

1. Introduction: This paper contributes to the debate on the syntax of implicit arguments/*by*-phrases (*by*Ps) and the nature of non-active Voice(s). Whereas there is a consensus in the literature that passives have an implicit external argument (ImpEA) at least semantically (e.g. Bhatt & Pancheva, 2017), it is not clear what syntactic status the ImpEA and its explicit counterpart (i.e. *by*Ps) have. It has been claimed that passives have a (defective) syntactically realised null EA and *by*Ps are arguments (Collins, 2005, 2024; Roberts, 2019; Angelopoulos et al., 2023), in opposition to the view that passive ImpEAs are not syntactically represented and *by*Ps are adjuncts (Kallulli, 2007; Bruening, 2013; Legate, 2014; Alexiadou et al., 2015). In particular, Angelopoulos et al. (2020) show that *by*Ps – unlike adjuncts, like arguments – can bind a non-logophoric anaphor as in (1). The same holds in Italian (2).

(1) *The planets were drawn [by the black hole]_i into itself_i.* (Angelopoulos et al. 2020:11)

(2) *L'astronave è stata attirata [dal buco nero]_i verso il proprio_i centro.*
the=space-ship is been drawn by=the hole black toward the own centre
'The spaceship was drawn by the black hole_i into its_i centre.'

Such evidence supports the idea that *by* is an oblique Case marker reflecting Agree in a [K] feature between passive Voice and the (Imp)EA in Spec,vP (cf. Kallulli & Roberts, 2024):

(3) [TP DP T [VoiceP Voice_{pass}[K:*by*] [_vP ImpEA/DP[K:*by*] v [_{VP} V <DP>]]]]

In this work, we extend this view to other instances of EAs surfacing as PPs, based on novel data from Italian *tough*-constructions (TCs), which are also non-active (§2) and may involve an ImpEA or an argumental *for*P (§3). We propose (in §4) that TCs (like other embedded clauses without Voice morphology) have a defective Voice head (cf. Bryant et al., 2023), whose [K:] feature is valued by the matrix predicate. This captures Italian TCs and possibly other non-active cross-clausal configurations, showing that passives are not unique as non-active Voice is more broadly associated with PP/ImpEAs.

2. Non-active syntax in Italian TCs: It has been suggested that Italian TCs are a cross-clausal A-dependency with non-active syntax (Rizzi, 1982; Giurgea & Soare, 2010), as they are local (4) and only the internal argument (IA) of a transitive verb – not of an unaccusative (5) – can be the matrix subject.

(4) *Questi libri sono facili da (*convincere un bambino) a leggere.*
these books are easy.PL DA convince.INF a kid A read.INF
'These books are easy to (convince a kid) to read.'

(5) **Il latte è difficile da scadere.*
the milk is hard.SG DA expire.INF
'It is hard for milk to expire.'

Furthermore, it can be shown that the matrix subject has A-moved from the embedded IA position (like in passives) as (i) the mood of a relative embedded in the subject DP is sensitive to the type of embedded verb (cf. Sportiche, 2006 on French) (6), (ii) an anaphor within the subject DP can be bound by the indirect object of the embedded verb (unlike in English, Poole et al., 2022) (7).

(6) *[Una battuta che faccia ridere] è facile da trovare/ *dimenticare.*
a joke REL make.SUBJ.3SG laugh.INF is easy.SG DA find.INF forget.INF
'A joke that's funny is easy to find/forget.'

(7) *[Le storie sui propri genitori] sono state difficili da raccontare a ogni bambino_i.*
the stories about=the own parents are been hard.PL DA tell.INF to every child
'The stories about their_i parents have been hard to tell to every child_i.'

Quantifiers in the subject DP cannot reconstruct (8), but this is an independent constraint, as argued by Bobaljik & Wurmbrand (2005) and Keine & Bhatt (2016) since it happens in long passives too (9).

(8) *Tutti gli esami sono impossibili da superare in questa università.*
all the exams are impossible.PL DA pass.INF in this university
'All the exams are impossible to pass at this university.' (all > impossible, *impossible > all)

(9) *Tutti i palazzi saranno finiti di demolire domani.*
all the buildings will.be finished DI demolish.INF tomorrow
i. all > finish: 'All the buildings will finish being demolished tomorrow' (=> there is no building which has already been completely demolished)
ii. *finish > all: 'The process of demolishing all the buildings will be completed tomorrow' (=> there might be a building that has already been completely demolished)

3. The EA of TCs: the ImpEA of the embedded verb behaves like a passive ImpEA and unlike PRO_{arb}, as shown by the common diagnostics below (which we will discuss in detail).

	agent-oriented adv	instru- mental PP	control into purpose cl	control of gerunds	depictives		
					<i>insieme</i> together	<i>ubriachi</i> drunk.MPL	<i>tutti</i> all.MPL
Pass. ImpEA	OK	OK	OK	OK	?*	?*	*
TC ImpEA	OK	OK	OK	OK	?*	?*	*
PRO _{arb}	OK	OK	OK	OK	OK	OK	OK

Unlike in passives (10), however, the EA can be made explicit by a *for*P, not by a *by*P (11).

- (10) *Questa decisione non sarà accettata da/ *per Mario.*
 this decision NEG will.be accepted by for Mario
 ‘This decision won’t be accepted by Mario.’

- (11) *Questa decisione è impossibile da accettare per/ *da Mario.*
 this decision is impossible.SG DA accept.INF for by Mario
 ‘This decision is impossible for Mario to accept.’

The *for*P is an argument, as it can bind an anaphor in a lower argument of the embedded verb (in contrast with adjuncts) (12), just like *by*Ps:

- (12) *Questa storia sarà difficile da raccontare ai propri figli per/*senza Maria_i.*
 this story will.be hard.SG DA tell.INF to=the own children for/without Maria_i
 ‘This story will be hard (for Mary) to tell her children (without Mary).’

The *for*P is not introduced by the adjective, but it realises the EA of the verb, as its neutral position is sentence final (11) and it can scope below the adjective (13, cf. Keine & Poole, 2017 on English):

- (13) *Quest’esame è impossibile da superare per tutti.*
 this=exam is impossible.SG DA pass.INF for all.MPL
 ‘The exam is impossible for everyone to pass.’ (everyone > impossible, impossible > everyone)

Analysis: According to Bryant et al. (2023), some embedded clauses (e.g. in German long passives) involve a defective Voice head (Voice_{def}) which does not assign accusative, does not have passive morphology, but still requires the presence of an (Imp)EA, while the IA of the verb receives Case from the matrix. We propose, in light of Kallulli & Roberts (2024), that the defectiveness of such a head lies in an unvalued [K:] feature, which can be valued by a matrix predicate with valued [K] as in (14).

- (14) [TP DP ... [AP *tough*_[K:for] [VoiceP Voice_{def}_[K:for] [vP ImpEA/DP_[K:for] v [VP V <DP>]]]]

The *tough*-adjective, which has a [K:for] feature (‘It’s easy for DP!’ = ...[AP *tough*_[K:for] DP_[K:for]]), ultimately transmits the [K] value to the embedded EA via Voice_{def}. The analysis in (14) explains the similarities between TCs and passives (the IA does not receive accusative in the VoiceP so it must become the subject, the EA is either implicit or surfaces as a PP) while deriving their differences (lack of passive morphology in TCs, since Voice is not inherently passive; preposition on the EA is different). This approach can easily capture other configurations having an embedded infinitive without passive morphology but which cannot assign accusative and can have a PP EA: long passives (15) (Wurmbrand, 2001 *et seq.*) and *fare-a* causatives (16) (Kayne, 2005; Roberts, 2010; Belletti, 2017; Manzini, 2022).

- (15) *Il palazzo sarà finito di demolire (dagli operai).*
 the building will.be finished DI demolish.INF by=the workers
 ‘The building will finish being demolished by the workers.’

- [TP DP ... [VoiceP Voice_{pass}_[K:by] ... *finish* [VoiceP Voice_{def}_[K:by] [vP ImpEA/DP_[K:by] v [VP V <DP>]]]]

- (16) *Mario ha fatto demolire il palazzo (agli operai).*
 Mario has made demolish.INF the building to=the workers
 ‘Mario made the workers demolish the building.’

- [TP DP ... [VoiceP Voice_{act}_[K:ACC] [vP <DP> *make*_[K:to] [VoiceP Voice_{def}_[K:to] [vP ImpEA/DP_[K:to] v [VP V DP]]]]

Conclusion: We have claimed that passive *by*Ps are not unique, but there are other PPs which express the EA and behave similarly, as in Italian TCs, which have non-active syntax, and can express the EA either as an ImpEA or a *for*P. We show that this can be accounted for straightforwardly by the idea that Voice has [K], and that in certain embedded clauses [K] on Voice is unvalued, making it defective. To conclude we discuss some issues in word order and locality of the various non-active dependencies (14-16): these can be solved by *smuggling* (whenever Voice does not assign accusative), which has been independently proposed for passives (Collins, 2005) and causatives (Kayne, 2005 a.o.).

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