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Valency Patterns of Old Irish verbs: finite and non-finite syntax

Abstract: This paper compares argument marking of finite and non-finite forms (verbal nouns) of 26 Old Irish verbs, focusing on the relationship of transitive coding patterns of finite forms with the mapping of the argument in the genitive case with non-finite forms. The collection of argument structures is cast in the framework of the Leipzig Valency Patterns Project (Hartmann, Haspelmath, and Taylor 2013, Malchukov and Comrie 2015). The paper argues that, although most genitive arguments with transitive verbs express the microrole which corresponds to the second argument (the P-argument), this is not a strict rule, and some verbal nouns of transitive verbs clearly allow the first argument (the A-argument) to surface in the genitive. It is claimed that there is a correlation between the likelihood for finite forms to occur with an accusative argument and the likelihood for the genitive argument of non-finite forms to correspond to the P-argument. This likelihood is measured through a transitivity index that tries to supply a criterion that substitutes acceptability judgments, which are unavailable for past varieties. Each verb's index can be calculated and each verb can consequently be accommodated in the resulting transitivity scale. Finally, the scale ranking Old Irish verbs according to the transitivity index is compared with cross-linguistic hierarchies of transitivity which have been put forward in the literature.

Keywords: Old Irish, valency patterns, transitivity, argument marking, verbal nouns, non-finite syntax

1 Introduction

This paper focuses on the relationship between case-marking of arguments with finite and non-finite forms in the Old Irish Glosses and on its correlation with transitivity. Old Irish is a member of the Celtic branch of the Indo-European family,

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and the earliest Celtic language for which extant record allows a full grammatical description. Among the sources for this stage of the language, which, broadly stated, covers the 8th and 9th centuries, the collections of anonymous glosses on Latin texts which have been taken into account for this study (see Section 2.2) represent the most important contemporary documents.

The comparison of case-marking with finite and non-finite forms presented here relies on the results of a full collection of the argument structures attested in the Glosses for 26 verbs. The data collection was cast in the general framework of the Leipzig Valency Patterns Project (Hartmann, Haspelmath and Taylor 2013; Malchukov and Comrie 2015, henceforth ValPaL). Verbs were chosen and argument structures were classified applying the ValPaL format, in order to grant representativity of different valency patterns and to allow comparison. The main aim of the enquiry, however, is not to give valency patterns for a set of meanings, supplying form-meaning pairs, as in ValPaL, but rather to classify attested patterns for a set of predicates and to compare the patterns with finite and non-finite forms, given that the patterns with non-finite forms have been claimed to correlate with transitivity (see Section 4).

The paper is organized as follows: Section 2 provides some background on argument marking in Old Irish and presents the framework for data-collection and the dataset; Section 3 dwells on word order issues related to argument marking in Old Irish; Section 4 compares the valency patterns of finite and non-finite forms in the dataset and discusses them on the background of the transitivity distinction, on which previous literature on Old Irish is based; Section 5 focuses on the conditions of occurrence of less frequent patterns and Section 6 introduces a measure of transitivity, the transitivity index, which fits in with the distribution of argument marking with non-finite forms better than a simple transitive vs. intransitive opposition, and briefly compares the scale resulting from this index to cross-linguistic transitivity hierarchies. Section 7 summarizes the results.

2 Background description and outline of data collection

2.1 Argument marking in Old Irish

Old Irish has nominal case inflection. Two cases, nominative and accusative, code verbal arguments with finite forms, while the others (dative, genitive and vocative) do not. The genitive is an adnominal case, while the dative is a prepositional case, which occurs prepositionless only in a few not strictly argumental

phrases (standard of comparison after comparative adjectives, mostly petrified temporal/modal adverbials). The accusative is also a prepositional case.

Verbal arguments, therefore, may be expressed by nominals in the nominative and accusative case or by prepositional phrases, selected by the verb. Prepositions select nominal case and fuse with pronouns, giving what are usually called inflected or conjugated prepositions. Verbs obligatorily agree in person and number with a nominal nominative argument but pronominal subjects are expressed only through verbal person endings, which can refer, i.e. they have full referential function – they behave as pro-indexes in Haspelmath's (2013) classification. Given that free pronouns cannot occur as verbal arguments (Thurneysen 1946: 254; Roma 2000), and in fact have been classified as extra-clausal constituents (García Castillero 2013; see Haspelmath 2013: 206), non-prepositional pronominal arguments may only be expressed through bound morphemes on the verbal complex: verb inflection, which combines tense, mood and person, and so-called infixed/suffixed object pronouns. Person and number distinctions for all kinds of pronominal indexes are common ones in Indo-European languages (three persons, two numbers). An example with three free-standing arguments is given in (1), an example with three pronominal, bound arguments in (2).¹

- (1) *na=taibred* *cách* *uáib* *bréic* *imm=alaile*
 NEG.IMP=give.IMP.3SG each.NOM from.2PL falsehood.ACC around=other.ACC
 'let not anyone of you deceive another'
 (Wb 27b12)

¹ Examples are quoted according to the diplomatic edition of the Old Irish Glosses (Stokes and Strachan 1901-03, with emendations in Griffith 2013 and Bauer 2015). Morphological glosses conform to the conventions of the Leipzig Glossing Rules. In particular, note that two rather infrequent symbols are employed here: angle brackets for infixed morphemes, both in the glossed example and in the interlinear gloss (left-peripheral infix, Rule 9), and backslash for initial consonant mutations, in the interlinear gloss (Rule 4D). In the original manuscripts various kinds of clitics and other bound morphemes are usually written together with their host, but sometimes they are written separately (cp. *la dia* in 12.b and 12.d). When this is so in the printed edition, the quoted text is left as such and no symbol is inserted to separate the morphemes, since such symbols in the object language allow the reader to match morpheme and morphological gloss, but do not represent a fully-fledged morphological analysis. Conventionally, however, conjunctions which affect verb stress and inflection have been detached through the symbol separating affixes, while conjunctions which do not trigger stress and inflection changes have been detached by the symbol for clitics. Translations begin with case letters only when the quoted example represents the beginning of a gloss in the manuscript. Abbreviations not listed in the Rules are: COMPV = comparative, HAB = habitual, IMPF = imperfect (habitual past), SUB= subordinate clause, VN = verbal noun.

- (2) *d<a>ratsat* *form=sa*
 <3SG.OBJ.N>give.PR.F.3PL on.1SG=1SG
 ‘they have inflicted it upon me’
 (MI 73b17)

The difference between the two sets of verbal indexes, i.e. subject and object indexes, is that personal endings (subject indexes) cannot be omitted, as they are fused together with tense and mood inflection, so that 3rd person forms regularly co-occur with nominal arguments, while affixed pronouns (object indexes) are generally in complementary distribution with nominal objects, and may co-occur with a nominal object very rarely (see Griffith 2015 and Roma 2018 about the degree of co-occurrence of indexes and nominal arguments).² The different syntactic status of direct arguments (subjects and objects) as opposed to prepositional arguments and non-arguments emerges from the following behaviors: as stated above, pronominal direct arguments must be coded through bound morphemes on the verbal complex, in contrast with bound morphemes on prepositions; relative clauses on subjects and objects are marked differently, possibly through a verbal form with relative ending;³ only direct arguments enter in coding alternations with the passive, while other arguments preserve the same marking in both diatheses (see 4.a and 4.b below).

² Griffith (2011, 2015) has argued that person inflection and object indexes (infixes and suffixes) in Old Irish are not pronominal arguments but agreement affixes, and that so-called emphatic particles or *notae augentes* (cf. e.g. 3sg. -*som* in (18), cp. 1sg. -*sa* in 2 and 6.b) are pronominal arguments instead, despite the fact that they are optional, similarly to free subject pronouns in pro-drop languages like Italian. The reason why I cannot subscribe to this view is that it is based on assumptions that are in contrast with the framework adopted here (Haspelmath 2013; Kibrik 2019). These assumptions are: that bound morphemes are in principle less likely to code arguments and to refer than stressed and clitic pronouns; that if verb inflection and argument phrases may co-occur only one of them, rather than their combination, codes the argument; that verb inflection in so-called pro-drop languages implies a co-referent null controller (*pro*). Since these assumptions have been discussed by Haspelmath (2013), I need not repeat his criticisms here. Note that the pronominal enclitics which are assumed to be arguments in Griffith’s analysis are not case-marked: they can attach to any kind of lexical host, provided that it contains a person index (verb inflection or pronominal affix on verbs, possessive proclitic with nouns, pronominal affix with prepositions). Therefore, differently from nominal arguments, their syntactic function only depends on the bound morphemes themselves, with which they must always co-occur.

³ I cannot dwell here on the intricacies of Old Irish relativization strategies, but I refer the reader to the description in Roma (2007: 246-257) and to the clear summary in Stifter (2009: 106-107). What is relevant here is that some strategies are allowed only for subjects and objects (i.e. non-prepositional arguments).

Passive verb inflection includes Number distinctions (sg. vs. pl.), but not Person distinctions. So while nominal subjects (i.e. promoted objects) bear nominative case and are cross-indexed on passive verbal forms, 1st and 2nd person subjects must be expressed only by the same forms as object affixes, cp. (3.a) and (3.b).⁴ In Old Irish passive forms may also occur without any direct argument: (4.a) and (4.b) are examples of this strategy, which removes both the nominative and the accusative argument, while admitting only prepositional arguments. In that case, the passive singular inflectional ending does not represent bound anaphora.

- (3) a. *ni-derlaichta* *a=pecdæ* *doib*
 NEG-forgive.PRF.PASS.PL their=sin.NOM.PL to.3PL
 ‘Their sins have not been forgiven them’
 (Wb 33b8)
- (3) b. *co<t>oscaighther*
 <2SG.OBJ>move.SBJV.PASS.SG
 ‘May you be moved’
 (Ml 55b3)
- (4) a. *is=i=ndeseircc* *et* *spirut* *rigthir* *cuccuib*
 COP.PRS.3SG=in=love.DAT and spirit.DAT go.FUT.PASS.SG towards.2PL
 ‘it is in love and spirit that one will go to you’ (lit. ‘will be gone towards you’)
 (Wb 9a23)

4 I merge the two constructions in (3.a) and (3.b) together, i.e. passive with number agreement and passive with infixed pronoun, rather than grouping (3.b) with (4.a) and (4.b), because in the Old Irish Glosses they represent clear matches with regard to valency patterns, i.e. they are an instance of coding split in the ValPaL framework (Haspelmath and Hartmann 2015: 57-78; a similar view is put forward for Old Irish in García Castillero 2015; see Section 4 for the effects of this criterion). However, “impersonal passive” is frequently used for (3.b), since the pronominal argument belongs to the object morphemes set. Graver (2011), for instance, terms the three kinds of passive constructions exemplified by (3.a), (3.b) and (4.a) “canonical passive”, “impersonal passive” and “active subject impersonal” respectively, and rather groups the last two together, i.e. the pattern in (3.b) together with (4.a). It is not clear to me whether the construction in (4.b) would be classified by Graver as impersonal passive or active subject impersonal.

- (4) b. *co=frisaccat* *ón* *dílgud* *doib*
 that=hope.PRS.3PL DEM.ACC.N forgive.VN.ACC to.3PL
amal duolged *dian=aithrib*
 as forgive.PRF.PASS.SG to.their=father.DAT.PL
 ‘So that they hope for that, for forgiveness to them, as their fathers
 had been forgiven’ (lit. ‘had been forgiven to their fathers’)
 (Ml 124a2)

Basic word order is VSO, and the initial position of the predicate is rigid (see Lash 2020 and Section 3 below).

Non-finite forms, so-called verbal nouns,⁵ behave syntactically as nouns and inflect for case, but not for voice and tense. Their rection is nominal, which means that their overt direct arguments are genitive modifiers (see Section 4 and 5 for argument linking in non-finite clauses). Pronominal arguments are expressed by bound forms (indexes) on the verbal noun: these genitive pronominal indexes are a set of proclitic forms (e.g. *a* in *tri-a-forcital* in 6.a below), which trigger initial consonant mutations on the following noun and fuse with some preceding prepositions (Thurneysen 1946: 158, § 250; 276, § 438; 445, § 720). Although their rection is nominal, verbal nouns in Old Irish clearly behave as non-finite counterparts of predicates, similarly to infinitives in other Indo-European languages, and involve the same semantic microroles as the corresponding finite predicates. Constructions with verbal nouns could therefore be considered instances of coded alternations within the ValPaL framework, although they are not valency-changing or diathetic operations in the first place. The relationship between finite and non-finite counterparts emerges from the following evidence:

- a. recurrent instances like (5), where the verbal noun construction *cen tabairt anman trén friú* ‘without adding substantives to them’ is clearly a non-finite counterpart to the finite clause *nitabarr ainm trén friu* ‘a substantive is not added to them’

⁵ The other non-finite verbal forms of Old Irish, i.e. the participle of necessity or gerundive and the past passive participle, are in fact used in finite clauses (with a copular form) or as noun modifiers within NPs (Thurneysen 1946: 441-444, §§ 714-719). These forms do not involve a specific case-marking of arguments, although they are passive in meaning (e.g. *tabartha* ‘to be given’, *tabartha* ‘given’), but they were not included in this study because they are very rare: for the verbs reckoned here, there are only 12 occurrences of the participle of necessity and 3 of the past participle in Wb, Ml and Sg altogether.

- b. a clearly verbal construction where the verbal noun is governed by the preposition *do* ‘to’ and one of its direct arguments, mostly the object,⁶ precedes it and receives case-marking from the matrix clause -viz. *pianaib* in (6.a) and *indoís anechtir* in (6.b) (see Stüber 2009b; Sanfelici 2014, 2015)
- c. a specific argument flagging of the A-argument⁷ of verbal nouns with the preposition *do*, exemplified below (*do dia* in example (7), see (35.a-b) in Section 6, cf. (15.d)).

Note, however, that the construction in (6) is an emergent one in the Old Irish Glosses and occurs in a minority of the instances of verbal nouns considered in this study (54/868, 6.22%).

- (5) *ni-tabarr* *ainm* *trén* *friu* *.i.*
 NEG-give.PRS.PASS.SG noun.NOM strong.NOM at.3PL id est
foragab *duaid* *inna* *anman* *adiecta*
 leave.PRF.3SG David the.ACC.PL noun.ACC.PL adjectival.ACC.PL
cen *tabairt* *anman* *trén* *fríu*
 without give.VN.ACC noun.GEN.PL strong.GEN.PL at.3PL
 ‘a substantive is not added to them, that is, David left the adjectives
 without adding substantives to them’
 (Ml 30a9)

- (6) a. *indi* *chomallaite* *timnae* *ndae*
 DEM.NOM.PL REL\fulfill.PRS.REL.3PL commandment.ACC God.GEN.SG
tri-a=forcital *doib* *γ* *ní*
 through-its=teach.VN.ACC to.3PL and NEG.COP.PRS.3SG
ar=pianaib *du=thabairt* *forru*
 for=punishment.DAT.PL to=give.VN.DAT on.3PL.ACC
 ‘those who fulfill the commandment of God through its teaching to them
 and it’s not because punishments are inflicted on them (they fulfill it)’
 (Ml 114b7)

⁶ The direct argument preceding the verbal noun is the object in 51 out of 54 occurrences of this construction with the verbal nouns examined in this study. Since all the instances with a raised subject (Wb 13c18, 16d12, Ml 39d3) have a pronominal, bound direct object, I suggest that the preposed argument may be the subject when the object is either absent or pronominal (and the subject is not, see 6.b and Section 5; cp. Stüber 2009b: 9, 108).

⁷ I use this expression here in the same sense and with the same non-commitment to semantic implications as in ValPaL (Database Questionnaire Manual, fn. 6, Malchukov and al. 2015: 29, table 1; Haspelmath 2015: 137).

- (6) b. *ansu lium=sa ind=oís anechtir*
difficult.COMPV by.1SG=1SG the=people.NOM outland
dia=fius
to.its=know.VN.DAT
'It is more grievous to me that the outland folk would know it'
(Wb 16d12) (Wb 16d12)

In sum, Old Irish verbal nouns correspond to the nominal pole in Lehmann's (1998: 200) continuum of sententiality (no mood, tense, aspect, diathesis; subject possibly in oblique slot; nominal government; dispensability of subject; combinability with adpositions and case affixes), except that they allow independent (nominal) polarity distinctions, with the nominal negator *cen* (see (5) above and (15.a) below), in addition to the negative bound morpheme *neph-*, as in (7) below.

- (7) *tri=neph-thabart do dia fortachtae doib*
through=NEG-give.VN.ACC to God.DAT help.VN.GEN to.3PL
'Through God's not giving help to them'
(Ml 54b22)

A sketch illustrating the basic distribution of argument marking in Old Irish is given in Table 1. For the purposes of this study, nominal (free-standing) and pronominal (bound) distributional equivalents are treated alike, but Section 5 will deal with some specific behaviors of pronominal indexes which emerge from the data.

Table 1: Sketch of argument marking in Old Irish.

	SUBJECT (nominative)	OBJECT (accusative)	PREPOSITIONAL ARGUMENT (dative/ accusative)	NON- PREPOSITIONAL ARGUMENT OF VN (genitive)
nouns (free- standing)	nominative case (+ cross-reference on verb)	accusative case	(preposition +) dative/ accusative case	genitive case
pronouns (bound)	person endings on verb (obligatory mood+tense+ person inflection)	affixal morphemes on verb (infixal/ suffixal pronouns)	affixal morphemes on prepositions (inflected prepositions)	possessive proclitics set

2.2 The framework and the dataset

Most of the verbs chosen for inquiry are included in the ValPaL Project list of 70 core meanings (Malchukov et al. 2015: 28–29) or in its extension to 80 meanings in the online Database, but a few were selected because of their frequency and relevance in the Old Irish available corpora. To select each verb, the following procedure was followed. The author's intuitions about the Old Irish counterpart matching each verb meaning in ValPaL was checked by entering the English form into the Advanced Search function in the online dictionary e-DIL, and selecting the option “definition”, i.e. the basic meaning of a lexical entry. The results of this enquiry allowed a preliminary survey of verbs and verbal nouns which are attested in the existing contemporary Old Irish sources, the three major corpora of Glosses (Stokes and Strachan 1901–1903, see below for details), and could thus be included for data collection. Many verbs and meanings were abandoned at this stage for lack or scarcity of occurrences, in particular of non-finite forms (e.g. ‘rain’, ‘laugh’, ‘be hungry’, ‘search for’), especially in cases where finite forms or the verbal noun are attested in only one of the three major corpora of Glosses (e.g. ‘eat’). In case of doubt, more than one verb belonging to the same semantic field was included (e.g. *ro-finnadar* and *ad-gnin* for ‘know’, *do-beir* and *do-indnaig* for ‘give’,⁸ *ad-gladathar* and *labraithir* for ‘talk’). Sometimes substitutes were chosen, e.g. *caraid* ‘love’ for ‘like’, *ad-cobra* ‘desire’ for predicates expressing feelings in general, whose counterparts in Old Irish are usually copular predicates and do not have a corresponding non-finite form. Still in agreement with the ValPaL procedure for data collection (Database Questionnaire Manual § 9.3), a few verbs were then added, because of their frequency in the Old Irish Glosses, because they allowed to include new patterns or because they showed a balanced number of occurrences in the three sources used for this study (*do-fich* ‘punish’, *do-luigi* ‘forgive’, *do-icc* ‘come’, *do-ruimnethar* ‘forget’, *fris-gair* ‘answer’, *ad-rími* ‘count’, *con-oscaigi* ‘move’).

The patterns were extracted from existing databases and dictionaries of the Old Irish Glosses (Stokes and Strachan 1901–1903): Kavanagh (2001) for the Würzburg Glosses on the Pauline Epistles (henceforth Wb), Bauer (2015) for the St. Gall Glosses on Priscian (henceforth Sg), and Griffith (2013) for the Milan Glosses on a Commentary on the Psalms (henceforth Ml).

⁸ The addition of *do-indnaig* was also suggested by the fact that *do-beir* enters in many constructions with nouns and verbal nouns as a light verb (e.g. *do-beir aithis for* ‘put reproach on’).

Glosses consisting of a single verb form and translating a single Latin word were not taken into account for the purposes of this study. An example of this kind of gloss is (8):

- (8) *adgladathar* (Ml 74a8, glossing *quasi ipse profeta iam doctus* {*i. dauid*} *adloquitur*)

In (8) *adgladathar* ‘addresses’ directly translates the Latin word *adloquitur* ‘speaks to’, and has therefore not been taken into account, although the form shows obligatory coding of A ([speaker]) through the verb’s inflectional ending (3sg. present indicative), as all finite forms in Old Irish.

Table 2 reports the 26 verbs reckoned, listed roughly according to their overall frequency (finite + non-finite forms), in decreasing order, in the Old Irish texts taken into account here. Since non-finite verbal forms in Old Irish are abstract nouns (Thurneysen 1946: 444–455; Stüber 2017), traditionally Verbal Nouns, their separate lexical entry is also given. Overall occurrences are given in brackets; these include single gloss translations such as (8), and, for verbal nouns, instances of plural forms and forms preceded by the the article, which have not been taken into account to survey valency patterns (see Section 4).

Table 2: List of verbs reckoned.

Verb		Verbal Noun (eDIL lexical entry)		Verb meaning	in ValPaL
<i>as-beir</i> ⁹	(478)	<i>epert</i>	(75)	say	yes
<i>do-beir</i>	(403)	<i>tabart</i>	(113)	give	yes
<i>gaibid</i>	(198)	<i>gabál</i>	(23)	take	yes
<i>téit</i>	(134)	<i>techt/dul</i>	(56+14)	go	yes
<i>do-fich</i>	(23)	<i>dígal</i>	(170)	punish, avenge	no
<i>ro-finnadar</i>	(107)	<i>fi(u)s</i>	(31)	find out, know	yes
<i>beirid</i>	(86)	<i>breth</i>	(36)	carry, bring	yes
<i>do-adbat</i>	(81)	<i>taidsiu</i>	(33)	show	yes
<i>as-indet</i>	(48)	<i>aisndís</i>	(63)	tell	yes

⁹ The raised dot symbol <·> used when giving a citation verbal form is the standard way, used in Thurneysen (1946), to separate the unstressed part of the verbal complex from the stressed syllable, which immediately follows it. The citation form for Old Irish verbs is 3sg. present indicative, which is given here and throughout the paper.

Table 2 (continued)

Verb		Verbal Noun (eDIL lexical entry)		Verb meaning	in ValPaL
<i>for-tét</i>	(19)	<i>fortacht</i>	(85)	help	yes
<i>caraid</i>	(37)	<i>serc</i>	(62)	love	no
<i>guidid</i>	(64)	<i>guide</i>	(25)	ask for, pray	yes
<i>for-cain</i>	(46)	<i>forcetal</i>	(42)	teach	yes
<i>do-luigi</i>	(40)	<i>dílgud</i>	(40)	forgive	no
<i>ad-cobra</i>	(24)	<i>accobar</i>	(42)	desire	no
<i>do-indnaig</i>	(35)	<i>tindnacol</i>	(26)	bestow	no
<i>ad-rími</i>	(34)	<i>áram</i>	(25)	count	no
<i>do-icc</i>	(46)	<i>tíchtu</i>	(12)	come	no
<i>con-oscaigi</i>	(26)	<i>cumscugud</i>	(28)	move, change	no
<i>do-moinethar</i>	(42)	<i>toimtiu</i>	(10)	think	yes
<i>ad-cí</i>	(47)	<i>aicsiu</i>	(4)	see	yes
<i>labraithir</i>	(23)	<i>labrad</i>	(24)	talk, speak	yes
<i>ad-gládathar</i>	(13)	<i>accaldam</i>	(14)	talk to, address	yes
<i>fris-gair</i>	(2)	<i>frecae</i>	(19)	answer	no
<i>do-ruimnethar</i>	(8)	<i>dermat</i>	(5)	forget	no
<i>ad-gnin</i>	(8)	<i>aithne</i>	(4)	know, recognize	yes

The main criteria for the classification of argument structures are coding properties, that is case-marking, adpositions and agreement. Among behavioral properties (as defined in the ValPaL Database manual, § 7.1), only the passive alternation has been taken into account in a systematic way for this study, while relativization strategies associated with direct vs. adpositional arguments have been considered only when interpreting the data (see Section 5). In the ValPaL framework word order is considered a coding property only in the absence of other coding properties, but although Old Irish displays case-marking, adpositions and agreement, and in non-finite clauses case-marking and adpositions combine with rigid word order, the relative order of arguments has been taken into account in the data collection, in order to find out whether position might be considered a behavioral property, as recently argued by Le Mair et al. (2017). Note, however, that the symbol “greater than” which separates constituents in the valency patterns given in the paper is not meant to imply that word order is syntactically significant, as in ValPaL.

Before presenting the data, it should be noted that the criterion for argumenthood in ValPaL (Database Questionnaire Manual, § 7.1; Haspelmath and Hartmann 2015: 49), and in general criteria for argumenthood, cannot easily be applied to a language which does not have speakers any more, since they involve grammaticality judgments. Moreover, the phrase detachment test suggested in the Leipzig project, which gives grammatical results only for non-arguments (contrast 9.a with 9.b), is even less reliable for Old Irish, since Old Irish happens to use forms of the lexical verb as responsives and more generally as anaphoric verbal forms (with a default pronominal neuter object, see Roma 2018), as in (10). In other words, any verb form, possibly with a default non-referring neuter object, may occur as a substitute to the verb phrase, in a reduced or possibly different valency frame, similarly to English *do*: corresponding to (9.a) and (9.b), one would expect something like “I wrote and I wrote a letter” and “I wrote a letter and I wrote it with a pen” (and also, with a verb that does not govern a direct object, “I answered to him and I answered it yesterday”).¹⁰

(9) a. **I wrote and I did a letter*

(9) b. *I wrote a letter and I did it with a pen*

(10) *do<sn>ic-fa* *cobir* *cid* *mall*
 <3PL.OBJ>come-FUT.3SG help.NOM though.COP.SBJV.3SG slow
 bith *maith* *immurgu* *intain* *do<nd>icc-fa*
 COP.FUT.3SG good however the.time <REL\3SG.N.OBJ>come-FUT.3SG
 ‘help will come to them though it be slow: it will, however, be good when
 it will come’
 (Wb5c5)

Therefore, the criteria for inclusion in the argument frames were rather semantic and broad, designed to capture all possible alternations. The configurations gathered are simplified versions of the ValPaL database coding frames, combining basic coding sets and semantic roles (microroles). A simplified and partial list of coding frames is given in (11) for both finite (11.a) and non-finite (11.b) forms of *for-cain* ‘teach’. For each frame, the figure on the left provides the number

¹⁰ In a sense, this construction could be considered an instance of a valency slot filled at the syntactic level but not corresponding to a semantic participant (Lehmann 2015: 1553). It is however impossible to ascertain how systematic it was.

of instances in the corpus; 1, 2, 3 in the frames correspond to arguments, as in ValPaL.

- (11) a. Coding frames of *for-cain* ‘teach’
- 11 V.subj[1] > 1-nom [teacher] > 2-acc [taught thing]
 - 9 V.subj[1] > 1-nom [teacher] > 2-acc [taught person]
 - 4 V.subj[1] > 1-nom [teacher] > 2-acc [taught thing] > *do*+3-dat [taught person]
 - 4 V.subj[1] > 1-nom [teacher]
 - 1 V.subj[1] > 1-nom [teacher] > 2-CL [taught thing]¹¹
 - 1 V.subj[1] > 1-nom [teacher] > 2-LATacc [taught thing]
 - 1 V.subj[1] > 1-nom [teacher] > 2-LATCL [taught thing]
 - 2 passive V.subj[1] > 1-nom [taught thing]
 - 2 passive V.subj[1] > 1-nom [taught person]
- (11) b. Coding frames of *forcetal* ‘teaching’
- 10 2-gen [taught person]
 - 7 1-gen [teacher]¹²
 - 1 2-gen [taught thing]
 - 1 1-gen [teacher] > *do*+3-dat [taught person]
 - 1 2-gen [taught thing] > *do*+3-dat [taught person]
 - 1 *la*+1-acc [teacher]

The valency patterns attested in the corpus for each verb and their frequency are taken as evidence for possible coding frames. As stated above, however, the aim of the enquiry is to classify attested patterns for a set of predicates, rather than supplying valency patterns for a set of meanings, as in ValPaL. The frames attested with finite forms have been compared with those attested with non-finite forms, which, in contrast to finite verb forms, are not inflected for voice (passive).

¹¹ CL = clausal argument (finite clause), LAT = Latin form governed by the Old Irish verb. Code switching and code mixing are frequent in the glosses (cf. Bisagni 2013-2014) and when a Latin case-form or prepositional phrase parallels an Old Irish argument it has been included in the collection.

¹² One doubtful example has been included here, namely Ml 114d14 *a forcital ade dano* ‘his/its teaching then’. Although *a* is classified as objective genitive by Griffith (2013), the expression corresponds to *pastorali disciplina* in the Latin text and is therefore likely to belong here (‘instruction by the shepherd’).

3 Word order

Before focusing on the main topic of this paper, i.e. the relationship between the coding of direct arguments in finite and non-finite clauses, I'll tackle briefly an issue on which the classification of valency frames sheds light, namely the role of word order in Old Irish syntactic configuration. The brief discussion in this Section is not meant to address the order of arguments in general, however, but only to ground the syntactic analysis presented in the following Sections, which does not take into account word order directly.

Quantitative data allow, in fact, to test the view put forward by Le Mair et al. (2017), who claim that prepositional arguments immediately following some copular predicates in Old Irish¹³ are oblique subjects, despite the fact that the verb form agrees with a nominative argument. Le Mair et al. (2017) argue that since what follows the verb is predominantly the subject in a sample of clauses from Wb with transitive verbs, what follows the verb must regularly be the subject and immediate postverbal position is a behavioral property of subjects in Old Irish. As a consequence, prepositional arguments immediately following these copular predicates are viewed as non-canonically marked subjects. If so, one could expect that these prepositional arguments frequently accompanied the corresponding non-finite forms, and could correspondingly behave similarly to subjects with non-finite forms. Unfortunately, the predicates mentioned by Le Mair et al. (2017) are copular predicates, which do not really have a non-finite counterpart.

However, on the basis of the data surveyed for this study it can be shown that immediate postverbal position of prepositional arguments is frequent in the Old Irish Glosses whatever the predicate and whatever the argument frame, all the more so given that nominative arguments are frequently non-overt (so-called zero anaphora, which in the case of Old Irish should rather be termed bound anaphora, see Section 2.1). It is therefore hard to maintain that immediate postverbal position is a behavioral property of subjects, or for that matter of any other argument.

I will illustrate this by comparing the relevant orders attested with a predicate assumed to involve a non-canonical, i.e. prepositional, subject, namely *is maith la* 'is good for', with the orders attested with a verb selecting three arguments, namely *do·luigi* 'forgive'. The frames and word orders for *is maith la* are reported

¹³ Le Mair et al. (2017) take into account "combinations of the copula with a predicative noun or adjective" (2017: 116). From the Appendix one may further assume that the prepositional arguments surveyed are only those with *do* 'to, for' and with *la* 'with, by, according to'.

in (12.a), the frames and word orders for *do-luigi do* in (13.a).¹⁴ Examples of some attested patterns for each predicate are given in (12.b-e) and (13.b-e) respectively.

- (12) a. *is maith* basic coding frame: 1-nom [liked thing/person] > *la*+2-acc
[liker] ‘2 likes 1’
3 instances predicate > *la*+2-acc (zero anaphora, 12.b)
3 instances predicate > 1-nom > *la*+2 (subject clitic *són*, 12.c)
10 instances 1-[liked thing] > relative predicate > *la*+2-acc (12.d)
14 instances *la*+2-acc > 1-nom (inflected preposition and overt
nominative argument, 12.e)
- (12) b. *mad maid la dia*
if.COP.SBJV.3SG good.NOM by God.ACC
‘If it is good for God’
(Wb 14a11)
- (12) c. *is ferr són les=som*
COP.PRS.3SG good.COMPV that.NOM by.3SG.M=3SG.M
‘that is better for him’
(Wb 6b10)
- (12) d. *is=ed as maith la=dia*
COP.PRS.3SG=DEM.NOM.N COP.PRS.REL good.NOM by=God.ACC
‘this is what is good for God’
(Ml 130b8)
- (12) e. *is=maith les á=fir-lugae*
COP.PRS.3SG=good.NOM by.3SG.M the=true-oath.NOM
nothongad cách . . .
REL\swear.IMPF.3SG everyone.NOM
‘good for him is the true-oath that everyone used to swear . . .’
(Ml 36a20)
- (13) a. *do-luigi* basic coding frame: 1-nom [forgiver] > 2-acc [forgiven deed] >
do+3-dat [forgiven person]
3 instances predicate > *do*+3-dat (pronominal index, no accusative
argument, 13.b)

¹⁴ Both predicates, *is maith* and *do-luigi*, occur without the prepositional argument considered here, but only instances with this argument are listed in (12.a) and (13.a).

- 3 instances predicate > *do*+3-dat > 2-acc (pronominal index/zero anaphora, 13.c)
- 2 instances predicate > 1-nom > *do*+3-dat > 2-acc (overt nominative argument, inflected preposition, 13.d)
- 1 instance predicate > 2-acc > *do*+3-dat (zero anaphora)
- 1 instance predicate+2-acc > *do*+3-dat (pronominal index, infixed pronoun)
- 1 instance predicate+2-acc > 1-nom > *do*+3-dat (overt nominative argument, infixed pronoun)
- 4 instances passive predicate > *do*+3-dat (zero anaphora or no direct argument, see 4.b)
- 3 instances passive predicate > 1-nom > *do*+2-dat (overt nominative argument, see 3.a)
- 2 instances passive predicate > *do*+3-dat > 1-nom (overt nominative argument, inflected preposition, 13.e, see 15.c)

(13) b. *dīlgid* *dó*
 forgive.IMP.2PL to.3SG.M
 ‘forgive him’
 (Wb 14d21)

(13) c. *cia* *dulogae* *doib* *an=uili*
 although forgive.SBJV.2SG to.3PL their=all.ACC.PL
torgabala
 transgression.ACC.PL
 ‘Although you forgive them all their transgressions’
 (Ml 138b7)

(13) d. *dulug-fa* *dia* *dam* *mu* *pecthu*
 forgive-FUT.3SG God.NOM to.1SG my sin.ACC.PL
 ‘God will forgive me my sins’
 (Ml 58c18)

(13) e. *intain* *duluigter* *dun* *ar=pecthi*
 the.time REL\forgive.PASS.PRS.PL to.1PL our=sin.NOM.PL
 ‘when our sins are forgiven us’
 (Ml 32c15)

If one looks at the order attested with *is maith la* ‘like’, what immediately follows the predicate is invariably the prepositional argument with *la* rather than the

argument in the nominative case (13/16); the only nominative form that occurs before the prepositional argument is the demonstrative clitic subject *són* (in 3 instances out of 30).¹⁵ Nevertheless, the same position is shared by prepositional arguments with the other predicate, *do-luigi*, for which subjecthood of the nominative argument, semantically the forgiver (or the forgiven deed with the passive), has not been questioned: in 14 out of 20 cases the prepositional argument flagged with *do* immediately follows the verb form of *do-luigi*.

More generally, the data suggest that the position of prepositional arguments is not syntactically significant, but points rather to factors such as givenness, topicality and animacy. This is prompted by two symptoms. The first one is the frequency with which prepositional pronominal arguments, which in Old Irish surface as inflected prepositions (see Table 1), precede an overt direct argument: 14/17 for *is maith la*, 6/9 for *do-luigi do*. This preferred order¹⁶ is confirmed by the occurrence of minimal pairs such as (14.a) vs. (14.b), in two close glosses:

- (14) a. *duberat an=anman for-na tire*
 give.PRS.3PL their=name.ACC.PL on-the.ACC.PL land.ACC.PL
 ‘they give their names to the lands’
 (Ml 69a11)
- (14) b. *duberat forru an=anman*
 give.PRS.3PL on.3PL.ACC their=name.ACC.PL
 ‘they give them their names’
 (Ml 69a13)

While in (14.a), where both the accusative object and the prepositional argument are full NPs, the accusative argument precedes the prepositional argument, in (14.b), where the prepositional argument is a pronoun, the inflected preposition precedes the direct object in the accusative.

The second symptom is control, a typical behavioral property. Control properties of prepositional arguments of main clauses on the arguments of non-finite clauses depend on the predicate (Stüber 2007–08: 140–148). The prepositional argument of *is maith la* is no exception, that is, it does not trigger obligatory control in contrast to other arguments. Compare (15.a, b, c, d and e). The preposi-

¹⁵ This 3rd person pronominal clitic is case-marked and enjoys a certain degree of positional freedom, as compared to the so-called emphatic particles expressing the subject, that can appear only after the first stressed word (the predicate). See Griffith (2011: 71–72) for a clear presentation of the paradigm and the properties of this form.

¹⁶ Note that inflected prepositions are stressed words and may also occur clause-finally.

tional arguments *dúibsi* in (15.a), *lat* in (15.b), with *is maith*, *dosom* in (15.c), with *do-luigi*, control complement clause subjects, while *limsa* in (15.d) and *lasin* in (15.e), again with *is maith*, do not. Note that while the copular predicate in (15.b, d, e) is *is maith la* ‘is good according to X, X likes’, the copular predicate in (15.a) is *is maith do* ‘is good for X, X should’.

- (15) a. *ní maid dúib=si didiu cen*
 NEG.COP.PRS.3SG good.NOM to.2PL=2PL then without
dílgud
 forgive.VN.ACC
 ‘it is not good for you, then, not to forgive’
 (Wb 14d19)
- (15) b. *rubu ferr lat comaitecht*
 COP.PRF.3SG good.COMPV by.2SG favor.VN.NOM
du assaraib indaas dun=ni
 to Assyrians.DAT than to.1PL=1PL
 ‘it was better for you to favor the Assyrians rather than us’
 (Ml 72b18)
- (15) c. *ara-nderlaigthe do=som pecad techtae*
 that-forgive.SBJV.PST.PASS.SG to.3SG=3SG sin.NOM go.VN.GEN
dochum bersabae
 towards Bathsheba.GEN
 ‘that the sin of going to Bathsheba might be forgiven him’
 (Ml 32c17)
- (15) d. *ar=ropad maith lim=sa labrad*
 for=COP.COND.3SG good.NOM by.1SG=1SG speak.VN.NOM
il-belre dúib=si
 many-tongue.GEN.PL to.2PL=2PL
 ‘for I would like you to speak many tongues’
 (Wb 12c29)
- (15) e. *lasin rubu maith an=anad*
 by.whom COP.PRF.3SG good.NOM their=remain.VN.NOM
isin=doiri
 in.the=captivity
 ‘to whom it was good to remain in the Captivity’
 (Ml 131d11)

The data from valency patterns in a sense complement the data and hypotheses discussed by Lash (2020), who argues that the position of so-called late subjects (subjects not immediately following the verb) in Old Irish depends on information structure factors, on the one hand, since the position immediately following the verb is associated with given/old information, and on the other hand on atypical transitivity.¹⁷

4 Case marking with finite vs. non finite forms

This Section addresses the main focus of this paper, the relationship between finite and non-finite syntax and its correlation with transitivity. The standard view is that a genitive argument with non-finite forms of transitive verbs is nearly always objective, i.e. it codes the argument which, with finite active forms, is flagged by the accusative case.

So Thurneysen's reference grammar (1946: 158, § 250) states: "a genitive (or possessive pronoun [. . .]) qualifying an abstract noun which functions as verbal noun of a transitive verb, and is still felt as such, is nearly always objective". More recently, Stüber (2007–8: 137; cf. Stüber 2009: 33–34, fn. 22) supports a similar view: "Bei Verbalnomina zu transitiven Verben bezeichnet ein beigefügter Genitiv immer das Object, ein Genitivus subjectivus ist daher nur bei intransitiven Verben überhaupt möglich." [With verbal nouns of transitive verbs, an appended genitive always expresses the object, therefore a subjective genitive is generally possible only with intransitive verbs].

These sources do not give an explicit definition of "transitive verb", but, applying the traditional distinction, it may be assumed that verbs which in Old Irish govern a direct accusative argument can be classified as transitive verbs. This criterion happens to give the same results as Haspelmath's (2015: 136) definition: a given verb in a given language is transitive if it has two participants that are coded like the two main arguments of the prototypical transitive verb 'break'. However, the behavior of genitive arguments with non-finite forms does not match this transitive-intransitive distinction even considering only the restricted set of verbs under inquiry here, as I will show through the data in Tables 3, 4 and 5.

¹⁷ I cannot deal here with the details of the fine-grained analysis in Lash (2020). It is important to stress, however, that in Lash (2020) transitivity as a factor correlating with constituent order is viewed rather as a property of clauses, than of predicates, and corresponds to what in the framework adopted here may be termed prototypical two-place transitive coding frame (which excludes passive clauses, for example).

Table 3 groups verbs whose finite forms occur with a direct second argument (accusative case) more than 80% of instances, and whose non-finite forms turned out to govern a genitive argument always corresponding to the one in accusative with finite forms (“objective genitive”). Table 4 groups verbs whose finite forms occur with an accusative argument less than 50% of instances, and whose non-finite forms mostly govern a genitive argument corresponding to the nominative with finite forms (“subjective genitive”). Table 5 groups verbs whose finite forms occur with an accusative argument in at least 50% of instances but whose non-finite forms can also govern a genitive argument corresponding to the nominative with finite forms, as with the verbs in Table 4. It is claimed here that verbs that behave like those in Table 5 show a lower degree of transitivity than verbs that behave like those in Table 3, and that verbs that behave like those in Table 4, traditionally classified as “intransitive”, show the lowest degree of transitivity (see Section 6).

In each Table the figures in the second columns on the left are the number of occurrences in the corpus of finite forms with an accusative argument, out of all occurrences of active finite forms. The attested microroles of the accusative argument are given in square brackets.

The third columns give the number of passive occurrences with the same participant coded on the verb, either through number agreement with an NP in the nominative, zero anaphora (3rd persons), or by a pronominal bound morpheme, the so-called infixed pronoun (1st and 2nd person direct arguments with the passive can only be coded as objects; see Section 2.1, (3.a) and (3.b)). Both constructions correlate with accusative rection (2nd columns) and have been considered here indicators of transitivity.¹⁸ However, as mentioned in Section 2.1, passive forms in Old Irish may also occur without any direct argument, as in (4.a) and (4.b). This strategy, which removes both the nominative and the accusative argument, while admitting only adpositional arguments, does not correlate with accusative rection in the active and can on the contrary be considered as an indicator of lower transitivity. Occurrences of this “non-promotional”¹⁹ passive have been added in the third column with the traditional label “impersonal” (“I”).

18 See footnotes 4 and 17 for alternative analyses in the literature.

19 Note that “non-promotional” here strictly refers to morpho-syntactic promotion (i.e. from accusative to nominative, and/or with bound person markers on the verb; see Section 2.1 and footnote 4), not to pragmatic promotion. I claim on the contrary that adpositional arguments, although maintaining the same morpho-syntactic flagging as with active forms, are pragmatically promoted through this direct argument removing strategy, but I cannot pursue this issue here. Anyhow, the stance I adopted for the analysis is that the occurrence of the passive alternation in Old Irish is related both to the coding pattern (transitivity value) and to the func-

In the fourth columns are reported the figures for genitives corresponding to the accusative argument (2-arg) vs. the nominative argument (1-arg) with the verbal nouns, out of all the occurrences with a genitive argument. Note that occurrences of the verbal nouns without any genitive argument are not included in Tables 3, 4 and 5, but they have been taken into account for this study (see Section 6, comments on Table 8), while instances where the verbal nouns occur in the plural, and/or preceded by the definite article and not accompanied any further argument were excluded. Plural forms and forms preceded by the article might be viewed as fully nominal occurrences (which have referential rather than predicative use), although it must be stressed that most constructions of verbal nouns in Old Irish do not support this distinction (with the exception of the construction in (6.a, b), which is clearly predicative, see Stüber 2009a); see anyhow Section 5 on verbal nouns with possessives.

Table 3: “Well-behaved”, fully transitive verbs (> 80% with accusative arguments).

VERB	FINITE ACTIVE FORMS with accusative/ total of finite active forms	FINITE PASSIVE FORMS	NON-FINITE FORMS 2-gen=accusative argument/ total with genitive
<i>do-beir</i> ‘give’	283/287 [gift/put thing]	115	<i>tabart</i> 2-gen 83/83
<i>gaibid</i> ‘take’	94/100 [taken/recited thing/person]	56+ 36 anticausative	<i>gabál</i> 2-gen 14/14
<i>ro-finnadar</i> ‘find out/ know’	60/64 [known person/ thing] ²⁰	5	<i>fius</i> 2-gen 20/20
<i>beirid</i> ‘bring’	48/52 [brought/referred thing/person]	34	<i>breth</i> 2-gen 21/21
<i>guidid</i> ‘ask for, pray’	47/53, 29 [asked thing] ≈ 18 [askee] ²¹	3 [asked thing]	<i>guide</i> 2-gen 12/12, 11 [askee], 1 [asked thing]
<i>do-adbat</i> ‘show’	39/40 [shown thing] ²²	24	<i>taidbsiu</i> 2-gen 24/24

tion of the alternation, so that an attempt has been made to trace a line between the two factors (see Malchukov 2015: 106-107 about the relative importance of the two factors in determining the compatibility and likelihood of the alternations).

20 38 clausal arguments have been excluded. Finite complement clauses are not included in Tables 3, 4 and 5, although they occupy the accusative argument slot, since they don’t provide evidence for case marking, which is the criterion adopted here, as in ValPaL (see Haspelmath and Hartmann 2015: 56). The number of clausal arguments for each verb (active + passive) is given in the footnotes.

21 2 clausal arguments have been excluded.

22 13 clausal arguments have been excluded.

Table 3 (continued)

VERB	FINITE ACTIVE FORMS with accusative/ total of finite active forms	FINITE PASSIVE FORMS	NON-FINITE FORMS 2-gen=accusative argument/ total with genitive
<i>ad·cí</i> 'see'	24/27 [seen person/ thing] ²³	11	<i>aicsiu</i> 2-gen 2/2
<i>ad·rími</i> 'count'	21/21 [counted thing]	3	<i>áram</i> 2-gen 5/5
<i>do·indnaig</i> 'bestow'	19/19 [gift]	15	<i>tindnacól</i> 2-gen 17/17
<i>ad·cobra</i> 'desire'	15/15 [desired thing] ²⁴	1	<i>accobur</i> 2-gen 7/7
<i>con·oscaigi</i> 'move'	9/9 [moved/changed thing]	15	<i>cumscugud</i> 2-gen 16/16
<i>do·ruimnethar</i> 'forget'	6/6 [forgotten person/ thing]	–	<i>dermat</i> 2-gen 4/4
<i>ad·gnin</i> 'recognize'	5/5 [recognized thing/ person]	3	<i>aithne</i> 2-gen 2/2
<i>ad·gláðathar</i> 'address'	2/2 [addressee]	–	<i>accaldam</i> 2-gen 7/7

Table 4: Doubtfully or weakly transitive verbs (< 50% with accusative arguments).

VERB	FINITE ACTIVE FORMS with accusative/ total of finite active forms	FINITE PASSIVE FORMS	NON-FINITE FORMS 2-gen=accusative arg, 1-gen=nominative arg/ total with genitive
<i>téit</i> 'go'	15/130, 12 [goal] ≈ 3 [route]	(3 l)	<i>techt</i> 1-gen 14/17, 2-gen 3/17 <i>dul</i> 2-gen 3/3
<i>do·icc</i> 'come'	18/45 [goal]	–	<i>tichtu</i> 1-gen 7/10, 2-gen 3/10
<i>fris·gair</i> 'answer'	0/2	–	<i>frecrae</i> 1-gen 3/4, 2-gen 1/4? ²⁵

²³ 2 clausal arguments have been excluded.²⁴ 2 clausal arguments have been excluded.²⁵ See the discussion below on (18), a doubtful example.

Table 5: Transitive verbs (> 50% with accusative arguments) with genitives corresponding to either the accusative or the nominative argument.

VERB	FINITE ACTIVE FORMS with accusative/ total of finite active forms	FINITE PASSIVE FORMS	NON-FINITE FORMS 2-gen=accusative arg, 1-gen=nominative arg/ total with genitive
<i>as-beir</i> ‘say’	239/243 [said content] ²⁶	79	<i>epert</i> 2-gen 17/19, 1-gen 2/19
<i>caraid</i> ‘love’	28/29 [loved person/ thing]	2	<i>serc</i> ²⁷ 2-gen 17/23, 1-gen 6/23
<i>for-cain</i> ‘teach’	25/29, 16 [taught thing] ≈ 9 [taught person] ²⁸	2 [taught thing], 2 [taught person]	<i>forcetal</i> 2-gen 12/20 (10 [taught person]), 1-gen 8/20
<i>do-luigi</i> ‘forgive’	16/24 [forgiven deed]	7 [forgiven deed] ²⁹ (+3 I)	<i>dílgud</i> 2-gen 16/19, 1-gen 3/19
<i>as-indet</i> ‘tell’	14/20 [said content] ³⁰	1	<i>aisndís</i> 2-gen 5/7, 1-gen 2/7
<i>do-moinethar</i> ‘think’	15/17 [thought thing] ³¹	1	<i>toimtiu</i> 2-gen 0/1, 1-gen 1/1 [thinker] ³²
<i>labraithir</i> ‘speak’	13/23, 10 [spoken content] ≈ 3 [spoken language]	–	<i>labrad</i> 2-gen 10/14 (9 [spoken language]), 1-gen 4/10
<i>do-fich</i> ‘avenge’	6/12, 4 [punished deed] ≈ 2 [beneficiary]	4 [beneficiary], 3 [punished deed] (+2 I) ³³	<i>dígal</i> 2-gen 14/19 (11 punished deed) ≈ 3 [beneficiary]), 1-gen 5/19
<i>for-tét</i> ‘help’	8/10 [helpee]	–	<i>fortacht</i> 1-gen 28/39, 2-gen 11/39

²⁶ 131 clausal arguments (finite clauses) and 24 quotations (utterance arguments in ValPaL, see Haspelmath and Hartmann 2015: 56) have been excluded.

²⁷ The instances include 5 occurrences of the compound *deserc*, corresponding to Latin *charitas*, since in the Ml and Sg databases they are grouped under the same headword. See Section 6 about Wb 18b21 (example (33)).

²⁸ 2 clausal arguments have been excluded.

²⁹ 1 clausal argument has been excluded.

³⁰ 3 clausal arguments have been excluded.

³¹ 18 clausal arguments have been excluded.

³² 6 out of 7 occurrences of this verbal noun have a clausal argument.

³³ I refer to Roma (2020) for a detailed analysis of the argument frames of the verb *do-fich*.

With verbs like *beirid* ‘bring’ or *gaibid* ‘take’ the genitive accompanying the respective verbal nouns invariably corresponds to the accusative argument (the brought thing or person and the taken thing or person respectively). This regular pattern of transitive verbs is found for 14 verbs (the verbs in Table 3) out of the 26 taken into account for this study. With the verb *gaibid*, the 36 instances of the peculiar construction which I have labelled “anticausative” are instances of the so-called nasalizing relative clauses with a neuter object petrified in the perfect form (*rondgab*, cf. Thurneysen 1946: 267, § 424), literally ‘which has found it(self)’, meaning ‘to be (in a certain way, position)’, similarly to English *to find oneself*, French *se trouver*, Italian *trovarsi*, but with a petrified singular neuter object pronoun. An example is given in (16).

- (16) *amal ru<nd>gabsat isind eclais*
 as <REL\3SG.N.OBJ>find.PRF.3PL in.the church.DAT
 ‘as they are in the Church’
 (Ml 64c5)

Sansò (2018) has shown that lexical restrictions on antipassives are cross-linguistically more common than lexical restrictions on passives. The construction exemplified in (16) would be an instance of an extreme lexical restriction on an anticausative construction (with a single verb, *gaibid*) and I view its occurrence as a further indicator of transitivity besides canonical passives (3.a, b).

Among verbs that occur less than 50% of instances with an accusative argument (Table 4), the preference for the non-finite argument in the genitive to correspond to the subject is clear for *fris·gair* ‘answer’. This verb is however attested only in a couple of examples in finite form, and formal ambiguities of the form *a* with the verbal noun, which in principle can be a sg. or pl. possessive or even the definite article,³⁴ do not allow to exclude the possibility of having a genitive corresponding to the second argument, representing either the addressee or the question. An ambiguous example is reported in (17), while (18) contains the only instance where the genitive argument could in fact be the second argument. Nevertheless, in most cases, the second argument with *freccrae* is coded by

³⁴ The distinction between these forms is regularly committed to initial mutations on the head noun (lenition after sg. masc./neut. possessive, nasalization after pl. possessive and nom./acc. sg. neuter article, no mutation after sg. fem. possessive), but unfortunately mutations are not regularly spelt on <f>; lenition may be marked, through phonological spelling (omission of the consonant) or by a superscribed dot, but these practices are not consistent (Thurneysen 1946: 142, § 231.7). In (18), the form *a* cannot be the article because of *adi*, a genitive clitic that can only occur in combination with a possessive (Thurneysen 1946: 304, § 481).

a prepositional phrase, *do*+dative (10 instances),³⁵ as in the two occurrences of finite forms, and not by a genitive phrase.

- (17) *iss=ed inso a=frecrae .i. quod rl.*
 is=3SG.N that the/its=answer
 ‘That’s the answer, that is *quod* etc.’ (or ‘its answer’, i.e. ‘the answer to it’?)
 (Sg 200a10)
- (18) *na-nnī asbertis=(s)om fris=(s)om 7 dūgnitis*
 any-thing.NOM say.IMPf.3PL=3PL to.3SG.M=3SG.M and do.IMPf.3PL
ba ed a=frecrae=adi
 COP.PST.3SG DEM.NOM.N his/its/their=answer=3SG/PL
les=(s)om apud mé oratio rl.
 by.3SG.M=3SG.M
 ‘Whatever they used to say to him and to do, that was the answer to it/
 them by him, *apud me oratio* etc.’ (or, rather, ‘that was his answer according
 to him’)³⁶
 (Ml 62c13)

With verbs traditionally labeled in the literature as intransitives, such as motion verbs, the situation is even less clearcut. With finite forms the verbs *do-icc* ‘come’ and *téit* ‘go’ can govern the accusative, although in a minority of instances, and accordingly the genitive arguments with verbal nouns mainly but not exclusively code the argument corresponding to the (nominative) subject (note, however, the different behavior of the two verbal nouns of *téit*, i.e. *techt* vs. the suppletive stem *dul*, whose genitive argument is invariably the goal). Griffith and Lash (2018: 108) suggest the working definition that if the accusative argument is not a patient/theme, but e.g. a locative, the verb is not transitive: in order for a verb to be transitive, the direct object in the accusative “must be a theme, not any other theta-role.” If so, the accusative goals of the verbs *téit* and *do-icc* would not suffice to classify these verbs as transitive.

³⁵ To these, 2 instances with a Latin dative should be added (Wb 3a3, Wb 13a13).

³⁶ Both Stokes and Strachan (1901:3) and Griffith (2013) translate ‘to them’, which would imply that the genitive pronoun expresses the addressee, but I assume that the indefinite neuter form *nanní* could also in principle be the antecedent of the pronominal form *a* with clitic *adi* (‘the answer to that’), and, besides, that this pronominal form may have the pronoun in *fris* as its antecedent, i.e. it may code the answerer (‘his answer according to him’, where ‘his’ and ‘him’ are not co-referential and refer to the psalmist and the commentator respectively). My preference goes to the last interpretation.

Nevertheless, even excluding motion verbs, a general transitive vs. intransitive opposition is not sufficient to predict the role of the genitive argument with the verbal noun, as the remaining 9 verbs show (Table 5).

With the verbal nouns of *for-tét* ‘help’, *for-cain* ‘teach’, *do-fich* ‘punish/avenge’, *as-indet* ‘tell, declare’, *labraithir* ‘speak, talk’, *caraid* ‘love’, less frequently *do-luigi* ‘forgive’ and *as-beir* ‘say’, so-called subjective genitive arguments clearly do occur. Some of these verbs may govern accusative arguments with different semantic roles, as the data in Table 5 show. For example, the uncoded alternation in (19.a-b) is attested for *for-cain* ‘teach’ (see 11.a), the uncoded alternation in (20.a-c) for *do-fich* ‘punish/avenge’:

- (19) a. V.subj[1] > 1-nom [teacher] > 2-acc [taught thing]
 V.subj[1] > 1-nom [teacher] > 2-acc [taught thing] > *do*+3-dat
 [taught person]
- (19) b. V.subj[1] > 1-nom [teacher] > 2-acc [taught person]
- (20) a. V.subj[1] > 1-nom [punisher] > 2-acc [punished deed]
 (> *for*+3-acc [punished person])
- (20) b. V.subj[1] > 1-nom [punisher] > 2-acc [beneficiary]
 (> *for*+3-acc [punished person])
- (20) c. V.subj[1] > 1-nom [punisher] > *tar cenn*+2-gen [beneficiary]
 V.subj[1] > 1-nom [punisher] > *tar ési*+2-gen [punished deed]³⁷

However, while the alternation of microroles for objects is reflected in the alternation of genitives with verbal nouns, which may correspond to the same semantic microroles, the occurrences of genitives corresponding to the first argument do not correlate with semantic shifts related to polysemy of the verb or due to different argument frames. For example, subjective genitives with *forcetal* ‘teaching’, *fortacht* ‘help’, *dígal* ‘punishment/vengeance’, do not trigger any semantic shift or consistent valency change. Usually, if the genitive with the verbal noun flags the first argument, the second argument is omitted (elliptical, generic or

³⁷ The prepositions *tar cenn* ‘on behalf of’ and *tar ési* ‘behind’ are complex prepositions made up of the preposition *tar* ‘across, over’ and a noun in the accusative (*cenn* ‘head’ and *éis* ‘trace’); their complement was originally an adnominal complement and that is why it bears the genitive case.

controlled by the main predicate), as in (21.a, b and c) respectively, similarly to what happens to the first argument when the genitive flags the second argument, as in (22). See however the discussion in Section 5 on these and similar examples.

- (21) a. *amal du<n>gniat doini ón*
 as <REL\3SG.OBJ.N>do.PRS.3PL³⁸ men.NOM DEM.ACC.N
.i. air ni bi firian án=digal=ade
 id est for NEG COP.PRS.HAB.3SG just their=punish.VN.NOM=3PL
 ‘as men do (that), that is because their punishment (how they punish)
 is not just’
 (Ml 128d3)
- (21) b. *cumscugud du diglae dín són*
 move.VN.NOM your punish.VN.GEN from.1PL DEM.NOM.N
 ‘The removal of your punishment from us’
 (Ml 105d7)
- (21) c. *ma-ní eroimet a=forcital*
 if-NEG receive.SBJV.3PL his=teach.VN.ACC
 ‘if they don’t receive his teaching’
 (Ml 30d13)
- (22) *ar=loure=ni do=precept et forcitul*
 our=sufficiency.NOM=1PL to=preach.VN.DAT and teach.VN.DAT
cáich
 everyone.GEN
 ‘Our sufficiency to preach and instruct everyone’
 (Wb 15a14)

On the other hand, some of the invariably transitive verbs in Table 3 are among the most frequent verbs in Old Irish, are highly polysemous and occur with various argument frames, although the macrorole of the accusative argument belongs to the same class: for example *gaibid* may mean ‘take’, ‘begin’ or ‘recite’ (a psalm); *beirid* ‘bring (an object)’ or ‘refer (an expression)’; *do-beir*

³⁸ I interpret this form as *dundgniat*, with neuter infixed pronoun <d> co-referencing *ón* (Thurneysen 1946: 303, § 479) and relative nasalization <n> (Thurneysen 1946: 259, § 413; 316, § 497), in the construction exemplified in (5), and this is why <n> is analysed as an infixed morpheme. The alternative analysis (*n* as a simple relative marker) would not bear on the issue discussed here.

‘give’ occurs as a light verb in a variety of constructions (e.g. *do-beir fortacht do* ‘give help to’, *do-beir indithim i/fri* ‘give attention in/towards’, *do-beir dígail for* ‘give punishment on’, *do-beir ainm do/for* ‘give a name to/on’, *do-beir aithis for* ‘give reproach on’).

It could be argued that causative meaning of the verb, i.e. the presence of [CAUSE] as a semantic feature of verb semantics, might be associated with a higher likelihood of a second argument genitive with the verbal noun (and with a high transitivity index as proposed below in Section 6, Table 8), since this condition applies to many of the verbs in Table 3 (*do-indnaig* ‘bestow’, *do-beir* ‘give’, *gaibid* ‘take’, *beirid* ‘bring’, *do-adbat* ‘show’, *con-oscaigi* ‘move’); see Lehmann (2015: 1569–1671, Table 6) on so-called agentive situation types. This semantic feature would in turn be related on the one hand to prevalent trivalent coding frames, and on the other hand to the possibility of anticausative uncoded alternations with non-finite forms, in the absence of voice (‘the giving of something’ = ‘the fact that (someone) gives something’ or ‘that something is given’; ‘someone’s movement’ = ‘the fact that someone is moved’ or ‘moves’; see Lehmann 2015: 1571–1577 about the asymmetry of valency alternations with different types of transitive verbs). However, the relationship with causativity is not straightforward, given that *for-cain* ‘teach’ should group with causatives while *ad-cí* ‘see’ should not.

To sum up, the data in Tables 3, 4 and 5 show that verbs which are mostly accompanied by an accusative argument in finite clauses (i.e. they occur with a direct object the vast majority of instances, more than 80% of cases) invariably display objective genitives with non-finite forms. This can be tested in particular looking at verbs with high token frequency such as for example *do-beir* ‘give’, *gaibid* ‘take’, *beirid* ‘bring’. Subjective genitives may not be ruled out in these cases, however (see for instance *as-beir* ‘say’, which in finite clauses occurs with a direct object in 98% of instances), but, if they occur, the prediction is that the genitive must be pronominal and animate, or very high in the animacy hierarchy. Less frequent patterns such as these are dealt with in Section 5, while Section 6 illustrates the transitivity scale that emerges from the data in Tables 3, 4 and 5.

5 Restrictions

It turns out in fact that there are restrictions on the kind of accusative and genitive arguments which may occur with finite and non-finite forms respectively.

An accusative argument with weakly or not fully transitive verbs (that occur with a direct object less than 80% of instances) is very likely to be a pronominal

object (infixd pronoun), and/or to have a human referent, or to appear as the head of a direct, i.e. non prepositional, relative clause (e.g. ‘the place I go’, ‘the person I teach’), or to undergo lexical restrictions. Table 6 reports the figures for infixd pronouns, referents high in the animacy hierarchy,³⁹ relativized objects and a few lexical items recurrently found with motion verbs. Note that the conditions in columns 2 and 3 often occur simultaneously (for example in case of 1st and 2nd person pronouns), the conditions in columns 3 and 4, 4 and 5 may occur simultaneously. Examples for each type are given in (23), (24), (25), (26).

(23) *for<dub>cechna*

<2PL.OBJ.REL>teach.FUT.3SG

‘who will teach you’⁴⁰

(Wb 9a16)

(24) *ní-ticed*

scís

mo=chnamai

NEG-come.IMPF.3SG weariness.NOM my=bone.ACC.PL

‘Weariness did not use to come to my bones’

(Ml 41d9)

(25) *is=sain*

aní

forchanat

et

dogniat

is=different DEM.NOM.N REL\teach.PRS.3PL and REL\do.PRS.3PL

‘What they teach and what they do is different’

(Wb 28c16)

(26) *tiagait*

báas

nanapaig

go.PRS.3PL death.ACC premature.ACC

‘They go to premature death’

(Wb 11d12)

³⁹ What is meant here is the animacy hierarchy proper (Comrie 1989, ch. 9; see Dahl and Fraurud 1996), but, regarding the upper part of the hierarchy, it is further assumed that referents including the speaker and the addressee are high in animacy (as commonly held in the literature, see Lehmann 2015: 1555), that *día* (‘God’), not usually included in the hierarchy, ranks higher than humans, that referents of expressions such as *mo chnamai* ‘my bones’ in (24) are high in animacy.

⁴⁰ Glossing Latin *qui uos commonefaciat* (1 Cor. IV, 17).

Table 6: Types of accusative arguments with weakly (<50%) or not fully transitive (<80%) verbs.

	pronominal object (infix pronoun)	highly animate referent	head of relative clause	recurrent object (lexical restrictions)
<i>for-cain</i> 'teach'	7/9 [taught person], 1/16 [taught thing]	6/9 ⁴¹	12/16 [taught thing],	1/25 ⁴²
<i>for-tét</i> 'help'	4/8	8/8	3/8	
<i>do-icc</i> 'come'	17/18	15/18		
<i>tétit</i> 'go'	3/15	0/15	8/15	7/15 ⁴³
<i>do-fich</i> 'avenge' ⁴⁴	2/2	2/2		
<i>labraithir</i> 'speak'	3/10 [spoken content], 1/3 [spoken language]		4/13	2/13 ⁴⁵

41 For *for-cain* only instances where the accusative argument is the taught person have been taken into account here, assuming that [taught thing] and [taught person] represent different macroroles.

42 This is an instance of the so-called *figura etymologica*, a construction where the object of the verb is its verbal noun (lit. 'teach a teaching'), namely Wb 8c3 in (i), where the object is the head of a relative clause:

- i. *ní=forcital* *óisa* *foirbthi* *forchanim* *dúib*
NEG.COP.PRS.3SG=teach.VN.NOM people.GEN perfect.GEN REL\teach.PRS.1SG to.2PL
'it is not the teaching of perfect folk I teach to you'

This instance has been taken into account here because the same internal argument also occurs with the passive in what looks like an extremely rare ditransitive construction, Wb 3b23 in (ii):

- ii. *a=forcital* *for<ndob>canar*
ART=teach.VN.NOM <REL\2PL.OBJ>teach.PRS.PASS.SG
'the teaching that you are taught'

(ii) is the only instance of such a construction with the verbs analyzed for this study, but a similar instance occurs at Wb 19a6 *iscúrsagad rondcúrsagusa* lit. 'it is a reprimand I reprimanded him', where the cleft structure is clearly a predicate focalization strategy (García Castillero 2014: 65).

43 The recurrent objects are *bás* 'death' (3), *leth* 'part' (3), *martre* 'martyrdom' (1). In 3 occurrences out of 7 the object is also the head of a relative clause.

44 For *do-fich* only the instances where the accusative argument is the beneficiary have been taken into account in Table 5. In the remaining 4 instances where an accusative argument surfaces, the object represents the punished deed and is inanimate (see comments on Table 5 in Section 5). Note that both roles, i.e. beneficiary and punished deed, can be flagged with a (complex) preposition with this verb, namely *tar cenn* 'on behalf' for the beneficiary (2 instances; 7 instances with the verbal noun) and *tar ési* 'behind, after' for the punished deed (1 instance; 7 instances with the verbal noun), see Roma (2020).

Note that different columns in Table 6 are relevant for different verbs, since with *labraithir* ‘speak, talk’ the object is always inanimate, with motion verbs like *téit* ‘go’ and *do-icc* ‘come’ the goal is mostly inanimate and flagged by a preposition, while with *for-cain* ‘teach’ and *do-fích* ‘punish’ the direct object is mostly inanimate ([taught thing] and [punished deed], respectively), and with *for-tét* ‘help’ the direct object is always animate (see Tables 4 and 5).

Similarly, a genitive argument which corresponds to the first argument with transitive verbs (more than 50% of active finite forms with an accusative argument), and conversely to the second with weakly transitive verbs, is almost invariably a pronominal argument (a possessive, i.e. a pronominal genitive which is proclitic to the nominal host), or at any rate it is very high in the animacy hierarchy, or it belongs to a restricted class of lexical items. Table 7 reports the figures for possessives, for the genitive *dé* ‘of God’ and for the same lexical elements in Table 6. Examples for each type are given in (27), (28), (29).

- (27) *ma=adced torbe inna=thecht*
 if=see.SBJV.2PL advantage.ACC in.3SG.GEN=N\go.VN.DAT
 ‘If you should see profit in going to it’
 (Wb 11b22)
- (28) *fortacht dé duib*
 help.VN.NOM God.GEN to.2PL
 ‘God’s help to you’
 (Ml 68a15)
- (29) *am=irlam techte martre cach=dia*
 COP.PRS.1SG=ready go.VN.GEN martyrdom.GEN every=day.ACC
 ‘I am ready to go to martyrdom every day’
 (Wb 13c8)

45 The recurrent object is *ilbétre* ‘many languages’. With the verbal noun *labrad*, in 9 out of 10 instances the object is the same (*ilbétre*) and in 1/10 a possessive. Therefore, although the genitive complementing *labrad* is predominantly the object (which is why these examples do not feature in Table 7), it could be said that similar restrictions (in particular lexical restrictions) hold for the direct objects of *labraithir* and for the genitives complementing its verbal noun.

Table 7: Types of less frequent genitive arguments with non-finite forms
(1st argument of transitive verbs, 2nd argument of weakly transitive verbs).

	pronominal argument (possessive)	highly animate referent: <i>dé</i> ‘of God’	lexical restrictions
<i>serc</i> ‘love’	3/6	2/6 ⁴⁶	
<i>epert</i> ‘say’	3/3		
<i>aisndís</i> ‘tell’	2/2		
<i>forcetal</i> ‘teach’	5/8		
<i>fortacht</i> ‘help’	11/28	15/28	
<i>dílgud</i> ‘forgive’	1/3	2/3	
<i>dígal</i> ‘avenge’	3/5	1/5 ⁴⁷	
<i>labrad</i> ‘speak’	2/4		
<i>toimtiu</i> ‘think’	1/1		
<i>tíchtu</i> ‘come’	2/3		
<i>techt</i> ‘go’	1/3		2/3
<i>fre crae</i> ‘answer’	1/1? ⁴⁸		

The semantic role of the accusative argument with finite forms seems on the other hand to be less relevant for its mapping onto the genitive with non-finite forms: it is difficult for example to classify the object arguments of *gaibid* ‘take’ or ‘recite’, *do-adbat* ‘show’ and *ad-cobra* ‘desire’ as semantically closer to each other rather than to the object of *as-indet* ‘tell’, *for-cain* ‘teach’ or *caraid* ‘love’, respectively. This again is in contrast with hypotheses which would classify transitive verbs according to the semantic role of the object, such as Griffith and Lash’s suggestion (2018) mentioned above in Section 4, rather than relying, more generally, on verb semantics and argument structure (Lehmann 2015). Anyhow, this is the inescapable conclusion if one wants to maintain that there is a correlation between transitivity and the semantic role of the genitive argument with non-finite forms.

A proviso should be made at this point concerning the function of pronominal arguments in general, and in particular of possessives with verbal nouns. As

⁴⁶ In the remaining occurrence out of 6, which features the compound *deserc* (see footnote 27), the genitive coding the [lover] is *in spírtu* ‘of the (holy) Spirit’ (Wb 5d18).

⁴⁷ In the remaining occurrence out of 5, the genitive coding the [punisher] is *ind aingil* ‘of the angel’ (Ml 77d16).

⁴⁸ See example (18).

Therefore, it cannot be ruled out that verbal nouns with definite genitive modifiers (in particular, so-called subjective genitives in Table 5) lean towards referential interpretation and that some of the instances included in Table 7 should be viewed as fully referential noun phrases. It is important to stress, however, that this ambiguity is inherent in Old Irish syntax, it may be triggered by any kind of definite genitive modifier, and does not impinge on the correspondence between the valency patterns of finite forms and verbal nouns: see Bisang (2016) on the relationship between finiteness, nominalization and information structure.⁵⁰ Less frequent genitives (as per Table 7 and fourth columns of Tables 4 and 5) are not confined to nominal concrete senses of verbal nouns. Counterexamples are (27), (29) above and (32) below. Note that translations with nominal vs. verbal forms are not reliable cues in this connection.

- (32) *aní* *rogéni* *ho=gnimaib*
 DEM.N.NOM REL\do.PRF.3SG from=deed.DAT.PL
á=epert *asrobrad=són* *ho=briathraib*
 his=say.VN.NOM say.PRF.PASS.SG=DEM.NOM.N from=word.DAT.PL
 ‘what he had done in deeds, his saying (to say) that it had been said
 in words’
 (Ml 31b24)

6 Transitivity index

Bearing this in mind, I get back to the correlation between transitivity and argument marking with non-finite forms. I propose to illustrate this correlation through a transitivity scale, based on a transitivity index which combines frequency and kind of passivization with the likelihood to co-occur with an accusative argument. Table 8 reports this transitivity scale, where the index is simply the ratio of accusative arguments and promotional passives out of all occurrences (data in the second and third columns in Tables 3, 4 and 5). The index for each verb is therefore calculated as follows:

⁵⁰ Recall that plural verbal nouns and verbal nouns with an article have been excluded from the occurrences reckoned here, although they replicate the same valency patterns as the singular with no article. Their inclusion would increase the number of genitives corresponding to the first argument.

number of occurrences accompanied by an object argument + number of occurrences of the canonical passive construction/ total number of occurrences

Examples:

index for *as-beir* 'say' index for *téit* 'go'
 $239+90/243+90 = 0.987$ $15/130+3 = 0.112$

The closest the index is to 1, the highest ratio, the higher the degree of transitivity. This scale reflects quite closely the likelihood of governing a genitive argument which corresponds to the direct object, and conversely to the subject, in Old Irish. This likelihood is reflected in the index for verbal nouns, that is the ratio of second and first argument genitives (third and fourth columns in Table 8 below, based on the data in the fourth columns of Tables 3, 4 and 5). The bold lines in Table 8 are meant to separate groups of verbs according to the broad classification reflected in Tables 3, 5 and 4 respectively, i.e. “well-behaved” fully transitive verbs, transitive verbs which may combine with genitives coding the first argument, and doubtfully or weakly transitive verbs. If the basic distinction transitive/intransitive applied as claimed in the literature (see Section 4), one would expect a clear polarization, such as, ideally, the highest index (1) for finite forms and, above all, for non-finite forms of transitive verbs, and the lowest (0) for both finite and non-finite forms of intransitive verbs.

Table 8: Transitivity scale based on transitivity indexes (frequency of accusative arguments and passives and frequency of genitives with verbal nouns corresponding to accusative arguments).

TRANSITIVITY INDEX (finite form)	VERBS	TRANSITIVITY INDEX (non-finite form)	VERBAL NOUNS
1	<i>ad-gládathar</i> 'address', <i>ad-gnin</i> 'recognize', <i>ad-cobra</i> 'desire', <i>ad-rími</i> 'count', <i>do-indnaig</i> 'bestow', <i>do-adbat</i> 'show', <i>do-ruimnethar</i> 'forget', <i>con-oscaigi</i> 'move'	1	<i>accaldam</i> , <i>accobur</i> , <i>áram</i> , <i>cumscugud</i> , <i>dermat</i> , <i>taidbsiu</i> , <i>tindnacol</i> , <i>dul</i>
0.99	<i>do-beir</i> 'give'	1	<i>tabart</i>
0.96	<i>gaibid</i> 'take'	1	<i>gabál</i>
0.95	<i>beirid</i> 'bring'	1	<i>breth</i>
0.94	<i>ro-finnadar</i> 'know'	1	<i>fíus</i>

Table 8 (continued)

TRANSITIVITY INDEX (finite form)	VERBS	TRANSITIVITY INDEX (non-finite form)	VERBAL NOUNS
0.92	<i>ad-cí</i> 'see'	1	<i>aicsiu</i>
0.89	<i>guidid</i> 'ask'	1	<i>guide</i>
0.98	<i>as-beir</i> 'say'	0.89	<i>epert</i>
0.96	<i>caraid</i> 'love'	0.73	<i>serc</i>
0.88	<i>do-moinethar</i> 'think'	0 ⁵¹	<i>toimtiu</i>
0.87	<i>for-cain</i> 'teach'	0.6	<i>forcetal</i>
0.8	<i>for-tét</i> 'help'	0.28	<i>fortacht</i>
0.71	<i>as-indet</i> 'tell'	0.71	<i>aisndís</i>
0.67	<i>do-luigi</i> 'forgive'	0.84	<i>dílgud</i>
0.61	<i>do-fích</i> 'punish/avenge'	0.73	<i>dígal</i>
0.56	<i>labraithir</i> 'speak, talk'	0.71	<i>labrad</i>
0.4	<i>do-icc</i> 'come'	0.3	<i>tíchtu</i>
0.11	<i>tét</i> 'go'	0.17	<i>techt</i>
0	<i>fris-gair</i> 'answer'	0 (0.25?) ⁵²	<i>fre crae</i>

The divergent position in the scale of non-finite forms of *for-cain* (0.60 vs. 0.87) and *for-tét* (0.28 vs. 0.8) is related to the restrictions shown above in Section 5, that is, to the fact that their most frequent accusative arguments are infixed pronouns or heads of relative clauses (8/9 [taught person] and 7/8 infixed or relative for *for-tét*, see Table 6) and that their genitival arguments are mostly pronominal or *dé* 'of God' (see Table 7). The opposite inconsistency for *do-luigi* and *do-fích* is due, on the other hand, to the general choice of excluding occurrences not accompanied by any genitive, but with an overt argument: out of 29 occurrences of the verbal noun *dílgud* with an overt argument, 19 are accompanied by a genitive argument, while 7 are accompanied only by *do*+3-dat [forgiven person], 2 by a prepositional phrase expressing the forgiver (*ó*+1-dat) and 1 by an adjectival modifier (*dílgud díadae* 'divine forgiveness'); out of 96 occurrences of the verbal noun *dígal* with an overt argument, only 19 have a genitive argu-

⁵¹ Only a single example occurs with the genitive; see footnote 32.

⁵² See Section 4 about the doubtful status of 1 out of 4 occurrences of genitive phrases with *fre crae* (example 18).

ment, while most of them (69) are accompanied only or at least by *for*+3-dat [punished person]. The verbs *do-luigi* and *do-fich* are basically three-place predicates, and the animate participants corresponding to the microroles [forgiven person] and [punished person] surface as prepositional arguments (*do*+dat and *for*+acc respectively), which cannot be coded by a genitive with the verbal noun (see Section 4). Similarly, the verbal noun *frecreae* ‘answer’ is mostly accompanied only by a prepositional argument (*do*+2-dat, either [addressee], 6 instances, or [question], 3 instances), as noted above in Section 4, and less frequently by a genitive (4 instances). The verbal noun *toimtiu* ‘thinking’ governs a genitive argument in only one instance and is mostly complemented by a clause. The relatively high proportion of second argument genitives with the verbal noun *labrad* ‘speak’ is biased by the occurrence of 9 identical instances in Wb of the expression *labrad ilbéltre* ‘speak many tongues’ (see footnote 45).

The behavior of suppletive-stem verbal nouns, i.e. *serc* ‘love’ to *caraid* and *dul* ‘go’ to *téit*, is somewhat independent from the corresponding finite verb constructions. In fact *dul* shows the highest index while *téit* a very low index, and *serc* shows a lower index than *caraid*. Regarding *serc*, however, it should be noted that the figures in Tables 5, 7 and 8 include 5 instances out of 23 of the compound *dešerc* (see footnote 27), and are based on the interpretation of Wb 18b21 given in (33) below.

- (33) *serc* *dæ* *dúib=si* et *far=serc=si* *do=dia*
 love.VN.NOM God.GEN to.2PL=2PL and your=love=2PL to=God.DAT
 ‘God’s love for you and your love for God’
 (Wb 18b21)

This interpretation is explicitly given by Kavanagh (2001: 789) and reflects Stokes and Strachan’s (1901: 618) translation in the standard edition of this manuscript (‘God’s love to you and your love to God’), but is in contrast to Thurneysen’s (1946: 158, § 250.1) and Stüber’s (2009a: 10) analyses, which view the genitives as objective genitives (‘love for God from you and love for you from God’). Both analyses are possible, in principle, since the Old Irish preposition *do* can have dative meaning, marking recipients and beneficiaries, as in (3.a), (4.b), (15.b, c), (28) and (34), but is also a regular way to flag the first argument of a verbal noun (‘by’), as in (15.d) and (35.a, b) (see Section 2.1, example (7); Stüber 2009b; see Lehmann 1988: 197 on “dative” subjects with verbal nouns).

- (34) *furóil* *serce* *ho=pool* *doib=som*
 abundance.NOM love.VN.GEN from=Paul to.3PL=3PL
 ‘the abundance of love from Paul to them’
 (Wb 14d30)

- (35) a. *ar=fortacht=ni du=dia*
 our=help=1PL to=God.DAT
 ‘that God would help us’
 (Ml 106d2)
- (35) b. *ebert do domine and*
 say.VN.NOM to.3SG.M there
 ‘that he says *domine* [‘O Lord’] there’
 (Ml 35c27)

My preference for the first interpretation is based on the one hand on 4 occurrences in the same text (Wb) of a construction of *serc* with the possessive expressing the [loved person] but the preposition *la* (which commonly flags experiencers), rather than *do*, flagging the [lover], as in (36). The preposition *do*, on the contrary, flags the loved person with *serc* in Wb 14d30, (34) above, and Wb 12b26 (*seircc immircidi do dia* ‘suitable love for God’).

- (36) *ni=sí ar=sercc less*
 NEG.COP.PRS.3SG=3SG.F our=love.VN.NOM(F) by.3SG.M
 ‘Not so is the love for us by him’
 (Wb 4b16)

This interpretation in my view also agrees with the expectation that, according to the usual structure of the Glosses under scrutiny, the first part of a comment is more likely to be a closer translation of the Latin than the following expansion, and therefore that in this case the first part should be a closer translation of *caritas Dei* in the Latin text that the Irish glosses over, i.e. *Gratia Domini nostri, Iesu Christi, et caritas Dei, et communicatio sancti Spiritus, sit cum omnibus uobis* (2 Cor. XIII, 13).

If Thurneysen’s and Stüber’s interpretation is chosen, however, the genitives in (33) express the [loved person] and *do* flags the first argument [lover], according to the pattern in (35); in that case, the figures in Tables 5 and 7 should be revised accordingly, yielding a higher index for *serc* in Table 8, namely 0.82. If, moreover, instances of the compound *deserc* are excluded, the resulting index is 0.94.

The transitivity scale that emerges from Table 8 reflects different degrees of transitivity of Old Irish verbs and can be viewed as a transitivity cline (Malchukov 2015: 79; Haspelmath 2015: 142–144). The transitivity index can be used to arrange any other verb in the cline and, more generally, to establish the position of an Old Irish predicate with respect to the transitivity scales that have been proposed in

the literature. However, the scale in Table 8 cannot be directly compared with cross-linguistic transitivity hierarchies such as Tsunoda's (1985) and Malchukov's (2005), and even with Haspelmath's (2015: 143) transitivity-prominence ranking of verb meanings, although it can be viewed as a transitivity ranking of verbs in a single language. The reasons are manifold. First of all, the correlation of transitivity with the cross-linguistic semantic scales is confirmed by the frequency of transitive valency frames associated with each meaning across languages (Haspelmath 2015: 142–144) and with verb classes in a given language (Malchukov 2015: 74–89), but it does not imply that, in a given language, each verb, i.e. an individual lexeme, representing a class of meanings, is more transitive, in the sense defined here, than the verbs corresponding to the meanings on its right (or above it) in the scale. Presumably, all the verbs in Tables 3 and 5, that is, all verbs that have a transitivity index ≥ 0.50 , would be classified as “transitive” for the purposes of the transitivity scales that arrange verbs into semantic scales or maps. Secondly, the sample of verbs in the scale in Table 8 was selected in order to test the relationship between finite and non-finite syntax, given the available data, and not in order to be representative of the distribution of frames with two-place predicates (see Section 2.2). This goal excluded experiential predicates which in Old Irish are expressed by complex predicates that involve the copula and a nominal predicate,⁵³ such as for example *is maith la* ‘like’ (see Section 3). On the other hand, this criterion led to include many three-place predicates, which may not be part of the benchmark to measure transitive encoding (Tsunoda 2015; Aldai and Wichmann 2018).

Allowing for these provisos, it can be observed that the indexes for the 15 Old Irish verbs whose meanings also feature in Haspelmath's (2015: 143) transitivity ranking are similar to the percentage of transitively encoded verbs cross-linguistically according to ValPaL data, as shown in (37), with the notable exception of some *verba dicendi* (*as-beir*, *ad-gládathar*, *labraithir*) and of *do-moinethar* ‘think’.

(37) Verb meaning	Old Irish Transitivity index	Transitivity Prominence (ValPaL)
‘show’	1	1
‘take’	0.96	1
‘give/bestow’	0.99/1	0.98
‘bring’	0.99	0.95
‘say’	0.98	0.41
‘talk (addressee/message)’	1/0.56	0.40

53 See Haspelmath and Hartmann (2015: 58–59) on these kinds of counterparts in ValPaL.

‘recognize/know’	1/0.94	0.88
‘see’	0.92	0.93
‘ask for’	0.89	0.95
‘think’	0.88	0.52
‘help’	0.8	0.78
‘tell’	0.71	0.78
‘go’	0.11	0.05

Concerning *verba dicendi*, the observations by Lehmann (2015: 1581–1583) about different selections of the participants involved in situations of communication apply (and, in fact, to the four participants considered by Lehmann, i.e. speaker, addressee, message and topic, the code (language) should also be added): *as-beir* selects the message content and allows the addition of addressee (*fri+acc*) and topic (*de+dat*), *ad-gládathar* selects the addressee, while *labraithir* allows the addition of either the message or the language (direct object) or of the topic (*de+dat*), but apparently not of the addressee.

7 Summary and conclusions

This paper has tried to flesh out the details of the relationship between transitivity and argument structure in finite and non-finite clauses in Old Irish. Using a sample of 26 verbs, it has been shown that, although the generally held view that genitive arguments with non-finite forms of transitive verbs regularly flag the object (the argument which in finite clauses is in the accusative case) is confirmed in the vast majority of cases, in a significant number of instances this is not the case. Non-finite forms of transitive verbs (verbs which in finite forms occur with an accusative argument in more than 50% of instances) may combine with a so-called subjective genitive, i.e. an argument in the genitive which corresponds to the first argument (the argument in the nominative with finite forms), if it is a pronoun and/or its referent is high in the animacy hierarchy. In sum, rather than a simple overlap with the transitive/intransitive opposition, it turns out that the higher the frequency with which finite forms of a verb occur with an accusative argument, the higher is the likelihood that the genitive with non-finite forms codes the object.

To measure this likelihood through the “object argument frequency”, a transitivity index is proposed, the ratio of occurrences, out of all the occurrences in finite form of a verb, of finite active forms with a direct object (accusative argument), i.e. in the prototypical transitive construction, and of passive constructions

which remove the nominative argument but not the accusative argument, i.e. in the canonical passive constructions. This index is then compared to the parallel index which measures the likelihood for the genitive argument of non-finite forms to map the same participant that with finite active forms occurs in the accusative and with finite passive forms in the nominative. Any verb which is not included in the present survey could be arranged in the resulting “transitivity scale”.

The transitivity index is a theoretically simple but useful criterion to highlight transitivity patterns and measure transitivity for past varieties, for which we cannot rely on acceptability judgments. However, it can be used only indirectly to construct a transitivity hierarchy of verb meanings along the lines of Tsunoda (1985), Malchukov (2005) and Haspelmath (2015), that is, a hierarchy or implicational scale of transitivity that ranks verb meanings.

Abbreviations

Texts

MI	The Milan Glosses on the Psalms (Stokes and Strachan 1901–1903, vol. I, pp. 7–483; Griffith 2013)
Sg	The St. Gall Glosses on Priscian (Stokes and Strachan 1901–1903, vol. II, pp. 49–224; Bauer 2015)
Wb	The Würzburg Glosses on the Pauline Epistles (Stokes and Strachan 1901–1903, vol. I, pp. 499–712)

Grammatical Glosses (not included in the Leipzig Glossing Rules)

COMPV	comparative
HAB	habitual
IMPF	imperfect (habitual past)
SUB	subordinate clause
VN	verbal noun

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