

On the Head Movement of Complex Nominal Predicates*

Andrew Carnie
Massachusetts Institute of Technology

In this very short paper I argue, using evidence from Irish copular sentences, that under certain conditions, complex nominal predicates undergo head-movement entirely analogous to verb-movement in finite clauses. I argue that these phrasal predicates undergo incorporation into their determiner head, which then undergoes head movement through the inflectional heads like verbal predicates. To argue for this position I will make use of evidence from wh-extraction, anaphoric islands, and from the Irish responsive system.

1. Word Order in the Irish Copula

Irish copular sentences, which lack an overt verb, show three basic word orders: one which is found with indefinite attributed properties (1a), where the predicate (in **bold**) precedes the subject (in *italic*); one which is found with definite attributed properties (1b), where the predicate follows the subject and the pronominal agreement morpheme (*é*); and one where the agreement morpheme and the pronominal subject appear on opposite sides of a definite predicate (1c). :

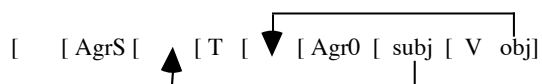
- 1) a) *Is dochtúir ainmhithe (í) **Beverly Crusher***¹
C doctor animals (agr)
"Beverly Crusher is a doctor of animals"
- b) *Is í **Beverly Crusher** an dochtúir ainmhithe*
C agr the doctor animals
"Beverly Crusher is the doctor of animals"
- c) *Is í an dochtúir í*
C agr the doctor her
"She is a doctor"

Carnie and Harley (1994) argue that these word order alternations above follow from both a parallel to the verb raising account of VSO order in Irish, and from the use of an abstract equative copula.. Bobaljik and Carnie (1994) argue that VSO order (2) follows from the raising of the verb through the functional projections of the clause (3)² for the checking of ϕ -features in the overt syntax.

* Thanks to Noam Chomsky, Heidi Harley, Alec Marantz, Ken Hale, Elizabeth Cowper, Colin Phillips, Jonathan Bobaljik, Andrea Moro, James McCloskey, Caroline Heycock, Betsy Ritter, Eithne Guilfoyle, Michael Rochemont, the audience and participants at the (1994) Canadian Linguistics Society meeting, and especially Dónall Ó Baoill.

¹Throughout, I will assume, following Alqvist (1972), Carnie (1993) and Doherty (1992) that the morpheme *Is* is a complementizer particle.

² Bobaljik and Carnie (1994) also argue that the arguments of the clause raise to the specifiers of functional projections lower than that occupied by the verb. The details of this need not concern us here, but I will also assume this throughout.



See Carnie and Harley (1994) for a discussion of case and nominal predicates.

- 2) Leanann an t-ainmní an bhriathar i nGaeilge
follow.PRES the subject the verb in Irish
 ‘The subject follows the verb in Irish’
- 3)

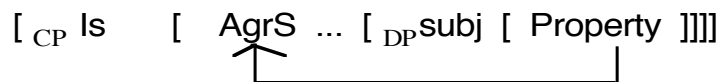


Let us now consider how this could be extended to the nominal predicates discussed above. Consider the first of the two orders mentioned above, here presented as (4):

- 4) Is dochtuir (i) **Beverly Crusher**
 C doctor (agr)
 “Beverly Crusher is a doctor”

In this order, the indefinite predicate nominal appears to the left of both the subject and of the optional agreement morpheme (*i*). Carnie and Harley (1994) argue that this order is a result of the predicate nominal raising around the subject NP to an inflectional head for feature checking, possibly for tense features.

5)



As discussed in Carnie (1993), this general approach is supported by the fact that nominal predicates, unlike other non-verbal predicates, are never allowed in small clauses in Irish.

- 6) a) Agus [é i gCalafóirnia]...
 and him in California
 “And he is/was in California”
- b) *agus [é dlíodóir]
 and him lawyer
 “and he is/was a lawyer”

Assuming that small clauses have no inflectional complex, and that Irish nominal predicates have to check tense and agreement features, the ungrammaticality of this follows straightforwardly. The nominal predicate has ϕ -features which it must check, but there is no functional projection for it to check against, so the derivation crashes. This suggests that indefinite nominal predicates are indeed undergoing head movement for feature checking.

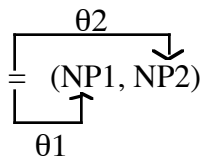
Turning now to the order where the subject precedes the predicate as in (7).

- 7) Is í **Beverly Crusher** an dochtúir
 C agr the doctor
 “Beverly Crusher is the doctor”

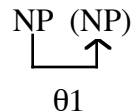
Recall that this order is only found with definite predicational nominals and that the agreement morpheme is obligatory. Carnie and Harley (1994) argue that this word order difference follows directly from the semantic properties of definite NPs. They argue that definite NPs are referential and can only function as

arguments. They refer to something in the real world and thus cannot be predicational. Following Rappoport (1987) and contra Carnie (1993), Carnie and Harley (1994) propose that definite NPs cannot function predicationally, and that when they look like predicates, they are in fact arguments of an abstract “=” predicate, which theta marks the definite NP as a “property”. The word order differences between sentence like (4) and those in (7), we claim, follows from the argument structure. Indefinite predicates (like those in (4)) theta mark their subject directly (8b). Definite predicates on the other hand are in fact arguments theta marked by an abstract “=” predicate (8a)

8) a)

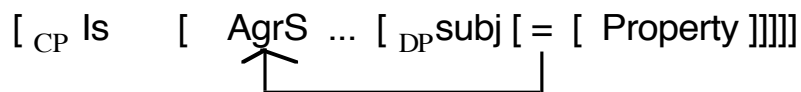


b)



In the definite cases, it is this abstract predicate that undergoes the predicate raising for feature checking and ends up in AgrS.

9)



The agreement morpheme is obligatorily present when the AgrS node is filled by the abstract (null) predicate =, to indicate the presence of this predicate. When the AgrS node is filled with an indefinite nominal predicate, however, the presence of the morpheme is not required to indicate the presence of a predicate, since that predicate is overt, thus the AgrS morpheme is optional in these cases.

The final ordering we must consider is a subcase of the one presented in (9). When a definite predicate and a pronominal subject co-occur, we have a surprise, since the subject pronoun follows the definite NP property argument. (10)

10) Is é an dochtuir é
 Cop him the doctor him
 “he is the doctor”

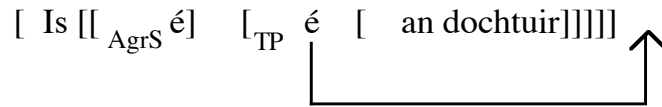
This ordering follows directly from a completely different process in Irish syntax. In Irish weak pronouns shift rightwards to the end of the clause when they are not clitic to a tensed verb. This is discussed in Chung and McCloskey (1987), Duffield (1994), and seen in (11)

11) a) Scaoil an Captaen **na féasair** do na Clingíonaí
 Fired the Captain the phasers to the Klingons
 “The Captain fired the phasers at the Klingons”
 b) ??Scaoil an Captaen **iad** do na Clingíonaí
 Fired the Captain them at the Klingons
 “The Captain fired them at the Klingons”

- c) Scaoil an Captaen do na Clingíonaí **iad**
 Fired the Captain at the Klingons them
 “The Captain fired them at the Klingons”

Carnie and Harley (1994) claim then that the unexpected post-predicational subject pronoun is a reflex of this postposing:

12)



In summary, the varying word orders of Irish nominal predicate clauses receive a straightforward account when indefinite nominal predicates are allowed to head raise for feature checking in a manner similar to tensed verbs. The different word order found with definite nominal predicates is a feature of their semantic status as an arguments of an abstract equative predicate. Finally the pronominal final order follows from general process of pronoun postposing found in Irish. Since I have proposed that the predicate first order is an instance of head movement, the question of what happens when a nominal predicate is phrasal or complex is the next natural question to ask. This will be the focus of the next section.

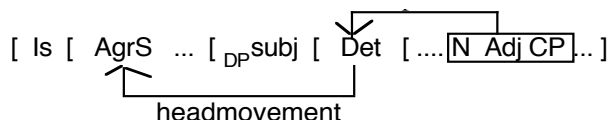
2. Incorporation and Head Movement of indefinite predicates

In section 1 above, I proposed that indefinite nominal predicates undergo head raising for feature checking in order to account for their initial position in the clause. Given that by definition head movement is the raising of heads, the question of what happens with a phrasal or complex nominal predicate arises. Surprisingly in Irish, entire phrasal and complex NPs appear in this first position (13), a position I claim is associated with head movement.

- 13) Is [dochtúir ainmhithe] Seán
Cop doctor animals.gen John
 “He is a doctor of animals”

At first, this may seem to be strong evidence against the head movement analysis suggested above. However, there is extensive evidence that in fact these complex phrasal elements are behaving like a head. I suggest that for all indefinite nominal predicates it is really the indefinite determiner which functions predicationally, and that all the complements to this determiner incorporate into it. It is this determiner head then which undergoes the head movement (14), thus accounting for the apparent anomalous appearance of complex predicates in a position normally reserved exclusively for heads.

14)



In this section, I will present three types of evidence that show that such an approach is correct. Evidence from wh-extraction, anaphoric islands, and the responsive system all suggest that indefinite NP predicates form an incorporated head, since they behave like words more than they behave like phrases.

2.1 Evidence from wh-extraction.

One piece of evidence in favor of the incorporated status of indefinite nominal predicates comes from wh-extraction. The argument is as follows. If predicates have undergone head movement forming complex heads, then the subcomponents should not be allowed to extract via wh-movement. There is an obvious problem with such a test, in that the extraction of subconstituents is usually ruled out by some other constraints such as subjacency, the ECP, or other Island conditions. In English, the extraction of subconstituents is ruled out by exactly these types of constraints. One would think that because such sentences are ruled out by other constraints we would not be able to test for incorporation using them. However, Irish does consistently allow subjacency/ECP type violations (McCloskey 1979). If the speaker leaves a resumptive pronoun at the extraction site and changes the highest complementizer from a^L to a^N , then a sentence with such a violation is rendered grammatical (see McCloskey 1979 for more details). This is seen in the following examples. In (15), we have an example of a sentence with a wh-island. Wh-movement of the subject of the embedded clause (15b) is licit, as long as the highest complementizer is a^N , and the resumptive pronoun *sé* ‘him’ is found at the extraction site. The ECP and subjacency are allowed to be violated under such conditions.

15) a) *Bíonn fios agat i gconaí [cp caidé_i a^L bhuaifidh an píobaire t_i]*
be.hab know at.2.s always what_i COMP play.fut the piper t_i
 “You always know what the piper will play”

b) *Cén Píobaire_j [cp a^N mbíonn fios agat i gconaí [cp caidé_i a^L bhuaifidh sé_j t_i]]*
Which piper COMP be.hab know at.2.s always what_i COMP play.fut. him
 “Which piper do you always know what he will play”

A similar case is seen in (16), where wh-extraction out of a nominal island is licit with a resumptive pronoun and a changed complementizer.

16) a) *Tá máthair an fhir san otharlann*
Be.pres mother the man.gen in.the hospital
 “The man’s mother is in the hospital”

b) *Cé a^N bhfuil a_j mháthair san otharlann*
who COMP be.pres his mother in.the hospital
 “Who is (his) mother in the hospital”

Given that such extraction is licit then, we can use wh-extraction as a test for the “word” or incorporated status of a nominal. If wh-extraction is licit, then the sequence of morphemes is phrasal, if wh-extraction is illicit, then it is functioning like a single word.

This pattern is exactly what we find with nominal predicates. An incorporated definite NP predicate like that in (17) does not allow extraction, despite the fact

that Irish normally allows extraction out of nominal islands (*arb* is the special form of a^N found in copular clauses).

- 17) a) Is [_{NP} amhrán_i [_{CP}^{aL} bhuaifidh an píobaire t_i]](é) “Yellow Submarine”
cop song COMP play.fut. the piper agr
 “‘Yellow Submarine’ is a song which the piper is going to play”
- b) *Cén Píobaire_j arb [_{NP} amhrán_i [_{CP}^{aL} bhuaifeadh sé_j t_i]](é) “Yellow Sub”
Which piper rel song COMP play.cond him agr
 “*‘Which Piper is ‘Yellow Submarine’ a song which he/t_i is going to play”

These can be strikingly contrasted with the definite NP attributes, which are not predicates and do not undergo incorporation or headmovement. With these sentences wh-extraction is licit.

- 18) a) Is é “Yellow Submarine” [_{NP} an t-amhrán_i [_{CP}^{aL} bhuaifidh an píobaire t_i]]
cop agr the song COMP play.fut. the piper
 “‘Yellow Submarine’ is the song which the piper is going to play”
- b) Cén Píobaire_j arb é ‘Yellow Submarine’ [_{NP} an t-amhrán_i [_{CP}^{aL} bhuaifeadh sé_j t_i]]
Which piper rel agr the song COMP play.cond him
 “‘Which Piper is ‘Yellow Submarine’ the song which he/t_i is going to play”

This failure in wh-extraction is given support by the *in situ* status of wh-questions of constituents in Irish questions. In Irish, wh-movement is always marked by a wh-complementizer. In the formation of wh-questions of indefinite nominal predicate constituents, however, no such wh-complementizer is ever found (19a,b), showing that questions have the wh-element *in situ*. Wh *in situ* is found nowhere else in this language. This gives support to the analysis of these predicates as incorporated words.

- 19) b) *Cad arb a dhochtuir (é) McCoy
What rel his doctor agr McCoy
 “*‘What would McCoy be a doctor of?’”
- c) Cén sort dochtúra (é) McCoy
What kind doctor. gen agr McCoy
 “‘What is McCoy a doctor of?’” (lit. “‘McCoy is what kind of Doctor?’”)

2.2 Evidence from Anaphoric Islands

Slightly more subtle evidence comes from the binding theory. In English, binding out of a phrase (as in 20a) is licit. The word “animal” can serve as an antecedent to the pronoun. In (57b and c) however, we see that binding out of a syntactic compound is noticeably degraded³, and that binding from a lexical compound is completely ungrammatical.

- 20) a) *Binding from a phrase:*
 John is [a doctor of [animals]_i] but he is allergic to them_i
- b) *Binding from a “syntactic” compound:*

³Thanks to Michael Rochemont for pointing this out to me.

?John is [an [animal]_i doctor] but he is allergic to them_i

- c) Binding from a lexical compound:
*My favourite tool is the fly_i-swatter but they_i are all extinct

We can use this as a diagnostic for “word” status. If we compare the definite and indefinite sentences we see there is a similar contrast in the binding facts. Binding out of the incorporated indefinite is less grammatical (21a) than that of the clearly phrasal element in (21b)

- 21)a) ?Is dochtúir ainmhithe_i Seán ach is fuath leis iad_i
cop doctor animals John but cop hate with.3 them
John is a doctor of animals but he hates them(animals)
- b) Is é Seán an dochtúir ainmhithe_i ach is fuath leis iad_i
cop agr J the doctor of animals but cop hate with.3 them
John is the doctor of animals but he hates them(animals)

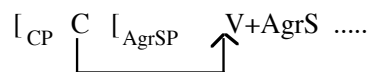
This is consistent with the notion that the indefinite and head moved predicate NP is really an incorporated structure.

2.3 Evidence from the Responsive System.

Finally, there is some evidence that not only are these predicates incorporated words, but that they are not in a specifier position either. Moro (1993), Heggie(1988), and Heycock (1991) have all argued that in the English reverse copular construction the predicate NP is in a specifier position (For Moro and Heycock this is the specifier of IP, for Heggie the specifier of CP). I claim that there is substantial evidence that this is incorrect at least for Irish. This evidence comes from the responsive system.

In order to understand how this works, however, we must first discuss complementizer cliticization.. McCloskey (1992) argues in some detail that complementizers in Irish lower to adjoin to the verb in its inflectional head. This is schematized in (22). I refer you to his work for more details.

22)



Turning now to the issue at hand, Irish has no words for yes or no, instead you repeat the verb in either the positive or negative form as seen in (23), where the negative form is indicated by an adjoined complementizer.

- 23) *No word for yes:*
- a) An bhfaca tú an Ferengí?
Q saw you the Ferengi
"Did you see the Ferengi?"
- b) Ní fhaca "no"
Neg saw
OR
- c) Chonaic "yes"

Saw

This can be analyzed as the ellision of everything to the right of the verb in a manner familiar from VP ellipsis (24)

24) Elide everything except AgrS(and adjoined complementizer)

For example, you elide the shaded parts of the sentence schematized in (25).

25)

C +	AgrS	Spec,TP	Spec,AgrO	R-adj
Ní	fhaca	Seán	an ferengí	inné
<i>Neg</i>	<i>Saw</i>	<i>John</i>	<i>the ferengi</i>	<i>today</i>

Given that we have claimed predicates in copular clauses are in AgrS, then when this elision occurs, then the predicate should remain. At least for the adjectival and prepositional predicates that appear in this construction this is true (26-27).

26) Q: An le Seán an Subaru?
Q with J the Subaru
"Does John own the Subaru?"

A: Is leis "Yes"
C AgrS
Cop with.him.emph

27) Q An ceart mo chuimhne (from Doherty 1992)
Q right my memory
"Is my memory is right?"

A: Is ceart "Yes"
C AgrS

In sentences with definite NP predicates, this is also true. Recall that in the analysis sketched above, definite NP predicates do not incorporate, rather they are the argument of an abstract = predicate. Thus in sentences with definite NPs we expect only the pronominal agreement realization of the abstract predicate to remain (as in 28). This predication is true.

28) Q: An é Ceannasaí an Enterprise William Riker?
Q = Commander the
"Is William Riker the Commander of the Enterprise?"

A: Is é "Yes"
C AgrS

The situation is more complex with nominal predicates (as in (29)) which we argue appear in AgrS. In these cases the predicate does not surface, but is replaced by the dummy pronominal "ea"

29) a) An dochtúir Leonard McCoy?
Q Doctor
"Is Leonard McCoy a doctor?"

b) *Is dochtúir
✓Is ea

This is a kind of “do support”. This dummy pronominal shows up when you have an indefinite predicate. Why should this be the case? I suggest that, for Irish at least, you don’t want to repeat indefinites since they introduce new information. This might be represented in the following principle:

30) *Pragmatic Novelty Principle*

Don't repeat indefinites! Indefinites mark the introduction of new information

What is crucial here is that the element appearing in the Agr head is retained (via the pro-form “ea”) in responsives, supporting the analysis that these complex nominal predicates are incorporated into AgrS.

Now let us consider the status of specifiers. This issue is very difficult to test since the highest specifier never seems to be filled by anything in Irish. McCloskey (1993) points out that there is a set of elements that appear to be IP-initial or IP-adjoined elements. Based on scope and negative polarity items, he claims that the sentence initial adverbs in (31a) are IP adjoined (in our terms AgrS-adjoined).

31) a) I lár an gheimhridh, an bhfaca tú do chara
in middle the winter, Q see you your friend
In the middle of winter, did you see your friend

b) Ní fhaca
No.

What is interesting about these cases is that in the responsive system the elements which are either in the specifier or adjoined are omitted. Again, only the C-V-AgrS head remains (as in 56b).

If we follow Kayne (1993) in assuming that specifiers and adjuncts are the same object, we have strong evidence against predicates being in an specifier position. The responsive system of Irish only repeats the AgrS head all other specifiers and adjuncts are omitted. If the predicates in Irish were in such a position we would expect them too to be omitted. This is contra to fact.

3. Conclusion

In this short paper, I’ve attempted to sketch an analysis that accounts for some strange word order facts of sentences with non-verbal predicates in Irish. The predicate first order parallels verbal predicates in that they head raise to initial position. The fact that this is allowed of complex or phrasal predicates is due to the incorporation of these into their determiner heads. Evidence for this incorporation comes from both wh-extraction and anaphoric islands, where subconstituents of indefinite predicates fail to behave like other phrasal constituents in the language. This can be contrasted with definite NP predicates which are argued not to be predicates at all, but are arguments of an abstract “=” predicate. It is this = predicate which undergoes the raising. With these NPs, subconstituents do behave like real phrasal constituents with respect to anaphoric binding and wh-extraction. Finally, evidence from the responsive system of Irish not only suggests that certain non-verbal predicates incorporate and undergo head movement, but also that they are clearly in a head rather than a specifier position.

References

- Ahlqvist, A (1972) "Some aspects of the copula in Irish". *Éigse* 14, 4.
- Bobaljik, J. and A. Carnie (1994) "A Minimalist Approach to some Problems of Irish Word Order". To appear in R. Borsley and I. Roberts, *Celtic and Beyond*. CUP
- Carnie, A (1993) Nominal Predicates and Absolutive case in Modern Irish MITWPL19
- Carnie, A and Harley (1994) "Nominally complex copular structures" paper presented at Langue et Grammaire 1, Université de Paris 8.
- Chung, S & J McCloskey (1987), "Government, Barriers, and Small Clauses in Modern Irish," *Linguistic Inquiry* 18.2: 173-238.
- Doherty, C (1992) "Clausal Structure and the Modern Irish Copula". *Syntax at Santa Cruz* Vol 1.
- Duffield, N (1994) Are you right. Paper presented at the Conference on Language in Ireland, University of Ulster Jordanstown
- Heggie, L (1988) "The Syntax of Copular Structures" PhD Dissertation University of Southern California
- Hendrick, R (1991) "The Celtic Copula and Head Raising." Paper presented at the Verb Movement Workshop, University of Maryland
- Heycock (1991) "Layers of Predication: The nonlexical syntax of clauses" PhD Dissertation, University of Pennsylvania
- McCloskey, J (1979) *Transformational Syntax and Model Theoretic Semantics: A Case Study in Modern Irish*. Reidel Publications Dordrecht.
- (1990) "Resumptive Pronouns. ABar binding and Levels of Representation in Irish." *Syntax and Semantics* 23
- (1992a) "Adjunction, Selection and Embedded Verb Second" Ms UCSC
- (1992b) "On the Scope of Verb Movement in Irish." Ms: UCSC
- Moro, A (1993) The Raising of Predicates Ms. Istituto Universitario Lingue Moderne Milan
- Rapoport, T (1987) *Copular Nominal and Small Clauses* PhD Dissertation MIT