

Talking about the Weather: Two Construals of Precipitation Events in English

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In the eyes of linguists, such [=weather] expressions are nearly as problematic and ill-behaved as the weather itself: they not only have many special properties, but from one language to the next the same phenomenon is coded linguistically in ways that are lexically or grammatically quite distinct.

(Langacker, 1991, 365)

1 Introduction

- Weather expressions, as in (1), have proven challenging for linguistic researchers

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|-----|----|---|---------------------|
| (1) | a. | It is raining/hailing/snowing/sleeting. | PRECIPITATION EVENT |
| | b. | It's hot/cold/freezing (outside). | TEMPERATURE EVENT |
| | c. | It became dawn/dusk. | STAGE OF DAY EVENT |

- In English, these expressions are said to have expletive subjects; they lack syntactic arguments (i.e. they are aivalent)
- **Identifiability of participants:** Depending on the meteorological phenomenon, it can be difficult to identify participants in the event

In this talk, we focus on *precipitation events*, in which participants are somewhat more easily identifiable; expressions denoting such events may overtly realize a postverbal NP

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|-----|--|---------------------|
| (2) | rain, snow, sleet, hail, drizzle, pour | PRECIPITATION VERBS |
|-----|--|---------------------|

- (3) It rained **an icy rain**.

- **Semantic role:** Even when a participant is overtly expressed, it is hard to determine what semantic role it bears: when rain rains from the sky, is it acting or being affected?
- **Syntactic status of the NP:** When the postverbal NP is expressed, is it projected as an internal or an external argument? In other words, are precipitation verbs unaccusative or unergative? Does this verb classification carry over to uses when there is no postverbal NP?

- **Our claims:**

- Verbs denoting precipitation events in English display systematically variable unergative/unaccusative behavior
- The unergative behavior of precipitation verbs occurs when the verb root is associated with a **substance emission event structure**, as in (4)
- The unaccusative behavior occurs when the verb root is associated with a **directed motion event structure**, as in (5)

<p>(4) SUBSTANCE EMISSION EVENT</p> <p>a. The well gushed (oil). b. It rained (a light rain/sulfuric acid).</p> <p>EVENT TYPE: activity MORPHOSYNTACTIC FRAME: unergative</p>	<p>(5) DIRECTED MOTION EVENT</p> <p>a. An apple fell to the ground. b. Oil gushed from the well. c. A light rain rained on my head.</p> <p>EVENT TYPE: scalar change MORPHOSYNTACTIC FRAME: unaccusative</p>
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- These two distinct event structures in turn reflect the availability of two different construals (in the sense of Levin & Rappaport Hovav (2005)) of precipitation happenings
- A single verb root can be used in the description of two quite different event types because a root lexicalizes only a small number of the attributes of the happenings it is used to describe

- **Beyond English:** This analysis helps resolve an existing controversy over whether verbs denoting weather events in Romance languages are unergative or unaccusative (Benincà & Cinque, 1992; Bleotu, 2012, 2013; Fábregas, 2013, 2014; Meulleman & Stockman, 2013; Paykin, 2010; Ruwet, 1991)

- **The structure of this talk:**

§2 Weather *it* and Expletive *it*

§3 Parallels Between Precipitation Verbs and Substance Emission Verbs

§3.1 Unergative Behavior and the Source as Subject

§3.2 Unaccusative Behavior and the Substance as Subject

§4 Variable Unergative/Unaccusative Behavior as a Reflection of Event Types

§5 Precipitation Events in Romance Languages

§6 Conclusion

Appendix A More Differences Between Weather *it* and Expletive *it*

Appendix B Further Unergativity/Unaccusativity Diagnostics

2 Weather *it* and Expletive *it*

- Received wisdom: *it* in *it is raining* is an expletive with no semantic content; it is not a true argument of the verb (Huddleston & Pullum, 2002; Quirk & Greenbaum, 1973; Seppänen, 2002)
- **Our claim:** the *it* present in weather expressions is not a true expletive but instead bears a semantic role

Some previous researchers argue that weather *it* bears a semantic role, making *it* a quasi-argument (Chomsky, 1981; Rizzi, 1990)

Other researchers additionally argue that weather *it* is a fully referential argument (Bennis, 1986; Bolinger, 1973, 1977; Pesetsky, 1995; Stephens, 2007)

- **Evidence:** Weather-*it* has different syntactic and semantic properties from true expletive *it* of raising verbs like *seem* and *appear*

(6) It seems/appears that Tracy jogged yesterday.

- **Distributional evidence:** Weather *it* appears in positions that are taken to be argument positions; typically, these positions are restricted to animate/effector arguments

– **Control verbs:** Raising verbs cannot appear under control verbs like *try*, which semantically restrict their subjects, but precipitation verbs may (Chomsky, 1981; Pesetsky, 1995; Stephens, 2007)

- (7) a. It tried [_ to rain today] but the sun came out!¹
b. But it refused [_ to rain]²
c. * It tried/refused [_ to seem that Tracy jogged].

– **Purpose clauses:** Raising verbs cannot appear with purpose clauses, which also impose semantic restrictions their subjects, but precipitation verbs may (Stephens, 2007)

- (8) a. That's why it rains [_ to sedate you]. It rains [_ to turn you numb].³
b. * It only seems that Tracy jogged [_ to annoy us]. (on intended interpretation)

- **Discourse reference:** Weather *it* can be referenced in discourse outside of the weather expression itself (Stephens, 2007); raising *it* cannot be

- (9) a. How nice of it to rain so much in California so that you could share these outstanding images.⁴
b. * It seemed that Tracy jogged. How thoughtful of it!

(Further support of the idea that weather *it* bears a semantic role can be found in Appendix A)

¹<https://www.facebook.com/U70FP/posts/552139611494847>; accessed 1/10/2018

²C. Dokey, *Belle: A Retelling of 'Beauty and the Beast'*, 2008; <https://books.google.com/books?isbn=1481479660>

³<https://medium.com/who-i-am/f85d072f669e>; accessed 1/10/2018

⁴http://www.pbbase.com/sandiwhi/desert_bloom; accessed 1/10/2018

- **Previous proposals concerning the semantic role of weather *it*:**

- the environment/ambient conditions (Bolinger 1973, 261;1977, 77-78)
- atmospheric role (Rizzi, 1990, 86)
- natural or abstract force (Pesetsky, 1995, 111)

- **Proposal:** The subject of a precipitation verb, typically weather *it*, is an emitter—the source from which a substance is emitted

The following section motivates this idea by showing parallels between precipitation verbs and substance emission verbs

3 Parallels Between Precipitation Verbs and Substance Emission Verbs

- If we take *it* to be the source of the precipitation, then similarities emerge between precipitation verbs and substance emission verbs, as in (10)

(10) gush, ooze, drip, leak, dribble, seep SUBSTANCE EMISSION VERBS

- Both types of verbs take a limited range of subjects:

Emission verbs involve the emission of a substance that is particular to some entity, and consequently, these verbs take a very limited range of subjects . . . There is a sense in which verbs in this class describe intrinsic properties of their subjects.

(Levin, 1993, 233)

Precipitation verbs take this property to an extreme: They almost exclusively take *it* as their subject

- Both types of verbs undergo the source/substance alternation:

- The source is the subject, with the emitted substance optionally expressed as object (11)
- The emitted substance is the subject, with a directional PP denoting the source (12)

<p>(11) SOURCE AS SUBJECT</p> <p style="padding-left: 20px;">a. The well gushed (oil).</p> <p style="padding-left: 20px;">b. It rained (a light rain/sulfuric acid).</p>	<p>(12) SUBSTANCE AS SUBJECT</p> <p style="padding-left: 20px;">a. Oil gushed from the well.</p> <p style="padding-left: 20px;">b. A light rain rained from the sky.</p>
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- SUBSTANCE EMISSION VERBS ((a) examples):

- Unergative when taking a source as subject
- Unaccusative when taking a substance as subject

- PRECIPITATION VERBS ((b) examples):

- Unergative when taking weather *it* – a source of precipitation – as subject
- Unaccusative when taking the precipitation – an emitted substance – as subject

3.1 Unergative behavior and the source as subject

(11) SOURCE AS SUBJECT	(12) SUBSTANCE AS SUBJECT
a. The well gushed (oil).	a. Oil gushed from the well.
b. It rained (a light rain/sulfuric acid).	b. A light rain rained from the sky.

- **Cognate objects:** Unergative, but not unaccusative verbs may take cognate objects, as well as their hyponyms and superordinates.

Substance emission verbs are found with such objects, as are precipitation verbs

(13) SUBSTANCE EMISSION VERBS

a. My 2nd child was like a slug—oozing **a constant stream of ooze**.⁵

b. there seems to be 1 little spot . . . that is dripping **a little drip**⁶

(14) PRECIPITATION VERBS

a. Then the next day it was hailing **huge hail** for at least 20 minutes.⁷

b. It snowed **a foot of new snow** that first night.⁸

c. All day long it has drizzled **cold rain**.⁹

- **Resultatives:** Substance emission and precipitation verbs pattern with unergatives in requiring result XPs to be predicated of nonselected objects. That is, the result XP cannot be predicated of a subject without the mediation of a ‘fake’ reflexive object

(15) SUBSTANCE EMISSION VERBS with fake reflexives

a. The creature [a squid] bucks and tosses, **spewing itself** dry on the journey up, a mess of black mucus.¹⁰

b. Daisy paused for a moment, thoughtfully righting the vaporizer that still lay across George’s crowded work table, though it had long ago **gushed itself** dry.¹¹

c. Then four of the last bottles were so over-carbonated that they **gushed themselves** empty.¹²

⁵<https://answers.yahoo.com/question/index?qid=20120618093506AAUYuH7>; accessed 1/10/2018

⁶<https://www.doityourself.com/forum/gas-oil-home-heating-furnaces/14523-fan-blower-furnace-runs-all-time.html>; accessed 1/10/2018

⁷In the Land of Enchantment, February 13, 2009; <http://inthelandofenchantment.blogspot.com/2009/02/for--hannah.html>; accessed 8/31/2017

⁸D. Howard, ‘Snowed In’, *Meridian Magazine*, December 27, 2016; <http://ldsmag.com/snowed-in/>

⁹J. Cowert, *A Dirty Old Man Goes to the Dogs*, 2010. <https://books.google.com/books?id=2rUQTv00aEcC&pg>

¹⁰C. Hosking, *Ash Rain*, 2004; <https://books.google.com/books?isbn=1862549842>

¹¹A. Birstein, *The Sweet Birds of Gorham: A Novel*, 2015; <https://books.google.com/books?isbn=1497697344>

¹²‘Carbonation problem’, Northern Brewer Homebrew Forum, February 6, 2008; forum.northernbrewer.com

(16) PRECIPITATION VERBS with fake reflexives

- a. It had **rained itself** dry; there was no dust, no evening fog, no breeze, but a dark purple and blue evening sky.¹³
- b. By the time it gets to us it's either **snowed itself** dry or warmed up enough to be rain.¹⁴
- c. Thankfully it **rained itself** dry yesterday and today was a lot about the sunny times.¹⁵

(17) PRECIPITATION VERBS with nonselected objects

It is so late, it has **snowed us** into a dream.¹⁶

- **Adjectival passive participles:** May be predicated of 'subjects' of unaccusative verbs, but not unergative verbs. Neither substance emission verbs nor precipitation verbs allow such participles to be predicated of the source

- (18) a. * the violently gushed well
b. * the recently snowed sky/clouds

(Further diagnostics can be found in Appendix B)

3.2 Unaccusative behavior and the substance as subject

(11) SOURCE AS SUBJECT

- a. The well gushed (oil).
- b. It rained (a light rain/sulfuric acid).

(12) SUBSTANCE AS SUBJECT

- a. Oil gushed from the well.
- b. A light rain rained from the sky.

- **A parallel:** When the substance is the subject, substance emission verbs must appear with directional prepositional phrase complements predicated of their subject; such a PP following the verb is obligatory for precipitation verbs, too. (More about this directional PP in §4.2)

(19) SUBSTANCE AS SUBJECT

- a. Oil gushed *(from the well).
- b. A light rain rained *(from the sky).

(20) a. Oil gushed up (from the well).

- b. Icy water rained down (from the sky) (onto the parched fields).

¹³L. B. Bodley, *Goethe and Zelter: Musical Dialogues*, Ashgate, Chapter 258, 2017; <https://books.google.com/books?isbn=135156532X>

¹⁴<http://boardgamegeek.com/geeklist/63881/your-snowed-list>; accessed 1/22/16

¹⁵N. Hughes, The Course Whisperer – Vallnord, Andorra Course Walk, July 24, 2013; <http://www.pinkbike.com/news/The-Course-Whisperer-vallnord-andorra-course-walk-2013.html>

¹⁶D. Abu-Jaber, *The Language of Baklava*, Anchor, New York, 2006, p. 122

- When substance emission verbs and precipitation verbs take the substance as subject, they behave as unaccusatives

- **Adjectival passive participles:** Substance emission verbs allow such participles to be predicated of the substance; precipitation verbs do too¹⁷

- (21) a. the gushed-out oil (cf. the oil gushed out)
 b. the rained-down water (cf. the water rained down)

- **Cognate objects:** When the substance is the subject, neither substance emission verbs nor precipitation verbs may take cognate objects

- (22) a. * Oil gushed a gush from the well.
 b. * Icy water rained (a) rain from the sky.

- **Resultatives:** When the substance is the subject, substance emission verbs cannot appear with nonselected objects; neither can precipitation verbs

- (23) a. * Oil gushed the well dry.
 b. * Heavy drops rained the sky clear.

(Further diagnostics can be found in Appendix B)

4 Variable Unergative/Unaccusative Behavior as a Reflection of Event Type

- The source as subject pattern and the substance as subject pattern reflect two different associations of a verb root with an event schema
 - The source as subject pattern presents precipitation events as substance emission events
 - The substance as subject pattern presents precipitation events as directed motion events
 - The precipitation root can be associated with either event schema
- An event structure is associated with a morphosyntactic frame by argument realization principles, which are sensitive to the event structure's components

<p>(4) SUBSTANCE EMISSION EVENT</p> <p>a. The well gushed (oil). b. It rained (a light rain/sulfuric acid).</p> <p>EVENT TYPE: activity MORPHOSYNTACTIC FRAME: unergative</p>	<p>(5) DIRECTED MOTION EVENT</p> <p>a. An apple fell to the ground. b. Oil gushed from the well. c. A light rain rained on my head.</p> <p>EVENT TYPE: scalar change MORPHOSYNTACTIC FRAME: unaccusative</p>
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¹⁷The postverbal preposition is obligatory in these examples because the directional PP complement is obligatory in the substance as subject uses, as in (19).

4.1 The source as subject pattern instantiates a substance emission event

<p>(4) SUBSTANCE EMISSION EVENT</p> <p>a. The well gushed (oil). b. It rained (a light rain/sulfuric acid).</p> <p>EVENT TYPE: activity MORPHOSYNTACTIC FRAME: unergative</p>	<p>(5) DIRECTED MOTION EVENT</p> <p>a. An apple fell to the ground. b. Oil gushed from the well. c. A light rain rained on my head.</p> <p>EVENT TYPE: scalar change MORPHOSYNTACTIC FRAME: unaccusative</p>
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- This event structure and related argument structure pattern is used for emission events in general—whether substance, light, sound, or smell (Levin & Rappaport Hovav, 1995)

(24) a.	The candle flickered/glowed.	LIGHT EMISSION
b.	The stream babbled/burbled/gurgled.	SOUND EMISSION
c.	The trash reeked.	SMELL EMISSION

- It takes the form of an ‘activity’ (non-scalar change) event structure (Levin, 1999; Rappaport Hovav & Levin, 1998, 2010)
- The source as subject pattern represents a substance emission construal of a precipitation event with the source understood as the emitter. Like other emitters and the argument of an activity event structure, it is realized as subject
- The unergative behavior of precipitation and substance emission verbs when the source is the subject is consistent with this event structure and argument realization
- This behavior extends to instances in which precipitation verbs take a non-*it* source as subject and no directional PP (e.g., *The sky rained huge drops.*)

4.2 The substance as subject pattern instantiates a directed motion event

<p>(4) SUBSTANCE EMISSION EVENT</p> <p>a. The well gushed (oil). b. It rained (a light rain/sulfuric acid).</p> <p>EVENT TYPE: activity MORPHOSYNTACTIC FRAME: unergative</p>	<p>(5) DIRECTED MOTION EVENT</p> <p>a. An apple fell to the ground. b. Oil gushed from the well. c. A light rain rained on my head.</p> <p>EVENT TYPE: scalar change MORPHOSYNTACTIC FRAME: unaccusative</p>
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- The substance as subject pattern represents a directed motion construal of both substance emission and precipitation events

- The availability of this construal makes sense for each event type:
 - precipitation moves from the sky to the ground due to gravity—an instance of directed motion
 - the emission of a substance imparts a force to the substance setting it in motion in a direction determined by the interaction of the force and gravity
- Directed motion events have theme and path participants; the substance qualifies as the theme of the event, while the source or other directional phrase qualifies as the path

- (25)
- * Heavy drops rained.
 - Heavy drops rained from the sky.
 - Heavy drops rained onto the ground (from the sky).

- The obligatory presence of the directional phrase in the substance as subject pattern reflects the nature of directed motion events
- The unaccusative behavior of precipitation verbs and substance emission verbs in the substance as subject pattern is consistent with a directed motion event structure and argument realization (Levin & Rappaport Hovav, 1995)

The substance that qualifies as the theme of the event is realized as an underlying object and a surface subject

- The unaccusative behavior of the substance as subject uses is part of a larger phenomenon: manner of motion verbs and sound emission verbs, when they appear with a directional PP, as in (26), also instantiate directed motion events. When they do so, they behave as unaccusatives

- (26) MANNER OF MOTION/SOUND EMISSION VERBS
- Birds flew *(into the hall). (on intended interpretation)
 - Bullets whistled *(through the window).

This contrasts with unergative behavior in their activity uses

- **Conclusion:** The variable unergative/unaccusative behavior of precipitation verbs arises because the roots of such verbs can be associated with two different event structures; each event structure is associated with a particular morphosyntactic frame, leading to the morphosyntactic patterns described above

5 Precipitation Events in Romance Languages

- Further support for the analysis is provided by data from Romance languages, especially Italian, which suggest the same two construals and associated morphosyntactic frames are attested there as well

5.1 Controversy over the status of weather verbs

- There has been controversy over whether many weather verbs, including precipitation verbs, are unaccusative or unergative in Romance languages (e.g., Benincà & Cinque, 1992; Bleotu, 2012, 2013; Meulleman & Stockman, 2013; Paykin, 2010; Ruwet, 1991)
- This controversy may be partially resolved when it is recognized that multiple construals of precipitation events are available in Romance languages too (e.g., Benincà & Cinque, 1992; Manente, 2007; Meulleman & Paykin, 2016)¹⁸

5.2 Precipitation events in Italian

- Benincà & Cinque (1992) note the Italian weather verbs that show dual behavior are understood:
 - as ‘activity’ verbs when unergative
 - as directed motion verbs when unaccusative (i.e. when a directional PP is present)
- Benincà & Cinque use auxiliary selection as a diagnostic for unaccusative vs. unergative status:
 - Unergative verbs select the auxiliary *avere* ‘have’
 - Unaccusative verbs select the auxiliary *essere* ‘be’

(27) Italian

a. AVERE ‘have’ auxiliary
Ha piovuto.
have.PRS.3SG rained
‘It rained.’

(Benincà & Cinque, 1992, 156, (3–4))

b. ESSERE ‘be’ auxiliary
È piovuto.
be.PRS.3SG rained
‘It rained.’

- PREDICTION: When taking *essere* ‘be’, precipitation verbs should have the substance as subject
CONFIRMATION: When the substance is the subject, as shown by the verb agreement in (28), the auxiliary is *essere*

(28) Italian

a. **Hanno piovuto pietre.*
have.PRS.3PL rained.MSG stones.FPL
‘It rained stones.’

(Benincà & Cinque, 1992, 156, (3–4))

b. *Sono piovute pietre.*
be.PRS.3PL rained.FPL stones.FPL
‘It rained stones.’

¹⁸There is evidence that stage of day events are fundamentally different from precipitation events (e.g., Fábregas, 2013, 2014; Meulleman & Stockman, 2013); we focus only on precipitation events here.

- PREDICTION: When found with a directional phrase, precipitation verbs that have the substance as the subject should take *essere* ‘be’ and not *avere* ‘have’

CONFIRMATION: The presence of an overt directional phrase is only possible when the auxiliary is *essere*

(29) Italian (Benincà & Cinque, 1992, 156, (3–4))

a. *Sei forse piovuto dal cielo?*

be.PRS.2SG perhaps rained.MSG from.the sky

‘Have you perhaps rained from the sky?’

b. **Hai forse piovuto dal cielo?*

have.PRS.2SG perhaps rained.3SG from.the sky

‘Have you perhaps rained from the sky?’

(30) Italian (Melloni & Masini, 2017, 235, (28c))

è grandinata una fitta grandine su tutto il territorio

be.PRS.3SG hailed.FSG a thick hail.FSG on all the territory

‘It was hailing a thick hail on the whole territory.’

- Our analysis of English precipitation events helps resolve the controversy over the status of weather verbs in Romance languages
 - When precipitation verbs show unaccusative behavior (that is, they have the substance as the subject), they show the hallmarks of a directed motion event structure
 - When they show unergative behavior (when the source is the subject), they pattern as activities (Benincà & Cinque, 1992)

6 Conclusion

- Precipitation verbs further support the association of activities with unergative behavior and of directed motion (or scalar change in general) with unaccusative behavior
- Beyond Romance, this work contributes to an understanding of the ways weather expressions are linguistically encoded across languages and provides insight into limits on the wide range of expressions documented in Eriksen et al. (2012)

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Appendix A: More Differences Between Weather *it* and Expletive *it*

- The *it* in *it is raining* and similar weather expressions is semantically contentful; it differs from the *it* of raising verbs like *seem* and *appear* in systematic ways
- **Subjects of imperatives:** Weather *it* can be addressed in an imperative; the *it* of raising verbs cannot (Stephens, 2007)

- (31) a. Please don't rain.¹⁹
b. Please rain this weekend.²⁰
c. * Please (don't) seem that Tracy jogged.

- **Genitive complement to nouns:** Expletives are said to be prohibited from occurring as genitive complements to nouns (Huddleston & Pullum, 2002, 1261). This is true of the *it* of raising verbs, but not the *it* of precipitation verbs

- (32) a. The Treadmill is ever popular particularly with the unpredictable spring weather and its tendency to rain and prevent outside training.²¹
b. It had its chance to rain all this week²²
c. * its tendency to seem that Tracy jogs (cf. Tracy's tendency to seem to jog.)

- **Accusative case assignment:** Precipitation verbs often take nominal complements in the presence of *it* (Ruwet, 1991). By Burzio's Generalization (1986), this property suggests that precipitation verbs should also take 'thematic' (i.e. argument) subjects

- (33) a. It rained a light thin rain (COCA)
b. It rained a few drops of rain. (COCA)
c. * It seemed Tracy's awakening. (cf. It seemed that Tracy awakened.)

- **Lexical subjects:** Relatedly, the subject of a precipitation verb need not always be an expletive in the presence of an internal argument; in contrast, raising verbs do not permit such subjects

- (34) a. The clouds rained blood.²³
b. The night the twins came to our town, the skies rained ice.²⁴
c. * The supposition/fact seemed that Tracy jogged.

¹⁹<http://yarnonthehouse.blogspot.com/2013/04/please-dont-rain.html>; accessed 1/10/2018

²⁰<http://www.todayonline.com/sports/motor-racing/please-rain-weekend>; accessed 1/10/2018

²¹<https://www.fit2run.co.nz/home-fitness-equipment>; accessed 1/10/2018

²²<http://www.chicagolandportbikes.com/forums/archive/index.php/t-1591.html>; accessed 1/10/2018

²³<https://m.fanfiction.net/s/9381177/1/The-War>; accessed 1/10/2018

²⁴<http://fiction-drabbles.dreamwidth.org/tag/prompt+%2383:+heart>; accessed 1/10/2018

Appendix B: Further Unergativity/Unaccusativity Diagnostics

Unergative behavior and the source as subject

- **Causativization:** Unaccusative, but not unergative verbs, may participate in the causative alternation

- (35) a. The child broke the vase. (unaccusative)
b. * The fire truck barked the dog. (unergative)

Neither substance emission nor precipitation verbs show causative uses with the source as object (= causee)

- (36) a. * The workers gushed the fountain.
b. * God/the high humidity rained it/the sky.

- **Prepositional (or pseudo-) passives** (Perlmutter & Postal, 1984, 100-103): Both substance emission and precipitation verbs allow such passives, which are found with unergative, but not unaccusative verbs

- (37) a. * This beach was arrived at by aliens. (unaccusative)
b. This bed was slept on by George Washington. (unergative)

(38) SUBSTANCE EMISSION VERBS

- a. ... a large, dirty man of about thirty, wearing a **sweated-through** T-shirt, detached himself from a nearby table full of similar friends ...²⁵
b. The man sweated [through the T-shirt]_{PP}.

(39) PRECIPITATION VERBS

- a. Back at Alumnae House I hung my **rained-on** clothes around my tiny room ...²⁶
b. It/The heavy clouds rained [on my clothes]_{PP}.

- **There-insertion:** Some but not all unaccusative verbs allow *there*-insertion, but unergatives do not

- (40) a. There arose a problem. (unaccusative)
b. * There sang a choir. (unergative)

Substance emission verbs do not allow *there*-insertion when the source serves as the postverbal NP; neither do precipitation verbs

- (41) a. * There gushed a magnificent well.
b. * There rained it/a heavy gray sky/some thick dark clouds.

²⁵G. Gordon Liddy, *Will: The Autobiography of G. Gordon Liddy*, St. Martin's, New York, 1996, p. 71

²⁶E.A. Taylor, *Murder at Vassar*, St. Martin's, New York, 1987, p. 131

Unaccusative behavior and the substance as subject

- **Causativization:** Unlike many unaccusative verbs, directed motion verbs stand out in resisting causativization; substance emission verbs and precipitation verbs seem to share this exceptionality when the substance is the subject. Examples of such causativization are attested but rare

(42) DIRECTED MOTION

* The pilot ascended the plane to cruising altitude.

(43) MANNER OF MOTION

Wilson skittered the cassette across his desk.²⁷

(44) SUBSTANCE EMISSION AND PRECIPITATION

a. ?? The boy gushed liquid from the rubber toy.

b. He [God] rained water to wash away the filth and sin. . .²⁸

- **There-insertion:** Substance emission verbs and precipitation verbs allow *there*-insertion when the postverbal NP denotes the emitted substance, particularly in the presence of a directional PP

(45) a. She passed a spring, set back deep in a hollow where the water winked and shifted like an eye, and **there gushed out into the night air the deep earth smell of black loam.**²⁹

b. Forthwith **there spewed out from the web a host of miniature black spiders** who promptly retreated into the myriad passageways in the stone foundation of the house.³⁰

c. Heard the heavens fill with shouting, and **there rain'd a ghastly dew**³¹

²⁷K. Mitchell, *A Portion for Foxes*, St. Martin's, New York, 1995, p. 57

²⁸<https://sites.google.com/site/cleanlinessvrsgodliness/cleanliness>; accessed 1/10/2018

²⁹E. Spencer, *The Voice at the Back Door*, McGraw Hill, 1956; LSA Press, Baton Rouge, LA, 1984, p. 234

³⁰E.S. Muldrow, *Marmalade*, Sunstone Press, Santa Fe, NM, 2004, p. 116-117; <https://books.google.com/books?isbn=0865344345>

³¹A. Tennyson, "Locksley Hall", *Poems*, W. D. Ticknor. Boston, 1842.