a. He spent his inheritance.
 b. He **outspent** his siblings.
- (31) a. James weighs 75kg.
 b. James **outweighs** Josh.
- (32) a. Iron Man 2 grossed \$625million.
 b. Iron Man 2 **outgrossed** Iron Man 1.

► Ditransitive PRED¹²

- (33) a. Jackie donated money to museums.
 b. Jackie **outdonated** Lisa.
- (34) a. Our group gave blood to the Red Cross.
 b. Our group **outgave** a local hospital.

◆ **The object of PRED can never surface in PRED**

► Regardless of whether the object is obligatory in other usages of PRED

- (35) a. She **outthinks** (**about syntax*) them (**about syntax*).
 b. He **outspent** (**his inheritance*) his siblings (**his inheritance*).
 c. James **outweighs** (**75kg*) Josh (**75kg*).
 d. Iron Man 2 **out-grossed** (**\$625million*) Iron Man 1 (**\$625million*).
- (36) a. Jackie **outdonated** (**money*) (**to museums*) Lisa (**money*) (**to museums*).
 b. We **outgave** (**blood*) (**to the Red Cross*) a local hospital (**blood*) (**to the RC*).

- ◆ This means that out-PRED's argument structure can be defined uniquely, apart from the argument structure of PRED

ARGUMENT STRUCTURE OF OUT-PRED

- (37) out-PRED is obligatorily monotransitive, regardless of PRED's typical argument structure

¹²It has been suggested that what is happening in these cases is that the verbs are being coerced into an activity reading. I do not disagree. What this work concerns itself with is the nature of morphosyntactic derivation that would be necessary to achieve such a coercion. (And morphosyntax must be involved, given the morphosyntactic properties/constraints discussed here.)

SIDEBAR: RECOVERABILITY

- ◆ Though out-PRED is productive, it appears to be constrained by recoverability of the internal argument(s)
 - ▶ Recoverability is a necessary condition on out-PRED, but it is not recoverability that *causes* the suppression
 - ▶ The argument is equally salient in the following PRED and out-PRED examples, but is obligatory in PRED and impossible in out-PRED
 - (38) a. Speaking of red wine, France produces *(red wine).
 - b. ...in terms of red wine, France usually **out-produces** Italy. (<http://bit.ly/1BMLive>)
 - (39) a. Speaking of car engines, this radiator cools *(car engines).
 - b. (*CONTEXT: discussion of various radiators' abilities to cool car engines*)
 ...it **outcools** my stock radiator significantly (<http://bit.ly/1FVRSpF>)

3.2 Passivization

- ◆ Similar to instrumentals, passivization is also controlled by higher syntactic material in a predicate's extended projection (Kratzer 1996, Sailor and Ahn 2010, Harley 2013)
 - ▶ Strikingly, out-PRED can always be passivized – regardless of whether PRED can be
 - (40) a. Mike cooked tofu.
 - b. Tofu was cooked (by Mike).
 - c. Mike out-cooked everyone else.
 - d. Everyone else was out-cooked (by Mike).
 - (41) a. By mid-September, they numbered 10,000.
 - b. * By mid-September, 10,000 were numbered (by them).
 - c. By mid-September, they out-numbered us.
 - d. By mid-September, we were out-numbered (by them).
 - (42) a. Titanic 2 didn't run in theaters for a very long time.
 - b. * Theaters weren't run in for a very long time (by Titanic 2).
 - c. Titanic 2 didn't outrun Titanic, which ran for a very long time.
 - d. Titanic, which ran for a very long time, wasn't outrun by Titanic 2.
 - ▶ Because passivization can always occur apply to an out-PRED, it must be that **some properties of out-PRED's extended projection are constant** across out-PREDs
 - Such that passives are possible
 - ▶ Moreover, **out-PRED's extended projection may fundamentally differ from PRED's**
 - Such that passivizability of PRED is irrelevant

EXTENDED PROJECTION OF OUT-PRED

- (43) out-PRED's extended projection is distinct from PRED's, wrt syntactically high properties

3.3 Meaning of Out-

- ◆ Recall: *out-* creates a comparison between the subject and object, as it relates to some event(s) defined by PRED
 - ▶ Surprisingly, it is **not the case that the subject and object must be arguments of PRED**
 - ▶ Consider the entailments that do not hold (cf. Marantz 2009)
 - (44) I can **outpace** the bus on my bike
 - a. does not entail '*I pace*'
 - b. does not entail '*the bus paces*'
 - (45) Aircraft carriers can **out-run** almost any other boat
 - a. does not entail '*aircraft carriers run*'
 - b. does not entail '*almost any other boats run*'
 - ▶ Moreover, PRED need not be able to occur with clausal arguments of its own at all
 - (46) I was **out-numbered**.
 - a. * I was numbered.
 - b. * I numbered (one).
 - (47) We **out-smarted** them.
 - a. * We smarted.
 - b. * They smarted.
 - (48) She **out-Einstein'd** Einstein.
 - a. ? She Einstein'd.
 - b. ? Einstein Einstein'd.
- ◆ Instead, the lexical predicates **are in the derivation to help identify the scale of comparison, not to introduce arguments**
 - ▶ Lexical predicates like *pace*, *run*, *number*, *smart*, *Einstein* are suggestions about what kind of scale to use to compare the subject and object
 - (See Tolskaya 2014 for a formalization and discussion of this)
- ◆ In other words, the subject and object of out-PRED are arguments of comparison introduced by *out-*, **not** arguments of PRED

ARGUMENTS IN OUT-PRED

(49) Arguments in out-PRED are arguments of *out*, not arguments of PRED

- ▶ Additional evidence of this will be discussed in §5.3
- ▶ (And even more evidence can be found in the appendix)

4 The Grammatical Structure of out-PRED

4.1 Recalling Generalizations

(17) **Productive and Syntactic Nature of out-PRED**

out-PRED formation is a productive syntactic process of English

(22) **Interpretative Core of out-PRED**

The subject and object of out-PRED are construed as having the same semantic relation to the event/state, and the subject is evaluated doing/being better than the object.

(37) **Argument Structure of out-PRED**

out-PRED is obligatorily monotransitive, regardless of PRED's typical argument structure

(43) **Extended Projection of out-PRED**

out-PRED's extended projection is distinct from PRED's, wrt syntactically high properties

(49) **Arguments in out-PRED**

Arguments in out-PRED are arguments of *out*, not arguments of PRED

◆ Key ideas:

- ▶ out-PRED is formed syntactically
- ▶ its argument structure is monotransitive and enforced by *out*
- ▶ PRED does not introduce any arguments

4.2 An Analysis of out-PRED

4.2.1 Some Assumptions

◆ **Adopted view:** a 'late-insertion' model

- ▶ Morphosyntax builds structures with abstract features alone
 - The lexical items are inserted on the basis of those structures¹³
 - Lexical predicates can be seen as identifying the relevant event

◆ **Adopted view:** structures that have been built cannot be destroyed

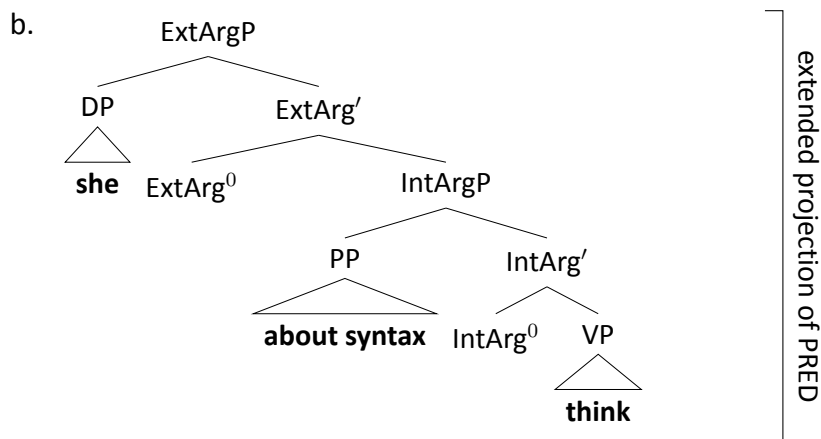
- ▶ This would violate the No Tampering Condition and the Extension Condition (cf. Collins and Stabler 2016)
- ▶ Koontz-Garboden's (2007) Monotonicity Hypothesis: adding morphemes cannot destroy syntactic structure
- ▶ Thus **'argument suppression' cannot be modeled as merging a feature to destroy previously established structure**

¹³There are different ways of implementing this. I will mention only two here. One way is to have the lexical predicate inserted at a particular point in a span of possibly multiple lexical+functional syntactic heads (e.g., Svenonius 2012, Ramchand 2018). Another is to have predicates be the spell-out of structural complexes (possibly formed by movement) plus some Vocabulary Insertion rules (e.g., Halle and Marantz 1993, Embick and Noyer 2007).

4.2.2 Structure

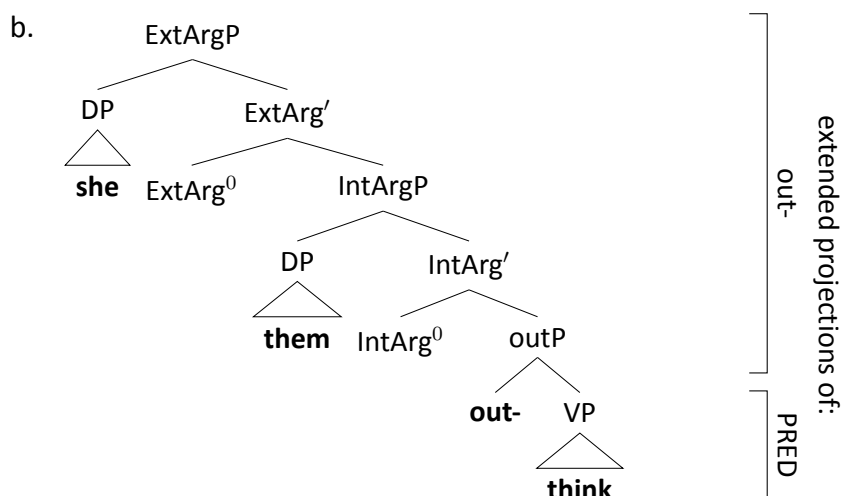
- ◆ In out-PRED, all of PREDs arguments are suppressed (i.e., not syntactically introduced)
 - ▶ This suppression is the essential effect of *out-* prefixation
 - ▶ Because of Monotonicity, it cannot be that *out-* destroys any arguments introduced by PRED
- ◆ At the same time, PRED is active in the syntactic derivation, (17)
 - ▶ Therefore, **PRED must merge, but its arguments must not**
 - ▶ For PRED to be able to merge without its arguments, it must be that a sentence like (50a) has a structure like (50b), with the internal argument outside of the VP

(50) a. She thinks about syntax



- The lexical predicate *think* identifies the type of event
- The extended projection of *think* (the line on the right) includes all of *think*'s arguments
 - ◇ (IntArgP/ExtArgP are simply shorthands – nothing rests on there being a stable position for these, except that these positions are outside of what includes the lexical predicate)
- ◆ On the other hand, in out-PRED, PRED merges but does not have much of an extended projection
 - ▶ The extended projection that houses the arguments is an extended projection of *out-*

(51) a. She **outthinks** them



- *think*'s function is to identify what kind of scale to be used in the interpretation
 - ◇ The argument structure is in the extended projection of *out-*

- ◊ Note that the *out-think* takes a nominal object, while *think* takes a prepositional one
- ◆ Syntactically high properties like passivization are related to the extended projection of *out-*
 - ▶ Which is why all out-PREDs are passivizable
 - ▶ (See appendix for further evidence with high adjuncts)
- ◆ Argument structure (including objecthood) is managed in the extended projection of *out-*
 - ▶ PRED must be underspecified so as to not need to introduce an object
 - Allowing for the argument to be 'suppressed', without violating Monotonicity
 - ▶ Even of robustly transitive PREDs; recall data like (52)

(52) James **outweighs** (*75kg) Josh (*75kg).

 - Even a predicate like *weigh* must not lexicalize the structure that introduces objects

5 Blocking out-PRED

- ◆ We ought to test the limits of this analysis, by not just understanding where out-PRED is possible, but where it is **impossible** too
 - ▶ We will consider some contexts in which out-PRED is blocked
- ◆ There are three such domains in which out-PRED is blocked
 - ▶ Three empirical domains of support:
 - idioms (e.g., *shoot the breeze*/*#outshoot*)
 - the verb *have* (e.g., *have cars*/**outhave*)
 - (CoS Unaccusative Verbs (e.g., *dishes dry*/**outdry*); see appendix)
 - ▶ This is a heterogeneous class, syntactically
 - **Common property:** External forces require the object and PRED must be interpreted together

5.1 Idioms

- ◆ Consider the behavior of idioms in out-PRED contexts
 - ▶ In (53a-c), the verb and an argument form the idiom together, while in (53d), the idiosyncratic interpretation does not depend on any argument

(53) a. Julie cooked the books.
= Julie falsified financial records

b. Eddie passed the hat around his neighborhood.
= Eddie solicited contributions around his neighborhood

c. We shot the breeze with them.
= We had a casual conversation with them.

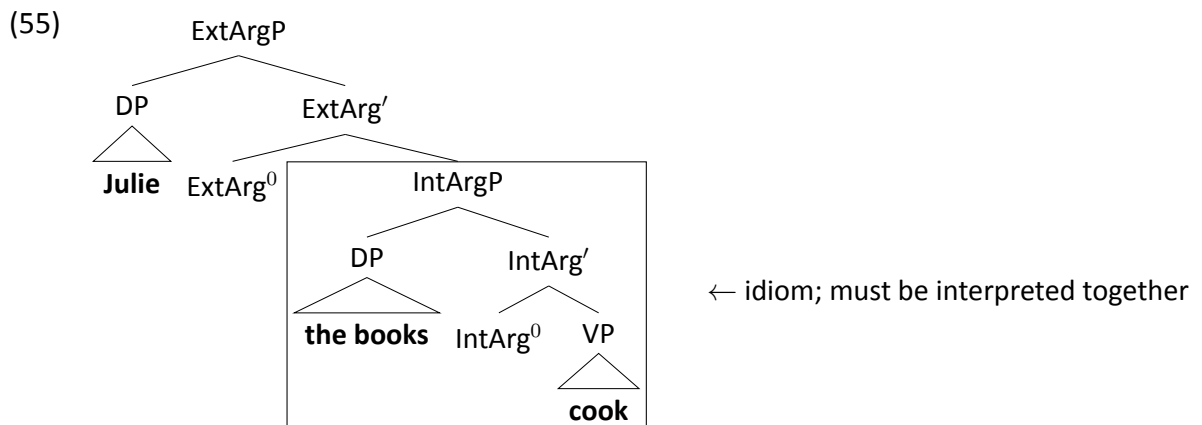
d. A local student shines in a national competition.
= A local student does exceptionally well, in a national competition
- ◆ Let us now establish that idioms are syntactically complex

- ▶ Chunks can move around, and some idioms can be passivized (Fraser 1970, Richards 2001 among many others)

- (54) a. The books have been cooked. (idiomaticity OK)
 b. The hat has been passed. (idiomaticity OK)
 c. #The breeze has been shot.
 d. *A national competition has been shined in by a student.

- ◆ However, all pieces of the idiom must be syntactically present in the relevant domain of interpretation for the idiomatic meaning to emerge (cf. #*Julie cooked the ledgers*)

- ▶ For that reason, the interpretive domain of the idiom *cook the books* must include, minimally, the VP and the IntArgP:



- ◆ What happens with idioms in out-PRED contexts?

- ▶ If all chunks of the idiom is syntactically projected (but with some silent), the idiomatic readings should be available
- ▶ If any chunks of the idiom is syntactically absent, the idiomatic readings should be unavailable
- ▶ We find the latter to be the case:

- (56) a. Julie **out-cooked** the other accountants.
 ≠ Julie falsified financial records better than other accountants.
 b. Eddie **out-passed** other volunteers.
 ≠ Eddie solicited contributions better than other volunteers.
 c. We **out-shot** him.
 ≠ We had better casual conversation than him.
 d. This student **out-shines** all others.
 = A local student does exceptionally well in a national competition, better than others.

- (56d) stays idiomatic, because no chunk of the idiom is syntactically absent
- On the other hand, (56a-c) do not stay idiomatic, because the missing idiom chunks are indeed absent from the derivation

- ◊ Suggesting out-PRED **doesn't** occur with PRED's object(s) on **any level**

5.2 *Have*

◆ *Have* occurs with a wide range of meanings

- ▶ A sample of those meanings are given in (57), each of which come from Myler 2014:Ch.4

- (57) a. John has a Playstation 3. [Relational *have*]
 b. The stadium has two pubs flanking it. [Locational *have*]
 c. John had something wonderful happen (to him) today. [Experiencer *have*]
 d. I'm having my butler shave the cow. [Engineer *have*]
 e. The wind had our belongings strewn across the field. [Causer *have*]
 f. We had a conversation. [Light Verb *have*]

- Myler argues that *have* in all of these cases is essentially semantically vacuous

◇ Myler (2014:387): "Because *have* itself is semantically vacuous, all of the thematic content of such sentences comes from *have*'s [internal argument]."

◆ Turning now to *out-* prefixation with *have*

- ▶ We expect that, if *have*'s object (the source of *have*'s interpretative contribution) is not merged, the result should be ill-formed

- (58) a. * In terms of game consoles, John **out-has** Bill. [Relational *have*]
 b. * In terms of nearby pubs, the stadium **out-has** the library. [Locational *have*]
 c. * In terms of wonderful experiences, John **out-had** Bill. [Experiencer *have*]
 d. * In terms of butlers shaving one's cows, I'm **out-having** you. [Engineer *have*]
 e. * In terms of belongings strewn across the field, the wind **out-had** the earthquake. [Causer *have*]
 f. * In terms of conversation, we **out-had** them. [Light Verb *have*]

- ▶ **Because *have*'s object is not formally represented in the syntax, the clause never receives a proper interpretation**

- Like idioms, *have* data suggests that PRED's objects are **not syntactically projected** in out-PRED

- ▶ Compare (59) to (58a); it is not possessive interpretation that blocks out-PRED

- (59) In terms of game consoles, John **out-owns** Bill. [own]

5.3 Blocked out-PREDS

◆ On the basis of the data from idioms (with specified objects) and *have* together, it seems that **interpretation is playing a crucial role in blocking certain out-PREDS**

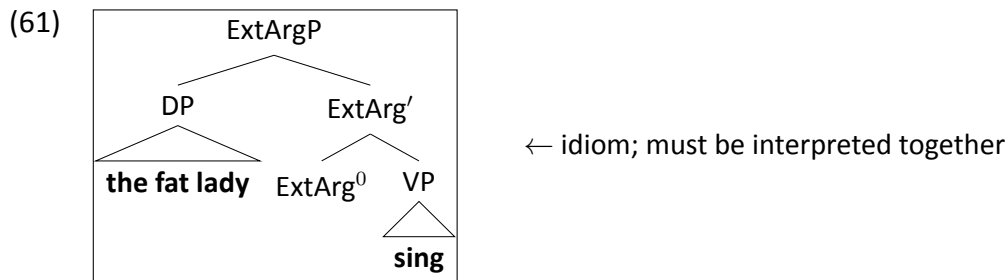
- ▶ In particular, if interpretation depends on the presence of an object, out-PRED is impossible when that object does not surface

◆ However, idiomatic readings can be blocked even when all members of the idiom surface

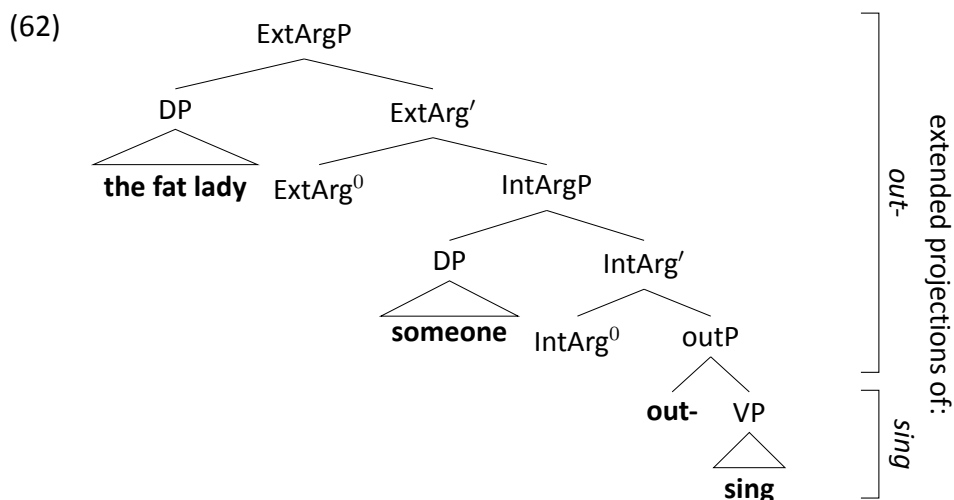
- ▶ Consider what happens with an idiom that includes the subject, which still surfaces

- (60) a. Wait until the fat lady sings.
= Wait until it's over.
- b. Wait until the fat lady **out-sings** someone.
≠ Wait until it's over.

- ◆ The way this will be analyzed invokes the notion that there are **syntactically-defined domains of idiosyncratic interpretation** (e.g., Borer 2013, Harley 2014b, Kratzer 1996, Marantz 1984, 2013)
 - ▶ When an idiom involves a PRED and some argument(s), the PRED and its arguments must all be present in the domain of idiosyncratic interpretation



- ▶ What blocks idiomaticity (60b) is that *the fat lady* is too far from *sing*, as shown in (62)



- *the fat lady* is not in the same interpretive domain as *sing*
 - ◇ i.e., not in the extended projection of *sing*
- ◆ Idioms like *the fat lady sings* provide further evidence of (49)

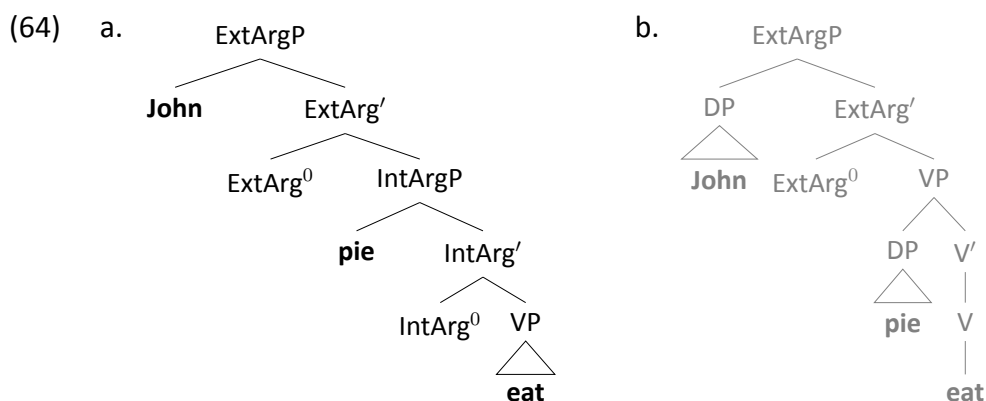
(49) **Arguments in out-PRED**
Arguments in out-PRED are arguments of *out*, not arguments of PRED
- ◆ Properly interpreting an idiomatic PRED+argument or a *have*+argument combination requires that...
 - ▶ ...the argument merges in the syntax
 - ▶ ...they occur in the same interpretive domain

CONSTRAINT OF INTERPRETIVE DOMAINS

- (63) If proper interpretation of a predicate/argument requires the two to be interpreted together, out-PRED is blocked

6 Conclusions

- ◆ Some of our main findings in our investigation of the properties of out-PRED
 - ① PRED is syntactically active (cf. (17))
 - Contributing idiosyncrasies to both PF and LF
 - ② compared to PRED's typical extended verbal projection, out-PRED has an entirely distinct one (cf. (37), (43), (49))
 - With its own argument structure, adjuncts, and ability to passivize
 - ③ out-PRED selects a PRED complement, which projects no arguments (cf. (43), (49))
 - Even non-change-of-state internal arguments are severed from the lexical predicate
 - ④ If a PRED and its internal argument must be interpreted together, out-PRED is impossible (cf. (63))
 - Ruling out out-PRED with certain idioms, *have*, and change-of-state unaccusatives
- ◆ out-PRED causes the objects of a PRED to not surface
 - ▶ This looks like morphosyntactically-controlled argument suppression
 - ▶ But this is an illusion: in out-PRED, the PRED's structure is too small to support an object
 - ▶ It is not argument suppression, *per se*, but is rather **failure to merge the functional structure that introduces objects**
- ◆ Taking this more broadly, this suggests that **objects are severed from the lexical predicate, in the same way as subjects**
 - ▶ Thus *John ate pie* resembles (64a) more closely than (64b)



- Syntax may transparently corresponds to a fully neo-Davidsonian semantics
- **All arguments separated from the lexical predicate, each introduced by unique semantic functions, which correspond with unique syntactic positions**
- ▶ At least for predicates that allow out-PRED
 - Parsimony would have us believe that derivations always proceed in this way
 - But it is still an open question, for the case where out-PRED is impossible
 - (Though we have seen how this analysis rules out out-PRED with several cases)
- ◆ For predicates that don't allow out-PRED out-PRED may be illicit because...
 - ▶ ... interpretive constraints block it (e.g., **out-have*)
 - ▶ ... PRED lexicalizes structures that includes the object-introducing structure (cf. **out-arrive*)

7 Open Questions

◆ Why are verbs like *weigh* robustly transitive (outside of the domain of out-PRED)?

- ▶ This research suggests that it can't be that...
 - ... *weigh* obligatorily comes with the syntactic structure that introduces a measurement object (cf. Ramchand 2008)
 - ... *weigh* obligatorily comes with conventionalized knowledge that it occurs with a measurement object (cf. Borer 2005)
- ▶ In other words: whatever constraints there are appear to be violable

◆ Why do the subject/object of out-PRED appear to have the same thematic relation to PRED as one another?

- ▶ Recall: '*Mustangs outsell all our salespeople*' would only be coherent in worlds quite dissimilar ours (e.g., one where Mustangs are agentive sellers, or one where salespeople are sold)
- ▶ Perhaps this has to do with what would make a sensible scale of comparison
 - Further investigation is required, to understand the constraints on scale selection
 - It appears there are syntactic effects:
 - (65) a. Mustangs are bought more than Fords.
 - b. #Mustangs **out-buy** Fords. (cf. ✓out-sell)
 - (66) a. I enjoyed it more than the others in the audience.
 - b. *I **out-enjoyed** the others in the audience.
 - ◇ If the effect were purely pragmatic, the vocabulary item *buy* should be able to supply the same sorts of scales as the vocabulary item *sell* for a buying/selling event
 - ◇ Similarly, psych predicates like *enjoy* seem to routinely block out-PRED with (non-initiator) experiencers

◆ Why are some out-PREDS acceptable only in the passive?

- (67) [*Kim Kardashian tried to break the internet, but...*]
 - a. [...] she was out googled by one person
 - b. #[...] one person out googled her
- (68) [*The Facebook page for Marvel recently got more likes than the one for DC Comics.*]
 - a. DC Comics' Facebook page was out-liked by Marvel's page
 - b. #Marvel's page out-liked DC Comics' page.
- (69) [*The Grand Canyon has been the most photographed landmark in the U.S. But this year...*]
 - a. ??The Grand Canyon will be out-photographed by the Washington Monument.
 - b. #The Washington Monument will out-photograph the Grand Canyon.
- (70) [*The Grand Canyon has been the most visited landmark in the U.S. But this year...*]
 - a. ?The Grand Canyon will be out-visited by the Washington Monument.
 - b. #The Washington Monument will out-visit the Grand Canyon.

- ▶ Are these somehow not the same out-PRED?

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APPENDIX

8 Adjuncts and out-PRED

- ◆ Given out-PRED's unique argument structure, we may expect other differences that indicate that out-PRED is not the same type of predicate as its PRED stem
- ◆ The range of adjuncts for out-PRED can differ from those available to PRED
 - ▶ out-PRED allows adjuncts that modify the extent of the difference in the comparison
 - (71) a. #John ran the race by several minutes.
 - b. John out-ran Bill by several minutes.
 - In (71b), '*by several minutes*' indicates the extent to which John did better than Bill, modifying the comparison introduced by *out-*
 - ▶ out-PRED allows instrument adjuncts even where PRED does not
 - (72) a. David is smart (#with limited weapons). (#instrumental with)
 - b. In the end however, the much smaller David 'him with limited weapons. (<http://bit.ly/1OXjY11>)
 - (73) [*Zac and I are trying to make ourselves sparkle.*]
 - a. I made myself sparkle with the glitter.
 - b. I sparkled (#with the glitter). (#instrumental with)
 - c. I **outsparkled** Zac with the glitter.
 - Instruments are well-known to be very high adjuncts, and they are known to depend on the structure related to agentivity/initiation (e.g., Reinhart 2000)
 - In (73a&c), the instrumental PP '*with the glitter*' has an agent/initiator to license the modification
 - In (73b), no such agent/initiator exists, because unaccusative *sparkle* lacks the relevant structure
 - ▶ However instrument PPs seem to not be able to target PRED alone
 - (74) a. Katie ate (pizza) with a fork.
 - b. #Katie didn't **out-eat** Pete with a fork. (Intended: eating with a fork)
 - The interpretation that is unavailable: eating took place with a fork, but Katie didn't win
 - This suggests that *eat* lacks an agent/initiator
- ◆ out-PRED's extended projection (where agents/initiators are introduced, and adjunction takes place) is different from the extended projection of the PRED
 - ▶ And there are limits to the amount of PRED's extended projection that can manifest in out-PRED

9 Change-of-State Unaccusative Verbs

- ◆ Objects Change-of-State (CoS) unaccusative verbs have been analyzed as being introduced higher than VP (e.g., Hale and Keyser 1993, Cuervo 2003, Alexiadou and Schäfer 2011)
 - ▶ This makes them a prime candidate to be ‘suppressible’
 - ▶ And they can indeed go missing in CoS transitive contexts:
 - (75) a. Pine Sol cleans the floor better than Mop-n-Glo, in a product-test.
 - b. Pine Sol **out-cleans** Mop-n-Glo.
 - (76) a. Scott dried dishes better than Anna, in a dish-drying competition.
 - b. Scott **out-dried** Anna.
- ◆ What’s interesting is what happens when the CoS verb is unaccusative
 - ▶ In this case, the CoS predicate cannot undergo *out-* prefixation^{14,15}
 - (77) a. Hardwood cleans better than tile, in a Pine-Sol’s product-test.
 - b. #Hardwood **out-cleans** tile.
 - (78) a. The glassware dried better than the silverware, in a dish-drying competition.
 - b. #The glassware **out-dried** the silverware.
- ◆ The unacceptability of (77) and (78) is **not** a function of unaccusativity
 - ▶ We’ve already seen examples of unaccusative predicates allowing *out-* prefixation
 - (79) a. This student shines, when it comes to math.
 - b. This student **outshines** everyone else, when it comes to math.
 - (80) a. That candidate polls well.
 - b. That candidate **outpolls** everyone else.
 - (81) a. The basketball bounced.
 - b. The basketball **out-bounced** the baseball. (Keyser and Roeper 1984)
- ◆ Instead this has to do with the way CoS internal arguments get interpreted
 - ▶ Resultees are interpreted as being in a final state that is specified by the lexical predicate
 - This means such objects must be interpreted with the lexical predicate (Ramchand 2008, Rappaport Hovav 2008)
 - ▶ This should recall the interpretive constraint discussed for idioms and *have*

¹⁴The same lexical form can be used as both a CoS unaccusative (*tofu cooks*), CoS transitive (*Ray cooks tofu*), and some kind of null-object unergative (*Ray cooks*). In the case of *Ray cooks*, it would seem to be that *cook* is the unergative type, as true CoS predicates are said to require IntArgs for their semantic composition (Rappaport Hovav 2008).

¹⁵Certain verbs that can be used as CoS unaccusatives have been reported to be acceptable with *out-*; in particular, *out-grow* and *out-bloom* (Adamson 2015). However, these appear to be exceptional, and few forms have been found to behave this way. Perhaps it is that they are construed as unergatives (see footnote 14) – a similar idea is proposed by Adamson.

(63) **Constraint of Interpretive Domains**

If proper interpretation of a predicate/argument requires the two to be interpreted together, out-PRED is blocked

- 'Must be interpreted together' = 'Must be in the same extended projection'

◆ This interpretive constraint dictates that the underlined arguments below must be interpreted together with the lexical predicate

▶ Let's start with a CoS transitive undergoing out-PRED

- (82) a. Pine Sol cleans hardwood floor better than Mop-n-Glo.
 b. Pine Sol **out-cleans** Mop-n-Glo.

- The argument undergoing a CoS in (82a) must be interpreted with the PRED, *dry*
- In (82b), however, there is no argument undergoing a CoS

▶ Now let's consider a CoS unaccuative

- (83) a. Hardwood cleans easier than tile does.
 b. *Hardwood **out-cleans** tile.

- The arguments undergoing a CoS in (83a) must be interpreted with the PRED, *clean*
- In (83b), both the subject and object of out-PRED undergo a CoS, and would need to be interpreted with PRED

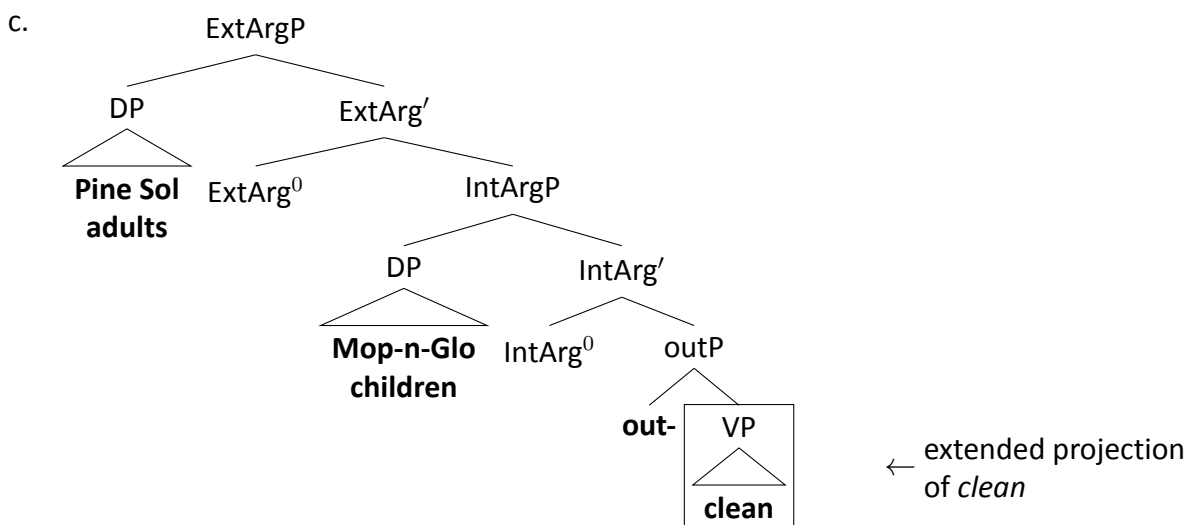
9.1 Derivations of out-PRED and CoS Verbs

◆ With the interpretive constraint in (63) and the syntactic derivation of out-PRED, **we can derive the grammaticality pattern witnessed in (83)**

◆ Let's start with the syntax of out-PRED as it applies to CoS verbs

▶ First, transitive CoS clauses

- (84) a. Pine Sol out-cleans Mop-n-Glo
 b. Adults out-clean children



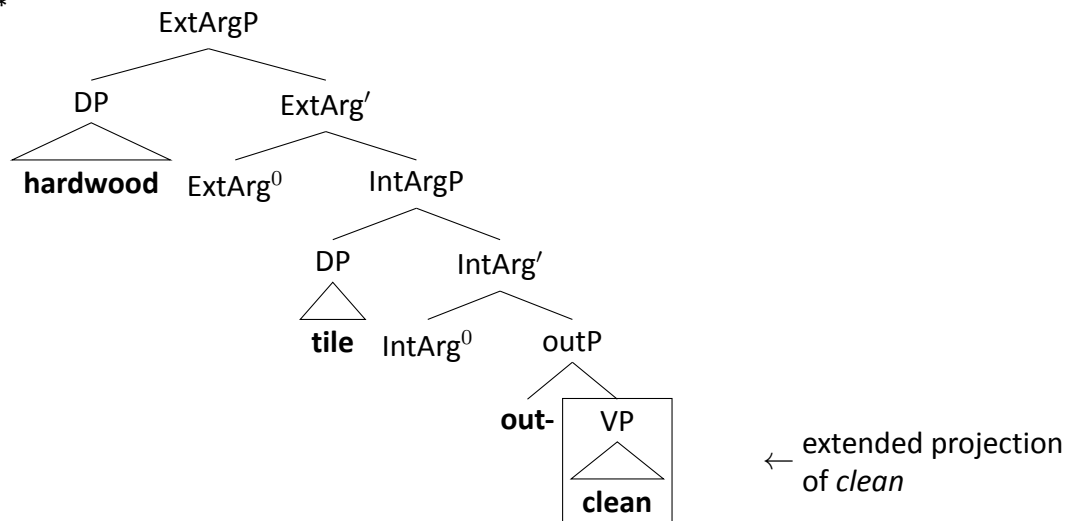
- There is no CoS object in either (84a) or (84b)
- Therefore it doesn't matter that the argument of *out-clean* are outside the extended pro-

jection of *clean*

- On the other hand, there are CoS objects realized in (85a)

(85) a. * *Hardwood out-cleans tile*

b. *



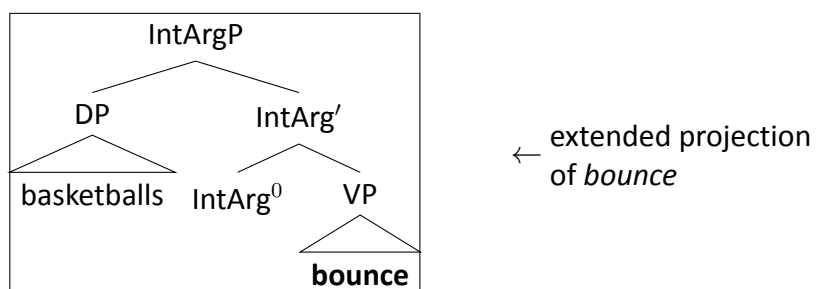
- Here the CoS internal argument *hardwood* is too far from the CoS PRED to be interpreted with it¹⁶
- The CoS objects, *hardwood* and *tile*, are in the extended projection of *out-* and not the result state, *clean*
- This causes the derivation to fail

9.2 Derivations of out-PRED with Other Unaccusatives

- ◆ On the other hand, consider an unaccusative PRED whose internal argument **does not** undergo a change of state, such as *bounce*

(86) a. Basketballs bounce.

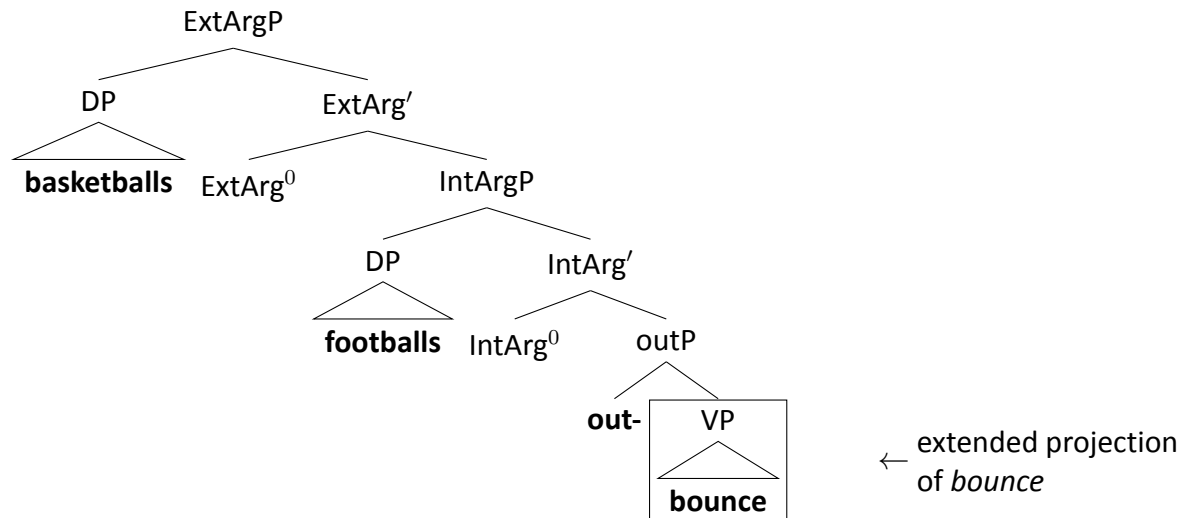
b.



¹⁶Alternatively, CoS predicates are complex, containing a resultative head, which is higher than VP. Since *out-* takes VP complements, the PRED will never be a CoS predicate.

(87) a. Basketballs out-bounce footballs.

b.



- ▶ Though *basketballs* is not in the extended predicate of *bounce* in (87), there is no problem
 - *Basketballs* is not a CoS object
 - And so it is not subject to the interpretive constraint
- ▶ What rules out (a subset of) unaccusatives with *out-* must not be unaccusativity, per se
 - But rather the properties of a derivation with a CoS internal argument