

Copula deletion in Irish-acquiring children: implications for the Tense-Bearing Unit Parameter

Ian Clayton, May 1, 2008

1. Introduction

The verb-initial nature of Irish finite clauses has received a considerable amount of attention in the literature of comparative syntax in the last several decades (Awbery 1976; McCloskey 1979; McCloskey 1996; Doherty 1996; Carnie 1993; Carnie, Harlie, and Pyatt 1994, *inter alia*). From this discussion a consensus has emerged, rejecting the earliest flat-structure proposals of McCloskey (1979) and Stenson (1981), and embracing instead the hypothesis that the finite verb raises to its initial position from an underlying SVO structure. The verb-raising hypothesis offers the advantages of conforming to the modern program in generative syntax of eliminating language-specific phrase structures, as well as expressing more concisely other facts of the behavior of the Irish verb.

Despite this consensus, a thorny problem has remained. Irish possesses two “be” verbs, traditionally referred to as the substantive and the copula. The substantive is illustrated in (1), and the copula in (2):

- (1) Tá sé sásta (S)
 be(Pres) he(nom) satisfied
 “He is satisfied”
- (2) Is Éireannach é (C)
 cop(Pres) Irishman he(acc)
 “He is an Irishman”

While the syntax of the substantive verb is for all intents and purposes similar to that of other lexical verbs in Irish, the copula is anomalous in several respects. The copular clause in (2) differs from the typical Irish main clause in two respects: it is subject-final, and its subject is in accusative case. The copula is distinguished from the substantive and other lexical verbs in

several other ways, including its licensing of resumptive pronouns, and its inseparability from the predicate or complement phrase. These facts will be discussed in greater detail in §3. In aggregate, however, the idiosyncratic nature of the copula has prompted researchers to analyze its syntax differently from that of lexical verbs, including the substantive.

Notable among these analyses are Doherty (1996) and Carnie (1993). Both works agree that the substantive is a lexical verb generated in V and undergoing subsequent movement, while the copula is a functional head generated in T (or I); the analyses differ in their accounts of the copula's idiosyncrasies. Doherty (1996) proposes that in copular clauses, the specifier of IP is right-branching, yielding subject-final order; accusative case results from the subject's inability to be governed from I, necessary for subjects to receive nominative case (McCloskey 1996). Moreover, only individual-level predicates are licensed in copular clauses, Doherty asserts, because stage-level predicates require an external spatiotemporal Davidsonian argument; since the external argument position in copular clauses is occupied by the subject, stage-level predicates are unavailable to the copula.

Carnie (1993), by contrast, suggests no unique structure for copular clauses. Rather, by his analysis, their unique properties arise through the ability of individual-level predicates to bear tense features, allowing them to undergo verb-like head movement, yielding subject-final order, while stage-level predicates require an auxiliary verb to bear these features. Moreover, Carnie suggests an extension to the Obligatory Case Parameter (Bobaljik 1993), such that copular clauses have an active AgrO, causing copular subjects to raise to this position and receive accusative case, instead of raising to AgrS and receiving nominative case.

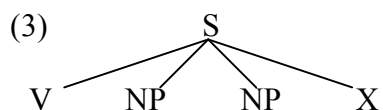
Carnie's analysis is preferable on two counts: first, it is the more parsimonious than Doherty's, since it requires no distinct clausal structure like Doherty's right-branching spec of

IP. Second, Carnie's proposal is better able to explain differences in the phonological behavior of the copula and the substantive. A corpus study of utterances made by Irish-acquiring children, reported in this paper, indicates that the copula may be phonologically unrealized at a much greater rate than the substantive. If the substantive is required by the Tense-Bearing Unit parameter to bear the tense features of stage-level predicates, it is not surprising that it should undergo deletion much less frequently than the copula.

This paper proceeds as follows. In §2, I illustrate analyses of Irish VSO clausal structure. In §3, problematic features Irish copular clauses are discussed, and two competing analyses of the Irish copula are presented: Doherty (1996) and Carnie (1993). In §4, the corpus study of copula and substantive use in Irish-acquiring children is described, and the relevance of its results to these two competing analyses are considered. Finally, key points of these analyses are summarized in §5.

2. *Deriving VSO structure*

Early assumptions were that the VSO constituent ordering of Irish could be attributed to a flat structure as in (3) (Stenson 1981, McCloskey 1979):



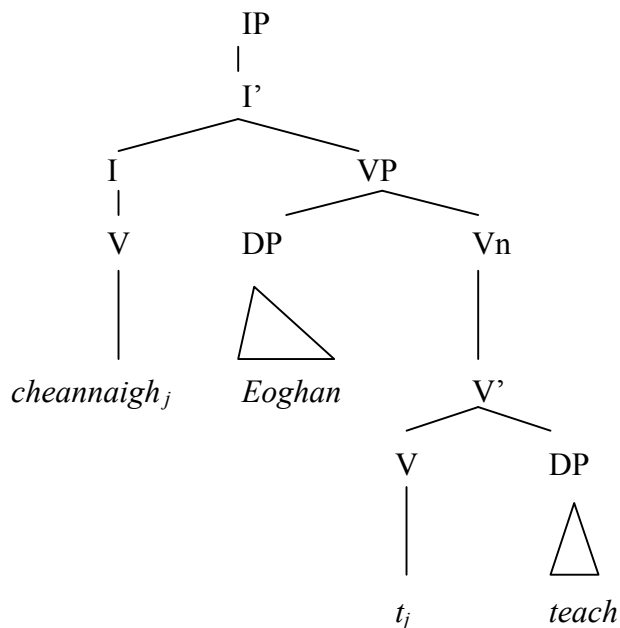
However, this proposal was quickly abandoned, in the face of both theoretical advances and empirical evidence. Stowell (1981) and Chomsky (1981) urged the elimination of language-specific phrase structure rules; there was little place for such rules in a theory intended to be broadly crosslinguistically descriptive; the emphasis came to be placed on the derivation of variation in individual languages through the permutation (parameterization) of universal principles of phrase structure. Furthermore, empirical evidence mounted against statements like

that in Stenson (1981), “the notion ‘verb phrase’ as a syntactic category is meaningless for Irish” (p. 41), asserting the unique nature of the Irish clause. Examples such as the following cleft sentence in (4) demonstrate that there is indeed a constituent VP in Irish (from McCloskey 2007):

- (4) Ag magadh orm a bheadh siad.
 mock.prog on-me C be.cond they
 “It’s mocking me that they’d be.”

An alternative analysis was proposed, in which the verb-initial order could be derived through verb fronting: raising the verb from V to I. Originally proposed for Welsh, a VSO Celtic language like Irish, in Sproat (1985), this analysis was extended to Irish in Chung and McCloskey (1987), essentially as follows:

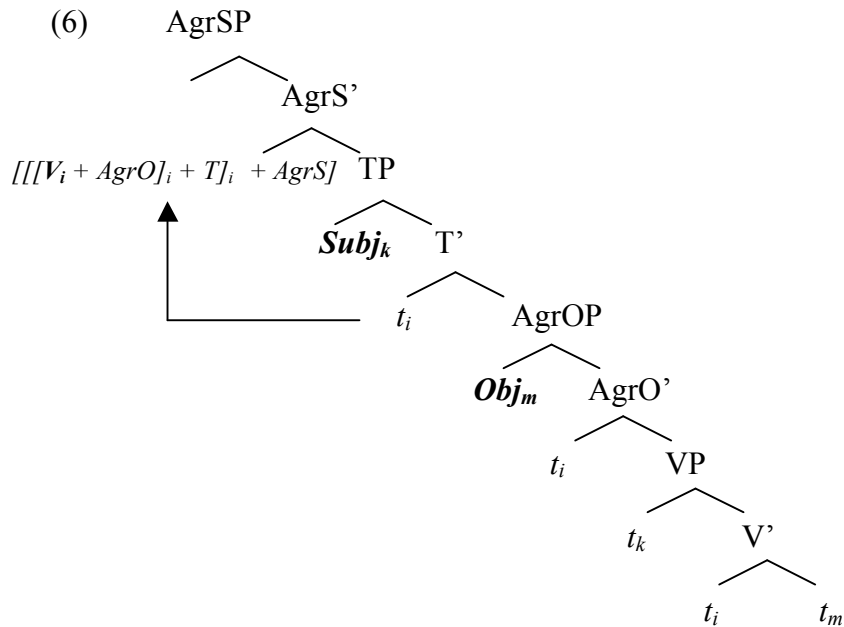
- (5) Cheannaigh Eoghan teach
 bought Eoghan house
 “Eoghan bought a house”



In this analysis, the Irish clause is essentially the same as the English one: SVO in its basic form. The crucial difference between the two is that the English subject must additionally raise to spec of IP, rather than remaining within the complement of I as in Irish.

McCloskey (1991, after Koopman and Sportiche 1988), proposes that this difference in subject position follows from two possible sources of nominative case assignment: SPEC-HEAD agreement with AGR, or government from AGR: a parametric variation. If English permits only the former, then the subject must raise to the specifier of IP to check case; Irish, on the other hand, permits only the latter, thus the subject remains in situ to permit government.

A variant proposal is provided in Carnie (1993) and Bobaljik and Carnie (1996), echoed in Guilfoyle (2000), employing the articulated form of Infl proposed in Pollack (1989). By Pollack's analysis, Infl may be broken down into a set of inflectional heads; according to Chomsky (1991) these heads should include AgrS(ubject), T(ense), and AgrO(bject). Chomsky (1993) further proposes that each of these heads has both Nominal and Verbal features, which may be strong or weak. Three head-to-head movements are required to achieve VSO in Irish (Bobaljik and Carnie 1996): T to AgrS, V to AgrO, and [V + AgrO] to AgrS. Should the V feature of T be weak, spec of TP is licensed as a subject position (as in Irish); should it be strong, as in French or English, the verb raises overtly to this position, making it unavailable for the subject. Conversely, should the N feature of the head AgrS be strong, the subject must raise to spec of AgrS (as in French or English). But in Irish the V feature of AgrS is strong, and the N feature weak, entailing that the verb raise to this position, while the subject remains in spec of TP. The result is VSO order. These facts are illustrated in (6) (after Bobaljik and Carnie 1996):



The principle of shortest move provides that subjects of intransitive sentences may raise only to AgrO, and hence show accusative case, as in ergative languages. But this scenario is not possible in some languages, including Irish (except for copular clauses; see below). Chomsky (1993) reformulates the Extended Projection Principle in order to account for this problem. His proposal is that in single-NP clauses, either AgrS or AgrO may be set to Active; the subject NP will raise to the active position. In nominative/accusative languages like Irish or English, AgrS is active, prohibiting accusative case on subjects of intransitive clauses; in absolutive languages, AgrO is active, accounting for identical case marking on subjects of intransitive clauses and objects of transitive ones.

3. Two competing analyses: Doherty (1996) and Carnie (1993)

However, this analysis is problematic when it comes to the Irish copula, due to its idiosyncratic behavior. The copula is unlike the substantive and other lexical verbs in numerous respects. For instance, copular clauses are subject-final, and their subjects display accusative case, as in (2), reproduced in (7):

- (7) Is Éireannach é (C)
 cop Irishman he(acc)
 “He is an Irishman”

Additionally, copular clauses permit resumptive pronouns; the copula is thus exempt from the Highest Subject Restriction¹; other verbs, including the substantive, are not (examples from Doherty 1996 except where noted):

- (8) An fear ar dochtúir é
 the man comp.cop doctor he(acc)
 “The man who is a doctor”
- (9) *An fear a raibh sé breoite
 the man that subst.past he(nom) ill
 “The man that was ill”
- (10) An fear a bhí t breoite
 the man that subst.past ill
 “The man that was ill”

For these reasons, the account of head-movement illustrated in (6) is inapplicable to the Irish copula. In §3.1, I will outline the arguments presented in both Doherty (1996) and Carnie (1993) that, rather than a lexical verb, the copula is a functional head. In §3.2, I will illustrate the analysis of copular clauses presented in Doherty (1996), and in §3.3, a competing solution offered in Carnie (1993).

3.1 The copula is a functional preverbal particle, not a verb

Rather than a lexical verb, with behavior like that illustrated in (6), both Carnie (1993) and Doherty (1996)² propose that the copula is instead a functional element. Considerable

¹ “A resumptive pronoun may not appear in the highest subject position of a CP which contains the operator which binds it” (McCloskey 1996, p. 252).

² Originally published as Doherty, C. 1992. Clausal structure and the modern Irish copula. *Syntax at Santa Cruz* Vol. 1. Carnie (1993) is partly positioned as a response to this very similar earlier version of Doherty’s paper.

evidence is marshaled in favor of this view, in line with Abney's (1987, pp. 43-44) list of properties which distinguish functional elements from lexical ones:

- a. Functional elements constitute closed lexical classes:
- b. Functional elements are generally stressless, and may be phonologically null, clitics, or affixes.
- c. Functional elements may be inseparable from their complements.
- d. Functional elements lack descriptive content, instead marking grammatical or relational features.
- e. Functional elements permit a single complement.

(Condensed from Abney 1987)

The Irish copula may be readily demonstrated to possess the first four of these features:

a) it is unique in Irish, insofar as no other morpheme shares its behavior and function; it is also morphologically defective, in the affirmative exhibiting only two forms: present/future *is* and past/conditional *ba*, unlike the substantive which like other lexical verbs is fully inflected for all persons and tenses; b) it possesses the clitic variants *is é* > [je:] and *ab é* > [b'e:] (Ó Siadhail 1989), and is also regularly omitted in speech (Lucas 1979; Ó Siadhail 1989; §4 this study), when unmarked for tense, negation, or interrogative. In (11), parentheses delimit the material that may optionally be deleted:

- (11) (Is) as Carraig Airt é
 (Cop.pres) from Carrigart him.acc
 "Bríd is my wife"

Further, c) the copula may not be separated from an associated predicate, as by an adverbial (from Doherty 1996):

(12) Is dochtúir é cinnte.
Cop doctor he(Acc) of course

(13)*Is cinnte dochtúir é
Cop of course doctor he(Acc)
“He is a doctor, of course”

It is apparent, then, that d) the copula is little more than a vehicle for features of tense, negation or mood.

To the above arguments that the Irish copula is Infl (in contrast to the substantive, which must instead be analyzed as a lexical V), Doherty adds the following. First, the copula lenites a following word in the past/conditional; any lexical verb in the past conditional is also lenited. Past/conditional lenition may thus be taken to be a property of Infl. Second, both Carnie and Doherty point out that the copula does not occur independently in the presence of interrogative and negation particles, unlike lexical verbs; rather, the copula exhibits suppletive negative, interrogative, and dependent forms.

(14) Is dochtúir é
cop doctor he.acc
“He is a doctor.”

(15) An dochtúir tú
Cop.int doctor you.acc
“Are you a doctor?” (Carnie 1993)

(16) Chan sasanach é
Cop.neg Englishman he.acc
“He is not an Englishman”

Doherty falsifies the fifth feature of functional elements with respect to the Irish copula, that they permit a single complement. The copula actually admits a range of complements in addition to DP's, including a lexically specified subset of adjectives and prepositions (see Doherty 1996 §4.1 for an exhaustive list of these):

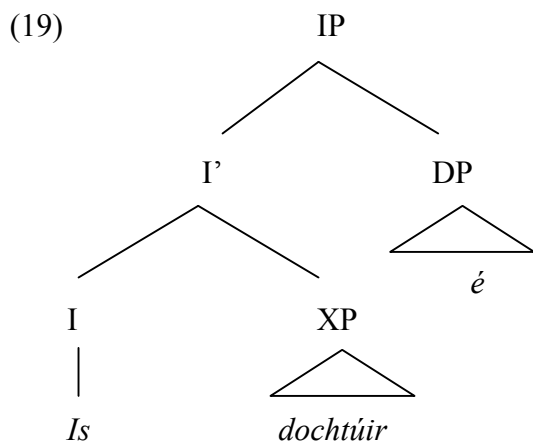
(17) Is aisteach agus is iontach bealaigh Dé
 cop strange and cop wonderful ways God.gen
 “The ways of God are strange and wonderful”

(18) Is le Máire an carr sin
 cop with Máire the car that
 “That car is Máire’s”

Yet the copula is unproductive with AP’s and PP’s beyond this small number of exceptions, and the remaining evidence that the copula is a functional inflectional element is persuasive.

3.2 Doherty (1996): copular subjects as right-branching specifiers of IP

Since the structure in (6) is unsuitable for copular clauses, Doherty (1996) proposes an alternative structure: an IP with a right-branching specifier occupied by the subject DP and “an unsaturated predicative XP” (Doherty 1996, p. 14).



Right-branching specifiers are not without precedent in Irish: possessors are similarly positioned, as in (20).

(20) [xp [x' teach] Sheáin]
 house Sean's
 “Sean’s house”

This structure accounts straight-forwardly for the accusative case of copular subjects as well, Doherty asserts. According to McCloskey (1991), nominative case in Irish can only be assigned through government from I. The structure in (19) does not allow for such government. The

presence of accusative case instead can be explained through a default assignment of accusative case to those NP's without a case assigner, including copular subjects and subjects of non-finite clauses. Finally, Doherty illustrates that the proposed structure is consistent with Binding Theory requirements that subjects c-command their reciprocals, as in (21) and (22):

(21) Is cosúil lena chéile iad
 cop like with.each-other them.acc
 “They are like each other.”

(22) *Is cosúil leo a chéile
 cop like with.them each-other
 “Each other is like them.”

It has frequently been noted in the literature on Irish that, in addition to their syntactic differences, an important semantic distinction obtains between sentences employing the copula and those employing the substantive (Ó Siadhail 1989). Traditionally, this is described in terms of the semantic content of the predicate: copular sentences admit only predicates that identify the subject or link it with a permanent state or attribute, while predicates describing a temporary or transient state of affairs are not admitted by the copula. The copula is only fully productive with nominal predicates, as in (23) and (24); examples from Doherty (1996):

(23) Is teach galánta é seo.
 cop house nice this
 “This is a nice house.”

(24) Is éan smólach
 cop bird thrush
 “The thrush is a bird.”

Further, all the members of the small and closed set of adjectives that may appear in copular constructions refer to permanent properties or states, as in (25) and (26):

(25) Is ionnan an dá rud
 cop equivalent the two thing
 “The two things are equivalent.”

- (26) Is greannmhar thú
cop funny you.acc
“You are funny.”

Sentences employing the substantive, on the other hand, are less discriminating, but show a clear preference for non-permanent, transient predicates. Compare (27), in which the state of manhood is simply stated as fact, with (28), which stresses the passage into the condition of manhood.

- (27) Is fear é
cop man he.acc
“He is a man.”
- (28) Tá sé ina fhear (anois)
subst he in-his man now
“He is a man now.”

The contrasting semantics of the two types of predicate have been cast in terms of “individual-level” and “stage-level” predicates by Carlson (1977), Diesing (1989), and Kratzer (1989); individual-level predicates refer to properties that hold of an individual object or entity, while stage-level predicates hold of a point or stage in time—the former are thus stable, while the latter are transient.

Several researchers have suggested that these contrasting semantic categories have direct or indirect effects on the syntax. Diesing (1989) argues that the syntactic differences between the copula and the substantive proceed directly from their differing semantics: the subjects of individual-level predicates manifest in the specifier of IP, and are thus ungoverned, while the subjects of stage-level are realized internally to the complement of I (“Diesing’s Conjecture”: Kratzer 1989, Doherty 1996). This proposal is partly consistent with Doherty’s analysis of the Irish substantive and copula—subjects of the substantive, like all lexical verbs, are realized within the VP, and that of the copula in the spec of IP. Diesing suggests that the differing syntax

arises from two types of I. One of these is able to assign a theta role to the specifier of IP, meaning “has the property x” (Doherty 1996, p. 42), and hence corresponding subjects—those of individual-level predicates—are realized there. The other assigns no such theta role, and so its subjects must be realized VP-internally. Problematically, of course, this distinction does not map well onto the facts of Irish, because as we have seen, the substantive verb is also able to admit individual-level predicates—whose subjects must originate VP-internally. Doherty thus rejects Diesing’s theta-role assignment argument as explanatorily inadequate in the case of Irish.

An alternative and, to Doherty, more acceptable hypothesis is offered in Kratzer (1989). Kratzer suggests that stage-level predicates possess an external Davidsonian argument for spatiotemporal location. Hence, the external argument position is unavailable for the realization of the subject, which must then be realized as an argument internal to the maximal projection of the predicate. Conversely, subjects of copular predicates, which must be unsaturated as noted above, cannot be realized predicate-internally, and must be realized in the unfilled external argument position. This proposal permits that individual-level substantive predicates may still have internally realized subjects, unlike in Diesing’s proposal, and Doherty therefore finds it the superior hypothesis.

3.3 Carnie (1993): absolute subjects and the Tense-Bearing Unit parameter

Carnie (1993) presents an alternative analysis in which he argues that the distinction between the copula and the substantive is based on the ability of individual-level nominal predicates to bear Tense features; the presence of such a feature on predicate nominals allows them to undergo head-raising (presumably to T), where the Tense feature is realized as the copula, which crucially he considers non-verbal like Doherty. In all other predicates, including

nominal predicates with a stage-level reading, a verb (which may be the otherwise semantically null substantive) bears the tense features.

Carnie presents his proposal in part as a rebuttal of Doherty's (1996) proposal, outlined above; unfortunately, its effectiveness as a rebuttal is undermined by Carnie's excessively strong interpretation of Doherty's position vis-à-vis Diesing's Conjecture. Carnie stresses that the choice between the copula and the substantive cannot follow directly from the predicate's status as stage-level or individual-level, since while the copula admits only individual-level predicates, the substantive crucially admits predicates of both types. Doherty, however, does not claim that the choice can be made on such grounds--he explicitly rejects this suggestion; instead, he uses the very argument Carnie presents to argue in favor of Kratzer's analysis at the expense of Diesing's.

Nevertheless, Carnie's analysis differs sharply from Doherty's, and may be preferable on economic grounds, since it does not entail a copula-specific predicate structure, unlike Doherty's right-branching IP. Instead, it builds on the basic structure illustrated in (6) for non-copular clauses. Carnie's essential insight is that, if one views the copula as a non-verbal particle of the same category as the question particle *ar*, the past negative particle *níor*, and other particles, then clauses with nominal predicates have a structure very similar to that of clauses with verbal predicates, as illustrated in (29) and (30) (examples from Carnie 1993 unless noted):

(29) Cop + predicate nominal + subject
Níor dochtúir é
cop.neg.past doctor he.acc
"He was not a doctor"

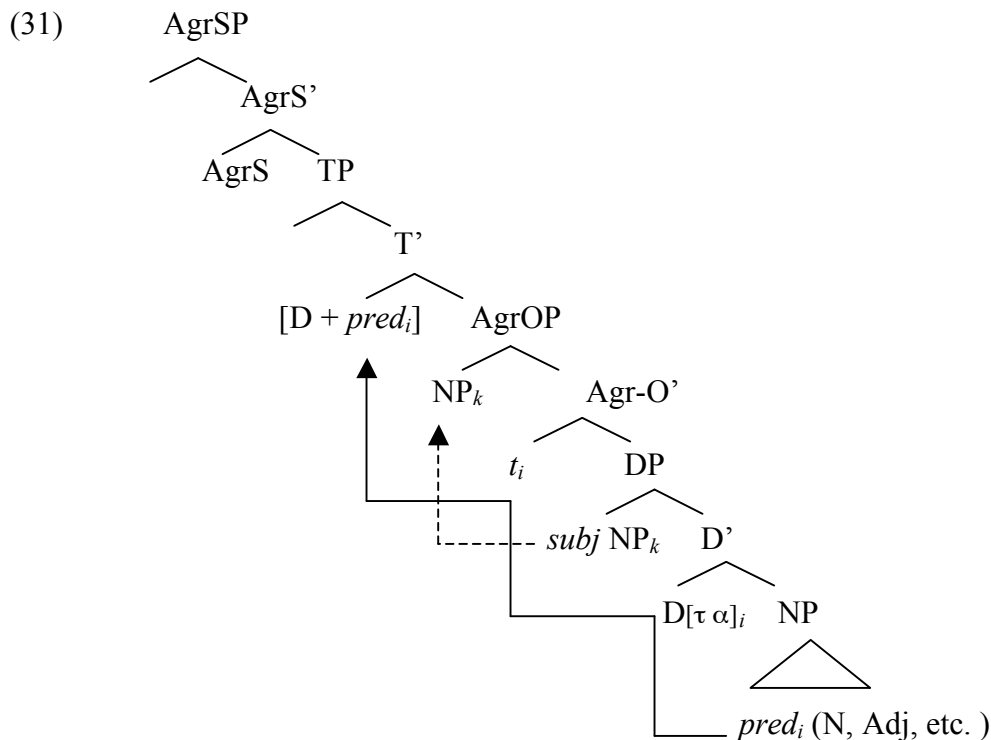
(30) Particle + verbal predicate + subject (+ object)
Níor thóg Seán an teach
neg.past built Sean the house
"Sean did not build the house"

Given the similarity between copular and non-copular clauses in the ordering of their elements, Carnie suggests that both can be derived in the same fashion: through head movement of the predicate to an Agr position, as illustrated in (6) for lexical verbs. The critical question is why nominal predicates should be allowed to undergo head movement in Irish. Carnie proposes what he calls the *Tense Bearing Unit Parameter*, which stipulates whether nominal predicates require the support of auxiliary verbs to bear tense features, or can instead bear these features themselves. English and French are examples of languages in which this parameter is off: nominal predicates require auxiliary support; in Hebrew, the parameter is fully on, since no auxiliary is ever required; while in Irish, the parameter is set to require auxiliary support only for stage-level nominal predicates, explaining why such predicates can appear with the substantive (a lexical auxiliary verb) but not with the copula.

Carnie (1993) also offers a distinctly different explanation for the accusative shown by copular subjects than that presented in Doherty (1996). Recall that McCloskey (1991) suggests that nominative case in Irish can only be assigned through government from I; since, under Doherty's proposal, copular subjects are realized in spec of IP, they cannot receive nominative case, and must receive default accusative case instead. However, Carnie asserts that subjects receive accusative case by an altogether different means. He proposes an extension to the Obligatory Case Parameter (Bobaljik 1993), such that the parameter refers to tense and aspect features. Drawing on an observation in Ó Sé (1990) that the tense shown in Irish nominal predicates is in fact realis/irrealis, in contrast to the past/nonpast on other predicates, Carnie suggests that predicates with a realis/irrealis feature project inflection with an active AgrO (yielding what is in effect absolutive case), while others project an active AgrS, yielding nominative case. This is roughly comparable to the situation in Hindi/Urdu, in which

ergative/absolutive case marking appears only in perfective tenses, while all others show nominative/accusative.

Carnie’s proposal is illustrated in (31): the predicate NP (or AP) raises through D, where it incorporates with D; this complex head then raises through AgrO to check its agreement feature, and then to T to check tense; meanwhile, the NP specifier of the predicate DP raises to the specifier position of AgrO, where it receives accusative case.



4. Relative rates of substantive and copula deletion favor Carnie’s analysis

A key proposition in Carnie (1993) is that a Tense-Bearing Unit Parameter (TBU) is responsible for the distinction between stage-level and individual-level predicates. In Irish, the TBU stipulates that auxiliary support is required to bear tense features of stage-level predicates, but not those of individual-level predicates, which can bear those features themselves. An implication of this suggestion is that the copula, as an occupant of Infl, is practically superfluous; as such, it should be amenable to deletion, while the substantive should not be—at any rate, not

if associated with stage-level predicates. A look through several references reveals that the copula is indeed subject to frequent deletion (Doherty 1996, Lucas 1979, Ó Siabhail 1989), particularly in less formal utterances. The same search found no mention that the substantive was equally subject to omission, which is not surprising if the substantive is required by the TBU parameter to bear tense features.

Nevertheless, it would be desirable to empirically confirm that there is a significant difference in obligatoriness between the copula and substantive, ideally through analysis of a corpus of Irish native speaker utterances. The remainder of §4 describes a corpus study of utterances made by Irish-acquiring children, aged 1;7.4 – 2;9.10, which searched for instances of copula and substantive omission. The study found that the copula is indeed deleted at a much greater rate than the substantive: between 67 and 93 percent of instances for the former (depending on the speaker), while the substantive was omitted only 6-31% of possible instances.

4.1 The corpus

The analysis was conducted using five transcripts available from the CHILDES database (MacWhinney 2000). The transcripts constitute the Irish component of the downloadable Celtic datasets, and were collected in 1992 by Eithne Guilfoyle, then of the University of Calgary. Each transcript contains spontaneous utterances produced by the target child(ren) in a single recording session, averaging 45 minutes in length; the researcher and a parent were present during the recording. Six children are represented in the transcripts: four of the transcripts are of individual children, while the fifth transcript contains utterances from two children, who are twins. Sex and age information for each child at the time of recording is summarized in Table 1. The transcripts include all utterances made by the individuals participating in the recording session. Transcripts were prepared and cross-checked by native Irish speakers, and each utterance is provided with an

English translation. In addition, the target child's utterances are analyzed on a morpheme (*%mor*) tier. Notes concerning English transfers and similar matters of interest are provided for the children's utterances. All of the participants were acquiring the Irish language natively. However, the parents of all six are bilingual Irish/English speakers, and all six children do employ occasional English words.

4.2 Calculating MLU

A mean length of utterance was calculated for each child based on words per utterance (MLU_w), rather than by morphemes (MLU_m) as is usual for English-speaking children. According to Hickey (1990), there is 99% correlation between the MLU_m and MLU_w of her Irish-acquiring informants (3 Irish-acquiring children of ages similar to those in my study). Using a similar method to calculate MLU here facilitates comparison between the two studies, as well as permitting the calculation to be automated with simple software. Among the six children in this study, MLU correlated strongly with age, with the exception of precocious Ronán, whose MLU was the highest at 2.4, though he is the second youngest (2;1.0). MLU_w figures for the six participants in this study are provided in Table 1.

4.3 Methods

In order to evaluate the participants' competence in basic Irish word order, I examined all the multi-word utterances produced by the children recorded in the transcripts. The number of analyzed multi-word utterances is provided in Table 1 below. I included only those multi-word utterances that seemed sentence-like, with identifiable subjects and predicates; utterances that appeared disjointed were not analyzed. I counted only unmarked instances of the copula and substantive, ignoring negative, interrogative, habitual, and other marked forms: Ó Siadhail notes that "the copula may not normally be deleted when marked for mood, tense, negation, [or]

interrogation” (1989, p. 244). Nor did I include those utterances whose structure was unclear due to gaps or inaudibilities reflected in the transcript. In all, there were approximately 1300 child utterances (both single- and multi-word) within the transcripts. I coded for the position of verb, subject, and predicate (objects, subject complements, adverbials), and noted where constituents such as object or verb were expected but missing. I did not rely on the morphological analysis provided with the transcript; first, because it did not contain all the information I needed, and second, because there seemed to be sufficient errors and inconsistencies therein as to render it unreliable.

Table 1. Study Participants

Child	Sex	Age	MLUw	Utterances	Multiword
Cai	F	1;7.04	1.12	158	18
Seán	M	2;5.15	1.2	126	14
Mai	M	2;5.3	1.44	237	120
Ciarán	M	2;9.10	1.97	217	96
Laoise	F	2;9.10	1.95	139	55
Ronán	M	2;1.0 ³	2.4	381	195

4.4. Results and discussion

My analysis confirmed that affirmative forms of the copula are much more susceptible to deletion than those of the substantive: leaving aside one child’s utterances, the substantive was realized in 69-94% of available contexts (depending on the speaker), while the copula was realized much less frequently, ranging from 7-33% of available contexts (Table 2).⁴

³ This child’s age is incorrectly stated as 1;7.04 in the transcript.

⁴ Hickey (1990) does find a much higher degree of substantive omission in her subjects—15-70% (1;4 – 2;0) in one child, and 27 – 80% (1;10 – 2;3) in the second; she does not report figures for the third on this topic. I am unable to explain the sharp difference in our respective outcomes from her discussion, without examining her data.

The exception, Cai, produced no copulas, nor did any of her utterances contain identifiable contexts in which a copula would normally be expected; she did produce two utterances that appeared to have deleted substantives. She produced a number of solitary noun phrases of the labeling sort (*an teach* “the house,” *caipín mór* “big cap”). Since her MLU was the lowest at 1.12, we may be able to attribute these facts to her level of acquisition; similarly, Sean has very low production of substantive and copular environments. Not until an MLU of 1.44 (Mai) does a large number of such environments begin to appear in the children’s utterances. There does not otherwise seem to be any correlation between rate of copula or substantive deletion on the one hand, and age or MLU on the other.

Table 2 Freq. of Substantive and Copula

<i>Child</i>	<i>Age</i>	<i>MLU_w</i>	<i>Subst #</i>	<i>Subst freq %</i>	<i>Cop #</i>	<i>Cop freq %</i>
CAI	1;7.4	1.12	0/2	0	n/a	n/a
SEA	2;5.15	1.2	4/5	80	0/1	0
MAI	2;5.3	1.44	19/26	73	1/14	7
CIA	2;9.10	1.97	16/17	94	3/9	33
LAO	2;9.10	1.95	14/16	87.5	2/9	22
RON	2;1.0	2.4	20/29	69	1/11	9

While it may at first be tempting to attribute this frequent deletion of the copula and substantive to incomplete acquisition or other factors related to the young age of the subjects, evidence indicates that the children are actually closely following adult practice. Hickey (1990) reports that frequency of the substantive in adult input ranges from approximately 80-95% in her longitudinal study of 3 Irish-acquiring children. Substantive omission in the six children in my study does not depart substantially from that number. (Unfortunately, she does not provide separate figures for copula use either in the children she studies or their adult input.)

This corpus study has illustrated that while both the substantive and the copula are subject to deletion, the copula has by far the greatest propensity for such deletion. This may be

taken as evidence in favor of the proposal in Carnie (1993) that nominal predicates which in Irish are nearly always associated with the copula, are permitted by the Tense-Bearing Unit parameter to bear tense features; hence, an overtly realized copula is practically redundant, unless marked for negation, interrogative, or other non-affirmative function.

5. Conclusions

Doherty (1996) and Carnie (1993) present convincing evidence that the Irish copula must be analyzed as a functional head bearing tense features, unlike the Irish substantive, which must be analyzed as a lexical verb. This distinction accounts for the important differences in behavior and distribution of these two ‘be’ verbs. Notably, copular clauses are subject-final and their subjects exhibit accusative case, while substantive clauses display canonical Irish VSO word order and nominative subjects. Moreover, there is an important semantic distinction between copular and substantive predicates: the copula virtually exclusively licenses identifying predicates or those referring to stable, permanent qualities of their subjects (“individual-level” predicates), while the substantive typically selects other types of predicates (“stage-level”), though it may select a small range of individual-level predicates as well.

The two authors differ, however, on their explanations for these distinctions. Doherty (1996) proposes that, unlike other clauses in Irish, the copular subject is a right-branching spec of IP, thus placing it in final position. Crucially, the subject is ungoverned by I in this position, and therefore cannot be assigned nominative case; accusative case is assigned by default. Doherty’s proposal analysis is roughly in line with Diesing’s Conjecture (1989): subjects of individual-level predicates are realized in the spec of IP, while subjects of stage-level predicates are realized within the complement of I.

Carnie (1993), on the other hand, proposes no structure unique to copular clauses. Rather, he argues that the copula is a non-verbal particle that occupies the same position as other particles in Irish (T). The semantic distinction between individual-level and stage-level predicates depends on the ability of the former to bear tense features (as shown by their ability to undergo head movement); the latter, by contrast, require the presence of an auxiliary to bear these features (the Tense-bearing Unit parameter). Carnie further explains the accusative case shown by copular subjects through an extension to the Obligatory Case Parameter (Bobaljik 1993), such that copular clauses have an active AgrO, causing subject NP's to raise to this position instead of AgrS.

Finally, patterns of copular and substantive deletion suggest that Carnie's analysis has greater explanatory power. Analysis of a corpus of utterances of Irish-acquiring children finds that rates of copula deletion far outstrip those of substantive deletion. If the Tense-Bearing Unit parameter requires that stage-level predicates have auxiliary support to bear tense features, but not individual-level predicates, then the substantive must be (near) obligatory in the former, but the copula optional in the latter; Carnie (1993) is thus able to explain aspects of the copula's phonological behavior which Doherty (1996) cannot specifically address.

References

- Abney, S. 1987. *The English noun phrase in its sentential aspect*. Unpublished Ph.D. dissertation, MIT, Cambridge, Mass.
- Awbery, G. 1976. *The syntax of Welsh: a transformational study of the passive*. Cambridge: Cambridge UP.
- Bobaljik, J. 1993. On ergativity and ergative unergatives. In *MIT working papers in linguistics 19*. Cambridge, Mass.: MIT, Department of Linguistics and Philosophy, MITWPL.
- Bobaljik, J. and Carnie, A. 1996. A minimalist approach to some problems of Irish word order. In R. Borsley and I. Roberts (eds), *The syntax of the Celtic languages*. Cambridge: Cambridge UP. 223-240.
- Carlson, G. 1980. *Reference to Kinds in English*. Ph.D. dissertation, MIT. New York: Garland.

- Carnie, A. 1993. Nominal predicates and absolutive Case marking in Irish. In *MIT working papers in linguistics 19*. Cambridge, Mass.: MIT, Department of Linguistics and Philosophy, MITWPL, 89-129.
- Carnie, A., Harley, H., and Pyatt, E. 2000. VSO order as raising out of IP? Some evidence from Old Irish. In A. Carnie and E. Guilfoyle (eds), *The syntax of verb initial languages*. Oxford studies in comparative syntax. Oxford: Oxford UP. 39-60.
- Chomsky, N. 1981. *Lectures on government and binding*. Foris: Dordrecht.
- Chomsky, N. 1991. Some notes on economy of derivation and representation. In R. Friedin (ed), *Principles and Parameters in comparative grammar*. Cambridge, Mass.: MIT Press. 417-454.
- Chomsky, N. 1993. A minimalist program for linguistic theory. In K. Hale and S. Keyser (eds), *The View From Building 20*. Cambridge, MA: MIT Press. 1-49.
- Chung, S. and McCloskey, J. 1987. Government, barriers and small clauses in Modern Irish. *Linguistic Inquiry* 18, 173-237.
- Diesing, M. 1989. Bare plural subjects and the Mapping to LF. *Papers on Quantification*, NSF Grant Report, University of Massachusetts, Amherst.
- Doherty, C. 1996. Clausal structure and the modern Irish copula. *Natural Language & Linguistic Theory* 14, 1-46.
- Guilfoyle, E. 1992. Irish-Guilfoyle: transcripts of interviews with Irish-acquiring children. Accessed April 28, 2008, from the CHILDES database: <http://childes.psy.cmu.edu/data/Celtic/>
- Guilfoyle, E. 2000. *Tense and N-features in Modern Irish*. In A. Carnie and E. Guilfoyle (eds), *The syntax of verb initial languages*. Oxford studies in comparative syntax. Oxford: Oxford UP. 61-74.
- Hickey, T. 1990. The acquisition of Irish: a study of word order development. *Journal of Child Language* 17, 17-41.
- Hickey, T. 1991. MLU and the acquisition of Irish. *Journal of Child Language* 18, 553-569.
- Koopman, H. and Sportiche, D. 1988. *Subjects*. Unpublished ms., University of California, Los Angeles.
- Kratzer, A. 1989. Stage-level and individual-level predicates. *Papers on quantification*. NSF Grant Report, University of Massachusetts, Amherst.
- Lucas, L. 1979. *A grammar of Ros Guill Irish, County Donegal*. Belfast: Institute for Irish Studies, Queen's University of Belfast.
- McCloskey, J. 1979. *Transformational syntax and model theoretic semantics: A case study in Modern Irish*. Dordrecht, the Netherlands: Reidel Publishing Company.
- McCloskey, J. 1991. Clause structure, ellipsis and proper government in Irish. *Lingua* 85, 259-302.
- McCloskey, J. 1996. On the scope of verb movement in Irish. *Natural Language & Linguistic Theory* 14, 47-104.
- MacWhinney, B. (2000). *The CHILDES project: Tools for analyzing talk*. Third Edition. Mahwah, NJ: Lawrence Erlbaum Associates.
- Ó Se, D. 1987. The copula and preverbal particle in West Kerry Irish. *Celtica* 19, 98-110.
- Ó Siadhail, M. 1989. *Modern Irish: grammatical structure and dialectal variation*. Cambridge: C.U.P.
- Pollack, J-Y. 1989. Verb movement, Universal Grammar, and the structure of IP. *Linguistic Inquiry* 20, 365-424.

Sproat, R. 1985. Welsh syntax and VSO structure. *Natural Language and Linguistic Theory* 3, 173-216.

Stenson, N. 1981. *Studies in Irish syntax*. Tübingen: Gunter Narr Verlag.

Stowell, T. 1981. *Origins of phrase structure*. Ph.D. dissertation, MIT, Cambridge, Mass.