

(Im)possible Intensionality? *

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1. Introduction

I will use the syntactic distribution of intensional contexts in VP to probe the structure of double object constructions, and double object alternations in English and French. I conclude that such alternations are indeed underlied by double object structures, but different from surface double object structures. I also conclude that French does display both underlying and surface double object structures.¹

Some linguistic contexts are intensional. In such contexts, one can observe some (or all) of some diagnostic properties, e.g. for indefinites: (i) non specificity, (ii) failure of truth preservation under extensional substitution, or (iii) lack of existential import. The property of creating an intensional context is a lexical

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¹Some terminology. I will discuss pairs such as *I gave John a book*, *I gave a book to John*. I will call the latter the prepositional dative construction (PDC) and the former the double object construction (DOC). I will call indirect object (IO) the DP interpreted as the goal/recipient/intended possessor, namely *John* here. I will call direct object (DO) the DP that interpreted as the theme/patient, here *a book*.

property, e.g. of a particular verb such as *owe* or (idiomatic) expressions such as *look for*, but not of *acquire* or *get*. Thus:

- (1) a. Marta acquired a violin *or* Marta got him a violin \models there is a violin that Marta acquired, or got him.
 b. Marta owed him a violin $\not\models$ there is a violin that Marta owed him.

In this article, the single criterion used for intensionality will be the availability of non specific readings for simple indefinites, that is DPs of the form [indefinite article, noun]. A *non specific indefinite* will mean an indefinite which does not refer to particular objects, so we could add about the violin in (1)b (but not in (1)a): *any will do or none in particular*.

Treatments of intensionality (see Schwarz 2015, for a survey of analyses for transitive verbs) assume that:

- (α) The intensional context created by an element E must be an argument of E.

Call such an argument of E an intensional argument of E, or **intensional** for short. For an indefinite to be non specific, it does not suffice that it be merged in an intensional context, it must also be interpreted in this context. In other words:

- (2) ζ can be interpreted intensionally due to P iff:
 a. ζ is an intensional or within an intensional argument of P, an intensional context creating lexical item.
 b. ζ is interpreted in the scope of P.

2. English IOs in DOCs

2.1 Intensional Asymmetries

Consider the IO and the DO in a DOC as *a peasant* in (3):

- (3) Livia owed a peasant a horse

While the DO need not be specific, the IO has to be: a particular peasant is owed a horse by her.² Now it may well be accidental that the verb *owe* imparts intensionality to its DO but not to its IO. But there do not seem to be cases of intensional IOs in a DOC.³ I will now assume that in principle, there are no such cases and reason on this basis. This means no verb can license an intensional IO in a DOC and that this is for principled reasons, not accidental reasons. If e.g. *a peasant* is in the complement structure of *owe* which licenses intensionality in its DO, there is no principled reason why there could not be a DOC verb *schmilch* licensing intensionality on its own IO.

Given (2), if IOs of DOCs can never be intensional, this means either that the IO in a DOC is not an argument of the verb licensing intensionality in its DO, thus failing property (2)a, or that it cannot be interpreted in the scope of this verb, thus failing property (2)b.

Let us first explore the possibility - **hypothesis #1** - that it cannot be an (internal) argument of a predicate the lexical content of which can license intensionality.

Since VPs can contain as part of their shells a head H which makes a direct object intensional, this means that IOs cannot be arguments of such a head H, and unless we attribute the lack of such intensional IOs to a (possibly universal yet) accidental gap, IO never are arguments of the head introducing the DO. In other words, we derive the conclusion that the underlying constituent structure of DOCs like (3) includes a constituent where the IO asymmetrically c-commands the second as in (4):

(4) [[IO] ... [_{XP} X [DO]]]

This is an instance of what is sometimes called low applicatives, where the head X₂ is the low applicative head (Pylkkänen (2008)), and for which there is good independent evidence (see a summary in Sportiche et al. (2013)).

It is worth noting that under hypothesis #1, both objects are c-commanded by the SUBJECT/ external argument, if there is one, introduced by a *v* as in (5):

²I will return to these verbs of commitment, such as *owe*, *promise* and *bequeath*. For now, it suffice to note the clear judgment differences between IOs and DOs in simple cases as (3).

³As far I have been able to determine, the full generality of this claim is, surprisingly, novel, as well as that regarding subjects of transitive and unergative verbs below around the discussion of (γ). Please let me know otherwise.

(5) [SUBJECT v ... [[IO] ... [_{XP} X [DO]]]]

This means that no v should be able to create intensional contexts (which seems true). Otherwise we would expect IOs in DOC to sometimes be intensional.

(γ) little v is never intensional.

I will not discuss this further here except to note that this implies that subjects of transitives verbs, and unergatives verbs, which are hypothesized to include a v, are never intensional. Subjects of unaccusatives however, which are subjects of verbs lacking a v, can be:

(6) une parabole manque (pour qu'on puisse recevoir la
 a parabolic antenna is missing (for us to be able to get the
 BBC)
 BBC)

Here again, (6) does not refer to a particular (type of) antenna. That the preverbal subject can be intensional can be corroborated by the possibility of having the indefinite subject modified by a subjunctive relative clause, as such relatives must occur in intensional contexts:

(7) Une antenne qui puisse capter la BBC manque
 an antenna which could-subj get the BBC is missing

2.2 Double Objects Alternations

Are there derivational relations between DOCs and their PDC counterparts as in (8)a,b:

- (8) a. Omnart sent a picture of her_m mother to [Livia_m only].
 b. Omnart sent [Livia_m only] a picture of her_m mother.
 c. Omnart sent a graduate (*from its_m worst school) (back) to [NYC_m only].
 d. *Omnart sent [NYC_m only] a graduate (from its_m worst school).

The patterns in (8) illustrate straightforward binding considerations supporting a positive answer: (8) shows the correlation between the possibility of back-

wards semantic binding of a pronoun by a *to*-PP and the existence of a DOC structure. Backwards semantic binding of *her* by the (intended, see Beck and Johnson (2004)) possessor [*Livia only*] (or other binders) is possible in the PDC as in (8)a, as it is in the DOC in (8)b. And backwards semantic binding of *it* by the locative [*NYC only*] (or other binders) is not possible in (8)c⁴ and neither is it in the corresponding DOC in (8)d.

Since semantic binding of a pronoun by DP-*only* requires c-command, this correlation can be derived from the assumption that at some derivational point of (8)a, the IO c-commands the DO, as in (8)b, while the location DP never does. In other words, (8)a is derived from a structure like (8)b. It is worth noting that this conclusion holds regardless of whether hypothesis #1 is correct or not.

These considerations provide support for Hallman (2015)'s conclusions according to which some DP PP structures are transformationally derived from double object structures, by a passivization like process. Hallman shows that the PDCs are so derived essentially when the PP is understood as a possessor rather than as a locative.

Now, note that this reasoning applies to the following PDC/DOC pair with *owe*: the pronoun *his* can be bound by *every peasant*.

- (9) a. Omnart owed seeds for his_m fields to every peasant_m .
- b. Omnart owed every peasant_m seeds for his_m fields.

Given hypothesis #1, (10)a ought to be derived from (10)b.⁵

- (10) a. Omnart owed a horse to a peasant.
- b. Omnart owed a peasant a horse.

Minimally we would need to assume the following derivational steps, where X, Y and Z are heads, in which *a horse* ends up c-commanding *a peasant* because of (9)b (step (ii) intensionally missing - see below (14)):

⁴There is of course no bar against a locative outscoping a theme. If it did, the deviance would arise from a WCO effect.

⁵This derivation does not trigger Condition C effects, cf. the well formed *Omnart owed a picture of Livia to her* from a structure including [*her* [*a picture of Livia*]]. This can be understood if the theme raised past the possessor by A-movement - a form of passive, indeed as Hallman (op.cit.) proposes - which can bleed Condition C. In principle, guaranteeing total reconstruction of the DO under the IO should trigger a condition C but clear relevant examples are difficult to construct.

- (11) (i) [C [a peasant] ... [X [a horse]]] →
 (iii) [to [C [a peasant] ... [X [a horse]]] →
 (iv) [Y [to [C [a peasant] ... [X [a horse]]]] →
 (v) [[a horse]_k [Y [to [C [a peasant] ... [X t_k]]]] →
 (vi) Z [[a horse]_k [Y [to [C [a peasant] ... [X t_k]]]]

Interestingly, DOC differ from their PDC counterparts regarding intensionality. Thus, while the indefinite *a peasant* must be specific in (10)b, it does not have to be in (10)a:⁶ (10)a unlike (10)b can describe a situation in which Omnart was committed to give some horse (did not matter which), to some peasant (did not matter which).

At what step of (11) is the intensionality inducing *owe* merged? It cannot be as X in (11)i, as this would disallow *a peasant* being intensional in (10)a.

But under hypothesis #1, *owe* cannot be merged outside of the constituent C either as this would make *a peasant* always intensional. We end up with a contradiction: (10)a cannot be derived from (10)b.

To avoid this contradiction, note that the binding facts in (9) do not require that (9)a be literally derived from (9)b, but rather that (9)a be derived from a structure S **like** (9)b, in which the IO c-commands the 2nd. As both objects can be intensional in (10)a, both objects must be able to be in the scope of *owe*. We can handle this by giving up **hypothesis #1** in favor of **hypothesis #2**: everything is exactly as described in (11) (given Hallman's conclusions and the binding arguments above) except that the structure in step (i) of (11) is **not** the *surface* DOC but rather some *underlying* DOC like structure.

So what is the surface structure S of the DOC? The IO of *owe* is merged in an intensional context created by *owe*. Given (2), whatever S is, it should not have the IO in the scope of *owe*, that is property (2)b should fail.

It is sometimes assumed that there is no transformational derivation between DOCs and their PDC counterparts. Under such an assumption, a verb, e.g. *owe*, would enter into two distinct subcategorization frames. But this is not good enough here. We would need to postulate two distinct verbs *owe*: one lexically intensional on its second argument only (DOC), and one lexically intensional on both (PDC). Clearly this is highly undesirable. I conclude that structure S should be derived from step (i) of (11) - the constituent C: an *underlying* DOC structure

⁶ Not all speakers find (10)a or (9)a natural, although even for them, the judgment differences remain. Other verbs that can be used are e.g. *bequeath*, *promise*, *grant*.

thus common to both constructions - in such a way that the IO does not have an option to be in the scope of *owe*. Since the DO must be, we are led to assume that structure S must meet the following two properties:

- (12) a. (The intensionality creating part of of) *owe* is indeed merged above the constituent C containing both objects.
 b. The IO must move higher than *owe* and cannot reconstruct.⁷

Both can be achieved if the IO must move to a scope position. So S is derived from (i) as follows (X the same head as in (11) or (14), W not the same as Y):

- (13) (i) [C [a peasant] [X [a horse]]] →
 (ii) [owe [C [a peasant] [X [a horse]]] →
 (iii) [W ... [owe [C [a peasant] [X [a horse]]]] →
 (iv) [[a peasant]_k [W ... [owe [C [t_k] [X [a horse]]]]]

W is a head whose specifier is a scope position, thus marking the scope of the IO (so the indefinite IO must be specific). The movement of *a peasant* in step (iv) above may be covert or overt (the latter requiring the verb to overtly move higher). Regardless, *owe* ends up higher than *a peasant* phonologically, not changing scope relations if it moves.⁸ To merge *owe* always in the same syntactic context, we can revise the derivation of the PDC case (11) roughly as follows adding the missing step (ii) (which is step (ii) of (13) above):

- (14) (i) [C [a peasant] [X [a horse]]] →
 (ii) [owe [C [a peasant] [X [a horse]]] →
 (iii) [to [owe [C [a peasant] [X [a horse]]]] →
 (iv) [Y [to [owe [C [a peasant] [X [a horse]]]]] →
 (v) [[a horse]_k [Y [to [owe [C [a peasant] [X t_k]]]]] →
 (vi) owe_m [[a horse]_k [Y [to [owe_m [C [a peasant] [X t_k]]]]]

⁷ Alternatively, the IO is first merged in the highest position in (13), and controls a PRO in the place of t_k: a control analysis of DOC. Space prevents me from discussing this further here but there are grounds for concluding that both may be available. In my French, the sentence *Omnart promised a violin to a peasant* is ambiguous: the promise can be to give a violin to a peasant, or it can be a promise to a peasant to give him a violin. The latter, but not the former, suggests the presence of two θ -roles, hence of a control analysis.

⁸Note that crucially, this reasoning does not apply to indefinite transitive SUBJECTS: they can be interpreted as non specific when indefinite, when in the scope of e.g. an adverb as (*if*) *a friend is always visiting...* allows *always >a friend*. Conclusion (γ) is thus not affected.

In this derivation, the movement of *a horse* or of *a peasant* are crucially not to scope positions and can thus reconstruct under (the merge position of) *owe* (and *owe* ending up higher phonologically as usual, not changing scope relations, notwithstanding claims that head movement can affect scope).

2.3 Frozen Scope

Consider now :

- (15) a. Marta owed a peasant a horse
 b. Marta owed a peasant every horse

That *a horse* can be intensional in (15)a undermines Bruening's 2001 treatment of the *frozen scope* effect in DOCs. This effect is illustrated by the fact that in (15)b, the reading *every >a* is unavailable. Indeed Bruening's explanation assumes that in such a construction, both objects undergo QR preserving (for independent reasons) their relative c-command (hence scope) relations, which freezes relative scope. Thus (15)b is unambiguous: *a peasant* must outscope *every horse*.

This account requires that QR be obligatory (or that QR'ed elements cannot reconstruct).

But if reconstruction were impossible, the *de dicto* reading of *a horse* should not be allowed in (15)a, contrary to fact.⁹ So indefinites can fail to QR (or can totally reconstruct) in the scope of an intensional verb. Furthermore, universally quantified objects can outscope c-commanding indefinites: this is what happens when an object outscoops a subject as in *a peasant owns every castle*. So nothing prevents QR-ing *every horse* in (15)b while (totally reconstructing or) failing to QR *a peasant*: this should yield the impossible scope *every >a*.

To handle frozen scope, an additional ingredient is needed. Given the discussion above, this ingredient is the independent fact that the IO cannot be intensional. If the reasoning above is correct, frozen scope (say Bruening's account)¹⁰

⁹The scope of the DP is meant here. The NP restriction of the DO or IO may be read *de re* or *de dicto*.

¹⁰In such an account it suffices that the 2nd object not be able to QR past the IO.

must build on the fact that the IO **must** move to (or be first merged in - see footnote 7) a scope position higher than the verb.^{11,12}

3. French Double Objects

French allows the prepositional DP PP alternates of double objects constructions but differs from English in disallowing visible double constructions.

- (16) a. Omnart devait un cheval à un paysan.
Omnart owed a horse to a peasant.
b. *Omnart devait un paysan un cheval.
Omnart owed a peasant a horse.
c. Omnart lui devait un cheval.
Omnart to-him owed a horse.

Interestingly however, the binding facts reported in (8)a,c hold of French too (the equivalents of (8)a,d are ill formed):

- (17) a. Omnart devait des grains pour ses_m champs à chaque paysan_m.
Omnart owed seeds for his_m fields to every peasant_m.
b. *Omnart a (r)envoyé un diplômé de sa_m pire école à
*Omnart sent (back) a graduate from its_m worst school to
[NYC_m seulement]
[NYC_m only].

These binding facts show that the derivation of (8)a given in (15) holds in French too. French thus does have an underlying double object structure: the derivation of (16)a proceeds as in (14), with a constituent C as in (14) or (15).

¹¹The reason for this could be the one given in 7: the DOC is a control structure, the IO get two theta roles.

¹²Given the view of QR as a type of Scrambling (Johnson and Tomioka 1998), this requirement basically is (overt or covert) movement to the middle field past the VP internal subject. The fact that IOs must scramble would not be surprising: as is known from e.g. German or Dutch (or Hindi), (non focused) specific DPs must scramble. The same mandatory Scrambling seems at play in verb particle constructions viz *Livia picked * up them / ✓ them up*, which would support the existence of overt Scrambling in English, consistent with e.g. Johnson (1991).

French does not allow the surface form of DOCs at least with a plain DP IO. But is there an equivalent of overt double object structures? Sportiche (1996) conjectured that Cliticization and Scrambling are two facets of the same phenomenon, affecting specific DPs. This predicts that if the Dative is cliticized, this Dative object has scrambled and characteristic double object properties should resurface. This prediction is correct, as can be shown by the fact that scope freezing obtains in cases in which a dative complement cooccurs with a Clitic, as e.g. Clitic Left Dislocation (see Angelopoulos and Sportiche (2016) for a more complete discussion):

- (18) a. On a recommandé chaque élève_m/[Jean_m seulement] au
 We recommended each pupil_m/[Jean_m only] to the
 proviseur de son_m lycée.
 principal of his_m high school.
- b. *Au proviseur de son_m lycée, on lui_m a recommandé
 To the principal of his_m high school, we to-him_m recommended
 chaque élève_m/[Jean_m seulement].
 each pupil_m/[Jean_m only].

In other words (16)c is not the counterpart of (16)a but of (16)b. Other diagnostic properties of DOCs are observed too when the dative object is cliticized, e.g. non intensionality of clitic doubled dative objects (cf. (Angelopoulos and Sportiche 2016)) and logocentricity of the Dative clitics (Charnavel and Mateu 2015). The same seems to hold of Spanish dative clitic doubling (Woods 2012).

4. Impossible Intensionality?

The title contains a question mark for two reasons. First, we generalized that some cases do not exist, a risky generalization, and we also assumed that this non existence was not accidental but principled. Either could turn out false. But second, we assumed that what was involved, particularly with IOs of double objects constructions, was non intensionality. We only checked specificity however and not all diagnostics for intensional contexts. The behavior of commitment verbs such as *bequeath*, *promise* which are future oriented raises questions. Indeed, consider (19)a,b,c:

- (19) a. Marta promised a peasant a violin.

- b. Livia promised a peasant who will plant red currants a bountiful harvest.
- c. Marta promised the winner of the 2020 Ybbs bike race a violin

Speakers report (19)a as requiring the IO (but not the DO) to be specific, (19)b as perhaps natural if it is about a particular peasant who it is thought will plant red currants and (19)c as fine even if the 2020 Ybbs race never takes place, so that there is no winner: perhaps surprisingly, there is no existential import for this definite phrase. Does this indicate appeal to possible worlds, hence intensionality? If we are right, the specificity requirement on the IO requires that it (overtly or covertly) scrambles: as a result, it can't be in the scope of the verb and thus can't be intensional (because of the verb). Instead we are lead to assume that the appearance of intensionality is due (i) to the future orientation of such verbs and (ii) the internal structure of the DP which contains a reference to the future.¹³

5. Conclusion

Looking at the distribution of non specific indefinites in VPs, I have concluded that their distribution entails the following:¹⁴

1. The higher head *v* of VP shells introducing external arguments (or transitive and unergative verbs) is never intensional.
2. IOs of English Double Objects constructions must be specific and scramble to above the (lexical, potentially intensionality inducing part of the) verb. This crucial property underlies in part the frozen scope effect of such constructions.
3. Agreeing with Hallman (2015), DPC's are derived from an underlying deep double object structure. This is also true of French.
4. This deep double object structure also underlies the surface English DOCs and French DPC constructions where the Dative is clitic doubled.

¹³Special thanks to Florian Schwartz - who may not agree - for his input on this section.

¹⁴As Chris Collins remarks, looking at negative verbs such as *deny*, *refuse*, *eliminate*, *preclude*, *etc...* and the distribution of NPI's licensed by them could possibly lead to similar conclusions, or at any rate to an understanding of the internal structure of their VP shells - e.g. the exact distribution of negation within them.

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