LINKING THE SYNTACTIC AND SEMANTIC REPRESENTATION OF COMPLEX STRUCTURES WITHIN THE OLD ENGLISH DOMAIN OF SPEECH[1]

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1. Introduction: the concept of *lexical template* within the Functional-Lexematic Model

The Functional-Lexematic Model (FLM), developed by Martín Mingorance (1998) and inspired by the principle of *Stepwise Lexical Decomposition* (Dik 1978), has been devised for the purpose of supplying the Functional Grammar (FG) lexicon with the onomasiological classification of lexemes within domains and subdomains, and as a way of reflecting the organisation of our mental lexicon and demonstrating the close relationship between syntax and semantics (Martín Mingorance 1998; Faber and Mairal Usón: 1994, 1997a, 1997b, 1999).

According to the paradigmatic axis of the FLM based on the principles of Lexematics (Coseriu 1978, 1981), the criteria for integrating a given lexeme in a (sub-) domain are based on its lexical decomposition, in such a way that the definition of the lexeme must contain a nuclear word, shared by the group of lexemes that integrate that (sub-)domain, and a set of differentiating features which establish functional oppositions between the lexemes of the (sub-)domain.

The syntagmatic axis of the FLM was initially based on the FG notion of *predicate frame*. Nevertheless, Cortés Rodríguez and Mairal Usón (2001, forthcoming), Cortés Rodríguez and Pérez Quintero (2001), Faber and Mairal Usón (2000),

and Mairal Usón and Van Valin (2001) have brought to light the inadequacy of *predicate frames* to reflect the interaction between the semantic and syntactic behaviour of predicates.

Accordingly, these authors suggest the enrichment of FG *predicate frames* by applying Role and Reference Grammar (RRG) logical structures along with the notion of semantic macroroles instead of the FG inventory of semantic functions, the result being a procedure of lexical representation where meaning description is encapsulated and interacts with the syntactic behaviour of lexical units.[2]

Thus, *lexical templates* are designed as a way of including semantic and syntactic information within the same format, reflecting generalisations across lexical classes and reducing the information to be included in lexical entries. Moreover, given the fact that subdomains are considered repositories of linguistic regularities, the authors mentioned above propose that each domain and subdomain should be characterised by a *lexical template* from which syntactic alternations will be predicted.

In order to construct a *lexical template*, the logical structures developed by Van Valin and LaPolla (1997) within the theoretical frame of RRG will be complemented by the semantic component of the FLM, since logical structures lack the semantic information characteristic of the different lexical (sub-)domains. Thus, "lexical templates conflate both syntactic information (those aspects of the meaning of a word which are grammatically relevant) and semantic information (those aspects which act as distinctive parameters within a whole lexical class) into one unified representation" (Faber and Mairal Usón 2000:7).

2. Role and Reference Grammar logical structures

Within RRG, four classes of verbal predicates are distinguished: states [+static] [-telic] [-punctual], activities [-static] [-telic] [-punctual], achievements [-static] [+telic] [+punctual], and accomplishments (or active accomplishments) [-static] [+telic] [-punctual], together with their causative counterparts. This classification of verbal predicates based on their *Aktionsart* will allow for the capture of syntactic phenomena (combinatory possibilities of predicates) and morphological phenomena (transitivity and case assignment) characteristic of the different verbal classes.
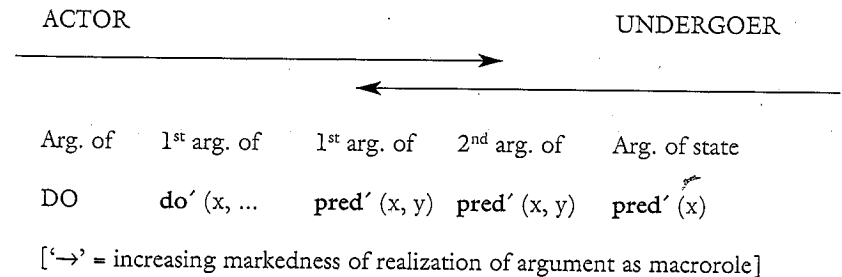
These are the lexical representations corresponding to the verbal classes mentioned above (Van Valin and LaPolla 1997: 109):

Verb class	Logical structure
State	**predicate′** (x) or (x, y)
Activity	**do′** (x, [**predicate′** (x) or (x, y)])
Achievement	INGR **predicate′** (x) or (x, y), *or* INGR **do′** (x, [**predicate′** (x) or (x, y)])
Accomplishment	BECOME **predicate′** (x) or (x, y), *or* BECOME **do′** (x, [**predicate′** (x) or (x, y)])
Active accomplishment	do′ (x, [predicate₁′ (x, (y))]) & BECOME predicate₂′ (z, x) or (y)
Causative	α CAUSES β where α, β are LS of any type

Table 1. *Lexical representations for* Aktionsart *classes*

In order to attain the argument structure of a verb, it is necessary to determine firstly its *Aktionsart*, from which its logical structure will be created and along with it its argument structure. Van Valin and LaPolla (1997: 139) propose two general semantic relations, the *Actor* and *Undergoer* macroroles, which are "generalizations across the argument-types found with particular verbs which have significant grammatical consequences".

As the *Actor-Undergoer Hierarchy* below shows, the *Actor* macrorole comprises those arguments whose nature is closer to that of an Agent and the *Undergoer* those arguments closer to a Patient:

ACTOR   UNDERGOER

Arg. of	1st arg. of	1st arg. of	2nd arg. of	Arg. of state
DO	**do′** (x, ...	**pred′** (x, y)	**pred′** (x, y)	**pred′** (x)

['→' = increasing markedness of realization of argument as macrorole]

The criteria that determine the interaction between arguments and macroroles are to be found in the *Default Macrorole Assignment Principles* (1997: 152-153):

    a. Number: the number of macroroles a verb takes is less than or equal to the number of arguments in its logical structure,

    1. If a verb has two or more arguments in its LS, it will take two macroroles.

    2. If a verb has one argument in its LS, it will take one macrorole.

    b. Nature: for verbs which take one macrorole,

    1. If the verb has an activity predicate in its LS, the macrorole is actor.

    2. If the verb has no activity predicate in its LS, the macrorole is undergoer.

In RRG, transitivity becomes a semantic notion since the number of semantic macroroles a predicate takes determines it. Thus, those verbs that take two macroroles are transitive, those with one macrorole are intransitive, and those with no macrorole are atransitive. Moreover, *Case assignment rules* are also related to the assignment of macroroles (1997: 359):

    a. Assign nominative case to the highest-ranking macrorole (in terms of the Privileged syntactic argument selection hierarchy).

    b. Assign accusative case to the other macrorole argument.

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

Due to the fact that the grammatical relations between the arguments of a verb are not the same in all languages, RRG introduces the notion of *Privileged Syntactic Argument (PSA)*, which will substitute for that of subject. In order to select the *PSA* in a grammatical construction, Van Valin and LaPolla (1997: 282) suggest the *Privileged Syntactic Argument Selection Hierarchy* below, based on the *Actor–Undergoer Hierarchy*:

arg. of DO > 1st arg. of do' (x,... > 1st arg. of pred' (x, y) > 2nd arg. of pred' (x, y) > arg. of pred'(x)

According to this hierarchy, the criteria to select the *PSA* depending on the type of construction are the following:

    a. Syntactically accusative constructions: highest-ranking macrorole is default choice.

    b. Syntactically ergative constructions: lowest-ranking macrorole is default choice.

Therefore, taking into account the *Default Macrorole Assignment Principles*, the *Actor–Undergoer Hierarchy* and the interaction existing between macroroles and grammatical relations, the information to be included in lexical representations will be highly reduced.

3. Linking the syntactic and semantic representation of complex structures within the Old English domain of speech

Based on Van Valin and LaPolla (1997: 116-118), the Old English domain of speech will be represented by the following *template*:

> do' (x, [express' (a) to (b) in language' (γ)' (x, y)]) ^ [in' (w)] & [BECOME aware of' (y, z)], where y = β, z = α, [in' (w)] = γ

This *template* contains the logical structure of an active accomplishment, characterised by the semantic features [-static] [+telic] [-punctual], where a speaker says something to a hearer who becomes aware of it. It shows three internal variables α, β, γ (marked by Greek letters) referring to the content of the expression, to the addressee and to the language used, respectively, and four external variables x, y, z, w, where x refers to the speaker, z to α or the content of the expression, y to β or the hearer, and w to γ or the language used.

The syntactic behaviour of a lexeme will be determined by linking internal and external variables. Internal variables differ from external variables because the latter correspond to external argument positions with a syntactic representation, whereas the former belong to the semantic representation of speech verbs, that is, they function as ontological constants of this verbal class adding a semantic decomposition to the logical structure and giving rise to the *lexical template* for the domain of speech.

As example (1) shows, applying the *Default Macrorole Assignment Principles* and the *Case assignment rules*, the variable x takes the macrorole *Actor* and Nominative case, the variable z takes the macrorole *Undergoer* and Accusative case, the variable y, a non-macrorole direct core argument, is assigned Dative case, and the variable w will be introduced by the preposition *on*, functioning as an oblique core argument:

(1) *Se mæssepreost sceal secgan sunnandagum and mæssedagum þæs godspelles angyt on englisc þam folce* (Ælet1 (Wulfsige Xa) B1.8.1)

The masspriest will say to people on Sundays and mass-days the meaning of the Gospel in English"

x	Nom	Actor	*se massepreost*
z	Acc	Undergoer	*þæs godspelles angyt*
y	Dat		*þam folce*
w	on + Acc PP		*on englisc*

The external variable z can also be syntactically realised by complex structures, the result of combining the theory of juncture and the theory of nexus. The theory of juncture deals with the types of units involved in complex constructions, derived from the layered structure of the clause: nuclear, core, or clausal. Thus, the following patterns can be obtained (Van Valin and LaPolla 1997: 442):

a. Nuclear juncture [CORE ... [NUC PRED] ... + ... [NUC PRED] ...]

b. Core juncture [CLAUSE ... [CORE ...] ... + ... [CORE ...] ...]

c. Clausal juncture [SENTENCE ... [CLAUSE ...] ... + ... [CLAUSE ...] ...]

The theory of nexus, on the other hand, takes into account the type of relationship among the units in complex constructions: coordination, subordination or subordination. The difference between subordinate and non-subordinate junctures lies in the fact that only the former function as arguments of the main verb, since they may be clefted and occur as privileged syntactic arguments in a passive construction (Van Valin and LaPolla 1997: 461-462):

) John decided that he will go to the party *subordinate*

It was to go to the party that John decided

To go to the party was decided by John

) John told Bill to wash the car *non-subordinate*

*It was to wash the car that John told Bill

*To wash the car was told Bill by John

The complex structures which combine with the Old English speech verbs are core cosubordination, core coordination, clausal subordination, and sentential

infinitive constructions, whereas clausal subordinations will be introduced by a subordinator, in this case *hu* (Present-day English *how*):

(4) core cosubordination

Ðeah hine deofol mid barspere beotige to ofsticianne (Byr M1(Baker/Lapidge) B20.20.1)

"Though the devil threatens to pierce him with a boar-spear"

(5) core coordination

swa us þa halgan apostolas mynegodon to weorþianne urne hælend and his þa halgan

(HomS 30 (TristrApp 2) B3.2.30)

"Such as the holy apostles warned us to honour our Christ and his saints"

(6) clausal subordination

Ne mihte se dumba fæder cyþan his wife hu se engel his cilde naman gesette

(ÆCHom I, 25 B1.1.27)

"The silent father might not tell his wife how the angel set a name for his child"

Although Van Valin and LaPolla (1997: 469) question whether a direct discourse construction such as *Amy said, "As for Sam, I saw him last week"* depends on the speech verb that introduces it, we will assume that the linkage between the two sentences is sentential juncture and the nexus coordination:

(7) sentential coordination

cwæð se halga Effrem to þam arwurþan biscope, Ic bidde þe, arwurða fæder, þæt þu me anes þinges tyðige (ÆLS (Basil) B1.3.4)

"The holy Effrem said to the honourable bishop: "I ask you, honourable father, to give me anything""

Core cosubordinations and core coordinations are characterised by sharing an argument with the main verb or core. According to the *Theory of obligatory control* included in Van Valin and LaPolla (1997: 544), core cosubordinations combine with transitive verbs which have *Actor* control, whereas core coordinations combine with jussive verbs which have *Undergoer* control. As a result, these authors state that only in the case of a core cosubordination will a deontic modal operator modify a sequence of cores which denote actions by the same participant (1997: 460). The examples below show the argument functioning as controller in each syntactic construction:

(4) *Ðeah hine deofol mid barspere beotige to ofsticianne* (Byr M1(Baker/Lapidge)

(5) *swa us þa halgan apostolas mynegodon to weorþianne urne hælend and his þa halgan* (HomS 30 (TristrApp 2) B3.2.30)

Undergoer-controller: *us*

In relation to the semantic description of these constructions, the *Interclausal Relations Hierarchy* below will be applied (1997: 481), according to which the different juncture-nexus types may be hierarchically arranged in terms of the tightness of the syntactic link or bond between them:

Strongest		Closest
Nuclear Cosubordination		Causative
		Aspectual
Nuclear Subordination		Psych-Action
		Purposive
Nuclear Coordination		Jussive
		Direct Perception
Core Cosubordination		Propositional Attitude
Core Subordination		Cognition
		Indirect Discourse
Core Coordination		Conditional
Clausal Cosubordination		Simultaneous States of Affairs
		Sequential States of Affairs
Clausal Subordination		
Clausal Coordination		Unspecified Temporal Order
Weakest		Loosest
Syntactic Relations		Semantic Relations

Table 2. *Interclausal Relations Hierarchy*

The complex syntactic units which combine with the Old English speech verbs will be realized as follows: core cosubordinations will be linked to the semantic relationship *psych-action* ("a mental disposition regarding a possible action on the part of a participant in the state of affairs"), core coordinations to *jussive* ("the expression of a command, request or demand"), and clausal subordinations to *indirect discourse* ("an expression of reported speech"). The semantic relationship *direct discourse* will be included to account for the semantic description of sentential coordinations.

Therefore, as Table 3 shows, the syntactic description of complex constructions will result from the combination of the theory of nexus and juncture, whereas their semantic description will be provided by applying the *Interclausal Relations Hierarchy*:

COMPLEX STRUCTURES		
Syntactic representation		Semantic representation
Nexus	Juncture	Interclausal Relations Hierarchy
Core cosubordination		Psych-action
Core coordination		Jussive
Clausal subordination		Indirect discourse
Sentential coordination		Direct discourse

Table 3. *Syntactic and semantic representation of complex structures*

Then, the next step will be the inclusion of the syntactic and semantic representation of complex structures in the *lexical templates*: their semantic description will add information about the internal variable α, whereas their syntactic description will complement the external variable z.

Thus, from the *lexical template* that we present below and applying the linking rules the clausal subordination and the sentential coordination in (6) and (7) respectively will be derived as follows:

$$\text{do}' (x, [\text{express.}(\alpha).\text{to.}(\beta).\text{in.language.}(\gamma)' (x, y)]) \& [\text{BECOME aware.of}' (y, z)], \text{ where } y = \beta, z = \alpha \text{ [Indirect discourse / Direct discourse]}$$

(6) *Ne mihte se dumba fæder cyþan his wife hu se engel his cilde naman gesette* (ÆCHom I, 25 B1.1.27)

x	Nom	Actor	*se dumba fæder*
z	[Clausal subordination]	Undergoer	*hu se engel his cilde naman gesette*
y	Dat		*his wife*

(7) *cwæð se halga Effrem to þam arwurðan biscope, Ic bidde þe, arwurða fæder, þæt þu me anes þinges tyðige* (ÆLS (Basil) B1.3.4)

x	Nom	Actor	*se halga Effrem*
z	[Sentential coordination]		*Ic bidde þe, arwurða fæder, þæt þu me anes þinges tyðige*
y	to + Dat		*to þam arwurðan biscope*

In (6) the variable *x* takes the macrorole *Actor* and Nominative case, the variable *z* takes the macrorole *Undergoer*, and the variable *y*, a non-macrorole direct core argument, is assigned Dative case. In (7), on the other hand, the variable *x* takes the macrorole *Actor* and Nominative case, the variable *z* cannot take the macrorole *Undergoer* since only subordinate junctures are considered arguments of the main core, and the variable *y*, introduced by the preposition *to* (Present-day English *to*), will function as an oblique core argument.

However, there exist some alternations in relation to the macrorole and case assignment of the variable *y*, which cannot be explained by the linkage of syntax and semantics and which could be the result of the influence of pragmatic information, as examples (8) and (9), taken from Bosworth and Toller (1973) and Toller and Campbell (1972), show:

(8) *Ælc biscop ðone cyning myngige ðæt ealle Godes cyrcan syn wel behworfene* (B&T)

"All the bishops warn the king to have all God's churches well prepared"

x	Nom	Actor	*ælc biscop*
z	[Clausal subordination]		*ðæt ealle Godes cyrcan syn wel behworfene*
y	Acc	Undergoer	*ðone cyning*

(9) *He aras and þa gebroðru gespræc: "Gebroðru, miltsige eow God"* (T&C)
"He stood up and said to the fellowmen: "Fellowmen, God has mercy on you""

x	Nom	Actor	*he*
z	[Sentential coordination]		*"Gebroðru, miltsige eow God"*
y	Acc	Undergoer	*þa gebroðru*

In these examples the macrorole *Undergoer* corresponds to the variable *y* in Accusative case and the variable *z* will be a non-macrorole direct core argument. We can postulate that the Accusative case associated with the macrorole *Undergoer* could signal the focal element in these sentences when either the clausal subordination or the sentential coordination is not the focus.

Taking into account the fact that in Old English inflexions were used to establish the relation existing between the elements of a sentence, its use to mark the focal element would not be strange. Accordingly, Van Valin and LaPolla (1997: 211) state that "evidential markers signal focus; that is, the normal placement of an evidential marker in a clause is on the focal element".

Thus, the variable *y* in these sentences can be considered a marked focal element, as opposed to the clausal subordination and sentential coordination in (6) and (7), being located in the unmarked focus position, which appears to be the final position in the core, as in present-day English.

With respect to examples (4) and (5) corresponding to a core cosubordination and a core coordination, they have been taken from the speech subdomain *To say that something bad may happen*, where the *templates* contain the semantic decomposition **express.something.bad.may.happen** and the logical structure of a causative accomplishment:

do (x, [**express.something.bad.may.happen** (α) **.to** (β) **.in language** (γ) (x, Ø)]) CAUSE [BECOME **aware.of** (Ø, z)], where Ø = β, z = α [Psych-Action]

(4) *Ðeah hine deofol mid barspere beotige to ofsticianne* (Byr M1(Baker/Lapidge) B20.20.1)

| x | Nom | Actor | *deofol* |
| z | [Core cosubordination] | | *hine mid barspere to ofsticianne* |

> do´ (x, [express.something.bad.may.happen.(α).to.(β).in.language.(γ)´ (x, y)]) CAUSE [BECOME aware.of´ (y, z)], where y = β, z = α [Jussive]

(5) *swa us þa halgan apostolas mynegodon to weorþianne urne hælend and his þa halgan* (HomS 30 (TristrApp 2) B3.2.30)

x	Nom	Actor	*þa halgan apostolas*
z	[Core coordination]		*to weorþianne urne hælend and his þa halgan*
y	Acc	Undergoer	*us*

In (4) the *template* only shows two external variables *x* and *z*. Applying the *Default Macrorole Assignment Principles* and the *Case assignment rules*, the variable *x* takes the macrorole *Actor* and Nominative case and the variable *z* will be a non-macrorole direct core argument, since only subordinate junctures can take a macrorole. Thus, the *Actor* will be the controller of the second core.

In (5), on the other hand, the *template* shows three external variables *x, y, z*, where *x* takes the macrorole *Actor* and Nominative case, the variable *y* takes the macrorole *Undergoer* and Accusative case, and the variable *z* will be syntactically realised by a core coordination. The variable *y* and *Undergoer*, therefore, will be the controller of the second core.

However, regarding core coordinations, the lexemes *beodan* and *biddan* included in the lexical subdomain *To say something to somebody so that they will do it*[3] appear to behave in a different way, since the *Undergoer*, which functions as controller of the second core, does not take Accusative case but Dative, as the following examples show:

> do´ (x, [express.something.be.done.(α).to.(β).in.language.(γ)´ (x, y)]) CAUSE [BECOME aware.of´ (y, z)], where y = β, z = α [Jussive]

(10) *Man bead him ut binnan .v. nihtan* (T&C)
"He was ordered to leave the country within five days"

x	Nom	Actor	*man*
z	[Core coordination]		*ut binnan .v. nihtan*
y	Dat	Undergoer	*him*

(11) *He bad him hlafas wyrcan* (B&T)
"He commanded him to make loaves"

x	Nom	Actor	*he*
z	[Core coordination]		*hlafas wyrcan*
y	Dat	Undergoer	*him*

Firstly, in (10) the assignment of Dative case to the variable *y* by the lexeme *beodan* could be due to the fact that the argument referring to a person appears to take Dative case. Secondly, the lexeme *biddan* in (11) appears to behave in the same way as *beodan* when located in the same subdomain, whereas when this lexeme is located in the subdomain *To say something in order to get something else*[4] the variable *y* takes Accusative case, as the following example shows:

> do´ (x, [express.something.be.obtained.(α).to.(β).in.language.(γ)´ (x, y)]) CAUSE [BECOME aware.of´ (y, z)], where y = β, z = α [Jussive]

(12) *Heo bad hine bliðne (wesan)* (T&C)
"He asked him to be kind"

x	Nom	Actor	*heo*
z	[Core coordination]		*bliðne (wesan)*
y	Acc	Undergoer	*hine*

4. Concluding remarks

From the above discussion it can be concluded that the notion of *lexical template* has been developed as a way of representing the interaction between syntax and semantics. By linking the internal variables and external argument positions of a *template* the syntactic behaviour of a lexeme can be predicted, although this behaviour can be influenced by pragmatic information or by a lexeme (such as *beodan* or *biddan*) taking a specific grammatical case for one of its arguments.

With respect to the Old English domain of speech, it has been shown how external variables can be syntactically realised by complex structures of four juncture-nexus types, that is, core cosubordinations, core coordinations, clausal subordinations, and sentential coordinations. The semantic description of these syntactic units will be provided by the *Interclausal Relations Hierarchy* and will be included in the *templates* complementing the information about internal variables.

Notes

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2. A first attempt to introduce meaning definitions within logical structures is made in Van Valin and LaPolla (1997: 116-118) in relation to speech verbs.

3. The template corresponding to the subdomain *To say something to somebody so that they will do it* presents the semantic decomposition **express.something.be.done** and the logical structure of a causative accomplishment.

4. The template corresponding to the subdomain *To say something in order to get something else* presents the semantic decomposition **express.something.be.obtained** and the logical structure of a causative accomplishment.

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