

PROXY CONTROL: EXTENDING THE TYPOLOGY OF CONTROL IN GRAMMAR*

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1 Overview

As is well known, the control dependency in grammar is broadly distinguished into two broad classes: obligatory control (OC) and non-obligatory control (NOC). Simplifying quite a bit, the former obtains under strict structural conditions of c-command and (for the most part) Relativized Minimality; the controlled element is semantically interpreted as a bound variable. The latter involves all other types of control relation, and is thus essentially an Elsewhere dependency (see also McFadden and Sundaresan, 2016). OC has been further classified as exhaustive vs. non-exhaustive based on whether the reference of the controller is fully or partially subsumed in that of the controllee, respectively. Non-exhaustive OC itself is then sub-classified as either partial (involving an $i \rightarrow i+$ relation) or split (involving an $i \rightarrow i+j$ relation) control (see Stiebels 2007 for detailed data and discussion on the typology of control crosslinguistically).

In this paper, we provide evidence from the southern standard dialects of German (Bavarian-Swabian, Swabian, Bavarian, and Austrian) and the Grossetano dialect of Italian (spoken in parts

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of Tuscany) for a third type of non-exhaustive OC, which we term “proxy control”. Like other types of OC, the controlled silent element (which we will treat as PRO) is bound under conditions of (phase-) minimality and c-command. Sloppy readings under ellipsis show that it must also be interpreted as a bound variable. Like the partial and split variants of non-exhaustive OC, the reference of the controller is properly contained in that of the controllee. However, the relation between the controller and controllee is neither $i \rightarrow i+$ nor $i \rightarrow i+j$: it is, rather, a mapping between an individual i and a discourse-contextually defined function on i , i.e. $i \rightarrow f(i)$. We show that proxy OC actually involves a kind of “cyclic” control, involving first control into a bouletic modal complement which in turn controls into a deontic modal clause. As such, we propose that proxy control predicates quantify over an enriched bouletic modal base that presuppositionally restrict their complement to deontic predications. We present evidence from floating quantifiers in Italian and Condition B effects in German to argue that the proxy $i \rightarrow f(i)$ OC is not established in syntax: rather, a simple $i \rightarrow i$ exhaustive control relation alone is syntactically encoded. This i on PRO is then semantically *extended* at LF to $f(i)$ (following an adaption of the extension semantics for partial control in Pearson, 2016) yielding the desired $i \rightarrow f(i)$ proxy OC relation at the output of LF.

2 Proxy Control: Empirical Nuts and Bolts

Here, we introduce proxy control with baseline examples from the relevant dialects of German and Italian. Consider the Italian sentence in (1a) below which gets different control readings depending on which discourse scenario it is evaluated against:

- (1) a. La maestra_i ha chiesto al contadino_j [di EC_{i,i+k,f(i)} poter accarezzare l' asino].
 the teacher has asked to.the farmer C may.INF pet.INF the donkey
 ‘The teacher asked the farmer for permission to pet the donkey.’
- b. **Exhaustive Scenario:** *There is a donkey next to the elementary school. The teacher would like to pet it and asks the farmer if she is allowed to do that.*
- c. **Partial Scenario:** *There is a donkey next to the elementary school. The teacher and her students would like to pet it. The teacher asks the farmer if she and the kids are allowed to do that.*
- d. **Proxy Scenario:** *There is a donkey next to the elementary school. The kids would like to pet it. The teacher asks the farmer if they are allowed to do that.*

Under the Exhaustive Scenario in (1b), the teacher asks the farmer whether she (the teacher) may pet the donkey. We thus have a simple, exhaustive OC relation between *la maestra* (‘the teacher’) and the controlled EC, of the form $i \rightarrow i$. In the Partial Scenario in (1c), the teacher is asking whether she and her students may pet the donkey: we thus have a partial control scenario with an $i \rightarrow i+$ relation. In the Proxy Scenario in (1d), the teacher asks the farmer whether her students may pet the donkey: crucially, she herself will not be petting the donkey. We thus have a new kind of relation, one that is neither $i \rightarrow i$, nor $i \rightarrow i+$. This is an $i \rightarrow f(i)$ dependency which maps the teacher to a set that is discourse-contextually related to the teacher, namely the teacher’s students.

Similar examples can be constructed from southern standard varieties of German as in (b):

- (2) a. **Proxy Scenario:** *The prisoners of a prison want to spend their breaks outside when there is good weather. A warden does them the favour of asking the director for permission for them to do so.*

- b. Der Wärter_i hat den Gefängnisdirektor_j gebeten, [EC_{f(i)} bei schönem Wetter die
 the warden has the prison.director asked with nice weather the
 Pause draußen verbringen zu dürfen].
 break outside spend.INF to may.INF
 ‘The warden asked the director for permission (for the prisoners) to spend the break
 outside when there is good weather.’

In (2b), the warden asks the director for permission, not for himself, but for the prisoners to spend the break outside. The control relation is thus again of the form $i \rightarrow f(i)$, with f being a discourse-contextually defined function on i that yields, in this instance, the mapping from the warden to the warden’s prisoners. Generalizing, proxy control thus obtains under a discourse scenario where an individual x asks permission for y to do z . Crucially, $y = f(x)$, where f is a discourse-contextually defined function on x . So we get a non-exhaustive control relationship of the form $x \rightarrow f(x)$. The f relation is discourse-contextually defined, as we’ve seen, and describes membership in a certain saliently defined class.

2.1 Restriction to Deontic Modality

A central property of proxy control sentences is that they all involve some sort of permission semantics — more formally, a reading of deontic modality. Indeed, proxy control seems to be impossible in the absence of such a reading. Thus, in the German and Italian dialects tested so far, proxy control always seems to appear with predicates that are associated with deontic modality: e.g. Italian *chiedere* ‘ask’, *richiedere* ‘ask, demand’, *pregare* ‘ask, beg’, *promettere* ‘promise’, *assicurare* ‘assure’ or German *bitten* ‘ask’, *anflehen* ‘beg’, and *versprechen* ‘promise’, *versichern* ‘assure’).

Such a restriction makes sense under the view that the thematics of permission-seeking and -receiving are hardwired into the definition of proxy-control. In all the cases of proxy control that we have seen so far, the (proxy-)controller is the seeker of permission. The (proxy-)controllee is the (potential) receiver/goal of whatever permission is being sought for. Whether the deontic modal encoding permission is overt or silent seems to be subject to dialectal variation.¹ But what seems incontrovertible is that there is a semantic interpretation of permission seeking that is involved in all the proxy control structures given here crosslinguistically.

¹In German, an overt deontic modal is apparently redundant with a number of predicates, such as ‘permit’ which are inherently modal. In Italian, however, a modal verb, even if seemingly redundant, must be present in the control complement for partial or proxy control readings to obtain. In German, its presence facilitates proxy control readings according to the German author, though the contrast is not as strong as in Italian. Furthermore, there is disagreement between the speakers of German that were consulted with respect to when the addition of the redundant modal would contribute meaningfully to the sentence. Barbara Stiebels (p.c.) also informs us, based on a brief survey of a German newspaper corpus, that the frequency of such redundant modals is very slim in comparison to examples without them (i.e. juxtapositions as ‘permit-V.INF’ vs. ‘permit-may.INF-V.INF’). A clear contrast, however, is between the availability of a redundant permission vs. obligation or ability modal verb. The latter are generally judged as ungrammatical (Italian **obbligare di dover* ‘force to must’, **essere in grado di poter* ‘be able to can’; German **zwingen zu müssen* ‘force to must’, **in der Lage/fähig sein zu können* ‘be able to can’). The conditions on the overtness of the modal in the controlled constituent clearly warrant further research.

2.2 Proxy Control vs. Control Shift

The central role of deontic modality allows us to distinguish proxy control from control shift, another phenomenon where deontic modality has been observed to play a central role. Control shift is the phenomenon where a typically subject control predicate shifts to object control or vice versa. Thus, in (3a) involving ‘promise’, the controller is not the matrix subject as is typical but the matrix object; in (3b), it is the other way around, so we get subject rather than the standard object control with ‘ask’:

- (3) a. Grandpa promised the children_i [EC_i to be able to stay up for the late show].
 b. Jim_i asked Mary [EC_i to be allowed to get himself a new dog].

(Landau, 2013:143–144)

The astute reader may have noticed that the examples of proxy control we have listed so far have all also involved control shift, suggesting that proxy control is parasitic on control shift (or vice-versa). Here, we will show here that such a connection is merely illusory. Proxy control may obtain even in the absence of control shift (cf. (4b)):

- (4) a. **Proxy Scenario:** *There is a donkey next to the elementary school. The kids would like to pet it. The teacher asks the farmer if they are allowed to do that.*

- b. Il contadino_j ha permesso alla maestra_i [di EC_{i,i+k,f(i)} poter accarezzare l’
 the farmer has allowed to.the teacher C may.INF pet.INF the
 asino].
 donkey

‘The farmer allowed the teacher for permission [PRO_{f(i)} to pet the donkey].’

Conversely, control shift may obtain even in the absence of proxy control — e.g. as a result of passivization in the embedded complement (cf. 5):

- (5) L’ impiegat-a_i ha pregato il suo collega_j [di EC_i essere trattat-a con
 the employee-F.SG has asked the his colleague.M.SG C be.INF treated-F.SG with
 piú rispetto].
 more respect

‘The employee asked her colleague to be treated with more respect.’

The appearance of a dependency between proxy control and control shift, we thus argue, has to do with the fact that both depend on the presence of modality in the local clause (see Sag and Pollard (1991), Petter (1998) for discussion of control shift). That is, proxy control entails, not control shift, but modality – in particular, deontic (ability) modality, as discussed above. Since certain types of control shift depend on this as well, this creates the illusion of a direct connection between proxy control and control shift.

2.3 Proxy Control vs. Metonymic Extension

Another phenomenon that proxy control has much in common with but which we will be treating here as being of a separate class of referential dependency, is that known as “metonymic extension” illustrated in sentences like (6) (going back to an observation made in Nunberg, 1979):

- (6) (One nurse to another) The measles in Room 426 needs/*need a fresh IV.

More recently, (Landau 2013, citing Postal 2004) extends metonymic reference-shifting to structures involving control, as in (7):

- (7) Sue plans to park on Broad Street.

In (7), the controller *Sue* is coreferent with an *extension* of herself, namely her car (or other vehicle of transport). There is a clear descriptive parallel between sentences like (7) and those involving proxy control: ultimately, the metonymic relation in (7) formally *also* delineates a referential relation of the form $i \rightarrow f(i)$.

A crucial difference between metonymic extension of the kind illustrated in (7) and that in proxy control is that the former does not require the presence of deontic modality, while the latter does. This in turn entails that the former is significantly less restricted crosslinguistically, than the latter. There is, for instance, no proxy control equivalent to the Italian and German sentences in (1a) and (2b), respectively; in contrast, the English sentence in (7) is clearly grammatical. Conversely, once we add in a deontic modal reading to the sentence in (7), a proxy + metonymic control reading does become available. (8) shows the purely metonymic reading: here, Sue (*i*) is simply asking permission for herself to park her car ($f(i)$) on Broad Street. In (9), we have a complex proxy + metonymic reading: Sue (*i*) is asking for permission on behalf of her friends ($f(i)$) for them to park their car ($f(f(i))$) on Broad Street:

- (8) Sue_i asks [PRO_{f(i)} to park on Broad Street]
 METONYMIC: $i \rightarrow Sue; f(i) \rightarrow Sue's\ car$
- (9) Sue_i asks [PRO_{f(f(i))} to park on Broad Street]
 PROXY+METONYMIC: $i \rightarrow Sue; f(i) \rightarrow Sue's\ friends; f(f(i)) \rightarrow Sue's\ friends' car$

We take such differences to mean that the specific kind of metonymic extension in (7) and the kind of extension that yields proxy control are ultimately distinct phenomena: in particular, the latter involves deontic modality while the former does not. At the same time, it is undeniable that both types of dependency involve a mapping of the form $i \rightarrow f(i)$ between the controller and controllee — thus may ultimately just be different sub-types of a more general underlying class of referential extension allowed in grammar.²

2.4 Proxy Control vs. Partial Control

Finally, we note that proxy control is superficially similar to partial control, another non-exhaustive control relation which has received much more attention in the literature. Here we delve deeper into this connection and ask whether possibilities for proxy control restrict possibilities for partial control, or vice-versa.

As it turns out, there is a one-way entailment relationship between the two. It is, indeed, possible to get partial control without proxy control, as in (10) below (adapted from Landau, 2013:164):

- (10) Il presidente crede [di EC_{i+,*f(i)} esser-si riuniti la notte scorsa].
 the president believes C be.INF-REFL gathered.M.PL the night last
 ‘The chair believes to have gathered last night.’

²It is irrelevant to us whether this relation is called metonymic or something else. We are ultimately interested in investigating the precise conditions of deontic modality under which the proxy control extension obtains and in determining a formal mechanism to derive the $i \rightarrow f(i)$ relation in grammar.

However, the converse doesn't seem to be the case. In other words, without changing their fundamental structure, all the proxy control sentences on this handout could, in principle, also yield a partial control reading given a different discourse-context. To put it a different way, while a partial control reading can be pragmatically ruled out to yield a proxy control reading, it doesn't seem possible to rule it out semantically (or lexically). Logically, the structural requirement for proxy control entails the structural requirement for partial control. Alternatively, we might say that the environments that license proxy control are a proper subset of those that license partial control. Not unexpectedly, given this, the predicates that license proxy control, at least those tested so far, also seem to be a proper subset of those predicates that have been shown to license partial control, e.g.: factive *regret*, *surprised*, *hate*, *shocked*, attitudinal *believe*, *think*, *imagine*, *deny*, desiderative *want*, *prefer*, *yearn*, *refuse* and interrogative *wonder*, *ask*, *interrogate*, *inquire*.

3 Proxy Control Is a Species of OC

In the section above, we have described the status of the $i \rightarrow f(i)$ mapping relation involved in the proxy control dependency and the descriptive conditions under which it obtains. But nothing we have said so far touches on the formal status of the controllee itself: in particular, whether it is a bound or free variable. This distinction has direct consequences for whether the proxy control dependency should be classified as “obligatory control (OC)” or “non-obligatory control (NOC)”, as per (11) below:

(11) THE OC SIGNATURE (from Landau, 2013:33–):

In a control construction [$\dots X_i \dots [{}_S \text{PRO}_i \dots]$], where X controls the PRO subject of the clause S:

- The controller(s) X must be (a) co-dependent(s) [argument or adjunct] of S.
- PRO (or part of it) [this caveat subsumes cases of partial control as a sub-species of OC] must be interpreted as a bound variable.

NOC (Williams, 1980), on the other hand, may be negatively defined with respect to each of these characteristics.

In fact, we aren't starting out with a blank slate with respect to our expectations here. Landau (2013) presents diagnostics for bound variable behavior to argue in detail that partial control constitutes a species of OC crosslinguistically. Given our discussion of the entailment relations between partial and proxy control relations above, we expect that (all else being equal) proxy control, too, should be a species of OC, as well. Below, we present empirical diagnostics to show that this prediction is, indeed, fulfilled for a subset of the native speakers of the relevant German and Italian dialects investigated here.

3.1 Proxy Controller Must Be Co-dependent of Control Clause

There is a minimality condition on the proxy control relation, as described in the OC Signature in (11). In particular, the controller involved in the proxy control relation must be a thematic participant of the clause that directly embeds the control clause. As such, only one level of embedding is allowed — there is no cyclic or true long-distance control across multiple clauses.

This is illustrated by the multiply embedded Italian sentence below, under the “proxy-proxy” scenario given in (12):

- (12) La maestra_k ha pregato suo marito_i [di EC_{i,*j,*k} chiedere al contadino_j [di EC_{f(i),*f(k)} poter accarezzare l' asino]].
 the teacher has asked her husband C ask.INF to.the farmer C
 poter accarezzare l' asino]].
 may.INF pet.INF the donkey
 'The teacher asked her husband to ask the farmer for permission to pet the donkey.'
- (13) **Potential proxy-proxy scenario:** *There is a donkey next to the elementary school. The kids would like to pet it. The teacher asks her husband if he could do her the favour on the way back from dropping her off at school, of asking the farmer if the kids are allowed to pet the donkey.*

In (12), the teacher's husband is an immediate associate of the teacher. The kids are direct associates of the teacher, but only indirect associates of the teacher's husband. The discourse-context we have set up favors a non-minimal proxy control reading between the matrix subject *l' insegnante* 'the teacher' and the innermost embedded subject, across the medial subject. Despite this, such a reading is impossible. Parallel tests for German yield the same results.

3.2 Bound Variable Status of Controllee

A standard test for the bound variable status of pro-forms is whether they yield only sloppy readings or whether they can yield both strict and sloppy readings, under ellipsis. A bound variable is predicted to yield only the former, but a deictic form is compatible with the latter (Reinhart, 1983). When we apply this diagnostic to our proxy control structures, the results are again very clear: only a sloppy reading is possible under ellipsis.

Thus, in the Italian proxy control example in (14), the only way to get a strict reading is if the extension of $f(i)$ and $f(j)$ happened to be extensionally equivalent — e.g. if both the teacher and her husband happened to teach in the same elementary school, thus had the same students; but this would, of course, be nothing but an instance of accidental coreference:

- (14) La maestra_i ha pregato il contadino_j [di EC_{f(i)} poter accarezzare l' asino] e suo marito_k uguale ... [EC_{f(k),*f(i)}].
 the teacher has asked the farmer C may.INF pet.INF the donkey and her husband too
 'The teacher asked the farmer for permission to pet the donkey and her husband, too.'
- (15) **Potential strict ellipsis proxy scenario:** *There is a donkey next to the elementary school. The kids would like to pet it so the teacher asks the farmer if the kids are allowed to do so. And on the way back from dropping his wife off at school, thinking that his wife had forgotten, the teacher's husband also asks the custodian if the kids are allowed.*

The fact that we can only get sloppy readings under ellipsis in turn shows that the controlled subject in proxy control environments is interpreted as a bound variable, a typical signature of OC.³ A different way to illustrate the bound variable status of the controlled element is with structures involving overt quantifier-variable binding, which can also yield proxy control in the relevant dialects of German and Italian.

³Italian does not have vP ellipsis, only TP ellipsis. Nonetheless, the subjects need not be identical, which is the only relevant factor here.

3.3 No Sub-group Control

In an NOC environment, the reference of the controllee is not syntactically constrained, as it is in the case of OC. We might thus posit Hornstein (following 1999), McFadden and Sundaresan (following 2016:a.o.) that the reference of the controllee in an NOC structure falls out as an Elsewhere, when the syntactic conditions for OC fail.

In light of this, it is not surprising that the controllee may be a sub-group of a plural antecedent in the sentence in an NOC clause, but not in an OC clause. This is shown for English in (16) and holds equally for German and Italian:

- (16) “Sub-group control” - Control out of a conjunct phrase:
- a. *John_i and Mary_j [wanted PRO_{i/j} to eat pizza].
 - b. John_i and Mary_j thought that it would be a shame EC_{i/j/k} to give up now.

Thus, in (16a), the controller (‘John’ or ‘Mary’) may not control the PRO out of the conjunct phrase, because such a control relation would violate c-command (a prerequisite for OC). But such a relation is perfectly licit in (16b), showing that the violation of c-command is not an issue here. We can thus use this distinction as another type of diagnostic for the OC vs. NOC distinction.

We predict that, if proxy control is a species of NOC, sub-group control should be licit, just as in (17b); if it is a species of OC, it should be ruled out, as in (17a). We put this to the test in (17) below:

- (17) a. **Scenario:** *An attorney (i) and the wife of a detainee (j) ask the prison-warden for permission for the wife to meet with the detainee (l/f(i/j)) – her husband.*
- b. L’ avvocato_i e la moglie_j hanno pregato la guardia_k [di EC_{i+j+1/*j+1=f(i)}
the attorney and the wife have asked the warden C
poter-si incontrare in privato].
can.INF-REFL meet.INF in private
‘The attorney and the wife asked the warden for permission to meet in private.’

As the relevant referential indices show, sub-group control is ruled out. The only reading is one where the attorney and wife *together* meet the wife’s husband — not one where the attorney alone does so, or where the wife alone does so. Similar judgments hold for parallel sentences in German.

3.4 Summary

Given the discussion above, we define proxy control as in (18) below:

- (18) *Formal definition of Proxy Control:*
- a. Proxy control obtains in the scope of deontic modality. Specifically, it involves a set of individuals *i* asking for permission on behalf of another set of individuals *j* (to do *x*).
 - b. *j* is discourse-contextually related to *i* in some way (e.g. they bear an association that is relevant for the activity that permission is being asked for), such that $j = f(i)$, with *f* being a discourse-contextually defined function.
 - c. The proxy control dependency obtains between *i* and $f(i)$ and instantiates a kind of obligatory control relation. The controller *i* is the seeker of permission, the controllee $f(i)$, the intended receiver/target of said permission.

4 Arguments Against Modelling $i \rightarrow f(i)$ in Syntax

In this section, we present theoretical as well as empirical arguments against modelling the $i \rightarrow f(i)$ proxy control relation in syntactic terms.

4.1 Theoretical Counter-arguments

The $i \rightarrow f(i)$ relation involved in proxy control is particularly challenging for both movement and Agree-based syntactic approaches to OC because the set of individuals denoted by the controller is not contained in the set denoted by the controllee.

This is in direct contrast to the $i \rightarrow i+$ relation of partial control which does encode a set-containment relation, which is decidedly easier to model in syntax. Under the movement theory of control (MTC) (Hornstein, 1999:et seq.), OC is simply the result of (thematic) A-movement from the controlled to the controlling position. The controller and controllee are thus simply the head and tail of the same A-chain: the former is overtly pronounced, and the latter remains silent. One line of recent alternative analyses within the MTC (e.g. Hornstein, 2003, Słodowicz, 2008, Boeckx et al., 2010, Sheehan, 2012, 2014, Rodrigues, 2007) proposes that partial control should be derived by having the controllee (the tail of the movement chain) associate with a null comitative PP in the control complement. Abstracting over technical details (which often vary from one analysis to the other), this means that a partial control sentence like that in (19) really has the underlying structure in (20) — note that the actual control relation is fully exhaustive; the partial control reading comes purely from the associative reading contributed by the putative null PP:

(19) John_i agreed [PRO_{i+(j)} to meet this afternoon].

(20) John_i agreed [[PRO_i (with [the others]_j)]_{i+j} to meet this afternoon].

However, such an analysis will patently fail when extended to the cases of proxy control discussed here. An immediate problem is that the kind of relation expressed in proxy control structures is simply not a comitative relation. But a much graver problem is that the extension of the controllee does not contain that of the controller, as described above. For the MTC, this would essentially mean that the head and tail of the A-movement chain should be able to have different referents: i.e. the head of the chain (denoting the controller) should be able to denote i and the tail (denoting the controllee) should be able to denote $f(i)$ where $f(i)$ can explicitly exclude i . Note that a simple feature-transmission approach in syntax would have similar problems in dealing with the $i \rightarrow f(i)$ relation for essentially these same reasons.

To sum up then, the fact that proxy control involves an $i \rightarrow f(i)$ relation between the controller and controllee, where the reference of the controller is explicitly excluded from that of the controllee, makes it very difficult to capture directly in syntactic terms.

4.2 Empirical Counter-argument 1: Floating Quantifiers in Italian

Floating quantifiers (FQ) in Italian show overt ϕ -agreement with subjects and can thus be used to diagnose the ϕ -features of a PRO subject. In (21b), when the FQ bears M.PL agreement, a partial control reading ($i \rightarrow i+$) is available: i.e. the (male) teacher (i) asks permission for himself and the girls ($i+$) to have breakfast. In this case, the gender is masculine because groups of mixed gender

are resolved by using masculine gender in Italian. In (21c), the FQ bears F.PL.⁴ In this case, only a proxy control reading is licit because interpretable feminine plural inflections can only refer to fully female groups in Italian: the male teacher (*i*) therefore asks for permission for the girls alone (*f(i)*). A partial control reading is excluded.

- (21) a. **Scenario:** *A (male) teacher takes a group of girls on a school trip and asks the receptionist for permission regarding having breakfast together.*
- b. (Quando noi ragazz-e_{f(i)} della 4F siamo andate in gita), il nostro maestr-o_i
 when we girls-F.PL of.the 4F are.1PL gone in excursion the our teacher-M.SG
 ha chiesto alla receptionist [di EC_{f(i)} poter fare colazione tutt-i insieme].
 has asked to.the receptionist C may.INF do.INF breakfast all-M.PL together
 ‘(When [we girls]_j go on a school trip), [our teacher]_i asks receptionist for permission
 [to all EC_{i+j} have breakfast together].’ (Literal)
- c. %(Quando noi ragazz-e_{f(i)} della 4F andiamo in gita), il nostro maestr-o_i
 when we girls-F.PL of.the 4F go.1PL in excursion the our teacher-M.SG
 chiede alla receptionist [di EC_{f(i)} poter fare colazione tutt-e insieme].
 asks to.the receptionist C may.INF do.INF breakfast all-F.PL together
 ‘(When [we girls]_{f(i)} go on a school trip), [our teacher]_i asks the receptionist for
 permission [to all EC_{f(i)} have breakfast together].’ (Literal)

This first looks like strong evidence *for* a syntactic analysis of proxy control, as it suggests that proxy control can feed FQ ϕ -agreement. But where the partial control structure (with M.PL FQ) in (21b) allows only sloppy readings under ellipsis, thus bears the hallmarks of OC, (21c) with the F.PL FQ can actually also yield strict readings under ellipsis, as in (22):

- (22) %(Per le ragazze_{f(i)}) [il maestro]_i ha chiesto alla receptionist [di pro_{f(i)/k} poter
 also this year the teacher.M.SG has asked to.the receptionist C may.INF
 fare colazione tutt-e_{f(i)/k} insieme e [il maestro della 4F]_j uguale.
 make.INF breakfast all-F.PL together and the teacher of.the 4F same
 ‘(For the girls,) [the teacher]_i asked the receptionist [CP (to be allowed) pro_{f(i)/k} to have
 breakfast all_{f(i)/k} together] and [the teacher of the 4F]_j asked the receptionist [~~CP (to be
 allowed) pro_{f(i)/k} to have breakfast all_{f(i)/k} together] too.’~~

We take this to indicate that, to the extent that an $i \rightarrow f(i)$ relation is possible in syntax, it encodes an NOC, not an OC, relation.

4.3 Empirical Counter-argument 2: Condition B Satisfaction in German

We get very similar effects with Condition B satisfaction in German. In the German example in (23), it is possible to add a pronoun in the embedded clause that refers back to the controller. Given a context, (23) is interpreted such that the parents (*i*) ask for permission for their kids (*f(i)*).

⁴(21c), as well as (22), are prefixed by the %-sign because there is speaker variation. Some of the speakers have a strong preference for having an overt adjunct that contains the referent of the F.PL FQ. Given the adjunct status of the referent, we abstract away from this point of variation.

- (23) Die Eltern_i haben den Rektor_j gebeten, [EC_{f(i)}] *%(auch) ohne sie_i ins Ausland*
 the parents have the principal asked also without them in.the abroad
 fahren zu dürfen].
 travel.INF to may.INF
 ‘The parents asked the principal for permission (for their kids) to go abroad without themselves. (Literal)’

If the extension of the controllee included i , (23) should be both ungrammatical and illogical: it would violate Condition B, and it would be nonsensical to state for i to be allowed to travel (even) without i . The grammaticality of (23) thus initially seems to support a syntactic treatment of the $i \rightarrow f(i)$ dependency in the syntax.

But here again, sentences such as (23) also substantially facilitate the availability of strict readings under ellipsis. This is shown in (24). For regular proxy sentences, strict readings under ellipsis are only achievable by accidental co-reference – for instance if the controller at the ellipsis site is also an immediate associate of the same set that the first controller is an immediate associate of. This is in sharp contrast with (24), where the controller at the ellipsis site, namely *Martin* (k), may be anyone and still be asking that the same kids ($f(i)$, but not necessarily also $f(k)$) be allowed to travel abroad without their parents:

- (24) Die Eltern_i haben die Rektorin_j gebeten, [EC_{f(i)/l}] *%(auch) ohne sie_i ins Ausland*
 the parents have the principal asked also without them in.the abroad
 fahren zu dürfen] und der Martin_k auch.
 travel.INF to may.INF and the Martin also
 ‘The parents_i asked to go abroad without them_i and Martin asked [~~the principal~~]_j [~~to be allowed~~]_{pro_{f(i)/l} to travel abroad without them_i]_j too. (Literal)’}

Just as with the FQ sentence in (21c), we take this kind of data to show that the syntactic encoding of an $i \rightarrow f(i)$ relation is only possible under conditions of NOC.

4.4 Analytic Implications

We have presented theoretical as well as empirical arguments against modelling the proxy control $i \rightarrow f(i)$ relationship syntactically. The empirical arguments from FQ in Italian and Condition B obviation in German from indicate that, as soon as an $i \rightarrow f(i)$ relation is syntactically forced (as by the FQ in (21c), or the pronoun in (23)), a proxy dependency based on OC is ruled out; only an NOC analysis (which can yield the same readings as true proxy, but must involve a different underlying derivation) is viable. These conclusions show two things:⁵

- (i) The $i \rightarrow f(i)$ OC relation in proxy control must be semantically, not syntactically implemented.
- (ii) Speakers that allow proxy readings with an OC structure, must additionally allow proxy readings with a superficially identical (but underlyingly distinct) NOC structure, at least with a subset of these same predicates.

We will return to the second point toward the end of this paper. But first, we turn to an analysis of the OC variant of proxy control, based on the insight gleaned in (i). We have said that the $i \rightarrow f(i)$

⁵Partial control, on the other hand, does seem to be syntactic (at least for the speakers consulted) — a point further bolstered by independent case transmission facts from Russian (Landau, 2008).

proxy relation is not syntactically implemented. And yet, given that c-command and locality *are* relevant conditions for proxy control, the role of syntax cannot be entirely dispensed with. We thus propose that proxy control is encoded as an exhaustive $i \rightarrow i$ relation in syntax, which is established as an Agree relation between the controller and controllee — perhaps as a kind of mediated control, via C, as discussed in Landau (2013). This is an OC dependency, which explains the locality and c-command restrictions on proxy control discussed earlier. The i denoted by the controllee is then semantically extended at LF to denote a discourse-contextually defined function f on i , yielding $f(i)$. The result is a mapping between $i \rightarrow f(i)$, which has been constrained by the structural parameters for OC.

5 A Centered World Analysis of Proxy Control: First Look

We adapt the extension semantics for partial control developed in Pearson (2016) which works essentially along the same lines. Pearson proposes that partial control predicates should be treated as attitude verbs that quantify over “centered worlds” (world-time-individual triples). The partial control relation obtains when the property expressed by the controlled complement applies, not directly to these coordinates, but to world-time-individual arguments that stand in a part-whole *extension* relation with each of them. Pearson (2016:p. 702, Ex. 27) thus defines an extension as a ‘part of’ relation. A simple modification of Pearson’s extension function allows us to accommodate the proxy control facts discussed here. In particular, we will broaden Pearson’s definition of extension so that it is no longer defined as just a ‘part of’ relation but as a more general relation of the form $i \rightarrow f(i)$. We base our lexical entry for a proxy control predicate on that for a Candidate II-style partial-control predicate (where time, world as well as person coordinates may be extended, see Pearson, 2016:Ex. 31, p. 703), where not only the individual, but also time and world coordinates may be extended — yielding (25) below:

(25) CANDIDATE II:

$$\llbracket C_{\text{proxy}} \rrbracket^{c,g} = \lambda P_{\langle e, \langle i, \langle s, t \rangle \rangle \rangle} \lambda x_e \lambda t_i \lambda w_s. \forall \langle w', t', y \rangle [\langle w', t', y \rangle \in C_{x, w, t} \rightarrow \exists \langle w'', t'', z \rangle [\langle w'', t'', z \rangle \text{ is an extension of } \langle w', t', y \rangle \ \& \ P(z)(t'')(w'')]],$$

where for any pair of world-time-individual triples $\langle w, t, x \rangle$ and $\langle w', t', y \rangle$, $\langle w', t', y \rangle$ is an extension of $\langle w, t, x \rangle$ iff for every α, β such that α is a coordinate of $\langle w, t, x \rangle$ and β is a coordinate of $\langle w', t', y \rangle$ of the same type as α , $\beta = f(\alpha)$, where f is a discourse-contextually defined function on α .

Under an object control reading (non-existent with a proxy-control reading), (26) would have the purely bouletic reading that Maria desires that the mayor bring about X , for $X =$ mayor rallies in the square. In the actually attested (control-shifted) subject-control reading, Maria still desires that the mayor bring about X , but $X =$ that the mayor allow Y (for $Y = f(\text{Maria})$) to do Z ($Z = Y$ rallies in the square). The proxy reading thus seems to encode a complex bouletic + deontic modal predication, as in (27):

(26) Maria_i ha chiesto al sindaco_j [di PRO_{f(i)} poter manifestare in piazza].

Maria has asked to.the mayor C may_{inf} rally_{inf} in square.

‘Maria_i asked [the mayor]_j [CP (to be allowed PRO_{f(i)} to rally in the square).’

(27) [CP_{root} Maria_i asked_{bul} [CP₁ PRO_{f(i)} BE-ALLOWED_{deon} [CP₂ PRO_{f(i)} to rally]]]

As per (27), we assume two cycles of control dependency: the first involving an $i \rightarrow f(i)$ control dependency across a bouletic modal; the second involving an exhaustive $f(i) \rightarrow f(i)$ dependency

across a deontic modal. The proxy control dependency, we argue, is the composite consisting of both these taken together.

Against this background, we now derive the denotations in (28)-(32):

- (28) $\llbracket ask \rrbracket^{c,g} = \lambda P_{\langle e, \langle i, \langle s, t \rangle \rangle \rangle} : P \text{ is deontic. } \lambda x_e \lambda t_i \lambda w_s. \forall \langle w'', t'', y \rangle [\langle w'', t'', y \rangle \in Boul_{x,w,t} \rightarrow \exists \langle w''', t''', z \rangle [\langle w''', t''', z \rangle \text{ is an extension of } \langle w'', t'', y \rangle \ \& \ P(z)(t''')(w''')]]$, where for any pair of world-time-individual triples $\langle w, t, x \rangle$ and $\langle w'', t'', y \rangle$, $\langle w'', t'', y \rangle$ is an extension of $\langle w, t, x \rangle$ iff for every α, β such that α is a coordinate of $\langle w, t, x \rangle$ and β is a coordinate of $\langle w'', t'', y \rangle$ of the same type as α , $\beta = f(\alpha)$, for f = a discourse-contextual function, and for $Boul_{\alpha_e, \beta_s, \gamma_i} = \{ \langle \beta'_s, \gamma'_i, \alpha'_e \rangle : \text{it is compatible with the fulfillment of } \alpha\text{'s desires in } \beta \text{ at } \gamma \text{ for } \alpha \text{ to be } \alpha' \text{ in } \beta' \text{ and it is compatible with } \alpha\text{'s beliefs in } \beta \text{ at } \gamma \text{ for } \gamma \text{ to be } \gamma' \}$.
- (29) $\llbracket BE-ALLOWED \rrbracket^{c,g} = \lambda P_{\langle e, \langle i, \langle s, t \rangle \rangle \rangle} \lambda x_e \lambda t_i \lambda w_s. \forall \langle w', t' \rangle [\langle w', t' \rangle \in Allowed_{x,w,t} \rightarrow P(x)(t')(w')]$ for $Allowed_{\alpha_e, \beta_s, \gamma_i} = \{ \langle \beta'_s, \gamma'_i \rangle : \alpha \text{ does what } \alpha \text{ is allowed to do in } \beta' \text{ at } \gamma' \}$
- (30) $\llbracket CP_2 \rrbracket^{c,g} = \lambda x_6 \lambda t_7 \lambda w_8 [PRO_6 \text{ rallies in } w_8 \text{ at } t_7]$
- (31) $\llbracket CP_1 \rrbracket^{c,g} = \lambda x_3 \lambda t_4 \lambda w_5 [\forall \langle w', t' \rangle [\langle w', t' \rangle \in Allowed_{x_3, w_5, t_4} \rightarrow [PRO_3 \text{ rallies at } t' \text{ in } w']]]$
- (32) $\llbracket CP_{root} \rrbracket^{c,g} = \lambda t_i \lambda w_s. \forall \langle w'', t'', y \rangle [\langle w'', t'', y \rangle \in Boul_{maria, w, t} \rightarrow \exists \langle w''', t''', z \rangle [\langle w''', t''', z \rangle \text{ is an extension of } \langle w'', t'', y \rangle \ \& \ \forall \langle w', t' \rangle [\langle w', t' \rangle \in Allowed_{z, w''', t'''} \rightarrow [z \text{ rallies at } t' \text{ in } w']]]]$, for *extension* and $Boul_{\alpha_e, \beta_s, \gamma_i}$ defined as in 28, & $Allowed_{\alpha_e, \beta_s, \gamma_i}$ as in 29.

The denotations above can be informally translated as follows. (28) treats ‘ask’ as a predicate quantifying over an enriched bouletic modal base, and presuppositionally restricts its complement to deontic predications: the latter can be seen as a selectional restriction of sorts. Since BE-ALLOWED is non-attitudinal (can take inanimate subjects), its deontic modal base in (29) is not a set of centered worlds but of simple world-time pairs. The individual *extension* function (which yields proxy and partial control) is only defined on enriched modal bases, so predict that the complement of BE-ALLOWED can only yield exhaustive OC. This is confirmed: as (27) shows, the reference of the lower PRO exhaustively matches that of the higher one: a partial ($f(i)+$) or proxy ($f(f(i))$) reference is ruled out. (30)-(32) are the result of step-wise function-application built on Pearson’s assumption that non-exhaustively controlled PRO is an extension of a λ -abstracted (individual) variable quantified over by the immediately higher attitude-predicate (yielding OC).

The final denotation in (32) asserts that for every world, time, individual extension (of Maria’s candidates for herself and her world & time) that is compatible with Maria’s desires in the current world & time, where Maria’s individual extension (or proxy) does what Maria’s proxy is allowed to do, Maria’s proxy rallies. This is precisely the desired reading for (26)/(27).

6 Conclusions: Implications and Open Issues

The goal of this paper has been to show that, in addition to the exhaustive $i \rightarrow i$ and the non-exhaustive $i \rightarrow i+$ relations, control dependencies in grammar may also be encoded in terms of a more abstract $i \rightarrow f(i)$ relation. While the fundamental possibility of an $i \rightarrow f(i)$ dependency may already be familiar from metonymic extension scenarios (Nunberg 1979, Postal 2004, Landau 2013), we have here zoomed in on one particular type of $i \rightarrow f(i)$ relation that obtains only under highly restricted grammatical circumstances, thus is restricted crosslinguistically, unlike metonymic extension more generally. This control dependency, which we call proxy control, involves a set of individuals i asking for permission on behalf of another set of individuals j (to do x); $j = f(i)$,

with f being a discourse-contextually defined function. The controller i is the seeker of permission, the controllee $f(i)$, the intended receiver/target of said permission. Structurally, proxy control thus obtains only when there is a composite structure of bouletic + deontic modality made available. We have presented evidence showing that proxy control instantiates a species of OC, but that the $i \rightarrow f(i)$ controller-controllee relation is nevertheless not syntactically established. Rather, we have argued that an $i \rightarrow i$ dependency is syntactically encoded under conditions of OC, but that the individual i coordinate of the controllee is semantically extended at LF to yield $f(i)$.

The data and surrounding discussed here represent only the beginning of what is a much larger research enterprise. Already at this stage, we can recognize two major open issues. The first has to do with our earlier observation that, in tandem with an OC route to proxy control, an NOC route to it also seems to be available, for many speakers. Thus, in Italian (21c), the presence of the FQ forced an NOC parse of the sentence; similarly, in German (23), the presence of the coreferent pronoun forced an NOC reading. Under the assumption that NOC readings obtain only when the structural conditions of c-command and locality required for OC to obtain fail, this entails that, in such sentences, the structural conditions for OC do indeed fail, for some reason.⁶ One possibility is that the control complement is a strong phase, thus the Agree relation needed to establish the $i \rightarrow i$ control relation is not possible. The only way to get a proxy reading is as a type of NOC, where a free variable (or *pro*) in the embedded clause bears the (inherent) reference of $f(i)$. In certain other languages, like Hindi or Tamil, the absence of an OC parse for proxy control might have a different source. For instance, Hindi has a proxy control structure that look superficially similar to the German and Italian ones above: however, it doesn't yield obligatory sloppy readings under ellipsis, showing that it really involves an NOC structure. In Hindi, as in Tamil, the relevant constructions involve a control infinitive dependent on a noun meaning something like 'permission'. So it is plausible to think that the DP structure involved creates a locality boundary, blocking OC from applying between the matrix argument and the embedded PRO, thus yielding NOC.

The second open issue has to do with possible correlations between proxy control and proxy anaphora, illustrated in (33) (from Jackendoff, 1992:see also Schladt, 2000):

(33) (Upon a visit in a wax museum:) All of a sudden, Ringo_{*i*} started undressing himself_{*f(i)*}.

Proxy relations in anaphora and control seem identical to the extent that both involve an $i \rightarrow f(i)$ referential dependency. But the nature of the proxy relation in each is very different. Thus, a proxy control reading is impossible in (34) below, even though proxy anaphora is still possible:

- (34) a. **Discourse Scenario:** *Ringo Starr, Beatles drummer extraordinaire, decides to amuse himself one evening by attending a theater performance about the Beatles in London. So we have two Ringos — the real Ringo Starr and the actor playing Ringo Starr in the theater performance. In the course of the evening, the real Ringo gets a bit drunk.*
- b. All of a sudden, Ringo_{*i*} tipsily asked [EC_{*i,*f(i)*} to undress himself_{*i,f(i)*}].

(34) can only mean that the real Ringo asked permission for the *real* Ringo to undress the real Ringo, or for the real Ringo to undress the actor Ringo. This is a very interesting and potentially significant difference that speaks to the nature and possible structural representation of the proxy dependency in language and to fundamental oppositions between control and anaphora. For now, we simply note the existence of this difference and defer further discussion pending more research.

⁶This also suggests that the sub-group control sentences discussed in (17) should have a licit NOC parse — something that was, however, very difficult to test, given the complexity of the sentences involved.

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