Gast, Volker & Putnam, Michael T. & Jóhannsdóttir, Kristín Margrét. 2025. Excessive events: The syntax and semantics of OVER-modification in Icelandic. *Glossa: a journal of general linguistics* 10(1). pp. 1–33. DOI: https://doi.org/10.16995/glossa.16842

Open Library of Humanities

Excessive events: The syntax and semantics of OVER-modification in Icelandic

Volker Gast, Friedrich Schiller University Jena, Ernst-Abbe-Platz 8, 07743 Jena, Germany, volker.gast@uni-jena.de

Michael T. Putnam, Penn State University, N.239 Burrowes Building, University Park, PA 16802, USA, mike.putnam@psu.edu

Kristín Margrét Jóhannsdóttir, University of Akureyri, O213 Sólborg, Akureyri, Iceland, kristinj@unak.is

This article presents a detailed semantic and accompanying syntactic analysis of predicates denoting events that we describe as 'excessive' in Icelandic. Icelandic uses two types of strategies for marking of excess, the preposition *yfir* complemented by a reflexive pronoun or anaphor (e.g., *Sara bakaði yfir sig* 'Sara baked too much'), and the verbal prefix *of-* (e.g., *Sara of-bakaði kökuna* 'Sara over-baked the cake'). We argue that the former strategy expresses excess relative to the external argument, while the latter strategy expresses excess relative to the internal argument. We illustrate how the semantics of such predicates can be analysed using standard semantic approaches to degree predicates with some extensions, and how a decompositional approach to morphosyntax such as *Distributed Morphology* can capture these distinctions in a conceptually appealing way, with a plausible account of the syntax-semantics interface.

1 Introduction

In this study we provide a description and propose an analysis of two ways of describing events that are carried out 'in excess' in Icelandic. As a point of departure, consider examples (1) and (2):

(1) Sara bakaði yfir sig.
Sara baked OVER ANPH
'Sara baked too much.'

(2) Sara of-bakaði kökuna.
Sara OVER-baked cake.DEF
'Sara overbaked the cake.'

In example (1) the Agent of the event (Sara) carried out baking events in excess. The implication is that she is exhausted or fed up with baking. The excess is indicated by the prepositional phrase *yfir sig*, lit. 'over her/himself'; the verb itself occurs in its basic form. Compare this with the derived verb in example (2), carrying the prefix *of-*. In this example the baking was not too much for Sara, but for the cake. While the two sentences differ systematically in their interpretation, they share a common semantic core, as some event is described as 'excessive' with respect to some participant.

We will use 'OVER' as a generalization of markers deriving excess predicates. Semantically, the attribute 'excessive' (as a property of events) can be defined as follows:

(3) Events are said to be EXCESSIVE if the degree of change associated with an event exceeds a given normalcy standard.

We address the following key questions:

- What factors determine the distribution of the two excess strategies in Icelandic in semantic terms?
- How can we model the interpretation of *yfir* + ANPH and *of-* compositionally?
- How can we analyze the syntax of excess markers in Icelandic?

We start with a few introductory remarks about excess marking in Germanic languages in Section 2, followed by some notes on argument structure in relation to OVER-predicates in Icelandic (Section 3). In Section 4, we propose a semantic analysis of the OVER-predicates. Section 5 provides an analysis of the syntax of the excess markers of Icelandic, based on our semantic analysis. Section 6 summarizes the results and points out some more general implications of our analysis.

2 OVER-predicates in Germanic

We will consider Icelandic data of the type illustrated in (1) and (2) against the background of data from West Germanic languages (see for instance Risch 1995; McIntyre 2001; 2003; Putnam 2011; Putnam & Gast 2012). Verbal excess marking in Icelandic is particularly interesting because Icelandic uses different elements – the preposition *yfir* 'over', complemented by an anaphor, and the verbal prefix *of-* – where major West Germanic languages use the same element (Engl. *over-*, Germ. *über-*; cf. Risch 1995; Putnam & Gast 2012). Icelandic can thus provide important clues for an understanding of the expression of excess predicates in Germanic languages, and for the interpretation of 'P-elements' (prepositions, particles, prefixes) in verbal modification more generally.[1]

Putnam & Gast (2012) distinguish three types of strategies for indicating excess in sentences like those illustrated in (1) and (2), in Germanic languages:

(4) a. Type I x_i V [OVER ANPH$_i$]
b. Type II x_i OVER-V ANPH$_i$
c. Type III x OVER-V

Type I is instantiated in (1) above. Types II and III are illustrated with data from German and English in (5) and (6), respectively.[2]

(5) Type II
Hans über-fraß sich (an Pizza).
Hans OVER-ate ANPH (on pizza)

(6) Type III
John over-ate (on pizza).

West Germanic languages do not distinguish formally between the types of predicates in (1) and (2). In both cases, the OVER-operators are prefixed to the verb – cf. (5) and (6) corresponding to (2), and (7a) and (7b) as structural analogs of (1):[3]

(7) a. Der Hausmeister über-heizte den Raum.
the caretaker OVER-heated the room
b. The caretaker over-heated the room.

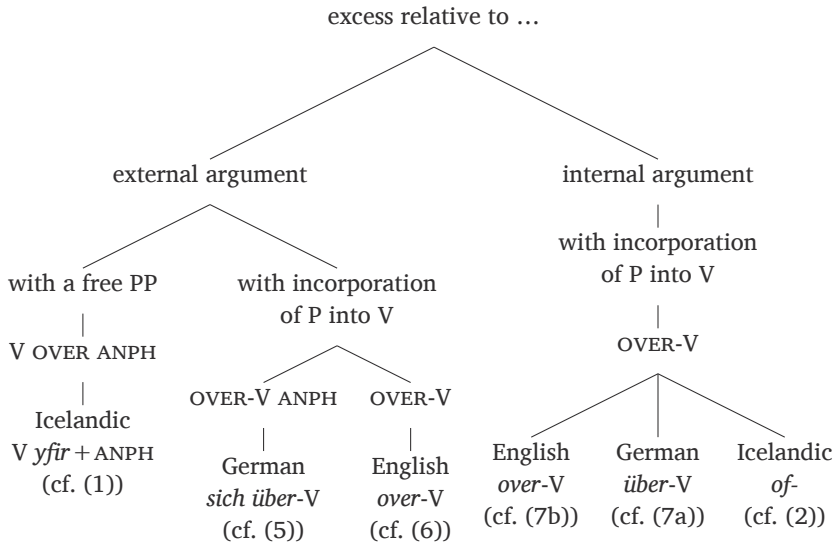
[1] For the assumption of those elements forming a natural class, see for instance Emonds (1985); Zwanenburg (1992); den Dikken (1995); Zeller (2001); Matushansly (2002); Gehrke (2008); Svenonius (2007); Biskup & Putnam (2012); Tolskaya (2018); Biskup (2019) and Aa (2020) among others.

[2] The verb *fressen* 'eat' has a selectional restriction to animals, but it is also used for atypical eating events, e.g., indicating bad manners or excessive eating; cf. Gast & König & Moyse-Faurie (2014).

[3] German has a verb *über-backen*, but it has a spatial meaning, i.e., 'bake at the surface by applying a lot of heat for a short time'.

The difference between Icel. *yfir* + ANPH and *of-* is related to matters of argument structure. We will deal with this question in Section 3. Roughly speaking, *yfir* + ANPH indicates excess relative to the external argument, while *of-* indicates excess relative to the internal argument. We subsume subjects of transitive predicates and of unergative inaccusative predicates under 'external argument', and objects of transitive predicates and subjects of unaccusative predicates under 'internal argument'. Our extended typology of verbal excess modification can thus be represented in the form of a tree diagram as shown in (8).[4]

(8)



In addition to the two main strategies discussed in this article – *yfir* + ANPH and *of-* – Icelandic has at least two more related ways of indicating excess. First, in some cases *of*-verbs take an anaphor as an internal argument. (9) is a pertinent example from Icelandic (cf. also Germ. *sich über-anstrengen* 'ANPH over-strain').

(9) Jón of-reyndi sig í gær.
Jón OF-strained ANPH yesterday
'Jón over-strained himself yesterday.'

Unlike German *über-*, *of-* cooccurring with an anaphor as in (9) is available only when the internal argument of the underlying predicate is co-indexed with the external argument. *Reyna* means 'try, prove; experience' in Old Icelandic (Zoëga 1910: 420), so *of-reyna sig* originally means 'over-try oneself'.[5] An analogous form cannot be derived from, say, *eat*, as in (5) and (6), as the internal argument is not co-referential with the external argument in the underlying predicate

[4] Note that the left branch of the tree (roughly) corresponds to Risch's (1995) *Skalierungstyp III: Reflexive Skalierung*, while the right branch corresponds to her *Skalierungstyp II: Normvergleich*.

[5] Note that Old Icelandic also has transitive *of-reyna* 'to put to too severe a test', cf. Zoëga (1910: 396).

(if *x* overeats that does not mean that *x* eats *x*). Such cases are rendered with *yfir* + ANPH in Icelandic, cf. (10).

(10) Jón borðaði yfir sig.
Jón ate OVER ANPH
'Jón overate.'

The second alternative to express excess in Icelandic is by prefixing *yfir-* to the verb, as in *yfir-fylla* 'over-fill', cf. (11):

(11) Jón yfir-fyllti fataskápinn.
Jón over-filled wardrobe.DEF
'Jón overfilled the wardrobe.'

Unlike *yfir* + ANPH and *of-*, prefixed *yfir-* is not normally used to indicate excess as understood in the present article, where an event is indicated to be excessive relative to some participant. (11) is one of very few examples where the prefix *yfir-* has this effect.[6] Such cases can be analyzed in complete analogy to excessive *of*-predicates as outlined in Sect. 4.1. In most cases, however, *yfir-* has a more literal, typically spatial meaning, e.g., in *yfir-fara* 'run over'. It sometimes denotes metaphorical extensions of such spatial meanings, as in *yfir-buga* 'over-power' and *yfir-stíga* 'over-come'. Such cases are not covered by our (provisional) definition of 'excess' in (3). Given that the *yfir*-prefix only has an excess reading in combination with a few verbs, we will focus on the 'default' markers of excess, i.e., *yfir* + ANPH and *of-*.

Note that not all *of*-predicates express excess as defined in (3). Like *yfir-*, *of-* is often used in expressions of measurement. Some relevant examples are given in (12).

(12) a. *of-ætla* 'over-estimate'
b. *of-meta* 'over-estimate'
c. *of-reikna* 'over-calculate'
d. *of-greiða* 'over-pay'

In the verbs in (12), it is not the change resulting from the event that is evaluated as excessive, but the relevant expression of measurement, e.g., a price. Even though the OVER-component

[6] From a diachronic point of view, it seems that the two prefixes *yfir-* and *of-* represent different layers of historical development. *Of-* is older (in the more abstract and metaphorical meanings) and more specialized for the notion of excess, while *yfir-* has preserved more of its originally spatial meaning, though its metaphorical extensions reach into the domain of excessive marking as well. For instance, the difference between Modern Icelandic *of-fylla* and *yfir-fylla* 'over-fill, over-crowd' is subtle. *Of-fylla* is perceived as more abstract and negative, whereas *yfir-fylla* is more neutral in terms of evaluation, and more concrete. Specifically, *yfir-fylla*, in combination with a liquid-denoting object, seems to imply that the liquid actually spilled over, reflecting the originally spatial meaning of *yfir*, while *of-fylla* could also be used to indicate that the container in question ended up too heavy, without any liquid being spilled.

in these cases is obviously not unrelated to the marking of excess under study in this article, measurement predicates of the type illustrated in (12) will not be taken into account in the following. We assume that *of-* is polysemous, though its interpretation can largely be predicted from the aspectual properties and event structure of the host verb, e.g., insofar as excess marking as defined in (3) requires non-atomic predicates (Caudal 1999; Caudal & Nicolas 2005) exhibiting a monotonic mapping between the temporal trace (Krifka 1992; Champollion 2017) of an event and a measure function associated with the relevant event type (cf. Sect. 4).

Finally, it should be mentioned that *yfir* + ANPH also occurs in combination with adjectives. In this case it indicates a high degree without the implication of excess, and without a negative connotation. Some pertinent examples are given in (13).

(13) a. *yfir sig ánægður* 'overly happy'
b. *yfir sig ástfanginn* 'overly in love'
c. *yfir sig gáttaður* 'overly astonished'
d. *yfir sig heillaður* 'overly fascinated'

We assume that 'pre-adjectival' *yfir* + ANPH as illustrated in (13) is structurally different from post-verbal *yfir* + ANPH, though obviously (historically and semantically) related to it. A detailed analysis of these cases is beyond the scope of the present study, but we will provide a tentative analysis of such cases that is compatible with our analysis of the adverbal uses of *yfir* + ANPH (cf. Sect. 6).[7]

3 Notes on argument structure

As pointed out in Section 2, excess marking with *yfir* + ANPH is only found in combination with intransitive predicates. When occurring with basically transitive predicates, the internal argument position is blocked, i.e., *yfir* + ANPH cannot cooccur with an internal argument, cf. the examples in (14).

(14) a. Ég skreytti húsið.
I decorated house.DEF
'I decorated the house.'
b. Ég skreytti yfir mig.
I decorated OVER ANPH
'I overdecorated.'

[7] Related to the adjectives in (13) is the verbal expression *krútta yfir sig* 'to be overly cute'. As this predicate does not fit the definition in (3), it will not be taken into account. We assume that it draws on the semantics of the adjectival cases in (13), as it shares the absence of a negative connotation with them.

c. *Ég skreytti húsið yfir mig.
I decorated house.DEF OVER ANPH
int.: ‘I overdecorated the house.’

The internal argument of the underlying verb can be introduced by a prepositional phrase, e.g., in combination with predicates of consumption, like *af bjór* ‘on beer’ in (15a). We assume that such adjuncts adjoin at a higher syntactic position, as *v*P-modifiers, cf. the bracketing in (15a). As the focus of our study is on arguments, not adjuncts, we will not provide a detailed analysis of these (optional) PPs. What matters most is that the direct object of a transitive predicate cannot be introduced as a separate argument along with *yfir* + ANPH, see (14c) and (15b).

(15) a. Jón [[$_{vP}$ drakk yfir sig] [$_{PP}$ af bjór]].
Jón drank OVER ANPH PREP beer
int.: ‘Jón drank to much beer.’
b. *Jón drakk bjór yfir sig.
Jón drank beer OVER ANPH
int.: ‘Jón drank too much beer.’

The *yfir* + ANPH-strategy is not available if there is no external argument, i.e., in combination with unaccusative predicates, or transitive predicates whose external argument has been removed, as in verbs carrying the suffix or clitic *-st*, cf. the impersonal passive in (16) (see Ottósson 1986; 1992; Wood 2014; 2015 for a comprehensive treatment of this element). Note that an obvious problem with such examples is that there is no binder for the anaphor *sig*.

(16) *Bjór drakk-st yfir sig.
beer drank-ST OVER ANPH
int.: ‘Too much beer was drunk.’

Yfir + ANPH can be used in combination with denominal verbs, in complementary distribution with the *st*-suffix (see Wood 2015: 252–259 on denominal *st*-verbs in Icelandic). Such denominal derivations are restricted to informal registers, and probably stratified along the age dimension (more popular among younger speakers). They are interpreted as ‘to do something related to N’, cf. (17). An example of a denominal predicate without *-st*, and with *yfir* + ANPH, is given in (18). (19) illustrates that *yfir* + ANPH and *-st* cannot cooccur in denominal predicates of this type.

(17) Hann er eitthvað að jóla-st.
he is something to christmas-ST
‘He’s doing some Christmasy things.’

(18) Hann jólaði yfir sig.
he christmased yfir sig
'He did too much of Christmasy things.'

(19) *Hann jólaði-st yfir sig.
he christmased-ST yfir sig
int.: 'He did too much of Christmasy things.'

Of- is found with intransitive as well as transitive predicates, the latter case being more common than the former. Intransitive *of*-verbs are invariably unaccusative. An example is provided in (20).

(20) Vélin of-reis og brotlenti.
plane.DEF OF-rose and crashed
'The plane overrose and crashed.'

Unlike *yfir* + ANPH, *of-* is sometimes used in combination with anti-causatives derived with *-st*, cf. (21) and (22) (for the analysis of anti-causative *st*-verbs see Wood 2015: Sect. 3.5). However, *of-* is rare with such verbs and minimal pairs of a 'basic' *st*-predicate and a corresponding *of*-predicate are hard to find.[8]

(21) Insúlínkirtlarnir í brisinu of-reyna-st og hrörna.
insulin.glands.DEF in pancreas.DEF OF-strain-ST and decay
'The insuline glands in the pancreas are over-strained and decay.'

(22) Kartöflurnar of-elduðu-st.
potatoes.DEF OF-cook-ST
'The potatoes overcooked.'

In its reflexive and reciprocal uses, *-st* is incompatible with *of-*, cf. (23).

(23) *Jón of-reyndi-st í gær.
Jón OF-strain-ST yesterday
int.: 'Jón over-strained himself yesterday.'

[8] A pair of measurement predicates is given in (i) and (ii); remember that these examples are not treated as instances of 'excess' as defined in (3).

(i) Hvernig reikna-st bætur?
how calculate-ST compensation
'How is compensation calculated?'

(ii) Hvernig of-reikna-st bætur?
how OVER-calculate-ST compensation?
'How is compensation overcalculated?'

It should be noted that "[a]dding the *-st* morpheme to a verb is not the normal way of forming reflexives in Icelandic" (Wood 2015: 65), and that "the semantics of a reciprocal event is distinct from the semantics of an ordinary transitive" (Wood 2015: 274–275; cf. König & Gast 2008 on reciprocity more generally). OVER-modification is possible when the internal argument position is filled by an anaphor, as pointed out in Sect. 2 and illustrated with (9), repeated here as (24).

(24) Jón of-reyndi sig í gær.
Jón OF-strained ANPH yesterday
'Jón over-strained himself yesterday.'

The contrast between (23) and (9)/(24) illustrates that *of-* requires an (overtly realized) internal argument, which is present in (9)/(24) (the anaphor *sig*), while the semantics of the situation described in (23) precludes an interpretation of the only participant (*Jón*) as an internal argument.

Like predicates with *yfir* + ANPH, *of*-derivations can be specified by an adjunct realized as a PP, which we assume to adjoin at a higher position, cf. (25a). The preposition *um* in this example is obligatory, cf. (25b).

(25) a. Hann [[$_{vP}$ of-hitaði herbergið] [$_{PP}$ um 15 gráður]].
he over-heated room.DEF by 15 degrees
'He overheated the room by 15 degrees.'
b. *Hann of-hitaði herbergið 15 gráður.
he over-heated room.DEF 15 degrees
int: 'He overheated the room by 15 degrees.'

In English, and probably in other languages, a measure phrase like *15 degrees* can (in specific cases) be realized as a 'bare' DP, cf. (26a). We assume that such DPs have adjunct status and occupy the same structural position as the corresponding PP, shown in (26b).

(26) a. The caretaker [[$_{vP}$ overheated the room] [$_{DP}$ 15 degrees]].
b. The caretaker [[$_{vP}$ overheated the room] [$_{PP}$ by 15 degrees]].

Note that DP-adjuncts *in lieu de* PPs are not uncommon in English measure phrases and are found, for instance, in temporal specifications, where the preposition in *He worked for five hours* can be omitted (*He worked five hours*; cf. Larson's [1985] "bare NP-adverbs" and McCawley's [1988] "adverbial NPs" [with silent prepositions]; see also Emonds 1976; 1987).

4 A semantic analysis of Iceandic OVER-predicates

4.1 The semantics of *of-*

In *of*-verbs, it is always the internal argument that provides the reference point for the event to be considered excessive. In other words, the event is evaluated as excessive for the internal argument in question. For instance, in (2), the baking was too long and/or intense for the cake in question; in (20) the rising was too steep for the airplane in question; in (9), the exercise was excessive for Jón's body; and in (25a), the heating event was too long and/or intense for the room in question. A further example is given in (27). More cases of excessive *of*-verbs are listed in the Appendix (Sect. 7.1).

(27) Sara of-þornaði á göngunni.
Sara over-dehydrated on hike.DEF
'Sara over-dehydrated on the hike.'

In (27), there is a feeling that the referent of the internal argument is negatively affected by the event. *Of*-predicates do not seem to come with a semantic implication of affectedness, however. For example, *of-rísa* 'over-rise' does not, in itself, imply affectedness of the airplane.

Of-predicates typically correspond to degree achievements such as *widen*, *cool* etc. (see for instance Dowty 1979; Kennedy & Levin 2008; Rappaport Hovav 2008; McNally 2017 on degree achievements). They express a mapping between the temporal trace of the event and some scalar property exhibited by the Theme (e.g. temperature). (28) is a relevant example.

(28) Jón of-hitaði herbergið.
Jón over-heated room.DEF
'Jón overheated the room.'

In some cases the change in the Theme is based on an underlying incremental predicate. For instance, the verb *ala* 'to feed' – as well as its excessive counterpart, *of-ala* 'overfeed' – implies eating. As in the case of degree achievements, we can, however regard the event as describing change undergone by the Theme (e.g., an animal that is fed). We will therefore analyse such cases – which are invariably transitive – with the same semantics used for (intransitive) degree achievements.

The semantic analysis provided in this section is formulated with reference to the work of Kennedy & Levin (2008) dealing with verbs such as *widen* or *cool* (cf. also Rappaport Hovav 2008; McNally 2017).[9] Consider (29) (from Kennedy & Levin 2008: 161).

(29) The soup cooled 17 degrees.

[9] We assume that our analysis could just as well be formulated based on Wellwood (2014; 2015), who analyzes degree predicates not as functions from objects to degrees, but as properties. Degrees are introduced by a separate morpheme.

Example (29) cannot be analyzed as a change-of-state predicate leading to the state of being cool – say, BECOME(COOL(the.soup)) – as the soup is not necessarily cool after cooling 17 degrees.[10] Rather, (29) says that the difference in temperature that the soup underwent as a result of the cooling event is 17 degrees. Degree achievements thus imply a comparison: the difference between the temperature of the soup at the beginning and the end of the cooling event amounts to 17 degrees. This is implemented in the analysis proposed by Kennedy & Levin (2008). They regard gradable adjectives as measure functions which map pairs of entities and points in time to degrees. Adjectives measuring temperature are thus interpreted as two-place functions of type $\langle e, \langle i, d\rangle\rangle$, cf. (30a) ($i$ and d are the types of intervals and degrees, respectively, as in Champollion 2017; points in time are regarded as special cases of intervals). If a measure function of this type is applied to *the soup* at the time of speaking, in context C, it returns a degree, cf. (30b). Note that we assume a 'rich' notion of context, which covers indexical parameters of time, place and speech act participants as well as the Common Ground (Krifka 2007; Clark 2012; Gast 2022).

(30) a. $\lambda x \lambda t[\textsc{temp}(x)(t)]_{\langle e,\langle i,d\rangle\rangle}$
b. $[\![\textsc{temp}(\textit{the.soup})(\textit{now})]\!]^C = 40^o$

As degree achievements denote change along some dimension, Kennedy & Levin (2008) introduce 'difference functions', which return the difference between the degree associated with some pair $\langle x, i\rangle$ and some other degree δ.[11] In order to capture the difference between two degrees measured at the beginning and the end of an event, Kennedy & Levin (2008) furthermore define 'measure of change functions'. A measure of change function "takes an object x and an event e and returns the degree that represents the amount that x changes in the property measured by **m** as a result of participating in e" (Kennedy & Levin 2008: 173, boldface original). Measure of change functions thus represent the lexical meaning of degree achievements like *cool*.

In our treatment of measure of change functions we assume temporal traces of events, represented as $\lambda e[\tau(e)]$ (cf. Krifka 1989; 1992; 1998; Champollion 2017). These functions map events to intervals and are thus of type $\langle v, i\rangle$ (v being the type of events). Measure of change functions corresponding to a measure function m will be represented by a subscript Δ and an arrow identifying the orientation of the scale ($\uparrow, \downarrow$) for dimensions that allow change in either direction. They are defined in (32) (in a slightly different format than the one used by Kennedy & Levin 2008). *init*(e) and *fin*(e) represent the beginning and end of event e, respectively. Measure of change functions are of type $\langle e, \langle v, d\rangle\rangle$.[12]

[10] In the absence of a degree specification, the default reading is that the soup cooled until it was cool.

[11] The difference function corresponding to a measure function m is represented as $\lambda x \lambda t \lambda d[m^{\uparrow}_{d}(x)(t)]$; i.e., a difference function relating to temperature is $\lambda x \lambda t \lambda d[\textsc{temp}^{\uparrow}_{d}(x)(t)]$. Assuming that degrees are susceptible to mathematical operations, we can also work with the difference $\delta_i - \delta_j$ between two degrees δ_i and δ_j.

[12] We thank two anonymous reviewers for the suggestion to define the temporal limits of an event in terms of the temporal trace function.

(31) For any event *e*,

a. $init(e) := \iota t \in \tau(e)[\forall t'[t' \in \tau(e) \rightarrow t' \geq t]]$

b. $fin(e) := \iota t \in \tau(e)[\forall t'[t' \in \tau(e) \rightarrow t' \leq t]]$

(32) For any measure function *m*, object/entity *y* and event *e*:

a. $m_{\uparrow\Delta}(y)(e) := m(y)(fin(e)) - m(y)(init(e))$

b. $m_{\downarrow\Delta}(y)(e) := m(y)(init(e)) - m(y)(fin(e))$

The meaning of (29) can be represented as shown in (33a): the difference between the temperature of *the soup* at the beginning and the end of the event *e* amounts to 17 degrees. The denotation of the verb *cool* is shown in (33b).

(33) a. $\exists e[\text{TEMP}_{\downarrow\Delta}(the.soup)(e) = 17^o]$

b. $[\![cool_v]\!] = \lambda d \lambda y \lambda e[\text{TEMP}_{\downarrow\Delta}(y)(e) = d]$

Excess-marking with *of-* indicates that the change undergone by some Theme *y* in some event *e* surpasses a degree of change that *y* would have undergone in a 'normal' course of events. We use the term *maximum norm value* for this degree. Consider, again, (34) (=(28)).

(34) Jón of-hitaði herbergið.
Jón over-heated room.DEF
'Jón overheated the room.'

Example (34) says that the degree of change in temperature in the room and, hence, the resulting temperature, was higher than the given normalcy standard. We assume that the normalcy standard is a function of the conversational background (Kratzer 2012). In (37) we define a *maximum norm function* that returns the maximum norm value for a given event type (extensionally, a set of events) with a specific Theme. The function f_C^{norm} maps the world of evaluation (w_0) to a "stereotypical conversational background" (Kratzer 2012: 37; cf. (35)). The function *max* selects the maximum value of an ordered set (cf. (36)). The maximum norm function NORM_C^{Th} takes as its argument a set of events in which the Theme *y* undergoes change along some dimension *m* and returns a degree δ.

(35) "A stereotypical conversational background is a function *f* such that for any world *w*, *f*(*w*) represents what is normal in *w* according to some suitable normalcy standard for *w*." (Kratzer 2012: 37)

(36) For any ordered set *O*,
$max(O) := \iota o \in O[\forall o'[o' \in O \rightarrow o' \leq o]]$

(37) For any measure of change function m_{Δ}, Theme y and context C:
$\text{NORM}_{C}^{Th}(\lambda e[m_{\Delta}(y)(e)]) := max(\{\delta \mid \exists e' \exists w'[w' \in \bigcup f_{C}^{norm}(w_0) \wedge [\![m_{\Delta}(y)(e')]\!]^{w'} = \delta]\})$
(w_0 being the world of evaluation)

The denotation of *ofhita herbergið* 'overheat the room' can accordingly be represented as shown in (38).

(38) $\lambda e[\text{TEMP}_{\uparrow\Delta}(\textit{the.room})(e) > \text{NORM}_{C}^{\text{TH}}(\lambda e'[\text{TEMP}_{\uparrow\Delta}(\textit{the.room})(e')]]$

The analysis of *of-* when combining with degree achievements may be more obvious for verbs such as *overheat* ('become too hot') or *overfill* ('become too full') than it is for verbs like *overbake*, which do not appear to lexicalize an underlying adjective. We assume that predicates of this type generally encode some measure function. Measure functions are regarded as lexical atoms that constitute the backbone of degree expressions (cf. Champollion's 2017 ontology). The natural language correlates of these dimensions can be recovered from passive participial forms of the relevant verbs. For example, the measure function of *bake* can be expressed as *baked*. Degrees of 'bakedness' can be linguistically expressed with proportional degree modifiers[13] as shown in (39).

(39) ⟨unbaked, lightly baked, half-baked, well-baked, fully baked⟩

Using the measure of change function BAKE_{Δ} the VP of (40) (=(2)) can be analyzed as shown in (41).

(40) Sara of-bakaði kökuna.
Sara OVER-baked cake.DEF
'Sara overbaked the cake.'

(41) $\lambda e[\text{BAKE}_{\Delta}(\textit{the.cake})(e) > \text{NORM}_{C}^{\text{TH}}(\lambda e'[\text{BAKE}_{\Delta}(\textit{the.cake})(e')])$

4.2 The semantics of *yfir*+ANPH

Predicates with *yfir* + ANPH comprise transitive and unergative verbs, e.g., predicates of consumption (*borða* 'eat', *drekka* 'drink') and predictes of activity (*baka* 'bake', *lesa* 'read', *spila* 'play', *skreyta* 'decorate'). Relevant examples were given in (10), (14b), (15a) and (18) above, and more verbs are listed in the Appendix (Sect. 7.2). For further illustration, consider (42), which suggests that *Jón* is tired after too much dancing.

(42) Jón dansaði yfir sig.
Jón danced OVER ANPH
'Jón danced too much.'

[13] See Caudal & Nicolas (2005) on proportional degree modifiers.

From a semantic point of view we can distinguish two major types of predicates combining with *yfir* + ANPH. The first class comprises incremental Theme predicates.[14] These predicates are 'gradual' in terms of the classification provided by Krifka (1989; 1992). The property of 'graduality' "comprises uniqueness of objects, mapping to objects, and mapping to events" (Krifka 1992: 42). For example, the VP *drink a glass of wine* denotes a gradual event.[15] The VP *drakk yfir sig* (cf. (15a)) indicates excessive change in the incremental Theme, i.e., the beverage.

The second type of predicate that combines with *yfir* + ANPH is commonly taken to be compatible with cognate or hyponymous objects (cf. Hale & Keyser 1993; Kuno & Takami 2004; Sailer 2010 and, in particular, Kallulli & Oltra-Massuet 2022, which deals with scalar *such* modification). A typical example of a cognate object is provided by *a dance*, see (43a). (43b) is an example of a hyponymous object.

(43) a. He danced (a dance). (cognate object)
b. He danced (a waltz). (hyponymous object)

Note that in the literature on cognate objects, the denotation of this class is often extended beyond objects without a clear etymological relationship to the verb. For example, Kallulli & Oltra-Massuet (2022) regard the Albanian noun *gjumë* 'sleep' in (44) as a cognate object of the verb *fle* 'sleep':

(44) Beni fjeti gjumë
Ben slept.3SG sleep
(Kallulli & Oltra-Massuet 2022: 225)

The term 'cognate object' thus stands for objects that are implied by the verb and denote either an effected object or the event described by the predicate, according to Sailer (2010).

The availability of cognate objects is often regarded as a diagnostic for unergativity (see for instance Levin & Rappaport Hovav 1995), though there are also cognate object verbs (in English) that are not normally regarded as unergatives (most notably, *die*). Unergative verbs are accordingly analyzed as underlyingly transitive (e.g., Hale & Keyser 1993). We will assume that unergatives comprise two semantic components, an event description in the verb itself, and a description of the degree of change in the internal argument (which subsumes cognate objects).

---

[14] On incremental Theme predicates, see Tenny (1987; 1992; 1994); Dowty (1991); Krifka (1998); Rothstein (2001); Piñon (2008); Caudal & Nicolas (2005); Kennedy & McNally (2005) and Kennedy (2012), among others.

[15] "**Uniqueness of objects** captures the fact that an event is related to a specific object …. **Mapping to objects** means in [*drink a glass of wine*] that every part of a drinking of a glass of wine corresponds to a part of the glass of wine. And **mapping to events** implies that every part of the glass of wine being drunken [sic] corresponds to a part of the drinking event" (Krifka 1989: 92) [emphasis original].

What cognate objects have in common with incremental Themes is that they can measure out the event in question. For example, the cognate object *dance* can be quantified as in *He danced two/three/four dances*. In fact, some kind of specification or modification is often regarded as being obligatory for the use of a cognate object. Cognate object predicates thus also exhibit a mapping between the temporal trace of the event and the denotation of the internal argument.

In most examples given so far, there is an external argument (subject of a transitive or unergative predicate) with a human referent who carries out an action more than normally. The implication is mostly that s/he is tired, exhausted or fed up. However, affectedness of the external argument seems to be a pragmatic inference, rather than being semantically encoded. There are cases that allow alternative interpretations. For example, the verb phrase *skreyta yfir sig* (lit. 'decorate over ANPH', see (14b)) seems to have two potential types of implications. Either the referent of the external subject is fed up or exhausted, or the room, or whatever was decorated, has been spoiled. The latter reading is akin to the interpretation of the corresponding *of*-predicate (*of-skreyta*) and would in fact more naturally be rendered in this way. (45) is a similar case. Either the child is tired after too much whining, or the speaker is annoyed.[16]

(45) Barnið vældi yfir sig.
child.DEF whined YFIR ANPH
'The child whined too much.'

The main point of reference for our semantic analysis of *yfir* + ANPH-predicates is the work by Kennedy (2012). We will start with incremental Theme predicates and then turn to cognate object predicates. Kennedy (2012: 117) (adopting a proposal made by Krifka 1989; 1992) analyses incremental Themes of the type illustrated in (46) as shown in (46b) (only the denotation of the VP is shown; 'NU' stands for 'natural units' and is interpreted as a classifier; NU_{Δ} returns a difference value).

(46) a. Kim ate the ten dumplings.
b. $\lambda e \exists x [\text{EAT}(e) \wedge \text{DUMPLING}(x) \wedge \text{NU}_{\Delta}(\text{DUMPLING})(x)(e) = 10]$

[16] An apparently special case of an *yfir* + ANPH-predicate is given in (i).

(i) *sofa yfir sig*
'oversleep'

In (i), the standard of normalcy is not provided by the extent to which the Agent normally sleeps. The event is evaluated as being excessive relative to some (contextually given) point in time. We assume that this case exhibits special properties as a result of lexicalization and conventionalization. Note that the special status of *sofa yfir sig* 'oversleep' in Icelandic is reflected in the fact that some other Germanic languages use other P-elements for this verb; German, for instance, has *ver-schlafen*, rather than **über-schlafen*.

According to this analysis, the VP of (46) denotes a set of events such that the change in the amount of dumplings, measured in 'natural units' (NUs), in the course of some event *e*, amounts to ten.

The amount of change associated with an eating event is, to some extent, analogous to the degrees of change measured in degree achievements. However, there are important differences (cf. also Rappaport Hovav 2008; Kennedy 2012 on differences between degree achievements and incremental Theme predicates). Most importantly, it is hard to conceive of a measure function returning absolute degrees for Themes of incremental Theme predicates, at some point in time *t* in the course of an event *e*. While the measure function TEMP can deliver a value at any given point in time (for some object), there is no obvious analogue for the amount of food consumed at a given point in time *t*. Rather, the amount of food eaten is incremental at t_i; i.e., it is the sum of the food consumed at all points in time $t_{1\ldots h}, h \leq i$.

In incremental Theme predicates, there is a (one-to-n) mapping from the stages of an event to the parts of the Theme. We capture this relationship by assuming that incremental Theme predicates imply what we call an 'incremental function'. Incremental functions associated with a predicate will be represented by the relevant predicate carrying a subscript INCR, e.g., EAT_{INCR} for the verb *eat*. Remember that we adopt Krifka's (1989, 1992) temporal trace function (Sect. 4.1). In addition, we make the following assumptions:

(47) a. For any trace $t_i \in \tau(e)$ of an event *e*, there is a corresponding (incremental or decremental) Theme θ_i.
b. The parts θ_i of the maximum Theme θ_{max} are ordered by a meronymic relationship such that any part-of-Theme θ_i is a part of θ_{i+1} ($\theta_i \sqsubseteq \theta_{i+1}$).
c. Decremental Theme predicates behave accordingly, with $\theta_i \sqsupseteq \theta_{i+1}$.
d. The incremental function P_{INCR} of an incremental predicate *P* is a mapping from the temporal trace $\tau(e)$ of an event to the (partial) Themes θ_i: $\langle (t_{init}, \theta_{min}) \ldots (t_{fin}, \theta_{max}) \rangle$.

For example, if at point t_i of the temporal trace $\tau(e)$ of an event *e* ten dumplings have been eaten, it is true that $\text{EAT}_{\text{INCR}}(t_i) = 10\text{NU}(\text{DUMPLING})$ (note that we treat NU as a classifier that maps non-quantized predicates to quantized predicates; the value returned by a classifier can thus be multiplied by a number – here, 10).

In analogy with our treatment of degree achievements, we can define, for any incremental function P_{INCR}, an incremental change function P_{Δ}, which returns the difference in the Theme between the beginning and the end of an event *e* (*init*(*e*), *fin*(*e*)). In the definition in (48) we use the difference operator Δ to represent the difference between two Themes that stand in a part-whole relation to each other ($\theta_j \Delta \theta_i$ is that part of θ_j that is not part of θ_i).

(48) For any event e and any incremental function $P_{\text{INCR}}(e)$:
$P_{\Delta}(e) := P_{\text{INCR}}(\mathit{fin}(e)) \ \Delta \ P_{\text{INCR}}(\mathit{init}(e))$

We can now represent the meaning of the VP *eat the ten dumplings* as shown in (49). Note that there is a separate eating predicate, which encodes manner. Alternatively, we could, for instance, use the event description *devour*. Note furthermore that the predicate *eat* does not take a separate internal argument according to this analysis. The Theme, which is incremental, is represented as the value returned by the incremental change function $\text{EAT}_{\Delta}(e)$.

(49) $\lambda e[\text{EAT}(e) \wedge \text{EAT}_{\Delta}(e) = 10\text{NU}(\text{DUMPLING})]$

Our treatment of incremental Theme predicates can also be applied to cognate object predicates. Cognate objects like (*He danced a*) *dance* are either analysed as nominal instantiations of the events denoted by the corresponding verb, or as 'effected' or 'resultant' objects (Kuno & Takami 2004; Sailer 2010). In either case, their denotation is homomorphic with the temporal trace of the event. If we analyse cognate objects as nominal copies of the event, the homomorphism is trivial, as it is a mapping from the temporal trace $\tau(e)$ of an event e to itself. If we regard them as separate (effected, resultant) objects, the homomorphism holds between the temporal trace and those (meronymically structured) objects. We therefore assume that the semantics for incremental Theme predicates – with a target domain ordered by a meronymic relationship – carries over to cognate objects.

Yfir + ANPH (with incremental predicates) can be interpreted in analogy to *of-*. While *of-* expresses that the difference between two degrees δ_{init} and δ_{fin}, measured at the beginning and the end of an event e, is greater than the maximum norm value for the event and Theme in question, *yfir* + ANPH expresses that the incremental change in the Theme resulting from e exceeds the maximum norm value relative to the Agent. As this function references the Agent, it carries the superscript ^{Ag}. It is defined in (50).

(50) For any incremental change function P_{Δ}, Agent x and context C:
$\text{NORM}_{C}^{Ag}(\lambda e'[P_{\Delta}(e')])(x)$
$:= \mathit{max}(\{\delta \mid \exists e' \exists w'[w' \in \bigcup f_{C}^{\mathit{norm}}(w_0) \wedge \text{AGENT}(x)(e') \wedge [\![P_{\Delta}(e')]\!]^{w'} = \delta]\})$

We can use the maximum norm function to represent the meaning of (51) (=(10)) as shown in (52). The maximum norm function delivers the maximum norm value, i.e., the amount of food that would normally be eaten in any event of the type of e (here, an eating event), in context C, if Kim is the Agent of e. Our analysis of (53) (= (42)) – with a cognate object – is shown in (54).

(51) Kim borðaði yfir sig.
Kim ate OVER ANPH
'Kim overate.'

(52) $\lambda e \left[\begin{array}{l} \textsc{Agent}(\textit{Kim})(e) \wedge \\ \textsc{eat}(e) \wedge \\ \textsc{eat}_{\Delta}(e) \sqsupset \textsc{norm}_{C}^{\textsc{Ag}}(\lambda e' [\textsc{eat}_{\Delta}(e')])(\textit{Kim}) \end{array} \right]$

(53) Kim dansaði yfir sig.
Kim danced OVER ANPH
'Kim danced too much.'

(54) $\exists e \left[\begin{array}{l} \textsc{Agent}(\textit{Kim})(e) \wedge \\ \textsc{dance}(e) \wedge \\ \textsc{dance}_{\Delta}(e) \sqsupset \textsc{norm}_{C}^{\textsc{Ag}}(\lambda e' [\textsc{dance}_{\Delta}(e')])(\textit{Kim}) \end{array} \right]$

5 The syntax of excess

In this section we provide a sketch of a syntactic analysis that is consistent with our semantic proposal. Specifically, we adopt a particular hypothesis about the architecture of the syntax module that is neo-constructionist in design, meaning loosely that all 'objects' – from 'words' to more expansive clause-level structures – are generated in the (narrow) syntax. Adopting a 'one-engine' approach to linguistic structure entails that the projections that make up syntactic representations are *submorphemic*, resulting in a late-insertion and realizational approach to the traditional syntax-morphology interface. Although there are a number of frameworks that adopt a neo-constructionist architecture, e.g., *Distributed Morphology* (DM) (Hale & Keyser 1993; Marantz 1997), *Nanosyntax* (Starke 2009; 2011; Baunaz et al. 2018), and *Exoskeletal grammar* (Borer 2005; 2013; Lohndal 2014), for the remainder of this paper we employ axioms and structures commonly found in DM due primarily to its application to a wide array of syntactic phenomena cross-linguistically. We assume, however, that our treatment of the syntax-semantics interface with respect to excessive events in Icelandic is compatible with any of the aforementioned neo-constructionist theories.

Our abridged treatment of the syntactic properties of excessive events focuses on two specific domains of structure: (i) the underlying structure of events, and (ii) the proper syntactic treatment of OVER. We turn our attention first to the syntax of events from a DM-perspective. In DM, all ontological syntactic objects, including events, are formed from the base of atomic, category-neutral, non-decomposable ROOTS, represented as $\sqrt{\text{P}}$ for a predicate *P*. Linguistic

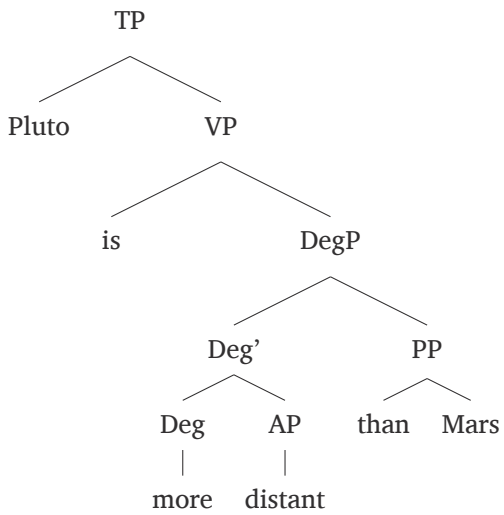
structures consist of these root-elements that are further augmented with additional features (housed in hierarchically functional heads) to construct larger syntactic objects. Based on the assumption that root-elements lack syntactic information, it is generally held that they do not license argument requirements. Arguments are thus introduced by means of other elements and structures, such as particles, prepositions, small clauses, and other functional heads (Ramchand 2008; Alexiadou & Anagnostopoulou 2013). Under these assumptions, roots provide idiosyncratic elements of predicates.

5.1 *Of*- and degree achievements

In our analysis of *of*-predicates we adopt Kennedy's (1999) treatment of degrees, with minor modifications.[17] We assume that an analysis á la Wellwood (2014; 2015) would work just as well though (see also Note 9). Consider the comparative in (55), analysed by Kennedy (1999: 220) as shown in (56).

(55) Pluto is more distant than Mars.

(56)

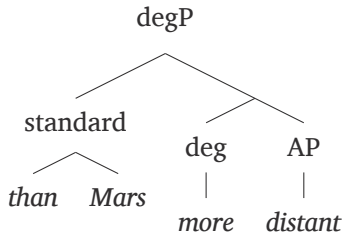


The AP *distant* represents a measure function, and Deg establishes a comparison between the degrees to which Mars and Pluto are distant (from the deictic centre, i.e., the earth).[18] More generally (and abstracting away from linear order), this structure can be represented as shown in (57). A positive (non-comparative) form with a degree specification takes the form in (58).

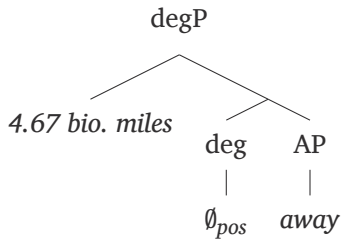
[17] Note that we do not deal with metaphorical extensions of verbs like *cool*.

[18] For a detailed overview of the realization of degP, see Morzycki (2019: Ch. 4.2).

(57)

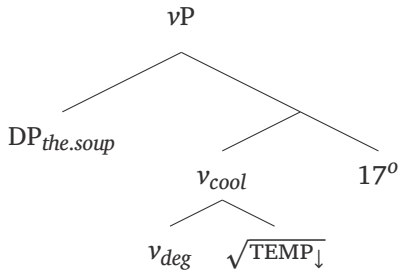


(58)



Degree achievements have a similar underlying structure as gradable properties. Consider example (29) again (*The soup cooled 17 degrees*). Such examples can be regarded as verbal analogues of adjectival comparatives. We assume the structure in (59) for the vP *cool 17 degrees*. The v_{deg}-head merges with the $\sqrt{\text{TEMP}_{\downarrow}}$ root representing the (downward-oriented) temperature scale, yielding another node of category *v*, which corresponds to the denotation of the verb *cool* as represented in (33b) above. Note that we follow Folli & Harley (2005) in assuming that there are different flavors of categorizing heads such as *v*, with different denotations.

(59)



The *v*P in (59) denotes a relationship between an event and an object, such that the object cools 17 degrees in its course. The denotations of v_{deg}, v_{cool} and *v*P in (59) are shown in (60). The constituent v_{cool} (= $[v_{deg}\ \sqrt{\text{TEMP}_{\downarrow}}]$) will be spelled out with an appropriate lexical item, most likely *cool*.

(60) a. $[\![\text{v}_{deg}]\!] = \lambda m \lambda \delta \lambda y \lambda e[m_{\Delta}(y)(e) = \delta]$

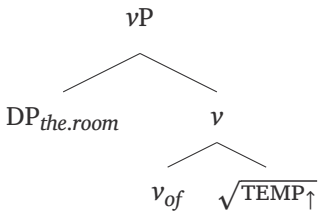
b. $[\![v_{cool}]\!] = \lambda \delta \lambda y \lambda e[\text{TEMP}_{\downarrow\Delta}(y)(e) = \delta]$ (= $[\![cool]\!]$)

c. $[\![v\text{P}]\!] = \lambda e[\text{TEMP}_{\downarrow\Delta}(\textit{the.soup})(e) = 17^{o}]$

Of-predicates can be analyzed in parallel fashion to (29) (*The soup cooled 17 degrees*), differing from this example in the denotation of the *v*-head, and the number of arguments within *v*P. For illustration consider (61), which is analogous to (29) insofar as it relates to a scale of temperature. Its syntactic representation is provided in (62). We focus on the *v*P here, assuming that the Agent is introduced by a Voice head, projecting a VoiceP (Kratzer 1996; Alexiadou & Anagnostopoulou & Schäfer 2015).

(61) Jón [$_{vP}$ of-hitaði herbergið]
Jón over-heated room.DEF
'Jón overheated the room.'

(62)



The *v*-head in (62) has the denotation shown in (63a). It takes three arguments, two of which are saturated within *v*P: a measure function, and an argument specifying the standard (the room) for the NORM function. The *v*P denotes a set of events such that the degree of change undergone by the room in question exceeds the maximum norm value for that room, cf. (63c).

(63) a. $[\![v_{of}]\!] = \lambda m \lambda y \lambda e[m_{\Delta}(y)(e) > \text{NORM}_{C}^{Th}(\lambda e'[m_{\Delta}(y)(e')])]$
b. $[\![[v_{of}\sqrt{\text{TEMP}_{\uparrow}}]]\!] = \lambda y \lambda e[\text{TEMP}_{\uparrow\Delta}(y)(e) > \text{NORM}_{C}^{Th}(\lambda e'[m_{\Delta}(y)(e')])]$
c. $[\![vP]\!] = \lambda e[\text{TEMP}_{\uparrow\Delta}(\textit{the.room})(e) > \text{NORM}_{C}^{Th}(\lambda e'[\text{TEMP}_{\uparrow\Delta}(\textit{the.room})(e')])]$

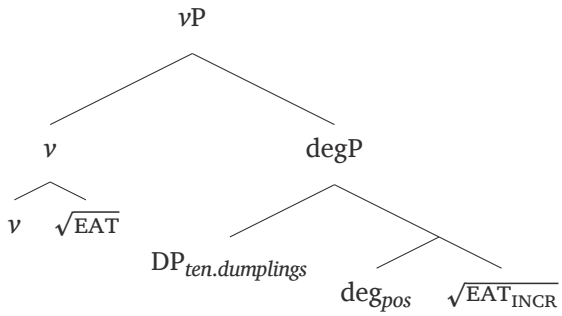
5.2 The syntax of *yfir*+ANPH

The structure of incremental Theme predicates and unergatives is more complex than the one with degree achievements. Recall from Sect. 4.2 that we analyze *v*Ps headed by an incremental Theme of the type of (64a) as shown in (64b).

(64) a. [$_{vP}$eat [the ten dumplings]]
b. $\lambda e[\text{EAT}(e) \wedge \text{EAT}_{\Delta}(e) = 10\text{NU}(\text{DUMPLING})]$

Our syntactic representation of (64a) is shown in (65). We assume a completely parallel structure for cognate object predicates like *dance*. The *v*P denotes an event of eating whose extent is specified in a separate degree Phrase (degP). This phrase consists of a deg-head, an incremental function in the complement position ($\sqrt{\text{EAT}_{\text{INCR}}}$), and a specification of the amount consumed in spec,degP. We assume that the standard of comparison in spec,degP moves to spec,*v*P, where it saturates the internal argument position of *v*.

(65)



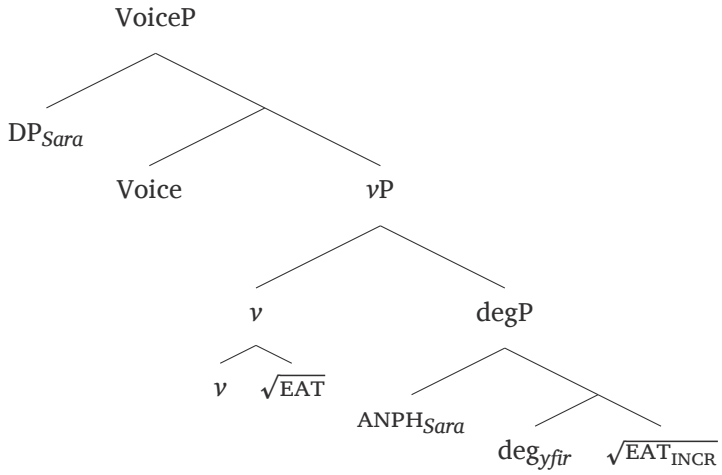
The denotations of the deg-head, degP, *v* and *v*P in (65) are shown in (66).

(66) a. $[\![deg_{pos}]\!] = \lambda m \lambda d \lambda e[m_{\Delta}(y)(e) = d]$
b. $[\![degP]\!] = \lambda e[\text{EAT}_{\Delta}(e) = 10NU(\text{DUMPLING})]$
c. $[\![[v\sqrt{\text{EAT}}]]\!] = \lambda P \lambda e[\text{EAT}(e) \wedge P(e)]$
d. $[\![vP]\!] = \lambda e[\text{EAT}(e) \wedge \text{EAT}_{\Delta}(e) = 10NU(\text{DUMPLING})]$

Sentences with *yfir sig* have the same *v*P-structure as shown in (65). The deg-head takes an incremental function as its complement. It imposes a selectional restriction on spec,degP, to the effect that it only accepts anaphors (*mig, dig, sig*) as arguments. The anaphors are bound to the agent of the event (spec,VoiceP), from which they inherit a referential index (Büring 2005) and are thus interpretable in situ. Consider again example (67) (=(10)), which can be analyzed according to the structure provided in (68).

(67) Sara borðaði yfir sig.
Sara ate OVER ANPH
'Sara overate.'

(68)



The syntax-semantics mapping for (67) is shown in (69). The deg-head takes an incremental function (in the complement position) and a standard of comparison (in the specifier position) as its arguments, returning a property of an event. The rest of the derivation is analogous to (66).

(69) a. $[\![deg_{yfir}]\!] = \lambda m \lambda y \lambda e[m_{\Delta}(e) > \text{NORM}_{C}^{Ag}(\lambda e'[m_{\Delta}(e')](y)]$
b. $[\![degP]\!] = \lambda e[\text{EAT}_{\Delta}(e) > \text{NORM}_{C}^{\text{AG}}(\lambda e'[\text{EAT}_{\Delta}(e')])(Sara)]$
c. $[\![[v\sqrt{\text{EAT}}]]\!] = \lambda P \lambda e[\text{EAT}(e) \wedge P(e)]$
d. $[\![vP]\!] = \lambda e[\text{EAT}(e) \wedge \text{EAT}_{\Delta}(e) > \text{NORM}_{C}^{\text{AG}}(\lambda e'[\text{EAT}_{\Delta}(e')])(Sara)]$

6 Conclusions

In this article we proposed a detailed analysis of predicates denoting events that occur in excess in Icelandic. On the basis of a distributional analysis of the two OVER-operators in Icelandic, *yfir* + ANPH and *of-*, we formulated a semantic analysis referring to standard approaches to degree achievements and incremental Theme predicates. We adopted a neo-constructionist analysis of the syntax-semantics interface, showing how a late-insertion model such as *Distributed Morphology* is capable of capturing these distributions in a simple and conceptually appealing manner. Our analysis of the semantic properties of the OVER-operator and its reflexes *yfir* + ANPH and *of-* can be captured in a computational system (i.e., syntax) in which there is no distinction between the projections and mechanisms responsible for generating lexical and phrasal structures. Our analysis assumes functional heads that project constituents which measure out the extent of an event, incorporating a root denoting a measure function in the case of degree achievements (such as for verbal roots like *heat*), and an incremental function in the case of incremental and cognate object predicates (such as *eat* and *dance*). In sum, our analysis provides a straightforward account of how syntactic operations within a neo-constructionist framework can successfully constrain the (semantic and syntactic) distribution of OVER-modification in Icelandic.

Our analysis accounts for the empirical generalizations made in Sections 2 and 3. First, different functional heads combine with different types of predicates. *Of-* combines with roots denoting measure functions to form a verb, while *yfir* + ANPH, forming its own syntactic projection, combines with categorized verbs denoting incremental Theme predicates, or cognate object/unergative predicates. In the former case it is the internal argument that provides the point of reference for the event to be considered excessive, in the latter case it is the external argument. Second, it was shown that *yfir* + ANPH is in complementary distribution with internal arguments. This follows because both types of constituents occupy the same structural position, functioning as complements within *v*P.

Looking forward, an obvious question that arises is how *yfir* + ANPH in combination with verbs relates to that constituent when it combines with adjectives as illustrated in (13), e.g., *yfir sig ánægður* ‘overly happy’. It seems to us that *mutatis mutandis*, the analysis of verbal predicates

carries over to the adjectival modifiers. A possible syntactic analysis of the adjectival structures is shown in (70):

(70) $[_{AP}[_{degP}$ sig [yfir $\sqrt{\text{HAPPY}}$]] *ánægður*]

The main difference between the adjectival cases and the occurrence of *yfir* + ANPH in degP as a *v*-complement is that as an adjectival modifier degP does not reference a measure of change function but a measure function; there is no change during an event involved. Note furthermore that adjectival modification with *yfir* + ANPH seems to be restricted to Experiencer adjectives with a human subject. On the face of it, our analysis of *yfir* + ANPH combining with verbs seems to be applicable to such cases – measuring degrees, not degrees of change. The norm-function would have to be adjusted for Experiencers. (70) could thus be interpreted as 'the degree of *x*'s happiness is beyond the normalcy standard for *x*'s happiness'. A proper analysis of pre-adjectival *yfir* + ANPH requires a more thorough study though.

Another question that emerges from this study is whether or to what extent our analysis can be applied to OVER-modification in other Germanic languages and beyond. Additionally, this analysis lends itself to the examination of other types of degree modification, such as UNDER-modification (see e.g., Risch 1995 for an overview of the properties of UNDER-modification in German). Predicates that imply a comparison between different arguments may also be of interest in this context (e.g., *out-perform*, cf. Ahn 2022). We leave these topics for future research.

7 Appendix: additional examples of excess verbs

The examples are grouped into semantic classes. Their meanings are paraphrased using the variables *x* for the external argument and *y* for the internal argument. Likely inferences concerning affectedness are provided according to the intuitions of the third author.

7.1 Predicates combining with *of-*

(71) and (72) provide examples of intransitive predicates.

(71) predicates of body function

a. *of-anda*
y inhales too much oxygen
likely inference: *y* is affected by an overdosis of oxygen

b. *of-þorna*
y dehydrates (too much)
likely inference: *y* is affected by an overdosis of oxygen

(72) predicate of directed motion
of-rísa
y rises too fast
likely inference: *y* gets unstable

(73)–(77) provide examples of transitive predicates:

(73) predicates of transfer

a. *of-ferma*
x (once) loads *y* too much
likely inference: *y* is too heavy

b. *of-fylla*
x (once) fills *y* too much
likely inference: *y* is too loaded

c. *of-hlaða*
x (once) loads *y* too much
likely inference: *y* gets too full

(74) predicates of physical transformation

a. *of-dúða*
x (once) dresses *y* too warm
likely inference: *y* gets hot

b. *of-hita*
x (once) heats *y* too much
likely inference: *y* gets hot

c. *of-kæla*
x (once) cools *y* too much
likely inference: *y* gets cold

d. *of-þvo*
x washes *y* too often
likely inference: *y* gets damaged

e. *of-baka*
x (once) bakes *y* too much
likely inference: *y* gets damaged/burned

f. *of-elda*
x (once) cooks *y* too much
likely inference: *y* becomes dry, mushy, etc.

(75) predicates of mental or physical activity

a. *of-vinna*
x (once or repeatedly) works on *y* too much
likely inference: *y* (e.g., project) is negatively affected

b. *of-nota*
x (once or repeatedly) uses *y* too much/often
likely inference: *y* gets damaged

c. *of-nýta*
x (once or repeatedly) uses *y* too often
likely inference: *y* is negatively affected (e.g., material is damaged)

(76) predicates of hunting and consumption (including causatives)

a. *of-ala*
x (repeatedly) feeds *y* too much
likely inference: *y* gets fat

b. *of-veiða*
x (repeatedly) catches too many *y* (fish)
likely inference: *y* is reduced

c. *of-beita*
x (repeatedly) puts too many cattle to *y* (pasture)
likely inference: *y* is reduced

(77) predicates of communication

a. *of-herma*
x (once) tells *y* (e.g., a story) too richly
likely inference: *y* is not accurate

b. *of-kenna*
x (once) uses too much kenning in *y* (poem)
likely inference: *y* is spoiled

7.2 Predicates combining with *yfir*+ANPH

(78) predicates of mental or physical activity

a. *lesa yfir sig* (*af ástarsögum*)
x (once or repeatedly) reads too much (romance)
likely inference: *x* is fed up or exhausted[19]

b. *gúgla yfir sig*
x googles (repeatedly and hence) too much
x is fed up or exhausted

c. *spila yfir sig* (*af GTA*)
x (once or repeatedly) plays too much (GTA)
likely inference: *x* is fed up or exhausted

d. *tefla yfir sig*
x (once or repeatedly) plays too much chess
x is fed up or exhausted

e. *vinna yfir sig*
x (once or repeatedly) works too much
likely inference: *x* is fed up or exhausted

(79) predicates of consumption

a. *borða yfir sig* (*af kjöti*)
x (once or repeatedly) eats too much (meat)
likely inference: *x* feels unwell

b. *éta yfir sig* (*af kjöti*)
x (once or repeatedly) eats too much (meat)
likely inference: *x* feels unwell

[19] If *x* overreads on one kind of book s/he might still be able to read a different kind of book.

(80) predicates of transfer and communication

a. *selja yfir sig* (*af bókum*)
   x did too much of (repeated) selling
   likely inference: *x* is fed up or exhausted

b. *spyrja yfir sig* (*af spurningum*)
   x asks too many questions
   likely inference: *x* is fed up or exhausted

c. *túlka yfir sig* (*af lagatextum*)
   x (once or repeatedly) interpreted too much (e.g., law documents)
   likely inference: *x* is fed up or exhausted

Acknowledgements

We would like to thank four Glossa reviewers for their valuable comments and suggestions. Any remaining inaccuracies are of course our own responsibility.

Competing interests

The authors have no competing interests to declare.

References

Aa, Leiv Inge. 2020. *Norwegian verb particles*. Amsterdam: John Benjamins. DOI: https://doi.org/10.1075/sigl.4

Ahn, Byron. 2022. Mapping *out-* argument structure. *Syntax* 25(4). 417–465. DOI: https://doi.org/10.1111/synt.12241

Alexiadou, Artemis & Anagnostopoulou, Elena. 2013. Manner vs. result complementarity in verbal alternations: A view from the Clear-alternation. In Keine, Stefan & Sloggett, Shayne (eds.), *Proceedings of NELS 42*, 39–52. Amherst: GLSA, UMass.

Alexiadou, Artemis & Anagnostopoulou, Elena & Schäfer, Florian. 2015. *External arguments in transitivity alternations: A layering approach*. Oxford: Oxford University Press. DOI: https://doi.org/10.1093/acprof:oso/9780199571949.001.0001

Baunaz, Lena & Haegeman, Liliane & De Clercq, Karen & Lander, Eric (eds.). 2018. *Exploring Nanosyntax*. New York: Oxford University Press. DOI: https://doi.org/10.1093/oso/9780190876746.001.0001

Biskup, Petr. 2019. *Prepositions, case and verbal prefixes: The case of Slavic*. Amsterdam: John Benjamins. DOI: https://doi.org/10.1075/la.255

Biskup, Petr & Putnam, Michael T. 2012. One P with two spell-outs: The *ent/aus*-alternation in German. *Linguistic Analysis* 38(1–2). 69–109.

Borer, Hagit. 2005. *Structuring sense, vol. ii: The normal course of events*. Oxford: Oxford University Press. DOI: https://doi.org/10.1093/acprof:oso/9780199263929.001.0001

Borer, Hagit. 2013. *Structuring sense, vol. iii: Taking form*. Oxford: Oxford University Press. DOI: https://doi.org/10.1093/acprof:oso/9780199263936.001.0001

Büring, Daniel. 2005. *Binding theory*. Cambridge: Cambridge University Press.

Caudal, Patrick. 1999. Computational lexical semantics, incrementality, and the so-called punctuality of events. In *Proceedings of the 37th annual meeting of the Association for Computational Linguistics*, 497–504. College Park, Maryland, USA: Association for Computational Linguistics. https://doi.org/10.3115/1034678.1034753. https://aclanthology.org/P99-1064.

Caudal, Patrick & Nicolas, David. 2005. Types of degrees and types of event structures. In Maienborn, Claudia & Wöllstein, Angelika (eds.), *Event arguments: Foundations and arguments*, 277–299. Tübingen: Max Niemeyer. DOI: https://doi.org/10.1515/9783110913798.277

Champollion, Lucas. 2017. *Parts of a whole: Distributivity as a bridge between aspect and measurement*. Oxford: Oxford University Press. DOI: https://doi.org/10.1093/oso/9780198755128.003.0009

Clark, Herbert H. 2012. *Using language*. Cambridge, UK: Cambridge University Press.

den Dikken, Marcel. 1995. *Particles: On the syntax of verb-particle, triadic and causative constructions*. New York: Oxford University Press. DOI: https://doi.org/10.1093/oso/9780195091342.001.0001

Dowty, David. 1979. *Word meaning and Montague grammar*. Dordrecht: Reidel. DOI: https://doi.org/10.1007/978-94-009-9473-7

Dowty, David. 1991. Thematic proto-roles and argument selection. *Language* 67(3). 547–619. DOI: https://doi.org/10.1353/lan.1991.0021

Emonds, Joseph. 1976. *A transformational approach to English syntax: Root, structure-preserving, and local transformations*. New York: Academic Press.

Emonds, Joseph. 1985. *A unified theory of syntactic categories*. Foris: Dordrecht. DOI: https://doi.org/10.1515/9783110808513

Emonds, Joseph. 1987. The invisible category principle. *Linguistic Inquiry* 18(4). 613–632.

Folli, Raffaella & Harley, Heidi. 2005. Flavors of *v*. Consuming results in Italian & English. In Kempchinsky, Paula & Slabakova, Roumyana (eds.), *Aspectual inquiries*, 95–120. Dordrecht: Springer. DOI: https://doi.org/10.1007/1-4020-3033-9_5

Gast, Volker. 2022. The German modal particle *ja* and its lexical correlates in English: A qualitative study based on the Europarl corpus. In Gergel, Remus & Reich, Ingo & Speyer, Augustin (eds.), *Particles in English, German and beyond*, 117–146. Amsterdam: John Benjamins. DOI: https://doi.org/10.1075/slcs.224.05gas

Gast, Volker & König, Ekkehard & Moyse-Faurie, Claire. 2014. Comparative lexicology and the typology of event descriptions: A programmatic study. In Gerland, Doris & Horn, Christian & Latrouite, Anja & Ortmann, Albert (eds.), *Meaning and grammar of nouns and verbs*, 145–183. Düsseldorf: Düsseldorf University Press. DOI: https://doi.org/10.1515/9783110720075-007

Gehrke, Berit. 2008. *Ps in Motion: On the semantics and syntax of P-elements and motion events*. LOT Utrecht dissertation.

Hale, Kenneth L. & Keyser, Samuel Jay. 1993. On argument structure and the lexical expression of grammatical relations. In Hale, Kenneth L. & Keyser, Samuel Jay (eds.), *The view from building 20: Essays in honor of Sylvain Bromberger*, 53–110. Cambridge, MA: MIT Press.

Kallulli, Dalina & Oltra-Massuet, Isabel. 2022. Cognate objects across Albanian, English, and Romance. In Roy, Isabelle & Boneh, Nora & Harbour, Daniel & Matushansky, Ora (eds.), *Construire sur les décombres de Babel/Building on Babel's rubble*, 253–269. Saint-Denis: Presses Universitaires de Vincennes. DOI: https://doi.org/10.3917/puv.boneh.2022.01.0253

Kennedy, Chris. 1999. *Projecting the adjective: The syntax and semantics of gradability and comparison*. London: Routledge.

Kennedy, Chris. 2012. The composition of incremental change. In Delmonte, Violeta & McNally, Louise (eds.), *Telicity, change, state: A cross-categorical view of event structure*, 103–121. Oxford: Oxford University Press. DOI: https://doi.org/10.1093/acprof:oso/9780199693498.003.0004

Kennedy, Chris & Levin, Beth. 2008. Measure of change: The adjectival core of degree achievements. In McNally, Louise & Kennedy, Chris (eds.), *Adjectives and adverbs: Syntax, semantics and discourse*, 156–182. Oxford: Oxford University Press. DOI: https://doi.org/10.1093/oso/9780199211616.003.0007

Kennedy, Chris & McNally, Louise. 2005. Scalar structure, degree modification, and the semantics of gradable predicates. *Language* 81(2). 345–381. DOI: https://doi.org/10.1353/lan.2005.0071

König, Ekkehard & Gast, Volker. 2008. Reciprocals and reflexives – typology, description and theory. In König, Ekkehard & Gast, Volker (eds.), *Reciprocals and reflexives – Cross-linguistic and theoretical explorations*, 1–31. Berlin: de Gruyter Mouton. DOI: https://doi.org/10.1515/9783110199147.1

Kratzer, Angelika. 1996. Severing the external argument from its verb. In Rooryck, Johan & Zaring, Laurie (eds.), *Phrase Structure and the Lexicon*, 109–137. Dordrecht: Kluwer. DOI: https://doi.org/10.1007/978-94-015-8617-7_5

Kratzer, Angelika. 2012. The notional category of modality. In *Modals and conditionals: New and revised perspectives*, 27–69. Oxford: Oxford University Press. DOI: https://doi.org/10.1093/acprof:oso/9780199234684.003.0002

Krifka, Manfred. 1989. Nominal reference, temporal constitution and quantification in event semantics. In Bartsch, Renate & van Bentham, Johan & van Emde Boas, Peter (eds.), *Semantics and conceptual expressions*, 75–115. Dordrecht: Foris. DOI: https://doi.org/10.1515/9783110877335-005

Krifka, Manfred. 1992. Thematic relations as links between nominal reference and temporal constitution. In Sag, Ivan & Szabolcsi, Anna (eds.), *Lexical matters*, 29–53. Chicago: Chicago University Press.

Krifka, Manfred. 1998. The origins of telicity. In Rothstein, Susan (ed.), *Events and grammar*, 197–235. Dordrecht: Kluwer. DOI: https://doi.org/10.1007/978-94-011-3969-4_9

Krifka, Manfred. 2007. Basic notions of information structure. In Féry, Caroline & Fanselow, Gisbert & Krifka, Manfred (eds.), *Interdisciplinary studies on information structure*, vol. 6, 13–56. Potsdam: Universitätsverlag Potsdam. http://www.sfb632.uni-potsdam.de/publications/IS/06_Krifka.pdf.

Kuno, Susumu & Takami, Ken-ichi. 2004. *Functional constraints in grammar: On the unergative–unaccusative distinction*. Amsterdam/Philadelphia: John Benjamins. DOI: https://doi.org/10.1075/cal.1

Larson, Richard K. 1985. Bare-NP adverbs. *Linguistic Inquiry* 16(4). 595–621.

Levin, Beth & Rappaport Hovav, Malka. 1995. *Unaccusativity: At the syntax-lexical semantics interface*. Cambridge, MA: MIT Press.

Lohndal, Terje. 2014. *Phrase structure and argument structure: A case-study of the syntax-semantics interface*. Oxford: Oxford University Press. DOI: https://doi.org/10.1093/acprof:oso/9780199677115.001.0001

Marantz, Alec. 1997. No escape from syntax: Don't try morphological analysis in the privacy of your own lexicon. In Dimitriadis, Alexis & Siegel, Laura & Surek-Clark, Clarissa & Williams, Alexander (eds.), *University of Pennsylvania working papers in linguistics*, vol. 4, 201–225.

Matushansly, Ora. 2002. On formal identity of Russian prefixes and prepositions. In Csirmaz, Aniko & Li, Zhiqiang & Nevins, Andrew & Vaysman, Olga & Wagner, Michael (eds.), *Phonological answers (and their corresponding questions)*, vol. 42 (MIT Working Papers in Linguistics), 217–253. Cambridge, MA: MIT.

McCawley, James D. 1988. Adverbial NPs: Bare or clad in see-through garb? *Language* 64(3). 583–590. DOI: https://doi.org/10.2307/414534

McIntyre, Andrew. 2001. Argument blockages induced by verb particles in English and German: Event modification and secondary predication. In Dehé, Nicole & Wanner, Anja (eds.), *Structural aspects of semantically complex verbs*, 131–164. Berlin: Peter Lang.

McIntyre, Andrew. 2003. Preverbs, argument linking, and verbal semantics. In Booij, Geert & van Marle, Jaap (eds.), *Yearbook of morphology 2003*, 119–144. Dordrecht: Kluwer. DOI: https://doi.org/10.1007/978-1-4020-1513-7_6

McNally, Louise. 2017. On the scalar properties and telicity of degree achievements. In Fernández-Soriano, Olga & Castroviejo Miró, Elena & Pérez-Jiménez, Isabel (eds.), *Boundaries, phases and interfaces: Case studies in honor of Violeta Demonte*, 174–192. Amsterdam: John Benjamins. DOI: https://doi.org/10.1075/la.239.09mcn

Morzycki, Marcin. 2019. *Modification*. Cambridge: Cambridge University Press.

Ottósson, Kjartan. 1986. Mörk orðmyndunar og beygingar: Miðmynd í nútímaíslensku [The boundaries between derivation and inflection: The middle in Icelandic]. *Íslenskt mál og almenn málfræði* 8. 63–119.

Ottósson, Kjartan. 1992. *The Icelandic middle verb*. Lund University dissertation.

Piñon, Christopher. 2008. Aspectual composition with degrees. In McNally, Louise & Kennedy, Chris (eds.), *Adjectives and adverbs in semantics and discourse*, 183–219. Oxford: Oxford University Press. DOI: https://doi.org/10.1093/oso/9780199211616.003.0008

Putnam, Michael T. 2011. Sometimes it's OK to overeat yourself. Scalar *Over*-particles/prepositions in Germanic languages that license an overt anaphor. *Leuvense Bijdragen* 97. 203–229.

Putnam, Michael T. & Gast, Volker. 2012. The syntax and semantics of excess: OVER-predicates in Germanic. In Choi, Jaehoon & Hogue, E. Alan & Punske, Jeffrey & Tat, Deniz & Schertz, Jessamyn & Trueman, Alex (eds.), *Proceedings of the 29th West Coast Conference on Formal Linguistics*, 223–231. Sommerville, MA: Cascadilla Proceedings Project.

Ramchand, Gillian. 2008. *Verb meaning and the lexicon: A first phase syntax*. Cambridge: Cambridge University Press. DOI: https://doi.org/10.1017/CBO9780511486319

Rappaport Hovav, Malka. 2008. Lexicalized meaning and the internal temporal structure of events. In Rothstein, Susan (ed.), *Crosslinguistic and theoretical approaches to the semantics of aspect*, 13–42. Amsterdam: John Benjamins. DOI: https://doi.org/10.1075/la.110.03hov

Risch, Gabriela. 1995. *Verbpräfigierung des Deutschen: Skalierungsverben mit* über- *und* unter-. University of Stuttgart dissertation.

Rothstein, Susan. 2001. What are incremental themes? In Jäger, Gerhard (ed.), *Papers on predicative constructions: Proceedings of the workshop on secondary predication, October 16–17, 2000, Berlin*, vol. 22 (ZAS Papers in Linguistics), 139–157. Berlin: Zentrum für Allgemeine Sprachwissenschaft.

Sailer, Manfred. 2010. The family of English cognate object constructions. In Müller, Stefan (ed.), *Proceedings of the 17th International Conference on Head-Driven Phrase Structure Grammar*, 191–211. Stanford, CA: CSLI Publications. DOI: https://doi.org/10.21248/hpsg.2010.11

Starke, Michal. 2009. *Nanosyntax – A short primer to a new approach to language*. lingbuzz/001230.

Starke, Michal. 2011. *Towards elegant parameters: Language variation reduces to the size of lexically stored trees*. lingbuzz/001183.

Svenonius, Peter. 2007. Adpositions, particles, and the arguments they introduce. In Reuland, Eric & Bhattacharya, Tanmoy & Spathas, Giorgos (eds.), *Argument structure*, 63–103. Amsterdam: John Benjamins. DOI: https://doi.org/10.1075/la.108.08sve

Tenny, Carol. 1987. *Grammaticalizing aspect and affectedness*. Cambridge: MIT dissertation.

Tenny, Carol. 1992. The aspectual interface hypothesis. In Sag, Ivan A. & Szabolcsi, Anna (eds.), *Lexical matters*, 1–28. Stanford: Center for the Study of Language & Information.

Tenny, Carol. 1994. *Aspectual roles and the syntax-semantics interface*. Dordrecht: Kluwer. DOI: https://doi.org/10.1007/978-94-011-1150-8

Tolskaya, Inna. 2018. Nanosyntax of Russian verbal prefixes. In Baunaz, Lena & De Clercq, Karen & Haegeman, Liliane & Lander, Eric (eds.), *Exploring Nanosyntax*, 207–236. Oxford: Oxford University Press. DOI: https://doi.org/10.1093/oso/9780190876746.003.0008

Wellwood, Alexis. 2014. *Measuring predicates*. College Park, MD: University of Maryland, College Park Doctoral dissertation.

Wellwood, Alexis. 2015. On the semantics of comparison across categories. *Linguistics and Philosophy* 38. 67–101. DOI: https://doi.org/10.1007/s10988-015-9165-0

Wood, Jim. 2014. Reflexive *-st* verbs in Icelandic. *Natural Language and Linguistic Theory* 32(4). 1387–1425. DOI: https://doi.org/10.1007/s11049-014-9243-y

Wood, Jim. 2015. *Icelandic morphosyntax and argument structure*. Heidelberg/New York: Springer. DOI: https://doi.org/10.1007/978-3-319-09138-9

Zeller, Jochen. 2001. Lexical particles, semi-lexical postpositions. In Corver, Norbert & van Riemsdijk, Henk (eds.), *Semi-lexical categories*, 505–549. Berlin: Mouton de Gruyter. DOI: https://doi.org/10.1515/9783110874006.505

Zoëga, Geir T. (ed.). 1910. *A concise dictionary of Old Icelandic*. Oxford: Oxford University Press.

Zwanenburg, Wiecher. 1992. Morphological heads, French "compounding" and Germanic "prefixation". In Laeufer, Christiane & Morgan, Terrell A. (eds.), *Theoretical analyses in Romance linguistics*, 167–179. Amsterdam: John Benjamins. DOI: https://doi.org/10.1075/cilt.74.13zwa