

The interaction between clause size and Voice: Evidence from Catalan and Italian

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Abstract We argue that in certain reduced embedded clauses Voice behaves differently from most other contexts, on the basis of *tough*-constructions (TCs) and modal passives (MPs) in Catalan and Italian. These constructions involve an A-dependency targeting only internal arguments of morphologically active transitive infinitives (unlike control, raising, and restructuring dependencies) because they involve a C/I-less VoiceP complement with a defective Voice layer (no accusative, no passive morphology, passive-like implicit agent). Thanks to the existence of a resumptive variant of TCs/MPs in Catalan, we propose a way to derive the distribution of defective Voice, which must be directly selected by a suitable lexical category, with regard to active/passive Voice, which must be directly selected by a functional head (at least in the languages at issue). Our findings bear on the broader theoretical debates about the typologies of Voice, clausal complements, and on the syntactic correlates of clause size.

Keywords: voice; clause size; *tough*-construction; modal passive

1 Introduction

In the generative literature, there is an ongoing theoretical debate about the syntax of clausal complementation. Many different factors (morphological, syntactic, and semantic) have been argued to affect the size of an embedded clause in a given language, and with very different technical implementations –as discussed by Wurmbrand (2024) in a recent review of this debate. Romance non-finite clauses in particular have been central to this debate since the early days of generative grammar (Kayne 1975; Aissen & Perlmutter 1976; Rizzi 1976), as infinitives can be observed in clauses of (at least) three different sizes (arguably corresponding to today’s CP, IP, and VoiceP/*v*P –see Ledgeway 2016; Groothuis 2019 for discussion on this approach).

An important aspect of this discussion that remains less clear is the role of Voice and the availability of Voice alternations in complement clauses of different sizes: do Voice and clause size interact? If they do, how so? According to recent works, there is indeed an interesting interaction between the behaviour of Voice and the size of the clause it is in: more specifically, Wurmbrand (2016); Wurmbrand & Shimamura (2017) argue that in many languages, certain reduced embedded clauses have an underspecified Voice head which behaves differently from standard active/passive Voice. In the present work, we claim that two constructions that are widely available in Romance (*tough*-constructions and modal passives –see below) and have been theoretically neglected or poorly understood in these languages provide some evidence that a special type of Voice (defective Voice) does indeed exist, and we propose a way to explain its distribution with regard to standard active or passive Voice.

As we mentioned, in this paper we address the syntax of *tough*-constructions (TCs) and modal passives (MPs), which are cross-linguistically uniform in most of the Romance languages.¹

- (1) *Tough*-constructions (TCs)
- a. Aquests llibres són fàcils de llegir.
these books be.3PL easy.PL DE read.INF
'These books are easy to read.'
 - b. Questi libri sono facili da leggere.
these books be.3PL easy.PL DA read.INF
'These books are easy to read.'
- (2) Modal passives (MPs)²
- a. Els exàmens estan per corregir.
the tests stay.3PL PER mark.INF
 - b. Le verifiche sono da correggere.
the tests be.3PL DA mark.INF
'The tests are to be marked.'

On the basis of Catalan (1a, 2a) and Italian (1b, 2b), we outline the various problems for syntactic theory these constructions present and we focus on the cross-clausal dependency involved by TCs and MPs, as well as the structure and size of the embedded clause, which seems to resist an easy categorisation in existing models of clausal complementation.

1.1 Problematic properties

The interesting aspects of TCs and MPs we will focus on here stem from two main properties they both have:

- (3)
- a. An A-dependency only targeting internal arguments of transitive verbs without using passive morphology;
 - b. An infinitival complement with a reduced functional structure, selected by the matrix lexical predicate.

In particular, we will argue that clause size plays a crucial role in allowing the specific dependency displayed by TCs/MPs and in determining its constraints, by the selection of a Voice head with particular properties. In other words, (3a) is a consequence of (3b).

Let us now see why the dependency in TCs/MPs is so problematic. First, it is bounded, as shown by the ungrammaticality of (4)-(5), where the argument targeted by the dependency is in a doubly embedded clause.

- (4) *Tough*-constructions (TCs)

¹ We use the terms TCs and MPs descriptively following previous literature, i.e. these labels do not bear on our analytical assumptions on their syntax. Unless otherwise labeled, the examples are presented with Catalan as (a), and Italian as (b).

² While TCs have been studied extensively for English (see a.o. Rosenbaum 1967; Postal & Ross 1971; Chomsky 1977; 1981; Rezac 2006; Hicks 2009; Keine & Poole 2017; Longenbaugh 2017 and often mentioned with regard to the Romance languages (Kayne 1975; Aissen & Perlmutter 1976; Rizzi 1976; 1982; 2000; Radford 1977; Montalbetti et al. 1982; Raposo 1987; Reider 1993; Canac Marquis 1996; Cinque 1996; Roberts 1997; Sportiche 2006; Authier & Reed 2009; Giurgea & Soare 2010; 2020; Bosque & Gallego 2011; Hartman 2012; Bruening 2014; Paradis 2019; Aguila-Multner & Crysmann 2022), to our knowledge MPs have not received much attention in the literature besides in Giurgea & Soare (2010) and Bosque & Gallego (2011). Henceforth, the new data on Catalan and Italian MPs we present will not only be important on theoretical grounds, but will contribute to improving our knowledge of the construction.

- a. *Aquests llibres són impossibles d'obligar un nen a llegir.
these books be.3PL impossible.PL DE=force.INF a kid A read.INF
- b. *Questi libri sono impossibili da obbligare un bambino a leggere.
these books be.3PL impossible.PL DA force.INF a kid A read.INF
'These books are impossible to force a kid to read.'
- (5) Modal passives (MPs)
- a. *Aquestes verdures estan per obligar els nens a menjar.
these vegetables stay.3PL PER force.INF the kids A eat.INF
- b. *Queste verdure sono da obbligare i bambini a mangiare.
these vegetables stay.3PL DA force.INF the kids A eat.INF
'These vegetables are for us to convince the kids to eat.'

This fact about (most) Romance TCs has been known since [Kayne \(1975\)](#); [Aissen & Perlmutter \(1976\)](#); [Radford \(1977\)](#); [Rizzi \(1982\)](#), but has not been addressed for MPs (though see [Napoli 1976](#); [Giurgea & Soare 2010](#) on infinitival relatives, which we believe are not exactly the same configuration as MPs - see sec. 2.2). The ungrammaticality of (4)-(5) is clear evidence that these constructions employ a cross-clausal A-dependency (like raising, control, and restructuring).³ Crucially, however, in TCs and MPs the argument targeted by the dependency with the matrix subject position must be the internal argument (IA) of a transitive verb, whereas in raising, control, and restructuring configurations the matrix subject corresponds to the external argument (EA) if the embedded verb is transitive (or unergative), or to the IA if the embedded verb is unaccusative. The relevant contrasts are shown in Catalan (6)-(8) (Italian behaves in the same way) and summarised in Table 1:⁴

- (6) Matrix subject = EA of embedded transitive verb
- a. El Joan va decidir llegir molts llibres.
the Joan go.3SG decide.INF read.INF many books
'Joan decided to read many books'. (Control)
- b. El Joan sembla llegir molts llibres.
the Joan seem.3SG read.INF many books
'Joan seems to read many books'. (Raising)
- c. El Joan prova de llegir molts llibres.
the Joan try.3SG DE read.INF many books
'Joan tries to read many books'. (Restructuring)
- d. *El Joan és impossible de llegir molts llibres.
the Joan be.3SG impossible.SG DE read.INF many books
'It is impossible for Joan to read many books'. (TC)
- e. *El Joan està per llegir molts llibres.
the Joan stay.3SG PER read.INF many books
'Joan has to read many books'. (MP)
- (7) Matrix subject = IA of embedded unaccusative verb
- a. El Joan va decidir sortir cada nit.
the Joan go.3SG decide.INF go-out.INF every night
'Joan decided to go out every night'. (Control)

³ See [Roberts \(1997\)](#) for the suggestion that TCs are in fact an example of restructuring (cf also [Wurmbrand 1994](#) on German). We believe, as we will discuss extensively, that TCs and MPs share some but not all properties with restructuring configurations.

⁴ The sentences in (6e), (7e) and the passive version of (8e) are grammatical under an alternative non-modal reading ('Joan is about to read many books'; '#Joan is about to go out every night'; 'Joan is still about to be satisfied'), which relies on an independently available construction ([Gavarró & Laca 2002](#)) and is thus irrelevant here.

- b. El Joan sembla sortir cada nit.
the Joan seem.3SG go-out.INF every night
'Joan seems to go out every night'. (Raising)
- c. El Joan prova de sortir cada nit.
the Joan try.3SG DE go-out.INF every night
'Joan tries to go out every night'. (Restructuring)
- d. *El Joan és impossible de sortir cada nit.
the Joan be.3SG impossible.SG DE go-out.INF every night
'It is impossible for Joan to go out every night'. (TC)
- e. *El Joan està per sortir cada nit.
the Joan stay.3SG PER go-out.INF every night
'Joan has to go out every night'. (MP)
- (8) Matrix subject = IA of embedded transitive verb
- a. El Joan demana *satisfer /ser satisfet.
the Joan demand.3SG satisfy.INF be.INF satisfy.PPRT
'Joan demands to be satisfied'. (Control)
- b. El Joan sembla *satisfer /ser satisfet.
the Joan seem.3SG satisfy.INF be.INF satisfy.PPRT
'Joan seems to be satisfied'. (Raising)
- c. El Joan prova de *satisfer /ser satisfet.
the Joan try.3SG DE satisfy.INF be.INF satisfy.PPRT
'Joan tries to be satisfied'. (Restructuring)
- d. El Joan és impossible de satisfer /*ser satisfet.
the Joan be.3SG impossible.SG DE satisfy.INF be.INF satisfy.PPRT
'Joan is impossible to satisfy.' (TC)
- e. El Joan encara està per satisfer /*ser satisfet.
the Joan still stay.3SG PER satisfy.INF be.INF satisfy.PPRT
'John is still to be satisfied'. (MP)

Matrix subj. is. . .	EA of transitive	IA of unaccusative	IA of passive	IA of transitive
Control	OK	OK	OK	*
Raising	OK	OK	OK	*
Restructuring	OK	OK	OK	*
TC	*	*	*	OK
MP	*	*	*	OK

Table 1: Argument realisation in clausal complementation

The pattern in control, raising, and restructuring configuration is well-known: these dependencies are local and target the highest argument of the embedded verb, regardless of whether it is transitive or not. This captures the fact that if the embedded verb is transitive it must be passivised in order for its IA to be targeted by the dependency (as in 8a-c). Surprisingly, TCs and MPs have the opposite pattern: only IAs of transitive verbs can be extracted, despite the presence of an implicit EA (ImpEA) in the verb's argument structure and without overt passivisation. The contrast is summarised in (9):

- (9) Simplified structures for cross-clausal A-dependencies with an embedded transitive verb
- a. $DP_i V [_{CP} PRO_i \dots V DP]$ (Control)
- b. $DP_i V [_{CP} \langle DP_i \rangle \dots V DP]$ (Raising)
- c. $DP_i I [_{VoiceP} \langle DP_i \rangle \dots V DP]$ (Restructuring)

- d. DP_i BE TOUGH [_{TP} (ImpEA) ... V (DP_i)] (TC)
 e. DP_i BE_{MOD} [_{TP} (ImpEA) ... V (DP_i)] (MP)

The schema in (9-c) assumes that the relevant restructuring verbs are functional heads, following Wurmbrand (2001) and Cinque (2006), among others. The comparison in (9) does not include configurations that are sometimes labelled *clause union* (Rizzi 1982; Sheehan 2016; Pineda & Sheehan 2022) or *lexical restructuring* (Wurmbrand 2001), which have been claimed to be different from (functional) restructuring as they involve a matrix lexical verb selecting a reduced structure (so, there would be two lexical domains in the clause). This is the case, for instance, of Romance causative and perception verb constructions (Sheehan 2016). In sec. 5, we will further discuss the differences between these notions and we will argue that TCs and MPs are in fact quite similar to this latter group, rather than to (functional) restructuring verbs.

Previous literature both in the generative framework (e.g. Montalbetti et al. 1982; Giurgea & Soare 2010; Bosque & Gallego 2011) and beyond (e.g. Aguila-Multner & Crysmann 2022) has argued that TCs/MPs in Romance are indeed syntactically passive, but cannot provide a satisfactory account of why the embedded infinitive does not show participial passive morphology nor, at least in Catalan and Italian, *by*-phrases (cf. Zwart 2012 on Dutch). Other works have recognised that TCs show some properties resembling passives but account for the movement of the IA to the matrix in different ways: TCs involve a nominalisation (Authier & Reed 2009) or a bare VP (Canac Marquis 1996, cf. Wurmbrand 1994 on German). These accounts, however, fail to explain why unaccusative verbs are banned from TCs.

1.2 The present work

In light of the problems presented above, this work aims to explain the unusual pattern TCs and MPs show in (9) by focusing on the size of their verbal complement. More specifically, we will first introduce some fine-grained syntactic tests which are able to detect functional structure in the embedded clause as well as some empirical caveats which need to be made explicit when dealing with TCs and MPs (in sec. 2). The clause size tests will show that the embedded complement of TCs/MPs does not have any functional structure above Voice in both Catalan and Italian: we outline the results in sec. 3, and propose an analysis based on the idea that such a small complement clause must have a defective Voice head (rather than active or passive Voice), which is unable to assign accusative but does not license Gparticipial passive morphology nor *by*-phrases. As further support to our proposal, we compare the canonical TCs and MPs (which involve an infinitive without any particular marking, as in 10-11) to alternative constructions which are only productive in colloquial Catalan and involve a resumptive clitic on the infinitive:

- (10) Aquests llibres són fàcils de llegir -los.
 these books be.3PL easy.PL DE read.INF OCL.3MPL
 ‘These books are easy to read.’ Resumptive *tough*-construction (rTC)
- (11) Els exàmens estan per corregir -los.
 the tests stay.3PL PER mark.INF OCL.3MPL
 ‘The tests are for marking them.’ Resumptive modal passive (rMP)

In sec. 4, we show that when a resumptive clitic is present (signalling that regular active Voice is used), the embedded clause has much more functional structure than in the bare (i.e. clitic-less) constructions and is structurally similar to a purpose/result clause. We also highlight that this alternation between two possible sizes and, relatedly, different types of Voice is not unique to Catalan but can also be found in other Romance varieties (especially Italo-Romance dialects). Consequently, (in sec. 5) we spell out the main generalisation stemming from the comparison:

defective Voice is only compatible with an extremely reduced size of the embedded clause; if the embedded clause is bigger (i.e. an IP/CP), regular active/passive Voice is found. We then provide a way of explaining this correlation, relying on the selectional properties of the various Voice heads.

2 Methodology

2.1 Testing clause size

To obtain a clear picture of the size of the embedded clauses under study, we resorted to the many tests found in the (cartographic) literature on the clausal functional structure (Rizzi 1976; 2000; Cinque 1999; 2006; Wurmbrand 2001; 2024; Ledgeway & Lombardi 2005; Groothuis 2019; Villalba 2022). Our choice to primarily rely on the cartographic framework for the selection of the tests is not arbitrary. On the one hand, it offers a robust and well-tested methodological toolkit, particularly suited to determine the different blocks of sentence structure. On the other hand, the detailed maps drawn in the last 30 years for many areas and languages have proven a very valuable playground for testing our hypothesis on syntactic variation, language acquisition, and language pathologies (see discussions in Shlonsky 2010; Rizzi 2013; Cinque & Rizzi 2015; Rizzi & Cinque 2016). Building on this tradition, we selected the variables specified in Table 2 below to assess what functional projections are present in the embedded clauses of TCs/MPs. Nevertheless, many of the tests we employ do not necessarily need strict cartographic assumptions and have been widely used to measure clause size and functional structure outside of the cartographic framework: this is the case at least for auxiliaries, modal verbs, negation, and clitics. This implies that the results and the main theoretical insights of the present paper are no less valid (although they might need a different technical formalisation) if we do without the richly articulated functional spine proposed by cartographers. Furthermore, it could alternatively be assumed that the clauses rejecting inflectional material have impoverished or defective CP/IP layers (Paradís 2019), rather than missing, or that some operation of structure removal (Pesetsky 2023; Müller 2025) has been activated. Changing the assumptions in such a way does not pose any significant problems for our claims as far as we can tell, provided that configurations like TCs/MPs can still be distinguished from restructuring verbs (see the discussion in sec. 5.4).

Test	Label	Tested area
(T1) Can a constituent be focalised in the embedded left periphery?	Foc	CP
(T2) Are high adverbs grammatical?	Mod _{epist} /Mod _{subj}	CP/High IP
(T3) Is a perfect/progressive auxiliary grammatical?	Asp _{perf} /Asp _{prog}	High IP
(T4) Is clausal negation grammatical?	Neg	High IP
(T5) Is a non-object clitic grammatical?	Cl	High IP
(T6) Are high restructuring verbs (e.g. habitual, terminative, volitional) grammatical?	Asp _{hab} /Asp _{ter} /Mod _{vol}	High IP
(T7) Are (ability and obligation) modal verbs grammatical?	Mod _{ab} /Mod _{obl}	High IP
(T8) Are low restructuring verbs (e.g. inceptive, continuative, completive) grammatical?	Asp _{inc} /Asp _{cont} /Asp _{compl}	Low IP

Table 2: Tests for clause size

Consistently with our chosen diagnostics, we assume the simplified structure in (12) for a full clause, where the various areas can be further decomposed as specified in Table 2. The labels

for the various functional projections which make up the macro-areas are adapted from Cinque (1999; 2006); Rizzi (2000).

(12) [CP [HighIP [VoiceP EA Voice [LowIP [VP V IA]]]]]

The order of the individual projections within each of the three macro-areas (CP, High IP, Low IP) does not really matter for our purposes. In other words, we are more interested in these three subdivisions than in the individual functional projections, so the fine-grained tests can be seen as a means of assessing the presence of CP, High IP and Low IP via multiple diagnostics. Our results will also show that the projections making up each area have a generally consistent pattern (e.g. either all or none of the aspectual verbs in the Low IP are grammatical).

Variables T1-T2 (fronting focus and high adverbs) are associated with a rich left periphery, so they are expected to signal the presence of a (complete) CP and the highest portion of the split IP. Variables T3-T7 (perfect/progressive auxiliary, clausal negation, non-object clitics, modal and high restructuring verbs) have been associated with the higher inflectional spine of the clause (above Voice), so they signal the presence of a full IP area. In other words, we assume with Cinque that all of this material realises *functional* projections. Finally, variable T8 has been argued to be linked to an Asp projection below Voice by Cinque (2006) as these verbs allow long passives. We follow this analysis for expository purposes. Alternatively, Wurmbrand (2001); Amadas (2002) argue that restructuring verbs allowing long passives are lexical: this idea is still compatible with how we use the test, since lexical verbs are of course predicted to be grammatical even in very small structures.

The novel data about the two patterns have been collected through various questionnaires that asked native speakers for grammaticality judgments. We used both written and in person questionnaires; in both cases, the speakers could give a judgement (and possibly additional comments) about the examples in their own words. In total, 6 native Catalan speakers (mostly from the Barcelona area) and 24 native Italian speakers (from various regions) were consulted. In both cases, the informants were predominantly linguists or individuals with university-level education. The Catalan speakers were asked to judge both pattern 1 and 2 so that they could compare the two constructions. We note more problematic cases next to the relevant examples. See also sec. 4.1 for more information about the productivity of the resumptive variants (i.e. pattern 2).

2.2 A note on related constructions

In this work, we do not consider a construction that may be somehow related to the ones studied: infinitival relatives (13). At the behest of a reviewer, who signals a close relationship between these relatives and MP, here we explain why.

- (13) a. Els llibres per llegir a classe són molt difícils.
the books PER read.INF at class be.3PL very difficult.PL
b. I libri da leggere in classe sono molto difficili.
the books DA read.INF in class be.3PL very difficult.PL
'The books to be read in class are very difficult.'

The first reason to exclude this construction is its distribution: while the infinitival in TCs/MPs is a complement, infinitival relatives are adjunct clauses/optional modifiers of the NP. The second reason is that the similarities with TCs/MPs are much less obvious when we look at them in some detail. For instance, Catalan infinitival relatives are perfectly fine with unaccusative verbs (14), unlike TCs/MPs (7).

- (14) Els turistes per arribar són italians.
 the tourists PER arrive.INF be.3PL. Italian.PL
 ‘The tourists that have to arrive are Italian.’

Obviously, this is unexpected if we assume a common structure for all constructions.

A third reason for not treating MPs as a subspecies of infinitival relatives concerns the availability of subjects not allowed as heads of infinitival relatives. As a rule, any subject pronoun or proper name in the MP will be predicted to be impossible altogether as a modal infinitive relative:

- (15) a. Això està per fer.
 this stay.3SG PER do.INF
 ‘This is to be done.’
 b. *Això per fer ens portarà problemes.
 this PER do.INF DATCL.1PL bring.FUT.3SG problem.PL
 ‘This to be done/seen will cause us trouble.’
- (16) a. La Maria està per avaluar.
 the Maria stay.3SG PER evaluate.INF
 ‘Mary is to be evaluated.’
 b. *La Maria per avaluar espera fora.
 the Maria PER evaluate.INF wait.3SG outside
 Intended Mary to be evaluated is waiting outside.

This is obviously expected if we are dealing with two different constructions, and only the latter involves a modifier structure: neither pronouns nor proper names admit restrictive modification. Crucially, this restriction does not affect MPs, suggesting that an analysis deriving MPs from infinitival relatives with a raising DP, while not impossible to imagine, must face empirical and theoretical challenges.

Finally, MP and infinitival relatives differ with respect to low modals: while the former do not admit a low modal like *potere* ‘can’ (17, see also sec. 3), the latter admit them quite easily, as already pointed out by Napoli (1976); Villalba (2022).

- (17) a. Questi libri sono da (*poter) regalare a chiunque.
 these books be.3PL DA can.INF gift.INF to whoever
 ‘These books are (to be able) to give to anyone.’
 b. Cerco una ragazza da (poter) baciare.
 seek.1SG a girl DA can.INF kiss.INF
 ‘I am looking for a girl (to be able) to kiss.’

All in all, while we do not deny that a connection may exist between TCs/MPs and infinitival relatives as suggested by the reviewer, the differences just mentioned justify our choice to leave them out of our study at this stage. This move also ensures that we are not introducing additional variables and complications that may be unrelated to our hypothesis and distort the analysis of TCs/MPs.

3 Pattern 1: bare TCs and MPs

In this section, we consider “bare” TCs and MPs, namely structures without clitic resumption in the embedded clause which, as we will show, feature a reduced clausal structure. Each construction is presented for Italian and Catalan regarding the eight tests presented in sec. 2.1.

3.1 Data

The focus variable was consistently judged by all speakers across both languages and constructions: focus fronting was impossible in TCs/MPs in Catalan and Italian.

- (18) a. *Aquests productes són difícils (A ANGLATERRA) de (A ANGLATERRA)
 these products be.3PL hard.PL to England DE to England
 enviar (no a Itàlia).
 send.INF not to Italy
 ‘These products are hard to send TO ENGLAND (not to Italy).’
 b. *Questi prodotti sono difficili (IN INGHILTERRA) da (IN INGHILTERRA)
 these products be.3PL hard.PL in England DA in England
 inviare (non in Italia).
 send.INF not in Italy
 ‘These products are hard to send TO ENGLAND (not to Italy).’
- (19) a. *Els llibres estan (DE CAP MANERA) per (DE CAP MANERA) llegir.
 the books stay.3PL of no way PER of no way read.INF
 ‘The books are not to be read at all.’
 b. *I piatti sporchi sono (ENTRO STASERA) da (ENTRO STASERA) lavare.
 the dishes dirty be.3PL by tonight DA by tonight wash.INF
 ‘The dirty dishes are to be washed by tonight.’

The same results were found for high adverbs, which were judged impossible.

- (20) a. *Alguns detalls són fàcils d’estúpidament oblidar.
 some details be.3PL easy.PL .DE=stupidly forget.INF
 ‘Some details are easy to stupidly forget.’
 b. *Alcuni dettagli sono facili da stupidamente tralasciare.
 some details be.3PL easy.PL DA stupidly forget.INF
 ‘Some details are easy to be stupidly forgotten.’
- (21) a. *Els llibres estan per lamentablement llegir.
 the books stay.3PL PER regretfully read.INF
 ‘The books are to be regretfully read.’
 b. *I piatti sporchi sono da saggiamente lavare entro oggi.
 the dishes dirty.PL be.3PL DA wisely wash.INF by today
 ‘The dirty dishes are to be wisely washed by today.’

A similar pattern was found with perfect (22)-(23) and progressive auxiliaries (24)-(25):

- (22) a. *Algunes llengües són difícils d’haver après en sis mesos.
 some languages be.3PL hard.PL DE=have.INF learn.PPRT in six months
 ‘Some languages are hard to have learnt in six months.’
 b. *Questo problema è impossibile da aver risolto in un minuto.
 this problem be.3SG impossible.SG DA have.INF solve.PPRT in a minute
 ‘This problem is impossible to have solved in a minute.’ (cf. Rizzi 2000: 109)
- (23) a. *Els missatges estan per haver transcrit.
 the messages stay.3PL PER have.INF transcribe.PPRT
 ‘The messages are to have been transcribed.’
 b. *Questo film è da aver visto.
 this film be.3SG DA have.INF see.PPRT
 ‘This film is to have been seen.’

- (24) a. *Aquests alumnes són impossibles d'estar controlant durant l'examen.
these students be.3PL impossible.PL DE=stay.INF check.GER during the=test
'These students are impossible to be supervising during the test.'
- b. *Una tesi è impossibile da star scrivendo senza preoccupazioni.
a thesis be.3SG impossible.SG DA stay.INF write.GER without worries
'A thesis is impossible to be writing without worries.'
- (25) a. *Els missatges estan per estar transcrivint.
the messages stay.3PL PER stay.INF transcribe.GER
'The messages are to be transcribing.'
- b. *La tesi è da star già scrivendo.
the thesis be.3SG DA stay.INF already write.GER
'The thesis is to be already writing.'

When we considered clausal negation, the judgments became sometimes less negative, but sentences were mostly judged ungrammatical:⁵

- (26) a. ?*Aquest error és difícil de no cometre mai.
this mistake be.3SG hard.SG DE NEG make.INF never
'This mistake is hard to never make.'
- b. ?*Quest'errore è facile da non commettere mai.
this=mistake be.3SG easySG DA NEG make.INF never
'This mistake is easy to never make.'
- (27) a. *Aquesta caixa està per no obrir mai.
this box stay.3SG PER NEG open.INF never
'This box is not to be opened ever.'
- b. ?*Questi oggetti sono da non toccare mai.
these objects be.3PL DA NEG touch.INF never
'These objects are not to be touched ever.'

As already observed by Rizzi (2000) for Italian, the presence of non-object clitic pronouns on the infinitive is very marginal.⁶

⁵ We used examples including a postverbal negative element (*mai*) to force a clausal negation reading. Preverbal negation alone, even if reported as ungrammatical by previous literature (i), is sometimes judged acceptable.

- (i) *Questo problema è facile da non capire.
this problem be.3SG easy.SG DA NEG understand.INF
'This problem is easy not to understand'. (Rizzi 2000: 109, but acceptable for some speakers)

This is not surprising, as similar variation is found with restructuring configurations that display clitic climbing (see Cinque's contrast in (ii) and discussion in Cardinaletti & Shlonsky 2004; Cinque 2006; Paradís 2019 among others).

- (ii) a. *Gianni lo smise di non mangiare (più).
Gianni OCL.3MSG stop.PST.3SG DI NEG eat.INF anymore
'Gianni stopped not eating it (anymore)'.
- b. Non ci si può non pensare.
NEG LOCCL.3MSG IMPERS can.3SG NEG think.INF
'One can't not think about it'. (Cinque 2006: 43)

The explanation might be that there is more than one place where negation can surface in the functional structure (Cinque 1999), at different heights, which could be not all available for all speakers.

⁶ The differences between Italian and Catalan in the acceptability of these clitics are reminiscent of a similar pattern found in *faire-à* causative constructions, whereby clitics attached to the infinitives are more acceptable in Catalan than in Italian, at least for some speakers (Villalba 1994; Amadas 2002; Paradís 2019; Pineda & Sheehan 2023). This behaviour is thus shared by TCs/MPs and causatives: the comparison is interesting because *faire-à* causatives have also been argued to involve a severely reduced clausal complement. Therefore, it seems that clitics are less problematic for

- (28) a. ??Aquests teoremes son difícils d'explicar -li.
 these theorems be.3PL hard.PL DE=explain.INF DATCL.3SG
 'These theorems are hard to explain to her/him.'
- b. ?*Questo teorema è difficile da spiegare =gli.
 this theorem be.3SG hard.SG DA explain.INF DATCL.3SG
 'This theorem is hard to explain to him.' (Rizzi 2000: 109)
- (29) a. ??Al dormitori, aquestes cadires son difícils de posar -hi.
 at=the bedroom these chairs be.3PL hard.PL to put.INF LOCCL
 'In the bedroom, these chairs are hard to fit there.'
- b. ?*Nella cantina, questi mobili sono difficili da metter =ci.
 at-the cellar these furnitures be.3PL hard.PL to put.INF LOCCL
 'In the cellar, these pieces of furniture are hard to fit there.'
- (30) a. ??Algunes coses encara estan per dir -li.
 some things still stay.3PL PER tell.INF DATCL.3SG
 'Some things are still to be told to him.'
- b. *Queste cose sono da dir =gli.
 these things be.3PL DA tell.INF DATCL.3SG
 'These things are to be told to him.'

When we considered high restructuring verbs like Cat./It. *voler(e)* 'want', Cat. *mirar* 'hope' and *deixar de* 'stop', and It. *soler(e)* 'use to' and *smettere di* 'stop', results were also quite bad, with no differences between TC and MP:

- (31) a. ?*Aquesta mena de llibres és fàcil de {voler /mirar de /deixar de}
 this kind of books be.3SG easy.SG DE want.INF hope.INF DE stop.INF DE
 llegir a escola.
 read.INF at school
 'This kind of books are easy to want to/hope to/stop read(ing) at school.'
- b. *Il cibo cinese è facile da {voler /soler /smettere di} mangiare
 the food Chinese be.3SG easy.SG DA want.INF be-used.INF stop.INF DI eat.INF
 ogni giorno.
 every day
 'Chinese food is easy to want to/be used to/stop eat(ing) everyday.'
- (32) a. *Aquesta mena de llibres està per {voler /mirar de /deixar de} llegir
 this kind of books stay.3SG PER want.INF hope.INF DE stop.INF DE read.INF
 a escola.
 at school
 'This kind of books are to want to/hope to/stop read(ing) at school.'
- b. *Il cibo cinese è da {voler /soler /smettere di} mangiare ogni
 the food Chinese be.3SG DA want.INF be-used.INF stop.INF DI eat.INF every
 giorno.
 day
 'Chinese food is to want to/be used to/stop eat(ing) everyday.'

Catalan reduced complements than for Italian ones: this independent difference between the languages suggests that in Catalan clitics might marginally surface even in projections lower than I (probably *v/Voice*, as suggested by Pineda & Sheehan 2023: 199-200). Having established that the observed variation is due to an independent difference between the two languages, we leave the subtler details of a cross-linguistic comparison between TCs/MPs and causatives to future research.

These verbs all classify as ‘high restructuring verbs’ since they generally disallow long passives (33) (showing that they realise functional heads above Voice, Wurmbrand 2001; Amadas 2002; Cinque 2006), as reported by Paradís (2019: 388) for Catalan and by Rizzi (1976); Cinque (2006: 66ff) for Italian.⁷

- (33) a. *Aquests llibres van ser {volguts /mirats de /deixats de} llegir a
these books go.3PL be.INF want.PPRT hope.PPRT DE stop.PPRT DE read.INF at
escola.
school
b. *Questi libri sono stati {voluti /soliti /smessi di} leggere a scuola.
these books be.3PL be.PPRT want.PPRT use.PPRT stop.PPRT DI read.INF at school
‘People wanted to/hoped to/stopped read(ing) these books at school.’

Modal verbs, which generally disallow long passives too,⁸ display the same situation as high restructuring verbs, since they were judged as very unnatural:

- (34) a. Aquests llibres són fàcils de {?*poder /*haver de} llegir.
these books be.3PL easy.PL DE can.INF have.INF DE read.INF
‘The books are easy to be able/have to read.’
b. Questi libri sono difficili da {*poter /*dover} regalare a qualcuno.
these books be.3PL hard.PL DA can.INF must.INF gift.INF to someone
‘These books are hard to be able/have to read.’
(35) a. *Els llibres estan per poder /haver de llegir.
the books stay.3PL PER can.INF have.INF DE read.INF
‘The books are to be able/have to read.’
b. *Questi libri sono da poter /dover regalare a chiunque.
these books be.3PL DA can.INF must.INF gift.INF to whoever
‘These books are to be able/have to give to anyone.’

Up to this point, all tests were negative, suggesting that TCs/MPs lack a full sentence structure in the embedded clause. When we considered lower landmarks, judgments reversed. For example, low aspectual restructuring verbs were judged possible (vs high restructuring ones, above).

- (36) a. Aquesta casa és impossible d(e) {acabar de /començar a} construir.
this house be.3SG impossible.SG DE finish.INF DE start.INF A build.INF
‘This house is impossible to finish/start building.’

⁷ However, it is well known that some speakers are less selective with what restructuring verbs allow long passives. For instance, Amadas (2002: 138) reports (i) as grammatical:

- (i) El telèfon tradicional serà deixat d'utilitzar en només dos mesos.
the telephone traditional be.FUT.3SG stop.PPRT DE=use.INF in just two months
‘Traditional telephones will stop being used in just two months.’ (Amadas 2002: 138)

We predict that speakers accepting (i) will also accept the corresponding TCs/MPs, which would be consistent with the pattern we report later for low (i.e. below Voice) restructuring verbs. We have found one such speaker. Inter-speaker variation with transparency effects in Italian and Catalan restructuring configurations has always been observed (Cinque 2006; Paradís 2019), so it is not problematic for our account.

⁸ Also in this case, other speakers do not completely reject examples like (i):

- (i) ?Els edificis de l'Eixample de mar van ser poguts construir l'estiu passat.
the buildings of the=Eixample de mar go.3PL be.INF can.PPRT build.INF the=summer past
‘The buildings of the Eixample de mar managed to be built last summer.’ (Paradís 2019: 122)

Again, we predict that these speakers will accept *poder* in TCs and MPs as well.

- b. Questo libro è difficile da {iniziare a /finire di} leggere.
 this book be.3SG hard.SG DA start.INF A finish.INF DI read.INF
 ‘This book is hard to start/finish reading.’ (cf. Rizzi 1982: 26)
- (37) a. Els missatges estan per {acabar de /començar a} transcriure.
 the messages stay.3PL PER finish.INF DE start.INF A transcribe.INF
 ‘The messages are to be finished to transcribe.’
 b. Questa macchina è da {iniziare a /finire di} riparare.
 this car be.3SG DA start.INF A finish.INF DI repair.INF
 ‘This car has to finish being repaired.’

Low restructuring verbs (38) are lower than Voice, as shown by the possibility of long passives (Rizzi 1976; Amadas 2002; Cinque 2006):

- (38) a. La casa serà començada a /acabada de construir demà.
 the house be.FUT.3SG start.PPRT A finish.PPRT DE build.INF tomorrow
 ‘The house will start/finish being built tomorrow.’
 b. La casa sarà iniziata a /finita di costruire domani.
 the house be.FUT.3SG start.PPRT A finish.PPRT DI build.INF tomorrow
 ‘The house will start/finish being built tomorrow.’

Therefore, only restructuring verbs which allow long passives are possible in TCs/MPs. Thus, only material merged *below* Voice seems to be grammatical in Catalan and Italian TCs/MPs, where the infinitive does not have any marking.

3.2 Discussion and analysis

In light of these results, we can immediately notice that there are no significant differences between Catalan and Italian, despite using distinct introductory elements (*de* and *per* in Catalan, and *da* in Italian). Therefore, we propose that the complement clause has the same syntax across the two constructions and the two languages. More precisely, the syntactic tests reveal that the infinitive does not project any functional structure above Voice: the embedded clause must then be just a VoiceP (39).

- (39) [VoiceP Voice [LowIP [VP ...]]]

An immediate consequence of this observation is that the introductory elements of TCs/MPs (namely It. *da* and Cat. *de/per*) are not C heads, at least if we assume a rigid functional hierarchy in the clausal structure, which entails that if I is missing, C must be missing too.⁹ This situation is similar to Romance restructuring/clause-union configurations, which also involve preposition-like introductory elements not corresponding to a C layer (e.g. It. *provare a* ‘try’, Cat. *mirar de* ‘hope’): according to Cinque (2006); Ledgeway (2016); Groothuis (2019), these elements can simply emerge from the combination of a predicate with its complement, and are just there for selectional/idiosyncratic reasons; for this reason, clauses introduced by these elements can be of different sizes, not necessarily CPs. More specifically, Cinque (2006: 45) states that these elements can be analysed as Ps, which are needed in order for an infinitive to be selected by certain verbs. Alternatively, Wurmbrand (2001: 109–110) concludes that since the German infinitive introducer *zu*, often found in restructuring/clause-union configurations, “bears no semantic content

⁹ There are of course other options, like assuming a derivational analysis of clause reduction (e.g. Pesetsky 2023; Müller 2025) or a highly defective C-I layer (e.g. Roberts 1997; Paradís 2019): under these different assumptions the introductory element can be considered to be C, at least at the time of its base-generation.

and does not seem to fulfil any syntactic function, it is essentially ‘invisible’” and its distribution depends on an arbitrary selectional property of the matrix predicate. An additional alternative could be analysing the prepositional element as part of the main predicate: an analysis along these lines is proposed by Haider (2024: 14), according to whom these particles “can be regarded virtually like a particle of a particle verb.” For concreteness, we will follow Wurmbrand and not represent the introductory elements in the structure –but our proposal is compatible with all the above-mentioned technical solutions.

We can now turn our attention to the Voice properties of TCs/MPs. Voice in TCs/MPs does not fully resemble either active or passive Voice: on the one hand, it cannot be active because the IA is promoted via an A-dependency (cf. the discussion in sec. 1); on the other hand, it cannot be passive, as passive morphology and *by*-phrases are disallowed (40)-(41).¹⁰

- (40) a. *El peix és fàcil de ser preparat pel Joan /per qualsevol màquina
the fish be.3SG easy.SG DE be.INF make.PPRT by=the Joan by any machine
multifunciò.
multifunction
- b. *Il pesce è facile da essere preparato da Gianni /da qualunque macchina
the fish be.3SG easy.SG DA be.INF make.PPRT DA Gianni by any machine
multifunzione.
multifunction
‘Fish is easy for Joan/Gianni/any multifunction machine to make.’
- (41) a. *Els exàmens estan per ser corregits pel professor /per un sistema
the tests stay.3PL PER be.INF mark.PPRT.PL by=the professor by a system
automatitzat.
automated
- b. *Le verifiche sono da essere corrette dal professore /da un sistema automatizzato.
the tests be.3PL DA be.INF mark.PPRT DA=the professor by a system automated
‘The tests are to be marked by the professor/by an automated system.’

This means that proposals like Giurgea & Soare (2010) cannot capture TCs/MPs in Catalan and Italian well, although we do share the idea that TCs/MPs are similar to passives in many respects: Giurgea and Soare report that some speakers accept indefinite or inanimate *by*-phrases in Romanian/French infinitival relatives (which look similar to TCs/MPs) so they claim that these constructions must involve a syntactically passive infinitive which exceptionally does not show passive morphology. Since both passive morphology and *by*-phrases (even when they are indefinite or inanimate)¹¹ are ungrammatical in Catalan and Italian TCs/MPs, we need to find a different solution to account for why neither of these properties normally associated to passives is found on TCs/MPs.

¹⁰ Once again, the irrelevant ‘about to’ interpretation is available for (41a), which would thus be grammatical with the meaning ‘The tests are about to be marked by the professor/by an automated system’.

¹¹ The marginal acceptability of *per part de/da parte di* PPs in TCs/MPs is not a counter-example to this claim: these PPs are unselected adjuncts, do not need passive Voice, and assign their own θ -role (Belletti 1982). See for instance their use with adjectives (ia) and transitive verbs (ib).

- (i) a. È stato antipatico da parte di Gianni.
be.3SG be.PPRT rude.SG DA PARTE DI Gianni
‘That was rude of Gianni.’
- b. Ti saluto da parte di Gianni.
OCL.2SG greet.1SG DA PARTE DI Gianni
‘I greet you on behalf of Gianni.’

Furthermore, we can assess the status of the implicit EA of the embedded verb. If the implicit EA were a PRO or pro, it could be modified by a depictive like *enfadats* ('angry') (Landau 2010). This is shown by the impersonal construction in (42a-b), which contrasts with a participial passive (42c), where the implicit EA has a weaker syntactic status (if any):

- (42) a. És dolent anar al llit enfadats.
be.3SG bad go.INF to=the bed angry
'It is bad to go to bed angry.'
b. És difícil de prendre decisions enfadats.
be.3SG hard DE take.INF decisions angry
'It is hard to make decisions angry.'
c. La taula va ser trencada (*enfadats).
the table go.3SG be.INF break.PPRT angry
'The table was broken by people while they were angry.'

The same holds in Italian:

- (43) a. È brutto andare a letto arrabbiati.
be.3SG bad go.INF to bed angry
'It is bad to go to bed angry.'
b. È difficile prendere decisioni arrabbiati.
be.3SG hard take.INF decisions angry
'It is hard to make decisions angry.'
c. Il tavolo è stato rotto (*arrabbiati).
the table be.3SG be.PPRT break.PPRT angry
'The table was broken by people while they were angry.'

TCs and MPs interestingly pattern like passives, which shows their implicit EA is not PRO or pro:

- (44) a. Alguns problemes són difícils de resoldre (*enfadats).
some problems be.3PL hard DE solve.INF angry.MPL.
'Some problems are hard to solve angry.'
b. Aquestes pel·lícules no estan per veure (*enfadats).
some movies NEG stay.3PL PER watch.INF angry.MPL
'Some movies are not to be watched while angry.'
c. Alcuni problemi sono difficili da risolvere (*arrabbiati).
some problems be.3PL hard DA solve.INF angry.MPL.
'Some problems are hard to solve angry.'
d. Alcuni film non sono da vedere (*arrabbiati).
some movies NEG be.3PL DA watch.INF angry.MPL
'Some movies are not to be watched while angry.'

Once again, this suggests that the infinitive does not have active Voice, which would require a PRO/pro (i.e. a DP) as EA.¹²

Let us now spell out our assumptions on Voice alternations for the languages at issue. First, we outline in (45)–(46) the syntactic properties of active and passive Voice (cf. Legate 2021 for discussion on the main properties of canonical passives):

(45) Active Voice

¹² The absence of a syntactically realised EA goes hand in hand with the lack of accusative Case assignment, as required by Burzio's generalisation, which also explains why the IA cannot be Case-licensed in the embedded clause and must therefore move to the matrix subject position.

- a. Accusative is assigned to the IA;
 - b. An EA is present in the syntax (as a DP) and in the semantics;
 - c. Unmarked morphology.
- (46) Passive Voice
- a. Accusative is not assigned to the IA, allowing IA-promotion;
 - b. An EA is present in the semantics;
 - c. The EA can be optionally realised as a *by*-phrase;
 - d. Marked morphology.

The way these properties should be formalised has been discussed extensively in the literature. In particular, it is not clear whether one or multiple heads in the Voice domain are responsible for the differences above, and what the division of labour might be (see [Wood & Tyler 2023](#); [Kallulli & Roberts 2025](#) for discussion). This is important because cross-linguistically there are many instances of passive-like constructions which show interesting contrasts with canonical passives, in particular when they lack one or more of the properties outlined in (46) ([Legate 2021](#)). Participial passives in Italian (47a) and Catalan (47b) show all the properties in (46).

- (47) a. Il tavolo è stato rotto (da Mario).
 the table be.3SG be.PPRT break.PPRT by Mario
 ‘The table was broken by Mario.’
 b. Els exàmens van ser corregits (pel professor).
 the exams go.3SG be.INF mark.PPRT by=the professor
 ‘The exams were marked by the professor.’

On the other hand, in this work we do not consider *se*-passives, as they show different syntactic properties from participial passives (see e.g. [Dobrovie-Sorin 2017](#) for a review).

For the purposes of this paper, we simply assume that the various passive properties exhibited by participial passives in contrast with the properties of active transitive constructions all rely on the head Voice, depending on the following features (mostly following [Wurmbrand 2016](#); [Wurmbrand & Shimamura 2017](#); [Bryant et al. 2023](#) and references therein, see also [Schäfer 2008](#) for the [AG] feature):

- (48) a. AG: introduction of an agent in the semantics;
 b. ACC: accusative case assignment and introduction of the EA as a DP (cf. Burzio’s generalisation);
 c. PART-PASS: participial passive morphology and *by*-phrase licensing.

The differences between active and passive Voice can then be encoded as follows:

- (49) a. [VoiceP DP Voice_[AG, ACC] [LowIP [VP V DP]]] (Active Voice)
 b. [VoiceP (*by*P) Voice_[AG, PART-PASS] [LowIP [VP V DP]]] (Passive Voice)

To explain the unusual behaviour of TCs/MPs we propose that Voice in their verbal complement is *defective* in the following way: it cannot assign accusative (which is why the IA can be promoted) and it encodes a passive-like implicit EA that cannot be merged as a DP or as a *by*-phrase (which is why only transitive verbs are allowed, but there is never an explicit or a PRO/pro agent for the verb), but it can only have default active-looking morphology. Under our assumptions, this amounts to only having the [AG] feature, but neither [PART-PASS] nor [ACC] - making this Voice head defective, as in (50).

- (50) [VoiceP Voice_[AG] [LowIP [VP V DP]]] (Defective Voice)

To recapitulate, in the active (49a), Voice assigns accusative (a property that we encode as an [ACC] feature on Voice) and introduces an agent in the semantics (encoded as an [AG] feature), which in this case corresponds to a DP in Spec,VoiceP (i.e. the EA), in compliance with Burzio's generalisation. In the passive (49b), Voice does not assign accusative and does not introduce a DP in its Specifier (again complying with Burzio's generalisation), but it still encodes an agent (which can be overt as a *by*-phrase) and therefore has the [AG] feature, as well as a [PART-PASS] feature activating passive morphology and licensing the optional *by*-phrase. Finally, when Voice is defective (50), it still encodes an agent as [AG] without being able to assign accusative, but it cannot realise such an agent overtly as a *by*-phrase and does not require passive morphology.¹³

The idea that reduced complement clauses involve a somewhat defective Voice (or *v*) head has been put forth several times in previous literature, with independent motivations. For instance, [Giurgea & Soare \(2010\)](#) and [Pitteroff \(2015\)](#) propose that a Voice head with passive syntax but no passive morphology is involved in Romance infinitival relatives and TCs, and German *let*-middles, respectively; similarly, [Manzini \(2022\)](#) argues that Romance causatives select a defective *v*P with a passive-like ("ergative") alignment and regular infinitive morphology (cf. [Folli & Harley 2007](#)); finally, [Wurmbrand \(2016\)](#); [Wurmbrand & Shimamura \(2017\)](#); [Bryant et al. \(2023\)](#) claim that in many languages reduced complement clauses (like the ones found in German long passives) have an underspecified Voice head possibly surfacing with default morphology which cannot assign accusative nor merge an overt EA (cf. [Bosque & Gallego 2011](#) for a similar suggestion on Romance long passives and similar constructions). The formalisation and the label associated with this type of Voice varies depending on the author and on the details of the specific constructions at issue.

For our purposes, the simple implementation in (49)-(50) will suffice, even if there are other possible ways of representing causative semantics, the implicit agent, and participial passive morphology. A possible alternative could rely on two layers in the Voice domain (as in e.g. [Collins 2005; 2024](#); [Sigurdsson 2011](#); [Merchant 2013](#); [Bruening 2013](#); [Alexiadou et al. 2015](#)): in a passive, the lower layer (*v*) is responsible for agentive semantics, while the higher layer (Voice) introduces participial morphology and licenses *by*-phrases, as shown in (51a). The pattern we observed in Italian/Catalan TCs/MPs can then be explained by positing that the higher layer is missing in those constructions, consistently with the clause size tests in the previous subsection.¹⁴

- (51) a. [VoiceP (*by*P) Voice_[PART-PASS] [_vP *v*_[AG] [_{LowIP} [_{VP} V DP]]]] (Passive Voice')
 b. [_vP *v*_[AG] [_{LowIP} [_{VP} V DP]]]] (Missing Voice)

The idea expressed by the formalisations in (51b) and (50) is the same: in TCs/MPs, a component of the canonical passive syntax is missing, whether the missing component is a feature on Voice or a layer in the Voice/*v* domain. At the same time, unaccusative verbs are always excluded (under either set of assumptions) because they are incompatible with the mandatory presence of a head introducing an agent in the semantics (encoded by [AG]), i.e. the same reason why they cannot be passivised. We see the variant in (49)-(50) as more straightforward for the purposes of this paper so we will use it in the remaining part of the paper, but the proposed account is compatible with the formalisation in (51a-b), too.

It is now easy to see how defective Voice can derive the unusual argument realisation pattern found in TCs/MPs: as (52c) and (53c)¹⁵ show, defective Voice ensures that an implicit agent is present in the interpretation (and therefore the verb has to be transitive) without being a syntactic

¹³ Unmarked unaccusative verbs (like Cat./It. *morir(e)* 'die') would of course not have Voice at all, under these assumptions.

¹⁴ Under these assumptions, unmarked unaccusative verbs would not have *v*_[AG].

¹⁵ The derivation of TCs might be slightly more complicated if we assume that predication is achieved through a small clause or a PredP ([Giurgea & Soare 2010](#)), which is why we include a (...) in the representation here, but this does not of course compromise our claims.

intervener for A-movement of the IA –like in the passive. However, the agent cannot surface as a *by-phrase* and there cannot be participial passive morphology (sec. 1).

(52) *tough*-constructions (TCs)

- a. Aquests llibres són fàcils de llegir.
these books be.3PL easy.PL DE read.INF
- b. Questi libri sono facili da leggere.
these books be.3PL easy.PL DA read.INF
'These books are easy to read.'
- c. [IP DP_i I (...) [AP A [VoiceP Voice_[AG] [LowIP [VP V ⟨DP_i⟩]]]]]

(53) Modal passives (MPs)

- a. Els exàmens estan per corregir.
the tests stay.3PL PER mark.INF
- b. Le verifiché sono da correggere.
the tests be.3PL DA mark.INF
'The tests are to be marked.'
- c. [IP DP_i I [VP V [VoiceP Voice_[AG] [LowIP [VP V ⟨DP_i⟩]]]]]

For MPs, we assume that the main verb realises a V head with a modal meaning. That the verb is not functional/just an auxiliary is independently confirmed by the impossibility of clitic climbing in MPs (54), contrasting with the participial passive auxiliary (55).

- (54) a. Aquestes coses (*li) estan per explicar.
these things DATCL.3SG stay.3PL PER explain.INF
'These things are to be explained to him.'
- b. Queste cose (*ti) sono ancora da spiegare.
these things DATCL.2SG be.3PL still DA explain.INF
'These things are still to be explained to you.'
- (55) a. Aquestes coses (li) seran explicades demà.
these things DATCL.3SG be.FUT.3PL explain.PPRT tomorrow
'These things will be explained to him tomorrow.'
- b. Queste cose (ti) saranno spiegate domani.
these things DATCL.2SG be.FUT.3PL explain.PPRT tomorrow
'These things will be explained to you tomorrow.'

A reviewer challenges this assumption by arguing that a normal copula is used in (54) due to the fact that a similar infinitival clause can appear as an infinitival relative in adnominal position, and claims that the copula in MPs is functional:

- (56) a. Els llibres per llegir a classe són molt difícils.
the books PER read.INF at class be.3PL very difficult.PL
- b. I libri da leggere in classe sono molto difficili.
the books DA read.INF in class be.3PL very difficult.PL
'The books to read in class are very difficult.'

We have already discussed why we think that infinitival relatives (like 56) have syntactic differences with TCs/MPs in sec. 2.1, which is why we do not propose an automatic extension of our analysis to those configurations. The exclusion of infinitival relatives entails that the problem raised by the reviewer would go away on its own, as the parallelism does not hold. Besides those arguments, even if we accepted that the standard copula were used in MPs, then we could assume that it is nevertheless a (semi-)lexical unaccusative verb (*v* or *V*), following a part of the literature

(e.g. Wurmbrand 1994: 98 on German MPs, Gallego & Uriagereka 2016 on Spanish *estar*, see also Arche et al. 2019 for a review). It would be harder to explain, however, what introduces the deontic/possibility interpretation in this case. Alternatively, we could assume that the modal meaning is actually conveyed by a null adjective in MPs (cf. Kayne 2014 on the English *be to* periphrasis), which would be a lexical category, while the verb can be treated as the normal copula (whether lexical or functional). This option is particularly tempting for Italian, as this assumption would make MPs a straightforward subcase of TCs with a null adjective, and could also work for Catalan (even if it uses a different preposition).¹⁶ What matters most for the purposes of this paper is that, on a par with TCs, the infinitival complement of MPs is not selected by a functional category (see discussion in sec. 5).

If we accept the proposal in (52)–(53), the issue is then how we can constrain the distribution of defective Voice: we will show that it is indeed the case (at least in Catalan and Italian) that defective Voice is only available in extremely reduced clauses, namely VoiceP complements, whereas active/passive Voice requires at least an IP. We will explain this as a constraint on selection in sec. 5.

4 Pattern 2: TCs and MPs with resumptive clitic

In the previous section, we described the behaviour of TCs and MPs with respect to a series of eight tests (see sec. 2) aimed at determining the embedded clause size. In this section, we put under scrutiny TCs and MPs *with clitic resumption*, which –as we will show– feature a larger clausal structure than their non-resumptive counterparts. Resumptive TCs and MPs (57a–b) are only possible in a colloquial register of Catalan and not for all speakers.

- (57) a. Aquests llibres són fàcils de llegir -los.
 these books be.3PL easy.PL DE read.INF OCL.3MPL
 ‘These books are easy to read.’
 b. Els exàmens estan per corregir -los.
 the tests stay.3PL PER mark.INF OCL.3MPL
 ‘The tests are for marking them.’

Notice that in the case of MPs, the meaning of the resumptive variant is slightly different from the bare counterpart: it is similar to a generic description of the purpose of the subject, which is evidenced by the fact that the stative copula *ser* can be used instead of *estar*, as in (58) (cf. González & Martín Gómez 2019 on a similar Spanish construction).

- (58) Els exàmens són per corregir -los.
 the tests be.3PL PER mark.INF OCL.3MPL
 ‘The tests are for marking them.’

These are productive for our core informants (who are from Barcelona), but we are aware that other speakers (especially from other areas of Catalonia) do not accept them. The reported judgments are robust for all our informants, unless otherwise noted.

¹⁶ Furthermore, the fact that the MP infinitival can be selected under raising/ECM verbs (e.g. It. *sembrare* ‘seem,’ *considerare* ‘consider,’ as in i) can also be seen as an argument for this alternative assumption as it would not require an extra mechanism for the deletion of the modal version of *estar/essere*.

- (i) Questi moduli sembrano ancora da compilare.
 these forms seem.3PL still DA fill.INF in class be.3PL
 ‘These forms seem to still be to be filled out.’

On the other hand, speakers who do *not* like resumptive TCs/MPs typically report a contrast as in (59a-b):¹⁷

- (59) a. *Les obres de Picasso són fàcils d'apreciar -les.
 the works of Picasso be.3PL easy.PL DE=appreciate.INF OCL.3FPL
 ‘Picasso’s works are easy to appreciate.’
 b. Les obres de Picasso, és fàcil d'apreciar -les.
 the works of Picasso be.3SG easy.SG DE=appreciate.INF OCL.3FPL
 ‘Picasso’s works are easy to appreciate.’

In the pair above, (59a) is the resumptive TC variant which our core informants accept as grammatical, with agreement between the matrix subject and predicate (marked on the verb and the adjective). On the other hand, (59b), which shows no agreement, is grammatical for everyone and not particularly problematic as it simply involves topicalisation of the IA of the embedded verb via Clitic Left Dislocation (CLLD): the IA is then in the left periphery of the matrix clause. That (59b) involves CLLD is evidenced by the fact that a bare plural can appear in the matrix, in which case it is resumed by the partitive clitic *en* and marked by *de* (60a) –unlike in genuine resumptive TCs where a bare plural cannot be the matrix subject (60b),¹⁸ but like in other cases of CLLD (60c) (see [Espinal & Giusti 2024](#) for discussion).

- (60) a. D'obres de Picasso, és fàcil de conèixer -ne (algunes).
 of=works of Picasso be.3SG easy.SG DE know.INF PARTCL some
 ‘It is easy to know any work by Picasso.’
 b. *D'obres de Picasso són fàcils de conèixer -ne/les (algunes).
 of=works of Picasso be.3PL easy.PL DE know.INF PARTCL/OCL.3FPL some
 ‘It is easy to know any work by Picasso.’
 c. D'obres de Picasso, espero veure 'n (algunes).
 of=works of Picasso hope.1SG see.INF PARTCL some
 ‘I hope to see some work by Picasso.’

Therefore, a sentence like (59b) is expected to be grammatical even for speakers that do not accept (59a) as it is an independent configuration, and its equivalent without CLLD (61) is also grammatical for all speakers:

- (61) És fàcil d'apreciar les obres de Picasso.
 be.3SG easy.SG DE=appreciate.INF the works of Picasso
 ‘It is easy to appreciate Picasso’s works.’

The pattern involving a resumptive object clitic in TCs/MPs is *never* available in Italian (62) even if it is attested in some regional varieties like Roman Italian (63) and various dialects of Italy ([Russo Cardona 2023](#)).

- (62) a. *Questi libri sono facili da legger =li.
 these books be.3PL easy.PL DA read.INF OCL.3MPL
 ‘These books are easy to read.’

¹⁷ Thanks to M.T. Espinal for bringing this to our attention.

¹⁸ This is expected since bare plurals in Catalan cannot appear in the canonical subject position.

- (i) *De nois han arribat.
 of guys have.3PL arrive.PPRT
 ‘Some guys arrived.’

- b. *Le verifiche sono da corregger =le.
 the tests be.3PL DA mark.INF OCL.3FPL
 ‘The tests are for marking them.’
- (63) Sti libri so difficili a trova =lli.
 these books be.3PL hard.PL A find.INF OCL.3MPL
 ‘These books are hard to find.’ (Roman Italian)

Therefore, this section will focus exclusively on Catalan.

The resumptive variant of TCs/MPs in Catalan is an interesting term of comparison because it does not have the unusual argument realisation properties that unmarked TCs/MPs have: the resumptive clitic is an independently available strategy which certain control infinitival clauses employ to establish a dependency between a matrix argument and the embedded object. This is the case, for instance, in purpose (64a) and result clauses (64b).

- (64) a. Vaig trucar al Joan_i per invitar -lo_i.
 go.1SG call.INF to=the Joan PER invite.INF OCL.3MSG
 ‘I called Joan to invite him.’ (Purpose clause)
- b. El Joan_i és massa molest per invitar -lo_i.
 the Joan be.3SG too annoying PER invite.INF OCL.3MSG
 ‘Joan is too annoying to invite.’ (Result clause)

The question is then whether the ordinary syntax of arguments in resumptive TCs/MPs is linked to the presence of a larger functional structure. To this end, we apply the same tests as before to these variants in colloquial Catalan.

4.1 Data

Focus fronting is very marginal or outright excluded in both constructions, just as in their bare counterparts:

- (65) a. ?*Aquests productes són difícils (A ANGLATERRA) de (A ANGLATERRA)
 these products be.3PL hard.PL to England DE to England
 enviar -los (no a Itàlia).
 send.INF OCL.3MPL not to Italy
 ‘These products are hard to send TO ENGLAND (not to Italy).’
- b. *Els llibres estan (DE CAP MANERA) per (DE CAP MANERA) llegir
 the books stay.3PL of none way PER of none way read.INF
 -los.
 OCL.3MPL
 ‘The books are not to be read at all.’

The same results were found for high adverbs, which were judged impossible, just as happened with bare TCs and MPS:

- (66) a. *Alguns detalls són fàcils d’estúpidament oblidar -los.
 some details be.3PL easy.PL DE=stupidly forget.INF OCL.3MPL
 ‘Some details are easy to stupidly forget.’

- b. *Els llibres estan per lamentablement llegir -los.
 the books stay.3PL PER regretfully read.INF OCL.3MPL
 ‘The books are to be regretfully read.’

When we considered perfect and progressive auxiliaries, the sentences with a resumptive TC were judged grammatical, in sharp contrast with the non-resumptive options.

- (67) a. Algunes llengües són difícils d’haver -les après en sis mesos.
 some languages be.3PL hard.PL DE=have.INF OCL.3FPL learn.PPRT in six months

‘Some languages are hard to have learnt in six months.’

- b. Aquests alumnes són impossibles d’estar -los controlant durant
 these students be.3PL impossible.PL DE=stay.INF OCL.3MPL check.GER during
 tot l’examen.
 all the=test
 ‘These students are impossible to be supervising all the time during the test.’

On the other hand, resumptive MPs are not acceptable with such auxiliaries: we think this is due to an independent incompatibility between the inherent modal/aspectual meaning of the *estar per* periphrasis and the aspectual value of the auxiliaries.

- (68) a. *Els missatges estan per haver -los transcrit.
 the messages be.3PL PER have.INF OCL.3MPL transcribe.PPRT
 ‘The messages are to have been transcribed.’
 b. *Aquests alumnes estan per estar -los controlant durant l’examen.
 these students stay.3PL PER stay.INF OCL.3MPL check.GER during the=test
 ‘These students have to be continuously supervised during the exam.’

As [González & Martín Gómez \(2019\)](#) argue for Spanish, *estar* periphrases semantically encode a precondition for a future event to happen, which necessarily gives the construction a prospective meaning. If this is the case in (68), we can expect that perfect and progressive auxiliaries will be forbidden independently of the size of the clause involved. In other words, the ungrammaticality of these examples is not a problem of the lack of a full IP structure, but a side effect of the incompatibility of *estar* periphrases with perfect/progressive aspect.

When we considered clausal negation, the judgments were much more positive than with clitic-less variants in this case too:

- (69) a. Aquests errors són difícils de no cometre ’ls mai.
 these mistakes be.3PL hard.PL DE NEG make.INF OCL.3MPL never
 ‘These mistakes are easy to never make.’
 b. Aquestes caixes estan per no obrir -les mai.
 these boxes stay.3PL PER NEG open.INF OCL.3FPL never
 ‘These boxes are to be never opened.’

Similarly, the presence of non-object clitics on the infinitive was judged fully grammatical if a resumptive object clitic is also present:

- (70) a. Aquests mobles són difícils de posà ’ls hi (al vostre apartament).
 these furnitures be.3PL hard.PL DE put.INF OCL.3MPL LOCCL in your flat
 ‘This furniture is hard to fit there (in your flat).’

- b. Aquestes galetes estan per menjar -se -les a lesmorzar.
 these biscuits stay.3PL PER eat.INF ASPCL.3 OCL.3FPL to the=breakfast
 ‘These biscuits are to be eaten at breakfast.’

When we considered high restructuring verbs like *voler* ‘want’, *deixar de* ‘stop’, or *mirar de* ‘hope’, results were ameliorated by the clitic for both resumptive TCs and MPs, in contrast with their bare counterparts.

- (71) a. Algunes especialitats italianes són fàcils de voler -les menjar cada
 some delicacies Italian be.3PL easy.PL DE want.INF OCL.3FPL eat.INF every
 dia.
 day
 ‘Some Italian delicacies are easy to want to eat every day.’
 b. Aquestes galetes són gairebé impossibles de deixar /mirar -les de
 these biscuits be.3PL almost impossible.PL DE stop.INF hope.INF OCL.3FPL DE
 menjar.
 eat.INF
 ‘These biscuits are almost impossible to stop/hope to eat.’
 c. Aquests premis estàn per mirar -los de /voler -los guanyar.
 these prizes stay.3PL PER hope.INF OCL.3MPL DE want.INF OCL.3MPL win.INF
 ‘These prizes are to hope/want to win.’

This pattern was reproduced with modal verbs, which were possible (although sometimes still not fully natural, probably due to the presence of two modal elements) in both constructions with the resumptive clitic:

- (72) a. Els llibres són difícils de poder -los /?haver -los de llegir.
 the books be.3PL hard.PL DE can.INF OCL.3MPL /have.INF OCL.3MPL DE read.INF
 ‘The books are hard to be able/have to read.’
 b. ?Els llibres estan per poder -los /haver -los de llegir.
 the books stay.3PL PER can.INF OCL.3MPL /have.INF OCL.3MPL of read.INF
 ‘The books are to be able/have to read.’

When we considered lower landmarks of clause structure, judgments were also fine –just like they were in the non-resumptive options. This is the case of low restructuring verbs:

- (73) a. Aquestes cases són impossibles d’acabar -les de construir.
 these houses be.3PL impossible.PL DE=finish.INF OCL.3FSG DE build.INF
 ‘These houses are impossible to finish building.’
 b. Els missatges estan per acabar -los de transcriure.
 the messages stay.3PL PER finish.INF OCL.3MPL of transcribe.INF
 ‘The messages are to be finished to transcribe.’

Thus, in this test we found no difference between bare and clitic resumptive patterns.

4.2 Discussion and analysis

In light of these results, we can immediately notice that the complement clause of resumptive TCs and MPs is structurally bigger than that of their clitic-less counterparts. While bare TCs and MPs were argued to have a VoiceP complement, resumptive TCs and MPs involve at least a full IP and possibly FinP, just lacking the higher left-periphery (like most non-finite clauses; e.g. [Villalba 2019; 2022](#) on infinitival relatives). The crucial tests involved high restructuring verbs, modals,

clausal negation, and aspectual auxiliaries: they were judged grammatical for resumptive TCs and MPs, whereas they were clearly bad for their non-resumptive counterparts (sec. 3). Obviously, all tests signalling a lower structure were equally good in both patterns. Therefore, we claim that the embedded clause of resumptive TCs and MPs has the functional projections in (74).

(74) [FinP Fin [HighIP [VoiceP Voice [LowIP [VP ...]]]]]

The only discordant note was the impossibility of perfect and progressive auxiliaries in Catalan MPs (68), which was a side effect of the aspectual restrictions imposed by the verb *estar*.

As for the Voice properties of resumptive TCs and MPs, these are much less unusual than in bare TCs and MPs: active Voice is clearly involved, as signalled by the object clitic. Furthermore, the implicit EA of the infinitive is projected as a (null) DP in this case (as expected with active Voice), while it is not in the bare variants. This is evidenced by the acceptability of depictives:

- (75) a. Aquests problemes són impossibles de resoldre 'ls enfadats.
 these problems be.3PL impossible.PL DE solve.INF OCL.3MPL angry
 'These problems are impossible to solve angry.'
 b. Aquestes pel·lícules no estan per veure -les enfadats.
 these movies NEG stay.3PL PER watch.INF OCL.3FPL angry
 'These movies are not to be watched while one is angry.'

Further evidence that the EA is fully projected comes from its alternation with postverbal lexical subjects, which in Catalan are only available in a few types of infinitives (Rigau 1995; Mensching 1999; Sitaridou 2002), including result (76a) and subject clauses (76b), which have been consequently analysed as merging a pro when there is no lexical subject (see in particular Rigau 1995).¹⁹ In other words, if a null implicit EA can alternate with postverbal subjects in an infinitive, then it is pro.

- (76) a. El terra està massa brut [per netejar -lo {pro /jo /en Pere}].
 the floor stay.3SG too dirty PER clean.INF OCL.3MSG I the Pere
 'The floor is too dirty for people/me/Pere to clean.'
 b. El millor seria [anar -hi {pro /jo /tothom} immediatament].
 the best be.COND.3SG go.INF LOCCL I everyone immediately
 'The best idea would be for people/me/everyone to go there immediately.'

This option is indeed available in both resumptive TCs and MPs, as shown in (77a-b):

- (77) a. Aquests llibres són fàcils de llegir *(-los) {pro /tu /tothom}.
 these books be.3PL easy.PL DE read.INF OCL.3MPL you everyone.
 'These books are easy for people/you/everyone to read.'
 b. Aquestes pel·lícules estan per veure *(-les) {pro /tu /tothom}.
 these movies stay.3PL PER watch.INF OCL.3FPL you everyone
 'These movies are for people/you/everyone to watch.'

¹⁹ Our account is of course fully compatible with an analysis of the null subject as PRO as well. See Fernández-Salgueiro (2024) for a recent discussion on this issue. However, in Catalan resumptive TCs/MPs, there is some evidence that the implicit subject is indeed pro rather than PRO, as (i) is possible:

- (i) Aquestes galetes son fàcils de menjar -te -les totes.
 these biscuits be.3PL easy.PL DE eat.INF ASPCL.2SG OCL.3FPL all.FPL
 'These biscuits are easy for you to eat them all.'

Here, the aspectual clitic takes the 2nd singular form (despite the absence of an overt pronoun) instead of the default form (*se*), which would be expected to be the only possibility under a PRO analysis (Rigau 1995; Fernández-Salgueiro 2024).

This is a strong argument that these constructions just involve regular active Voice in the embedded clause.

Therefore, the analysis we propose for the embedded clause of resumptive TCs/MPs is the following:²⁰

(78) [FinP Fin [HighIP VoiceP pro/DP Voice_[AG, ACC] [LowIP [VP V OCL]]]]

We do not make specific technical assumptions on how the resumptive dependency between the object clitic and the matrix subject is established, as it does not matter for our claims. A reviewer correctly points out that if we assume that the matrix subject DP is base-generated in (78), then the adjective would need to assign it a θ -role, differently from the non-resumptive variant. We do not think this would be a problem. In fact, something very similar has been proposed by [Remberger \(2024\)](#) for Sardinian *fàchere a...* when it means ‘it is possible to...’, which alternates between a raising variant (non-thematic subject) and a resumptive variant (thematic subject).

Furthermore, in our investigation, we found inter-speaker variation as to whether, when the resumptive clitic is present, the dependency can cross a clause boundary. Only some informants accepted (79).

(79) %Aquests llibres són impossibles d’obligar un nen a llegir -los.
 these books be.3PL impossible.PL DE force.INF a child A read.INF OCL.3MPL
 ‘These books are impossible to force a child to read.’

To the extent that (79) is acceptable (in stark contrast with the non-resumptive variant 4a), it resembles English TCs, which are also unbounded, and suggests an analysis of the resumptive pronoun as bound via an A’-dependency ([Chomsky 1977; 1981; Hicks 2009](#)).

In conclusion, resumptive TCs and MPs are derived as in (80) and (81) respectively:²¹

- (80) a. Aquests llibres són fàcils de llegir -los.
 these books be.3PL easy.PL DE read.INF OCL.3MPL
 b. [IP DP_i I (...) [AP A [FinP Fin [HighIP [VoiceP pro/DP Voice_[AG, ACC] [LowIP [VP V OCL_i]]]]]]]]
- (81) a. Els exàmens estan per corregir -los.
 the tests stay.3PL PER mark.INF OCL.3MPL
 b. [IP DP_i I (...) [VP V [FinP Fin [HighIP [VoiceP pro/DP Voice_[AG, ACC] [LowIP [VP V OCL_i]]]]]]]]

5 Clause size and Voice

5.1 The empirical generalisation

The results of the tests about clause size (T1-T8) and the status of the implicit EA (T9-T10) are summarised in Table 3. These highlight important differences between the two variants of TCs/MPs under both aspects.

²⁰ For the sake of simplicity, this derivation does not represent clitic and verb movement to higher heads.

²¹ As noted in the analysis of the first pattern (without the resumptive object clitic), our proposal is compatible with more complex structures including a small clause or a PredP. When the resumptive clitic is present, both TCs and MPs are compatible with such an analysis and the matrix verb can be treated as a normal copula. This is not what we argued for bare MPs, as we analysed *estar* as a lexical unaccusative verb with a modal meaning. However, when resumption is employed, *estar* alternates with *ser* (sec. 4.1), and it is not clear it still necessarily has a modal meaning, as a generic purpose reading is also available. For instance, [González & Martín Gómez \(2019\)](#) analyse a similar Spanish construction (*estar para*) as involving a regular copula merging with a small clause. If this were true, then the resumptive

Test	Tested Area	TC/MP	rTC/rMP
(T1) Can a constituent be focalised in the embedded left periphery?	CP	NO	NO
(T2) Are high adverbs grammatical?	CP	NO	NO
(T3) Is a perfect/progressive auxiliary grammatical?	High IP	NO	rTC only
(T4) Is clausal negation grammatical?	High IP	NO	OK
(T5) Is a non-object clitic grammatical?	High IP	NO	OK
(T6) Are high restructuring verbs grammatical?	High IP	NO	OK
(T7) Are modal verbs grammatical?	High IP	NO	OK
(T8) Are low restructuring verbs grammatical?	Low IP	OK	OK
(T9) Is a subject-oriented depictive grammatical?	ImpEA = PRO/pro	NO	OK
(T10) Is a postverbal lexical subject grammatical?	ImpEA = pro	NO	OK

Table 3: Test results (Yellow: ameliorating effect of the resumptive object clitic; Red: ungrammatical results in both cases; Green: grammatical results in both cases.)

Among the most striking data in Table 3 are the minimal contrasts depending on the presence of the clitic when IP material above Voice and below Fin is included. A resumptive clitic makes such sentences grammatical. Similarly, only TCs/MPs with a resumptive object clitic pass the tests associated with the syntactic presence of a null EA (as a PRO or, more probably, a pro). This ameliorating effect highlights the connection between the presence of an object clitic, active Voice (Voice_[AG, ACC]), and a rich functional structure. If the clitic is absent, TCs/MPs involve a much smaller verbal complement (up to VoiceP) and what we labelled defective Voice (Voice_[AG]). The two proposed structures for the embedded clause of bare TCs/MPs (in Catalan and Italian) and resumptive TCs/MPs (colloquial Catalan only) are repeated below, respectively:

- (82) a. ... [VoiceP Voice_[AG] [LowIP [VP V ⟨DP⟩]]]
b. ... [FinP Fin [HighIP [VoiceP pro Voice_[AG, ACC] [LowIP [VP V OCL]]]]

Similar results were found by Russo Cardona (2023) in certain Italo-Romance dialects, which present two main types of TCs differing in size and Voice properties. For instance, consider the following pair from Neapolitan (83). As shown by the optionality of the clitic in (83a), both the plain and the resumptive TC are possible in this dialect. However, when functional material (in the IP projections above Voice), like a dative clitic, is added (83b), only the resumptive variant (which relies on standard active Voice) is possible. This is exactly the same pattern we found in Catalan.²²

MP would be a configuration completely independent from the non-resumptive variant, compatibly with our claims. We leave this issue open as it does not affect our proposal significantly.

²² A reviewer asks whether the same is true of Spanish. The literature (e.g. Bosque & Gallego 2011) reports that many speakers do allow rTCs in Spanish, as in the following corpus example (i).

- (i) Estos dos puntos son prácticamente imposibles de determinar =los.
this two points be.3PL practically impossible.PL DE determine.INF OCL.3MPL
‘These two points are almost impossible to determine.’ (Spanish, esTenTen2023)

- (83) a. Sti luci song bell a (e) vedé.
 these lights be.3PL pretty.MPL A OCL.3FPL see.INF
 ‘These lights are pretty to look at.’
 b. Sto vas’ è perfett’ a cc’ *(‘o) regalà.
 this vase be.3SG perfect.SG A DATCL.3 OCL.3MSG gift.INF
 ‘This vase is perfect to give to him.’ (Neapolitan, Afragola, [Russo Cardona 2023](#))

As a consequence, the empirical generalisation about the interaction of clause size and Voice in TCs/MPs emerging from this state of affairs is (84):

- (84) a. Active Voice (Voice_[AG, ACC]) → FinP embedded clause;
 b. Defective Voice (Voice_[AG]) → VoiceP embedded clause.

In other words, active Voice is only found in embedded clauses with a rich functional structure, whereas defective Voice is found in smaller clauses projecting only up to Voice. Thus, the amount of functional structure on top of Voice correlates with what kind of Voice can be merged, on the basis of the TC/MP data.²³

Finally, there is also another interesting correlation emerging from our data:

- (85) a. DP/pro/PRO EA → FinP embedded clause;
 b. passive-like unprojected EA → VoiceP embedded clause.

This is very much in line with a recent claim by [Satik \(2024\)](#), who independently proposes that the smaller a clause is, the more defective its subject has to be. Under our account, (85) will be easily derivable from the constraints on the different types of Voice, which we outline below.

5.2 Selectional constraints on Voice

How do we explain the link between Voice properties and clause size? Why can’t defective Voice appear in bigger clauses, and why can’t active Voice be found in smaller ones, in the context of TCs/MPs? Even if it is intuitive that defective Voice might be associated with a poorer functional spine, nothing in our system so far derives this distribution, and nothing prevents active (or passive) Voice from being selected in VoiceP complements.

Similarly, various previous works relying on some similar kind of defective Voice do not specify under what syntactic conditions this type of Voice can be merged and why it cannot be dominated by a rich functional structure, and/or why there is no competition with regular active Voice. For instance, [Pitteroff \(2015\)](#) claims that German *let*-middles have a canonical passive Voice head in the infinitival clause, which lacks a functional head above Voice hosting passive morphology, so that the infinitive shows up with default morphology (86).

- (86) Das Buch lässt sich gut lesen.
 the book let.3SG REFL well read.INF
 ‘The book reads well.’ (let-middle, German, [Pitteroff 2015: 2](#))

We expect that, for these speakers, the alternation would be constrained in the same way as in colloquial Catalan and Neapolitan.

²³ As one anonymous reviewer suggests, this correlation is reminiscent of the general idea that defective T/I correlates with the absence of C ([Pires 2006](#); [Jiménez-Fernández & Miyagawa 2014](#); [Miyagawa 2017](#)). Certainly, our analysis participates in the general idea that the nature of lower functional heads affects the availability of higher structure, possibly as a direct consequence of conditions on the operation Merge ([Wurmbrand 2014](#); [Chomsky et al. 2023](#)).

Expanding on this idea, we submit that the lexically-specified selectional constraints in (89) constrain the distribution of the different types of Voice (at least in the languages we are considering, but see [Russo Cardona 2023](#) for the formulation of this idea about Italo-Romance dialects).²⁴

- (89) a. Active/passive Voice: selected by a functional head in the IP layer
b. Defective Voice: selected by a suitable lexical category

The idea that active/passive Voice can only be selected by a functional head (i.e. 89a), rather than directly by a lexical predicate predicts that in embedded clauses real active Voice is found only if the embedded clause is at least as big as an IP. This straightforwardly captures the fact that active Voice is only observed in resumptive TCs/MPs,²⁵ which have a FinP embedded clause, rather than in bare TCs/MPs, where Voice is not dominated by an I head. Furthermore, restructuring configurations as in (88) now become easy to derive: since the matrix verb is an I head in such cases, as we have assumed throughout the present paper (following [Picallo 1990](#); [Wurmbrand 2001](#); [Cinque 2006](#)), the VoiceP projected by the lower verb is selected by an I head; therefore, it can be active or passive, but not defective.

Defective Voice, on the other hand, can only be directly selected by specific lexical predicates (89b). Adjectives allowing the TC, and the verbs *estar* (*per*) in Catalan and *essere* (*da*) in Italian, qualify as such predicates, meaning that their lexical entry specifies that they can select a (defective) VoiceP complement. Of course this does not mean that they can *only* select a VoiceP, but just that they have this possibility - unlike other lexical predicates. We think this explanation is very desirable, as it leaves a lot of space for nano-variation (in the sense of [Roberts 2019](#)): languages, and possibly even individual grammars, are likely to differ a lot in which items can take a VoiceP complement. Thus, it is easy to explain, for instance, the contrast in (90) in Italian simply as an arbitrary lexical difference between the two adjectives.

- (90) Questi problemi sono {impossibili /*possibili} da risolvere.
these problems be.3PL impossible.PL possible.PL DA solve.INF
'These problems are impossible/possible to fix.'

²⁴ A reviewer and M.A. Irimia note that it is hard to apply the generalisation to Romanian TCs, which involve a supine (and no agreement between the adjective and the matrix subject), whose distribution is quite different from that of infinitives and which never supports object clitics or passive morphology (see also [Giurgea & Soare 2020](#) on Romanian TCs).

²⁵ Passive Voice, as mentioned in sec. 1 and 3.2, is not available in Catalan TCs/MPs, even when they have a FinP infinitival. We think this is due to an independent reason, i.e. the low productivity of the passive in the colloquial register, which is the only register allowing TCs/MPs with a larger functional structure. In other embedded clauses which allow clitic resumption in a rich embedded clause and which are grammatical in prescriptive Catalan (such as result clauses, cf. sec. 4.1), the passive is indeed grammatical, supporting this intuition:

- (i) En Pere és massa honest per (no /poder) ser elegit.
the Pere be.3SG too honest PER NEG can.INF be.INF elect.PPRT
'Pere is too honest to (not/be able to) be elected.'

Furthermore, other Romance languages where TCs/MPs involve a large embedded clause can use the passive ([Russo Cardona 2023](#)):

- (ii) a. Esses relógios são difíceis [_{FinP} de serem arranjados].
these watches be.3PL tough.PL DE be.INF.3PL fix.PPRT
'These watches are hard to fix.' (European Portuguese [Raposo 1987](#): 104-105)
b. Cust arbure est fazzile [_{FinP} a no esser vidu].
this tree be.3SG easy.SG A NEG be.INF see.PPRT.MSG
'This tree is easy not to see.' (Sardinian, [Russo Cardona 2023](#))

We thus predict that if an overt passive were possible in Catalan TCs/MPs, it would only be available in a FinP embedded clause.

Furthermore, the lack of a resumptive variant for TCs/MPs in standard Italian can similarly be accounted for by simply appealing to a lexically encoded, idiosyncratic difference: Italian *tough*-adjectives cannot generally select/be modified by a FinP embedded clause headed by *da*.

5.3 Predictions

The predictions of (89) naturally extend beyond TCs/MPs. First, all control and raising complement clauses are predicted to disallow defective Voice, and to allow active or passive Voice, as they always have at least an IP layer above Voice.²⁶ This explains the facts shown in sec. 1 about these types of complements: here, regular passivisation of the embedded verb is needed to establish the relevant dependency between the IA and the matrix subject position.

A more interesting case, which will not cover exhaustively, is that of perception verbs. These constructions in Catalan and Italian seem to confirm the generalisation we put forth, and thus obey the constraints in (89). For instance, Sheehan & Cyrino (2024) argue that in English and Brazilian Portuguese, perception verbs can take an active/passive VoiceP complement, as shown in (91a-b), adapted from Sheehan & Cyrino (2024):

- (91) a. I saw [VoiceP the teachers {leave the room /be fired}].
 b. Eu vi [VoiceP OS professores {comer a sopa /ser despedidos}].
 I see.PST.1SG the.PL teachers eat.INF the soup be.INF fire.PPRT
 ‘I saw the teachers eat the soup/be fired.’ (Brazilian Portuguese)

According to our claims, the same cannot be possible in Catalan and Italian, since perception verbs are lexical predicates selecting a VoiceP clause which allows the active/passive alternation. Our analysis instead predicts that in Catalan and Italian perception verbs should either take a VoiceP complement with defective Voice, or a bigger complement (at least an IP) with active/passive Voice. In fact, both options seem to be possible in these languages (as also claimed by Ciutescu 2013, among many others). In both Catalan and Italian, perception verbs can involve a highly reduced clause (no negation, no clitics), with a demoted/oblique agent²⁷ (92) but no passive morphology: this is the defective VoiceP complement option (cf. *faire-à* causatives).

²⁶ A reviewer asks if passive participles in reduced relatives such as (i) are a counter-example to our claim that passive Voice must be selected by a functional head.

- (i) i problemi discussi dai filosofi
 the problems discuss.PPRT by=the philosophers
 ‘the problems discussed by philosophers’

Although a precise analysis of these structures is an open issue (see Soare 2025 for a review) and outside the scope of this work, there is indeed evidence for functional structure in cases like (i). For instance, clausal negation and clitics (which are degraded in bare TCs/MPs) are perfectly grammatical in adnominal passive participles (91a-b), showing that there is functional structure above Voice, as required by the proposed selectional constraint.

- (ii) a. La lettera dettata =gli da Gianni è sul tavolo.
 the letter dictate.PPRT DATCL.3SG by Gianni is on=the table
 ‘The letter dictated to him by Gianni is on the table.’ (Belletti 1990: 142)
 b. un mondo non dominato più dai grandi interessi economici
 a world NEG dominate.PPRT anymore by=the major interests economic
 ‘a world no longer dominated by major economic interests’ (ItTenTen corpus)

²⁷ An extra mechanism might be necessary to accommodate the possibility of a dative EA (possibly as proposed by Kayne 2005 for causatives), which is not possible in TCs/MPs. We abstract from this difference here, as this discussion is not meant to cover all aspects of perception verb constructions but just to outline the similarities with TCs/MPs.

- (92) a. Li vaig veure [VoiceP (*no) afegir (??-hi) alcohol].
 DATCL.3SG go.1SG see.INF NEG add.INF LOCCL alcohol
 ‘I saw him/her (not) add alcohol (to it).’
 b. Li vaig veure [VoiceP (*no) rentar (??-se) les mans].
 DATCL.3SG go.1SG see.INF NEG wash.INF ASPCL.3SG the hands
 ‘I saw him/her (not) wash (him) their hands.’
 c. Gli ho visto [VoiceP (*non) aggiungere (*=ci) abbastanza alcol].
 DATCL.3SG have.1SG see.PPRT NEG add.INF LOCCL enough alcohol
 ‘I saw him/her (not) add enough alcohol (to it).’

In the above examples, the accusative IA of the embedded verb is not Case-licensed by embedded Voice, which is defective and cannot assign accusative, but by the matrix verb which can assign accusative. Like in TCs/MPs, the matrix predicate assigns structural Case to the embedded IA, rather than to the EA.

Conversely, the option which has active (93a-b) or passive (94a-b) Voice does not involve a VoiceP complement, but a bigger one –as shown by the possibility of clausal negation and clitics.

- (93) a. Vull veure [IP en Pere no menjar -se més tantes galetes].
 want.1SG see.INF the Pere NEG eat.INF ASPCL.3SG anymore so-many biscuits
 ‘I want to see Pere not eat so many biscuits anymore.’
 b. Voglio sentire [IP Mario non mangiare =si più le parole].
 want.1SG hear.INF Mario NEG eat.INF ASPCL.3SG anymore the words
 ‘I want to hear Mario not mumble words anymore.’
 (94) a. ?He vist [IP la seva proposta {no ser- li aprovada
 have.1SG see.PPRT the her proposal NEG be.INF DATCL.3SG approve.PPRT
 /ser- li rebutjada} moltes vegades].
 be.INF DATCL.3SG approve.PPRT many times
 ‘I saw her proposal not be approved/be rejected many times.’
 b. Ho visto [IP il denaro (non) venir =gli consegnato].
 have.1SG see.PPRT the money NEG come.INF DATCL.3SG deliver.PPRT
 ‘I saw the money (not) be delivered to him.’

In these cases, the matrix predicate is assigning accusative to the highest argument of the embedded verb. So, if the complement clause has active Voice, the embedded EA is assigned accusative by the matrix predicate while the embedded IA is case-licensed by embedded Voice. If the complement clause has passive Voice, its IA is promoted and receives accusative by the matrix predicate.

In sum, perception verb complements in Catalan and Italian behave exactly as expected on the basis of our analysis, and fully comply with the constraints on the distribution of the different types of Voice we have proposed.²⁸ The absence of a VoiceP complement with active/passive Voice in perception verbs can therefore serve as further support for our proposal, showing that it has wide implications. It would be interesting to know which other languages behave in the same way, and why English and Brazilian Portuguese do not –if their perception verbs really involve just a VoiceP and not a bigger complement (in which case they would also pattern as predicted by our proposal). We leave this for future research.

5.4 Final remarks on clausal complementation

Going back to the initial discussion about the various types of non-finite clausal complements available in Romance, we have shown that (bare) TCs and MPs involve a complement clause that

²⁸ See Kayne (1975); Sheehan (2020) for very similar data on French.

is very different from control, raising, and restructuring configurations. Therefore, we need to enlarge the typology of clausal complements in Romance with at least one more type:

- (95) Simplified structures for cross-clausal A-dependencies with an embedded transitive verb
- (96) a. $DP_i V [_{CP} PRO_i \dots V DP]$ (Control)
 b. $DP_i V [_{IP} \langle DP_i \rangle \dots V DP]$ (Raising)
 c. $DP_i I [_{VoiceP} \langle DP_i \rangle \dots V DP]$ (Restructuring)
 d. $DP_i V/A [_{Voice_{DEF}P} \dots V \langle DP_i \rangle]$ (TC/MP)

The crucial difference between (96d) and the other types of complement clause is the presence of defective Voice, which we have argued is directly selected by the matrix predicate. The additional type we propose is not a construction-specific, exceptional device: defective Voice must be employed whenever a lexical category selects a VoiceP. This is the case for both TCs and MPs in Italian and Catalan, and possibly most of the other Romance languages, where these constructions behave similarly. As discussed above there is some evidence that a defective VoiceP is involved in Romance perception verbs as well when they take a small verbal complement (and possibly causatives, which have the same type of reduced complement clause, see e.g. Burzio 1986; Sheehan 2016; Ciutescu 2019), contrasting with the option of an IP complement clause, which has standard Voice.

We have highlighted and explained a significant difference between restructuring configurations where the matrix verb is an I head with a VoiceP infinitival (96c) and the constructions at issue, where a lexical predicate (A or V) takes a VoiceP infinitival: this explains the different morphosyntactic properties of TCs, MPs and possibly perception and causative verb constructions. Therefore, the evidence we presented argues in favour of a fundamental distinction between two types of constructions: *restructuring* on the one hand and *clause-union* on the other hand - as proposed by Rizzi (1982; 2000) and more recently argued by Sheehan (2016); Pineda & Sheehan (2022) in the context of causative and perception verbs, along the same lines of Wurmbrand's (2001) distinction between functional vs lexical restructuring (cf. also the discussion in Rizzi & Cinque 2016). According to the above cited works, among others, there are some differences between the two sets of constructions. We report the main differences below, to clarify what these two labels mean to us (even though they have been used with different meanings in the existing literature) –(97c-d) vs (98c-d) being our main focus.

- (97) Restructuring (e.g. with modal verbs)
- a. The matrix verb is functional;
 b. The matrix verb does not have its own argument structure;
 c. The matrix verb does not discriminate for transitivity;
 d. The embedded verb allows the regular active/passive alternation.
- (98) Clause union (e.g. with perception verbs)
- a. The matrix verb is lexical;
 b. The matrix verb has its own argument structure;
 c. The matrix verb discriminates for transitivity;
 d. The embedded verb cannot be a participial passive but has a passive-like argument realisation pattern.

What the two notions have in common is that in both cases the lower verb does not have an independent functional structure in addition to the matrix functional structure.

Our investigation suggests that a VoiceP complement clause with a defective Voice head may be at the core of clause-union configurations, like TCs, MPs, and perception verbs. Further research is of course needed to assess whether TCs, MPs, and perception (and causative) verbs really are a

natural class, and whether an analysis such as the one proposed here can fully cover the peculiarities of those configurations as well.

6 Conclusions

In this paper, we have argued, on the basis of Catalan and Italian *tough*-constructions and modal passives, that clause size is a crucial factor in determining which kind of Voice head is available in infinitival clauses. In particular, we have shown that the two constructions show a bare and a resumptive clitic version in Catalan, with sharp syntactic differences. In the bare constructions, the matrix lexical predicate (A or V) directly selects for a *defective* Voice head, which explains the full set of their previously ill-understood restrictions (evidencing the absence of I/C projections above Voice, and an unexpected argument realisation pattern), as discussed in sec. 3. In contrast, we show that a resumptive clitic version of TCs/MPs must involve a richer functional spine, so that an I head selects standard active VoiceP (sec. 4). Our proposal connects the different behaviour of Voice in the two constructions to their respective clause sizes, and ultimately to selectional restrictions on Voice.

Moreover, we have offered some evidence that our main claim is not just adequate to explain the syntax of TCs/MPs and the behaviour of their variants, but it can be straightforwardly extended to perception verb constructions as well: in this context, too, defective Voice can be observed only in variants of the construction that do not involve a full clausal complement but just a VoiceP, whereas active/passive Voice is found whenever the complement selected by the perception verb is bigger.

Obviously, the empirical coverage of the present work should be tested in the future against related non-finite constructions, like infinitival relatives (cf. Cinque & Benincà 2018; Villalba 2022), or causatives (cf. Kayne 1975, Villalba 1992; Roberts 2010; Manzini 2022; Pineda & Sheehan 2023), as well as in other languages: this will allow a full assessment of the predictive power of the strong generalisation we propose. Similar empirical generalisations about TCs/MPs from the (Italo-)Romance family suggest that it is not just Italian and Catalan which behave in this way (Russo Cardona 2023; *in prep.*): an exhaustive pan-Romance picture on microvariation in TCs/MPs could therefore strengthen our claim further. These are formidable challenges, but the results obtained so far are promising enough to be confident that our proposal can offer new insights on the ongoing debate about the syntax of clausal complementation and the role of Voice.

Abbreviations

1 = first person, 2 = second person, 3 = third person, ASPCL = aspectual clitic, CLLD = clitic left dislocation, COND = conditional, DATCL = dative clitic, F = feminine, FUT = future, GER = gerundive, INF = infinitive, LOCCL = locative clitic, M = masculine, MP = modal passive, OCL = object clitic, PARTCL = partitive clitic, PL = plural, PPRT = past participle, PST = past, SG = singular, SUBJ = subjunctive, TC = *tough*-construction.

Ethics and consent

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Competing interests

The authors have no competing interests to declare.

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