

The Role of Definiteness in the Impersonal Passives of Modern Irish: Towards an RRG Characterisation^{*}

Brian Nolan

Institute of Technology Blanchardstown

This paper hypothesizes that the impersonal passive construction of Irish has an indefinite actor at the level of the semantics and that the impersonal passive verb expresses this as a third person indefinite pronoun in the syntax via a synthetic post-verbal suffix rendered on the matrix verb. When considered in this way, the behavior of the impersonal passive verb in the syntax is shown to be the same with respect to definite subject pronouns when they are expressed in a non-analytic manner, that is, in the synthetic form of the verb. There is some diachronic evidence in support of this. We examine these constructions and argue that a characterisation in the RRG framework must allow for a verbal predicate sensitive to definiteness as a head feature on nominals, and operate in a manner similar to agreement features. We posit definiteness as one of a number of binary head features and claim that these features are recognized by the verbal predicate at linking time such that the argument linking to direct object is locked from promotion.

Key words: Modern Irish, impersonal passive construction, definiteness, head feature

1. Introduction

This paper is about the impersonal passive construction, of which Irish has two variant forms, the impersonal passive of a lexical verb and the impersonal passive of the non-copula substantive verb of ‘to be’. Modern Irish is a VSO language and therefore, in common with the other Celtic languages, the order of elements in the structure of transitive sentences is verb-subject-object. The verb and the subject are tightly bound.

The impersonal passive verb form occurs with all verbs of Irish, across all tenses, whether intransitive or transitive. The impersonal passive form is also to be found productively with the substantive verb across all tenses. It does not under any circum-

^{*} I would like to acknowledge the kind comments, and suggestions for improvement, of one anonymous reviewer.

stances occur with the copula verb. That is, all Irish verbs with the sole exception of the copula have an impersonal passive form and we examine both construction types in this brief investigation that provides an RRG characterisation.

2. The hypothesis of this paper

The hypothesis that we shall argue towards in this paper is that, in an impersonal passive construction with a lexical verb, a specific indefinite actor exists. This actor is morphologically conflated as a suffix onto the matrix verb and expressed as such in the syntax. In addition, in a construction containing an impersonal passive of the substantive verb of ‘to be’, an indefinite actor also exists. We claim that the actor is specific but indefinite for particular reasons and we shall argue for this in the paper. The actor is specific because we are committed to their actual existence, but is *indefinite* to the degree that there is no definite argument available in argument structure. An attribute of the specific indefinite actor is that it is animate, usually human.

3. The approach

In this paper we shall first provide some discussion based on the literature on specificity and definiteness and we shall find that the idea of an indefinite actor/agent is neither new nor radical but is well motivated cross-linguistically. The first challenge of this paper is to argue that the analysis of the impersonal passive of modern Irish, based on an understanding of the role that definiteness plays in this construction, is typologically and formally sound. We provide evidence to support this argument. What remains more difficult is our understanding of how such an analysis fits within the lexicalist RRG model as presently formulated. This is the second challenge of this paper. The approach I am taking with this second challenge (while characterizing the impersonal passives) is to posit the need for attribute value matrices/feature structures for nominals and predicates, and indeed primitives, such that a logical structure of RRG might be expressed as, for example,

$$(1) [\text{do}' (x \text{ [] } \text{pred}' \text{ [] } (y \text{ [] } \text{]})]$$

or,

$$(2) [\text{do}' (\boxed{1} \text{ [] } \text{pred}' \boxed{1}, \boxed{2}) (\boxed{2} \text{ [] } \text{]})]$$

where [] contains a feature value set and $\boxed{1}$, $\boxed{2}$, etc. are indices on the feature blocks/AVMs.

These feature blocks contain features necessary for agreement to be regulated between PSA, nominals and the verbal predicate. In this paper I shall identify some of these features and suggest possible values. What I shall try to show in meeting both of these challenges is that the RRG lexicon needs to be expressed in a richer, hierarchical architecture that supports inheritance and sharing of feature structures within the logical structure and which influences the linking system. The RRG lexicon at present essentially works by projecting *vertically* the valence requirements of a verbal predicate, but there is no formal mechanism in RRG now to identify the *horizontal* interaction between the respective components of the LS, i.e. the nominals, predicates, and primitives. I hope to identify a way of doing this, while also motivating an account of the impersonal passives of Irish.

4. The defining characteristics of the Irish impersonal passive

Typically, the impersonal passive clause is syntactically intransitive in that only one argument is expressed in the syntax, that of the undergoer which links to grammatical object. The actor/impersonal agent is unexpressed and consequently there is no overt subject in the syntax. However, the object stays in the same position and maintains object marking. Specifically, the object is not promoted to subject in this construction and the unexpressed agent is morphosyntactically marked by a suffix on the matrix verb. When the direct object is a pronoun, we can more easily see that this is the exact behavior.

Examples of the impersonal passive construction over a small range of lexical verbs are given in (3)-(6):

- (3) **rinneadh** a faire agus a
 made:V-IMPERS-PASS-PAST his:PRO wake:VN and:CONJ his:PRO
 hadhlacadh.
 burying:VN
 LIT. ‘(someone) made his wake and his burying’.
 ‘Someone organized his burial and wake.’
 [**do’** (x) CAUSE [**make’** (x, *a faire agus a hadhlacadh*)]]

Where x is an unspecified individual of animate and human type, and interpreted as ‘(some)one’, i.e. a specific (because they exist) indefinite person.

- (4) chuaigh siadsan Áth na Cloiche
 go:V-PAST they:PRO+in:PP+to:PP+the:DET place:N (of) the:DET rocks:N
 Duibhe agus **cailleadh** **iad**.
 black:N and:CONJ (someone) lost:V-IMPERS-PASS-PAST them:PRO
 LIT. ‘They went+into (the) Place of the Black Rocks and **(one) lost them**’.
 ‘They went into Áth na Cloiche Duibhe and **one lost them**’.
 [...] & [**do**’ (x, CAUSE [BECOME **lost**’ (x, *iad*)))]
- (5) **baineadh** cliseadh asam.
 took:V-IMPERS-PASS-PAST start:N from:PP+me:PRO
 ‘Someone took a (sudden) start from me.’
 [**do**’ (x) CAUSE NOT [**be-at**’ (1SG, *cliseadh*))]
- (6) **baineadh** asam é.
 took:V-IMPERS-PASS-PAST from:PP+me:PRO he/it:PRO
 ‘Someone took him/it from me.’
 [**do**’ (x) CAUSE NOT [**be-at**’ (1SG, *é*))]

The active form of the matrix verb for each of the examples above is shown in (7), with the same tense. We can see that their morphological shape is very different to that shown for the impersonal passive constructions. The verb endings found with the impersonal passives for Irish are given in the appendix.

- (7) Active form for matrix verbs
- a. rinne
 - b. bain
 - c. bain
 - d. caill

From the literature, Harley (2000) argues, based on Stenson (1989), that the subject argument must be present in the Irish impersonal construction; that is, the “external” argument is not “suppressed” or “absorbed” as in a passive construction. Harley offers three reasons: 1) the impersonal forms of causative/inchoative alternating verbs necessarily imply the causative construction when an overt argument appears, and may not receive the agentless inchoative interpretation. That is, they behave as if they had two arguments, not one. 2) Verbs whose subject does not admit of a possible arbitrary interpretation are ungrammatical with impersonal morphology, such as the weather verb in example (8b), and 3) impersonal morphology may appear on passives.

- (8) a. *chuir sé sneachta*
 put:V-PAST it:PRO snow:N
 ‘It snowed.’
- b. **cuireadh sneachta*
 put:V-IMPERS-PASS-PAST snow:N
 ‘(They/One) snowed.’

Noonan (1994:288) observes that, in Irish, impersonal passive counterparts exist not just for transitive sentences but also for intransitives and sentences formed with the substantive verb (the non-copula substantive verb *tá* ‘to be’). He also notes that (personal) passives can also have impersonals and that the only real constraint on impersonal passives is that sentences with non-referential subjects do not have impersonal counterparts.

More recently, Blevins (2003:500ff.) argues that descriptions of impersonal passive forms in individual languages typically highlight the role of human agency. For Irish, the impersonal passive form of a verb expresses the verbal action only without any mention of the agent (the subject) or any indication of person or number. Their logical subjects are suppressed rather than deleted, and non-subjects may be realized as objects. Blevins argues further that an indefinite human interpretation is appropriate as suggested by O’Siadhail (1991:180) who assigns it to Irish impersonal passive forms. Blevins (2003:500), quoting Fife (1993:14, 15), notes with respect to the impersonal forms in the Celtic languages that: “Another shared trait in the verbs is the presence in the paradigm of the ‘impersonal’ or ‘autonomous’ verb form. Basically, all Celtic languages possess an impersonal form for each tense which is neutral as to the person and number features of the subject... While this form can often be translated as a passive... the ending also occurs with intransitive verbs, as with Irish *táthar* ‘they/people are’... The actual usage of these forms has diverged significantly over time (in Welsh these have become rather literary constructions, but are everyday forms in Irish), but the presence of a special verbal inflection for an unspecified subject is another particular feature of Celtic.”

Frajzyngier (1982:267-290) makes a strong claim that, cross-linguistically, whenever there is a passive form of intransitive verbs, then such a form implies that the sentence has an indefinite human agent. Frajzyngier observes that the semantic category of the indefinite subject seems to have been grammaticalized in Indo-European languages by the use of an already existing device (e.g. third person plural) and argues that in Old Irish the passive of intransitive verbs serves to express the indefinite human agent, e.g. *tiágar* ‘let people, someone go’ meaning, literally, ‘let it be gone’, *ro-both* ‘people have been’ (Thurneysen 1946:328). The impersonal passives according to Frajzyngier are

active in function, but differ from other active sentences in having an indefinite human subject whereas the active sentences have a specified subject, human, non-human, animate or non-animate.

Shibatani argues (1985:832ff.) that the syntactically encoded elements have varying degrees of focus with the argument coded as subject having the highest degree. Focus decreases along the hierarchy of grammatical relations of subject > direct object > indirect object > oblique object, and their strength of focus is correlated with their various syntactic and morphological properties. Defocusing, of course, can be achieved by using the indefinite rather than the definite. The indefinite forms have the opposite effect from individuation or the singling out of an entity. The use of an indefinite form for the passive, or an impersonal marking, is readily explainable in this framework. Payne (1997:206) has noted that, across many languages, impersonal passives can be formed from intransitive as well as transitive verbs and that, for impersonal passives, the identity of the participants in the action are not central to the speaker's communicative goal; only the fact that action took place. The function of the impersonal passive is, therefore, to downplay the centrality of the agent.

To further motivate our argument, we need to consider how certain noun phrases refer to entities that the speaker judges should be identifiable by the addressee. The term definite has been used to describe the status referred to as identifiable. Noun phrases can be identified or made identifiable in several ways, for example, through the use of a proper noun which implies that the speaker assumes the listener can identify the referent.

According to Payne (1997:264), "*something is treated as identifiable if its referent is explicit enough for the speaker's current purposes*". Referentiality is not identical to identifiability in that an "*entity is objectively referentially if it exists as a bounded, individual entity in the message world*". Referentiality is also referred to as specificity. A noun phrase may be specific (objectively referential) or non-specific (non-referential). Pronouns may also be indefinite and Haspelmath notes (1997:278ff.) that Irish has three series of indefinite pronouns, all derived from generic nouns. That is, nouns that allow a generic referent to be identifiable in the sense that a speaker assumes the listener can identify the genera. Haspelmath (1997:52) argues that indefinite pronouns are sometimes derived from generic ontological-category nouns such as 'person', 'thing', 'place', 'time', and 'manner', and that these generic nouns are very similar in meaning to indefinite pronouns. Irish has *duine éigin* 'some person/someone' = 'a certain person'. The full inventory of Irish indefinite pronouns across the ontological-category nouns such as 'person', 'thing', 'place', 'time', and 'manner' is to be found in Haspelmath (1997:278ff.). For our purposes we are concerned with *eigin* 'some' usages (in specific known, specific unknown and irrealis non-specific usages) in relation to impersonal passives and argue in favor of Haspelmath's hypothesis within our analysis of the Irish impersonal passive

construction. An indefinite noun phrase can be specific or non-specific. According to Haspelmath (1997:45), a semantic factor that is sometimes relevant in choosing different indefinite series is the knowledge of the speaker. The speaker may or may not be able to identify the referent of the indefinite pronoun but, for specific phrases, the identifiability of the referent is presupposed. With non-specific phrases, identifiability by the speaker does not arise as such expressions are necessarily unknown to the speaker. The relation between definiteness and indefiniteness, specificity and non-specificity, and knowledge of the speaker is given in Figure 1.

Indefinite		Definite
Non-specific	Specific	
Unknown to the speaker	Known to the speaker	Known to the speaker and hearer

Figure 1: The relation between definiteness and indefiniteness, specificity and non-specificity, and knowledge of the speaker. (Haspelmath 1997:46)

Again, for Haspelmath (1997:52), some of the main functional distinctions between specificity and non-specificity that occur cross-linguistically are summarized in (9) while generics (10) are a class of entity that is definite and known to the speaker and hearer.

- | | | | |
|------|---------------------|-----------------------------|--------------------------------|
| (9) | specific | known to the speaker | Referent exists |
| | | unknown to the speaker | Referent exists |
| | <u>non-specific</u> | irrealis context | Referent does <i>not</i> exist |
| (10) | <u>generics</u> | class of nouns | |
| | | definite | |
| | | genera known to the speaker | |
| | | genera known to the hearer | |

Lyons (1999:165) also argues along lines very similar to Haspelmath (1997). In particular, indefinite noun phrases do not involve a referent identifiable to the hearer. An indefinite noun phrase may be used to denote a particular entity, or to speak of an arbitrary member of the class described by the noun phrase. Definites may refer while indefinites do not refer. The referent of a specific indefinite is not identifiable to the hearer, whereas the referent of a specific definite is identifiable to both the speaker and the hearer. Lyons (1999:150), like Haspelmath, makes note of the common pattern in indefinite pronouns within the use of a noun in a general sense (i.e. ‘person’, ‘thing’), either alone or modified by a determiner. We have already seen examples of these earlier,

for Irish, in relation to *duine éigin* ‘some person/someone’ and *rud éigin* ‘something’.

What is common to the Irish impersonal passive constructions in this section is that the actor is backgrounded to the extent that it is indefinite and not in focus. The attributes of the actor include human and animate, but the animacy may be more evident than the human characteristic. In such a case, the humanness may be metaphorical. Crucially, this actor must be specific while indefinite. Semantically, the impersonal construction is transitive with two participants recorded in the logical structure, an actor and undergoer. The actor is, however, an ‘impersonal agent’, that is, a specific indefinite actor.

5. Discussion on the impersonal passive

In impersonal passive constructions the actor construed as animate, usually human must be *specific and indefinite* as we have discussed. An impersonal construction with a semantically transitive verb has two participants recorded in the logical structure, an actor and undergoer. The actor is, however, an “impersonal agent” and this is reflected within the clause as syntactically intransitive, in that only one argument is expressed in the syntax, that of the undergoer which, however, links to the grammatical object. The actor is apparently unexpressed in that there is no overt subject in the syntax. However, as the object stays in the same position within the syntax, and maintains object marking, the situation that holds at the level of the semantics (with two participant arguments) *must* be visible to the syntax. We can observe from the syntax that the object is not “promoted” to subject in this construction and the unexpressed actor is expressed morphosyntactically as a suffix on the matrix verb.

We have mentioned earlier that Haspelmath (1997) has examined indefinite pronouns across a substantial number of the world’s languages, over nine different functional domains. These domains are: specific known, specific unknown, irrealis non-specific, question, conditional, indirect negation, comparative, direct choice and lastly, free choice. In his study he finds that, in most languages, several indefinite pronouns overlap in their distribution and that some functions may be expressed by several different indefinite pronouns. For Irish, Haspelmath (1997:278) has correctly identified an inventory of three series of indefinite pronouns, all of which are derived from generic nouns. The series consists of 1) the non-emphatic *éigin* ‘some’ series, 2) the negative-polarity series marked by *aon* ‘any’, and 3) the emphatic *ar bith* ‘at all’ series. Some of these are indicated within (11).

When we examine these in the context of an active clause and contrast them with an equivalent clause expressed in the impersonal passive form we can immediately observe some interesting similarities that provide supporting evidence to our argument regarding indefiniteness and impersonal passives. Example (12) illustrates an *active*

clause with a specific known/unknown from the *égin* series. Example (13) contains an impersonal passive equivalent of the clause (12), with exactly the same meaning. The pronoun *é* may be glossed as either 'he' or 'it' depending on the context of use.

(11)		<i>éigin</i>	<i>aon</i>	<i>ar bith</i>
	Person	<i>duine éigin</i> some person	<i>aon duine</i> any person	<i>duine ar bith</i> any person at all
	Thing	<i>rud éigin</i> some thing	<i>aon rud</i> any thing	<i>rud ar bith</i> any thing at all
	Place	<i>áit éigin</i> some place	<i>aon áit</i> any place	<i>áit ar bith</i> any place at all
	Manner	<i>ar chaoi éigin</i> some way	<i>in aon chor</i> any way	<i>ar chor ar bith</i> any way at all
	Determiner	<i>éigin</i> some	<i>aon</i> any	<i>ar bith</i> any at all

- [illegible]

- (13) dúradh liom é.
told:V-IMPERS-PASS-PAST with:PP+me:PRO it:PRO
'Somebody told it to me.'
[**do'** (x, [**tell'** (x, é))] & CAUSE [**be-at'** (é, mé)]]
- Where:
- | | |
|------|--------------|
| x is | + human |
| | + animate |
| | - foreground |
| | + specific |
| | - definite |

As presently constituted, the LS do not have a means of recording these attributes. This evidence suggests that the impersonal passive, with the specific indefinite actor is an extension of the cline within the functional domains noted by Haspelmath. Our examples

show that the agentive *indefinite* actor and syntactic subject of the active clause in (12) is made more indefinite in the impersonal passive (13). This backgrounding is explicitly expressed in the syntax of the impersonal passive construction. Extending Haspelmath's cline, the indefiniteness hierarchy shown in (14) may actually be the case for modern Irish.

- (14) *sé/sí/siad* 'he/she/them' __ *duine* 'person' __ *aon* 'any' __ **Impersonal passive**
with conflated specific indefinite actor

Within these examples, the actor in the logical structure of the verb's lexical entry is backgrounded but still visible to the syntax and morphologically recorded on the verb. The evidence for this is that the object does not—indeed cannot—occupy the grammatical subject position in these constructions. The subject that is conflated is specific and indefinite, animate and typically human. Because this participant is *specific but indefinite*, the morphosyntactic behavior is very similar to that of pronouns when expressed in synthetic forms of the verb, for instance, the third person pronoun with these human attributes. This paper argues that the behavior of the impersonal passive is in line with morphologically richer synthetic verb type behaviors, i.e. first person singular and first person plural, and others, across the tenses. Irish commonly exhibits this mix of synthetic and analytic usages, but to a greater or less degree depending on region or locale (Stenson 1989, O'Siadhail 1991). We argue that the impersonal passive construction has a specific indefinite actor at the level of the semantics and that the impersonal passive verb expresses this as a third person indefinite pronoun in the syntax via a synthetic post-verbal suffix rendered on the matrix verb. When considered in this way, the behavior of the impersonal passive verb in the syntax is exactly the same with respect to definite subject pronouns when they are expressed in a non-analytic manner, that is, in the synthetic form of the verb. Supporting evidence is additionally provided by the observation that, because of this third person specific indefinite actor (pronoun) morphosyntactically marked on the verb, the impersonal passive construction does not express an oblique agent. We can observe also that the object NP remains an object in the impersonal passive construction.

6. The substantive verb of 'to be'

We have mentioned earlier that Irish has two forms of the verb 'to be'—the copula *is* 'be' and the substantive verb *tá* 'to be'. The substantive verb, which we are interested in here, can take a conjugation across all the tenses, and for each of those tenses the substantive verb *tá* 'to be' also has an impersonal passive form. The substantive verb *tá*

‘to be’ fully supports the impersonal passive construction and all substantive verb constructions have a corresponding impersonal passive form. The copula does not take any passive form.

Before we examine the impersonal passive form of the substantive verb it will be useful to note the verbal forms that code this impersonal passive for each of the aspectual tenses.

(15) **Impersonal passive forms of the substantive verb**

Present tense	<i>táthar</i> (somebody) is
Habitual present tense	<i>bítear</i> (somebody) is
Past tense	<i>bhíothas</i> (somebody) was
Habitual past tense	<i>bhíti</i> (somebody) used to be
Future tense	<i>beifear</i> (somebody) will be
Conditional mood	<i>bheifí</i> (somebody) would be
Present subjunctive	<i>go:PP rabhthar</i> may (somebody) be

That the impersonal passive form is to be found with the substantive verb of ‘to be’ as well as with all lexical verbs means that a speaker may choose to utilize the active form of a matrix verb, or may instead utilize a substantive verb construction for the personal passive with any of the three variants discussed earlier in the first section of this paper. It also means that personal passive forms using the substantive also allow for an additional form, that is, one based on the impersonal passive form of the substantive construction.

7. The impersonal passive form of a substantive verb

An impersonal passive form of a substantive verb in a syntactically imperfective construction is illustrated in example (16). The state-of-affairs denoted by the clause is that of a progressing ongoing activity. The actor of the construction is backgrounded and does not appear anywhere in the syntax but we can note that the substantive verb

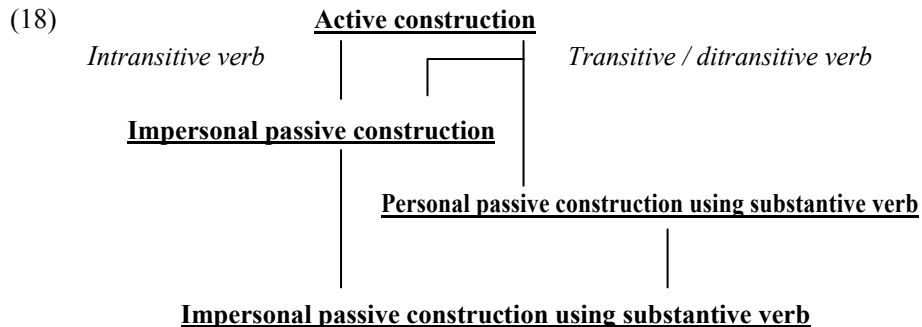
has passive morphology and the matrix verb is expressed as a verbal noun *obair* ‘working’. The verb *obair* ‘work’ is lexically intransitive and no verb undergoer is available and therefore no clause object is to be found in the syntax. Note that the verb *obair* ‘work’ can also be deployed with the impersonal passive form.

- (16) *bítear* *ag* *obair*.
 be:SUBV-IMPF-PASS-HAB-PRES at:PP working:VN
 ‘Someone was working.’ (= ‘People were working.’)
 [do’ (x) be-at’ ([work’ (x)], x)] where x is a specific indefinite reference
- (17) *bítear* *ag* *bhriseadh* *an* *gloine*
 Be:SUBV-IMPF-PASS-HAB-PRES at:PP breaking:VN the:DET glass:N
 ‘Someone was breaking the glass.’ (= ‘People were breaking the glass.’)
 [do’ (x) be-at’ ([break’ (x, an gloine)], x)] where x is a specific indefinite reference

In contrast, the example in (17) illustrates the impersonal passive form of the substantive verb, with the verbal noun form of a transitive verb denoting a progressing unbounded activity. No definite actor is expressed and the undergoer is expressed as the direct object of the verbal noun, that is, the direct object of the construction.

8. Discussion of the impersonal passive substantive verb

The availability of the impersonal passive of the non-copula, substantive verb *tá* ‘to be’ means that a speaker has a considerable number of strategies that can be deployed as the situation demands. We diagram this map of possibilities in (18).



A speaker may choose to use an active intransitive construction to express a given situation, or may instead use an impersonal passive construction containing the intransitive

verb or, alternatively, a construction containing an impersonal passive of the substantive verb. Similarly, a speaker may use an active transitive construction. Alternatively, the speaker may use an impersonal passive construction based on the transitive verb or the impersonal passive of the substantive verb. The map of possibilities in (18) therefore indicates, for example, that a construction containing an intransitive verb can be deployed in an impersonal passive construction with the lexical verb or an impersonal passive construction using the substantive verb but not in a personal passive construction. It also indicates that a construction with a transitive verb may be deployed in any of the passive constructions.

9. The RRG characterisation of the impersonal passive

We have seen examples of data of lexical verbs, and substantive verbs, in the impersonal passive form and their associated logical structure. How then do we account for this in the RRG model? Within RRG, the linking between syntax and semantics is governed by a general principle called the completeness constraint (Van Valin & LaPolla 1997:325). This states that: “All of the arguments explicitly specified in the semantic representation of a sentence must be realized syntactically in the sentence, and all of the referring expressions in the syntactic representation of a sentence must be linked to an argument position in a logical structure in the semantic representation of the sentence.” This is taken to mean that (*ibid*:326) “‘referring expressions in the syntactic representation of the sentence’ refers to the NPs in the sentence, regardless of whether they are in the core, the periphery, a PP, the pre/postcore slot or a detached position. It also includes the bound pronominal markers on the verb in head-marking languages.”

In addition to the completeness constraint, the linking algorithms (Van Valin & LaPolla 1997: ch.7) from syntax → semantics (20) and semantics → syntax (21) indicate, at a high level, the RRG linking processes involving the lexicon. Additional theoretical machinery is provided by the case assignment rule for accusative languages (22), as Irish is an accusative language, and the finite verb agreement rule (23) also contributes to this.

(20) **(part of the) linking algorithm from syntax → semantics**

Determine the functions of the core arguments:

a. If the construction is syntactically accusative:

(1) If it is the unmarked voice, the privileged syntactic argument is actor.

(2) If it is passive, the privileged syntactic argument is not the actor of the predicate of the nucleus:

(a) The actor may appear as a direct core argument (language specific).

(b) The actor may appear in the periphery marked by an adposition or an oblique case (language specific).

(c) If there is no actor in the core or the periphery, then replace the variable representing the highest-ranking argument in the logical structure with '0'.

(21) **(part of the) linking algorithm from semantics → syntax**

1. Determine the actor and undergoer assignments, following the actor-undergoer hierarchy.

[...]

5. Assign the core arguments the appropriate case markers/adpositions and assign the predicate in the nucleus the appropriate agreement marking (language specific).

6. Assign arguments of logical structure other than that of the main verb to the periphery.

(22) **Case assignment** in accusative languages (Van Valin & LaPolla 1997:359)

a. Assign nominative case to the highest ranking macrorole argument.

b. Assign accusative case to the other macrorole argument.

c. Assign dative case to non-macrorole arguments (default).

(23) **Finite verb agreement** (Van Valin & LaPolla 1997:359)

The finite verb agrees with the highest-ranking macrorole argument.

What we do not find is any mention as to how the processes of agreement are actually achieved within the RRG model and how the morphology is influenced by, and interacts with, the RRG linking. We can explicate this in some more detail by stepping through a simple parse of a sentence going from syntax to semantics. What do we expect to happen? We suggest that a sequence of activities such as the following takes place:

1. We input the sentence to the parsing process.
2. The sentence is tokenized into words.
3. We retrieve from the lexicon the lexical entry for each word.
4. The lexicon entry for the lexical verb in the impersonal passive form will return, depending on the type of verb involved and other factors, a logical structure something like: **do'** (x) **pred'** (x, y).

5. In this LS, the x variable must have attributes pre-assigned from within the lexicon, whereas the y variable will not. (Their variable will be assigned later!)
6. We can represent the information recorded for x as:

(24)

TYPE N DEF – SPECIFIC + ANIM + HUMAN +/-
--

Where: +/- means either can apply but typically +

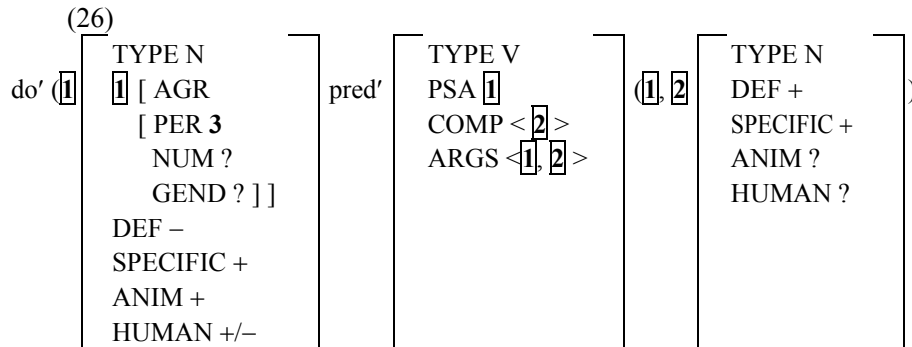
7. The lexicon entry for the nominal in the input syntax will have its own lexical entry and this needs to be retrieved from the lexicon. The N lexical entry will contain, amongst other information, pertinent attributes relating to the N, including, for example, the fact that it is a definite specific reference. This information is recorded as a head feature on the nominal just in case it needs to be visible at an NP.
8. We can represent the information for this N as:

(25)

TYPE N DEF + SPECIFIC + ANIM ? HUMAN ?
--

Where: ? means underspecified and can be overridden

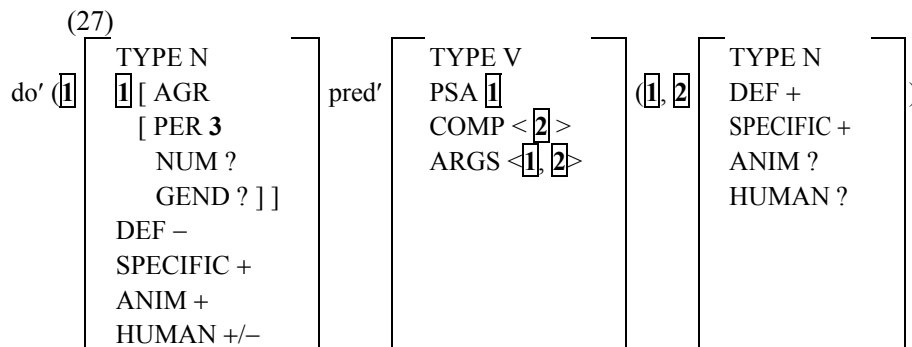
9. The information from the lexicon concerning the nominal is then unified with the logical structure of the verb predicate to deliver:



In this we can see that the PSA links into the first variable of **do'** but that we do not need to use *x* or *y* to denote these. We use the feature values appropriate to the nominal reference. In this case we have recorded the first reference as a specific indefinite. The second argument is linked to what we would have previously understood as the *y* variable with the appropriate features and values.

Working from the semantics to syntax we have a similar chain of actions in generating an output sentence, which we might denote as follows:

1. Construe an event.
2. Retrieve the appropriate lexical verb from the lexicon and its logical structure. This will yield a logical structure something like: **do'** (*x*) **pred'** (*x*, *y*).
3. We then associate and assign the appropriate nominals to the actor and undergoer with the correct features and values. For the impersonal passive we shall arrive at the same logical structure as before:



4. This logical structure which contains our construal of an event, in the way that we wish to express it, need to be linked into the syntax with the appropriate

morphological shapes on the constituent words, especially the verb in this instance, for the impersonal passive of Irish.

We suggest that the above linking mechanisms based on feature value matrices and unification will be sufficient to apply to impersonal passive constructions with intransitive, transitive, and ditransitive lexical verbs. However, this is by no means the complete story. In this paper we discussed the impersonal passive of the non-copula substantive verb of ‘to be’. We now need to characterize this in terms of the ‘machinery’ we introduced in the preceding paragraphs. The major characteristic with this particular construction is that it contains the verb of ‘to be’ along with the verbal noun form of the (active) matrix lexical verb as its complement. We shall again use the idea of a parser to explore how the linking from syntax to semantics might work, and identify the following steps:

1. We input the sentence to the parsing process.
2. The sentence is tokenized into words.
3. We retrieve from the lexicon the lexical entry for each word
4. The lexical entry for the non-copula substantive verb in the impersonal passive form will return a logical structure something like: **do’** (x) **be-at’** ([pred], x).
5. In this LS, the *x* variable must have attributes pre-assigned from within the lexicon, whereas the *y* variable (if present, for [pred’]) will not. (The *y* variable will be assigned later!). However, we shall ignore the *y* variable for purposes of this part of the discussion.
6. We can represent the information recorded for *x* as before:

$$(28) \left[\begin{array}{l} \text{TYPE N} \\ \text{DEF -} \\ \text{SPECIFIC +} \\ \text{ANIM +} \\ \text{HUMAN +/-} \end{array} \right]$$

Where: +/- means either can apply but typically +

The lexicon entry for the **verbal noun** in the input syntax will have its own lexical entry and this need to be retrieved from the lexicon. The VN lexical entry will contain, amongst other information, pertinent attributes relating to the VN, including, for example, its type and argument requirements. We shall assume that the entry for the (intransitive) verbal noun contains at least the following information:

$$(29) \quad \text{pred}' \left[\begin{array}{c} \text{TYPE V} \\ \text{FORM VN} \\ \text{PSA } \boxed{1} \\ \text{COMP } <> \\ \text{ARGS } <\boxed{1}> \\ \text{PRED } + \end{array} \right] (\boxed{1})$$

We now need to unify the logical structure of **do'** (x) **be-at'** ([pred'], x) with the structure that is returned for the x variable slot and the pred verbal noun, to deliver a logical structure with the following feature matrix slots: **do'** ($\boxed{1}$ []) **be-at'** [] (**pred** ($\boxed{1}$), $\boxed{1}$). This is expanded as:

$$(30) \quad \text{do}' (\boxed{1}) \left[\begin{array}{c} \text{TYPE N} \\ \boxed{1} \text{ [AGR} \\ \text{ [PER 3} \\ \text{ NUM ?} \\ \text{ GEND ?]]} \\ \text{DEF -} \\ \text{SPECIFIC +} \\ \text{ANIM +} \\ \text{HUMAN +/-} \end{array} \right] \text{be-at}' \left[\begin{array}{c} \text{TYPE SUBV} \\ \text{PRED -} \\ \text{PSA } \boxed{1} \\ \text{COMP } <> \\ \text{ARGS } <\boxed{1}> \end{array} \right] ([\text{pred}' \left[\begin{array}{c} \text{TYPE V} \\ \text{FORM VN} \\ \text{PSA } \boxed{1} \\ \text{COMP } <> \\ \text{ARGS } <\boxed{1}> \\ \text{PRED +} \end{array} \right], \boxed{1})$$

We can immediately see that we designate the substantive verb of ‘to be’ as non-predicative and, through unification, we share the $\boxed{1}$ argument between it and the lexical verb. The attributes of this argument are specific and indefinite. The argument with the index therefore shares structure and attributes across multiple “slots” in the logical structure, and acts as a constraint within the linking system.

10. Discussion

We have motivated the idea of a specific indefinite actor and provided a brief analysis of the impersonal passive of modern Irish, based on an understanding of the role that definiteness plays in this construction. We have also included in this discussion the impersonal passive construction of the non-copula substantive verb of ‘to be’. We have introduced, through feature value matrices and unification, a characterisation that extends the RRG linking system to account for the horizontal interaction between different constituent parts of the logical structure while retaining the vertical eventive

perspective. We have placed some additional work on the lexicon and made suggestions that have implications for the RRG lexicon architecture.

We outlined a means of meeting the challenges set out at the beginning of this paper, in particular how the linking system which already has a vertical view that assists us in identifying the valence requirements of a verbal predicate also needs to be able to identify the *horizontal* interaction between the respective components of the LS, i.e. the nominals, predicate(s), and primitives. The ability to achieve this has, as we have noted, implications for the lexicon. It also has implications for the morphosyntactic interface within RRG. While it warrants additional research, the approach we have outlined in our characterisation of the impersonal passives of Irish would also facilitate the proper integration of qualia structures (Pustejovsky 1991, Van Valin & LaPolla 1997) of nominals into the RRG lexicon. The same approach, which assumes that the nominal and predicates have internal structure and dependency relationships, could also usefully be extended to RRG primitives. The primitive CAUSE, for example, might easily be extended and enriched. This, however, remains a task for future research.

Appendix: Impersonal passive verb endings

While undertaking an analysis of the impersonal passive it is important to note that the impersonal passive shares the same verb ending with a number of active tenses. One of the diagnostics to determine whether the verb under examination is in the impersonal passive or active non-passive is the use of lenition on the first consonant of the verb. If lenition occurs then the verb may be in the active voice. If lenition does not occur and the verb stem has one of the endings from the tables following in (A1) and (A2), then the verb is likely to be an instance of an impersonal passive. We need to know the conjugation of the verb to assist in determining this. Examples of the impersonal passive verb endings are to be found in the tables following in (A1) and (A2), for first and second conjugation verbs respectively, and also for irregular verb types (A3). Verbs that are classified as ‘1st Conjugation’ are verbs that have a stem with one syllable, or have a stem with more than one syllable and ending in *-áil*, or a certain number of particular verbs with more than one syllable.

(A1)	Present tense	Vstem + <i>tar</i>	Vstem + <i>tear</i>
	Past tense	Vstem + <i>adh</i>	Vstem + <i>odh</i> or Vstem + <i>ódh</i> or Vstem + <i>údh</i> or Vstem + <i>eadh</i> or Vstem + <i>ádth</i> or Vstem + <i>uadh</i> or Vstem + <i>éadh</i> or
	Habitual past tense	Vstem + <i>taí</i>	Vstem + <i>tí</i>
	Future tense	Vstem + <i>far</i>	Vstem + <i>fear</i>
	Conditional mood	V ^h stem + <i>faí</i>	V ^h stem + <i>fí</i>
	Present subjunctive	go:PP <i>d</i> + Vstem + <i>tar</i>	go:PP <i>d</i> + Vstem + <i>tear</i> go:PP <i>m</i> + Vstem + <i>tear</i>
	Imperative mood	Vstem + <i>tar</i>	Vstem + <i>tear</i>

Verbs that are classified as ‘2nd Conjugation’ are verbs that have a stem with more than one syllable and ending in *-(a)igh*, or have a stem with more than one syllable and ending in *-(a)il*, *-(a)ir*, *-(a)is*, *-(a)in*, or a certain number of particular verbs with stems of more than one syllable.

(A2)	Present tense	Vstem + <i>tear</i>
	Past tense	Vstem + <i>íodh</i>
	Habitual past tense	Vstem + <i>tí</i>
	Future tense	Vstem + <i>ófar</i> or Vstem + <i>eofar</i>
	Conditional mood	Vstem + <i>ófai</i> or Vstem + <i>eofai</i>
	Present subjunctive	<i>go:PP m</i> + Vstem + <i>ítear</i> or <i>go:PP n</i> + Vstem + <i>ítear</i> or <i>go:PP g</i> + Vstem + <i>ítear</i>
	Imperative mood	Vstem + <i>ítear</i>

There are also a body of irregular verbs that have a different verb ending in the impersonal passive to those that appear in the above tables for past tense. This is indicated following in (A3).

(A3)	Irregular verbs	
	Past tense	Vstem + <i>thas</i>

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[Received 2 January 2006; revised 3 June 2006; accepted 1 August 2006]

Institute of Technology Blanchardstown
Blanchardstown Road North
Dublin 15
Ireland
brian.nolan@itb.ie

從角色指稱語法看「定指」在現代愛爾蘭語 非人稱被動結構中的角色

Brian Nolan

布蘭察斯鎮理工學院

本文認為愛爾蘭語的非人稱被動結構在語意層次上有非定指的主事者，而在句法上，非人稱被動動詞透過主動詞後面的詞綴來顯示出此主事者為非定指第三人稱代名詞。在這個前提下，非人稱被動動詞在句法中以非分析的特性（即動詞為合成形式）被認為與定指主詞代詞相同。這個分析背後有歷史證據支撐。在我們分析這些結構之後，我們認為角色指稱語法理論應該要允許動詞述語對名詞的主要特徵之定指性有所反應，其運作方式如同動詞對名詞的呼應一樣。我們認為定指性是二分性主要特色中的一個，這些特色可由動詞述語在連結時如論元連結至直接受詞的提升中被鎖定而看出。

關鍵詞：現代愛爾蘭語，非人稱被動結構，定指性，中心之特色