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Lexical Semantics and Patterns of Causation

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Abstract

In this paper we provide a brief account of patterns of causation in modern Irish that occur with lexically causative verbs. Three types of causation are found in modern Irish: lexical, periphrastic and morphological. In terms of the relative weightings of each type, the morphological causative is the least productive. Its use appears to be highly constrained to two very specific domains and it is signalled by particular morphological affixes. Lexical causatives are more productive than the morphological causative. By contrast, periphrastic or analytical causatives are highly productive and wide-ranging in their deployment.

A claim of this paper is that an important class of causative constructions are modelled on an underlying schema of caused motion. Within this schema we find that different types of NPs occur to code the end state of the clause, thereby licensing different types of clause structures.

We will demonstrate that there are a number of significant generalisations in the causative constructions that would otherwise be missed, or difficult to find, without the insights inherent in Role and Reference Grammar (RRG) and its logical structure formalism. In particular, we deploy a decompositional representation influenced by RRG to represent the underlying situation types, states of affairs, and events to bring out various uses of the verb cuir 'put' and in so doing we uncover significant evidence to support our contention that motion is a factor in causation along with the eventive primitives of CAUSE, BECOME, INGR and BE. We provide evidence relating to lexically causative verbs in modern Irish whereby they are shown to co-occur with certain prepositional phrases to create periphrastic causative constructions whose semantics is beyond that recorded lexically on the verb.

Our view is that periphrastic causation in modern Irish is concerned with causative motion within an event frame, is sensitive to interpretation as a prototypicality structure and the underlying schemata represent the extensions over this prototype.

1.0 Introduction

In this paper we provide a brief account of elements of causation in modern Irish. Three types of causation are found within modern Irish: lexical, periphrastic and morphological. In terms of the relative weightings of each type, the morphological causative is the least productive. Its use appears to be highly constrained to two very specific domains and it is signalled by particular morphological affixes. Lexical causatives are more productive than the morphological causative. By contrast, periphrastic or analytical causatives are highly productive and wide-ranging in their deployment. A claim of this paper is that an important class of causative constructions are modelled on an underlying schema of caused motion. Within this schema, we find that different of NP types can occur to code the end state of the clause, thereby licensing different types of causative clause structures.

Irish, or *Gaeilge* as it is known in the Irish language itself, is, together with Scottish Gaelic and Manx, a member of the Q-Celtic grouping of Insular Celtic. The position of the Irish language within the Celtic family of languages is indicated in figure 1. 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.

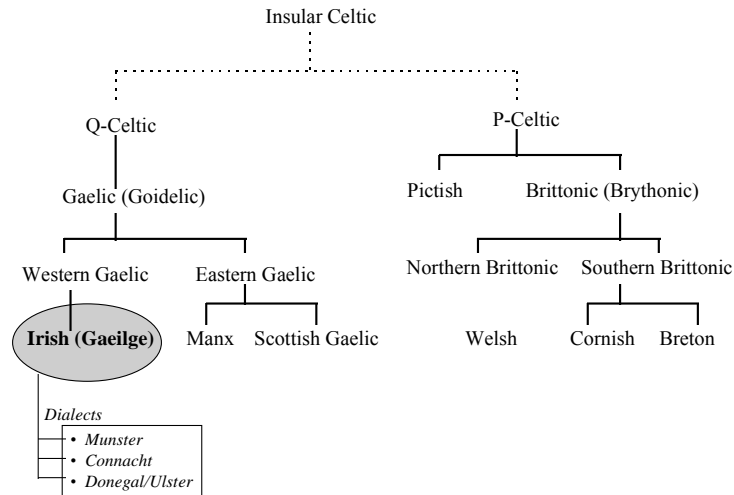


Figure 1: The Relationship Between the Celtic Languages

The functional approach in this paper makes use of many of the insights of Role and Reference Grammar (RRG) and in this paper we assume the RRG model as adequate for our purposes. Broadly, in the RRG framework (Van Valin 1993, Van Valin & LaPolla 1997) the semantic representation of sentences is based on the lexical representation of the verb. RRG employs a decompositional representation based on the theory of Aktionsart of Vendler (1967) and directly builds upon Dowty (1979, 1986, 1989, and 1991). The lexical representation of a verb or other predicate is its logical structure. The semantic representation of an argument is a function of its position in the logical structure of the predicate and the RRG linking system refers to an element's logical structure position. RRG posits two generalised semantic roles, or in Van Valin's terminology, "semantic macroroles", which play a central role in the linking system. The macroroles are actor and undergoer, and they encapsulate the usually accepted clusters of thematic roles. They are the primary arguments of a transitive predication. In an intransitive predicate, the single argument can be either an actor or an undergoer, depending on the semantic properties of the predicate.

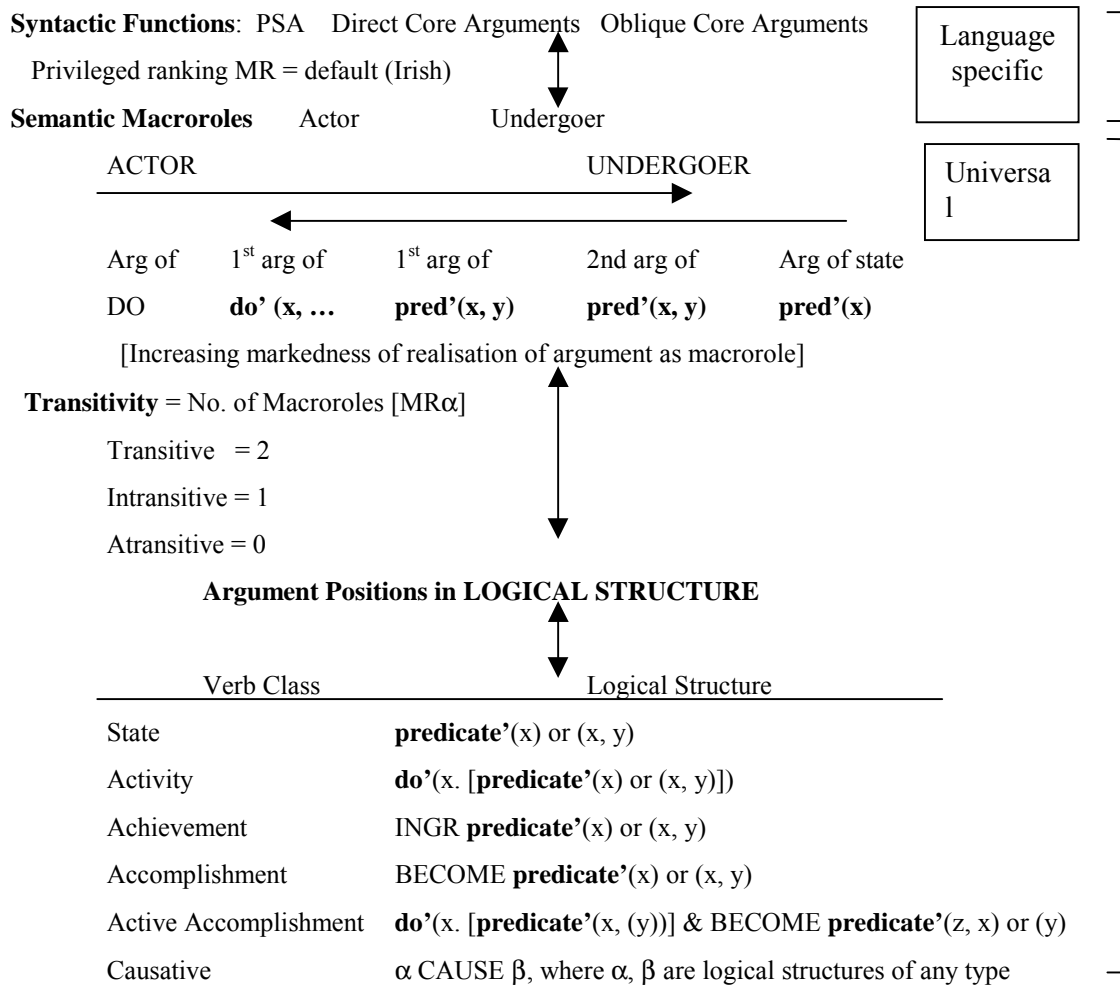


Figure 2: The System Linking the Semantic and Syntactic Representations of Irish in the RRG model (After Van Valin & LaPolla 1997).

The Actor-Undergoer Hierarchy (AUH) captures the relationship that holds between the logical structure argument positions and macroroles. In the AUH, the leftmost argument in terms of the hierarchy will be the actor and the rightmost argument will be the undergoer. Transitivity in RRG is therefore defined semantically in terms of the number of macroroles of a predicate. The algorithm that defines the linking between semantics and syntax has two phases. The first phase consists of the determination of semantic macroroles based on the logical structure of the verb (or other predicate) in the clause. The second phase is concerned with the mapping of the macroroles and other arguments into the syntactic functions.

We will demonstrate in this paper that there are a number of significant generalisations in the causative constructions that would otherwise be missed, or difficult to find, without the logical structure formalism. In particular, we deploy a decompositional representation influenced by RRG to represent the underlying situation types, states of affairs, and events to

bring out various uses of the verb *cuir* 'put' and in so doing we uncover significant evidence to support our contention that motion is a factor in causation along with the eventive primitives of CAUSE, BECOME, INGR and BE. This class of periphrastic causation that makes use of lexically causative verbs is concerned with caused motion within the event frame and is articulated over a prototypicality structure.

These ideas on prototypicality structures with a prototypical central member or base have been influential on linguistic research (Taylor 1995). In particular, Shibatani (1985: 821ff) notes that:

“Increasing awareness in recent years that linguistic structures are not isolated, but rather tend to show partial resemblances among themselves, has prompted certain linguists to adopt a non-discrete view of grammar. Research progress in the framework of prototype theory is one such manifestation. ... This view of grammar considers that various constructions exist along a continuum; certain ones are prototypical, others are similar to the prototype to a limited degree, and still others share no similarities with the prototype. ... such an approach not only is essential in understanding the relationships among various constructions within a single language, but also is capable of providing a useful framework for cross-linguistic research”.

The sense of prototypicality as a structural notion will be used within this paper. [For prototype approaches to grammar, cf. Lakoff 1977, Hopper & Thompson 1980, Coleman & Kay 1981 and Langacker & Munro 1975]

2.0 Periphrastic Causation

By periphrastic causative constructions we mean constructions that involve the use of additional words in the clause to encode the causation, such constructions not being lexical or morphological causatives. We claim that the periphrastic causatives of modern Irish are built on a schema of caused motion (1) of an entity and encompass the full taxonomy of NP types. We will provide evidence that the periphrastic causative construction of modern Irish is sensitive to interpretation as a prototypicality structure and that the schemata in (1) represent the extensions over this prototype structure from the base.

Underlying Schemata of Caused Movement

- (1) a: X CAUSES Y to MOVE to LOCATION [= Base]
 b: X CAUSES STATE to MOVE to Y coded as LOCATION
 c: X CAUSES Y to MOVE to STATE coded as a LOCATION
 d: X CAUSES Y to MOVE to STATE

preposition *go* ‘to’ also tends to deliver an accomplishment. This particular preposition, when used, indicates the path of motion in the caused motion construction.

- | | | |
|-----|--|--------------------|
| (3) | [<i>Chuir</i> NP _x NP _y [PP _{i/leis/go} NP _z]] | Argument Structure |
| (4) | [do '(x) CAUSE BECOME [be '(y, [i _{in} '(z))]]] | Logical Structure |
| (5) | [do '(x) CAUSE BECOME [be '(y, [leis _{with} '(z))]]] | Logical Structure |
| (6) | [do '(x) CAUSE BECOME [be '(y, [go _{to} '(z))]]] | Logical Structure |

In all instances, the verb is a three-place predicate. As a template for a causative construction one finds that it is commonly used, the participants being elaborated as appropriate. In the next section we examine examples of this construction with particular reference to the types of motion and nominals involved. We will demonstrate, for example, how the undergoer is caused to move to a location, caused to move to a state, how the undergoer is the location into which some state is placed, and how the undergoer is placed into a state that is represented as a location.

2.2 Caused Movement of an Undergoer to a Location

In this section we examine clauses that demonstrate caused movement to a location. Example (7) demonstrates caused motion by an actor in which a proper NP moves from a present, but unspecified, location to another actual location represented by a proper NP. The change involved as a consequence of the caused motion is an actual change of location, not of state.

In this example (7) we have three participants in the clause. The first participant, *sé* ‘he’ is an animate human actor coding for agency. The next participant *Micheál Ó Cléirigh*, a proper NP, is also animate and human and is the undergoer of the verbal action. The path of motion of the action is coded by the preposition *go* ‘to’ and the third participant is *Éireann* ‘Ireland’, the goal.

- (7) *Chuir sé Micheál Ó Cléirigh anall go hÉirinn.*
 Put:V-PAST he:PN Micheál Ó Cléirigh:N across:ADV to:PP Ireland:N
 He sent Micheál Ó Cléirigh across to Ireland.
 [**do**'(sé,0) CAUSE BECOME [**be**'(Micheál Ó Cléirigh, [**go**'(Éireann))]]]

In this particular causative accomplishment construction we need to assume arrival at the goal even though this is not explicitly coded. While the actor was dispatched, we have no indication of arrival. We have therefore no specific confirmation of the end condition of arrival in the new location. We can note that the preposition *go* ‘to’ is used with an accomplishment.

- (8) *Chuir sí cóiriughadh úr-nuaidh ar an dreisiúr.*
Chuir sí cóiriughadh úr-nuaidh
 Put:V-PAST she:PN ornament:N fresh:ADJ+new:ADJ
ar an dreisiúr.
 on:PP the:DET dresser:N
 She put a new ornament on the dresser.
 [do'(sí) CAUSE INGR [be'úr-nuaidh'(cóiriughadh), [ar'(an dreisiúr)]]]

In example (8), the undergoer is caused to move to an actual location. The example in this clause contains three participants in its logical structure and three arguments in the syntax. The first participant is *sí* 'she', a concrete count NP and an animate human actor that is the sentence subject. The second participant is *cóiriughadh* 'ornament', a concrete count NP and an inanimate non-human entity. This participant is the undergoer and direct object. The third participant, the indirect object, is the goal at which location the undergoer is placed. In this example, we have a commitment to the end condition that results upon termination of the action. The situation type is inchoative in nature as the undergoer entity, *cóiriughadh* 'ornament', is either on *an dreisiúr* 'the dresser', a concrete count NP, or it is not. This construction is a causative achievement and we can note the preposition used is *ar* 'on'. In this example we have caused motion where the actor causes the undergoer, a concrete count NP, to move to an actual location elaborated by a concrete count NP.

2.3 Caused Movement of a State onto an Undergoer Coded as a Location

In this section we examine clauses that exhibit caused movement of a state onto an undergoer that is coded as a location. The example in (9) is typical of a caused motion construction in which an actor causes a state denoted by an abstract mass NP to move to the undergoer coded as a location.

- (9) *Chuir a chuid cainnte an-iongantas go deo orm.*
Chuir a chuid cainnte
 Put-V-PAST his:PN_POSS part:QTY talk:N
an-iongantas go deo orm.
 much:EMP+wonder:N to:PP ever:ADV on:PP+me:PN
 Lit: 'His pieces of talk put much amazement on me for ever'.
 His talking caused me endless amazement.
 [do'(a₁'(cuid cainnte₂)) CAUSE INGR [be'(an-iongantas₃, [ar'(mé₄))]]]

The first participant is a concrete count NP, *a chuid cainnte* 'his pieces of talk', and is the instigator of the action. As such, it has the actor role in the logical structure and is the clause subject. The NP denotes the fragments of talk of an unspecified individual, an animate human. The undergoer of the action of the verb is encapsulated within the prepositional pronoun *orm* 'on+me' as a concrete count NP. This animate human participant is the clause

object. The third participant in the logical structure denotes the abstract state *an-iongantas* ‘much wonder’, an abstract mass NP, which will move onto the undergoer participant. This is the clause indirect object.

We show in example (10) how an abstract state, represented by the abstract mass NP, is caused to move by the actor onto the undergoer, a proper NP. The undergoer is schematically expressed as a location.

- (10) *Chuir rinnce na gréine i mbrollach na mara míne draoidheacht éigin ar Mhagnus.*
Chuir rinnce na gréine
 Put:V-PAST dancing:VN the:DET-pl sun:N
i mbrollach na mara míne
 in:PP bosom:N the:DET-pl sea:N smooth:ADJ
draoidheacht éigin ar Mhagnus.
 magic:N some:QTY on Maghnus:N
 LIT: ‘The dancing of the sun in the bosom of the smooth sea put
 some magic on Maghnus’.
 The dancing of the sun on top of the calm sea put some spell on Maghnus.
 [do’(i’(brollach na mara míne’(ag’(rinche’(na gréine)))))]
 CAUSE INGR [be’(draoidheacht éigin, [ar’(Maghnus)])]]

This example has a construction using the verb *cuir* ‘put’, a three-place predicate. In the syntax we can see three arguments. The first argument is the effector/instigator of the action and is therefore the actor. The first argument, *rinnce na gréine i mbrollach na mara míne* ‘the dancing of the sun in the bosom of the smooth sea’, is complex and consists of a single argument verbal noun coding a progressing activity and its internal subject argument along with a location, denoted by the preposition *i* ‘in’, where the progressing activity occurs.

The second argument, the undergoer participant of the logical structure of the clause is *Maghnus*, a proper NP and an animate human. In the syntax, this participant elaborates the argument within the prepositional phrase fronted by *ar* ‘on’ as its object. The third argument is *draoidheacht éigin* ‘some magic’, an abstract mass NP representing an inanimate non-human entity that is instantaneously caused to move onto *Maghnus* as a consequence of the action of the verb. This argument represents the end state. The clause codes for a causative achievement situation type that has an unbounded progressing activity as its instigator.

2.4 Caused Movement of an Undergoer to a State Coded as a Location

In this section we examine clauses that code caused movement to a state coded as a location. The example (11) following codes for caused motion by an actor whereby the undergoer, a proper NP, moves from an existing condition to a state represented by an abstract count NP and schematically expressed as a location.

- (11) *Chuir sin Donnchadh ó obair.*
 Put:V-PAST that:DET Donnchadh:N from:PP work:N
 That put Donnchadh out of work.
 [**do'**(sin) CAUSE BECOME (**be'**(Donnchadh, [**ó'**(obair)))]

This clause is a causative accomplishment. The clause contains the verb *cuir* 'put', a three-place predicate. The logical structure of the clause has three participants and the clause has three arguments. The first participant in logical structure is *sin* 'that', a non-human entity of unspecified reference and effector of the caused action. This is the actor and clause subject. The second participant, the undergoer and direct object of the clause is *Donnchadh*, a proper NP and an animate human. The third participant is *obair* 'work' is an abstract count NP and appears in the syntax as the object argument of the preposition *ó* 'from'. In this construction, we are committed to the end state as a consequence of the specific preposition used.

The example in (12) is of a caused motion whereby the actor, a concrete count NP, causes the undergoer, a concrete count NP, to move to a state, an abstract mass NP, that is schematically expressed as a location.

- (12) *Chuir sin ag smaointeach é ar an tamall a bhí caithte i Meiriceá aige.*
Chuir sin ag smaointeach é ar an tamall
 Put:V-PAST that:DET at:PP thinking:VN him:PN on:PP the:DET time:N
a bhí caithte i Meiriceá aige.
 that:REL be:SUBV-PAST spent:VA in:PP America:N at:PP+him:PP
 LIT: 'That put him thinking on the time that was spent by him in America'.
 That set him thinking about the time that was spent by him in America.
 [**do'**(sin₁) CAUSE BECOME [**be'**(**ag'**(smaointeach'₂, [**ar'**(an tamall₃)))]
 REL [**be'**(**caith'**(pro₃, [**i'**[Meiriceá₄, [**ag'**(sé₂)]))]]

This sentence is complex in that it contains a number of clauses including a verbal noun with an embedded relative clause that, in turn, contains a personal passive construction. The primary clause has the verb *cuir* 'put', a three-place predicate requiring three participants in its logical structure and three arguments in the syntax, a subject, object and indirect object. The primary clause is a caused accomplishment that contains an embedded progressing activity and a passive voice construction.

The actor participant and sentence subject *sin* 'that', is a concrete count NP and a non-human entity of unspecified reference. The animate and human second participant, the undergoer and direct object of the syntax, is *é* 'him', a concrete count NP. The third participant of the logical structure and indirect object is *smaointeach* 'thinking', an abstract mass NP. This participant is a verbal noun, the object of the preposition *ag* 'at', and which signifies entry into a state of progressing activity. The subject of the verbal noun is the

second participant *é* ‘him’. Because this participant is elaborated by a pronoun with accusative marking it is not left positioned in its expected canonical template position but occurs in clause final position before the oblique phrases. This second participant is the object of the verb *cuir* ‘put’. This clause final position is a common feature of object pronouns within Irish (Tallerman 1998: 29ff & 616ff). The object of the verbal noun is the NP *tamall* ‘time’. This NP is contained within a prepositional phrase as its object *ar an tamall* ‘on the time’. The verbal noun therefore has its own argument structure with a subject and object. It also contains the embedded relative clause, a personal passive construction. This passive construction uses a substantive verb and the verbal action is represented in the syntax by the verbal adjective *caithe* ‘spent’. The demoted actor of this clause is downstream in oblique position and contained in the prepositional pronoun as a conflation of preposition and pronoun *aige* ‘at+him’. The object of the personal passive construction is *an tamall* ‘the time’. This appears in left shifted position as the object of the preposition *ar* ‘on’, as discussed above.

2.5 Caused Movement of an Undergoer to a State

In this section we examine clauses that code caused movement to a state. The example in (13) contains three clauses that denote a chain of events of which two form a causal chain. The first clause is a causative accomplishment. The second clause is an activity and the third clause is caused achievement. The third clause contains an instance of a noun used as a verbal predicate. The event of the third clause is a direct causal consequence of the action denoted within the second clause such that:

- (13) *Chuir sé an chéasla trasna ar thoiseach an churraigh, tharraing air a phíopa agus dhearg é.*
Chuir sé an chéasla trasna
 Put:V-PAST he:PN the:DET paddle:N across:ADV
ar thoiseach an
 on:PP breadth:N (of) the:DET
churraigh, tharraing air a píopa agus
 currach:N pull:V-PAST on:PP his:PN_POSS pipe:N and:CONJ
dhearg é.
 redden:V-PAST it:PN
 He put the oar across the width of the currach, pulled on his pipe and reddened it.
 [do'(sé₁) CAUSE
 BECOME [be'(an chéasla₂, [trasna'[ar'(thoiseach an churraigh₃)]])] &
 [do'(pro₁, [tharraing'(pro₁, [ar'(a'(píopa₄)]))] &
 [do'(pro₁, [dearg'(pro₁, é₄)] CAUSE INGR [be'(dearg'(é₄)]

- (14) [Clause 1]_{Causative Accomplishment} & [[Clause 2]_{Activity} → [Clause 3]_{Caused Achievement}]

The verb in the first clause is *cuir* ‘put’, a three-place predicate. The first participant is *sé* ‘he’ an animate human entity and the volitional instigator of the action. This participant is the clause subject. The second participant is *an chéasla* ‘the paddle’, a concrete count NP and a non-human and inanimate undergoer that is the direct object. The third participant is *toiseach an churraigh* ‘the width of the currach’³, a concrete count NP. This participant is fronted by the preposition *ar* ‘on’. Because the verb is transactional the third participant is always the object of a preposition, as we see with *ar toiseach an churraigh* ‘on the width of the currach’. In this clause we have an example of caused motion where the actor causes the undergoer to move to a location.

The second clause has the verb *tharraing* ‘pull’ and one argument in the syntax. However, while the clause is syntactically intransitive, the logical structure of the verb in the clause reveals that it is semantically transitive having two participants. The participant that is not expressed in the syntax is the actor. This is represented by *pro*₁ in the logical structure and co-refers to the participant that elaborates the subject argument in the first clause. The single argument expressed in the syntax is fronted the preposition *air* ‘on’ and by a possessive pronoun *a* ‘his’ which co-refers to the subject argument in the first clause *sé* ‘he’. The syntactic single argument of this clause is *piopa* ‘pipe’, a concrete count NP and a non-human inanimate participant, and the undergoer of the logical structure.

The third clause contain a single syntactic argument, the pronoun *é* ‘it’ which co-refers to the syntactic single argument of the previous clause *piopa* ‘pipe’. The pronoun has accusative marking suggesting that the verb, as used in the clause, requires two participants within the logical structure. The missing argument in the syntax is the actor participant in the logical structure. This is expressed in the logical structure by *pro*₁ and co-refers to the actor participant of the logical structure of the first clause. This clause is an example of causation whereby the undergoer is moved to a state denoted by an abstract mass NP. In this example this process is lexicalised as a verb. The third clause is therefore also interesting for this reason. The predicate *dearg* is normally considered to be in the first instance a noun. The predicate *dearg* can also be used as an adjective to denote an attribute of some nominal entity. When *dearg* is used as an adjective it must appear immediately post adjacent to the right of the NP that it is associated with. In the third clause of our example *dearg* is used as a verbal predicate. To be used in this manner the verb requires a syntactic argument structure

³ A *currach* is a type of boat used along the Atlantic coast of Ireland.

that is motivated by an underlying lexical semantics, which we represent with the logical structure representation below.

- (15) [*dearg*:N] ‘red’.
 (16) [*x*:N *dearg*:ADJ] ‘(a) red x’.
 (17) [*dearg*:V *x*:NP *y*:NP] Syntactic Argument Structure
 (18) [**do**’(x, [**dearg**’(x, y) CAUSE INGR [**be**’(dearg’(y))])] Logical Structure
 where: *x*: Actor participant
 y: Undergoer participant

The use of *dearg* as a verbal predicate denotes the process whereby a specified undergoer entity receives a certain state, and that state being described by the N or ADJ form. An entity either is, or is not, *dearg*. The caused change of state denoted by the verbal predicate is therefore inchoative and lexically, the situation type is an achievement.

In (19) we have caused motion where an unspecified actor, that we know to be human and animate, causes the undergoer, a concrete count NP, to move into a state denoted by an abstract mass NP.

- (19) *Chualathas anois ceol na bpíob ag teacht ó dhá cheann na sráide agus chuir sin fuillsceadh faoi a raibh ag éisteacht.*
Chualathas anois ceol na bpíob
 Hear:V-Impers-Pass-PAST now:ADV music:N the:DET pipes:N
ag teacht ó dhá cheann na sráide
 at:PP coming:VN from:PP two:NUM head:N the:DET street:N
agus chuir sin fuillsceadh
 and:CONJ put:V-PAST that:DET passion:N
faoi a raibh ag éisteacht.
 under:ADV that:REL be:SUBV-PAST at:PP listening:VN
 Lit: ‘(One) now heard the music of the pipes coming from both ends of the street and it put passion into all that were listening’
 People now heard the music of the pipes coming from both ends of the street and it put passion into all that were listening.
 [**anois**’[**do**’(x₁, [**chuala**’(x₁,
 [**ó**’(dhá cheann na sraide₃’([**ag**’(teach’(ceol na bpíob₂)]))))]])]
 & [**do**’(sin₂) CAUSE
 BECOME (**be**’(faoi’(be’(ag’(eisteacht’(x₁, fuillsceadh₄))))))]]

This complex sentence has two clauses. The first clause is an impersonal passive construction with an impersonal actor not expressed in the syntax as an argument, and a direct object *ceol na bpíob* ‘music of the pipes’. The NP *ceol na bpíob* ‘music of the pipes’ is also the subject of the oblique argument fronted by the preposition and verbal noun *ag teacht* ‘at+coming’. The verbal noun denotes a one-place predicate. The logical structure of the clause indicates

that the role of the actor of the impersonal is not elaborated but is visible to the syntax. Typically, this impersonal actor is human and animate but remains specific and indefinite.

The second clause after the conjunction *agus* ‘and’ codes for a causative accomplishment and uses the three place transactional predicate *cuir* ‘put’. The first participant in the logical structure of this clause is *sin* ‘that’. In this instance, *sin* ‘that’ refers to the participant in the logical structure of the preceding clause *ceol na bpíop*. The participant in the undergoer role is complex. It is denoted by a relative clause that contains a substantive verb and a verbal noun. The substantive verb and verbal noun combination code for a progressing activity. The actor of this inner clause with the unbounded activity is not specified in the syntax, as such, but is co-referential with the impersonal actor of the first clause. The third participant of the second clause denotes the abstract state *fuillsceadh* ‘passion’, an abstract mass NP and the end result of the caused action. That is, the state into which the undergoer moves.

3.0 Summary of Periphrastic Causatives

In this paper we have provided an analysis of patterns of a class of periphrastic constructions that employ lexical causatives verbs in co-occurrence relations with a bounded set of prepositional phrases, within which the underlying schema (20) is that of caused movement. In particular, we concentrated on the verb *cuir* ‘put’, a verb whose lexical semantics is that of causative placement. The resulting periphrastic causative constructions exhibited a polysemy on the verb beyond that of its lexical definition of causative placement. The schema allows for a wide range of causation constructions, from the caused movement of a concrete entity to an actual location, across to the caused movement of an individual into an abstract state.

Underlying Schema of Caused Movement

- (20) a: X CAUSES Y to MOVE to LOCATION [= Base]
 b: X CAUSES STATE to MOVE to Y coded as LOCATION
 c: X CAUSES Y to MOVE to STATE coded as a LOCATION
 d: X CAUSES Y to MOVE to STATE

Our research findings are summarised in the table (21). The participants denoted as X and Y in the schemata range over the NP types indicated within the table. Within this, a common or proper NP may code the location. The state may be coded by an abstract mass or abstract count NP, irrespective of whether the state is coded as a location or not. The table indicates in summary form whether a state may be coded, a location may be coded and whether the state may be coded as a location, along with type of NP deployed.

(21)

Actor	Undergoer	State Coded	Location Coded
CCNP	P-NP	no	P-NP
CCNP	CNP	no	CCNP
CCNP	CCNP	AMNP	no
CCNP	CCNP	ACNP	no
CCNP	ACNP	ACNP	yes
CCNP	P-NP	ACNP	yes
CCNP	CCNP	ACNP	yes
CCNP	ACNP	no	CCNP
CCNP	P-NP	AMNP	yes
ACNP	CCNP	AMNP	yes
AMNP	CCNP	AMNP	yes

where: CCNP Concrete count NP ACNP Abstract count NP
 CMNP Concrete mass NP AMNP Abstract mass NP
 P-NP Proper NP

We have provided evidence that this class of periphrastic causative constructions of modern Irish, that employ lexically causative verbs, is sensitive to interpretation as a prototypicality structure and that the schemata represent the extensions over this from the base of (20a). This evidence supports our argument of the caused motion schema.

4.0 References

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