

Remarks on Implicit Control

Silke Fischer, Kristin Klubbo Brodahl, Inghild Flaate Høyem*

Abstract (and beyond)

There are things in life that lie beyond our control. Gisbert's illness and untimely death certainly belong to this category. In this paper we deal with a much less dramatic issue, namely control in a linguistic sense. We want to have a closer look at implicit control and argue that it can be understood much better if we do not restrict ourselves to complement control, but additionally take into account implicit adjunct control. Our basic claims are that implicit adjunct control involves obligatory control and that it violates the *Revised Visser's Generalization* since it contradicts the latter's predictions concerning OC by implicit subjects. Our tentative analysis suggests that implicit adjunct control is licensed in the same way as implicit complement control, which we argue to involve upward Agree.

The ideas we present here are still work in progress, and although they might not be directly influenced by Gisbert's written work, we think this is very much in line with his attitude towards new linguistic ideas that have not yet been fully developed. His sympathetic attitude and unbiased view on new thoughts (which is also reflected in the basic concept of GGS meetings, where work in progress has always been explicitly welcomed) were certainly encouraging for many colleagues, and we hope that this spirit of mutual respect in our field will continue to be a model in the future.

1. Introduction

Implicit control involves a control relation in which PRO is controlled by an implicit argument. This is illustrated in the following examples from English and German, where the controller is the implicit agent of the passive verb in

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the main clause (i.e. the persons that are responsible for the sinking of the boat).¹

- (1) a. The boat was sunk [PRO to collect the insurance].
(cf. Roeper 1987: 268, Hornstein & Lightfoot 1987: 36, Manzini & Roussou 2000: 435, a.o.)²
- b. Das Boot wurde versenkt, [PRO um die Versicherung zu kassieren].
the boat was sunk in order the insurance to collect

In contrast to these well-known examples, which involve control into an adverbial infinitive, much current work on implicit control rather lays the focus on complement control (see, for instance, the German sentences in (2)), and in view of examples of this type, van Urk (2013) proposes the *Revised Visser's Generalization (RVG)* in (3) to account for the contrast between (2-a) and (2-b).

- (2) a: *overt DP: nominative Case* → *DP agrees with T*
b: *overt DP: dative Case* → *DP does not agree with T*
- a. *Der Lehrer₁ wurde gebeten, [PRO ihn₁ kitzeln zu dürfen].
the_{nom} teacher_{nom} was begged him tickle to may
'(Lit.) The teacher was begged to be allowed to tickle him.'

¹In fact, Fanselow (1991) also addresses examples of this type and argues that most of these cases do not involve implicit agent control but should actually be classified as event control (he does not use this term, but this is what his indexation suggests; see (i)): "Bis auf Beispiele wie [1-a] sind alle akzeptablen Kontrollstrukturen analog zu [(i-a)] zu analysieren" (Fanselow 1991: 293) ('Apart from examples like [1-a], all acceptable control structures should be analyzed like [(i-a)].').

- (i) a. [Mary wrote a thesis]₁ [PRO₁ to impress Bill].
b. *underlying meaning*: That Mary wrote a thesis impressed Bill.
(cf. Fanselow 1991: 293, (38-a), (37-b))

We think that both implicit agent control and event control do exist (on event control and ambiguous examples, see also Fischer & Høyem 2021).

²The version *Mary says that the ship was sunk [PRO to get the insurance]* can already be found in Manzini (1985: 326) (including an Italian version of (1-a) on p. 332). Although the first occurrence of this example is often attributed to Manzini (1983), it does not really seem to occur there.

- b. Mir wurde versprochen, [PRO mir noch heute den Link für
 me_{dat} was promised me_{dat} still today the link for
 das Update zu schicken].
 the update to send
 ‘It was promised to me to send me the link for the update today.’
 (cf. van Urk 2013: 171, Wurmbrand 2021: 314f.)

(3) *Revised Visser’s Generalization (RVG):*

Obligatory control by an implicit subject is impossible if an overt DP agrees with T. (van Urk 2013: 172)

According to van Urk (2013), the difference between (2-a) and (2-b) follows from the fact that the internal DP argument of *jdn._{acc} bitten etw. zu tun* (‘to beg sb. to do sth.’) bears accusative Case, which turns into a nominative Case-marked DP under passivization (*der Lehrer* in (2-a)); i.e., we deal with a Case which involves licensing under Agree with T. By contrast, the verb *jdm._{dat} versprechen etw. zu tun* (‘to promise sb. to do sth.’) involves an internal DP argument bearing dative Case, i.e. lexical Case. Since this remains unaffected under passivization, the passivized sentence in (2-b) does not contain an overt DP agreeing with T; instead, the overt DP *mir* is still dative-marked.³ So in conclusion, (2-a) violates the RVG, while (2-b) does not, which correctly predicts the observed difference in grammaticality.

2. Previous Results

However, that the RVG might not hold in general, even for complement control, has already been observed in Pitteroff & Schäfer (2019). They discuss examples like (4) and (5) and argue that both types violate the RVG. As far as (4) is concerned, the central question is what kind of element *it* is. Pitteroff & Schäfer (2019: 178) argue that ‘most investigations of the expletive system

³Technically, van Urk (2013) assumes that the control relations in these examples would have to be licensed via a mediated Agree relation between the implicit argument, T, and PRO. However, if the sentence contains a nominative DP, it ϕ -agrees with T and thereby blocks Agree between T and any other element, including potential implicit arguments. As a result, an implicit control relation cannot be established. (In fact, control by the overt subject, i.e. *der Lehrer* in (2-a), is not ruled out by control theory; however, the presence of the pronoun *ihn* would lead to a violation of Principle B, and to beg of someone that this person is allowed to do something is semantically odd in addition. This is why a subject control reading in (2-a) is not possible either.) Note that our control analysis, by contrast, assumes a direct control relationship between PRO and its controller (without mediation of a functional head); see section 4.

in English assume that pronominal *it*-type expletives are fully specified for ϕ -features (e.g. Richards & Biberauer 2005, Ruys 2010)”; hence, we expect them to agree with T, which would mean that the RVG predicts that implicit control should be impossible, which contradicts the grammaticality judgement in (4).

- (4) It was IMPL.ARG.₁ decided [PRO₁ to attend the workshop].
(cf. Pitteroff & Schäfer 2019: 177)

Similarly, the example in (5) clearly involves a nominative-marked subject DP (*viel Zeit/Energie*; ‘much time/energy’), which thus agrees with T and should block the implicit control relation according to the RVG – but again, the sentence is grammatical.⁴

- (5) Viel Zeit/Energie wurde (von Hans₁) darauf verwandt, [PRO₁ das
much time/energy_{nom} was (by John) it.on spent the
Problem zu lösen].
problem to solve
‘Much time/energy was spent (by John) on solving the problem.’
(cf. Pitteroff & Schäfer 2019: 178)

In analogy to sentences like (4), it is moreover instructive to consider German examples involving the German pronoun *es* (the counterpart of English *it*) since there are some more tests that can be used to tell expletive from non-expletive *es* apart. In fact, *es* can only occur sentence-internally if it is used as an argument, not as an expletive (see, for instance, Pütz 1986 and his category ‘*es*’-Menge I, Fanselow 1991: 274, Wöllstein-Leisten et al. 1997: 109, a.o.). This insight correlates with the observation that sentence-internal *es* is ruled out in impersonal passives of unergative verbs (see (6-a)), which make use of expletive *es*; by contrast, sentence-initially, expletive *es* can occur, which renders an impersonal passive grammatical; see (6-b).

- (6) a. Mehrmals schon wurde (*es) in der alten Fabrik getanzt
multiple.times already was (*it) in the old factory danced
und gefeiert.
and celebrated

⁴Note that Pitteroff & Schäfer (2019: 178) explicitly show that the example involves OC (and is an instance of complement control, which is in the focus of their discussion.)

‘Multiple times already there was dancing and celebrating in the old factory.’ (cf. Pitteroff & Schäfer 2019: 173)

- b. Es wurde schon mehrmals in der alten Fabrik getanzt und
it was already multiple.times in the old factory danced and
gefeiert.
celebrated

On the basis of this observation, we can conclude that the sentence-internal occurrence of *es* in example (7) is also argumental; however, this means that it is in any case specified for ϕ -features, thus establishes an Agree-relation with T, and should block implicit control according to the RVG – which it does not. So (7) is therefore another example violating the RVG.⁵

- (7) Mehrmals schon wurde es (mir) (von Peter) versprochen,
multiple.times already was *it_{nom}* (*me_{dat}*) (by Peter) promised
[PRO den Roman zu lesen].
the novel to read
‘It has been promised (to me) (by Peter) already multiple times to read
the novel.’ (cf. Pitteroff & Schäfer 2019: 172 for a similar example)

3. Observations concerning Implicit Adjunct Control

In this section, we want to have a closer look at implicit adjunct control. We argue that it also involves obligatory control, which means that the RVG should apply here, too; however, since we also find various counterexamples, it must be concluded that the RVG as defined in (3) does not seem to hold. But before we turn to the data, let us briefly outline what exactly we mean if we argue that implicit agent control is OC – after all, the data have been controversially discussed for years. One reason for this is certainly the fact that the interpretation of implicit arguments is often not so clear to begin with; but whatever its interpretation is, we argue that the implicit argument

⁵Note that (7) involves extraposition of the infinitival clause; in the literature, *es* in these contexts is standardly analyzed as an argumental pronoun that is “cataphorically related to the infinitival clause” (Pitteroff & Schäfer 2019: 171); see also Bennis (1986), Müller (1995), Vikner (1995) concerning this type of pronoun in general, and Wood (2012), Fischer (2018) on its occurrence in (non-implicit) control constructions in Icelandic and German, respectively.

In examples like (7), *es* is thus “base-generated in a VP-internal theta position and becomes the derived subject under passivization” (Pitteroff & Schäfer 2019: 169); hence we expect it to agree with T. In fact, the sentence is very similar to (2-b), where *es* could also be inserted.

obligatorily controls PRO in these constructions.⁶ So the vagueness that is sometimes observed does not originate in the control construction, but rather in the fact that it involves an implicit argument – the relation between this argument and PRO is not vague at all. But on top of it, the question of how implicit arguments should be treated in general is also a matter of debate. Here we follow proponents of a syntactic analysis and argue that the implicit argument (and ultimate controller of PRO) is syntactically represented in the verbal domain.⁷ In the following, we will represent the implicit argument using the notation $\phi(P)$, in line with Wurmbrand (2021) (see section 4 for further technical details).

In order to find out whether we deal with OC or NOC, we will apply the standard diagnostics in (8) (following Landau 2013: 226; see also, a.o., Brodahl et al. 2023: 3).⁸

(8) *OC properties:*

- a. The controller must be an argument of the adjunct's matrix clause. Thus, long-distance (LD) and arbitrary control are ruled out.
- b. OC PRO only allows a sloppy reading under ellipsis.

For reasons of space, we will restrict ourselves to the following two German examples and apply (8-a) only to (9-a) and (8-b) in particular to (9-b); however, it also works the other way round.

(9) *Implicit adjunct control in German*

- a. Das Medikament muss (von Maria) [PRO liegend] eingenommen
the medicine must (by Mary) lying consumed
werden.
be

⁶But see also (17-b) below for an additional complication that can blur the picture.

⁷See, for instance, Landau (2010), Bhatt & Pancheva (2017), Pitteroff & Schäfer (2019) and the references cited there for an overview concerning the treatment of implicit arguments.

⁸In the literature it has often been claimed that another hallmark of OC is that it also allows a non-human PRO, in contrast to NOC (see e.g. Landau 2013). However, since we are dealing with implicit agent control, this criterion cannot be used as a diagnostic tool for independent reasons as agents are always [+human]; i.e. the controller is independently not compatible with a non-human interpretation due to the theta-role associated with it, independent of the control relation. Moreover, Donaldson (2021) has convincingly shown that NOC can also occur with non-human controllers, which seems to render this criterion questionable anyway.

- ‘The medicine must be consumed (by Mary) while lying down.’
- b. Das Boot wurde versenkt, [PRO um die Versicherung zu
the boat was sunk in order the insurance to
kassieren].
collect
‘The boat was sunk to collect the insurance.’

As outlined above, a complication when judging the examples comes about due to the fact that the interpretation of the implicit argument ($\varphi(P)$) is not always completely unambiguous. Thus, in a sentence like (10-a) (which does not involve control), it can get a generic reading; if we take into account a context as in (10-b), a reading in which it is interpreted as *Peter* becomes more likely. If we add in addition an overt *von/by*-phrase, as in (10-c), we can disambiguate the scenario and enforce the reading according to which $\varphi(P)$ is interpreted as *Peter*.

- (10) a. Das Medikament muss morgens $\varphi(P)_{gen}$ eingenommen
the medicine must in the morning consumed
werden.
be
‘The medicine must be consumed in the morning.’
- b. Der Arzt hat Peter neue Tabletten verschrieben. Peter₁ findet
the doctor has Peter new pills prescribed Peter finds
sie unpraktisch, denn das Medikament muss morgens
them impractical since the medicine must in the morning
 $\varphi(P)_{gen/1}$ eingenommen werden.
consumed be
‘The doctor prescribed new pills to Peter. Peter thinks they are
impractical since the medicine has to be consumed in the morning.’
- c. Das Medikament muss von Peter₁ morgens $\varphi(P)_1$
the medicine must by Peter in the morning
eingenommen werden.
consumed be

So we can conclude that implicit arguments can have a generic reading and that their interpretation is sometimes ambiguous, but that the presence of a *von/by*-phrase can be used to enforce a specific reading of $\varphi(P)$. Having this in

mind, let us now consider implicit adjunct control: (11-a) displays a similar configuration as (10-a); the implicit argument is typically interpreted in a generic way, and hence PRO is, too. However, if we enforce a specific reading of the implicit argument by adding the *von/by*-phrase *von Maria* ('by Mary'), we have to interpret PRO as referring to *Maria* as well;⁹ see (11-b) – i.e., an arbitrary reading of PRO is ruled out, which shows that it obligatorily hinges on the interpretation of $\varphi(P)$. This is in line with Landau's first criterion for OC (see (8-a)).

- (11) a. Peter wurde erzählt, dass das Medikament $\varphi(P)_1$ [PRO₁
Peter was told that the medicine
liegend] eingenommen werden muss.
lying consumed be must
'Peter was told that the medicine must be consumed while lying
down.'
- b. Peter wurde erzählt, dass das Medikament von Maria₁ $\varphi(P)_1$
Peter was told that the medicine by Mary
[PRO₁ liegend] eingenommen werden muss.
lying consumed be must
'Peter was told that the medicine must be consumed by Mary while
lying down.'

In (12-a) and (12-b) we turn to LD control. In (12-a), the respective *von/by*-phrases in the matrix and the embedded clause ensure that $\varphi(P)$ in the matrix clause is interpreted as *Hans* and $\varphi(P)$ in the embedded clause as *Maria*. If we look at PRO, however, it can only refer to *Maria*; i.e. LD control by the implicit argument of the matrix clause is ruled out. This is confirmed by sentence (12-b), where the *von/by*-phrase in the embedded clause is deleted. As a result, we interpret it again in a generic way, and (this is the crucial insight) it cannot refer to *Hans*, the referent of $\varphi(P)$ in the matrix clause. So LD control is definitely ruled out, again in accordance with the OC criterion in (8-a).

⁹Note that the *von/by*-phrase *von Maria* ('by Mary') in (11) and (12) could also be a DP-modifier (instead of being an event-modifying adjunct, modifying *das Medikament* ('the medicine')); but this is not the reading we are interested in.

- (12) a. Peter wurde von Hans₂ $\varphi(P)_2$ erzählt, dass das Medikament von Peter was by John told that the medicine by Maria₁ $\varphi(P)_1$ [PRO_{1/*2} liegend] eingenommen werden muss. Mary lying consumed be must ‘Peter was told by John that the medicine must be consumed by Mary while lying down.’
- b. Peter wurde von Hans₂ $\varphi(P)_2$ erzählt, dass das Medikament Peter was by John told that the medicine $\varphi(P)_1$ [PRO_{1/*2} liegend] eingenommen werden muss. lying consumed be must ‘Peter was told by John that the medicine must be consumed while lying down.’

In the following, we will turn to readings under ellipsis. First, let us consider an example without *von/by*-phrases; recall that we have to provide some context then to render the interpretation of the implicit argument unequivocal. The context that we assume is given in (13); as a result, we interpret $\varphi(P)_1$ in (14) as referring to *Peter*, which is therefore also the interpretation of PRO in the first conjunct. The continuation with Peter not knowing of the sinking of the other ship makes sure that we interpret $\varphi(P)_2$ not as *Peter*, and as a result PRO only gets a sloppy reading under ellipsis.

- (13) *Context*: The police proved that Peter₁ sank the boat *Andromeda* to betray the insurance.
- (14) *Lawyer at court*: Die *Andromeda* wurde $\varphi(P)_1$ versenkt, [PRO₁ the *Andromeda* was sunk um die Versicherung zu kassieren], und das wurde auch die in order the insurance to get and this was also the *Kassiopeia* $\varphi(P)_2$ [~~versenkt, PRO_{1/2} um die Versicherung zu kassieren~~]. Aber davon hatte Peter₁ keine Ahnung. but that.of had Peter no idea ‘The *Andromeda* was sunk to get the insurance, and the *Kassiopeia* was, too. But Peter had no knowledge of the latter.’

Of course, we use the context here to disambiguate the interpretation of the implicit argument and thereby enforce a sloppy reading; so it would be

desirable to strengthen this argument independent of subtleties concerning the context. In (15), we therefore use *von/by*-phrases to make sure what the implicit arguments refer to; in such a context it becomes clear that a sloppy reading under ellipsis is generally obligatory (in line with OC-criterion (8-b)).

- (15) a. Das Boot wurde von Peter₁ $\varphi(P)_1$ versenkt, [PRO₁ um die
the boat was by Peter sunk in order the
Versicherung zu kassieren], und das wurde auch der Frachter
insurance to get and that was also the cargo ship
wenig später von Hans₂ $\varphi(P)_2$
little later by John
~~[versenkt, PRO_{*1/2} um die Versicherung zu kassieren].~~

‘The boat was sunk by Peter to get the insurance, and the cargo ship was, too, by John just a little bit later.’

- b. Die Tabletten wurden von Maria₁ $\varphi(P)_1$ [PRO₁ liegend
the pills were by Mary lying
eingenommen] und das wurde auch der Hustensaft von Hans₂
consumed and that was also the cough.syrup by John
 $\varphi(P)_2$ [~~PRO_{*1/2} liegend-eingenommen].~~

‘The pills were consumed by Mary while lying down, and the cough syrup was, too, by John.’

4. Conclusion and Outlook

To conclude, we have shown that implicit adjunct control meets the standard criteria for OC: the implicit argument, which we argue is syntactically represented, serves as obligatory controller; this becomes apparent if the interpretation of the implicit argument is disambiguated by the context or the insertion of *von/by*-phrases¹⁰ – vague readings that can surface otherwise can thus be attributed to the implicit argument itself. But whatever its interpretation is, this will determine the interpretation of PRO. As a result, this also means

¹⁰Note that the DP inside the *von/by*-phrase itself cannot serve as a controller due to lack of c-command.

that our examples provide further evidence against the RVG as formulated in (3).¹¹

As far as a potential technical implementation is concerned, space does not permit us to go into detail at this point, but we assume that $\varphi(P)$ is syntactically encoded as a φ -feature bundle in the specifier position of some functional verbal projection (in line with Wurmbrand 2021 a.o.).¹² (For the sake of simplicity, we will stick to little vP at this point.) Following Fischer (2018), Fischer & Høyem (2022), Brodahl et al. (2023), we suggest that OC is licensed via upward Agree between PRO and the controller; i.e. PRO is in need of a c-commanding goal that can referentially identify it by valuing the relevant unvalued features.¹³ Since implicit adjunct control only seems to involve event-modifying adjuncts that adjoin in the vP-domain (see, e.g., the examples in Landau 2000 et seq., Høyem 2015 et seq., Brodahl 2018, Green 2019), constituents in Specv are potential candidates, as these elements c-command the adjunct and thus PRO inside the adjunct, following Reinhart's (1976: 148) definition of c-command.¹⁴ Hence, the implicit agent qualifies in any case as controller of PRO and can establish an OC relation under upward Agree.¹⁵

(16) [_{vP} [_{vP} (nominative DP) $\varphi(P)$ v] [_{adjunct} PRO ...]]

¹¹We cannot offer an alternative account of the ungrammatical sentence in (2-a) at this point, but we think that the difference between (2-a) and (2-b) goes beyond the mere issue of Case.

¹²We will ignore the details concerning the licensing of $\varphi(P)$ itself here, which must take place before it can control PRO (see also Wurmbrand 2021: 318), but we assume that it involves the functional head that assigns the agent role, i.e. little v.

¹³We refer the reader to these works as far as the underlying technical details are concerned.

¹⁴According to (i), constituents in SpecX c-command XP-adjuncts (with α_1 and α_2 being two segments of XP):

- (i) Node A c-commands node B iff the first branching node α_1 dominating A either dominates B or is immediately dominated by a node α_2 which dominates B, and α_2 is of the same category type as α_1 . (cf. Reinhart 1976: 148)

As a result, constituents in Specv can serve as a goal for PRO inside a vP-adjunct in an upward Agree relation. (If it is alternatively assumed that vP-adjuncts are located in inner Specv positions, a similar result can be obtained.)

¹⁵In fact, the analyses proposed in Fischer & Høyem (2022) and Brodahl et al. (2023) predict OC considering the structural positions of the adjuncts under discussion (= vP-adjuncts) and the implicit argument (= Specv), since this configuration enables licensing under upward Agree (= OC) – by contrast, NOC would only occur if OC could not be established (= elsewhere case). (This is also reminiscent of Fanselow's 1991 treatment of anaphoric/pronominal binding according to which pronouns only occur if anaphors are blocked.)

But what about a potential nominative DP, which would also be located in Specv (see (16))? Since it would be in the specifier of the same projection (= vP), it could be considered to be equidistant and would thus qualify as an alternative potential goal from a syntactic point of view – in fact, this circumstance also adds to the apparent vagueness of implicit control constructions. Which element is ultimately chosen as controller (or whether we get an ambiguous reading) hinges in addition on semantic compatibility (see also fn. 3 with respect to example (2-a)). In (17-a), for instance, *the boat* is not compatible with the agent role of PRO (since it is non-human); hence, only the implicit argument can serve as a controller. In (17-b), by contrast, it is the other way around: the overt DP is semantically compatible while the implicit agent is not – as a result, only the former can control PRO in sentences like these.

- (17) a. The boat₁ was $\varphi(P)$ ₂ sunk [PRO*_{1/2} to get the insurance].
 b. Das Haus₁ wurde $\varphi(P)$ ₂ geleert, [PRO_{1/*2} um
 the house_{nom} was emptied in order
 abgerissen zu werden].
 demolished to be
 ‘The house was emptied in order to be demolished.’

(cf. Müller 2024, ch. 3)

We hope that this paper can shed some more light on the behavior of implicit adjunct control; however, we must leave it to future research to fully develop the technical details of the proposed analysis and to evaluate it against a larger set of data.

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