

Regularities in null instantiation

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1 Introduction

Analyses of null instantiation phenomena in English have tended to look for a unifying explanation covering all cases, for instance, in terms of aspectual structure (Rappaport-Hovav & Levin 1998; Wright and Levin 2000) or selectional restrictions (Resnik 1993). However, as argued by Goldberg (2005) and also pointed out earlier by Fillmore (1986), null instantiation does not seem to be a uniform phenomenon. There are lexical idiosyncrasies—predicates with similar meanings nonetheless differ in whether they allow omission of a given argument (*eat* versus *devour*); differences between instances of null instantiation in how the unexpressed referent is interpreted, anaphorically (*I know 0*) or existentially (*I was eating 0*); and differential effects of context on omissibility (*This lion has killed 0 before* versus *#He nearly killed 0*).

In this paper I show that drawing careful distinctions between omission types allows us to state regularities that capture the insights and intuitions behind the single factor analyses while respecting idiosyncrasy where necessary. The two main distinctions to be made in the characterization of omissions are (1) the type of licenser—lexical versus constructional—and (2) the interpretation of the omitted referent—anaphoric versus existential. Two major regularities involving these criteria can be observed. First, among lexically licensed omissions, the interpretation of an omitted argument correlates with the frame semantics (Fillmore 1985) of the predicate. Second, the two interpretation types, whether licensed lexically or constructionally, are compatible in distinct ways with a speaker’s need to produce an informative utterance. With anaphoric omissions a specific referent—a token—is recoverable and the core participants of the event or relation are fully specified. In the case of existential omissions, the omitted referent is de-emphasized for one of two reasons, which are not necessarily mutually exclusive. The focus of interest is on the action itself, as illustrated by data discussed in Goldberg 2005, or what is relevant is the state that one of the instantiated participants, typically the subject, is in as a result of being, or having been, involved in the specified event type.

The remainder of this paper is structured as follows. Section (2) presents the classification of omission types in terms of licensors and interpretation. Section (3) makes the case for the alignment of frame semantics and interpretation type. Section (4) discusses the broader interaction of communicative intent and the use of argument omission with a given

interpretation type. Section (5) provides a short conclusion, situating null instantiation in the context of other argument realization phenomena.

2 Classification of omissions

An argument may be left implicit due to the predicate’s occurring in a particular construction or it may be implicit just due to the lexical properties of the predicate itself.^{1,2} If an omission is constructionally licensed, then all the predicates that can combine with the construction allow the omission. For instance, any verb that has a passive allows omission of the Agent (or whatever frame or semantic role the relevant argument has). By contrast, when a predicate lexically licenses an omission, then that omission is independent of constructional contexts. The verb *donate*, for instance, can omit its Recipient argument under anaphoric interpretation in all tenses, all moods—negated, affirmed, questioned, or commanded—all genres, etc.

- (2) The mayor **donated** \$300 .
- (3) Please don’t **donate** any more of your paintings 0!
- (4) Are you going to **donate** more of your paintings 0 this year?

Of course, in both cases the interaction with other constructions or pragmatic factors may prevent an omission from being felicitous in a particular context. For instance, if the referent was questioned, a cooperative answer can never null instantiate it. Likewise, if other constructions require the referent to be realized as subject, it cannot be omitted.

- (5) A reception **follows** (the talk).
- (6) *(The talk) is **followed** by a reception.

The second major factor in classifying omission types is the interpretation of the omitted referent. With some null instantiation types the hearer must retrieve a specific referent—a token—from the context as the filler of an unexpressed argument role, whereas with others she can simply assume that a generic instance of the type of entity specified by the predicate’s selectional restrictions fills the unexpressed semantic role.

¹Not all cases in which a part of a sentence is missing are omissions of subcategorized frame elements. The focal ellipsis construction exemplified in (1) discussed by Gretsche (2003) is not within the purview of this analysis.

- (1) As Schellenberg and Devlin got out, a sergeant emerged from the hut with the radio mast, and hurried towards them. He took in Schellenberg’s uniform and got his heels together. “General.”
“And your **name** is \emptyset_{Value} ?”
“Leber, General. Flight Sergeant.”

²To the reader who is familiar with the work of the FrameNet project it should be pointed out that the label CNI that is used there neutralizes the INI and DNI interpretation distinction for constructionally licensed NI since, as a lexicographic project, FrameNet is interested only in lexically specific information.

This difference between anaphoric and existential interpretation correlates with the differential felicitousness of the two types of omission in various discourse contexts.

- With indefinite null instantiation, both speaker and hearer can claim ignorance of the exact identity of the referent; not so in the case of definite null instantiation.

(7) Speaker

- Kim was **reading** \emptyset but I don't know what he was reading
- #Kim **donated** \$20 \emptyset but I wonder who she gave it to.

(8) Hearer

- A: She's **knitting**. B: I'm curious to know exactly what she's knitting. Do you know?
- A: She's **knitting**. B: #I must have missed this but could you remind me what she's knitting?
- A: I **contributed** \$20. B: #I'm curious to know exactly which organization you contributed to? Do you know?
- A: I **contributed** \$20. B: I must have missed this but could you remind me which organization you contributed to?

- A speaker can opt to identify a previously non-specific entity in the context following indefinite null instantiation. Such an identification makes no sense in the case of definite omission.

(9) I've been **knitting** \emptyset all day. I'm making a pair of socks for my grandson.

(10) I gave \$20 \emptyset . #It was some kind of charity.

- In contexts of definite omission, a definite pronoun can usually substitute for the zero but not in the case of indefinite omission.

(11) Did the Red Cross call you about a donation? -Yes, and I **contributed** \$20 to them.

(12) Are you hungry? -#No, I've **eaten** it

- When an INI-verb heads a negated clause, existence of a referent for the null instantiated argument is not entailed. By contrast, in the case of DNI verbs, the null-instantiated argument is entailed to have a referent. Consider the felicity of the the continuations in (13) and (14).

(13) I'm not **cooking**. Do you see any food around here?

(14) I didn't **contribute**. #How could I? There are no charities in this country.

While the above differences between interpretation types are very robust, there are also differences between predicates licensing a particular kind of omission with regard to how accessible the referent has to be. Consider, for instance, example (15), in which the overt pronoun seems necessary and null-instantiation hardly acceptable.

- (15) From time to time the passages opened out into caverns, some so gigantic that the glimmer from the two spears was lost in them. One contained a great still lake , and they **crossed** it along a rock-bridge that sprang dizzily from wall to wall

From the badness of (15) one might hypothesize that there is a general need for clear establishment of a referent as topical before it can be null-instantiated. However, that general statement does not seem right considering the omissions under anaphoric interpretation found with the verbal predicates *know*, *relieved*, and *stunned* in (16), with the noun *name* in (17), and the preposition *in* in (18).

- (16) A: Have you heard? Miller lost!

- a. B: I **know** \emptyset .
- b. B: I'm so **relieved** \emptyset !
- c. B: I'm **stunned** \emptyset !

- (17) See that guy behind the camera, there? \emptyset **Name**'s Lucas.

- (18) The Alabama fan walks over to him and says, "Wow, where did you win all that?" To which the Auburn fan replies, "You see that machine on the wall over there? If you **put** a dollar **in** \emptyset you get four quarters back every time!"

In these examples the null-instantiated referents were newly introduced just in the clause before and yet the omissions seem perfectly acceptable. Thus, an explanation for the badness of null instantiation in (15) cannot be sought in a general principle requiring a minimum number of prior mentions or status as an established topic.

Returning now to our two main criteria for organizing omission constructions, we can group argument omission types as shown in Figure 1. The omission types that will concern us here are the ones in solid boxes. They are exemplified in (19) and (20).

- (19) Constructionally licensed omission types

- a. Anaphoric
 - i. Cisse, off balance, **headed** \emptyset_{Theme} over after a Warnock cross spun to him a couple of yards out. (Sports report)
 - ii. $\emptyset_{Container}$ **Contains** alcohol. (Labelese)
 - iii. \emptyset_{Agent} **Take** your car to a competent repairer and tell your insurance company immediately. (Imperative)
 - iv. **Boil** \emptyset_{Food} rapidly for 10min. (Instructional imperative)

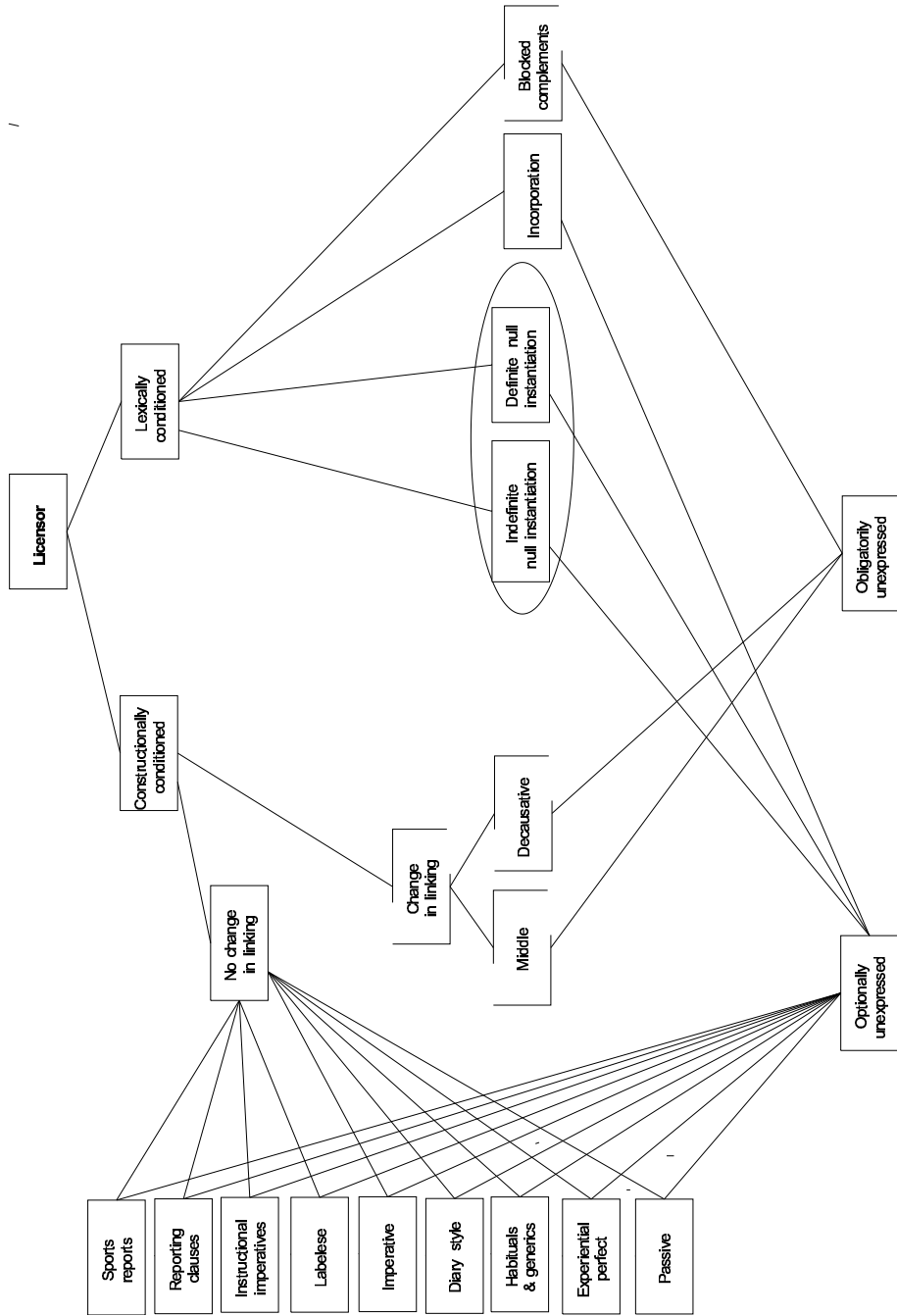


Figure 1: Typology of unexpressed arguments

- v. $\emptyset_{\text{Sleeper}}$ **Got up** at six and made coffee. (Diary style)
 - vi. “You all look sick,” she **scorned** $\emptyset_{\text{Addressee}}$. (Reporting clause)
- b. Existential
- i. Sue **smokes** $\emptyset_{\text{Substance}}$. (Habitual)
 - ii. Field Goal Kicking Competition.
Jamie had never **kicked** \emptyset before, and Jana had about 3 days of “rehearsal” behind her. (Experiential perfect)
 - iii. Smoking **kills** $\emptyset_{\text{Living_being}}$. (Generic)
 - iv. My bike was **stolen** \emptyset_{Agent} today. (Passive)
- (20) Lexically licensed omission types
- a. Medtronic has **donated** \$1000 $\emptyset_{\text{Recipient}}$ in a match to an employee donation. (Definite null instantiation)
 - b. A farmer and his wife were lying in bed one evening; she was knitting, and he was **reading** \emptyset_{Text} . (Indefinite null instantiation)

The three boxes with broken lines in figure 1 contain phenomena that involve the obligatory non-realization of conceptually necessary participants. These include middles and decausatives and what Talmy calls *blocked complements* (1996:241).

- (21) This car accelerates and **handles** like a go kart. (Middle)
- (22) My gunner reported later that the ship **sank** immediately. (Decausative)
- (23) Sein Hund hat (*an/auf/gegen/in mich) **zugebissen** .
His dog bit (me). (Blocked complement)

In (21), the handler, the driver of the car, cannot be expressed even though the judgement that the car drives like a go kart is made from the point of a driver. Similarly in (22), an agent or cause is not profiled compared to causative uses of *sink*. Mentions of causal elements can only be made in the form of completely optional oblique phrases such as *due to the impact of the torpedo* etc. The German example in (23) involves the verb *zubeissen* ‘bite’, which does not allow the bitten to be expressed even though a specific participant has to be retrievable from the context. Since with these three phenomena the conceptually necessary role can never be expressed as a syntactic core argument of the predicate, I will leave them out of consideration for the purposes of this paper.³

³In line with FrameNet practice, I regard causative-inchoative pairs as separate lexicalizations rather than derivationally related or exemplifying a single verb sense.

3 The correlation of framal semantics and interpretation type

In the area of lexically licensed omissions, researchers working on null instantiation have made two seemingly contradictory observations. On the one hand, there are clusters of lexical units that are semantically similar and behave the same way with respect to null instantiation. For instance, Fillmore (1986) points out that verbs of used to denote charitable contributions allow omission of their RECIPIENT argument with DNI interpretation. On the other hand, there are groups of lexical units that seem semantically similar yet differ in whether they allow null instantiation of a given argument or not. For instance, as has often been pointed out, *eat* allows null instantiation of its object whereas *devour* does not. Are there any large generalizations to be made? Here I will argue that against the background of a frame semantic organization of the lexicon, we can formulate an implicational universal of how near-synonyms will pattern with respect to null-instantiation.

3.1 Uniformity of interpretation

Frame semantics is a semantics of understanding. It assumes that lexical units are organized in the mental lexicon by which scenarios or experiences they are used to talk about. Rather than carrying meanings consisting of atomic features such as [+human] or [+slow], the unit of analysis are holistic experiences. Individual lexical items are taken to refer to particular participants or to impose a particular profile on the relations within the larger scenario. For instance, *buy* and *sell* both evoke an overall commercial transaction but they are distinct from each other in that the former takes the Buyer's point of view and highlights their getting of the GOODS, whereas the latter takes the SELLER's point of view and highlights their giving of the Goods. That buying is a kind of getting is in fact part of the analysis of verbs like *buy* and *purchase* by the FrameNet project, which is the implementation of the frame semantic theory as actual lexicography (<http://framenet.icsi.berkeley.edu>). Frames are linked to each other through various relations, most importantly, inheritance or IS-A categorization.

Against this backdrop, we can now state the following empirical generalization:

Uniformity of interpretation If an argument encoding a particular frame element/semantic role is lexically omissible with a particular interpretation (either anaphoric or existential) for one lexical unit in a frame, then for any other LUs in the same frame that allow the omission of the FE, the interpretation is the same.

To illustrate, consider the Revenge frame, which we can define as follows. An AGENT performs a RESPONSE_ACTION on an OFFENDER as a punishment for an earlier action, the INJURY, that was inflicted on an INJURED_PARTY. The AGENT need not be identical to the INJURED_PARTY but needs to consider the prior action of the OFFENDER a wrong. Importantly, the punishment of the OFFENDER by the AGENT is seen as justified by individual or group opinion rather than by law. Lexical units in this frame include *avenge.v*, *avenger.n*,

get even.v, retaliate.v, retaliation.n, retribution.n, retributive.a, retributory.a, revenge.v, revenge.n, revengeful.a, revenger.n, vengeance.n, vengeful.a, and vindictive.a.

The application of the uniformity principle above to the Revenge frame is as follows. All predicates, when used to refer to specific events, allow null instantiation of the INJURY frame element under anaphoric interpretation.

- (24) John intended to **get even with/take revenge on/retaliate against/avenge himself on/ get back at** Sue [DNI INJURY] .

Notice also that the RESPONSE_ACTION frame element can be omitted under existential interpretation by all the lexical units in the frame. This does not contradict the uniformity principle as stated since it applies to individual frame elements in a frame not to all of them. Example (24) also illustrates that regularities related to NI usually apply across lexical units of different past of speech, as long as they are used to refer to specific event instances. For instance, the noun *revenge*, as used in (24), also licenses omission of the INJURY under anaphoric interpretation. A final point to make is that the uniformity generalization does not apply to uses of Revenge predicates that report generic or repeated events, as in (25).

- (25) If I were you, I wouldn't mess with John! He always gets **revenge**.

In (25) no specific actual or imagined instance of Revenge is at issue and correspondingly the hearer does not have to access any particular INJURY events.

Let us consider another set of examples, namely words in the Activity_start frame that express the beginning of an ACTIVITY by an AGENT. The lexical units in this frame are the verbs *start*, *begin*, *enter* (negotiations), *launch* (into a lengthy explanation), *swing* (into action). Only two lexical units, *start* and *begin*, allow null instantiation of the ACTIVITY but in each case the interpretation is of the anaphoric type. That the other lexical units do not allow omission of the Activity frame element does not constitute an exception to the uniformity generalization: it does not require that all lexical units license omission of the same frame elements.

- (26) We **started/began** [DNI ACTIVITY].

Actually, the behavior of the ACTIVITY frame element in the Activity_start frame is part of a larger generalization. If a predicate that describes any stage or phase of an eventuality allows null instantiation of the eventuality, then that eventuality is interpreted anaphorically. Consider the examples in (27).

- (27) We **were preparing/were ready/started/were continuing/paused/resumed /finished/were done** [DNI ACTIVITY].

The predicates in (27) all are related to a larger event structure frame but they belong to different, smaller frames since they all profile different parts of that larger conceptual structure.

As a final example, consider the Cooking_creation frame, containing such lexical units as *cook*, *bake*, *concoct*, *whip up*, *put together*, *prepare* and *cook up*. Of these, two lexical units, namely *cook* and *bake* can be used without mentioning the PRODUCED_FOOD.

(28) What are you doing?—I’m **baking/cooking** [INI PRODUCED_FOOD].

Note again that the fact that some lexical units do not allow omission of the frame element PRODUCED_FOOD does not constitute a problem for the generalization.

Finally, as a cognitively motivated account, the frame semantic analysis of null instantiation also predicts that in other languages in which lexically licensed omission is found, lexical units in a given frame will follow the same regularity as in English. A comparison between German and English of 10 randomly sampled FrameNet frames suggests that this is indeed so. Of course, the Uniformity generalization leaves room for lexical differences between languages. For instance, while English *use* allows a lexically licensed existential omission in the context of the Ingest_substance frame, its normal German translation equivalent *nehmen* does not allow it.

(29) Personally i **used** \emptyset the first time because i was over at my cousins house an did not have my Ritalin.

(30) Als ich das erste mal *(Drogen) **genommen** habe, war ich 14.
When I took drugs for the first time, I was 14.

Of course, the framal account of null instantiation regularities is not alone in being cross-linguistically predictive. The alternative accounts of null instantiation to be discussed below in principle also make predictions about null instantiation in other languages. I am, however, not aware of any empirical work in those frameworks seeking to evaluate cross-linguistic similarities and differences.

3.2 Comparison to other accounts

It is legitimate to ask how the frame semantic treatment of regularities in null instantiation compares to other accounts that are stated in terms of single factors like thematic role, selectional restrictions or aspectual class. I will argue that it is a better account in providing the right level of generality and in being oriented towards the details of lexical semantics rather than one involving abstract or general features that are meant to characterize predicates without regard to lexical specifics.

3.2.1 Thematic role

The thematic role identity of an argument may seem like a natural place to look for generalizations among null instantiating predicates. Curiously, it has not been discussed much in the literature. Fillmore (1986) only notes that Patients (or Themes) do not seem to be readily omissible. From the examples he discusses it is clear, however, that thematic roles do not allow generalizations about null instantiation. Consider, for instance, the thematic role Agent. While agents are frequently subjects and subjects are frequently omissible, these omissions always depend on particular constructional contexts. There is no lexically licensed Agent omission of the kind suggested in (34).

- (31) [0 AGENT] **Go** home!
- (32) Smithers was **beaten** [0 AGENT]
- (33) [0 AGENT] To **go** would be foolish.
- (34) What did you do this morning?
[0 AGENT] **went** to the store and bought bread.

In the case of the thematic role Goal, some verbs allow its omission under indefinite null instantiation (35), others allow its omission under definite null instantiation (36), and still others cannot omit it at all (37).

- (35) Adam **left** Paris [INI GOAL].
- (36) Smithers **arrived** [DNI GOAL].
- (37) John **headed** *[home GOAL].

Similar demonstrations can be given for the other classical thematic role types such as Experiencer, Source, Recipient etc.

- (38) Source
- a. Sue **arrived** in Rome [INI SOURCE].
 - b. Sue **left** [DNI SOURCE].
 - c. Oil **exuded** *(from Myrnaâs hands).
- (39) Experiencer
- a. This building is famously **confusing** [INI EXPERIENCER].
 - b. Recently - by this i mean around a month or so, my ears started **itching** [DNI EXPERIENCER] a lot.
 - c. He **strikes** *[me EXPERIENCER] as a rather shy private fellow.
- (40) Recipient
- a. I handed *(her RECIPIENT) \$20.
 - b. I donated \$20 [DNI RECIPIENT] .
 - c. That guy's **distributing** free movie tickets [INI RECIPIENT].

Trying to predict or characterize null instantiation in terms of a limited inventory of semantic roles that are meant to be language-general is not fruitful for two reasons. First, the generalizations that are to be had are about smaller, semantically and pragmatically more coherent semantic units, frames. Second, the general semantic role approach does not take the interaction with constructions into account. For instance, although, as Goldberg (2001, 2005) points, out patient arguments generally resist omission, there are many contexts and constructions that license just such omissions (e.g. *This lion has **killed** before*).

3.2.2 Phrase type and grammatical function

An account of null instantiation in terms of grammatical function of the overt counterpart XP is not feasible (and no one has proposed it, as far as I know). While subjects seem to always have to be instantiated when no construction licenses their omission, it seems that the canonical phrase type and grammatical function of an overt argument cannot predict omissibility and/or interpretation. Examples (41)-(45) show that many different types of complements can be omitted. Even if some of them, such as gerunds or infinitives, are not as frequently omitted as NPs, the basic problem still remains.

(41) Object NPs

- a. I **won** (the game) (anaphoric)
- b. Sue's **knitting** (something) (existential)
- c. I **found** *(the ring).

(42) Complement clauses

- a. I **know** (that he said that). (anaphoric)
- b. One could **object** to this (that the third and the fourth of the "four Great Gods" in Sinhala and in old Tamil tradition are not identical). (existential)
- c. He **blurted out** *(that he wanted to take Stein out that evening).

(43) Prepositional obliques

- a. Don't bother him now. He's **thinking** (about something)(existential).
- b. Mine is **similar** (to yours) (anaphoric).
- c. It **consists** *(of 10 pieces).

(44) Infinitival complements

- a. Don't **forget** (to lock) now! (anaphoric)
- b. Tomorrow, they are going to **sentence** him (to serve 10 years in prison). (existential)
- c. I'd **like** *(to postpone the issue for another week).

(45) Gerunds

- a. Former Belgian cycling champion Eddy Planckaert **confessed** (taking EPO in 1991). (anaphoric)
- b. John is **busy** (cleaning out the garage). (existential)
- c. I **tried out** *(putting different things in) it but nothing seemed right.

3.2.3 Aspectual class approach

Rappaport Hovav and Levin (1998) (henceforth RH&L) present a theory of argument realization based on the combination of verb meanings with a set of universal aspectual templates. This theory also makes predictions regarding null instantiations.

According to RH&L's theory, the idiosyncratic aspects of meaning (what distinguishes e.g. *jog* from *run* from *trot*) are recorded in the lexicon. Next to the lexicon there exists a fixed set of lexical semantic templates provided by Universal Grammar. These templates consist of various combinations of semantically primitive predicates. The templates correspond to a large degree to well-known event types such as accomplishment, etc. Using a verb then means combining the idiosyncratic lexical information with an event structure template.

The event types that RH&L recognize are:

Activity [x ACT_{<MANNER>}] (run, walk)

State [x<STATE>]

Achievement [BECOME_[x<STATE>]]]

Accomplishment (complex-causative) [[x ACT_{<MANNER>}] CAUSE [BECOME_[y <STATE>]]]

Accomplishment [x CAUSE [BECOME_[y <STATE>]]]

Combining verbs with templates means replacing the constant in the template (italicized in the list above) with the meaning of the verb. Constants can be modifiers of another predicate in the template (in this function the constants are written as subscripts) or they can function as predicates within the template.

Constants (i.e. lexically specified verb meanings) contribute the following information:

- based on its ontological type, each constant is associated with some basic template in accordance with a so-called canonical realization rule
- the number of participants

The number of participants that a constant specifies may exceed the number of slots in the template (e.g. activity verbs with two participants such as *sweep*). RH&L call participants that are licensed by the verb meaning as well as by the template STRUCTURE PARTICIPANTS; participants licensed only by the constant are called CONSTANT PARTICIPANTS. According to RH&L, the two kinds differ in how their realization is licensed.

When a constant is inserted into a template that is not the one lexically specified for it, RH&L speak of **Template Augmentation**: 'Event structure template may be freely augmented up to other possible templates in the basic inventory of event structure templates' (p. 111). In other words, no new templates can be created, which is said to account for the failure of accomplishment verbs to receive an activity interpretation: the only available activity template is too small for the template an accomplishment verb has lexically and in fitting verbs into other templates, no information contained in their basic template can be thrown away.

RH&L posit two well-formedness conditions on the syntactic realization of (basic or augmented) templates.

- (46) **Subevent Identification Condition** Each subevent in the event structure must be identified by a lexical head (e.g., a V, an A, or a P) in the syntax (p. 112)

(47) **Argument Realization Condition**

- a. There must be an argument XP in the syntax for each structure participant in the event structure.^{4 5}
- b. Each argument XP in the syntax must be associated with an identified subevent in the event structure.

As discussed by Rappaport Hovav and Levin 1998 and 1999, two interesting predictions regarding null instantiation arise from these constraints. First, all constant participants should in principle be omissible. This would apply to the objects of transitive activity verbs as well as the non-subject complements of bivalent stative verbs. The reason is that the activity and the state templates and the achievement template which contains a state template have only one slot, namely the one for their active-form subject. The objects of these verbs are thus only CONSTANT participants, that is, they are part of the conceptual semantics associated with the constants but do not have to be mapped into the syntax by the subevent identification or the argument realization conditions. However, such constant participants need to be recoverable either by being prototypical or by being prominent in the context. RH&L do not specify whether what's recoverable from context can be both a type or a specific entity or whether it has to be one or the other.

Second, objects of resultative constructions need to be realized because they are structure participants of the resultant state predicate. This applies not only to resultative constructions involving an overt secondary predicate naming the resultant state but also to lexical accomplishment verbs like *break*, *dry*: while the verb can identify both sub-events, the subject cannot discharge the realization requirement for the object. The predictions on null instantiation thus fall in line with RH&L's observation that 'result verbs show a much narrower range of variation in meaning and syntactic context than manner verbs' (p. 101). However, it is not clear if the account given is meant to extend to accomplishment verbs like *sew*, *paint*, *write* that do not involve a change of state of an existing entity but rather talk about coming into existence. One could extend the account by choosing EXIST as the state predicate inside the accomplishment template. However, then the template account would make an incorrect prediction because creation verbs can in fact omit their objects. As pointed out by Mittwoch (1982) creation verbs omitting their argument typically occur in the progressive and have an activity reading, as in *Mother was sewing in the bedroom*.

In an earlier analysis of null objects that also involved the notion of templates, Brisson 1994 treats creation verbs like *write* as just having two lexical entries. No alternation—or, alternatively, construction—is posited. The intransitive uses are really separate and monadic in Brisson's terms. One potential criticism of this approach is deflected by Brisson: while one might what was written whenever an act of writing has been asserted, according to Brisson such assumptions reflect world knowledge. People will assume that something specific was written but there is also random writing in the sand on the beach. Similarly, she argues,

⁴Constant participants are said to just be subject to a recoverability condition: they must be prototypical participants such as a floor in the case of *sweep*.

⁵Linking rules determine the particular realization on the basis of an argument's position in the lexical semantic representation

while people will assume that when walking is reported some self-mover must have gone from and to some place, the same assumption wouldn't be made if swimming had been reported.

Apart from any problems one might detect with analyses of specific predicates, the account given by RH&L has a more general problem: it is circular in that it uses the representational facts—an argument is either a constant or a structure participant—to predict omissibility even though omissibility seems to be the only factor that motivates the distinction in the first place. Neither RH&L 1998, 1999, or Levin 2000 mention any other phenomenon that can be explained in terms of the two types of participants.

First, the frame-based analysis preserves the insights of the aspectually based accounts in so far as aspectual class is typically shared within a given frame. But it also easily accommodates data that the aspectual account does not predict. As we saw above, the verb *prepare* occurs with an anaphorically interpreted ACTIVITY in the Activity_prepare frame, which is exemplified again in (48).

- (48) I was excited about doing it again, and I **prepared** [DNI ACTIVITY] for a week in advance.

The fact that *prepare* denotes an activity would suggest from an aspectual class view that the prepared-for-event FE should have an INI interpretation rather than a DNI interpretation.

3.2.4 Selectional strength approach

Resnik's (1993, 1996) theory of object omission is strongly centered on the identity of the predicate. The basic intuition is that certain verbs carry enough information about their objects that they do not need to overtly express them. Coming from a computational background, Resnik has formalized the notion of selectional strength as an information-theoretic metric and has tested his theory in quantitative work. Though selectional strength may seem to characterize only cases of indefinite null instantiation, Resnik (1993, 1996) also applies the notion of selectional strength to definite null instantiation. The basic distinction between the two verb types is said to be that the verbs allowing indefinite object omission select even more strongly and therefore do not require overt antecedents in the discourse for their objects.

The frame-based account makes the selectional strength account redundant. This is desirable in so far as that account portrays null instantiation as a pure processing effect. Resnik's notion of selectional strength is not really concerned with the specific semantics of predicates but rather with the processing of one aspect of a predicate's semantics, its selectional restrictions. But if null-instantiation was really a by-product of processing then we would not expect to find that certain very strong selectors cannot license omission. Consider the example *devein*. This verb basically occurs only with objects of type 'shrimp' but there are no non-habitual/generic uses where the object can be omitted, contrary to what a selectional strength account should predict. On the other hand, *devein* behaves like other words relating to emptying containers and clearing areas of some substance or items:

- (49) bone.v, clear.v, core.v, debug.v, deforest.v, defrost.v, degrease.v, delouse.v, denude.v, descale.v, disembowel.v, divest.v, drain.v, empty.v, emptying.n, eviscerate.v, expurgate.v, gut.v, peel .v, purge.v, rid .v, scalp.v, skin.v, strip.v, unload.v, void.v

These words all belong to the Emptying frame and, in non-generic sentences, they have to take an overt Source frame element as their direct object as in (50).

- (50) Pat cleared the table of dishes.

Many of the verbs in (49) seem to be rather strong selectors. In the BNC, *bone* occurs with the names of fish or meat in preparation for eating; *core*'s overt objects are noun phrases headed by apple, lamb, or turkey. This kind of range does not seem to be significantly larger than that of, say, *knit* or *sew*. Yet while *knit* and *sew* can omit their object, *bone* and *core* cannot.

The selectional strength account not only faces exceptions in regards to omissibility but also makes wrong predictions about interpretations of many predicates that do allow an omission. Consider, for instance, the verb *know₂* ('wissen/savoir'): it has extremely narrow selectional restrictions, taking only propositions. Now certainly there are a lot of different propositions conceivable but still the type is perfectly narrowly delimited and thus the interpretation type should be INI. But it is actually DNI. Similarly, verbs like *deplane* or *board* have very strong selectional preference for certain kinds of vehicles but their interpretation is DNI not INI.

Resnik's account also does not account for the regularity in the interpretation of null instantiation across the lexical units within frames. The processing that Resnik has in mind depends on individual lexical units rather than on classes and if lexical units in the same frame have different selectional strengths then they should be able to have different null instantiation interpretations for the same frame element. But this does not seem to occur. An additional argument against a processing account is that one does not seem to find an association between argument omission and a lemma's degree of polysemy or its frequency: there does not seem to be cutoff point on one side of which verbs do not allow null instantiation. There also is no clear boundary in terms of selectional strength between the two types of lexical null instantiation, or between null instantiating verbs and verbs that do not allow null instantiation, as Resnik points out himself (1993:86). Finally, although the selectional strength account is intended to apply to lexically licensed omissions only, it begs the question what its relation is to constructionally licensed omissions is. If constructional omissions are not sensitive to selectional strength, what is it that governs them? Conversely, if a verb that cannot lexically omit an argument because it does not select strongly enough, omits that argument constructionally, how can a hearer interpret such an utterance, given that the selectional preferences are weak?

3.2.5 Definiteness

The frame based analysis that I argue for also accommodates new correlations that might be pointed out between predicates' properties and the interpretation of omissible arguments.

One such correlation that I have not seen reported on elsewhere so far is that the interpretation of an omissible argument strongly tends to match both the dominant interpretation of overtly instantiated instances of the frame element and the dominant interpretation of overt and non-overt instances considered together. This is illustrated by the data in Table 1, which is based on data randomly sampled from the British National Corpus. The table shows that, for instance, in the case of *arrive*, the interpretation for a null instantiated goal location is definite and of all objects occurring with *arrive* 97.5% are definite. The table also shows that with the exception of *reap* and *carve*, the interpretation of the null instantiating uses agrees with the majority of all the uses, null instantiating and overt ones combined. Further, if one compares the interpretation only for overt arguments one finds that there the same type of interpretation that the null instantiating uses have predominates. For instance, among all uses of *pass* in the exam sense, there are 59.1% overt uses with a definite interpretation and 22.7% overt uses with an indefinite interpretation.

It might be tempting to derive the likelihood of null instantiation and the type of interpretation that an omitted argument receives from the degree to which the argument is preferentially definite or indefinite. However, a clear frequency bias in one direction does not constitute a sufficient condition for allowing omission of that argument. For instance, none of the verbs in Table 2 allow null instantiation even though some of them have a very clear bias towards either definite or indefinite objects. A comparison with the verbs in Table 1 shows that some of the verbs that do not allow null instantiation are more strongly biased than some of the verbs that do allow it. Thus, it seems that the strength of bias per se has no influence on the likelihood that a verb will allow null instantiation. And the examples of *carve* and *reap* show that even the correlation between the interpretation of an omitted argument and the definiteness of overt instances need not be observed in all instances.

3.2.6 Taxonomic verb classes

Fellbaum and Kegl (1989) suggest that a verb’s behavior with respect to indefinite object omission can largely be predicted from its place in a taxonomic hierarchy such as WordNet, and, by implication, that groups of semantically similar verbs should behave the same way with respect to object omission. Their central example is the verb *eat*. Fellbaum and Kegl argue that *eat* when it is used without an object has the special sense ‘eat a meal’, which is distinct from an ‘ingest (food)’ sense, in which the verb occurs with a wide range of objects (Lehrer 1970). In the former meaning, *eat* is said to pattern with the verbs *dine*, *lunch*, *snack*, and *breakfast*, which incorporate ontological types found under the meal node of a taxonomy, whereas in the latter it is said to pattern with the verbs *gobble*, *gulp*, and *nibble*, which specify a manner of ingestion but no or hardly any information about the food. The taxonomic difference between the verbs in these two different groups is then reduced to a syntactic difference: the manner verbs are said to have some kind of obligatory PP adjuncts in their underlying structure that require the presence of an object.⁶ The meal(time)-related verbs, by contrast, lack such a manner component and are therefore free to omit their objects.

⁶No motivation for calling the implicit argument a PP rather than any other phrasal category is given in the paper.

Verb	NI interpretation	total tokens	NI out of total (%)	uses with same definiteness value out of total (%)	overt uses with same definiteness as NI (% of overt)
arrive	DNI	196	122 (62.2)	191 (97.5)	70/74 (94.6)
bathe	DNI	104	59 (56.7)	102 (98.1)	40/45 (88.9)
blink	DNI	99	84 (84.8)	98 (89.0)	14/15 (93.3)
carve (figure, decoration)	INI	47	4 (8.5)	22 (46.8)	17/43 (39.5)
contribute (Recipient)	DNI	122	23 (18.9)	83 (68.2)	60/99 (60.6)
contribute (Theme)	INI	122	86 (70.5)	117 (95.9)	32/36 (88.9)
cross	DNI	141	25 (17.7)	122 (86.5)	97/116 (83.6)
donate (Theme)	INI	201	9 (4.5)	141 (70.2)	132/192 (68.7)
donate (Recipient)	DNI	159	77 (48.4)	143 (89.9)	66/82 (80.5)
dress	DNI	78	62 (79.5)	77 (98.7)	15/16 (93.4)
eat	INI	125	96 (76.8)	111 (88.8)	15/29 (51.7)
enter	DNI	80	16 (20.0)	75 (93.7)	59/64 (92.1)
govern	DNI	60	20 (33.3)	53 (88.5)	33/40 (82.5)
grab	DNI	137	4 (2.9)	118 (86.1)	124/133 (93.2)
obey	DNI	188	43 (22.9)	143 (76.1)	100/145 (69.0)
pass (Exam)	DNI	22	4 (18.2)	17 (77.3)	13/18 (72.2)
pass (Landmark)	DNI	56	14 (25.0)	43 (76.7)	29/42 (69.0)
reap	INI	51	15 (29.4)	25 (49.0)	16/36 (44.4)
shrug	DNI	112	100 (89.3)	112 (100.0)	12/12 (100.0)
spew (vomit)	INI	17	15 (88.2)	16 (94.1)	1/2 (50.0)
squeeze	DNI	76	11 (14.5)	74 (97.4)	63/65 (96.9)

Table 1: Null instantiation type and overall definiteness for select lexical units

Fellbaum and Kegl’s (1989) taxonomic approach is closest to the approach advocated here in that it seeks generalizations about null instantiation based on lexical semantics and on verb classes. However, the account is limited in several ways. For one, it addresses only cases of INI, neglecting the regularities that are to be found with DNI. The taxonomic account also can only be as good as its taxonomic base. Consider the fact that WordNet organizes words

Verb	% of definite	n
emit (light, sound, particles, odour)	15.7	108
lower (prices, temperature)	73.7	57
lower (physical object)	94.0	33
disappoint	56.0	59
impress	54.0	109
spew (emit, not vomit)	33.3	24

Table 2: Definiteness bias for some verb senses without the possibility of null instantiation

by part of speech. For example, *object* and *objection* are part of different sub-hierarchies but when talking about the null instantiation properties of these two words—both allow DNI—it would make sense to do so at the same time. Frame semantic analysis as practiced by FrameNet puts lexical units belonging to different parts of speech differences together as long as they evoke the same frame. A further challenge for the taxonomic approach consists in working out hyponym and hypernym relationships between verbs. More importantly, the taxonomic approach does not work for cases where the incorporated notions do not plausibly belong under a reasonably close hypernym. For instance, verbs like *bone*, *core*, *deforest*, *degrease*, *descale* incorporate things that are taxonomically very different from each other but still the ‘incorporation’ has the same effect: the THEME is omissible with these verbs of Emptying. Finally, the taxonomic account sketched seems to assume that one always finds an incorporating hypernym verb to go with a set of incorporating hyponym verbs. Thus, *eat*₂ ‘eat a meal’ incorporates the noun *meal* and is matched to hyponym verbs like *snack*, *brunch*, *breakfast* which incorporate hyponyms of *meal*. Now in the case of the Placing frame which includes verbs like *box*, *crate*, *bag* that incorporate a GOAL location, the most appropriate hyponym is *put* or *place* but neither of these allows null instantiation.

3.2.7 Summary

As I showed in this section, single-factor analyses of argument omission do not work. Even if they control for constructional omissions, they aim for generalizations across the whole lexicon that are too sweeping. They face exceptions where lexical units that meet some criterion fail to license an omission and they are also confronted with wrong predictions where a predicate does allow the omission of an argument but requires the opposite interpretation for it from the one that was predicted. More generally, the single factor analyses that have been proposed are also basically lexically blind in nature: aspectual class, selectional strength, thematic role are notions that are not meant to reflect fine-grained lexical knowledge but intended to be features that can be inspected or processed without looking deep into

the lexical semantics. As such, all these notions are ill-suited when brought to bear on the profoundly lexical semantic facts involving argument omission in English. The taxonomic approach goes farthest in the direction of attending to verb classes. However, it does not cover anaphoric omissions and makes too strong assumptions about taxonomic relations between null instantiating verbs and the nouns that they incorporate.

4 Communicative intent and interpretation type

Having observed the correlation between frame semantics and interpretation type, we need to ask why it should exist. Is there a third hidden variable that explains the association? Here I will argue that the correlation between frame identity and the interpretation of omitted arguments is due to a notion of communicative intent, and further that that notion itself is not fully independent from frame semantics. Frames by their very nature fit only in certain communicative contexts and even the setting up of particular communicative contexts cannot bend frame semantics in just any which way.

The basic analysis of anaphoric omissions is that they occur when a specific referent—a token—has to be recoverable and the core participants of the event or relation have to be fully specified: no specific instance of the eventuality can be communicated informatively without specifying or having contextually available the filler of the relevant semantic role. Existential omissions are just the opposite. The omitted referent can be felicitously unspecified for one of three reasons, which are not necessarily mutually exclusive. The focus of interest is on the action itself, as illustrated by data discussed in Goldberg 2005, or what is relevant is the state that one of the instantiated participants, typically the subject, is in as a result of being, or having been, involved in the specified event type. That specific knowledge of a referent in one frame is required but knowledge of another frame element in another frame is, I believe, not further derivable but an irreducible fact: it is simply in the nature of frames as holistic *gestalts* that they specify not only scenarios and participants but also impose constraints of how the scenario and the participants may be talked about.

I will now defend this analysis for the two different interpretation types, arguing further that this characterization actually applies to lexical and constructional omission types equally.

4.1 Anaphoric interpretation

The presupposition that a particular referent must exist in a scene may be introduced by lexical material or the constructional context may introduce it. Let us first consider a few classes of lexical predicates that require an anaphoric interpretation for null instantiated arguments.

- (51) I notice you **shaved** 0. (body possessor reflexives)
- (52) Did Harry **know/watch** 0 ? (propositional verbs of cognition, perception etc.)
- (53) The car is **outside**. (locative prepositions)

- (54) The next day Kim **blamed/punished/took revenge on** Pat \emptyset . (verbs expressing response actions)
- (55) We are **ready/beginning/finishing/done** \emptyset . (event structure predicates)
- (56) We **arrived/departed/crossed** \emptyset first. (landmark-focused motion)

These predicates cannot be used felicitously in a context where we want to de-emphasize the detail of who or what fills the frame element role. This explains not only why we cannot give the examples above an existential reading but it also predicts that these predicates cannot be used felicitously even with overt material that downplays the specificity of the referent.

- (57) I notice you **shaved** somebody or other.
- (58) Did Harry **know/watch** something or other ?
- (59) The car is **outside** of someplace or other.
- (60) The next day Kim **blamed/punished/took revenge on** Pat for something or other.
- (61) We are **ready for/beginning/finishing/done with** something or other.
- (62) We **arrived at/crossed/departed** someplace or other.

In requiring specific fillers, DNI predicates differ fundamentally from INI predicates which are happy to fill the relevant argument role with a non-specific referent.

- (63) Don't bother her. She's **reading** something or other.
- (64) I think he's **cooking** something or other.
- (65) No the food's not sitting out. I'm sure we **bagged** it in something or other.

Constructionally licensed omissions with anaphoric interpretations also occur felicitously only when specific referents are accessible. Consider examples (66)-(71), repeated from (19a)(i)-(vi) above.

- (66) Cisse, off balance, **headed** \emptyset_{Theme} over after a Warnock cross spun to him a couple of yards out. (Sports report)
- (67) $\emptyset_{Container}$ **Contains** alcohol (Labelese)
- (68) \emptyset_{Agent} **Take** your car to a competent repairer and tell your insurance company immediately. (Imperative)
- (69) **Boil** \emptyset_{Food} rapidly for 10min (Instructional imperative)
- (70) $\emptyset_{Sleepers}$ **Got up** at six and made coffee (Diary style)

(71) “You all look sick,” she **scorned** $\emptyset_{\text{Addressee}}$ (Reporting clause)

Clearly, it makes no communicative sense in the context of a soccer game to report that a player caused something or other to move over the goal. Likewise an unattached label cannot be made sense of or one that says that *Something contains alcohol*. Commands are typically also directed at specific individuals or a group but not at just anybody. In the instructional context, the instruction makes sense only relative to the particular object that one is manipulating. Diary entries are not about individuals that are of passing concern and, when dialogue is portrayed in fiction, it matters who says what to whom.

The omissions occurring in diary style, labelese, instructional imperatives, and sports reports differ from the omission of imperative subjects and the lexical DNIs in that they are focused on a single or a few particular entities that are of central importance to the larger context in which they are mentioned. Thus, in reports of soccer matches, the referent most commonly omitted is the ball is omitted. The goal referents are also sometimes not expressed overtly, as in (72), which appears in the text at a point where the goal has not previously been mentioned.

(72) The Liberian controlled it on his chest before spinning and sending a dipping left-foot volley over Brad Jones and **in** off the post.

Which objects are available for global reference by zero form appears to be somewhat idiosyncratic from sport to sport. For instance regardless of any context one might supply, the first clause of (73) cannot be used in a case where a player smashes their racquet into the net out of frustration, which should be plausible given that each player uses just one racquet and given that racquets are of central importance in the game.

(73) But she **smashed** \emptyset **into the net** with the court gaping to set up another break of serve for Williams in the next game, who took advantage ruthlessly to hold and break again for victory.

No similar restriction to specific contextually salient individuals obtains with lexically licensed omissions with definite interpretation: the omitted referent can be anything that meets the predicate’s selectional restrictions and is accessible in the discourse.

The importance of the context to omissibility is also evident from the fact that the omission of the central referent(s) in sports reports, labelese, and instructional imperatives is more likely with some predicates than with others. For instance, in a sports context, while the ball referent may be unexpressed as an argument of a verb that expresses causing it to move (e.g. *kick, pass, flick on, head*) it is not readily omitted as an argument of a predicate expressing a non-canonical event taking place during the game. In (75), for instance, the NP *the ball* cannot be omitted since handling the ball is not a legal move for field players.⁷

⁷In this connection notice that, as pointed out to me by Charles Fillmore, a requirement for canonical actions also seems to hold with respect to the possibility of using a simple present tense in a sports broadcast.

(74) Now that the middle innings are over with, the managers are bringing in their heavy artillery from

- (75) On 23 minutes Morecambe were awarded a penalty when Gavin Peers was adjudged to have **handled** *(the ball) in the area.

This restriction is similar to what is found with recipes (Culy 1996) but different, for instance, from diary style where there is no restriction on the predicates with which a zero subject may occur.

The high contextual accessibility of omitted referents in diary style, match reports, instructional contexts, and labelese also explains why they can be omitted where lexically licensed omissions would have been avoided because the referent is not locally topical or is competing with other referents. Consider examples (76)-(79).

- (76) ... \emptyset **read** Michelet; \emptyset **wrote** to Desmond about his poetess; L. **out** at Fabians; \emptyset **played** gramophone; ... (adapted from Haegeman 1990:158, (1a))
- (77) Sweet Lassi₁ - Ingredients: 1 Serving Plain yogurt- 1 cup Sugar- 2 tablespoons Ice Cubes- 4 Method: Blend all the ingredients in an electric blender. **Serve** \emptyset_1 cold.
- (78) Hughes, however, twice almost broke through as Bradford flirted dangerously with the offside trap, although the £5million man's blushes were spared by the linesman's flag on a third occasion when he **hammered** \emptyset wide of Gary Walsh's exposed net.
- (79) After **shampooing** \emptyset , squeeze a dab of balm into the palm, **comb** \emptyset and **apply** \emptyset evenly throughout wet hair starting at the roots down to the ends.

In (76) a series of clauses with zero subject referring to the author Virginia Woolf is interrupted by reference to *L.*, the author's husband Leonard. In (77), overt non-co-referents intervene between the use of the zero form and the one previous overt mention of the referent in the title. Example (78) occurs at a point in the text where the omitted referent, the ball, has not been mentioned overtly even a single time despite the fact that a lot of actions such as shots on goal or throw-ins involving the ball have been reported. In (79), the interpretation of the omitted arguments also cannot be derived in the normal way. Both zeroes are immediately preceded by clauses that do not mention the referent: the argument omitted from *comb* is the user's hair but the next omission with *apply* is the dab of balm. Clearly, in such a case a zero form is not equivalent to the use of simple personal pronouns.

- (80) After **shampooing** it, squeeze a dab of balm into the palm, **comb** it and **apply** it evenly throughout wet hair starting at the roots down to the ends.

the bullpen. Right-hander Mike Timlin relieves Arroyo and sets the Cardinals down in order. Millar has had a rough night in the field but he makes a nice pick on an errant Timlin throw for the third out. Kelly Clarkson comes in and finishes up her God Bless America rendition quicker than you can say, "Irish Tenor." #A fan **jumps** over the outfield wall, **strips**, and **runs** across the field naked.

It should be noted that the constructionally licensed anaphoric omission types themselves are not all alike and that they have idiosyncratic properties. This is illustrated by the fact that, while instructional imperatives and match report contexts both license resultative goal phrases to occur without their Figure mentioned, as shown in (82) and (83), neither is able to override the constraint forbidding argument omission with prepositions such as *into* or *onto*. The two constructions differ clearly in the lexical items whose arguments can be omitted. But instructional imperatives also allow the subjects of depictives to occur as zeroes whereas this is not acceptable in match reports, as a comparison of (84) and (85).

- (81) Roll up like a small jellyroll and then roll it into a coil. Roll 0 **flat** again.
- (82) Tuck 0 **in/*into** 0 carefully. Watch patient's pulse.
- (83) In a similar play on the opposite side of the field, Chin sent a low cross into the box that Dorman **fired** 0 **in/*into** at 30:38.
- (84) Serve 0 **cold**.
- (85) The player on the left **volleys** *(the ball) in flight from about 35 yards.

In sum, anaphoric omission types require the recoverability of a particular element. With lexically licensed anaphoric omissions, the referent has to be accessible in the prior discourse or in the physical setting but with many of the constructionally licensed omissions, the recoverability crucially depends on a particular script unfolding. Finally, the constructional omission types need to be treated as separate constructions since they target different lexical items and also have different syntactic properties.

4.2 Existential interpretation

Existential omissions have a different communicative motivation than anaphoric ones. The identity of the omitted participants is not important as the focus is either on the action itself or on one particular, overtly realized participant. Note that this characterization goes beyond analysis like that of Allerton who characterizes existential argument omissions as cases where 'we are faced with an object that is not recoverable, because it has not been thought of and it is not expected that the listener should concern himself with it' (1975:214). What is crucial is that the communicative focus lies somewhere else so that detailed information about the filler of the null-instantiated role is not of interest.

This analysis clearly fits habitual and generic sentences, which present regularities about particular entities or the world rather than particularities. Example (86) presents a characteristic of the speaker; example (87) informs of a characteristic that the type of animal *lion* possesses. Passives such as (88) can omit their by-phrases because the resultant state of the patient can be focused on as the primary piece of information that is communicated. The

experiential perfect likewise attributes a special state to its subject for having participated in the kind of event described by the predicate, as shown by (89).⁸

- (86) I **read** 0 for an hour a day. It really relaxes me. (Habituals)
- (87) Lions **kill** 0 only when hungry. (Generics)
- (88) Allen was **injured** in 2003 (by a grenade attack). (Passive)
- (89) Neither had ever **killed** before. (Experiential perfect)

The communicative motivations that underlie the constructions licensing existential omissions are the same that we find in lexical omissions. Some predicate classes that license existential omissions are illustrated in (90)-(93).

- (90) “I love to sew—I’m **sewing** 0 right now,” she said. “I’m making a Halloween outfit for my daughter.” (Creation activity verbs)
- (91) Is it academic? No. (but at least she’s **writing** 0!)
What does it do pedagogically? At least she’s **writing**!
What might be the ups or downs of using this in the classroom? Well, at least she’s **writing**! (Creation activity verbs)
- (92) She’s **studying** in her room with a girlfriend.
- (93) They doused for water on the spots, and **bottled** the water they found there - you could choose either positive energy water, to draw abundance into your life, or negative energy water, to provide a protective shield against draining influences. (Goal incorporating verbs)

In example (90), the speaker at first emphasizes that she is engaged in her favorite hobby right while she speaks to the addressee over the phone. Only in the next statement does she inform the addressee what she is sewing. In (91), the emphasis is on the fact that the referent of *she* is writing at all, rather than doing other things. Similarly, (92) may be used to inform both of the location of the referent of *she* and of the state that she is in: doing homework may mean that she is not available for other things or that she is busy with something that the speaker approves of. In (93), what is conveyed is not merely that the water was placed somewhere but that the water was gotten ready for distribution as a commercial product.

So far, the data I have discussed are clearly in line with the Uniformity hypothesis. There are, however, cases that violate it. But these violations are not random but of a

⁸Goldberg 2001 does not identify the experiential perfect (or experiential uses in American English of the preterite) as a special construction that allows omission due to the post-state of the subject-coded participant but discusses it in terms of the notion of repeated action or emphasized action. I believe that the characterization in terms of status is more reasonable since neither repetition nor contrast with other actions—only possibly with not having had the relevant experience—is at issue.

particular kind. Consider the semantic domain of kinship relations. Most of the predicates and relational nouns are normally used in contexts where a specific pair of individuals has to be accessible in discourse. In (94), the mother in question is the mother of a discourse accessible playdate of the speaker's son. In (95), the miniature pinscher's relative in question is the Doberman pinscher.

- (94) And, as I got to know the **mother** better, I realized we had little in common.
- (95) The miniature pinscher originated in Germany several centuries ago, and even though he looks like a small Doberman pinscher, he is not **related**.

Clearly, the predicate *related* fulfills the criterion discussed earlier for verbs with anaphorically omissible arguments that it is not informative to assert an instance of the event or relation with the details filled in. Being related to somebody is true of all individuals and species. However, with some of the nouns like *mother* or *father*, it is in some contexts informative enough that the person in question has that kind of relationship to another person. Consider example (96), where the second relative, Mr. Smith's child, need not have been mentioned before at all.

- (96) Mulder offered himself as a hostage in exchange for Mr. Smith, who had just become a **father** for the first time.

Father can have its argument omitted here because being a father itself is a **status** that has significance: the person has responsibilities toward others who depend on him. Clearly, no such status attaches to other kinship relations like that of cousin or uncle, and it is hard to imagine a felicitous use of example (97).

- (97) Please, I beg you, let the man go! He is an **uncle/cousin**.

This same motivation, the importance of a status that attaches to being in certain kinship relations, also explains why certain non-nominal predicates in the kinship domain allow omissions with existential rather than anaphoric interpretation. Unlike the very general *related*, *married* and *divorced* have a status-meaning and thus allowing existential rather than anaphoric omissions.

The importance of status for the licensing of existential omissions where one would expect anaphoric ones also appears in other semantic domains. Consider, for example, the contrast between the verbs *resign* and *retire* as they pertain to employment or the occupation of an official role. Both designate a situation in which a person gives up her work relation with the employer or institution. However, while a felicitous use of *resign* with the employer or institution null-instantiated requires that the referent be anaphorically recoverable, this is not true for *retire*.

- (98) Apparently Jeff **resigned** 0 this morning after driving down to Swalwell and then making a fuss.

- (99) My mom has a bit of a hard time adjusting to the idea that my dad will **retire** next month and be a home a lot more.

Clearly, retiring changes one’s status from a member of the workforce to that of a retiree outside of it. And communicating this status change can be of interest in itself, whereas simply quitting a job or a position is not conventionally viewed this way: particular details about the position are required.

Interestingly, there is no inverse to the kind of exception described above. In other words, there are no frames where most of the LUs that lexically license omission of a particular frame element specify an existential interpretation for that element, but where one or two ‘rogue’ lexical units license omission of that same frame element with an anaphoric interpretation. All cases in which an element that can be omitted under a lexically licensed anaphoric interpretation is in fact interpreted as a non-specific referent have to do with special constructional contexts. In example (100), for instance, the focus is on what knowing means rather than specific knowledge and thus no specific content of knowledge needs to be accessible.

- (100) If we do not understand what it is to **know** 0, then claims of knowledge are empty.

In general, however, it seems to be a very rare occurrence for arguments that are lexically licensed as anaphorically omissible to be in fact omitted constructionally with an existential interpretation. Consider, for instance, example (101). No specific charities are at issue. What is emphasized, also orthographically, is the amount of money that Bill Gates has given in donations. Still, the idea of charitable organizations as Recipients is overtly spelled out.

- (101) Of course Bill Gates has **donated** billions over the years, not millions, BILLIONS, to different organizations.

In fact, in a sample of 100 instances of *donated* preceding *over the years*, not one instance was found where a Recipient was null-instantiated and had an existential interpretation.

5 The wider context

The claim made in this paper that argument omission is sensitive to both framal semantics and communicative intent needs to be situated more broadly in our understanding of argument realization phenomena. There are several other argument realization phenomena that are similarly motivated by the need for informative utterances. One is the phenomenon of so-called **obligatory adjuncts**, discussed by Goldberg & Ackerman (200X) and exemplified by (102). A felicitous use of example (102) without one of the prepositional phrases is not easily imagined. On the reading where one speaks of an actual house, the use of the passive construction is infelicitous since it deprofiles the agent and foregrounds the state of the house as built. But it is self-evident that the house, qua artifact, must have been built.

(102) This house was **built** *(by a former sailor/on federal land/with public money/...).

However, if sentence (102) is used to talk about architectural plans rather than actual house, then no adjunct is necessary as it can be informative that a particular plan actually resulted in a house as opposed to just existing as a design. Similarly, if the sentence was altered minimally to *A house was built*, there would be no need for an adjunct as the coming into existence of the house would be asserted rather than presupposed. Thus, we see that the need for obligatory adjuncts also is results from the need to be informative given a particular framal semantics and a set of information structural constraints. [mention grimshaw vikner's account]

Another argument realization phenomenon that reflects the need for informative utterances are **construal alternations**. Within certain frames, there are multiple ways of fleshing out the scenario and being informative. For instance, in the case of charitable donation, one typically needs to be able (in a non-generic context) to resolve a Donor and a Recipient. However, it is possible to not specify a Recipient and instead provide a specification of a Charitable cause. Note that the specification of the Charitable cause makes mention of the Recipient unnecessary, although it is not incompatible with it.

- I already **donated** [to the Red Cross RECIPIENT].
- Last year I **donated** [to help the flood victims CHARITABLE CAUSE].

Ontologically, the fillers of the RECIPIENT and CHARITABLE CAUSE roles are clearly different and so FrameNet distinguishes them rather than positing a super-type frame element. However, the two roles are themselves interrelated within the frame, and specifying one of them is pragmatically informative enough for the purposes of asserting an instance of the Charitable donation frame.

Another case of a frame-internal construal alternation occurs in the Reliance frame, which contains predicates like *rely* and *depend*. The frame evokes a scenario in which a BENEFICIARY requires the assistance of an INTERMEDIARY to achieve some BENEFIT for him- or herself. This is illustrated by example (103).

(103) Bill **relies** on Sue to get his doctor's appointments.

Now, the same situation can also be described with an eye to what the Intermediary is supposed to do to help the Beneficiary, as in (104), where the infinitive phrase now expresses the MEANS action that the INTERMEDIARY is to perform. (If the infinitival phrase shared *Bill* as a subject, we should expect to find a reflexive where we find the simple pronoun *him*.)

(104) Bill **relies** on Sue to get him to his doctor's appointments.

Another phenomenon that is worth mentioning concerns cases of **frame element conflation**, where information about an FE is not present as a syntactic dependent of the target lexical unit but is expressed as part of another argument. Consider examples (106)-(107) with the verbs *cure* and *punish*.⁹

⁹The general phenomenon of conflation is not restricted to core frame elements. Frame elements that are themselves optional may nonetheless be inferrable from core or non-core FEs:

- (106) a. Isombutol **cures** [[allergy AFFLICTION] [sufferers PATIENT]].
 b. Isombutol **cures** [[lepers PATIENT+AFFLICTION]].
- (107) a. Laws which allow legal consumption of alcohol and tobacco and severely **punish** [people EVALUEE] [for using marijuana REASON] are unjust.
 b. Laws which allow legal consumption of alcohol and tobacco and severely **punish** [those who use marijuana EVALUEE+REASONS]

Semantically, the scenarios evoked by *cure* and *punish* clearly require three distinct core arguments. Expression of the EVALUEE and the REASON can, however, be compressed into a single constituent. Notice that cases of conflation in principle are just cases of null instantiation where the omitted element is retrievable in the same clause from which it is omitted. For instance, given an elaborate enough background story, the implicature that the lepers in (106b) are cured of leprosy can be defeated. However, in practice one never finds such conflations to be defeated.

Of course all the phenomena discussed here, lexical and constructional null instantiation, conflation, construal alternations, and obligatory adjuncts all interact with voice and argument structure constructions, which themselves exert an influence on what elements need to be realized. For instance, passive subjects as subjects typically need to be instantiated. The double object argument structure construction strongly disprefers argument focus on the Recipient (# I **gave** JOHN the book, not Mary). Thus, the picture that emerges of argument realization is that the influence of deep lexical semantics and pragmatics is pervasive.

(105) He **raised** the stakes by \$1000 [when he noticed Paul's nervous twitch TIME/REASON].

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