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Numeral Reduplication and Clausal Syntax: Grammaticalized Distributivity in Medieval Iberia

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Abstract: This study examines a little-known case of grammaticalized distributivity in the Romance branch, as found in tenth to fifteenth century texts produced in the Iberian Peninsula. Analysis of a newly compiled, hand-annotated corpus demonstrates that, in Old Ibero-Romance, the reduplication of an adnominal cardinal numeral on the internal argument of the verb mandates a distributive reading at the sentential level. The distributive construction is characterized as ‘double-object’-like structure occurring only in expressions of dynamic and static possession. Whilst a cross-categorial operation originating in the DP edge triggers pluralization of the event itself, an applicative treatment of the clausal syntax not only captures the ‘double-object’-like structure of the construction, but the nature of the distributive relation itself.

Keywords: Old Ibero-Romance, numeral reduplication, distributivity, argument structure, applicatives

1 Introduction

This study examines a little-known, yet empirically and theoretically significant, case of grammaticalized distributivity in the Romance branch, as found in tenth to fifteenth century texts produced in the Iberian Peninsula.

The case of grammaticalized distributivity under consideration concerns the reduplication of an adnominal cardinal numeral, as in (1), whose presence serves to impose a distributive reading at the sentential level. Originally observed in Iberian texts by Ribeiro (1798), the reduplicative construction is typologically ‘exceptional’ insofar as it unattested elsewhere in (Ibero-)Romance and Western Europe:

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- (1) *al sexto día mandóles Moisés que tomassen*
 on.the sixth day ordered.3SG=them Moises that take.IMPF.SBJV.3PL
dos dos medidas, la una pora esse día e la
 two two measures the one for.the that day and the
otra pora'l sábado (OSp.)
 other for.the sabbath
 ‘Moses ordered them to take **two omers [measures] each**, one for that
 day and the other for the Sabbath’
 (c.1275, *General Estoria* Part I; Horcajada Diezma and Sánchez-Prieto Borja,
 henceforth HD&SB 1999: 281)

Moreover, the empirical discrepancy between the locus of the distributive morphological marking and its semantic effect poses a theoretical conundrum about how structure is used to convey meaning in these constructions.

The key research questions pursued in the present article are the following:

- (i) What is the nature and distribution of reduplicated numeral constructions in Old Ibero-Romance?
- (ii) How can we account for the syntactic and semantic properties of the various subtypes of reduplicated numeral constructions incurring sentence-level distributivity in Old Ibero-Romance?

The answer given in what follows is that an explanation of Old Ibero-Romance sentential distributivity involving reduplicated numerals—henceforth, DDNR (‘distance distributivity with numeral reduplication’)—is best provided by a constructivist approach to the encoding of clausal meaning on which the syntactic and semantic properties of argument structure reside in the construction itself.

1.1 Aims and Claims

The primary goal of this article is to set out the empirical distribution and structural characterization of Romance clausal constructions involving reduplicated numerals (RedNums) in a newly compiled, hand-annotated corpus of tenth to fifteenth century Iberian texts, drawing on a constructivist approach to argument structure (particularly, Pykkänen 2002, 2008) to inform the structural analysis.

Empirically, I show that the reduplicated numeral is found in a delimited set of clausal environments—mostly three-place predicates involving transfer of possession (e.g., *give*, *leave*, *bequeath*)—where it occurs without exception in the complement of V (as the internal argument). The interpretative generalization

extends beyond ditransitives to two-place predicates which describe either a current relation of possession or a change of possession (both literal and figurative). Theoretically, I claim that Old Ibero-Romance DDNR has a double object(-like) applicative (Pylkkänen 2002, 2008) structure, and I propose a unified analysis that captures both the distributive relation and the possession relation between arguments.¹ On this view, the arguments involved in these dyadic relations merge at the base of the event domain, where both the distributive relationship (though not the pluralizing operation itself) and the possession relation are encoded in a local configuration.

Three structural parameters give rise to the variation in Old Ibero-Romance DDNR at the clausal level: (i) presence of an agentive subject (in SpecVoiceP); (ii) stative or eventive nature of the predicate (captured by a *VBE/VCAUSE* light verb alternation); (iii) static or dynamic relationship between individuals (which correspond to different types of low applicative head, cf. Pylkkänen 2002, 2008; Cuervo 2003). The linearization of Ibero-Romance DDNR at the clausal level typically reflects the order of constituents in the base configuration, and its surface structure is derived as a consequence of case-driven movement and, where appropriate, discourse-driven movement. A separate formal mechanism, viz. a cross-categorial semantic pluralization operation * (star-operator, introduced in Link 1983) originating in the structural edge of the plural DP (Kratzer 2008), is nonetheless held to be responsible for triggering the pluralization of the event itself. The morpholexical marking of the reduplicated numeral itself is taken as further supporting evidence that the nominal functional structure is involved in the configurational codification of distributivity.

1.2 Roadmap

Section 2 outlines the theoretical and empirical background for the analysis that follows. Section 3 presents the materials and methods, and Section 4 details the empirical results of the present study. Section 5 provides the evidence for a DOC analysis of ditransitive DDNR (Section 5.1), and extends the analysis to other types of clausal DDNR (Sections 5.2–5.3), ending with an account for the reduplicative codification of distributivity in the nominal domain (Section 5.4). Section 6 concludes.

¹ This analysis builds on an idea that I previously sketched out in Corr (2022), although the present proposal considerably expands on (and in various places departs from) its predecessor.

2 Background

2.1 Plural Interpretations and Lexical Distributivity in Romance

In Romance languages, plural interpretations in sentences such as (2) are typically ambiguous between collective (2a), cumulative (2b) and distributive (2c) readings, where the latter is restricted to distribution over individuals (2d):

- (2) *Os pasteleiros fizeram cinco bolos.*
 the bakers made.3PL five cakes
 ‘The cake-makers baked five cakes’ (Mod.Pt.)
- One event of baking with multiple participants, resulting in the total baking of five cakes. (*collective*)
 - One or more events of baking, with one or more participant per event, resulting in the total baking of five cakes. (*cumulative*)
 - Multiple events of baking with one participant baking five cakes per event, resulting in an unknown total of cakes having been baked. (*distributive*)
 - (*For each occasion/location, there is an event of cake-makers baking five cakes.)

In practice, however, experimental data suggest that covert distributivity has limited availability,² such that the collective or cumulative reading is favoured over the (here, covert) distributive interpretation.

In this language family, disambiguation in favour of the distributive reading can instead be achieved, optionally, through overt lexical strategies; namely, language-specific equivalents of prenominal (3a), partitive (3b), floated (3c), and binominal (3d) *EACH*, a quantifier which restricts the plural interpretation to a distributive reading (here, over individual cake-makers):

- (3) a. ***Cada pasteleiro fez cinco bolos.*** (Mod.Pt.)
 each baker made.3SG five cakes
 ‘Each cake-maker baked five cakes’
- b. ***Cada um dos pasteleiros fez cinco bolos.***
 each one.M of.the bakers made.3SG five cakes
 ‘Each of the cake-makers baked five cakes’
- c. ***Os pasteleiros fizeram cada um cinco bolos.***
 the bakers made.3PL each one.M five Cakes
 ‘The cake-makers each baked five cakes’

² Cf. Frazier et al. (1999); Dobrovie-Sorin et al. (2016); Dotlačil & Brasoveanu (2021), i.a.

- d. *Os pasteleiros fizeram cinco bolos cada um.*
 the bakers made.3PL five cakes each one.M
 ‘The cake-makers baked five cakes each’

DDNR constructions correspond to the fourth category of the above typology, viz. ‘binominal’ *EACH* (Safir and Stowell 1988)—also referred to as ‘shifted’ *EACH* (Postal 1974) or ‘anti-quantifiers’ (Choe 1987)—, insofar as both constitute cases of distance distributivity (Zimmermann 2002).³ That is, in both DDNR and ‘binominal’ *EACH* constructions, the surface marking of distributive quantification (on the distributive share, *DistShare*) does not correspond to the place of its semantic effect.

2.2 Distributive Numerals

Unlike the overt lexical strategy found elsewhere in Romance, the attestation of reduplicated numerals in Medieval Iberian documents reveals the additional availability of a grammatical strategy for expressing distributivity, viz. a *DISTRIBUTIVE NUMERAL* (Gil 1988), characterized as morphosyntactic constructions that contain a numeral in which a sentence as a whole gets distributive interpretation (Cable 2014: 563; Gil 2005: 222).

Distributive numerals (1, 4), like binominal *EACH* (3d), create a dyadic semantic relationship (Choe 1987; Gil 2005; Zimmermann 2002) between the *DistShare*, the constituent whose denotation is to be distributed (below, ‘two monkeys’); and a distributive key (*DistKey*), the local entity over which the *DistShare*’s denotation is distributed:

- (4) *pillalu renDu renDu kootulu-ni cuus-ee-ru* (Telugu)
 kid-PL two two monkey-PL-ACC see-PST-3PL

(Balusu and Jayaseelan 2013: 67)

- The kids each saw two monkeys. (*distribution over individuals; participant key* = the kids)
- The kids saw two monkeys each time (*event distribution, temporal key* = for each occasion, there is an event of kids seeing two monkeys)
- The kids saw monkeys in groups of two (*event distribution, spatial key* = for each location, there is an event of kids seeing two monkeys)

³ It has additionally been claimed that binominal *EACH* behaves differently from prenominal, floated or partitive *EACH* (Safir & Stowell 1988; Szabolcsi 2010: 129–133; Milačić et al. 2015), though debate remains open on the underlying syntactic (lack of) uniformity of expressions involving the quantifier. Here, I treat the (non-)uniformity of the quantifier expressions as orthogonal to the present study, although the issue merits further investigation.

Whilst the semantic and syntactic properties of distributive numerals and the constructions in which they surface vary cross-linguistically (cf. Cabredo Hofherr and Tovena 2015: 61; Milačić et al. 2015; Singh and Toivonen 2016; Kuhn 2019), we can further observe in (4a–c) that the Telugu distributive numeral yields additional eventive readings unavailable in the lexical distributive strategy of Romance (2d). Given its crosslinguistic association with events, theoretical attempts to capture (grammaticalized) distributivity are commonly framed in terms of event semantics (e.g., Oh 2001; Balusu 2005; Cable 2014, i.a.; cf. also Lasersohn 1995; Schwarzschild 1996).

Although grammaticalized distributivity is uncommon in Romance, it is not unknown, as confirmed by the availability of the Romanian distributive numeral *câte* (< Lat. *CATA* < Gr. *κατά*) which can distribute over individuals (5a) and events (5b); and the dual adnominal distributive *sendos/as* (< Lat. *SINGULOS* ‘two.DIST’) of formal written Spanish (5c):⁴

- (5) a. *Fiecare student a citit câte o carte.* (Ro.)
 every.DAT student has read.PST.PTCP DistNum a book
 ‘Every student read a book each’
 (adapted from Iordăchioaia and Soare 2015: 325)
- b. *Tot mieunau câte trei pisici.* (Ro.)
 still meowed.3PL DistNum three cats
 ‘Cats in threes kept meowing.’
 (Dobrovie-Sorin and Panaitescu 2016: 2)
- c. *Juan, María y Antonio redactaron sendos informes.* (Sp.)
 Juan María and Antonio drafted.3PL DistNum reports
 ‘Juan, María and Antonio drafted a report each.’
 (Bosque 1992: 67)

Note that Spanish *sendos* has a more restricted syntax-semantics than Romanian *câte*, insofar as the former (unlike the latter) exhibits subject-object asymmetry (Bosque 1992) and can only distribute over individuals. Moreover, dedicated distributive numerals are found in Classical Latin, producing contrasts with their non-distributive cardinal counterparts: compare CLat. *Dedit nobis duos libros* ‘he gave us **two** books’ versus CLat. *Dedit nobis binos libros* ‘he gave us **two.DIST** books **each**’ (Krebs 1843: 76, cit. Müller et al. 2016: 15). Despite the presence of distributive numerals in Classical Latin, the attestation of reduplicated numerals in the Medieval Iberian context is generally given a contact explanation in terms of the

⁴ See also the reflexes of *SINGULOS* in Catalan *sengles* and Portuguese *senhos*.

Arabic presence on the Peninsula (e.g., HD&SB 1999; Galmés de Fuentes 1996: 210–211; Silva Villar 2015; see also Corr 2019, in prep).⁵

2.3 Typology of Reduplicated Numerals

Whilst the reduplication of the cardinal numeral in DDNR constructions is exceptional for Romance, the grammatical strategy is not uncommon cross-linguistically. On the contrary, from the typological perspective, reduplication is the most common strategy for codifying distributivity in numerals (Gil 2005: 222). Languages with distributive numerals codified through reduplication make up 44.97% (85 out of 189) of the total number of languages with distributive numerals (and 33.86%, or 85 out of 251) of all languages surveyed for this feature in the World Atlas of Syntactic Structures (see Figure 1). Areally, the languages with reduplicated distributive numerals are concentrated in sub-Saharan Africa, the Caucasus and South Asian subcontinent, but are also common in Indonesia and North America (Gil 2005: 223).

More broadly, reduplication is used cross-linguistically for expressing distributivity beyond numerals (6a); indeed, the strategy is used to yield a range of

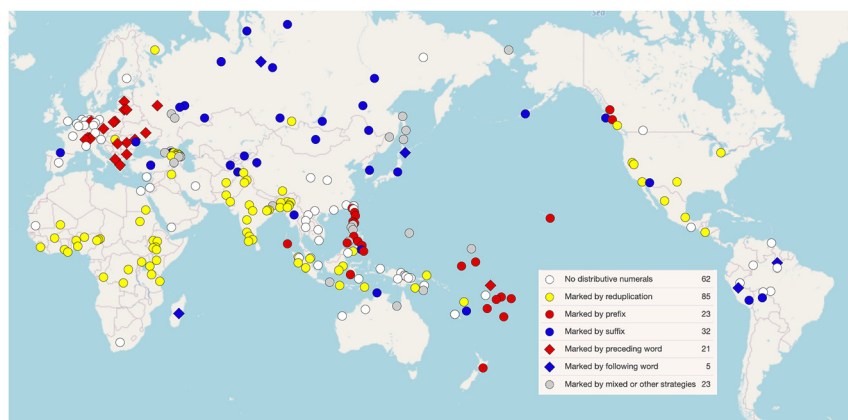


Figure 1: Cross-linguistic distribution of strategies for encoding distributive numerals (Gil 2013) <https://wals.info/feature/54A#2/28.3/143.6> [last accessed 12 June 2022].

⁵ Corr (in prep.) analyses Old Ibero-Romance DDNR as a case of grammatical calquing under the rubric of grammatical replication (Heine & Kuteva 2003), and adduces linguistic and sociohistoric evidence that raises the prospect of a more complex contact scenario involving potentially multiple Semitic influences.

(grammatical and non-grammatical) meanings beyond distributivity (6b–c) (Moravcsik 1978; Rubino 2005):

- (6) a. *bacce ap=ne ap=ne ghar ga-ye* (Hindi)
 children self=GEN self=GEN house go-PST
 ‘The children went to their respective homes’
 (Ashem and Sanyal 2016: 99)
- b. Fijian intransitivization: *cula* ‘sew’ > *cula-cula* ‘sew away’; *rabe* ‘kick’ > *rabe-rabe* ‘do a lot of kicking’
 (Dixon 1988: 48, cit. Rubino 2005: 21)
- c. Nez Perce diminutives: *χóyamac* ‘mischievous child’ > *χoyamacχóyamac* ‘small mischievous child’
 (Aoki 1963: 43)

However, it is a mechanism that is not productively grammaticalized in either the Latin or Romance groups (Rubino 2005), with the arguable exception of some Romance-lexified contact varieties where reduplication has various functions, including distributivity (e.g., Diu Indo-Portuguese, *tud di vay da trī-trī rupi* ‘every day I give [them] thirty-thirty rupees [i.e. each]’, in Cardoso 2009: 123; Italian Eritrean *dare due due bani ber tutti* ‘give.INF two two loaves to each’, in Edzard 2003: 971).

2.4 Theoretical Assumptions

In this article, I adopt a constructivist approach to verbal argument structure, according to which the argument structure is independent of (i.e. not projected by) the verb, such that the event/thematic domain is composed of a basic tripartite configuration Voice-*v*-√ introducing the external argument, an event (or state) variable, and a category neutral lexical root (√), respectively (Hale and Keyser 1993; Kratzer 1996; Marantz 1997; Pylkkänen 2002, 2008):

- (7) [_{VoiceP} XP_{external} [_{vP} *v* [_{√P} √ (YP_{internal})]]]

In line with this approach, I assume that additional arguments can be introduced into the verbal structure via dedicated heads. Thus the external argument is introduced via the Voice head (Kratzer 1996), as schematized above (7), establishing a relationship between the external argument and the event described by the verb in *vP* (Kratzer 1996); and ‘applicative’ heads introduce non-core arguments, mediating distinct relationships between arguments and/or the event (Marantz 1997: 156–7; Pylkkänen 2002, 2008).

Assuming the applicative framework (Pylkkänen 2002, 2008), a high applicative head introduces an additional argument above *vP* (8a), whilst a low

applicative head beneath *v* introduces an applied argument in its specifier, thereby taking the internal argument as its complement (8b). In the former case, the applicative head denotes a thematic relation between an individual (viz. the applied argument) and the event introduced by the verb. In the latter, the arguments introduced in LowApplP do not stand in a direct semantic relation to the verb; instead, the low applicative head mediates between two individuals (i.e. the applied argument and the internal argument):

- (8) a. [VoiceP XP_{external} [ApplP DP [Appl' Appl [_{v/√P} v/√ YP_{internal}]]]]
 b. [VoiceP XP_{external} [_{v/√P} v/√ [ApplP DP [Appl' Appl YP_{internal}]]]]

Crucial to my account of DDNR is that the low applicative head denotes a possession relation between the direct object in its complement and the applied argument in its specifier, an analysis which has broadly been adopted in the literature for capturing the syntactic structure of ‘double object’ constructions (DOCs) expressing transfer-of-possession, such as English ‘They sent/gave me a gift’. On Pykkänen’s original proposal, the low applicative mediates a dynamic relation possession whose directionality is determined according to the type of applicative head: a RECIPIENT applicative (LowAppl_{TO}) that relates the possession of the DO THEME to the IO (as in the English DOC); and a SOURCE applicative (LowAppl_{FROM}) that reverses the directionality, relating the possession of the DO THEME from the IO. Here, however, I follow Cuervo (2003) in assuming a further type of low applicative head, viz. (LowAppl_{AT}), which express a static relation between the two individuals.

3 Materials and Methodological Considerations

The present investigation draws on a hand-annotated corpus of contemporaneous Iberian texts compiled from a range of textual sources covering all diachronic stages in which DDNR is attested. The examples are attested in tenth to fifteenth century documents, though mostly concentrated in the twelfth to fourteenth centuries. Geographically, the data are mostly concentrated in the west, central and northwest regions of the Iberian Peninsula (see Figure 2). Note that the points on the map in Figure 2 refer to the diocese (where named in the source) within which the document was produced.

The scribal data represented here encompass what I refer to in broad strokes as Old Spanish, Old Portuguese and (west Iberian) Medieval Latin (the latter of which can be aptly, if somewhat informally, dubbed as Iberian ‘Romance disguised as Latin’, Harris-Northall 2007: 166). I collectively refer to these written varieties under the umbrella of Old Ibero-Romance on the view that, despite the surface inflexional

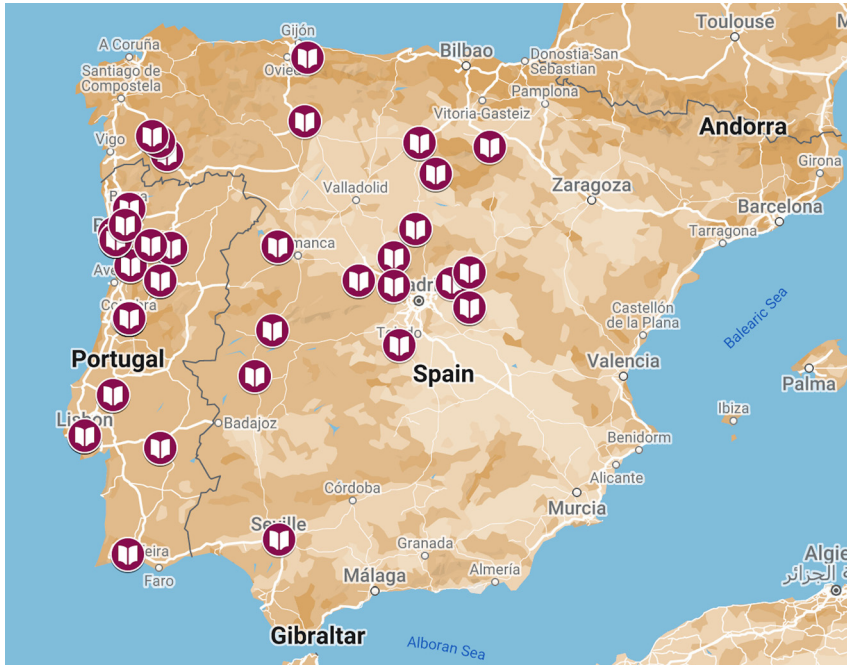


Figure 2: Geographic extension of DDNR in the corpus (Source: Google Maps).

case morphology of the Latin texts, by this period Iberian Latin/Romance texts shared broadly the same underlying syntax (see e.g., Wright 1982, 2010). I opt for broader categorization of the local ‘vernacular’ variants under the umbrella of ‘Old Spanish’ and ‘Old Portuguese’ for texts which, in some cases, might be more narrowly described as, for example, ‘Old Castilian’ or ‘Old Leonese’. I took this decision on the view that, whilst some texts have an identifiable geographic (and thus—with the necessary caveats—linguistic) provenance, others do not. Moreover, the attribution of a given text’s geographic locus does not necessarily correspond to where that document was originally composed, or subsequently copied; if indeed there is a location specified for that text in the first place.⁶ On the other hand, I specify a date in year format where this is available (disregarding day/month information where these are supplied), and a date range (per the attribution of the corpus from which the token was retrieved) where it is not.

⁶ A more detailed diatopic and diachronic study to map the chronological and geographic diffusion is in progress.

The primary data sources I make use of are the online corpora *El Corpus Diacrónico del Español* (CORDE); *Corpus del Nuevo Diccionario Histórico del Español* (CNDHE); *Corpus del español* (CdE); *Corpus Informatizado do Português Medieval* (CIPM); and Barbosa Morujão's (2010) edited volume of testaments and codicils, *TESTAMENTA ECCLESIAE PORTUGALIAE (1071–1325)* (TEP, 151 texts). In the case of TEP, a detailed reading of all 151 documents was undertaken. Further examples collated *ad hoc*, including those of previous studies of the phenomenon (Ribeiro 1798; Sánchez-Prieto Borja and Horcajada Diezma 1994; HD&SB 1999), are also incorporated into the corpus.

Although some of the corpora used (e.g., CdE and CIPM) are syntactically annotated, only CNDHE is tagged for numerals. In all cases (including CNDHE), data was retrieved from the sources via manual searches. By cross-checking texts across corpora where these appeared more than once, I identified some discrepancies between sources such that one corpus returned results in a given text for the same manual searches that another corpus did not return results for the text in question. Nonetheless, given the present study is—through its focus on the structural characterization of the phenomenon—largely qualitative in nature, I do not consider the errors carried through to affect the results to a greater degree than the usual hazards of historical inquiry.

4 Results

4.1 Structural Properties

Across all environments, there are a total of 186 RedNum tokens in my corpus (cf. Table 1).⁷ Although data are overall scarce, a clear pattern emerges from the tabulation of the data in terms of the syntactic environments in which Old Ibero-Romance DDNR is attested.

In clauses with active syntax, Old Ibero-Romance RedNums occur as the direct object of the verb in the following structures: i) ditransitive constructions, where the RedNum argument distributes its denotation over the indirect object DistKey (9a–c); and ii) transitive constructions, where the DistKey is the subject (9d):

- (9) a. *Mando a las XII capiellas de León dos dos sueldos.* (OSp.)
 leave.1SG to the 12 chapels of León two two soldos
 'I leave two *soldos* each to the 12 chapels of León'
 (1270, León; CORDE)

⁷ For reasons of space, I omit discussion in this article of the apparent low productivity of the phenomenon and its subsequent disappearance in the written records.

- b. *et pectabunt michi quingentos quingentos solidos* (IML)
 and pay.FUT.3PL me.DAT fifty fifty soldos.ACC
 ‘and they will pay me fifty *soldos* each’
 (1253, Coimbra; Ventura and Resende 2006: 17)
- c. *Item mando a netos e netas de Maior Vicente cinco*
 likewise leave.1SG to nephews and nieces of Maior Vicente five
cinque morabitanos. (OPT.)
 five maravedís
 ‘I likewise leave five *maravedís* each to the nephews and nieces of Maior Vicente’
 (1324, Évora; TEP 1.48)
- d. *de ancho ovieron todas [cortinas] egualmente éstas e aquéllas*
 of width had.3PL all curtains equally these and those
quatro quatro cobdos. (OSp.)
 four four cubits
 ‘All the curtains, the former and the latter type, measured four cubits each in width.’
 (c. 1275, *General Estoria* Part I; CORDE)

Ditransitive and transitive constructions such as those illustrated in (9a–d) make up the vast majority (87.63%) of DDNR tokens attested in my corpus. Moreover, of this subset of the corpus, RedNums attested in ditransitive constructions constitute 87.12% of the subgroup (and 76.34% of the corpus as a whole), whilst RedNums attested in transitive structures constitute 12.88% of the subgroup (and 11.29% of the corpus as a whole).

Nonetheless, in a small number of attested constructions, the RedNum occurs in a wider range of environments. Specifically, the RedNum surfaces as the subject of the predicate in two passive structures (10a); and, in two tokens, RedNum occurs as a prepositional argument of the verb (10b–c):

- (10) a. *et solvantur eis viginti viginti morabitanos* (IML)
 and pay.PRS.PASS.3PL them.DAT twenty twenty maravedís
 ‘And twenty *maravedís* should be paid to each of them’
 (1291, Braga; TEP 1.40)
- b. *aparto-os con vinte viinte [sic] soldos* (OPT.)
 distribute.1SG=them with twenty twenty soldos
 ‘I leave them twenty *soldos* each’
 (1295, Santarém; TEP 2.36)
- c. *aparto todos meus irmaaons com cinco cinco soldos* (OPT.)
 distribute.1SG all my brothers with five five soldos
 ‘I leave all of my brothers five *soldos* each’
 (C14; Ribeiro 1798: 107)

No tokens of DDNR in unergative intransitive constructions are attested in the corpus. However, we do find three tokens of DDNR in unaccusative intransitive structures, which are attested in later direct-calque translations (from Hebrew) of biblical or liturgical texts:

- (11) *De las bestias lypias [...] dos, dos vinieron aNoe al arca*
of the beasts clean two two came.3PL to-Noah to.the ark
‘[Of the clean beasts...] there entered unto Noah into the ark two-by-two’
(c.1400, *Biblia Escorial I-i-4*; CORDE)

The calqued nature of these texts is confirmed by word-for-word comparison of the DDNR structure in (11) and the Biblical Hebrew in (12):

- (12) *Min ha-behemah ha-tehorah [...] shenayim shenayim ba’u el-noach,*
from the-beasts the-clean two two came.3PL to-Noah
el-ha-tevah (Biblical Hebrew)
to-the-ark
‘[Of the clean beasts...] there entered unto Noah into the ark two-by-two’
(Genesis 7: 8–9)

Following Burzio (1986), I assume that the RedNum in unaccusative and passive structures is a derived subject; specifically, it is assumed to merge as the complement of V (i.e. the internal argument). Crucially, then, in all attested tokens of clausal DDNR with the apparent exception of (10b–c) (to which I return in Section 5.2.5), the RedNum originates in the same argumental position, viz. the internal argument, and bears the same thematic role THEME.

The remainder of the corpus is constituted by tokens of what we might dub ‘nominal-internal’ DDNR, where the RedNum occurs within the (prepositional) complement structure of N:

- (13) *quatro sáuanas de tres tres pannos* (OSp.)
four sheets of three three cloths
‘four sheets each made of three pieces of cloth’
(1289, Asturias; Torrente Fernández 1982: 218)

In the present article, I restrict my attention to DDNR constructions where RedNum is an argument of the verb.

The frequency of RedNum tokens across all syntactic environments is summarized in Table 1. All attested tokens of Old Ibero-Romance RedNums in my corpus are plural in number. They are also locally bound, suggesting that Old Ibero-Romance DDNR obeys Condition A as observed for distance distributivity cross-linguistically (Cable 2014; Milačić et al. 2015). No special (e.g., pluriactional) marking is found on the verb itself, which always agrees in number (and person)

Table 1: Syntactic environments of Old Ibero-Romance RedNums by frequency.

Environment	No. tokens	% of corpus
Ditransitive active	142	76.34
Transitive active	21	11.29
Passive (RedNum subject)	2	1.08
Intransitive (unaccusative)	3	1.61
PP (argument of V)	2	1.08
PP (argument of N)	16	8.60
Total	186	100

with the subject. Where appropriate, RedNum agrees in gender with its nominal complement (OPg. *duas duas galinhas/mulheres* ‘two.F two.F hen.F.PL/woman.PL’, Duarte 1997: 40–41). Finally, the corpus data further show that Ibero-Romance RedNums can also co-occur with an overt QP:

- (14) *Item mando omnibus ecclesiis civitatis Colimbriensis [...]*
 also leave.1SG all.DAT churches.DAT city.GEN Coimbra.GEN
II II libras unicuique ad pitancias (IML)
 two two pounds.ACC each.DAT for allowances.ACC
 ‘I also leave to all the churches of the city of Coimbra two pounds each for
 the purpose of allowances’
 (1285, Coimbra; TEP 2.33)

4.2 Nature of Predicates

That Old Ibero-Romance RedNums are overwhelmingly attested in the same structural environment—viz. ditransitive constructions—, and, moreover, that the RedNum itself appears without exception in clausal DDNR as the internal argument THEME invites closer inspection of the nature of the predicates involved to ascertain whether this can shed further light on the patterns identified.

4.2.1 Lexical Semantics

Enumeration of DDNR verbal predicates in terms of their lexical semantics, as summarized in Table 2, reveals a very limited range of lexical values. Tabulating only those predicates which are overtly realized (i.e. disregarding those

structures introduced by reflexes of the Latin *idem* ‘the same’, where the verb remains implicit), we find that a majority (64.58%) of tokens involve one of two ditransitive predicates; namely, reflexes of Latin *DARE* (‘to give’) and *MANDARE* (‘to send; to bequeath’).

Setting aside for now the lexical verbs involved in unaccusative DDNR (marked with an asterisk in Table 2), the lexical meaning of the verbal predicates involved in Old Ibero-Romance DDNR corresponds, whether literally or figuratively, to a narrow subset of verbs within the taxonomy of ‘verbs of change of possession’ as identified by Levin (1993: 29). These include, on her terms, GIVE VERBS (e.g., *give*; *pay*; *render*); CONTRIBUTE VERBS (e.g., *distribute*; *donate*; *transfer*); VERBS OF FUTURE HAVING (e.g., *allocate*; *bequeath*; *owe*); and *have*-possession. Levin’s ‘change of possession’ verbs also fall within her class of ‘alternating verbs’ (Levin 1993: 45–47), a grouping which comprises additional interpretations of verbal predicates found in DDNR tokens such as BRING AND TAKE VERBS; and APPOINT VERBS (e.g., *appoint*; *designate*; *nominate*).⁸ Closer scrutiny of the lexical semantics of DDNR predicates thus reveals a common interpretation in terms of literal or figurative change of (or, less frequently, static) possession.

Table 2: Lexical predicates in clausal tokens of Old Ibero-Romance DDNR.

Lexical predicate	Tokens
DARE ‘to give’	31
MANDARE ‘to send; to bequeath’	31
<i>pechar</i> (OlbRo) ‘to pay (tax)’	7
HABERE ‘to have’	7
FACERE ‘to do’	5
DEVERE ‘to owe’	5
LEGARE ‘to leave; to bequeath’	3
<i>apartar</i> (IbRo) ‘to distribute’	2
VENIRE* ‘to come’	2
CABERE ‘to fit; to hold/contain’	1
CRIBRARE ‘to separate’ (e.g., yolk)	1
<i>de(i)xar</i> (IbRo) ‘to leave’	1
ENTRARE* ‘to enter’	1
SOLVERE ‘to pay off; scatter’	1
<i>tomar</i> (IbRo) ‘to take’	1
TRAHERE ‘to bring’	1

⁸ We also find a handful of predicates which fall under Levin’s (1993: 82) FIT VERBS (e.g., *contain*; *hold*), which she captures in terms of locative semantics. However, for us, these verbs fall under the category of static possession.

The genre of the texts at our disposal undoubtedly plays a role in the respective frequencies of the lexical verbs attested with DDNR. For example, all documents in the TEP are testaments and codicils (i.e. legal documents which dictate how an individual's estate should be distributed in the event of their death), for which reason it would not be unexpected to find higher proportions of three-place transfer of possession predicates such as 'to leave/bequeath (i.e. something to someone)'. Whilst we should not underestimate the role genre can have in skewing our data in favour of certain outcomes (cf. e.g., Farasyn et al. 2018; Pintzuk et al. 2017: 219–20), it is nonetheless striking that, notwithstanding the thematic bias of the testamentary texts, lexical predicates involving literal and figurative (change of) possession abound in my corpus, appearing across a range of diaphasic settings (including but not restricted to testamentary documents, legal charters, historical chronicles, scientific treatise, secular verse, and religious prose). That DDNR is attested in a range of documents with the same set of behaviours *irrespective* of genre, reinforces the hypothesis that its majority attestation as the internal argument THEME in transfer of possession constructions is not coincidental.

4.2.2 Syntactic/Semantic Frames

Crucially, we find that the descriptive characterization that DDNR involves transfer/possession holds across predicates with a reduced number of arguments. Specifically, we find that DDNR structures can be descriptively categorized as involving one of the following three types of interpretation: change/transfer of possession, where the subject is the AGENT of the change (15a) (here, the embedded 3PL subject); change/transfer of possession, where the subject is the GOAL/RECIPIENT of the transfer of possession (15b); and static possession, where the subject is the POSSESSOR of an already established possession relation (15c):⁹

- (15) a. *Mando que dem a cada huom clerigo que cantar*
 order.1SG that give.SBJV.3PL to each one cleric that sing.FUT.SBJV.3SG
dous dous soldos (Opt.)
 two two soldos
 'I direct [my executors] to give two *soldos* to each cleric who sings [mass at my funeral]'
 (1324, Évora; TEP 1.48)

⁹ Note that the same lexical root, a reflex of Latin HABERE 'have.INF', appears in distinct structures involving divergent interpretations in (15b-c), describing an eventive and stative eventuality, respectively (see also the discussion of [16a-b] below).

- b. *Aquestos aguardadores ayan por gualardon [...] quatro*
 those guards have.SBJV.3PL as back.payment four
quatro maravedis (OSp.)
 four maravedis
 ‘Those guards should receive as back-payment four *maravedis* each.’
 (1218–c.1250, Fuero de Zorita de los Canes; CORDE)
- c. *e todas [tablas] avién en fondon dos dos quicios* (OSp.)
 and all boards had.3PL at bottom two two tenons
 ‘And each [board] had two tenons at the bottom’
 (c.1275, *General Estoria* Part I; CORDE)

Constant across all interpretations is that the THEME OR POSSESSUM argument corresponds to the RedNum, which, as we have already ascertained, merges as the internal argument of the verb. In turn, and despite the difference in the number of arguments, a further commonality across the structures in (15a–c) comes in the form of the much-commented *give/have* connection, which intuits that *give* is lexically decomposable into ‘cause to have’ (cf. Section 5.2.2). Profiting from this intuition and following a common notational convention, for expository ease I will also use the term POSSESSOR-GOAL to refer collectively to the argument corresponding to the GOAL/RECIPIENT of the transfer of possession and the POSSESSOR of static possession.¹⁰

Although ditransitive and ‘transfer’ transitive DDNR constructions pattern together in terms of their *interpretation* (i.e. change of possession), they diverge in terms of the *structural mapping* of thematic roles. On the latter criterion, the ‘transfer’ (i.e. RECIPIENT-subject) transitives, as in (15b), pattern more closely with structures involving static possession (15c). That is, static possession constructions and ‘transfer’ constructions with a RECIPIENT subject are alike in that (i) both involve a subject which functions interpretatively as the POSSESSOR vis-à-vis the internal argument; and (ii) both are ‘missing’ the agentive argument of ditransitive DDNR.

Table 3 summarizes the key correspondences between structural arguments and thematic roles in two-place and three-place predicates in clausal DDNR with active syntax. Common to all DDNR expressions in the corpus, then, is a dyadic relation between the RedNum THEME and another argument, which I capture as one of either literal or figurative possession. The tokens can be further subdivided according to, in the first instance, whether the eventuality described involves an

¹⁰ This is not to say that there are not differences between these thematic roles. However, for the purposes of the present study, I set aside these distinctions, and use the terms GOAL/RECIPIENT interchangeably.

Table 3: Correspondences between thematic and syntactic arguments in DDNR.

Type	Environment	AGENT of transfer	(POSSESSED) THEME	(POSSESSOR) RECIPIENT/ GOAL
1	Ditransitive	Subject	Direct object	Indirect object
2	'Transfer' transitive (subject as GOAL)	n/a	Direct object	Subject
3	Static possession	n/a	Direct object	Subject

AGENT (i.e. Type 1). Agentive arguments in my corpus of Ibero-Romance DDNR always occur as the subject (i.e. the external argument).

Within the subcategory of non-agentive DDNR (i.e. Types 2 and 3), we find three types of predicate. Amongst DDNR structures of change of possession (Type 2), we find predicates that pattern like *receive* in (16a), viz. an eventive eventuality involving a dynamic relationship between the POSSESSOR and the POSSESSUM. In structures of 'static' possession (Type 3), we find predicates that pattern like *have* in (16b), which describe a stative eventuality (such as *contain*, *hold*); and predicates that pattern like *bring* in (16c), which describe an activity where the relation between POSSESSOR and POSSESSUM remains static:

- (16) a. *estos cavalleros ayan por soldada [...] dos dos*
 these knights have.SBJV.3PL as payment two two
maravedis. (OSp.)
 maravedís
 'These knights should receive as payment two *maravedís* each'
 (Fuero de Plasencia; HB&SB 1999: 287)
- b. *Las varas de las paredes de amos los costados ovieron en*
 the bars of the walls of both the sides had.3PL in
luengo seis seis cobdos. (OSp.)
 length six six cubits
 'The crossbars for the walls on both sides measured six cubits each in length.'
 (c.1275, *General Estoria*; CORDE)
- c. *que trayan cada cavero tres tres bestias* (OSp.)
 that bring.SBJV.3PL each worker three three beasts
 'Each worker should bring with them three beasts (i.e. which they own) each'
 (1251, *Guadalajara*; CORDE)

There is also a fourth subtype, viz. unaccusative DDNR (cf. (11)), which on cursory inspection, may appear to fall outside the foregoing generalizations. However, I return to these cases in Section 5.3, showing that the syntactic behaviour of these structures is not anomalous, but is in fact *predicted* on an applicative treatment of DDNR.

4.3 Interim Summary

The key findings that emerge from the foregoing discussion are as follows. 1. In terms of frequency, ditransitive structures are by far the most common structural type involved in Old Ibero-Romance DDNR. 2. Old Ibero-Romance DDNR displays subject–object asymmetry insofar as the RedNum always merges in the complement of V as the internal argument, which corresponds to the direct object in almost all tokens (the exceptions being sentences where structural case assignment ‘obscures’ the RedNum DP’s status as the internal argument). 3. Descriptively, all lexical verbs attested in Old Ibero-Romance DDNR express either a) a current relation of possession, or b) a transfer of, or change in, possession (both literal and figurative). 4. Variation in the interpretation and/or structure of Old Ibero-Romance DDNR occurs as a function of: a) the number of verbal arguments; b) the presence of an agentive subject; c) the (stative or eventive) nature of the predicate; d) the (static or dynamic) nature of the relationship between the arguments involved in the possession relation.

5 Analysis

5.1 (Ditransitive) DDNR as a Double Object(-Like) Construction

Taking as our point of departure the dual observation that Old Ibero-Romance DDNR occurs overwhelmingly in ditransitive structures and, more broadly, involves predicates that describe literal or figurative change of possession, this section makes the case for the analysis of clausal DDNR as a double object(-like) construction.

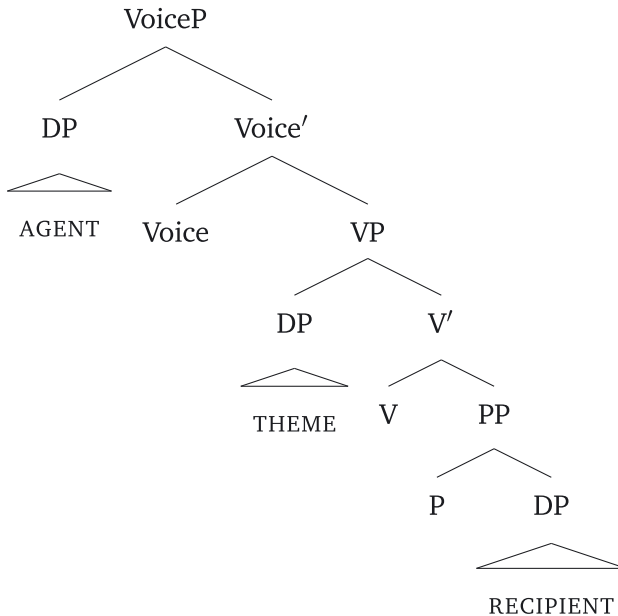
Temporarily restricting the focus of our discussion to ‘canonical’ cases of DDNR, viz. ditransitive structures, I examine two theoretical possibilities for the analysis of ditransitive DDNR (cf. Harley and Miyagawa 2017):¹¹ prepositional

¹¹ For a typological perspective on ditransitive structures, see Malchukov et al. (2010).

datives ('The baker gave a cake to the customer'), and the so-called 'double object', or, less commonly, 'double accusative', construction (DOC, 'The baker gave the customer a cake'). These structures yield the so-called 'dative alternation' (or 'dative shift') found in English and other Germanic languages. The dative alternation has received extensive treatment in the literature, and its formal analysis, especially in relation to DOCs, continues to be subject to debate.

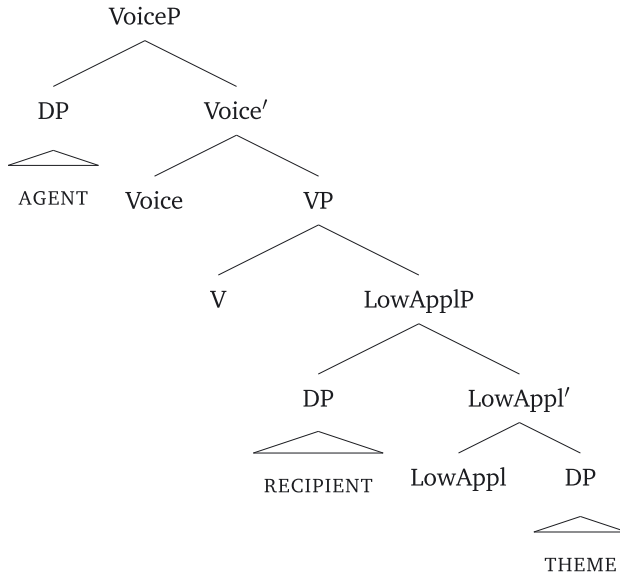
For the purposes of the present paper, I have no particular stake in the wider debates. Rather, the key point for us is that these ditransitive constructions diverge in their underlying syntax, and, accordingly, make different predictions for the configurational structure and syntactic properties of ditransitive DDNR. Prepositional datives are structures where the indirect object RECIPIENT is part of a prepositional phrase introduced at the base of the structure, below a direct object THEME, as schematized in (17):

- (17) Prepositional dative construction: THEME > RECIPIENT



In DOCs, conversely, the RECIPIENT precedes the THEME, reversing order of prepositional datives:

(18) ‘Double object’ construction: RECIPIENT > THEME



Whilst the theoretical literature offers various accounts of these differences, in the present study I assume an applicative analysis of DOCs (cf. Section 2.4).

In what follows, I argue that the empirical data strongly militate against a prepositional dative analysis of Old Ibero-Romance DDNR, and in favour of the DOC analysis.

5.1.1 Ditransitive Constructions in Romance

It is traditionally assumed that, unlike the dative alternation available in English, DOC structures are not found in Romance (Kayne 1984). Such an assumption is seemingly proved correct by the empirical data, given the typology illustrated in (19a–c), which holds robustly across Romance, almost without exception (though see 20b–c below):

- (19) a. *O pasteleiro deu(lle) {um biscoito ao cliente / *o cliente um biscoito}.*
(Glc.)
 b. *Le pâtissier a donné {un gâteau au client / *le client un gâteau}.* (Fr.)
 c. *Il pasticcere ha dato {una torta al cliente / *il cliente una torta}.* (It.)
 d. The baker gave {a cake to the client / the client a cake}.

Given the proliferation of ditransitive constructions with RECIPIENT arguments marked by *a* (< Latin preposition AD ‘to, towards’) in the corpus, it is tempting to reach the superficial conclusion that DDNR constructions are cases of prepositional datives as found in Modern Romance. Extending to Old Ibero-Romance DDNR the traditional approach to Romance ditransitives as prepositional datives

would entail that the RedNum is introduced in the specifier of VP, and that the indirect object RECIPIENT would merge at the base of the structure as the argument of the preposition *a*. Such an analysis, however, would go against our strong empirical result from Section 4 that the RedNum consistently occurs in the complement of V.

Nevertheless, there is growing consensus (e.g., Masullo 1992; Demonte 1995; Cuervo 2003; Torres Morais and Lima-Salles 2016: 210; Pineda 2020) that a DOC configuration in fact underlies Romance dative constructions in at least some circumstances (notably, in the case of Spanish, dative clitic doubling).¹² Moreover, direct empirical evidence of double accusatives, where triadic predicates have two accusative-marked arguments, in Latin (20a) and Romance (20b–c) are not unknown. Accusative/dative syncretism in Ibero-Romance abounds, as illustrated here for both full DPs and their pronominal clitic counterparts (20d–e). Relatedly, a subset of Romance varieties exhibit an innovative dative/accusative case alternation in the marking of person complements (Pineda and Royo 2017) (20f–g):

- (20) a. *Quid nunc te, asine, litteras doceam?* (Lat.)
 what now you.SG.ACC ASS.VOC letters.F.PL.ACC teach.SBJV.1SG
 ‘What, you ass! must I begin to teach you.ACC letters.ACC?’
 (Cic. *Pis.* 73, cit. Napoli 2016: 79)
- b. *’o mannajeno ’na lettera* (Neapolitan)
 him.ACC sent.3PL a letter
 ‘they sent him.ACC a letter’
 (Ledgeway 2000: 304)
- c. *Entregou o emissário a carta.* (Mozambican Pt.)
 deliver.3SG the emissary the letter
 ‘He gave the emissary the letter’
 (Gonçalves and Chimbutane 2009: 44)
- d. *Veo al pastelero / Le veo.* (EuSp.)
 see.1SG AD.the baker him.ACC= see.1SG
 ‘I see the baker / I see him’
- e. *Doy un pastel al pastelero / Le doy un pastel.*
 give.1SG a cake AD.the baker him.DAT= give.1SG a cake
 ‘I give the baker a cake / I give him a cake’
- f. *El cap paga {a l’empleat / li paga}.* (Cat.)
 the boss pays AD the=employee him.DAT= pays
 ‘The boss pays [_{DAT} the employee] / him_{DAT}’

¹² Though see, e.g., Pineda (2020: 222–3) and related work for arguments that the presence/absence of dative clitic doubling is not an essential condition for Romance DOC.

- g. *El cap paga {Ø l'empleat / el paga}*.
 the boss pays the=employee him_{ACC}= pays
 'The boss pays [_{ACC} the employee] / him_{ACC}'
 (adapted from Pineda and Royo 2017: 446)

These examples undermine the traditional wisdom that Romance varieties do not possess equivalents of English DOCs.

This raises, in turn, the possibility of a DOC analysis for Old Ibero-Romance DDNR ditransitives. One consequence of a DOC analysis is that the prenominal morpholexical item *a* on RECIPIENT DPs would be analyzed as a case marker, parallel to its role as the case marker of animate, specific direct objects in differential object expressions in Ibero-Romance (e.g., *Veo *(a) esa mujer / *(a) esa casa* 'see.1SG DOM that woman / * DOM that house'). Crucially, however, analysing Old Ibero-Romance DDNR as a DOC-like structure would reverse the hierarchical order of THEME and RECIPIENT of the prepositional dative analysis, yielding the correct structural position for the RedNum in the complement of V.

Building on these considerations, I propose that, despite having the superficial appearance of prepositional datives, DDNR ditransitives are best analysed in terms of a DOC-like structure. In the following subsections, I outline corroborating empirical motivations for this analysis in terms of the structural position of the RedNum THEME (Section 5.1.2); scopal asymmetries (Section 5.1.3); surface linearization of DDNR structures (Section 5.1.4); and the interpretative properties of DDNR ditransitives as structures describing eventualities of caused possession (Section 5.1.5).

5.1.2 Structural Position of THEME in Base Configuration

We observed in the preceding sections that prepositional datives and DOCs diverge in the hierarchical ordering of THEME and RECIPIENT, as summarized in (21a–b):

- (21) a. Prepositional datives ('The baker gave a cake to the customer'):
 THEME precedes RECIPIENT
 b. 'Double object' construction ('The baker gave the customer a cake'):
 RECIPIENT precedes THEME

In prepositional datives, the THEME is understood to merge in the specifier of VP (as visualized in (17)), which—as already explained in Section 5.1.1—makes the wrong prediction (22b) for the structural position of the RedNum in Old Ibero-Romance DDNR.

We have held throughout that a key finding of our empirical study is that the RedNum merges as the internal argument of the verb. Only in DOCs does the THEME

merge in the complement of V (22c), yielding the configurational structure we would predict for RedNum given the empirical data:

- (22) a. *Mando VI VI [tenajas] a estos omnes que mandé*
 leave.1SG 6 6 amphorae AD these men that left.1SG
las viñas (OSp.)
 the vineyards
 ‘I leave six amphorae each to the men to whom I have left the vineyards’
 (1227, Toledo; HD&SB 1999: 290)
- b. *RedNum in SpecVP
 [VoiceP pro [VP VI VI **tenajas** [V^r mando [PP a [DP estos omnes]]]]]
- c. RedNum in complement of V
 [VoiceP pro [VP [V^r mando [AppIP a estos omnes [AppI' Appl VI VI **tenajas**]]]]]]

On the applicative analysis, the adnominal occurrence of *a* does not indicate the presence of a PP, but instead marks the dative case of the DP in whose extended structure it is merged (i.e. *a* is not adpositional but a case marker, cf. Cuervo 2020: 9).

5.1.3 Scopal Asymmetry and Distributive Interpretation of THEME

It is generally recognized that prepositional datives and DOC expressions diverge in their scopal properties, an asymmetry which is attributed, in turn, to the distinct syntactic configurations involved. Specifically, and following the observation attributed to David Lebeaux in Larson (1990: 603–4), DOCs are understood to involve ‘scope freezing’ whereby the scopal reading is fixed at the surface order of the linear constituents. Thus whilst wide and narrow scopal readings are possible for prepositional datives, the only possible reading in DOCs is that in which the indirect object scopes over the direct object (cf. also Aoun and Li 1989):

- (23) a. Prepositional datives (‘The baker gave a cake to every customer’):
 Surface scope (DO > IO): $\exists(\text{cake}) > \forall(\text{customer})$
 Inverse scope (IO > DO): $\forall(\text{customer}) > \exists(\text{cake})$
- b. ‘Double object’ construction (‘The baker gave a customer every cake’):
 Surface scope (IO > DO): $\forall(\text{customer}) > \exists(\text{cake})$
 Inverse scope (*DO > IO): $\exists(\text{cake}) > \forall(\text{customer})$

Returning to Ibero-Romance DDNR, there is indeed a scopal asymmetry insofar as the DistShare RedNum must distribute over the DistKey, where for every individual (DistKey) there is a distribution of the RedNum (DistShare). Consider the following sentence:

- (24) *Item mando a duas filhas de Martim da Veyga tres tres*
 likewise leave.1SG to two daughters of Martim da Veyga three three
libras (OPT.)
 pounds
 ‘I also leave three pounds each to the two daughters of Martim da
 Veyga’
 (1318, Silves; TEP 8.2)

In (24), the RedNum is, as expected, the DistShare, whose denotation is distributed over the DistKey; here, the two daughters. Contextually, there is only one appropriate interpretation of (24): the distribution of assets in a testamentary will requires that each daughter must receive a distinct asset (i.e. they each receive three pounds), not that the two daughters each receive the same asset (i.e. there is some asset to be shared between the daughters). In other words, for the appropriate distributive interpretation, the RECIPIENT must have scope over the THEME (IO > DO), ruling out the reverse order where the THEME scopes over the RECIPIENT (*DO > IO).¹³

5.1.4 Linear Ordering of DDNR

Although surface linearization is no guarantee of the underlying configuration of a given structure, it is nonetheless striking that the linear order, and thus surface scope (see above), of all but two tokens of ditransitive DDNR in my corpus exhibits the pattern RECIPIENT (IO) > RedNum THEME (DO):

- (25) a. *Mando canonicis Bracarensibus duos duos morabitos.* (IML)
 leave.1SG canons.DAT Braga.DAT two.ACC two.ACC morabitos
 ‘I leave two *maravedís* each to the canons of Braga’
 (1272, Burgos; TEP 1.33)
- b. *Item mando a meus testamenteiros tres tres libras* (OPT.)
 likewise leave.1SG to my executors three three pounds
 ‘I likewise leave three pounds each to my executors’
 (1319, Viseu; TEP 9.7)

Whilst linear order cannot corroborate the hypothesis that DDNR involves the relative structural order of RECIPIENT > THEME as observed in the DOC configuration, I interpret these findings as *consistent* with that hypothesis (and, by comparison,

¹³ See also similar discussion for syntactic accounts of binominal EACH in, e.g., Beghelli & Stowell (1997), Stowell (2013).

inconsistent with the alternative hypothesis that DDNR involves the linear ordering of *THEME* > *RECIPIENT* associated with prepositional datives). Where there is divergence from the linear order of *RECIPIENT* > *THEME*, I propose that the alternation can be accounted for by assuming discourse-driven movement (for which Medieval Romance is well known; see, amongst very many others, Benincà 2006, Ledgeway 2012, Wolfe 2018, and references therein) has taken place.

5.1.5 Caused Possession and DDNR

Although not without critique (see, e.g., Ormazabal and Romero 2010), many analyses of the dative alternation have theorized an empirical and formal distinction between prepositional datives and DOCs based on a semantic alternation between caused motion in the former and caused possession in the latter (e.g., Hale and Keyser 1993, Harley 2002; Krifka 2004). On this view, the two dative structures correspond to distinct semantic representations as follows (examples based on Krifka 2004: 16; see also Ormazabal and Romero 2010: 205):

- (26) a. *Prepositional datives as caused motion* ('The baker gave a cake to the customer'):
 $\exists e \exists e' [\text{AGENT}(e, \text{baker}) \wedge \text{CAUSE}(e, e') \wedge \text{MOVE}(e') \wedge \text{THEME}(e', \text{cake}) \wedge \text{GOAL}(e', \text{customer})]$
- b. *'Double object' construction as caused possession* ('The baker gave every customer a cake'):
 $\exists e \exists s [\text{AGENT}(e, \text{baker}) \wedge \text{CAUSE}(e, s) \wedge s: \text{HAVE}(\text{customer}, \text{cake})]$

In (26a), the semantic representation states that there is an event *e*, where the baker is the *AGENT* of *e*, and that the event *e* causes another event *e'*, where *e'* is a movement event, involving a *THEME*, a cake, which undergoes the movement event in relation to a *GOAL*, here, the customer. In (26b), by contrast, there is only one event *e*, involving the baker as the *AGENT* of *e*, where *e* causes a state *s* of the customer having a cake. The crucial point for us is that prepositional datives are traditionally assumed to involve change in location (via a motion event), but DOCs are not: that is, (26a) describes an eventuality of caused motion—or, informally, 'cause *THEME* *x* to go to *y*'—whereas (26b) describes an eventuality of caused possession; informally, 'cause *THEME* *x* to belong to *y*'.

Given that I have put forward a unified characterization of Old Ibero-Romance DDNR in terms of a (wide notion of) possession relation, whereby DDNR expressions can be subdivided on the basis of whether the relation between *POSSESSUM* and *POSSESSOR* is static or yet to be achieved, the event description of DOCs corresponds

more closely to our characterization of DDNR.¹⁴ The semantic representation of the DOC in (26b) also chimes with the *have/give* parallel noted in Section 4.2.2 (and invoked in relation to our theoretical analysis of DDNR in Sections 5.2.2–5.2.3), wherein *give* is intuited to be decomposable into *cause to have*.

5.1.6 Interim Conclusion: Ditransitive DDNR is a DOC

Based on these findings, I conclude that ditransitive DDNR involves a DOC(-like) structure. As such, I propose an applicative analysis to capture the structural configuration DDNR tokens with three-place predication. Following Pylkkänen (2002, 2008), I assume a low applicative structure is introduced by a low applicative Source head to derive the appropriate syntax-semantics for the possession relation:

- (27) Type 1: *Ditransitive* DDNR (subject as AGENT):
 [VOICEP AGENT [VP V [APPLP RECIPIENT_{DistKey} [APPL' Appl RedNum_{DistShare}]]]]

On this analysis, the (low) applicative head introduces the DP THEME as its complement, and (in the spirit of recent applicative treatments of Romance DOCs, e.g., Pineda 2020: 19) assigns RECIPIENT/POSSESSOR theta-role to the DP merged in its specifier, enabling the construction's possessive-like semantics. In so doing, the applicative head mediates a dynamic relation between the two individuals; specifically, it denotes a transfer of possession (which I conceptualize here as *caused* possession) of the THEME to the RECIPIENT. The AGENT of the event is merged as an external argument in SpecVoiceP.

5.2 Unifying Ditransitive and Transitive DDNR: A Distributive Analysis

What does this have to do with distributivity? Whilst the applicative analysis for realizing the change of possession relation in ditransitive DDNR is independently motivated and cross-linguistically corroborated by existing applicative accounts, it is doubly advantageous for a theoretical account of the distributive relationship that characterizes DDNR. Namely, I propose that the applicative structure is not only responsible for mediating a DOC-like relation between two entities, but,

¹⁴ Note that, whilst some authors have further differentiated dative constructions according to whether the transfer of possession is accomplished (see Pineda 2020: 229 and references therein), I take the position that the 'successful' transfer of possession is lexically, not structurally, supplied, whence the observation of gradient interpretations as a function of the lexical idiosyncrasies of the predicate.

crucially, it simultaneously configures the nature of the distributive relationship between the two individuals.

Firstly, I assume that the pluralization of the event itself occurs via an independent operation triggered by a *-operator (Link 1983), which, following Kratzer (2008), is associated with a [PLURAL] feature in the functional structure of DP. On my account, the distributive relationship between the two arguments is established by the low applicative head, relating the DistKey to the DistShare in the local, base configuration. At this point, the scopal asymmetry is ‘frozen’ (cf. Section 5.1.3) *in situ*—and with it, crucially, the appropriate distributive relation between the two arguments—before any further derivational movement takes place. The event pluralization takes place separately, as noted above. As the applicative head relates two DPs to one another, the resulting quantification is necessarily one of distributivity of *individuals*, as expected given the semantics of Old Ibero-Romance DDNR.

Encouragingly, the clausal configuration I have put forward for capturing DDNR finds parallels in the proposals of previous syntactic analyses of distance distributivity with binominal *EACH*, which depart from the intuition that a) distributivity involves a binary semantic relationship between the DistKey and the DistNum, and that b) this binary relationship is reflected configurationally in the clausal syntax (Beghelli 1995; Beghelli and Stowell 1997; Safir and Stowell 1988: 477; Stowell 2013). In particular, my account is redolent of the dedicated distributive clausal architecture proposed for English binominal *EACH* by Beghelli and Stowell (1997) and Stowell (2013), lending promise to the present analysis.¹⁵ Their account diverges from my own, however, in that their distributive layer is (optionally) projected above the event domain, whereas I maintain that it is preferable to retain the analysis for Old Ibero-Romance DDNR within the event domain given the restricted semantics (*viz.* caused possession) and subject–object asymmetry of the DDNR phenomenon.

5.2.1 Non-agentive DDNR

However, we also need to account for the remaining (transitive) subtypes of DDNR structures in which the subject is not the *AGENT* of a transfer event, but corresponds instead to the *POSSESSOR-GOAL* of the eventuality described. In these cases, there is therefore no argument corresponding to the thematic role of *AGENT* (conventionally

¹⁵ Specifically, these authors propose a bipartite distributive structure, framed as a complex DistP shell in Stowell (2013), in which an *each*-QP (*viz.* the DistKey) merges in the specifier of the higher layer (originally labelled DistP in Beghelli & Stowell 1997), and the DistShare DP merges in the lower layer (ShareP in Beghelli & Stowell 1997).

understood to be assigned in VoiceP) in the configurational structure, and the RedNum remains the THEME.

Pursuing an applicative analysis for such AGENT-less constructions that is consistent with the configuration proposed for ditransitive DDNR above, however, dictates that the POSSESSOR—as the DistKey of the transitive expressions—must merge initially in the specifier of the applicative head, in order to yield the distributive relation between the THEME (the DistShare) and its POSSESSOR/GOAL. This would produce the following basic configurational template for transitive DDNR with a POSSESSOR-GOAL subject:

- (28) *Transitive DDNR with a POSSESSOR-GOAL subject:*
 $[_{\text{VOICEP}} [_{\text{VP}} \text{V} [_{\text{APPLP}} \text{POSSESSOR-GOAL}_{\text{DistKey}} [_{\text{APPL}'} \text{Appl RedNum}_{\text{DistShare}}]]]]$

The theoretical consequence of unifying these analyses is that the subject of non-agentive transitive DDNR must be assumed to be a derived one (i.e. via passivization of the IO; cf. Section 5.2.4), such that we are ostensibly obligated to posit an indirect object passive analysis, an operation which is traditionally assumed to be unavailable in Romance (e.g., Sp. **La mujer fue dada un regalo* ‘the woman was given.F a gift’).

I nonetheless argue that there is both theoretical and empirical precedent for the derived subject analysis. In the next subsections, I outline how an applicative treatment can be extended to the remaining subtypes of DDNR. Anticipating the exposition of the full analysis, the base configuration for each of the major subtypes of DDNR outlined is as follows:

- (29) Type 1: *Ditransitive DDNR* (subject as AGENT):
 $[_{\text{VOICEP}} \text{AGENT} [_{\text{VP}} \text{VCAUSE} [_{\sqrt{\text{P}}} \sqrt{[_{\text{LOWAPPLP}} \text{GOAL}_{\text{DistKey}} [_{\text{LOWAPPL}'} \text{LowAppl}_{\text{TO}} \text{RedNum}_{\text{DistShare}}]}}]]]]]$
- (30) Type 2: *Transitive change of possession* (subject as GOAL):
 $[_{\text{VOICEP}} [_{\text{VP}} \text{VCAUSE} [_{\sqrt{\text{P}}} \sqrt{[_{\text{LOWAPPLP}} \text{GOAL}_{\text{DistKey}} [_{\text{LOWAPPL}'} \text{LowAppl}_{\text{TO}} \text{RedNum}_{\text{DistShare}}]}}]]]]]$
- (31) Type 3: *Static possession* (subject as POSSESSOR):
 $[_{\text{VOICEP}} [_{\text{VP}} \text{VBE/VCAUSE} [_{\sqrt{\text{P}}} \sqrt{[_{\text{LOWAPPLP}} \text{POSSESSOR}_{\text{DistKey}} [_{\text{LOWAPPL}'} \text{LowAppl}_{\text{AT}} \text{RedNum}_{\text{DistShare}}]}}]]]]]$

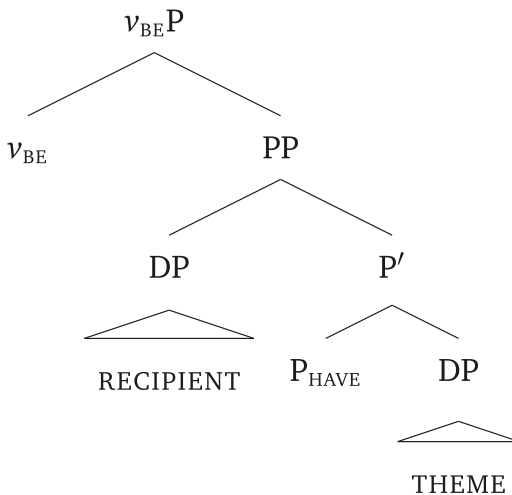
The explanatory power of the applicative analysis will be further demonstrated in the final subsections of the discussion, in which I will show how an applicative treatment can be successfully extended to account for the syntactic and semantic properties of the ostensible ‘outlier’ tokens of DDNR with a RedNum subject; namely, passive structures in West Iberian Medieval Latin, and unaccusative

DDNR in the Romance-Hebrew Bible translations. In the latter unaccusative constructions, I will argue that the eventive distributive interpretation of these tokens can be configurationally captured by assuming the applicative layer merges *above* (rather than below, as in other cases of Old Ibero-Romance DDNR) the vP layer, yielding the distributive relation between the RedNum and the event itself.

5.2.2 Derived Subjects

The proposal that static possession with *have* involves a derived subject has a long-standing pedigree in the tradition following Freeze (1992) that theoretically captures *have* as a locative copula, decomposable into $BE+P$ (cf. Kayne 1993; Harley 2002; Harley and Jung 2015; also, Benveniste 1966; Myler 2016: 119). The basic intuition pursued here is that *have* structures are the surface manifestation of an existential predicate that takes a prepositional argument, with the $POSSESSUM$ in the complement and the $POSSESSOR$ in the specifier of an abstract (locative) P . In (32), I schematize the event structure of *have* as $BE+P$, where P is an incorporated abstract adposition (Freeze 1992: 588; Kayne 1993: 4, 7) and where the verb is represented as a light verb v_{BE} (following Harley 2002; Harley and Jung 2015):

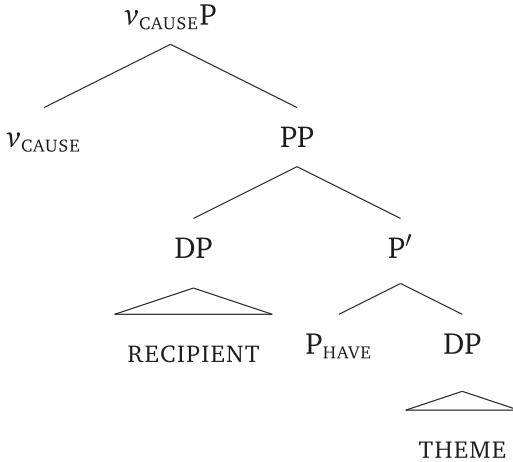
(32) *Have* = $BE+P$



Since the $POSSESSOR$ merges within the complement of V , it must move to a higher position associated with the subject to receive the relevant case assignment (i.e. checking [+NOMINATIVE] in SpecTP, or theoretical equivalent), whence the parallel with the movement of the derived subject of unaccusatives.

Following Harley (2002), which capitalizes on the *have/give* connection on which *give* is decomposable as *cause to have*,¹⁶ the basic configurational template can be extended to DOCs as follows:

(33) *Give* = CAUSE *to have*



Abstracting away from the complex structure of causatives, the predicate *give* is captured in (33) as the surface realization of the incorporation of P into a causative light verb (cf. Harley 2002: 31–2). The *have/give* connection is thus elegantly captured through a unified analysis, with the alternation a function of the nature of the (stative versus causative) light verb.

I take the foregoing arguments as theoretical precedent for the proposal that the GOAL-POSSESSOR argument is a derived subject. However, the incorporated adposition is a problem for our approach, since I rejected in Section 5.1 a PP analysis for Old Ibero-Romance DDNR. Nonetheless, we can retain the intuition but reformulate the HAVE = BE+P hypothesis by converting the PP at the base of the structure into LowApplP, and disregarding the incorporation of P.¹⁷

5.2.3 Dynamic Versus Stative Possession

In principle, we then have a range of options for recapturing the *have/give* alternation, in general and in relation to Old Ibero-Romance DDNR. One is to assume that it is the syntax/semantics of the verb's event structure that determines whether the

¹⁶ See also Harley & Jung (2015: 704–5) and references therein.

¹⁷ For theoretical arguments on the respective merits of the DOC versus 'small clause' analysis for Old Ibero-Romance DDNR, see Corr (2022).

eventuality is stative (i.e. *have* as *v_{BE}*) or dynamic (i.e. *give* as *v_{CAUSE}*).¹⁸ A further option is that the nature of the applicative head determines the thematic nature of the applied argument (and thus its status within the possession relation). On the first option, the difference in meaning between *have/give* is a question of the eventuality as described by the verb; on the second, it has to do with the nature of the relation between the two individuals, irrespective of the wider event structure. A third option is to assume both parameters are in operation (the approach taken by Pykkänen [2002, 2008] and Cuervo [2003]), which is the hypothesis pursued here.

I have taken the view of Cuervo (2003) that, *pace* Pykkänen (2002), the nature of the relationship between the arguments introduced within the Low Applicative structure is not necessarily dynamic, but can also express a static relation between the two individuals. Specifically, Cuervo (2003) builds on the arguments in Pykkänen (2002) that there are two types of low applicative head that diverge according to the directionality of a dynamic possession relation, viz. a *RECIPIENT* applicative (LowAppl_{TO}) that relates the possession of the DO *THEME* to the IO (as observed in English DOC), and a *SOURCE* applicative (LowAppl_{FROM}) that reverses the directionality, relating the possession of the DO *THEME* from the IO (as observed in Romance ‘malefactive’ expressions, e.g., Sp. *Pablo le robó la bicicleta* [_{SOURCE} *a*_{DAT} *Andreína*] ‘Pablo to.her stole the bicycle off Andreína’, in Cuervo 2003: 70).

Cuervo (2003) presents evidence from Spanish in favour of a third type of low applicative, viz. a *POSSESSOR* applicative (LowAppl_{AT}), which establishes the same basic type of relation between the DO and the applied argument as *RECIPIENT/SOURCE* applicatives, differing only in that LowAppl_{AT} serves to *maintain* an existing possession relation (rather than prompting a change of possession). For Cuervo (2003), the relationship of possession between the arguments introduced in the low applicative layer remains static irrespective of the eventuality type, i.e. stative (34a) or dynamic (34b), described by the verb:

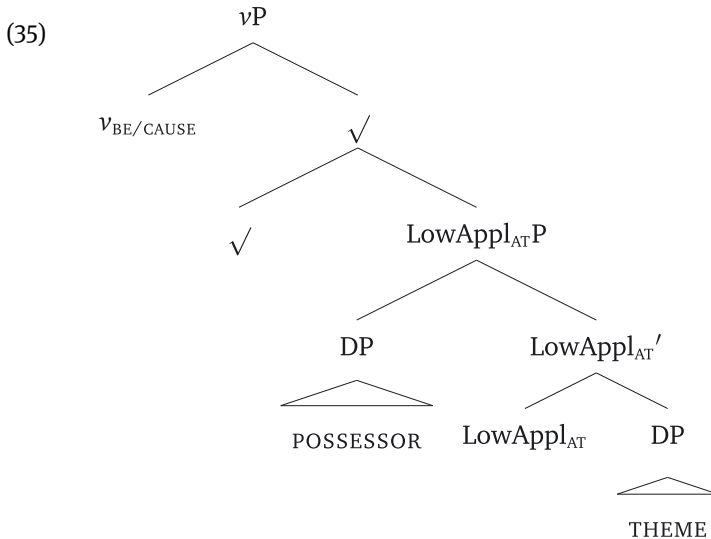
- (34) a. *Pablo le admira la paciencia a Valeria* (Sp.)
 Pablo to.her= admires the patience DAT Valeria
 ‘Pablo admires Valeria’s patience’
- b. *Pablo le besó la frente a Valeria*
 Pablo to.her= kissed the forehead DAT Valeria
 ‘Pablo kissed Valeria on the forehead’
 (Cuervo 2003: 53)

Crucially, then, the relation of possession between the applied argument *Valeria*, marked by dative-*a*, and the *THEME* remains constant in both scenarios, despite the

¹⁸ Note that I use the light verb notation as a placeholder for further configurational complexity in event structure.

change in the nature of the eventuality described by the verb from stative (in [34a], *admirar* ‘to admire’) to dynamic (in [34b], the ‘activity’ verb *besar* ‘to kiss’). As Old Ibero-Romance DDNR involves both variation in the relationship between individuals (i.e. static versus transfer of possession) and variation in the nature of the event described by the verb, I propose that a unified applicative account for the phenomenon must encompass both of the above-described applicative and verbal parameters. That is, both static and dynamic applicative relations, mediated by $\text{LowAppl}_{\text{AT}}$ and $\text{LowAppl}_{\text{TO}}$ respectively, are involved in the configurational structure, coupled with a difference in verbal predicate, according to whether the verb describes or causes the relevant eventuality.

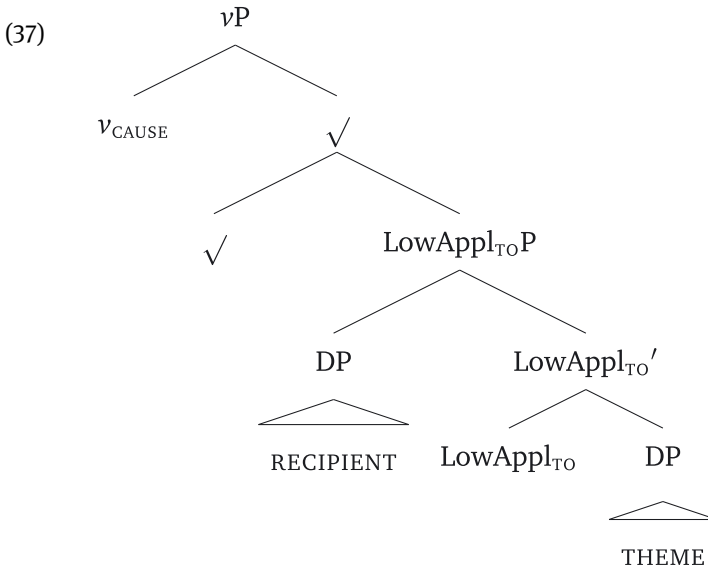
In transitive DDNR with static possession, the base configuration is therefore as follows:



The $v_{\text{BE/CAUSE}}$ alternation captures the appropriate event semantics for the eventuality involved. For example, a token of DDNR such as (16b), repeated below in abridged form as (36a), involving *have*-possession (i.e. a stative eventuality) has an underlying structure such as the following:

- (36) a. *Las varas [...] ovieron en luengo seis seis cobdos.* (OSp.)
 ‘The rods [...] measured six cubits each in length.’
- b. $[\text{VOICEP} [\text{VP } v_{\text{BE}} [\text{VP } \text{HABERE} [\text{LOWAPPLP } \text{las varas}_{\text{DistKey}} [\text{LOWAPPL}' \text{ LowAppl}_{\text{AT}} \text{ 6 6 } \text{cobdos}_{\text{DistShare}}]]]]]]$

In (non-agentive) transitive DDNR with dynamic transfer of possession (e.g., *receive*), the base configuration is as follows:



This template yields a structure such as (38b) for the DDNR construction from (15b), repeated here as (38a):

- (38) a. *Aquestos aguardadores ayán [...] quatro quatro maravedís.* (OSp.)
 ‘Those guards should receive four *maravedís* each’
- b. [_{VOICEP} [_{VP} *v*_{CAUSE} [_{VP} *HABERE* [_{LOWAPPLP} *aquestos aguardadores*_{DistKey} [_{LOWAPPL'} *LowAppl*_{AT} **4 4 maravedís**_{DistShare}]]]]]]]

An advantage of the foregoing analysis is that it equips us with the theoretical machinery to account for valency alternations in the corpus without recourse to bespoke analyses.

5.2.4 Passivization of the IO in Romance

Next, we must account for the theoretical consequence of the foregoing proposal that leads us to propose an ostensibly impossible operation for Romance, viz. the passivization of the IO.

We should acknowledge at the outset that the passivization of IO is cross-linguistically possible, as seen in English ‘indirect’ or dative passives

(Eng. *The customer was given the cake*). In such cases, it is assumed that, following Larson (1988: 360, 363), the assignation of inherent and structural accusative case is ‘split’ across distinct arguments, with the result that the DO is assigned inherent accusative case in its base position (by the applicative head, under an applicative analysis). With inherent accusative case already assigned to the DO, the RECIPIENT can only obtain its accusative-marking (in active sentences, e.g., Eng. *The baker gave the customer the cake*) through the assignation of structural case. Since, unlike inherent case (which is unaffected by movement operations), structural case is assigned in a given structural configuration, the RECIPIENT is free to move to another structural-case assigning position (i.e. the subject position) in other types of structure. In the present case, then, the RECIPIENT is free to undergo the passive-like movement operation, in which case it is assigned nominative case through merging in SpecTP.

Direct comparison with English ‘indirect’ passives would suggest that the operation is unavailable in Romance (Glc. **O cliente foi dado um biscoito* ‘the customer was given a cake’). However, indirect object passives, whilst uncommon in Romance, are not ruled out *tout court*, as illustrated by the various structures in (39a–c):¹⁹

- (39) a. *jiddə jε statə skrittə (da la suəə)* (Apulian)
 he is been written by the sister
 ‘He has been written to (by his sister)’
 (Manzini et al. 2020: 248)
- b. *O emissário foi entregue a carta.* (Mozambican Pt.)
 the emissary was delivered a letter
 ‘The emissary was delivered the letter’
 (Gonçalves and Chimbutane 2009: 45)
- c. *Mario vō esse mannata chella lettera.* (Neapolitan)
 Mario wants be.INF sent.F that letter
 ‘Mario wants to be sent that letter’
 (Ledgeway 2021: 138)

Moreover, there is direct empirical and theoretical precedent for a derived subject analysis of Romance arguments base-generated in SpecLowApplP. Recall the accusative/dative alternation mentioned in Section 5.1.1, which

¹⁹ These include, notably, the passivization in (39b) of the (accusative-marked) RECIPIENT of the Mozambican Portuguese DOC cited as example (20c) in Section 5.1.1.

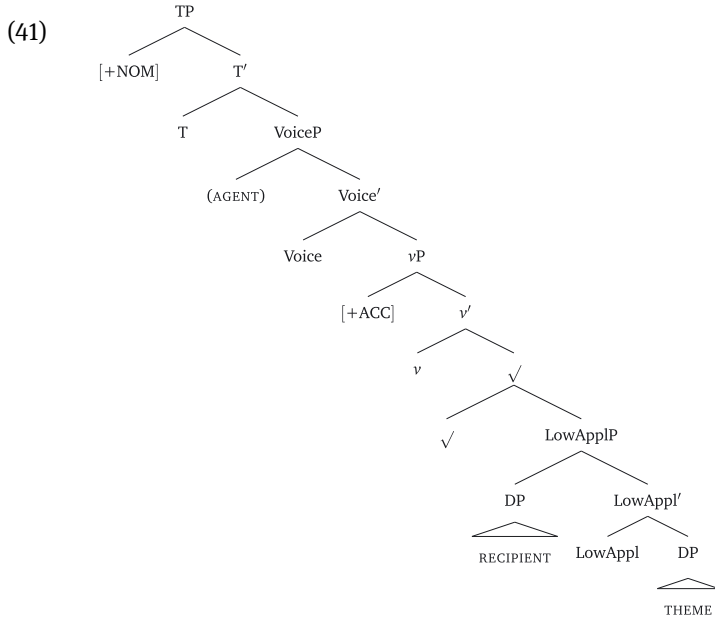
occurs with two-place agentive predicates deriving from unergative verbs (e.g., Cat. *Ell li_{DAT}/el_{ACC} telefona/paga/roba* ‘he phones/pays/robs him_{DAT/ACC}’). Pineda and Royo (2017) characterize this alternation as DIFFERENTIAL INDIRECT OBJECT MARKING (see also Pineda 2012, and related work).²⁰ Observing that, in such structures, the accusative-marked argument is semantically a GOAL, not a THEME (Pineda and Royo 2017: 451), these authors propose that the argument with the accusative/dative marking alternation is base-generated in the same position (viz. SpecLowApplP), irrespective of the morphological case marking.

The assumption, then, is that these accusative-marked arguments obtain accusative case via the same mechanism as English DOC; i.e. the GOAL argument merges in SpecLowApplP but, as Appl has already assigned inherent case (in Pineda and Royo’s [2017: 449–50] predicates, to a THEME argument which subsequently conflates into the verb), the GOAL argument gains its case structurally. The theoretical prediction is that the GOAL argument (in [40a–b], *l’Oriol*) should be able to gain nominative or accusative case, depending on its landing site in the functional structure, a prediction which is borne out in the felicity of passivization with the GOAL:

- (40) a. *Han* {*telefonat / robat / pagat / servit / ensenyat*} (a) *l’Oriol* (Cat.)
 have.3PL phoned robbed paid served taught DAT the=Oriol
 ‘They have phoned/robbed/paid/served/taught Oriol_{ACC/DAT}’
- b. *L’Oriol ha estat* {*telefonat / robat / pagat / servit / ensenyat*}
 the=Oriol has been phoned robbed paid served taught
 ‘Oriol has been phoned/robbed/paid/served/taught’
 (Pineda 2012: 134)

I propose that the same mechanism is responsible for deriving non-agentive subjects in Ibero-Romance DDNR. Accordingly, the RedNum merges as the complement of the applicative head, where it is assigned inherent accusative case by the applicative, whilst the RECIPIENT/POSSESSOR-GOAL argument merges in the specifier of LowAppl, receiving its thematic role from the applicative head (but no case assignment). As before, the distributive relationship between the two arguments is established in the local, base configuration by the applicative head.

²⁰ A term borrowed from Bilous (2011), though with caveats, for which, see Pineda & Royo (2017: 449).



Once the distributive quantification has taken place *in situ*, the POSSESSOR-GOAL, which has not yet been assigned case, can then undergo movement directly to a higher position to obtain, in this case, nominative structural case, thereby deriving its status as the subject of the transitive expression.

5.2.5 Prepositional Arguments

Lastly, as previously mentioned, the analysis proposed here can also account for ostensible anomalies in my data set, such as the RedNum constructions (10b–c) described as prepositional arguments in Section 4.1. Consider the sentence in (10b), repeated here as (42), which features an accusative-marked POSSESSOR-GOAL (Opt. *os* ‘them.M.PL.ACC’; compare Opt. *hes* ‘them.M.PL.DAT’) and a RedNum THEME introduced by a reflex of the Latin preposition *CUM* (‘with’):

- (42) *aparto-os con vinte viinte [sic] soldos* (Opt.)
 distribute.1SG=them.ACC CUM twenty twenty soldos
 ‘I leave them twenty *soldos* each’
 (1295, Santarém; TEP 2.36)

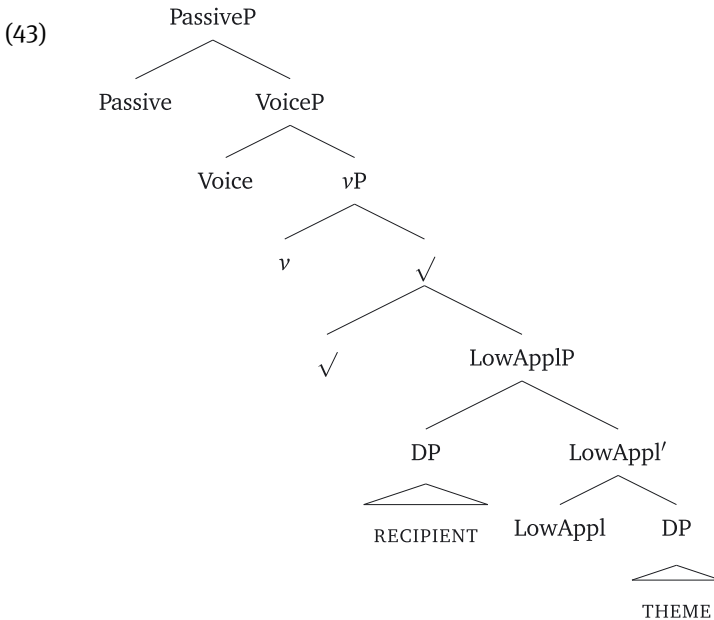
On the present account, I assume that *con* is not, in fact, the head of a prepositional phrase, but the spell-out of the (ordinarily covert) Low Applicative head, which combines with the THEME DP (the RedNum) and relates it to the POSSESSOR-GOAL (Opt.

os ‘them.M.PL.ACC’). As above, the POSSESSOR-GOAL DP receives its thematic role but no case licensing from the applicative head, and must therefore undergo case-driven movement to gain its accusative case marking. However, unlike the preceding examples, the first-person subject in (42) is the AGENT of the distributing activity, introduced into the structure as the external argument in VoiceP.

5.3 RedNum Subjects

For completeness, I return to the handful of tokens described in Section 4.1 where RedNum surfaces as the subject. The derived subject analysis can be straightforwardly extended to these configurations following the widely assumed analysis of passives and unaccusatives (Burzio 1986; Perlmutter 1978), where the internal argument surfaces as the structural subject.

Starting with the occurrences of RedNum as the subject in eventive passive structures (which in my corpus are only attested in Iberian Medieval Latin), I propose that, as in previous cases, the RedNum merges as the THEME in the complement of the low applicative, and the RECIPIENT in the specifier of that head, producing the distribution between the two individuals. For expository purposes, I assume (following e.g., Bruening 2013: 22, Alexiadou 2014: 32–33, and references therein) that a Passive layer merges in the structure and selects a VoiceP, yielding the following base configuration:



After the distributive relation is established locally in the base configuration, the RedNum undergoes movement in line with standard assumptions (following Perlmutter 1978; Burzio 1986), yielding its surface appearance as the subject of the passive.

This brings us to the three tokens of unaccusative intransitive structures attested in the Bible translations. On cursory inspection, these structures are anomalous both in terms of their lexical semantics (insofar as the lexical verbs involved—viz. *enter*, *come*—express ‘inherently directed motion’, cf. Levin 1993: 263) and their monovalency. Moreover, they fall outside the interpretative generalization that DDNR involves possession, and, as monadic predicates, they ostensibly lack the binary relation essential for the distributive configuration. However, to put forward such a characterization is to overlook a shared interpretation of unaccusative DDNR structures with other types of DDNR in terms of change-of-state (i.e. broadly speaking, there is no gradience in possession—one either possesses x or does not possess x —much as there is no gradience in a verb like *come* in the sense, as here, of *arrive*, i.e. which expresses achievement). Further, the tokens in question *do*, in fact, express binary relationships between individuals, albeit of a different kind to other subtypes of DDNR, insofar as the unaccusative DDNR structures in my corpus involve a non-CORE BENEFACTIVE argument (below, *a Noe* lit. ‘(un)to Noah’):

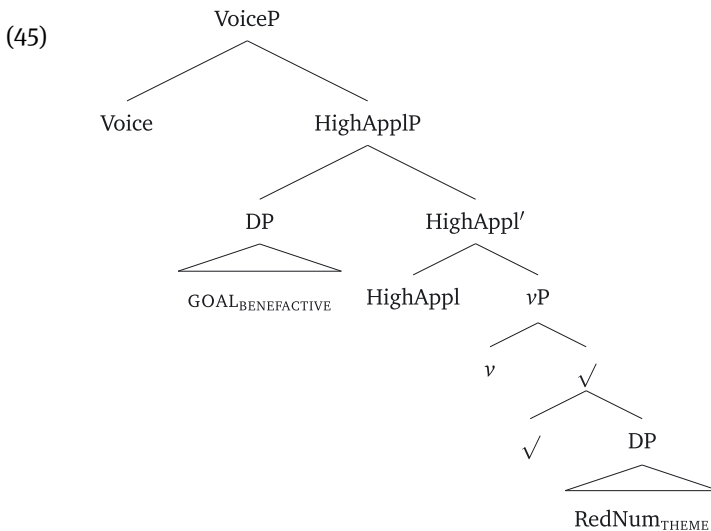
- (44) *Et vinieron a Noe al arca dos, dos de toda carne*
 and came.3PL to Noah to.the ark two two of every flesh
 ‘there entered unto Noah into the ark animals of every kind two-by-two’
 (c.1400, *Biblia Escorial* I-i-4; CORDE)

Strikingly, the three tokens all describe the same event, viz. the animals entering Noah’s ark two-by-two as described in the Genesis flood narrative. Like other tokens of clausal DDNR in my corpus, the internal argument in these tokens is—as expected—the reduplicated numeral (‘two two animals’). Further, the presence of a benefactive argument (Noah) is consistent with the hypothesis defended thus far that DDNR involves an applicative structure that configures the various relations borne by individuals vis-à-vis the event described by the verb.

However, unlike the other tokens of clausal DDNR in my corpus, the benefactive argument in unaccusative DDNR is not the POSSESSOR-GOAL of the DistShare DP (i.e. the animals). Rather, our knowledge of the Genesis flood narrative confirms that Noah is the beneficiary of the event (i.e. of animals entering the ark) itself. Accordingly, the benefactive argument is not the target of the DistShare, and therefore the tokens do not yield distributive quantification over individuals as in

other cases of clausal DDNR, but instead express (temporal) distribution over an event (whence the gloss ‘two-by-two’).

Crucially, the variation in distributive quantification between the unaccusative examples and other types of DDNR is already predicted by the proposed applicative treatment. Namely, the divergence receives a configurational explanation in terms of the independently motivated alternation between ‘high’ and ‘low’ applicatives (cf. Section 2.4), on which the key difference between the event-denoting unaccusative tokens and the participant-denoting DDNR is the clausal locus of the applicative layer (i.e. a high ApplP above v P in the former (45); a low ApplP in the latter):



On this analysis, the high applicative head takes the event (rather than the RedNum DP) as its complement, a configuration which enables the benefactive argument to stand in a non-distributive relation to the event itself (i.e. ‘for each occasion/*Noah, there is an event of animals entering the ark’). The semantic relationship between the applied argument and the event can thus be read directly off the (applicative) clausal syntax.

5.4 Distributivity and the Nominal Domain

The foregoing analysis has captured the relevant facts for clausal DDNR in terms of the sentential architecture. I have not yet provided an account of arguably the most salient aspect of Old Ibero-Romance DDNR: the RedNum itself. The nominal domain is nonetheless crucially implicated in my proposal, insofar as I have

favoured a hypothesis for distributive plurality at the clausal level along the lines of Kratzer (2008), involving event pluralization with a DP source. Moreover, the nominal-internal distributivity observed in RedNum expressions where numeral reduplication occurs within the complement structure of a higher DP (illustrated in [13]), examination of which I have set aside in the present paper, strongly suggests the involvement of the nominal architecture in the licensing of the distributive quantification (as I have begun to explore elsewhere). These details warrant a lengthier consideration than I am able to afford here, so, for the time being, a full account of DDNR with respect to the nominal domain will have to remain outstanding.

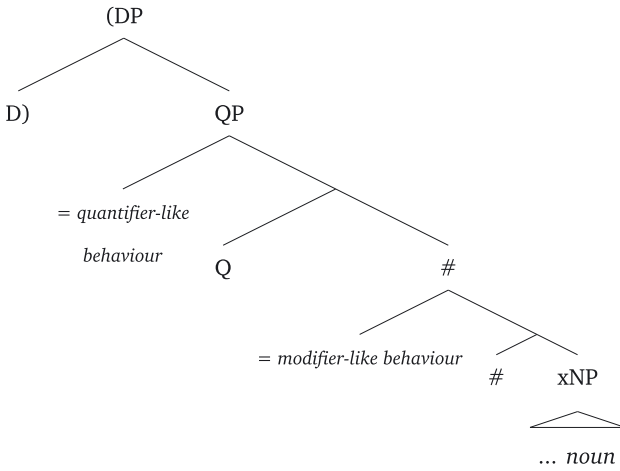
In the interim, I make use of an idea originally set out in Corr (2022) that allows us to offer tentative explanation for the relevant properties relating to the cardinal numeral and its reduplication: namely, that the cardinal numeral not only (i) establishes the quantity of the (RedNum) DP but, through its reduplication, (ii) overtly marks the status of the RedNum DP as the DistShare. For present purposes, then, I assume that the numeral first merges as an argument in a specifier position of the extended nominal phrase, where it modifies the quantity of N. In (46), I use the notation #P to represent this projection, and the notation xNP (emulating Ouwayda 2017, who borrows the label from Ionin and Matushansky 2006: 316) to indicate that the exact locus of the numeral relative to the NP is not at stake:

- (46) [#P *dos...* [xNP *medidas ...*
 ‘two omers’ (Old/Modern Ibero-Romance)

This analysis assumes that the numeral (an XP, following e.g., Giusti 1997) surfaces in more than one projection within the functional structure, where—in the spirit of a cartographic approach—variation in the numeral’s merge site occurs as a function of how it constrains the interpretation of N. The basic idea finds comparison (with some key differences) in the nominal architecture proposed by Ouwayda (2014, 2017), who argues that a distributive reading is encoded higher in the extended nominal structure than a collective one in accordance with the merge site of the cardinal number:²¹

²¹ However, there are notable differences between Ouwayda’s proposal and the one mooted here. Firstly, she is attempting to account for a different set of empirical facts to do with subject-verb agreement in sentences involving one or two arguments. In pursuit of that goal, her analysis of the internal DP structure refers to that of the *subject* DistKey DP, whereas ours targets the architecture of the DO DistShare. Moreover, Ouwayda’s analysis proposes that distributive interpretations are a consequence of the *absence* of the #P layer (more precisely, she proposes that the collective/distributive alternation corresponds to the optional availability of #P, which, when present, triggers a pluralizing operation that, in turn, can facilitate the collective interpretation), whereas our analysis relies on its presence in order to allow the cardinal numeral to perform both the modifier-like and quantifier-like functions in RedNum expressions.

(47) Possible merge sites for cardinal numerals (Ouwayda 2017: 274)



On my proposal, the numeral in #P modifies the cardinal quantity of N in both Old and Modern Ibero-Romance. However, in order for the numeral to acquire its quantifier(-like) status, the XP must then move to a further ‘dedicated’ functional projection (FP in 48a–b) where some feature relevant to the structure’s distributive semantics can be valued (e.g., through Spec-Head agreement).

To derive the correct descriptive facts, I propose that the contrast between Modern and Old Ibero-Romance arises at spell-out. On a copy theory of movement (as assumed elsewhere in the present article), it follows that Modern Ibero-Romance involves (the standard operation of) deletion of the lower copy of the numeral XP (48a), whereas Old Ibero-Romance has the option of multiple spell-out (48b):

- (48) a. [DP ... [FP *dos* ... [#P ~~*dos*~~ ... [xNP *medidas* ...
‘two omers each’ (Old/Modern Ibero-Romance)
- b. [DP ... [FP *dos* ... [#P *dos* ... [xNP *medidas* ...
‘two omers each’ (Old/*Modern Ibero-Romance)

The variation between Modern/Old Ibero-Romance is thus reduced to a PF phenomenon, according to whether the copy-deletion is required (as in Modern Romance) or merely available (as in Old Ibero-Romance, which admits both options). When copy-deletion occurs on the DistShare DP in Modern and Old Ibero-Romance (48a), the surface string becomes ambiguous between the various possible plural readings (as illustrated at the start of the article in (2)). If we recall that covert distributivity is dispreferred in such environments (cf. fn2), it follows that a compensatory mechanism would be required in such cases in order to guarantee a distributive reading.

In both stages of Ibero-Romance, the compensatory mechanism takes the form of the overt lexical strategy *cada* (*uno/a*) ‘each one._{M/F}’ (cf. Section 2.1), which facilitates the marking of distributivity at the clausal level. Thus, whilst the internal syntax of the DistShare DP is assumed to be the same in (48a–b), the clausal syntax of the overall construction will differ due to involvement of an *additional* and *separate* syntactic mechanism (i.e. merge of a lexical *cada* expression) in order to disambiguate the sentence. The independence of these mechanisms is underscored by the observation that lexical *cada* can appear in any of the possible positions available for the quantifier in the given variety, i.e. adverbially or adnominally on either the DistShare *or* the DistKey, as illustrated earlier in (3a–d); as well as the fact that the lexical quantifier can co-occur with the reduplication strategy in the first place.²² In Old Ibero-Romance DDNR, on the other hand, both copies of the numeral DP can be spelled out (48b), eliminating the semantic ambiguity of (48a), and thus dispensing of the need for a compensatory mechanism in the form of the distributive *cada* (*uno/a*).

6 Conclusions

This article set out to provide a structural characterization and analysis of a case of grammaticalized distributivity at the clausal level in Medieval Iberian texts whose broader significance has, to date, gone unnoticed in the literature. In this study, I have made the following key claims:

- (i) Distributive reduplicated numerals are attested across a diversity of tenth to fifteenth century texts in various scribal varieties identified here as Old Spanish, Old Portuguese, and West Iberian Medieval Latin;
- (ii) Tokens of the reduplicative construction are attested overwhelmingly in ditransitive (change-of-possession) structures and exhibit subject-object asymmetry wherein the reduplicated numeral merges consistently as the THEME in the complement of V;
- (iii) An applicative analysis of ditransitive reduplicated numeral constructions as DOCs captures their syntax-semantics, including change-of-possession between individuals;
- (iv) A derived subject analysis extends the applicative treatment to other subtypes of DDNR with a reduced number of arguments, including the *prima facie* anomalous tokens attested in the corpus;

²² See for example, the Old Ibero-Romance reduplicated numeral constructions in (15a) and (16c), where *cada* appears as a prenominal quantifier on the DistKey (rather than the DistShare, i.e. the argument with which *cada* appears in ‘binominal’ position in cases of distance distributivity).

- (v) Distributivity is also mapped in the nominal domain, the mechanism for which is tentatively identified here as copy movement of the cardinal numeral to a higher position in the extended functional structure and its subsequent optional (in Old Ibero-Romance) or compulsory (in Modern Ibero-Romance) deletion.

The present paper has thus not only contributed new empirical evidence of an unrecognized case of grammaticalized reduplication in Old (Ibero-)Romance, but, in its formal analysis, has situated the *prima facie* typologically ‘exceptional’ structure within a wider taxonomy of Romance applicative constructions, and, more broadly, provided further support for a configurational approach to event structures. The attestation of Iberian DDNR in codifying distributive relations internal to the DP (where the RedNum is an argument of N) alongside the clausal constructions discussed in the present paper not only brings attention to the relationship between distributivity and possession across the nominal and clausal domains, but highlights a conspicuous nominal-clausal connection in the licensing of DDNR which may, in turn, shed new light on the (nominal) origins of plural quantification. I have begun to address the latter question in recent work in preparation. However, both possibilities merit further investigation in future enquiries.

Abbreviations

This article uses the following non-Leipzig abbreviations: CLat = Classical Latin; DDNR = distance distributivity with numeral reduplication; Dist-Share = distributive share; DO = direct object; DOC = double object construction; IbRo = Ibero-Romance; IML = Iberian Medieval Latin; IO = indirect object; Lat = Latin; OIbRo = Old Ibero-Romance; RedNum = reduplicated numeral.

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