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Re-thinking FNI

On null instantiation and control in Construction Grammar*

Benjamin Lyngfelt

This paper discusses the classification of null instantiation phenomena in Construction Grammar and proposes a different treatment of so-called free null instantiation (FNI). Based on e.g. control data, different types of alleged FNI are shown to be more accurately classified as definite (adjunct control), generic (e.g. *tough* constructions), or unspecified for interpretation (e.g. passives). A striking pattern is that general constructions, such as infinitives and gerunds, license unspecified null instantiation (simply NI), whereas more specific control constructions are associated with a definite (DNI) or generic (GNI) interpretation. Hence, the paper proposes a null instantiation taxonomy that distinguishes (unspecified) NI and the specific subtypes definite (DNI), indefinite (INI), identity of sense (ISNA), and generic (GNI) null instantiation.

Keywords: coinstantiation, Construction Grammar, control, FrameNet, genericity, implicit argument, null instantiation

1. Introduction

In Construction Grammar, implicit arguments are usually treated in terms of null instantiation (and to some extent coinstantiation, see below) (cf. Fillmore & Kay 1999; Lambrecht & Lemoine 2005, and others). For instance, the object arguments

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of *drink* in (1a) and *lose* in (1b) are null instantiated, as are the subject argument of *play* and the Experiencer of *fun* in (1c) and the implicit head of *two more* in (1d).¹

- (1) a. Kim is drinking ___ again.
- b. Sandy lost ___ .
- c. ___ Playing golf is fun.
- d. Could we have two more ___, please?

In (1a), we can infer that Kim is drinking some beverage, but not its precise reference.² This situation is called indefinite null instantiation (INI). In (1b), it is implied not only that the implicit object of *lose* is some event (and not, say, a wallet), but also that the hearer will understand exactly which event, which makes (1b) a case of definite null instantiation (DNI). The sentence (1c) is a generic statement, and both the generically interpreted subject of *play* and the Experiencer argument of *fun* fall under the diverse category of free null instantiation (FNI), which includes null elements that could be either definite or indefinite depending on the context. In (1d), *two more* refers back to some previously mentioned entity (or entities), and the implicit head is interpreted as additional exemplars of the same kind. This relation has been dubbed identity of sense null anaphora (ISNA; Kay 2006; Ruppenhofer & Michaelis 2010; cf. also *type anaphora*, e.g. Borthen 2004).

The notion of null instantiation has provided a convenient way to treat implicit arguments in Construction Grammar (CxG) and FrameNet. However, the system is somewhat unevenly developed. The standard null instantiation taxonomy in CxG (cf., e.g., Fillmore & Kay 1999, Section 7.2) consists of three major categories: definite, indefinite, and free null instantiation (DNI, INI, and FNI, respectively). Of these, DNI and INI are well-established notions in both theory and practice (cf. Fillmore 1986; Fillmore & Kay 1999; Lambrecht & Lemoine 2005, Ruppenhofer et al. 2010, among others); whereas the third leg of the tripod, FNI, is not as firm as the other two, since it is less consistently defined and has received considerably less attention in the literature. For the most part, it seems to act as a trash category, a deposit for all implicit arguments that do not match the typical criteria for DNI or INI. ISNA, finally, is a more recent addition to the family, introduced by Kay (2006) in relation to null instantiation within noun phrases (as in (1d)).

1. Assuming a DP analysis of noun phrases, the implicit element in (1d) would be a complement of the determiner rather than the head (cf. Kay 2006).

2. Whether it is an alcoholic beverage or not depends on the context. These two readings are typically associated with different senses of the verb *drink*, that is, with different frames (Martola 2008; Ruppenhofer & Michaelis 2011). The presently relevant feature of (1a), however, is not this ambiguity but the fact that the discourse reference of the beverage cannot be determined.

Some other kinds of implicit arguments are usually not viewed as null instantiation in CxG, notably implicit subjects in complement control structures, where the control relation has been termed coinstantiation. Complement control will be addressed in Section 3.1.

What is commonly known as gaps, e.g. at the canonical position of *wh*-elements, is treated as left isolation (Fillmore & Kay 1999, Section 7.2), also called distant instantiation (Lambrecht & Lemoine 2005: 16f.). I will not have much to say about gaps here; for a comprehensive CxG account of filler-gap constructions see Sag (2010).

The main focus of the present paper concerns the phenomena traditionally viewed as free null instantiation (FNI) in CxG, for which I will propose a different categorization.

2. So-called free null instantiation (FNI)

The label FNI has been assigned to constructions where the implicit element is not specified as definite or indefinite but could be either, depending on the context. A typical example of this kind is the implicit Agent in passive constructions. FNI is “free” in the sense that it is not subject to the contextual/interpretational requirements of DNI and INI, which are restricted to definite or indefinite null arguments, respectively (Fillmore & Kay 1999, Chapter 7, p. 11).³ It would thus seem to be unspecified for interpretation rather than a third interpretation type. On the other hand, Lambrecht & Lemoine (2005: 33) claim that it *is* an interpretation type of its own, with a meaning roughly equivalent to that of English *one* or *you* (in the sense not restricted to the addressee(s)), *man* in other Germanic languages, or *on* in French. In the words of Fried (to appear), FNI “is licensed in cases where either definite, indefinite, or generic (‘folks in general’) interpretation is possible”.

I agree with Lambrecht & Lemoine that FNI is not simply the set of null instantiation cases permitting either definite or indefinite readings. However, I will propose that it does not constitute an interpretive class of its own either, or even a class at all. Instead, some types of alleged FNI are unspecified, some are generic, and some should rather be considered DNI.

The standard example cases of FNI (in Fillmore & Kay 1999; Fried & Östman 2004; Lambrecht & Lemoine 2005, and others) are implicit Agents in passive constructions, implicit subjects of infinitives and gerunds, and (less often recognized) implicit Experiencers of predicates like *seem*, *comfortable*, *interesting*, and *easily*.

3. It is not self-evident, however, what sense of *free* is intended; in fact, my own first association when I encountered the term was ‘optional’. If this is a common intuitive interpretation, the label FNI may be considered something of a misnomer.

Passives represent the unspecified type, since the implicit Agent can be definite (2a), indefinite (2b), or ambiguous between the two types of readings (2c).

- (2) a. The paper was finished well before deadline.
- b. Only the main roads had been cleared of snow.
- c. The books were delivered on time.

In (2a), the passive subject is definite and presumably familiar, and so is most likely the implicit Agent (the author of the paper). In (2b), however, the Agent is probably indefinite, at least if the sentence is uttered from a road-user's perspective. In (2c), finally, the Agent of *delivered* would be definite in a situation where the interlocutors have knowledge of the actual delivery, but otherwise indefinite; either interpretation is possible depending on the context. In fact, all of the examples depend on the context, and any of the sentences in (2) could be interpreted in either direction given the right circumstances.⁴

The interpretation pattern in (2) fits the basic characterization of FNI as allowing either definite or indefinite readings. However, this does not require a third interpretation type, it is merely the absence of interpretive specification. Hence, a more appropriate label for the implicit Agent in passive constructions would simply be NI (cf. Section 6 below). NI is not just an alternative label for the FNI category (or parts of it), since it is not restricted to types or specific instances of variable interpretation. NI applies to these cases simply because it applies to null instantiation in general.

Implicit subjects of infinitives and gerunds are less uniform in their behavior, as shown in the large literature on control.⁵ In a CxG approach to control phenomena, Lyngfelt (2009b) distinguishes three major interpretation patterns, typically occurring in complements (3), adjuncts (4), and subject clauses and so-called *tough* constructions (5), respectively.⁶

- (3) a. She_i promised me_j to_i submit the paper by Friday.
- b. She_i persuaded me_j to_j extend the deadline.

4. There are also some passive constructions that receive other interpretations, such as a generic reading of implicit subjects in modal passives, which further supports the view that implicit Agents in passives are not in general specified for certain readings.

5. For a fairly theory-neutral overview, see Lyngfelt (2009a).

6. The implicit subject in (3) and subsequent examples is marked by an index at the left edge of the verb, following Culicover & Jackendoff (2005: 415ff.; cf. also Lyngfelt 2009b: 155), which corresponds to the PRO notation in frameworks where the implicit subject is assumed to be an invisible pronoun.

- (4) a. After _ipitching the tents, we_i fell fast asleep.
 b. After pitching the tents, darkness fell quickly. (Kawasaki 1993: 173)⁷
- (5) a. _xPlaying golf is fun. (=1c)
 b. He is easy to _xplease.

Complement control is typically determined by selection, where the interpretation of the implicit subject follows from the meaning of the matrix predicate (see, e.g., Sag & Pollard 1991), as illustrated by the contrast in (3). The verb *promise* usually favors subject control of the implicit embedded subject (3a), whereas verbs like *persuade* are associated with object control (3b). In CxG, complement control is called coinstantiation, which is not considered a type of null instantiation. The notion of coinstantiation will be addressed in Section 3.1. Adjunct control, control in subject clauses, and *tough* constructions, on the other hand, are usually all regarded as cases of FNI.

Implicit subject arguments in adjuncts are in most cases controlled by the matrix subject, as illustrated in (4a). When not, the controller is some other contextually salient referent, as in (4b), a pattern we may call pragmatic control (Lyngfelt 2002; 2009: 38–40; 2009b: 172ff.).⁸ In a sense, subject control is simply the most common subtype of pragmatic control, since non-subject control in adjuncts occurs precisely when the subject is not a salient referent. “If the subject is pragmatically salient, we do get subject control” (Lyngfelt 2009a: 40). The generalization is thus that the controller is pragmatically salient. In terms of null instantiation, this makes adjunct control a type of DNI, more specifically topical DNI (cf. Lambrecht & Lemoine 2005: 30ff.).

On the rare occasions such cases are mentioned in the null instantiation literature, however, they are classified as FNI. Consider, for instance, the sentence *Secouer avant l’emploi* (‘Shake before using’), where Lambrecht & Lemoine (2005: 27, 34) analyze both the subject of *secouer/shake* and the implicit object of both predicates as DNI, but the subject of *emploi/using* as FNI — despite the fact that both implicit subject arguments are equally dependent on the context and typically coreferential.⁹ This analysis is correct in the sense that infinitives,

7. Although there seems to be some disagreement regarding the acceptability of (4b), there should be no doubt about its contextually determined (i.e. DNI) interpretation.

8. Alternative terms are *logophoric control* (Williams 1992) and *control by sentence topic* (Kawasaki 1993).

9. In principle, it is of course possible that the shaker and the user are different persons, just as neither of them must be the person reading the instruction. In actual usage, however, coreference is the normal interpretation pattern, and in any case I find it hard to justify why one of the subjects should be marked as definite and not the other. It should also be noted that the implicit

gerunds and deverbal nouns *as such* go with either definite or indefinite interpretations of the implicit subject, depending on what larger structure they occur in. Nevertheless, just as their interpretation in complements may be restricted to so-called coinstantiation, so are adjunct control constructions restricted to DNI. This will be motivated further in Section 3.2 below.

In subject infinitives/gerunds (5a; *Playing golf is fun*) and *tough* constructions (5b; *easy to please*), the basic pattern is a generic interpretation of the implicit subject argument.¹⁰ It tends to be accompanied by an association with salient referents, often the speaker, but that is characteristic of other generic expressions as well. In many cases, using a generic expression is a way of presenting a subjective opinion as a more general fact.

In the control literature, the interpretation pattern in (5) is usually called arbitrary control. However, since there is no controller, or at least no need for one, it is more appropriately characterized as non-control (cf. Sections 3 and 4 below). In CxG terms, it is not a form of INI, which is “markedly indefinite” (Fillmore & Kay 1999, Chapter 7, p. 5), since the interpretation in (5) may be further specified by the context; neither is it quite unspecified (NI) like the implicit Agent in passive constructions. Instead this type is the best candidate for Lambrecht & Lemoine’s (2005:33) claim that FNI is an interpretive category in its own right. I will refer to it as generic null instantiation (GNI), which will be discussed in more detail in Section 4.

Turning to the implicit Experiencer arguments of predicates like *fun* and *easy* in (5), the question is whether this type should be classified as unspecified NI or as GNI. An argument for the latter analysis is that the implicit Experiencers in (5) are interpreted the same way as the GNI subject arguments, but that could follow from the contexts they occur in rather than be a property of the lexical items themselves. In the FrameNet account of *easy* (the Difficulty sense), the annotated examples include 92 instances of INI Experiencers and 6 instances of DNI Experiencers, which seems to speak in behalf of an NI analysis (or INI, judging by frequency). However, neither the GNI nor the FNI label are employed in FrameNet (see Section 5 below), so the analyst is forced to choose between DNI and INI. On

elements are more accurately referred to as ‘shaker’ and ‘user’ on the one hand, and ‘shaken’ and ‘used’ on the other (especially since *emploi* is a nominalized form). The terms ‘subject’ and ‘object’ are merely used for ease of exposition.

10. As for the implicit object of *please* in (5b), it is coreferential with the external argument of *easy*, which in turn is coreferential with the matrix subject. (In other syntactic contexts, it may be coreferential with the matrix object instead: *We found him easy to please*). How to treat this three-part relation in *tough* constructions is beyond the scope of the present paper.

a closer look, an overwhelming majority of these examples are actually typical cases of GNI, as illustrated in (6):

- (6) a. However, it's also EASY to get to Guangzhou by train or ferry. (DNI Experiencer according to FrameNet)
 b. The center of Lisbon is small, compact, and EASY to get around in just a couple of days. (INI Experiencer according to FrameNet)
 c. There's an EASY e-mail sign-up form at the top of Today's Papers. (INI Experiencer according to FrameNet)

Hence, the available data speak in favor of a GNI analysis, but to what extent DNI or INI readings are also possible is yet to be tested.

To sum up, I have argued that the motley crew of alleged FNI cases should not be considered a category. Instead, I propose that some of them are generic (GNI), some are actually DNI, and that the unspecified types should not be considered an interpretation type of its own but simply be marked NI. Since the main motivation for this approach comes from control phenomena, I will discuss them further in the following section (3).

3. Control issues

Control theory, past and present, is heavily influenced by the transformational tradition, especially in focusing on core syntax in some sense. Thus, a central issue has been the distinction between obligatory and non-obligatory control, where obligatory control essentially means that “[t]he controller and the infinitive must be clausemates” (Landau 2000: 3). Non-obligatory control, which depends on the context, cannot be covered in full within narrow syntax and has therefore been considered less relevant from the viewpoint of syntactic theory. This view has been challenged mainly on the grounds that control depends less on syntax and more on semantics/lexicon, but the focus on structures within the obligatory control domain has largely been maintained. In CxG terms, obligatory control corresponds to coinstantiation, whereas non-obligatory control has been categorized as FNI. Although CxG in general incorporates syntactic, semantic and pragmatic factors to a larger extent than some other grammatical theories, this has not been the case with the treatment of control. Following e.g. HPSG (Pollard & Sag 1994, Chapter 7), complement control/coinstantiation is treated as a lexically determined phenomenon; but other control patterns are still considered peripheral.

The present approach is less concerned with the obligatory/non-obligatory distinction and more with the actual interpretive patterns. I will comment on

coinstantiation in Section 3.1, and then discuss the more general notion of control in Section 3.2.

3.1 Coinstantiation

Nowadays, most linguists agree that the interpretation of implicit subjects in complement clauses, i.e. complement control, is lexically determined by selection (cf. Sag & Pollard 1991; Fillmore & Kay 1999; Culicovic & Jackendoff 2005; Landau 2000; Lyngfelt 2009a,b, and others).¹¹ This is illustrated in (3), repeated here as (7), where the difference between subject control (7a) and object control (7b) presumably follows from the meaning of the matrix verbs, subject-oriented *promise* and object-oriented *persuade*.

- (7) a. She_i promised me_j to_j submit the paper by Friday.
 b. She_i persuaded me_j to_j extend the deadline.

As mentioned above, complement control is labeled coinstantiation in CxG. The idea of coinstantiation is that both arguments/frame elements are instantiated by the same syntactic element; for instance, that both the Agent of *promised* and the Agent of *submit* in (7a) are instantiated by the matrix subject *she*. Although appealing in many respects, this notion is somewhat problematic. In particular, it does not apply well to quantifiers, as shown in (8).

- (8) a. All the players_i hoped to_i win the tournament.
 b. 'All the players hoped that all the players would win the tournament'
 c. 'For all players x, x hoped that x win the tournament'

A sentence like (8a) does not correspond to (8b), which the standard coinstantiation analysis would imply, but rather to the meaning in (8c). This suggests that the implicit subject argument of the infinitive in (8a) is not directly instantiated by the matrix subject, but should rather be regarded a bound variable. Essentially, that would amount to treating complement control as a form of DNI, or perhaps BNI (bound null instantiation). I will not explore that issue further in this paper, however, focusing on alleged FNI phenomena.¹² In the recent development Sign-

11. In earlier generative grammar, control was treated in terms of syntactic configuration (cf. Rosenbaum 1967). This was challenged by Jackendoff (1972), and a more lexicalist view of complement control has been gaining ground ever since. Even within the Minimalist Program, where control is often discussed in terms of movement (see e.g. Hornstein 1999), the actual interpretation of the implicit subject is treated as lexically determined (cf. Landau 2000: 24).

12. Another problem for coinstantiation is control shift, where the control relation favored by the matrix predicate appears to be overruled. For instance, the verb *ask* normally occurs with

Based Construction Grammar (SBCG), the notion of coinstantiation has been dropped (cf. Sag to appear).¹³

3.2 Control as opposed to non-control

The present approach follows the general categorization of control structures in Lyngfelt (2009b), which in turn is based on a large corpus study of control patterns in Swedish (Lyngfelt 2002), covering control in adnominals, predicative complements, and within adjective phrases, in addition to the types treated here. I will not, however, adopt the formalism in Lyngfelt (2009b), which depends on feature percolation and a notion of semantic valence. Instead the same basic patterns will be accounted for in terms of null instantiation, which is more in line with standard practice in CxG. While the empirical base is Swedish, the interpretive patterns recognized apply to English and other related languages as well, as the reader may verify by judging the examples presented. The *distribution* of these patterns, however, is of course a different matter, although such cross-linguistic differences are not a major concern in this paper.

In Lyngfelt (2009b: 185), three types of control mechanisms are distinguished, which are exemplified in (3–5) and (9a–c), respectively:¹⁴

- A: control by selection, which corresponds to coinstantiation
- B: control by feature percolation, which is treated as DNI here
- C: arbitrary “control”, essentially non-control, for which I introduce the label GNI.

object control, as in (i), but with the embedded predicate *get to* in (ii), the relation is rather subject control.

- (i) Kim_i asked Sandy_j to _jhandle the interviews.
- (ii) Kim_i asked Sandy_j to _jget to handle the interviews.

Such phenomena, as well as the related issue in example (18) below, can be handled by coercion (or *pumping constructions*, cf. Fillmore et al. to appear). For a CxG account of control shift that does not rely on coercion/pumping constructions, see Lyngfelt (2009b, Section 2.2).

13. It is not clear to me, however, how the SBCG approach would apply to the problem of quantifiers. As for the SBCG view on NI interpretation in general, my impression from Kay (2006; p.c.) and Sag (p.c.) is that it is fairly similar to traditional CxG. The technical mechanisms differ, but the interpretive categories remain essentially the same.

14. Lyngfelt (2009b) also describes some minor patterns, e.g. in speaker oriented adverbials (i), where the implicit subject is always controlled by the speaker. All such specific patterns are subsumed within the three main types.

- (i) To _ibe honest, this wasn't such a good idea.

- (9) a. *She_i decided to_i run for governor.*
 b. *I_i only did it to_i avoid an unnecessary fight.*
 c. *It is tough to_x be a Queens Park Rangers fan these days.*

The most basic distinction in this taxonomy is not between coinstantiation and FNI (roughly, obligatory vs. non-obligatory control); but between control and non-control, i.e. between patterns A and B on the one hand, and C on the other.¹⁵ Lyngfelt (2009b: 168) proposes a distinction between predicating and non-predicating infinitives, where the former are ordinary predicating expressions, that predicate an action of a subject argument. Hence, this subject, if implicit, requires an (anaphoric) interpretation, i.e. a controller, as in (9a–b).

Non-predicating infinitives, on the other hand, behave more like referring expressions; they refer to events as properties rather than predicate them of a subject. For instance, the infinitive in (9c) refers to the property of being a QPR fan. This obviates the need for a controller, and leads to a generic interpretation as default. The nature of non-predicating infinitives (and gerunds) and generic null instantiation will be addressed further in Section 4.

Adjunct infinitives/gerunds are predicating constructions in this sense. Adjuncts are modifiers, and get interpreted in relation to their matrix clause. Hence, the infinitive or gerund expresses some state of affairs treated as relevant to the main situation, and thus as a predication concerning some referent in the present discourse, equivalent to the implicit subject argument in the adjunct. In most cases this referent corresponds to the matrix subject, as in (10a–b). It need not be expressed in the sentence at all, as illustrated in (10c–d), but must be pragmatically salient, either as a topic or as the referent whose point of view is taken.¹⁶

15. Whether obligatory control is restricted to coinstantiation / pattern A or also includes parts of pattern B has been a matter of some debate, which will not be recapitulated here.

16. It has been shown by several scholars, for a variety of languages, that word order makes a difference. Although non-subject control is possible both clause-initially and non-initially, it is both more common and often judged as more acceptable in clause initial adjuncts. In a large corpus study of control in Swedish, Lyngfelt (2002) found more than 20 percent non-subject control in clause initial adjuncts but only stray examples in non-initial adjuncts. This asymmetry is reflected in Lyngfelt's (2009b) analysis of control as feature percolation. On this account, the index of the implicit subject is inherited upwards until unified with a suitable controller. If no such controller is encountered, it is associated with the most salient referent in the discourse. Clause initial adjuncts are assumed to be adjoined at the top of the structure, which means that there is no higher referent for the index to percolate up to, and instead it accommodates to the pragmatic context right away. The fact that subject control is the most common pattern in clause initial adjuncts as well, is attributed to the subject being pragmatically salient. Whenever it is not, neither is it the controller. On the present account, these observations are subsumed under DNI, presumably following general principles of anaphora resolution.

- (10) a. Before _i finishing the abstract, I_i took a nap.
 b. I_i had to re-format the hard drive to _j get rid of the virus.
 c. Before _i finishing the abstract, it was time for lunch.
 d. The hard drive had to be re-formatted to _j get rid of the virus.

The strong but not total prevalence for subject control has prompted prescriptive grammars to promote regularity and disfavor so-called “dangling modifiers”. In theoretical grammars, on the other hand, it is rather the lack of an obligatory pattern that has been overstated, and adjuncts tend to be lumped together with the GNI/non-control cases as “arbitrary” or “non-obligatory” control. However, it is clear that, unlike GNI, adjunct control is invariably associated with a pragmatically salient referent, and the content of the infinitive/adjunct is specifically predicated of this referent. Therefore, it is a form of DNI.

The only time when the implicit subject in an adverbial adjunct receives an indefinite or generic interpretation is when it is controlled by an indefinite or generic element, which may also occur in “ordinary” DNI complements. Compare, for instance, the examples in (11):

- (11) a. _x Eating lots of garlic to _x avoid _x getting sick may have its social drawbacks.
 b. Whenever I make a bet_i, I lose []_i.

Since the implicit subject of *eating* in (11a) is generic, so are the dependent subject arguments of *avoid* and *getting sick*. They do not, however, receive an independent generic interpretation, but are necessarily coreferential with the subject of *eating*. According to current CxG standard, the subject of *avoid* would be FNI, which would then be unified with the subject of *getting sick* by coinstantiation. Such an analysis fails to capture the coreference relation between the subject of *eating* and that of *avoid*. Since this is a general dependence relation — adjuncts are always dependent on their matrix clauses — it should be accounted for by the grammar. This is accomplished fairly straightforwardly by treating the subject of the adjunct as a case of DNI instead of FNI.

That such dependent generic readings are compatible with the notion of DNI is illustrated in (11b), including *lose*, which is a typical DNI verb (Fillmore 1986; Fillmore & Kay 1999, Chapter 7, p. 9, and others). Although the reference of *bet* is indefinite, the implicit object of *lose* is not; whatever bet is made, it is that specific bet that is lost. In the same fashion, whoever eats lots of garlic in (11a) is also the one with the purpose to avoid getting sick. The need for the implicit subject of the infinitival adjunct to have a controller, syntactically or pragmatically available, is what makes it a case of DNI.

4. Generic null instantiation (GNI)

There are (at least) two forms of genericity involved in GNI: a stronger, implicational sense, and a weaker, more subjective reading, both of which also occur with explicit generic elements. Implicational genericity is illustrated in (12). In (12a), where the generic element is expressed by *the elephant*, it is stated that being a member of the set of elephants implies being a member of the set of mammals.

- (12) a. The elephant is a mammal.
b. The elderly and the extremely young are most at risk. (Fillmore et al. to appear)

Generic null instantiation in this implicational sense is exemplified in (12b), which instantiates (a subtype of) the “adjective as nominal” construction (cf. Fillmore et al. to appear). The null instantiated heads of *elderly* and *extremely young* refer to the generic sets of human referents with the properties denoted by the APs. In (12b), having either of those properties implies being a member of the set of individuals being most at risk.

The weaker, subjective form of genericity is often expressed by generic *one/you*, as in (13).

- (13) One does not simply walk into Mordor. (Sean Bean/Boromir in *The Fellowship of the Ring*)

Although (13) is clearly a generic statement, it is uttered in relation to a specific situation. Hence, *one* gets associated with a pragmatically salient set of referents in accordance with the Gricean principle of relevance, and *one does not* effectively means *we cannot*. This pragmatic bias is a recurring and salient pattern of usage that should not simply be disregarded as not being part of the conventional meaning of the expression. On the other hand, the difference between the generic and the specific interpretation is not a case of plain ambiguity either; the situation-specific reading maintains the generic meaning of the expression. An accurate account of such expressions seems to require a notion of genericity where their pragmatically biased interpretation is acknowledged. Thus, the meaning of *one/you* (in this sense) may be characterized as ‘generic with a common bias towards salient referents’.

- (14) It is nice playing golf in the rain. (Bolinger 1968: 126; Conrad 1982: 8)

In the case of so-called arbitrary control, similar conditions seem to apply. A popular example is (14), of which Bolinger (1968) observes that a normal situation for its use would be in relation to an actual game of golf in the rain. However, as Conrad (1982) argues, it does not *refer* to this particular game. Rather, he claims,

the speaker “generalizes his experience” (1982:8). Although related to a particular event, it is a generic statement about that type of event in general. And since the verb phrase is generic, so is the reference of its implicit subject argument, albeit with a bias towards salient referents. Therefore, the implicit subject of *playing golf in the rain* is a clear case of GNI of the weaker kind.

Note that there is no need, at least not in this context, to distinguish two GNI categories to accommodate these two kinds of generic interpretation. The pragmatic bias may well be accounted for in terms of pragmatic implicature (accordingly, making a categorial distinction would imply that this implicature has been grammaticized). What is crucial here is that the weaker, more subjective generic interpretation is taken into account.

Through the bias towards salient referents, GNI is related to DNI. One might say that instances of GNI may receive either a generic or a definite interpretation, although the definite reading is probably more accurately characterized as a blend between the two.¹⁷ However, an INI interpretation is not available. As stated by Fillmore & Kay (1999, Chapter 7, p. 5), INI is “MARKEDLY INDEFINITE, by which we mean that whatever it is, it is not something that is present in the context shared by the speaker and the hearer.” In GNI, referents present in the context are always available, either directly or as part of the set of generic referents. This is a crucial difference between GNI and unspecified NI, which is open for an indefinite interpretation.

Typical GNI contexts include subject gerunds/infinitives and *tough* constructions.¹⁸ In Lyngfelt (2009b), I propose that these are non-predicating expressions, i.e. they *refer* to (sets of) events rather than predicate them of a subject argument. In a similar vein, Krifka et al. (1995: 103) observe that they behave like bare NPs (cf. fn 20 below). According to the account in Lyngfelt (2009b), the distribution of GNI (or *non-control* / *arbitrary “control”*) coincides with that of non-predicating infinitives/gerunds. However, as will be shown below, the reference of the verb phrase is also a factor.

Krifka et al. (1995: 102f.) distinguish three readings of gerunds and infinitives.¹⁹ They can be either kind-referring, i.e. refer to *types* of events, or they can

17. How to account for subjective genericity in terms of blending, in the sense of Fauconnier & Turner (2002), will not be explored in this paper.

18. For an overview of typical GNI / arbitrary “control” structures, see Lyngfelt (2009a: 40ff.; 2009b: 165ff.).

19. I will not address the differences in interpretation and distribution between gerunds and infinitives (and nominalizations, for that matter), effectively treating them as synonymous, since the actual object of study is not these constructions as such but their implicit subject arguments. For a discussion of the meanings of infinitives and gerunds, see e.g. Conrad (1982).

refer to events directly; and, in the latter case, they can either refer to sets of events or to specific events.²⁰ Both kind-referring verb phrases (15a) and those referring to sets of events (15b) typically occur with GNI subjects.

- (15) a. Chewing tobacco / To chew tobacco is a bad habit. (Krifka et al. 1995: 102)
 b. Opening a keg of beer usually gets the party going.

(15a) is a statement about a *type* of activity (chewing tobacco), not about particular events. Hence, the gerund/infinitive is kind-referring in the terminology of Krifka et al. In (15b), *opening a keg of beer* refers to an indefinite set of instances rather than to the type as a whole. Nevertheless, the types are quite similar, and Krifka et al. (1995: 103) characterize the type in (15b) as “subjected to a quantificational operator like GEN”. Accordingly, either by type reference or by quantification, both variants licence GNI.

Reference to specific events, however, is by definition non-generic. In these cases the reference of the implicit subject is restricted to participants involved in the event, either clearly definite as in (16a) or possibly indefinite as in (16b).²¹ Hence, the distribution of GNI depends not only on the grammatical function of the gerund (or infinitive) but also on its reference (as opposed to the reference of the implicit subject).

- (16) a. Chewing tobacco made Chris feel sick.
 b. Opening a keg of beer got the party going.

Even in the generic cases, the reference of the implicit subject may be further specified, for instance by a *for*-phrase, as in (17):²²

- (17) a. Finding a job is hard for anyone / for people without education / for Kim.
 b. A job is hard to find for anyone / for people without education / for Kim.

Nevertheless, an essentially generic analysis is still tenable, even in the most specific case. Genericity applies to a *set* of entities, and this set may be more or less

20. This behavior is parallel to that of bare NPs, which occur with the same kinds of interpretation (Krifka et al. 1995: 103f.); compare, for instance, *Chewing tobacco is a bad habit* with *Procrastination is a bad habit*.

21. Note that (16a) is ambiguous between a specific and a habitual interpretation. The habitual reading implies a set of events, parallel to (15b). The association of the NI element with *Chris* is a consequence of the predicates involved. In an otherwise similar sentence like *Chewing tobacco makes Chris irritated*, the preferred reading would be GNI.

22. More precisely, the *for*-phrases specify the Experiencer of *hard*, which in turn is associated with the subject of *finding*.

restricted. Even in the most general case (*anyone* or no specification), the generic set of subjects in (17) is restricted to (employable) humans; then *people without education* constitute a smaller set, and finally *Kim* defines the maximally specified set, containing only one element. Again, the crucial difference between the present examples and unspecified NI is that INI is excluded here. The reference of the gerund or infinitive may be indefinite, but the reference of its implicit subject is not. Furthermore, this kind of reference specification (by e.g. a *for*-phrase) does not only concern GNI but also applies to other NI contexts, and even to typical coinstantiation (complement control) cases, as in (18).

- (18) a. I_i just want to _ibe happy.
 b. I_i just want for you_j to _jbe happy.

Such specifications go against the otherwise expected interpretation patterns and are sometimes referred to in terms of coercion (or *pumping constructions*, cf. Fillmore et al. to appear). By all accounts, they should be treated as constructions of their own rather than incorporated into the patterns they can modify.

As for the distribution of GNI over (language-) specific constructions, this essentially empirical question is beyond the scope of this paper. Still, a few comments may be illustrative. In both *tough* constructions and subject infinitives/gerunds, the interpretation of the implicit subject argument follows that of the verb phrase as such: verb phrases with a generic reading have GNI subjects, whereas those pertaining to specific events are in principle unspecified (NI). However, there seems to be a strong prevalence for GNI in actual usage. In Swedish, GNI is the standard pattern — in fact, the only pattern found in Lyngfelt's (2002) corpus study. I am not aware of corpus data from other languages, and the variation between infinitives and gerunds probably plays a role in languages such as English (cf. e.g. Conrad 1982). Swedish lacks gerunds²³, so Lyngfelt's data pertains to infinitives only.

In any case, subject infinitives and *tough* constructions referring to specific events are possible even in Swedish. Hence, it is not clear whether these constructions should be characterized according to what is possible or according to what is overwhelmingly common. In the former case, they would be treated as unspecified (NI); in the latter case, they would be treated as GNI constructions. The more narrow specification would require that non-GNI cases are treated either as extension by analogy (or pattern of coinage) or as separate constructions, whereas the wider NI solution would fail to capture the dominating pattern. A middle ground might be to enter the preference for GNI as a soft constraint (cf. Hilpert 2010). However, a more enlightening approach would probably be to look closer at other, possibly

23. There are participial verb phrases in Swedish as well, but they are not employed as subjects or in *tough* constructions and are not really equivalent to gerunds.

distinguishing properties of sentences with GNI and non-GNI interpretations. A crucial factor seems to be whether the verb phrase has a generic or a specific reading, which suggests that there are different constructions involved.

The issue of whether an account should be based on what is possible or on what is common is not specific to these particular constructions, of course, but a recurring matter of uncertainty in CxG. In the case of null instantiated objects, the preferred solution is usually to go by what is common. Null objects are typically treated as lexically licensed, in the sense that both the possibility to omit the object argument and the standard interpretation of the null element are presumably determined by the verb (Fillmore 1986, and others). Such lexical affordances do not, however, exclude other possibilities.

An example from Prytz (2009) is the Swedish verb *läsa* ‘read, study’, which seems to be a typical INI-licensing verb. Its object is optional, and when null instantiated the object argument usually receives an indefinite interpretation, as in (19a). However, DNI is still possible under the right circumstances, for instance in (19b–c).

- (19) a. Hon tyckte egentligen inte om att läsa.
she liked really not about to read
 “She didn’t really like reading”
- b. Se här, ta de här papperen_i och läs ____i högt.
see here take the here papers-DEF and read ____i loudly
 “Look, take these papers_i and read ____i aloud”
- c. Hon tog pjäsen_i ur bokhyllan och började läsa ____i.
she took play-DEF from bookshelf-DEF and started read
 “She took the play_i from the bookshelf and started reading ____i”

In a corpus study, Prytz (2009) found as much as 22% of the implicit object arguments of *läsa* to be cases of DNI. Does this imply that *läsa* is not an INI verb? No, the remaining 78% were instances of INI, which remains the standard pattern. There are simply some sentences that for one reason or the other do not adhere to the standard pattern; in the case of (19b–c) due to coordination, which licenses DNI ellipsis. I would expect that most NI licensing verbs, which are presumably specified for either DNI or INI (Fillmore 1986, and others), occur in a minority of instances where the implicit argument receives another interpretation than anticipated, most of which can probably be accounted for by other constructions or by analogy. More specifically, they could be attributed to derivational constructions (cf. Sag to appear), argument structure constructions (cf. Goldberg 1995), some other licensing construction, or pattern of coinage (Kay 2005, to appear).

In other words, specifications of certain verbs taking either DNI or INI complements concern conventionalized usage; they are not exhaustive accounts of

usage possibilities (cf. Lambrecht & Lemoine 2005). Reasonably, the same case can be made concerning constructional licensing of GNI in Swedish *tough* constructions and subject infinitives.

5. Interpretation and licensing

Null instantiation of arguments is commonly assumed to be either lexically or constructionally licensed. Given that words are constructions, lexical licensing is a form of constructional licensing; hence, 'lexically licensed' is merely shorthand for 'licensed by a lexical construction'. It should be noted that Croft (2001: 277f.) rejects lexical licensing of null instantiation altogether, on the grounds that apparently lexical NI patterns are actually associated with specific constructions. For instance, the Theme argument of verbs like *win* and *lose* may only be null instantiated in active constructions, not in the passive: *We won* __ vs * __ *was won*. I will not get into this discussion here.

In addition to lexical and constructional licensing, one may wish to distinguish discourse, or pragmatic context, as a third licensing factor. To what extent this is a subtype of constructional licensing or an independent factor is an open and usually disregarded question. As far as I can tell, it usually seems to function as an additional factor rather than as an alternative to lexical and constructional licensing. Whereas lexical items and (other) constructions carry certain affordances, it depends on the context when these are put to use.

In principle, licensing and interpretation are independent factors. In the CxG literature, however, INI and DNI are typically associated with lexical licensing and FNI with constructional licensing, blurring the distinction between interpretation and licensing. To some extent, this seems to be due to the fact that most CxG work on null instantiation, since Fillmore (1986) and onwards, has focused on lexically licensed DNI and INI (for a couple of recent exceptions, see Lee-Goldman et al. 2009; Ruppenhofer & Michaelis 2010). Thus, both constructionally licensed null instantiation and FNI are usually just mentioned briefly, if at all, together constituting the class of NI outside the scope of investigation.

In FrameNet, this practice is brought one step further in a taxonomy numbering DNI, INI, and CNI (constructional null instantiation; Ruppenhofer et al. 2010, cf. also Fillmore 2009). For instance, while subjects of imperatives are viewed as (constructionally licensed) DNI by Fillmore & Kay (1999), Fried & Östman (2004), Lambrecht & Lemoine (2005), and others; they count as CNI in FrameNet. "The CNI label thus collapses the distinction we make among the lexically licensed omissions; it does not represent a separate kind of interpretation in addition to the

definite and indefinite types” (Ruppenhofer et al. 2010: 26). Consequently, FNI is not equated with CNI; it is not recognized at all.

Such a taxonomy would seem adequate for FrameNet, which is primarily a lexicographic resource. In striving to account for patterns related to lexical items (and frames), it makes sense not to dwell on constructional issues, except perhaps to mark them as non-lexical (as by the CNI label). However, even from a strictly lexical perspective, the currently used categories are insufficient. As shown in Section 2 above, example (6), many cases labeled DNI or INI in FrameNet would be more accurately characterized as GNI. Furthermore, constructional concerns may soon be more pressing, due to the development of the FrameNet Constructicon, which is a collection of constructions presented in the FrameNet format (cf. Fillmore 2008; Fillmore et al. to appear).²⁴ If this addition gets developed on a larger scale and becomes integrated with the main resource, there should be reason to reconsider the current asymmetry between the annotation of lexically and constructionally licensed null instantiation.

In any case, the lexicographic motivations for the current NI taxonomy in FrameNet do not carry over well to construction grammar. From a construction grammar perspective, the common association of certain interpretations with certain kinds of licensing is quite misleading. Although both Fillmore & Kay (1999) and Lambrecht & Lemoine (2005) mention lexically licensed FNI of Experiencer arguments, e.g. with verbs like *seem* and adjectives like *fun*, this is rarely acknowledged elsewhere.²⁵ Instead it is reported in introductory works that FNI “is always licensed by constructions” (Fried & Östman 2004: 66). In the case of INI, Fillmore & Kay (1999) recognize only lexically licensed cases, and Lambrecht & Lemoine explicitly state that:

All instances of INI seem to be lexically licensed, i.e. there don't seem to exist any constructions that specifically license INI construal. (Lambrecht & Lemoine 2005: 20)

In the same text, however, Lambrecht & Lemoine (2005: 22) mention that INI is licensed by ‘across-frame negation’ (cf. Fillmore 1982), i.e. contrastive pairs like *He doesn't eat, he devours* or *She doesn't drink, she tastes* (note that neither *devour* nor *taste* lexically license INI). This looks like a clear case of constructionally licensed INI. Note, however, that Lambrecht & Lemoine do not rule out constructionally

24. There are also constructicons under construction as additions to FrameNet resources of other languages, for example Swedish (cf. Lyngfelt & Forsberg 2012).

25. As discussed with regard to the examples in (6), such Experiencer arguments *are* acknowledged in FrameNet, although FNI is not. They are usually only marked when they are explicit, but in some cases implicit Experiencers are annotated as well (despite the lack of appropriate labels).

licensed INI *occurrences*. Their claim is only that no constructions seem to *specifically* license INI. Even so, I believe this hypothesis is too strong. Even if DNI instances of across-frame negation are possible, something I have neither come across nor managed to invent; there may be, and most probably are, other INI licensing constructions.

In summary, it should be noted both that so-called FNI (if one maintains that label) can be lexically licensed and that INI can be constructionally licensed. That DNI can be both lexically and constructionally licensed is already well established.²⁶ Hence, it is vital to maintain licensing and interpretation as separate factors in a typology of null instantiation types.

6. Concluding remarks

In this paper, I have proposed that the FNI category be dispensed with and that the cases usually classified as such are more accurately treated as DNI, GNI, or (unspecified) NI. In combination with the other types, this yields a null instantiation typology which first distinguishes between cases which are specified for a certain interpretation and those which are not (NI). Of the interpretive specifications, (at least) the following categories are recognized: definite (DNI), indefinite (INI), generic (GNI), and identity-of-sense (ISNA) null instantiation. The difference between this categorization and the traditional CxG view is illustrated in Figure 1.

On the traditional view, FNI is a subtype of null instantiation, a kind of interpretation on a par with the other types. On the present view, however, NI in general is unspecified for interpretation. It can receive specific readings in certain constructions and, of course, in specific constructs, but it can also remain unspecified in some constructions.

One fundamental aspect, but easily overlooked in this context, is the distinction between constructions and the constructs that instantiate them. Specific instances may well have a DNI, GNI, INI, or ISNA reading, even if the licensing construction is unspecified for NI interpretation. More to the point, this also applies to the hierarchical relations among the constructions themselves. A striking pattern is that more general null instantiation licensing constructions are unspecified for

26. In the case of ISNA, at least the type illustrated in (1d) above seems to be constructionally licensed, by a noun phrase construction consisting of a determiner and an implicit nominal. Possible instantiations of the determiner role include cardinals and quantifiers such as *many*, *several*, and *any*:

- (i) *She shot four birdies today, and I shot two* ____.
- (ii) *I would give you one* ____ *but I don't have any* ____ *in stock*.

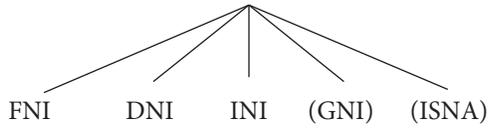
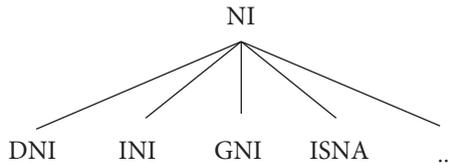
I. *Traditional view:*II. *Present proposal:*

Figure 1. Two null instantiation taxonomies

interpretation; specific interpretations emerge in interaction with other constructions, and may be conventionalized as more specific null instantiation constructions. Thus, infinitives and gerunds *as general types* license NI subjects, whereas e.g. adverbial gerunds are specified for DNI and *tough* constructions for GNI (and verb complements for coinstantiation).

To conclude, unspecified NI is not just another name for FNI, it is a superordinate notion. The FNI label is meant to account for a subset of null instantiation phenomena, whereas NI applies to the category as a whole. And there is no need to assume FNI for more specific NI constructions that are unspecified for interpretation, such as implicit Agents in passives, since NI is applicable regardless of the level of abstraction.

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Author's address

Benjamin Lyngfelt
Dept. of Swedish
P.O. Box 200
University of Gothenburg
SE-405 30 Gothenburg
Sweden
benjamin.lyngfelt@svenska.gu.se