

# Variably agentive verbs: Polysemy or underspecification?

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# Variably agentive verbs

Many English verbs have non-agentive uses, even if typically used agentively:

Agentive: The kids **toppled** the (block) tower.

Non-agentive: The wind **toppled** the tower. (change of state)

Agentive: I **whistled** happily.

Non-agentive: The kettle **whistled**. (sound emission – activity)

Agentive: Terry **washed** her car.

Non-agentive: The rain **washed** my car. (surface contact – activity)

**Note:** With animate subjects, volition is not mandatory.

# Variably agentive verbs: Prototypical uses?

- For most such verbs, the most *prototypical* use is agentive:
  - Terry **washed** her car.
  - The rain **washed** the car.
- Further, some of these verbs prototypically involve the mental state of an animate entity:
  - Pat **explained** the problem to me.
  - Your background **explains** your behavior to me.
  
  - Tracy **justified** her behavior to me.
  - This decision **justifies** your behavior.
- But verbs that *lexically require* an agent are the exception (Van Valin & Wilkins 1996)
  - Verbs requiring intention and the activation of a mental state:  
nominate, gossip, hunt, search for, prowl, stalk, ...

# Variably agentive verbs: Lexical relatedness

**FOCUS OF TALK:** How are the agentive and non-agentive uses of a verb related?

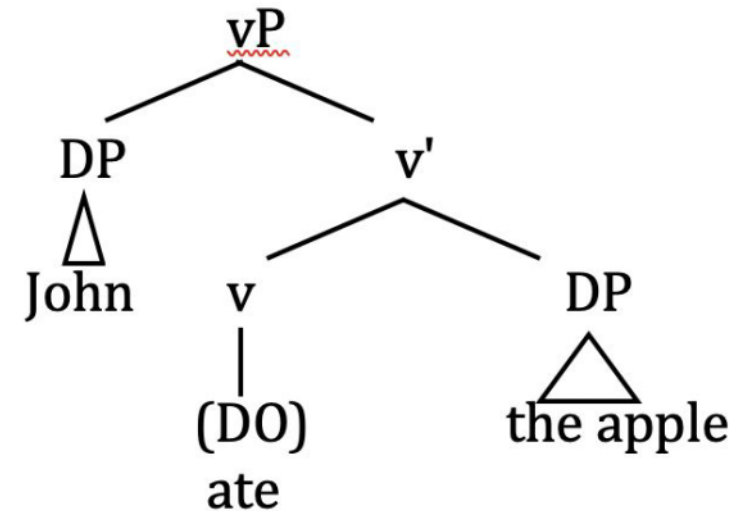
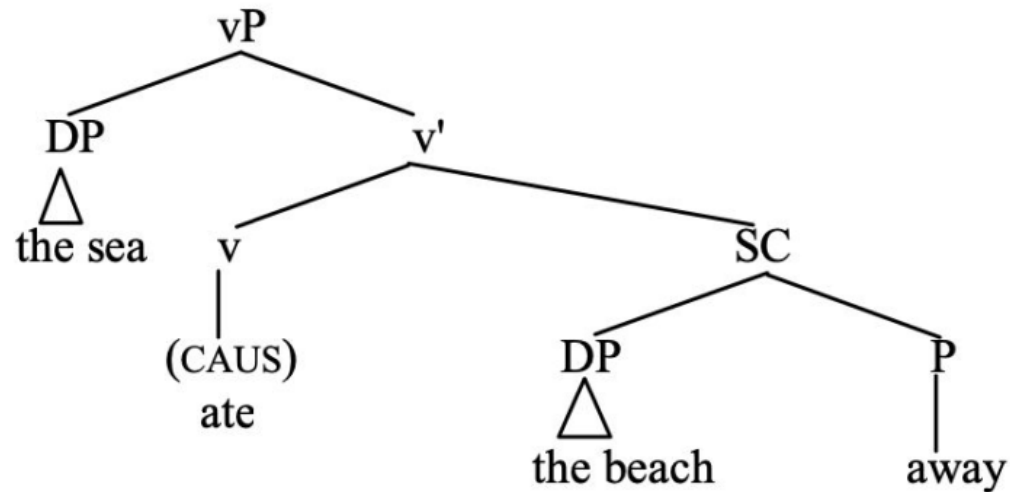
- Two likely analyses: underspecification and polysemy
- Most work attributes the variation to underspecification, with the implementation depending on the larger theoretical context:
  - **Pragmatic approach:** Agentivity arises through an inference when a verb's subject is human (Holisky 1987; Van Valin & Wilkins 1996)
  - **Syntactic approach:** Agentive and non-agentive uses are associated with distinct functional heads introducing the external argument; a root unspecified for agentivity may be associated with either head (Alexiadou et al. 2015, 2017; Folli & Harley 2005, 2008)

# Variably agentive verbs: The role of syntax

- Two *vs* with own selectional properties (Folli & Harley 2005; Alexiadou et al. 2015)

$v_{\text{CAUSE}}$  selects for a small clause complement (agentive/non-agentive)

$v_{\text{DO}}$  does not (agentive)



# Variably agentive verbs: The role of syntax

- Posit an interdependence between the agentivity of the external argument and the structure of the VP complement
- **The resultative restriction** (Schäfer 2012): Verbs take non-agentive external arguments only in the context of an expressed or inferred result state (e.g., Alexiadou et al. 2017; Demirdache & Martin 2015; Folli & Harley 2005, 2008; Martin & Schäfer 2013)

The acid ate the metal ??(away).

(need a small clause predicate)

The kids ate the popcorn (up).

The washing machine chewed \*(up) the laundry.

The dog chewed (up) my sneakers.

# Variably agentive verbs: The role of syntax

Folli & Harley (2008):

- $v_{DO}$  requires that its external argument be **teleologically capable** of bringing the associated event into existence
- $v_{CAUSE}$  is less stringent: whatever can initiate the process is allowed as external argument; event subsequently can unfold on its own
- $v_{DO}$  does not require animacy or intentionality, just teleological capability, which is not given an independent characterization

# Variably agentive verbs: A non-uniform approach

- Alexiadou et al. (2017) posit two types of variably agentive verbs:
  - **Optionally causative manner verbs** (*wash, scrub, ...*): manner verbs which under certain circumstances encode a result; this result must be present with an inanimate subject (cf. the resultative restriction)
  - **Defeasible causatives** (*teach, insult, ...*): result verbs which can embed a sublexical energetic modal; this modal, which is only compatible with agents, allows for the non-realization of the lexicalized result

(Defeasible causatives are not relevant to this talk)



## A non-uniform approach: *sweep* as a case study

- The verb *sweep* has agentive and non-agentive uses in a range of syntactic frames with subtle modulations of meaning in the different frames showing complex interactions with agentivity
- Roadmap:
  - Examine the agentive and non-agentive uses across all frames
  - Propose a general, compositional analysis accounting for interpretive properties and argument realization across all uses

## A non-uniform approach: *sweep* as a case study

- **The conclusion:** Agentive uses of *sweep* have two sources:
  - underspecification
  - constrained polysemy
- **Another take-away:** On scrutiny, the data undermine the resultative restriction

# The prototypical use of *sweep*: Sweeping with a broom



The prototypical use of *sweep*: Sweeping with a broom

... he moved the desks and swept the floor ...

We would sweep the carpeting around the pulpit ...

They found her in Grant Park sweeping the sidewalks.

As a final touch I swept the terrace.

# The prototypical use of *sweep*: Key properties

- Instrument: always understood, so non-defeasible; optionally expressed (in a *with* phrase)
  - must be a broom or similar entity designed to remove unwanted stuff from a surface one treads on

Everyone who has ever swept the floor **with a standard broom.**

\*I swept the floor with a shovel.

\*I swept the floor with my hands/with a paper towel.

# The prototypical use of *sweep*: Key properties

- **Subject: must be an agent** (only agents can wield instruments; machines that operate under own power are ok too)

\*The wind swept the floor.

#We accidentally swept the carpeting around the pulpit.

- **Object: interpreted as a surface**
  - must be a floor or other surface which animates usually tread on, e.g., a sidewalk, deck, path, or street

\*I swept the desk/the window/the refrigerator/the wall/the book.

# The prototypical use of *sweep*: Key properties

- The agent **must** use the instrument in the typical action pattern (Jackendoff 1990:34) that allows its design goal to be achieved

#Tracy swept the sidewalk by pushing the litter into the gutter with the top of the broomstick.

- Two typically understood but defeasible interpretive event properties:
  - Presence of unwanted material on the surface

Sam swept the floor although it was absolutely spotless!

- Attainment of the goal (i.e. removal of unwanted material)

After Sam swept the floor, there were still crumbs under the table.

# The prototypical use of *sweep*: Key properties

**Broom-sweep:** The term for the verb when showing these properties

- Broom-sweep is found in two syntactic frames:
  - Transitive with surface as object (already illustrated)
  - Unspecified object: existential binding of surface

We scrub, **sweep**, mop, and polish, until the shop is positively gleaming.



# *Broom-sweep*: Summary

- Object: understood as surface
  - Semantically obligatory and restricted; syntactically omissible
- Subject: necessarily understood as an agent (no variable agentivity)
  - Must engage in the action pattern typical of a specific goal-oriented activity
- Non-defeasible inferences:
  - Use of a broom(-like entity)
  - The action pattern is that typically used to achieve the goal of removing unwanted material from the surface using a broom(-like) entity
- Defeasible inferences:
  - Presence of unwanted stuff on surface
  - Attainment of the goal

# Other instances of broom-*sweep*?

- Rappaport Hovav & Levin (1998, 2010), who consider only agentive uses of *sweep*, discuss a larger set of syntactic frames associated with the verb
- In one frame, the object is understood not as the surface, but as the unwanted stuff, and the surface is either expressed in a PP, or unexpressed, but understood

Terry swept the leaves off the sidewalk.

Terry swept the crumbs into the corner.

(RH&L 1998: 97, (1c, d))

- Argue that these are **not** instances of broom-*sweep*

# Other instances of broom-*sweep*?

Evidence these are **not** instances of broom-*sweep*:

- They lack the interpretive restrictions of broom-*sweep*:

The old man swept the papers off his lap. (surface not a floor)

Pat swept the dead fly out of the room with her foot. (instrument not a broom)

- The same activity cannot be described using an unexpressed object:

A: What was Pat doing?

B: #She was sweeping.

**What are the properties of non-broom-*sweep*?**

# Beyond broom-*sweep*:

## The basic use of *sweep*

# Beyond broom-*sweep*

A verb built on the same root  $\nu$ *SWEEP* appears in a wider range of syntactic contexts, with its own interpretive properties, and is clearly variably agentive:

Rain sweeps the patio.	(non-agentive)
The branch of the tree swept the window.	(non-agentive)
The wind swept the fires northward.	(non-agentive)
The debris swept through the valley.	(non-agentive)
The violinist/her fingers swept the strings softly.	(agentive/body part)
I swept the coins off the counter.	(agentive)
She swept her hand through her hair.	(agentive)

Note: Focus on physically instantiated instances of *sweep*; metaphorical instances are ignored (e.g., *Our gaze swept the crowd*; *The fad swept the class*) though could be integrated into analysis (cf. McNally & Spalek 2022).

# Sweeping with and without a broom

- Though broom-*sweep* is considered the verb's prototypical sense (e.g., first-listed dictionary sense), argue it is a **specialized** sense
- The non-broom-*sweep* examples involve the basic sense

Why take non-broom-*sweep* – henceforth, **basic-sweep** – as basic?

- Basic-*sweep* appears in more varied syntactic frames and shows less restricted interpretive properties than broom-*sweep*
- Broom-*sweep* and its syntactic properties will be shown to be derivable by narrowing the sense of basic-*sweep* (the reverse derivation is problematic)

# Basic-*sweep*: Syntactic frames

- Basic-*sweep* appears in three syntactic frames:
  - Simple transitive
  - Transitive + PP
  - Unaccusative + PP
- Basic-*sweep* – unlike broom-*sweep* – may have agentive and non-agentive subjects **in each frame**
- Basic-*sweep* and broom-*sweep* differ syntactically:
  - Basic-*sweep* has an unaccusative use; broom-*sweep* does not
  - Broom-*sweep* allows unspecified objects; basic-*sweep* never does

# Simple transitive basic-*sweep*

## **Non-agentive subject:**

Rain sweeps the patio.

Frigid waves swept the deck.

The flames swept the distant fields.

The wind swept the rock knoll.

The snow flurries swept the valley.

... when the branch of the tree swept the window ...

## **Agentive subject:**

... the violinist swept the strings of her instrument with a bow.



# Simple transitive basic-*sweep*: Key properties

The snow flurries swept the valley.

The branch of the tree swept the window. (cf. \*Pat swept the window)

... the violinist swept the strings of her instrument (with a bow).

- Displays limited variable agentivity; subject need not be an agent (in fact it is typically **not** an agent in this frame)
  - Instrument need not be a broom and is typically not inferred (however, instrument often co-occurs with an agent)
  - No specific action pattern inferred, let alone a goal-oriented one
- Object understood as a surface, but need not be floor-like
- No stuff (unwanted or otherwise) need be inferred on the surface

# Simple transitive basic-*sweep*: Key properties

- The surface argument must be expressed; it cannot be omitted even when the subject is agentive
  - \*The frigid waves/flames/snow flurries/branches swept.
  - \*The harpist swept.
- However, simple transitive basic-*sweep* is relatively infrequent
- Basic-*sweep* is more often found in another transitive frame

# Transitive + PP *basic-sweep*

- Transitive *basic-sweep* often appears with a directional PP, showing variable agentivity:

## **Agentive subject:**

She swept the brush through Megan's shiny hair.

She began to sweep her fingers over the strings.

I swept the coins off the counter ...

## **Non-agentive subject:**

... the wind swept the fires quickly through the top growth ...

... the current sweeps the bait into the dark reaches under the wooded canopy ...

- and its object is not interpreted as a surface; interpretation depends on agentivity

# Transitive + PP basic-*sweep* with agentive subjects

Object receives several non-surface interpretations:

- Instrument

She swept **the brush** through Megan's shiny hair.

- Body part

She began to sweep **her fingers** over the strings.

- “Theme” or displaced entity

I swept **the coins** off the counter ...

# Transitive + PP basic-*sweep* with non-agentive subjects

- Object only interpreted as “theme” (displaced entity)

... the wind swept **the fires** quickly through the top growth ...

Behind her the wind swept **leaves** into the room ...

... the current sweeps **the bait** into the dark reaches under the wooded canopy ...

- Lack of instrument/body part interpretations follows: they require an agent
- Will show that the instrument, body part, and theme fulfill the same lexical requirement, although the first two are conceptually dependent on an agent

# Transitive + PP *basic-sweep*

with agentive and non-agentive subjects

- Both object and PP are obligatory (no matter how the object is understood):

Pat swept \*(a brush) \*(through her wavy hair). (instrument object)

Pat swept \*(her hand) \*(over her face). (body part object)

The tsunami swept \*(the debris) \*(off the beach). (“theme” object)

Pat swept \*(the coin) \*(into the jar). (“theme” object)

The wind swept \*(leaves) \*(into the yard). (“theme” object)

# Transitive + PP *basic-sweep*

with agentive and non-agentive subjects

- The PP may include a DP understood as the surface or the surface may be inferred from context

Pat swept a brush through her wavy hair. (DP in PP = surface)

Pat swept her hand over her face. (DP in PP = surface)

The tsunami swept the debris off the beach. (DP in PP = surface)

Pat swept the coin into the jar. (surface understood)

The wind swept leaves into the yard. (surface understood)

# Unaccusative + PP *basic-sweep*

Unlike *broom-sweep*, *basic-sweep* has an unaccusative use

- This use is a counterpart of the transitive + PP use: the subject is understood as a “theme” and the PP is obligatory

... fire swept \*(through their home) ...

The flood ... swept \*(across the flats to the sea).

... a flashy new car swept \*(in through the open gateway) ...

- The subject cannot be understood as a surface, as expected of an unaccusative counterpart of simple transitive *basic-sweep*

The branches swept the window/\*The window swept.

Flurries swept the valley./\*The valley swept.



# Unaccusative + PP *basic-sweep*

- As in the transitive + PP frame, the PP often includes a DP interpreted as the surface

... fire swept through their home ...

The flood ... swept across the flats to the sea.

- The subject may optionally be agentive (but is still a “theme” so this is variable agentivity on a different argument)

The diva swept into the room.

# Basic-*sweep*: Interim summary

## Argument realization

### Simple transitive use

- Direct object is surface
- No unspecified objects
- No unaccusative counterpart

### Transitive + PP

- Direct object is a moving entity – not the surface
- PP and direct object obligatory – no unspecified objects
- Has an unaccusative counterpart
- With agentive subject, direct object can be (i) theme, (ii) instrument, (iii) body part

# Basic-*sweep*: Interim summary

## **Interpretive properties**

- Shows variable agentivity
- No particular action pattern inferred, let alone a goal-oriented one
- No inference of unwanted stuff or goal of cleanliness
- No necessary inferred instrument
- Surface not constrained to be floor-like

# Basic-*sweep* is not unique: Other verbs of motion and sustained contact

The argument realization and interpretive hallmarks of basic-*sweep* are shared by other verbs of motion and sustained contact: *rub*, *wipe*, *scrape*, ... (Levin 2017)

- Found in the simple transitive frame with agentive or non-agentive subjects:

- **Agentive subject:**

Wearily Sarah **rubbed** her forehead.

I got too close to the fence and **scraped** it with the tractor.

- **Non-agentive subject:**

... his front tire **rubbed** the rear tire of the bike ahead ...

... undergrowth **scraped** the fabric of their jackets with slithering sounds.

# Basic-*sweep* is not unique: Other verbs of motion and sustained contact

- Found in the transitive + PP frame with the same interpretations of objects

Ashley **rub**s conditioner into her hair. (“theme”)

She **rub**bed a hand across her thick dark hair. (body part)

Emmanuel **rub**s the towel against his head ... (instrument)

- Appear in the unaccusative + PP frame

... the leaves went whoosh as the rake **scrap**ed along the hard ground.

... The [chair] legs **scrap**ed across the tile floor ...

... I listened to the water slowly **scrap**ing across the rocks.

# Towards a unified analysis

The differences between the two *sweep*'s notwithstanding, they share key, core elements of meaning:

**Movement of an entity over a surface with sustained contact**

# Basic-*sweep* and broom-*sweep*: A unified analysis

# Both *sweeps*: Proposed analysis in a nutshell

- Posit a single, core meaning underlying both *sweeps*
- **Basic-sweep**: Involves the core meaning; properties in its various syntactic frames follow from:
  - core meaning
  - recognized compositional processes
  - argument realization principles
- **Broom-sweep**: Involves a narrowing of core meaning via the regular lexicalization of instruments and routine activities of agents
  - Properties follow from narrowed meaning + argument realization principles



# The semantic core of *sweep*

The core semantic content associated with the root  $\sqrt{SWEEP}$ :

*sweep*<sub>core</sub>: “x **moves** across a planar surface y while x **imparts a force through contact** with y” (cf. McNally & Spalek 2022)

- The semantic notions **motion** and **force-through-contact** matter to argument realization
- Two construals: one foregrounds **motion**, one **force-through-contact**
  - Argument realization principles operate on either motion or force-through-contact, whichever is foregrounded
  - But motion and force-through-contact are present on each construal

# Argument realization: Basic components

Appeal to general, independently motivated argument realization principles not tailored to *sweep*:

- Simple motion along a path is expressed via a small clause (SC)
  - An entity in motion along a path is the subject of the SC
  - A path is the predicate of the SC; its reference object is object of P
- An effector (Van Valin & Wilkins 1996) is realized as an external argument (roughly, Borer's 2005 Originator or Ramchand's 2008 Initiator)
- A force recipient is realized as an internal argument (Beavers 2010; RH&L 2001)

# Argument realization I: Unaccusative + PP *basic-sweep*

“**x** moves across a planar surface **y** while **x** imparts a force through contact with **y**”

Motion is foregrounded, determining relevant argument realization principles:

- **x**, as entity in motion along a path, is realized as the subject of a SC
- **y**, as a reference object with respect to **x**'s path, is realized in an appropriate PP, the predicate of the SC

The result: an unaccusative structure: [<sub>VP</sub> *sweep* [<sub>PP</sub> **x** [<sub>PP</sub> P **y** ]]]

... [ **fire**<sub>x</sub> [<sub>VP</sub> swept [ **t**<sub>x</sub> through the **the top growth**<sub>y</sub> ... ]]]

- Both DP and PP are obligatory because they form a SC

## Argument realization II: Transitive + PP *basic-sweep*

Addition of a causative component:

“**z causes** [x to **move across a planar surface y** while x imparts force through contact with y]”

- x, as entity in motion along a path, is realized as the subject of a SC
- y, as a reference object with respect to x’s path, is realized in an appropriate PP, the predicate of the SC
- **z**, as a **cause** (i.e. an effector), is realized as **an external argument**

[<sub>VP</sub> **z** [<sub>VP</sub> *sweep* [<sub>SC</sub> x [<sub>PP</sub> P y ]]]]

[<sub>VP</sub> **The wind<sub>z</sub>** [<sub>VP</sub> swept [ the fires<sub>x</sub> through the top growth<sub>y</sub> ]]]

## Argument realization II: Transitive + PP *basic-sweep*

- The transitive + PP and the unaccusative + PP frames together constitute a causative alternation pair

[<sub>VP</sub> The fires<sub>x</sub> [<sub>VP</sub> swept [ t<sub>x</sub> through the top growth<sub>y</sub> ]]]

[<sub>VP</sub> **The wind**<sub>z</sub> [<sub>VP</sub> swept [ the fires<sub>x</sub> through the top growth<sub>y</sub> ]]]

- The postverbal DP and the PP in the transitive + PP frame are both obligatory as they form a SC (just as in the unaccusative variant)

## Argument realization II: Transitive + PP *basic-sweep*

[<sub>VP</sub> The fires<sub>x</sub> [<sub>VP</sub> swept [ t<sub>x</sub> through the top growth<sub>y</sub> ]]]

[<sub>VP</sub> **The wind**<sub>z</sub> [<sub>VP</sub> swept [ the fires<sub>x</sub> through the top growth<sub>y</sub> ]]]

- As in most instances of the English causative alternation, the external argument in the causative variant may be an inanimate cause or an agent
- Indeed, *basic-sweep* may appear in the transitive + PP frame with an agent external argument

**Pat swept the coins off the table**

- But with an agent, the object allows for several interpretations

# Argument realization II: Transitive + PP basic-*sweep*

- *Sweep*'s core meaning requires **an entity moving** in a sweeping manner across a surface
- In the absence of an agent, **the moving entity** must be understood as a theme

The **debris** swept through the valley

The flood swept **the debris** through the valley

- In the presence of an agent, **the moving entity** can also be understood as an instrument or a body part as the agent manipulates and moves this entity

Pat swept **the coins** off the counter

(“theme”; body part inferred)

Pat swept **the brush** through her hair

(instrument; no “theme”)

Pat swept **her hand** over her face

(body part; no “theme” or instrument)

## Argument realization I and II: Unaccusative + PP vs. transitive + PP basic-*sweep*

- The unaccusative variant is relatively rare
- Found with a restricted range of DP types, most often natural causes (e.g., *fire, wind, snow, storm*)
- Thus, it is difficult to find related transitive/intransitive pairs which instantiate the causative alternation

The fire swept far to the north.

The wind swept the fire far to the north.

- Why are such pairs so rare?



# Argument realization I and II: Unaccusative + PP vs. transitive + PP basic-*sweep*

All else being equal, if an agent causes (and accompanies) an entity's motion, it must be mentioned (Rappaport Hovav 2014; RH&L 2012)

[Context: Pat dragged a box to the table.]

What happened?

#The box went to the table.

[Context: Pat rode her bicycle over the bridge]

What happened?

#The bicycle went over the bridge.

# Argument realization I and II: Unaccusative + PP vs. transitive + PP basic-*sweep*

- Thus, the unaccusative frame only arises when no agent is necessary
- That is, when the moving entity is imbued with a force or capable of self motion: it is a natural force, animate entity, or “projectile” (Kearns 2000: 241)

... fire swept through their home ... (natural force)

She swept into the room (animate)

As the wind blew, the leaves swept across the ground (“projectile”)

- For other moving entities, motion in a sweeping fashion comes about via an agent, which must be expressed

\*The brush swept through her hair.

\*The coins swept across the counter.

## Argument realization III: Simple transitive basic-sweep

“**x** moves across planar surface **y** while **x** imparts a force through contact with **y**”

“Contact” construal of sweeping event + related argument realization:

- **x**, the moving entity, imparts a force on the surface through contact with it
  - It is a force-bearer (Levin to appear), a kind of effector; thus, realized as an external argument
  - **y**, the surface, is a force recipient; thus, realized as an internal argument

The wind<sub>x</sub> swept the rock knoll<sub>y</sub>.

The snow<sub>x</sub> flurries swept the valley<sub>y</sub>.

An inquisitive squirrel ... swung ... from a branch<sub>x</sub> which swept the window<sub>y</sub>

## Argument realization III: Simple transitive basic-*sweep*

“**x** moves across planar surface **y** while **x** **imparts a force through contact with y**”

- Frame allows agentive subjects, but only to an extremely limited degree
  - The subject is the entity moving in a ‘sweeping’ manner
  - A human can only make a ‘sweeping’ contact with a surface via a body part or instrument

The harpist swept the strings with her bow.

Ashkenazi’s fingers swept the keyboard.

## Argument realization III: Simple transitive basic-*sweep*

“*x* moves across planar surface *y* while *x* imparts a force through contact with *y*”

- There is no “unaccusative” version of simple transitive basic-*sweep*
- The minimal element of meaning requires two arguments

The branch<sub>*x*</sub> swept the ground<sub>*y*</sub>.

- No unspecified objects as conditions for existential quantification over object are not met (see below)

# Argument realization III: Simple transitive basic-*sweep*

- On this analysis, transitive basic-*sweep* is a true transitive, and not a covert unaccusative as argued for *cover* (Rappaport Hovav in press; Wilson 2020)

## **Evidence:**

1. It does not participate in a causative alternation like *cover* does

Snow covered the valley.

The storm covered the valley with snow. (not instrument)

The branch of the tree swept the window

\*The wind swept the window with the branch of the tree.

(cf. The wind caused the branch to sweep the window.)

# Argument realization III: Simple transitive basic-*sweep*

- On this analysis, transitive *basic-sweep* is a true transitive, and not a covert unaccusative as argued for *cover* (Rappaport Hovav in press; Wilson 2020)

## **Evidence:**

### 2. It can passivize

I look at the distant fields swept by the autumn wind.

The Japanese stood at their guns throughout but their decks were not being continually swept by a barrage of projectiles as were the Chinese.

... we simply rested on the shore, but further back without getting swept by the waves.

# Broom-*sweep*: The analysis in a nutshell

- The same core meaning underlies broom-*sweep*:  
“x **moves** across planar surface y while x **imparts a force through contact** with y”
- That is, broom-*sweep* maintains basic-*sweep*'s motion and force-through-contact components
- However, the core meaning is narrowed via a regular lexicalization process
- Broom-*sweep*'s distinctive properties follow from this narrowed meaning + argument realization principles



## Broom-sweep: Meaning and argument realization

- The narrowed meaning is derived by restricting the moving entity **x** to be a broom(-like entity)

“**x<sub>BROOM</sub>** moves across planar surface **y** while **x** imparts a force through contact with **y**”

- Key interpretive properties follow as a broom is ontologically an instrument designed to remove unwanted material from a floor(-like surface)

# Broom-*sweep*: Meaning and argument realization

Key interpretive properties follow from this lexicalization:

- As an implement, a broom's motion must be brought about through manipulation by an agent; hence, the necessary agentivity
- The agent must manipulate the broom in the action pattern typically used to achieve its design goal (Clark & Clark 1979; Kiparsky 1997)
- Thus, sentences with broom-*sweep* must involve the goal-oriented activity a broom is designed for
- They will strongly imply the existence of unwanted stuff on the surface and success in removing it

# Broom-sweep: Meaning and argument realization

When force-through-contact is foregrounded:

“*x*<sub>BROOM</sub> moves across planar surface *y* while *x* imparts a force through contact with *y*”

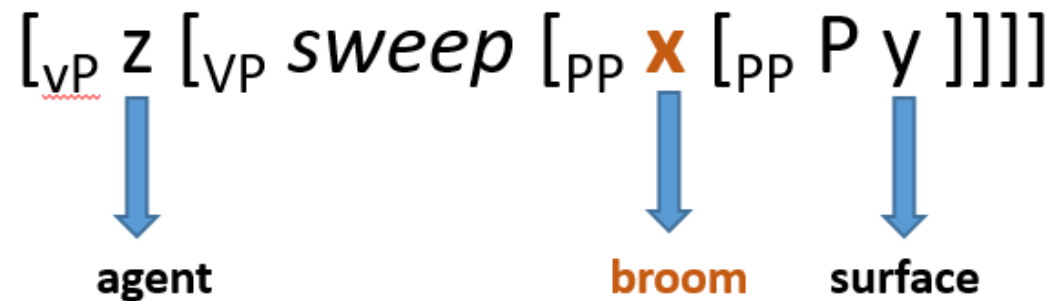
- Argument realization principles give rise to the transitive frame:
  - The instrument, being lexicalized, isn't expressed
  - The agent, required due to the use of a broom, is realized as subject
  - The surface, as a force recipient, is realized as an internal argument
- Unspecified object frame available as it is licensed when an activity is **routinized** (Brisson 1994; Glass 2022; Mittwoch 2005)

# Broom-sweep: Meaning and argument realization

The motion foregrounded construal cannot be instantiated:

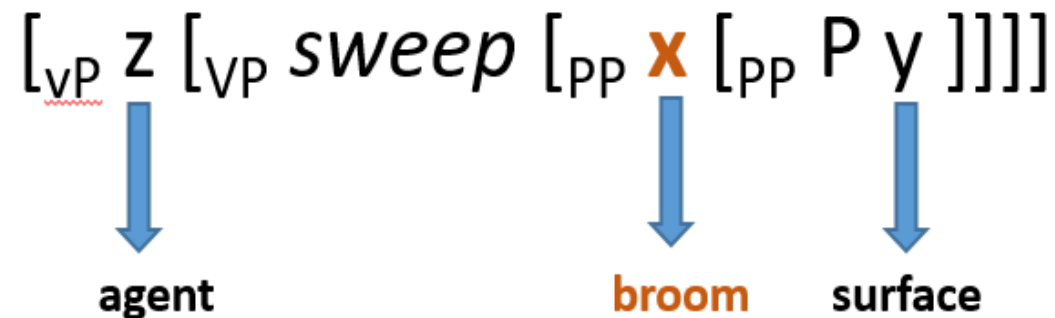
“*x*<sub>BROOM</sub> moves across planar surface *y* while *x* imparts a force through contact with *y*”

- The instrument, being lexicalized, can't be expressed as an argument
- No overt “subject” available for the SC expressing motion over path



# Broom-sweep: Meaning and argument realization

- On analogy with *basic-sweep*, might expect that “unwanted stuff” as a moving (displaced) entity could be realized as the object on the motion construal
- This option is unavailable as the moving entity is lexically restricted to being a broom



# Broom-sweep: Meaning and argument realization

- The Monotonicity Hypothesis: “verb meaning is built in a way which precludes the elimination of any basic element of meaning” (RH&L 1998: 105; Koontz-Garboden 2012)
- The narrowed meaning approach to broom-sweep is consistent with the Monotonicity Hypothesis
- In contrast, if broom-sweep were taken as basic, basic-sweep would involve removal of lexically encoded meaning, thus violating the Monotonicity Hypothesis

# Broom-*sweep*: Why this specialized meaning?

- Broom-*sweep* fills an established meaning niche of English
- English regularly has verbs that designate the activity conventionally associated with the use of an instrument
- Usually, they share a root – and name – with the noun naming this instrument: *mop, nail, rake, saw, ...*
- However, the verb *sweep* is an exception: it has the properties that the verb *broom* would have had were it to exist
- Couldn't have predicted that the verb *sweep* would take on this specialized meaning

# Broom-*sweep*: Why this specialized meaning?

- The verb *sweep* has a specialized meaning that describes a conventional series of actions that humans undertake to achieve a certain goal
- It is not unique: other non-denominal verbs have comparable meanings
  - *bake* (Atkins et al. 1988)
  - *clean* (L&RH 2013)
  - *wash* (Alexiadou et al. 2017)
- So actions of agents figure in a regular process of lexical specialization



# Basic-*sweep* and broom-*sweep*: Summary of major points

- All uses of *sweep* can receive a unified analysis in terms of a shared core meaning
- **Basic-*sweep***: The core meaning + established processes of composition and argument realization principles account for its argument realization and interpretive properties
- **Broom-*sweep***: A specialization of the core meaning involving the lexicalization of instruments and routine activities of agents; its argument realization properties follow from the core meaning and the additional lexicalized properties

# Variably agentive verbs revisited: Underspecification or polysemy?

How are the agentive and non-agentive uses of *sweep* related?

- $\sqrt{SWEEP}$  displays both polysemy and underspecification:
  - As basic-*sweep*, it can appear with an agent that is not lexically selected; basic-*sweep* is unspecified for agentivity
  - As broom-*sweep*, it appears with an agent which is lexically selected by a specialized agentive sense
- The prototypical use of *sweep* is not the basic use, but a specialized use
- This may represent a more general phenomenon when an argument is agentive (cf. the analysis of *drown* in Rappaport Hovav 2017)

# Variably agentive verbs: The resultative restriction revisited

- The subject of simple transitive basic-*sweep* need not be teleologically capable  
*The branch of the tree swept the window.*
- Thus, simple transitive basic-*sweep* should comply with the resultative restriction
- By this restriction, verbs with non-agentive/non-teleologically capable subjects must occur in the context of an expressed or inferred result state
- Such result states only co-occur with such subjects in causative event structures
- But simple transitive basic-*sweep* does not seem to be a “covert” causative; standard diagnostics point to its being monoeventive  
*The waves swept the deck again.* (unambiguous)  
*The waves swept the deck for half an hour.* (unambiguous)
- Hence the resultative restriction cannot be maintained

# Thank you!

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