

IMPLICIT CONTROL CROSSLINGUISTICALLY

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In Landau 2015, it is proposed that the acceptability of implicit control (i.e. control by the implicit external argument of a passivized verb into complement clauses) is not only restricted by the revised Visser's generalization (van Urk 2013), but also depends on the type of matrix predicate involved. While attitude matrix predicates allow implicit control (IMPLICIT LOGOPHORIC CONTROL), nonattitude matrix predicates do not. Landau takes this bifurcation to support his TWO-TIERED THEORY OF CONTROL by assuming that in the case of nonattitude matrix predicates, the control relation is essentially a predication relation, from which implicit arguments are independently excluded. In this article, we subject these claims to empirical scrutiny, showing that Landau's generalization on implicit control holds only in a subset of languages, while other languages license implicit control with both types of matrix predicates. We investigate and reject the hypothesis that this crosslinguistic split is the consequence of different types of implicit arguments, only some of which are syntactically represented in a way that allows them to enter a predication relation. Based on an investigation of the acceptability of agent-modifying depictives in passives, we conclude that, in principle, implicit external arguments of passives in all languages under consideration can enter predication. We show, however, that there is a different correlation: languages that allow implicit control with nonattitude verbs (IMPLICIT PREDICATIVE CONTROL) are exactly those languages that allow impersonal passives of unergative predicates. To account for this correlation, we argue that implicit logophoric control, but not implicit predicative control, can be construed as a personal passive.*

Keywords: implicit control, predicative vs. logophoric control, (non)attitude verbs, impersonal passive, expletive, depictive

1. INTRODUCTION. The publication of Landau 2010 has led to renewed interest in questions about the grammatical properties of implicit arguments. In particular, the syntactic status of the implicit external argument of verbal passives has been a matter of some dispute, with accounts ranging from syntactically projecting it as a set of ϕ -features (e.g. Landau 2010, Legate 2012, 2014) or as arbitrary PRO (e.g. Collins 2005) to syntactic nonprojection (e.g. Bruening 2012, Reed 2014, Alexiadou et al. 2015); see Williams 2015 for an overview of broad types of approaches. One reason why it has been so difficult to arrive at a definite answer to this question is the following: many of the tests that were originally advanced to support the need to syntactically project the implicit external argument of passives (licensing of a *by*-phrase, agent-oriented modifiers, disjoint reference effects, control into purpose clauses) have in the meantime been shown to be compatible with analyses of passives that do not project the implicit argument syntactically (e.g. Bhatt & Pancheva 2006, 2017). While much of the discussion has revolved around these tests, implicit control into complement clauses has at best played a minor role so far. This is somewhat surprising given that one of the most detailed and explicit accounts of this type of control, provided by van Urk (2013), cru-

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In this article, we show that 4 is not true crosslinguistically, and we argue that the variation found in the domain of implicit control should not be related to different types of implicit external arguments in passives. The article is split into two main parts, one empirical (§§2 and 3), the other theoretical (§4). In the first part, after briefly introducing the main aspects of Landau's two-tiered theory of control (§2), we investigate the validity of Landau's generalization in a larger set of languages. In doing so, we show in §3 that while 4 is true in some languages (English, French, Hebrew, Russian), it does not hold in others (Dutch, German, Icelandic, Norwegian). Landau's claim that 4 follows from a general inability of implicit arguments of passives to enter a predication relation must therefore be false. The second part of the article attempts to reconcile this crosslinguistic split in the availability of implicit control with nonattitude matrix predicates (implicit predicative control) with Landau's (2015) two-tiered theory of control. In §4.1, we first investigate the hypothesis that languages differ with respect to whether the implicit argument of passives is projected as a weak or strong implicit argument (in the sense of Landau 2010). Only in languages with strong implicit arguments would predication over the implicit argument, and thus implicit predicative control with nonattitude verbs, be possible. Based on a discussion of depictive secondary predicates in passives, we conclude that this hypothesis is untenable: the implicit external argument in passives can in principle enter a predication relation in all of the languages under consideration. In this connection, we also provide a new argument against the syntactic projection of implicit arguments of passives, for example, as PRO, pro, or ϕ P (pace e.g. Collins 2005, Landau 2010; cf. also Müller 2016). In §4.2, we illustrate a striking correlation within our set of languages between the availability of implicit predicative control and the acceptability of impersonal passives: if a language lacks the latter, the former is unacceptable. This set of facts is summarized in Table 1.

	IMPLICIT LOGOPHORIC CONTROL	IMPLICIT PREDICATIVE CONTROL	IMPERSONAL PASSIVES
English	✓	✗	✗
French	✓	✗	✗
Hebrew	✓	✗	✗
Russian	✓	✗	✗
Dutch	✓	✓	✓
German	✓	✓	✓
Icelandic	✓	✓	✓
Norwegian	✓	✓	✓

TABLE 1. Acceptability of implicit logophoric control, implicit predicative control, and impersonal passives.

In order to capture this correlation between languages that lack impersonal passives and those that disallow implicit predicative control, we propose in §4.3 that in these languages, the passive of a nonattitude subject-control predicate fails at the formal syntactic level for the same reason that an ordinary impersonal passive does: because either T's ϕ -features remain unvalued or the EPP is unchecked (or both). In languages with impersonal passives no such issue arises, for example, because T lacks ϕ -features to begin with, or the language has a mechanism of default valuation. Implicit predicative control is therefore correctly predicted to be licit only in this set of languages. Implicit logophoric control, by contrast, is available even in languages that lack impersonal passives because they can formally be construed as a type of personal passive: the apparent expletive that surfaces in these cases is not an expletive, but an argumental CP-placeholder pronoun in the sense of Bennis 1986, Vikner 1995, or Ruys 2010. This pronoun is merged VP-internally and becomes the derived subject under passivization. We argue

that implicit predicative control can never be construed as a personal passive in the same fashion, because the placeholder, being cataphorically related to the infinitival clause, would semantically denote a property in these cases and as such is deviant in Spec,TP. In §4.4, we return to the RVG, which at first appears incompatible with the proposed analysis of implicit logophoric control as involving a personal passive. Based on novel data, we show that it is not our analysis but, in fact, the current version of the RVG that is problematic, and we propose a reformulation. This independently motivated adjustment will render our analysis of implicit logophoric control in English-type languages fully compatible with the RVG. Section 5 concludes.

2. THE TWO-TIERED THEORY OF CONTROL AND LANDAU'S GENERALIZATION. In this section, we take a closer look at Landau's (2015) TWO-TIERED THEORY OF CONTROL and at Landau's generalization, which is taken as supporting evidence for this approach to control. The two-tiered theory of control was born out of an attempt to overcome a number of issues within the Agree-model (Landau 2000, 2004, 2008) without losing the ability to account for the fundamental difference between OBLIGATORY CONTROL (OC) (which hosts an anaphor-like null subject called PRO) and NO CONTROL (NC) (which hosts a lexical DP or a pro subject). In the Agree-model, this distinction was related to a certain feature composition on I/C, which involved [Agr]reement and abstract [T]ense features, the general observation here being that if the two are positively specified, NC obtains, while all other specifications lead to OC. This empirical generalization is captured in the OC-NC generalization in 5.

- (5) THE OC-NC GENERALIZATION (Landau 2015:7, ex. 6): In a fully specified complement clause (i.e. a clause in which the I head carries slots for both [T] and [Agr]):
- a. If the I head carries both semantic tense and agreement ([+T,+Agr]), NC obtains.
 - b. Elsewhere, OC obtains.

Landau (2015:§2.3) lists a number of problems for his Agree-model. For example, it crucially relies on the notion of abstract Tense, which has been argued to be a problematic concept in the context of infinitives (Wurmbrand 2014, Grano 2015). It also involves an unsatisfactory rule of R-assignment stipulating that PRO, being [-R(eferential)], appears in the context of 5a, and DP/pro, being [+R(eferential)], appears in the context of 5b. Landau (2015) therefore attempts to provide a more fundamental account of the distribution of OC and NC. In his doing so, the split between exhaustive- and partial-control predicates, which in the Agree-model was derived from the (abstract) tense properties of the infinitival complement, finds an explanation driven by the lexical semantics of the control verb: all of the exhaustive-control predicates are nonattitude verbs, whereas control predicates license partial control if they are attitude verbs.

It should be mentioned at this point that although the identification of partial-control predicates with attitude verbs is largely correct, there is some disagreement about the proper classification of some predicates. For example, while *try*, which does not license partial control, is treated as a nonattitude predicate in Landau 2015, Pearson (2013, 2016) identifies it as a noncanonical attitude predicate. If one follows Pearson in her classification, it suggests that the acceptability of partial control is dependent on more factors than just the attitude status of the embedding predicate (see also White & Grano 2014 for the same conclusion). In a similar vein, a referee provides us with the following examples, which supposedly show partial control in the context of nonattitude predicates.

- (6) a. If I were department head, I would make sure/wouldn't bother to meet every week.
 b. I'm sorry, but now that I have kids, I'm no longer able to meet/get together every morning at 8 am.
 c. After 30 years of marriage, I don't need to kiss and make up just to get through the day.

While all of the examples in 6 are indeed acceptable, we are skeptical as to whether they really show that nonattitude predicates license partial control. The embedded predicates in 6a,b license comitative PPs, and it has been shown in work by Sheehan (2012, 2014), Pitteroff et al. (2017), and Pitteroff and Sheehan (2018) that in such cases, a partial-control reading can in fact be derived even in the context of a nonattitude matrix predicate (potentially via a covert comitative as in Boeckx, Hornstein, & Nunes 2010, or via the inherent symmetry of the embedded predicate; see Authier & Reed 2018). Regarding 6c, although *kiss* for many speakers disallows a comitative PP (**to kiss with someone*), it occurs in (idiomatic) conjunction with a predicate that does license comitatives (*to make up*). Indeed, for all of our informants, deletion of the second conjunct leads to a decrease in acceptability, suggesting that 6c may not be a case of true partial control. This brief discussion shows that the concrete delimitation of predicates that do or do not allow partial control, combined with the question of which factors additionally play a role on top of the status of the matrix predicate, is complex and far from resolved. For the sake of concreteness, we follow Landau's (2015) classification here.

Building on insights from the semantic literature on attitude reports (see Pearson 2013, 2016 and the literature cited there), Landau argues that the control relation is established differently based on whether the matrix predicate is an attitude predicate.² The two types of control, with the corresponding syntactico-semantic relations involved, are represented for subject control in 7 and 8 (irrelevant projections are omitted; we also leave out the semantic derivation and refer the reader to Landau 2015 for details). With a nonattitude predicate, the control relation is a predication relation, as has already been suggested to be the case with all instances of OC by Chierchia (1984, 1989, 1990; see also Williams 1980) (predicative control in 7). By contrast, the complement of attitude predicates contains an additional logophoric layer that hosts information with respect to the context of evaluation (logophoric control in 8). The author/addressee coordinate of the latter is projected as a variable (*pro* in 8) in the left periphery of the infinitival clause and is bound by the controller in the matrix clause (typically but not necessarily the attitude holder; cf. Landau 2015:34).

- (7) Predicative control (formerly exhaustive/PRO-control)
 $[_{VP} DP [_{VP} V_{nonattitude} [_{FinP(e,s,t)} PRO Fin [_{TP} PRO T [_{VP} \dots]]]]]$
 Control relation: DP — predication — $FinP_{\langle e,s,t \rangle}$
- (8) Logophoric control (formerly partial/C-control)³
 $[_{VP} DP [_{VP} V_{attitude} [_{CP(s,t)} pro C [_{FinP(e,s,t)} PRO Fin [_{TP} PRO T [_{VP} \dots]]]]]]$
 Control relation: DP — variable binding — *pro*
pro — predication — $FinP_{\langle e,s,t \rangle}$

² This is not, strictly speaking, a new claim. The two types of control correlate with PRO- and C-control in the Agree-model (Landau 2000 et seq.).

³ The projected coordinate in Spec,CP is not, strictly speaking, a *pro*, but an element formally identical to PRO. We follow Landau in simply using this notational variant so as not to create the impression of another movement step. Keep in mind, however, that for Landau, both *pro* and PRO in 8 are minimal pronouns in the sense of Kratzer 2009.

Two comments are in order at this point. First, the property-denoting FinP in 7 and 8 is a predicate derived via movement of PRO. Adopting the treatment of movement as lambda-abstraction (Heim & Kratzer 1998), Landau assumes that PRO, being a minimal pronoun in the sense of Kratzer 2009, cannot saturate the lambda-variable generated by moving PRO into Spec,FinP and therefore functions like an operator in deriving an open predicate. Second, logophoric control essentially involves two dependencies, one of them (predication) identical to the one involved in predicative control. This is where the two-tiered theory of control gets its name: logophoric control is predicative control with a second layer/tier involving variable binding stacked on top. For the discussion in §4, it will be important to keep in mind that the complement of $V_{\text{nonattitude}}$ in 7 denotes a property ($\text{FinP}_{\langle e(s,t) \rangle}$), while that of V_{attitude} in 8 denotes a proposition ($\text{CP}_{\langle s,t \rangle}$).

Landau shows that many of the properties originally related to PRO- vs. C-control in the Agree-model now fall out from the type of control relation involved (predication vs. variable binding). For example, the lack of partial control in the context of nonattitude predicates boils down to the fact that a predication relation cannot be established between a collective predicate that requires a (semantically) plural subject and a (semantically) singular DP (but see Pearson 2013, 2016 for a semantic derivation of partial control that relies on a Chierchia-style predication analysis). The same goes for control shift and split control, which are claimed to be excluded by a predication analysis (Landau 2015:§4.3). Landau also provides an explanation for how the difference between predication and variable binding derives the OC-NC generalization in 5 (see Landau 2015:§§3.5, 3.6). The properties of the two control types are summarized in 9.

(9)	PREDICATIVE CONTROL	LOGOPHORIC CONTROL
a. Inflected complement	OC	NC
b. Control shift	*	okay
c. Split control	*	okay
d. Partial control	*	okay
e. Implicit control	*	okay

Particularly relevant for our purposes is 9e: the proclaimed lack of an implicit control relation in predicative but not logophoric control. To account for this split, Landau builds on the assumption that implicit arguments cannot function as the subject of a predication relation. He advances the following data to support this claim.

- (10) a. John ate *(the meat) raw.
- b. I am now hiring *(people) for John to work with.
- c. The room was left (*angry at the guests). (Landau 2015:69, ex. 91a–c)

Examples 10a,b show that an object cannot be dropped if it functions as the subject to some type of secondary predicate. Example 10c is taken to illustrate the same for the implicit external argument of a verbal passive. Landau’s generalization in 4 (repeated here for the sake of convenience) is thus but one of a number of empirical phenomena that fall under the more general principle in 11—and thus follows from his claim that the control relation in instances of OC is established in a nonuniform manner.

- (4) LANDAU’S GENERALIZATION: Attitude predicates allow implicit control in the context of an impersonal passive. Nonattitude predicates never allow implicit control.
- (11) CONDITION ON SYNTACTIC PREDICATION (Landau 2015:69, ex. 90): The argument predicated of must be syntactically represented.

In §§3 and 4, we investigate the crosslinguistic validity of 4 and 11. Note, for example, that the validity of 11 for implicit arguments of passives has been challenged, as data similar to 10c are judged acceptable in the literature.⁴

Before we proceed, let us address an important question raised by a referee. So far, we have simply assumed that implicit control into complement clauses is an instance of OC, and that therefore the control relation must involve one of the two routes outlined in 7 and 8. But is this assumption empirically correct? Although it appears to be the standard one in the literature (see Landau 2000, 2010, van Urk 2013), it has recently been challenged by Reed (2014, 2018), who essentially argues that implicit control into complement clauses involves NONOBLIGATORY CONTROL (NOC), and thus a more pragmatically mediated control relation. Her position is based on the data in 12a–14a, which are intended to show that implicit control allows (i) arbitrary PRO (12), (ii) long-distance control (13), and (iii) a strict reading under ellipsis (14). All of these properties are hallmarks of NOC, as is indicated by the contrast to the active counterparts in 12b–14b, which involve OC.

- (12) Arbitrary control (Reed 2018:5, exs. 20, 21)
- a. (I contacted the selection committee about how to submit my photo. It turns out that) it is preferred (by the committee_x) [PRO_{ARB} to submit in jpeg].
 - b. The committee_x prefers [PRO_x/*_{ARB} to submit in jpeg].
- (13) ‘Long-distance control’ (Reed 2018:5–6, exs. 22a, 23)
- a. It was obviously not decided by the colonists_x [PRO_y to tax them_x at such a rate]. It was the Crown.
 - b. The colonists_x obviously did not decide [PRO_x to tax *them_x/themselves_x at such a rate]. It was the Crown.
- (14) Strict reading under ellipsis (Reed 2018:6, exs. 24, 25)
- a. It was proposed by Hillary Clinton_x [PRO_x to be the 2016 Democratic candidate] and it was by the Democratic National Committee, too.
 - b. *Hillary Clinton_x proposed [PRO_x to be the 2016 Democratic candidate] and the Democratic National Committee did too.
intended reading: The DNC proposes that Hillary Clinton be their candidate.

On closer inspection, however, we believe that the above arguments cannot refute the general conclusion that implicit control in complement clauses exhibits the characteristics of OC.

One central issue of Reed’s argumentation is that the pattern illustrated in 12–14 is not productive—other attitude predicates that allow implicit control disallow, for example, arbitrary control. This is illustrated in 15 for the verbs *decide* and *plan*. The implicit control sentence 15a, which is construed in parallel to 12a, patterns just like the active counterpart in 15b, which involves OC.

⁴ Context potentially increases the acceptability of examples such as 10c where the depictive predicate comes with an internal argument PP. Roeper (1987:298) provides the following case in point.

(i) The crowd booed the players when they arrived. The whole game was played angry at the crowd. Other speakers find 10c already unacceptable without the depictive (*The room was left*), which would mean that this example does not bear on the issue (Christina Tortora, p.c.).

- (15) a. (I contacted the selection committee about how to submit my photo. It turns out that) *it was decided/planned (already a long time ago) (by the committee_x) [to PRO_{ARB} submit in jpeg].
 b. The committee_x decided/planned [to PRO_{x/*ARB} submit in jpeg].

Reed in fact does point out that since implicit control involves NOC, pragmatic forces such as logophoricity strongly influence the selection of the controller. Therefore, in order to identify the NOC character of implicit control, certain atypical pragmatic contexts that shift the controller away from the implicit agent (which is the logophoric center) are required. Yet Reed does not clarify what makes such an atypical context. To us, there is no clear difference in that regard between 12a and 15a, and we thus find it unlikely that the impossibility of arbitrary PRO in 15a can be related to any contextual factors. It rather seems to be the case that there is something special about the verb *prefer* (and, in fact, its counterpart in other languages, e.g. German and French) that licenses the arbitrary reading in 12a. Although a deeper investigation of this would go beyond the limits of this article, one could imagine that it is relevant that the infinitival complement clause of *prefer* bears some covert modality, that is, conditional semantics (i.e. *The committee prefers it if people submit in jpeg*). *Decide* and *plan* lack such additional modality and disallow arbitrary PRO.

Regarding the data in 13, none of the native speakers we consulted confirmed these judgments. Our English informants required the reflexive pronoun *themselves* in the infinitival complement in 13a—just as is expected if implicit control involves OC. (Our French informants equally rejected the pronoun and asked for a reflexive in the French version of 13a provided in Reed 2018:5, ex. 22a.) Similarly, no one accepted the strict reading in 14a. Even if there might be speaker/dialectal variation, the judgments we collected clearly show that for these speakers, sentences involving implicit control behave like OC configurations.

Finally, consider the data below, taken from van Urk 2013, n. 6.

- (16) a. #It was decided to be kicked out of the club.
 b. Hobbes_j thought that it had been proposed by Calvin_i [PRO_{i/*j} to be kicked out of the club].

Example 16a is intended to show that the implicit agent of *decide* must control PRO, which leads to the odd reading where someone decides to get him/herself kicked out of the club. Note that the oddness of this reading should in principle create an atypical pragmatic context in Reed's terms, such that, as a consequence, PRO should be construed as disjoint from the implicit argument. The fact that it is not strongly suggests that 16a is an instance of OC. Example 16b illustrates that long-distance control is blocked, which is unexpected if implicit control involves NOC.

Despite the interesting set of data provided by Reed, we therefore conclude that there is little evidence in favor of the view that implicit control into complement clauses generally involves NOC. Instead, the speaker judgments we collected, in combination with the data in 16, support the view that control into (uninflected) complement clauses normally involves OC (Landau 2000 et seq.).

3. LANDAU'S GENERALIZATION CROSSLINGUISTICALLY. As mentioned in the preceding section, the generalization in 4 is said to be crosslinguistically valid in Landau 2015. In this section, we show that while implicit control in English, French, Hebrew, and Russian conforms to Landau's generalization (§3.1), Dutch, German, Icelandic, and Norwegian allow implicit predicative control, contrary to 4 (§3.2). Most of the language data in the following sections come from scalar judgments, while some involve categorical judgments (from the literature and from elicitation).

3.1. LANGUAGES WITHOUT IMPLICIT PREDICATIVE CONTROL.

ENGLISH. We ran a small questionnaire study, asking eight native speakers to rate the acceptability of our test sentences on a seven-point Likert scale, with 1 corresponding to unacceptable, and 7 to fully acceptable. The results for the test sentences are reported below (we provide the individual judgments, as well as the arithmetic mean in boldface).⁵

- (17) Nonattitude verbs/predicative control: English⁶
- | | |
|--|--|
| a. It was tried to understand the analysis. ⁷ | (1, 1, 1, 1, 1, 1, 5, 1; 1.5) |
| b. It was begun to raise the taxes. | (1, 2, 1, 1, 1, 1, 2, 1; 1.25) |
| c. It was begun to clean up the living room. | (1, 2, 1, 1, 1, 1, 2, 1; 1.25) |
| d. It was managed to find a solution to this problem. | (1, 3, 1, 1, 1, 1, 1, 1; 1.25) |
| e. It was dared to question her authority. | (2, 6, 1, 2, 1, 1, 1, 4; 2.25) |
- (18) Attitude verbs/logophoric control: English
- | | |
|--|--|
| a. It was decided to leave the country immediately. | (4, 7, 6, 5, 6, 5, 7, 6; 5.75) |
| b. It was planned to renovate the kitchen next month. | (5, 6, 5, 4, 4, 2, 6, 7; 4.9) |
| c. It was promised to take out the garbage soon. | (1, 5, 2, 3, 2, 1, 4, 6; 3) |
| d. It was regretted to have raised the taxes so much. | (3, 4, 4, 2, 4, 2, 3, 4; 3.4) |
| e. It was agreed to raise the taxes again. | (5, 7, 5, 5, 4, 5, 7, 7; 5.6) |
| f. It was preferred to leave the country as quickly as possible. | (2, 6, 5, 5, 4, 3, 5, 4; 4.35) |
| g. It was refused to resubmit the paper to the same journal. | (2, 5, 1, 2, 4, 1, 2, 4; 2.6) |
| h. It was arranged to welcome the guests in the garden. | (6, 7, 7, 4, 6, 5, 7, 7; 6.1) |
| i. It was offered to do the shopping for the weekend. | (2, 3, 1, 2, 1, 1, 2, 4; 2) |

A comparison between 17 and 18 clearly shows that implicit logophoric control is rated as much more acceptable than implicit predicative control, in line with Landau's generalization. The judgments also show that there is some speaker variation with respect to the acceptability of implicit control in general, and certain cases in particular. For example, by looking at the raw mean ratings of the implicit logophoric control examples in 18, it seems like some matrix predicates (e.g. *decide*, *agree*, *arrange*) give rise to better results than others (e.g. *refuse*, *promise*, *offer*). First, we would like to point out that the variability seen in the judgments does not necessarily prove that individual attitude verbs differ in how well they license implicit control. Its explanation could be independent of the control relation, because implicit control structures combine a number of grammatical phenomena within one derivation, such as:

- the absorption of an external argument (passivization),
- the fact that internal DP arguments of the control verbs must remain implicit such that the implicit control structures pass the revised Visser's generalization (relevant for *offer*, *promise*),
- selection (infinitives and/or *ing*-gerunds), and
- the formation of an implicit control relation.

All four aspects could have an influence on how well or poorly a particular attitude verb is rated in an implicit control structure. Second, since we did not keep the embedded clauses constant, we cannot be sure that the matrix predicate was the relevant factor

⁵ Note that most verbs in 17 passivize when they occur with a DP complement.

⁶ One test item (*It was stopped to invest money in stocks*) was removed, since the corresponding active sentence only allows the *to*-infinitive to be interpreted as an adjunct clause. A complement clause to *stop* requires a verbal gerund (*It was stopped investing money in stocks*).

⁷ A referee points out that *attempt* is better than *try*. Not all of our informants were able to replicate this contrast, and we therefore leave it for future research.

triggering the variation. Third, even if the matrix predicate turns out to play a relevant role, this does not per se disprove Landau's generalization. It may instead suggest that the attitude/nonattitude status of the matrix predicate is but one factor influencing the acceptability of implicit control. As already mentioned, something similar has been argued to be the case for partial control (see the experimental investigation by White and Grano (2014)). Since our questionnaire was not designed to test for such additional, potentially lexico-semantic, factors, we leave this issue for future research.

FRENCH. The translations of the English sentences in 17 and 18 were evaluated by six French speakers on a scale from 1–7. The results are reported below (some test items, e.g. implicit control with *stop*, *manage*, *arrange*, had to be excluded for language-specific reasons).

(19) Nonattitude verbs/predicative control: French

- a. Il a été essayé de comprendre l'analyse.
it has been tried to comprehend the-analysis
'People/someone tried to understand the analysis.' (1, 7, 3, 1, 3, 2; 2.5)
- b. Il a été commencé à augmenter les impôts à nouveau.
it has been begun to raise the taxes at new
'People/someone began to raise the taxes again.' (1, 1, 2, 1, 1, 1; 1.15)
- c. Il a été commencé à nettoyer la salle de séjour.
it has been begun to clean.up the room of living
'People/someone began to clean up the living room.' (3, 1, 2, 1, 1, 1; 1.5)
- d. Il a été réussi à trouver une solution à ce problème.
it has been managed to find a solution to this problem
'People/someone managed to find a solution to this problem.'
(1, 1, 1, 1, 2, 1; 1.15)

(20) Attitude verbs/logophoric control: French

- a. Il a été décidé de quitter le pays immédiatement.
it has been decided to leave the country immediately
'People/someone decided to leave the country immediately.'
(7, 7, 7, 7, 7, 7; 7)
- b. Il était prévu de rénover la cuisine le mois prochain.
it was planned to renovate the kitchen the month following
'People/someone planned to renovate the kitchen next month.'
(7, 7, 7, 7, 7, 7; 7)
- c. Il a été promis de sortir les poubelles très bientôt.
it has been promised to take.out the garbage very soon
'People/someone promised to take out the garbage very soon.'
(6, 7, 6, 6, 5, 3; 5.5)
- d. Il a été regretté d'avoir augmenté les impôts d'autant.
it has been regretted to-have raised the taxes this-much
'People/someone regretted having raised the taxes so much.'
(4, 7, 5, 4, 3, 2; 4.15)
- e. Il a été convenu d'augmenter les impôts à nouveau.
it has been agreed to-raise the taxes at new
'People/someone agreed to raise the taxes again.' (7, 7, 6, 7, 7, 7; 6.8)
- f. Il a été préféré de quitter le pays aussi rapidement que possible.
possible
'People/someone preferred to leave the country as quickly as possible.'
(7, 6, 4, 7, 5, 2; 5.15)

- g. Il a été refusé de soumettre à nouveau le papier à la même revue.
 it has been refused to resubmit at again the paper to the same journal
 'People/someone refused to resubmit the paper to the same journal.'
 (2, 7, 5, 4, 6, 6; 5)
- h. Il a été proposé de faire les courses pour le week-end.
 it has been proposed to do the shopping for the weekend
 'People/someone offered to do the shopping for the weekend.'
 (6, 7, 7, 7, 6, 5; 6.3)

The picture that emerges essentially mirrors the one we found for English: despite speaker variation, there is a general tendency to accept implicit logophoric control but reject implicit predicative control. We thus conclude that French conforms to Landau's generalization.

HEBREW. Landau (2015:71, ex. 99a,b) provides the Hebrew data in 21a,b in support of his generalization.

- (21) a. Nonattitude verbs/predicative control: Hebrew
 *hufsak/nusa/niskax le'hitkadem ba-proyekt.
 was.stopped/was.tried/was.forgotten to.move.forward in.the-project
 'It was stopped/tried/forgotten to move forward with the project.'
- b. Attitude verbs/logophoric control: Hebrew
 huxlat/tuxnan/huvtax le'hitkadem ba-proyekt.
 was.decided/was.planned/was.promised to.move.forward in.the-project
 'It was decided/planned/promised to move forward with the project.'

Where possible, we constructed Hebrew equivalents or near-equivalents of the English test items and had two native speakers judge their acceptability on a binary scale. The results are reported in 22 and 23.

- (22) Nonattitude verbs/predicative control: Hebrew
- a. *nusa lehavin et ha-nituax.
 was.tried to.understand ACC the-analysis
 'People/someone tried to understand the analysis.'
- b. *hutxal lesader et ha-xeder.
 was.begun to.arrange ACC the-room
 'People/someone began cleaning up the living room.'
- c. *hufsak liftot alkohol.
 was.stopped to.drink alcohol
 'People/someone stopped drinking alcohol.'
- d. *hoaz lefakpek be-samxut-a.
 was.dared to.doubt in-authority-hers
 'People/someone dared to challenge her authority.'
- (23) Attitude verbs/logophoric control: Hebrew
- a. huvtax lehorid et ha-zevel.
 was.promised to.take.down ACC the-trash
 'People/someone promised to take out the garbage.'
- b. hutsa laasot kniot.
 was.offered to.do shopping
 'People/someone offered to do the shopping.'

- c. tuxnan leŋapets et ha-mitbax.
 was.planned to.renovate ACC the-kitchen
 ‘People/someone planned to renovate the kitchen.’
- d. huxlat laazov et ha-arets.
 was.decided to.leave ACC the-country
 ‘People/someone decided to leave the country.’

Although not as fine-grained as those for English or French, the judgments we gathered for Hebrew again support the generalization advanced by Landau: attitude predicates allow implicit control, whereas nonattitude predicates do not.

RUSSIAN. In short, Russian behaves exactly like the languages discussed above. This is illustrated below. Example 24 repeats the Russian data provided by Landau (2015:72, ex. 102a,b), and examples 25 and 26 provide (near-)equivalents to some of the English test sentences. The judgments are from three native speakers, who used a binary acceptability scale.

- (24) a. Nonattitude verbs/predicative control: Russian
 *Bylo načato/prodolženo/zakončeno tratit' den'gi
 was.SG.N begun.SG.N/continued.SG.N/finished.SG.N to.spend money
 na bespoleznye lekarstva.
 on useless medicines
 ‘*It was begun/continued/finished to spend money on useless medicines.’
- b. Attitude verbs/logophoric control: Russian
 Bylo zaplanirovano/obeščano obnovit' zdanie.
 was.SG.N planned.SG.N/promised.SG.N to.renovate building
 ‘It was planned/promised to renovate the building.’
- (25) Nonattitude verbs/predicative control: Russian
- a. *Bylo poprobovano ponjat analiz.
 was.SG.N tried.SG.N to.understand analysis
 ‘People/someone tried to understand the analysis.’
- b. *Bylo načato ubirat' gostinuju.
 was.SG.N begun.SG.N to.clean.up living.room
 ‘People/someone began cleaning up the living room.’
- c. *Bylo zakončeno pit' alcogol'.
 was.SG.N stopped.SG.N to.drink alcohol
 ‘People/someone stopped drinking alcohol.’
- (26) Attitude verbs/logophoric control: Russian
- a. Bylo obeščano vysnesti musor.
 was.SG.N promised.SG.N to.take.out garbage
 ‘People/someone promised to take out the garbage.’
- b. Bylo predloženo sxodit' za pokupkami.
 was.SG.N offered.SG.N go for shopping
 ‘People/someone offered to do the shopping.’
- c. Bylo zaplanirovano otremonirovat' kuxnju.
 was.SG.N planned.SG.N to.renovate kitchen
 ‘People/someone planned to renovate the kitchen.’
- d. Bylo rešeno pokinut' stranu.
 was.SG.N decided.SG.N to.leave country
 ‘People/someone decided to leave the country.’

3.2. LANGUAGES WITH IMPLICIT PREDICATIVE CONTROL.

GERMAN. Landau (2015:71f., ex. 100a,b) provides the German examples below to support his claim that nonattitude predicates do not license implicit control (judgments are taken from his work).

- (27) a. ??Es wurde aufgehört Zigaretten zu rauchen.
 it was stopped cigarettes to smoke
 ‘It was stopped to smoke cigarettes.’
 b. ??Es wurde geschafft/gewagt den Gefangenen zu helfen.
 it was managed/dared the prisoners to help
 ‘It was managed/dared to help the prisoners.’

While it is true that such examples are often felt to be slightly strange in out-of-the-blue contexts, it can be shown that implicit control with nonattitude verbs is not qualitatively different from implicit control with attitude predicates in German.

Initial support for this view comes from the fact that a simple Google search turns up hundreds of examples of implicit predicative control, some of which are provided below. Examples of different subtypes of nonattitude verbs (see Landau 2000 for this subclassification) are listed in 28–30, in order to guarantee a broad empirical coverage.

- (28) German implicative verbs with implicit control
- a. Jeder hat ihn geliebt, weil vermieden wurde über seine
 everyone has him loved because avoided was about his
 Vergangenheit zu reden.
 past to talk
 ‘Everyone loved him because people avoided talking about his past.’
- b. Am meisten verstört hat mich der Fakt, dass vermieden wurde, mit
 at.the most disturbed has me the fact that avoided was with
 gefährdeten Kindern direkt zu sprechen.
 imperiled children directly to speak
 ‘What disturbed me the most was the fact that people avoided talking directly with imperiled children.’
- c. Jessi war geradezu beleidigt, dass gewagt wurde so etwas
 Jessi was virtually offended that dared was so something
 überhaupt zu fragen.
 even to ask
 ‘Jessi was really offended that people even dared to ask something like this.’
- d. Seltener noch war zu beobachten, dass gewagt wurde, außerhalb
 rarer still was to observe that dared was outside
 wirtschaftlicher Krisen Einschnitte im sozialen Netz
 economic crises cuts in.the social network
 vorzunehmen.
 to.take
 ‘Even less frequently one was able to observe that outside of economic crises cuts were made in the social network.’
- e. Alle Beteiligten waren erleichtert, dass es geschafft wurde, die so
 all participants were relieved that it managed was the so
 Unheil bringende Maschine zu vernichten.
 mischief bringing machine to destroy
 ‘All participants were relieved that people managed to destroy the machine that brought that much mischief.’

- f. Wir freuen uns, dass es geschafft wurde, in den Sommerferien die
 we excite us that it managed was in the summer.break the
 notwendigen Gleisanlagen auszutauschen.
 necessary tracks to.replace
 ‘We are excited that people managed to replace the necessary tracks in
 the summer holidays.’
- (29) German aspectual verbs with implicit control
- a. Obgleich im postdramatischen Theater niemals gänzlich
 even.though in.the postdramatic theatre never fully
 aufgehört wurde zu erzählen.
 stopped was to narrate
 ‘Even though people never fully stopped to narrate in the postdramatic
 theatre.’
- b. Das Problem besteht darin, dass aufgehört wurde, ein alternatives
 the problem lies therein that stopped was an alternative
 Projekt für Argentinien zu entwickeln.
 project for Argentina to develop
 ‘The problem is that people stopped developing an alternative project
 for Argentina.’
- c. Die Liste wurde öffentlich ausgehängt und es wurde begonnen, sie
 the list was publicly posted and it was begun it
 abzuarbeiten.
 to.work.off
 ‘The list was posted in public and people began to work it off.’
- d. Ein wichtiger Erfolg der Reise ist sicherlich, dass begonnen wurde,
 an important success of.the trip is certainly that begun was
 ein gemeinsames Netzwerk zu knüpfen.
 a joint network to knot
 ‘An important success of the trip is certainly that people started build-
 ing up a joint network.’
- e. Man spürte, dass angefangen wurde sich als Mannschaft und nicht
 one felt that started was REFL as team and not
 nur als Mitspieler zu verstehen.
 only as teammate to understand
 ‘One felt that they started to see themselves as a team and not only as
 teammates.’
- f. Nach Aufruf von Laufwerk c: in der Dos-Box konnte ich
 after requesting of harddrive c: in the Dos-box was.able I
 feststellen, dass angefangen wurde, die Dateien des
 realize that started was the files of.the
 Betriebssystems zu kopieren.
 operation.system to copy
 ‘After requesting harddrive c: in the DOS-box, I was able to detect that
 someone/something started to copy the system’s files.’
- (30) German *versuchen* ‘try’ with implicit control
- a. Erst am Montag wurde der Polizei gemeldet, dass versucht wurde in
 only on Monday was the police told that tried was in
 ein Haus in der Schmitzinger Straße in Waldshut einzubrechen.
 a house in the Schmitzinger street in Waldshut to.break.in
 ‘Not before Monday did someone tell the police that someone tried to
 break into a house on Schmitzinger Street in Waldshut.’

- b. Es wurde versucht, eine Datei mit einem falschen Format zu laden.
 it was tried a file with a wrong format to load
 ‘Someone/something tried to load a file with the wrong format.’

All of the sentences in 28–30 sound perfectly natural to us and other native speakers we consulted. In order to substantiate this impression, we conducted a small questionnaire study to elicit the grammaticality status of implicit predicative control sentences. The study, which included various other test items not relevant for the discussion here, contained two implicit control sentences with attitude predicates, and two with nonattitude predicates. In total, the questionnaire contained sixty-eight fully randomized sentences. Fifty-eight subjects participated in the study and rated the sentences on a seven-point Likert scale (with 1 indicating unacceptability, and 7 full acceptability). The study was carried out online via the Qualtrics platform (<https://www.qualtrics.com/>) and distributed among first-year students at the University of Stuttgart. The results in the form of an arithmetic mean and standard deviation for the relevant test items are provided below.

(31) Nonattitude verbs/predicative control

- a. Es wurde angefangen, das Kinderzimmer aufzuräumen.
 it was begun the playroom to.tidy.up
 ‘People/someone began cleaning up the playroom.’ ($M = 5.72, SD = 1.74$)
- b. Es wurde versucht, das Land zu verlassen.
 it was tried the country to leave
 ‘People/someone tried to leave the country.’ ($M = 6.10, SD = 1.32$)

(32) Attitude verbs/logophoric control

- a. Es wurde versprochen, das Kinderzimmer aufzuräumen.
 it was promised the playroom to.tidy.up
 ‘People/someone promised to clean up the playroom.’
 ($M = 5.91, SD = 1.72$)
- b. Es wurde beschlossen, das Land zu verlassen.
 it was decided the country to leave
 ‘People/someone decided to leave the country.’ ($M = 6.38, SD = 1.00$)

Examples 31 and 32 show that there is no difference between the acceptability of implicit logophoric and implicit predicative control, and that both types receive high acceptability ratings. We thus conclude that German does not conform to Landau’s generalization.

It should also be noted at this point that the examples of implicit predicative control provided in this section are control configurations and do not involve restructuring. This can best be seen by the fact that structural accusative case is assigned to the internal argument of the infinitival clause, which, following Wurmbrand (2001), is a clear indication of the nonrestructuring status of these examples.

DUTCH. According to Landau (2015), Dutch patterns with English, Russian, and Hebrew in disallowing implicit control if the matrix predicate is a nonattitude verb. He gives the following example as support (Landau 2015:72, ex. 101).

(33) Nonattitude verbs/predicative control: Dutch

- *Er werd begonnen (om) sigaretten te roken.
 there was begun (COMP) cigarettes to smoke
 ‘It was begun to smoke cigarettes.’

The native speakers we consulted indeed rejected this example, but they did so for independent reasons, as all of them wanted to replace the complementizer *om* with the preposition *met* ‘with’ (*Er werd begonnen met sigaretten te roken* ‘It becomes started with cigarettes to smoke’).

In order to clarify the acceptability of implicit predicative control in Dutch, let us first point out that one finds examples in the (linguistic) literature, such as the following from Bennis & Hoekstra 1989:13, ex. 6b.

- (34) Er wordt geprobeerd (om) de deur open te maken.
 there is tried (COMP) the door open to make
 ‘People/someone tries to open the door.’

Furthermore, we asked four native speakers to rate the Dutch translations of some of the English sentences from §3.1, as well as some example sentences we drew from the internet. The results (with individual judgments, and the arithmetic mean) are as follows.

- (35) Nonattitude verbs/predicative control: Dutch
- a. Er werd begonnen (om) de woonkamer op te ruimen.
 there was begun (COMP) the living.room up to clean
 ‘People/someone began cleaning the living room.’ (3, 4, 3, 4; 3.5)
 - b. Er werd geprobeerd (om) de analyse te begrijpen.
 there was tried (COMP) the analysis to understand
 ‘People/someone tried to understand the analysis.’ (7, 6, 6, 6; 6.25)
 - c. Er werd gewaagd (om) haar autoriteit in twijfel te trekken.
 there was dared (COMP) her authority in doubt to pull
 ‘People/someone dared question her authority.’ (3, 4, 1, 6; 3.5)
 - d. Er werd vergeten/verzuimd (om) als collectief te spelen, juist
 there was forgotten/missed (COMP) as collective to play just
 wat normaliter de sterke kracht is van het team.
 what normally the strong power is of this team
 ‘People forgot/failed to play as a collective, which usually is the
 strength of this team.’ (4, 7, 3, 7; 5.25)
 - e. Er werd vermeden vragen te stellen.
 there was avoided questions to pose
 ‘People/someone avoided asking questions.’ (4, 7, 4, 7; 5.5)
- (36) Attitude verbs/logophoric control: Dutch
- a. Er werd beloofd (om) het afval op te ruimen.
 there was promised (COMP) the garbage up to clean
 ‘People/someone promised to clean up the garbage.’ (6, 7, 6, 7; 6.5)
 - b. Er werd aangeboden (om) de boodschappen te doen.
 there was offered (COMP) the groceries to do
 ‘People/someone offered to do the grocery shopping.’ (7, 5, 7, 6; 6.25)
 - c. Er werd gepland (om) de keuken te verbouwen.
 there was planned (COMP) the kitchen to renovate
 ‘People/someone planned to renovate the kitchen.’ (3, 7, 4, 5; 4.75)
 - d. Er werd besloten (om) het land te verlaten.
 there was decided (COMP) the country to leave
 ‘People/someone decided to leave the country.’ (7, 7, 6, 7; 6.75)

Note that the variation in acceptability was huge, even for a single item, and that aspectual predicates in the context of implicit control were indeed less acceptable than other nonattitude verbs (a tendency that appears to hold for German as well).⁸ Yet despite this variation, Dutch cannot be said to lack implicit predicative control: while some predicates are better than others (e.g. *vermeden* ‘to avoid’ in 35e vs. *waagen* ‘to dare’ in 35c), implicit predicative control is in principle acceptable. Dutch therefore does not conform to Landau’s generalization.

Again, although there is some overlap between predicates that trigger restructuring and exhaustive-control/nonattitude predicates (see e.g. Grano 2015 for an investigation

⁸ We hypothesize that this might have to do with a strong(er) tendency of these predicates to undergo restructuring, or, alternatively, their additional use as raising predicates.

of this correlation), the relevant cases of implicit predicative control provided in this section cannot be analyzed as involving restructuring. First, Dutch lacks Voice restructuring in the sense of Wurmbrand 2015; that is, long passives are impossible. Second, the examples above show that the presence of the complementizer *om* does not influence the acceptability of implicit predicative control. The presence of the complementizer, combined with the lack of verb raising (Evers 1975), indicates the presence of a CP-layer and thus the lack of restructuring.

ICELANDIC. Icelandic, too, does not conform to Landau's generalization, as the following data show.

- (37) Icelandic nonattitude verbs with implicit control
- a. Það er reynt að dansa hér.
it is tried to dance here
'People try/are trying to dance here.' (Sigurðsson 2011:159, ex. 22b)
 - b. Það var reynt að hætta að reykja.
it was tried to stop to smoke
'People tried to stop smoking.' (Gaston Rippinger, p.c.)
 - c. Það var byrjað að byggja upp sviðið.
it was begun to build up the.stage
'People began to assemble the stage.' (Gaston Rippinger, p.c.)
 - d. Það var byrjað að moka snjóinn.
it was begun to shovel snow
'People began to shovel snow.' (Sigurðsson 1989:61, ex. 9a)
 - e. Það var hætt að moka snjóinn.
it was stopped to shovel snow
'People stopped shoveling snow.' (Sigurðsson 1989:61, ex. 10a)
 - f. Það var klárað að moka snjóinn.
it was finished to shovel snow
'People finished shoveling snow.' (Sigurðsson 1989:61, ex. 11a)

As with German and Dutch, the data in 37 cannot be analyzed as instances of restructuring, as Icelandic has been argued in the literature to lack (Voice-)restructuring: long passives, for example, are unacceptable (38b).

- (38) Restructuring diagnostics: long passive
- a. Der Schnee wurde wegzuschaufeln versucht. (German)
the.NOM snow was away.to.shovel tried
 - b. *Snjórinn var reyndur að moka. (Icelandic)
the.snow.NOM was tried to shovel
'People tried to shovel away the snow.' (Sigurðsson 1989:60, ex. 7a)

NORWEGIAN. Finally, all four native speakers we consulted accepted the following two examples involving implicit predicative control, suggesting that Norwegian, too, defies Landau's generalization.

- (39) Nonattitude verbs/predicative control: Norwegian
- a. Det ble forsøkt å åpne vinduet.
it was tried to open the.window
'People/someone tried to open the window.'
 - b. Først da ble det stoppet å røyke.
first then was it stopped to smoke
'Only then people/someone stopped smoking.'

3.3. CONCLUSIONS. Our crosslinguistic survey shows that while implicit predicative control is indeed unacceptable in English, French, Russian, and Hebrew, this type of control relation is rated acceptable in German, Dutch, Icelandic, and Norwegian (see Table 2). The highlighted part in Table 2 is thus in violation of Landau’s generalization and raises the following question: Why does Landau’s generalization hold in some but not all languages? If we stick to the idea advanced in Landau 2015 that control with nonattitude matrix predicates involves a predication relation, one could take the data discussed in this section as evidence that implicit arguments of passives can enter predication in some but not all languages. We now turn to a deeper investigation of potential reasons for the split observed in this section.

	IMPLICIT LOGOPHORIC CONTROL	IMPLICIT PREDICATIVE CONTROL
English	✓	✗
French	✓	✗
Hebrew	✓	✗
Russian	✓	✗
Dutch	✓	✓
German	✓	✓
Icelandic	✓	✓
Norwegian	✓	✓

TABLE 2. Acceptability of implicit logophoric and implicit predicative control.

4. TWO POTENTIAL WAYS TO ACCOUNT FOR THE SPLIT. In this section, we discuss two possibilities for how to account for the surprising fact that, pace Landau (2015), implicit predicative control is possible in some languages (though not in all). In §4.1, we exploit what we call the **IMPLICIT ARGUMENT VARIATION HYPOTHESIS**, namely, the assumption that implicit arguments in passives can enter a predication relation in some languages because they are syntactically projected as a ‘strong implicit argument’ in the sense of Landau 2010. Although this is a plausible hypothesis, being also compatible with recent proposals about the nature of implicit arguments, we show based on the distribution of agent-modifying secondary predicates in passives that it has to be rejected. In §§4.2 and 4.3 we develop a different account of the existence of implicit predicative control and the fact that it is available in some but not all languages. To this end, we first show that the availability of implicit predicative control correlates with a different empirical phenomenon—the availability of impersonal passives: only in languages that allow impersonal passives is implicit predicative control acceptable (§4.2). In §4.3, we then use this observation to inform our analysis: there is nothing special about the acceptability of implicit predicative control, except that this type of construction constitutes an impersonal passive and therefore underlies the same formal restrictions; that is, the language must somehow avoid a violation of the EPP and satisfy the need for the ϕ -features on T to be valued. No reference to properties of the implicit argument is necessary. To explain the crosslinguistic acceptability of implicit logophoric control, by contrast, we propose that these cases can be construed as a personal passive and are therefore licit even in languages that lack impersonal passives. This is done via the apparent expletive in these constructions, which will be shown to not be a real expletive, but a CP-placeholder pronoun in the sense of Bennis 1986, Vikner 1995, or Ruys 2010. This pronoun is merged as an argument VP-internally and becomes the derived subject under passivization, just as is the case with the internal argument of canonical personal passives.

4.1. IMPLICIT ARGUMENTS AND SECONDARY PREDICATION. Chomsky (1986:120–21) notes that the unrealized subject of a control infinitive (PRO) can function as the subject

of a secondary predicate such as *together* or *angry*, whereas this is not possible, he argues, for the understood agent of a passive (40).⁹

- (40) a. It is impossible [PRO to visit me together].
 b. It is impossible [for me to be visited (*together)].
 c. They expected [PRO to leave the room angry].
 d. The room was left (*angry).

The conclusion Chomsky drew from this type of data was that the subject of an infinitival clause is syntactically projected, while the understood agent of a passive is not.

Landau (2010), by contrast, develops an argument that implicit arguments must always be syntactically represented. His argument, in short, runs as follows: he first argues that partial control must be derived in the syntax; that is, it must involve a syntactically represented controller. He then shows that implicit arguments can antecede partial-control relations, and concludes from this that implicit arguments must therefore be syntactically represented (see n. 20 for some further discussion).

In order to derive that implicit arguments can enter syntactically driven partial control, but not syntactically driven secondary predication (while *pro*/PRO can enter both relations), Landau (2010) postulates two different types of syntactically projected covert arguments, calling them *WEAK* and *STRONG IMPLICIT ARGUMENTS*. His ontology of implicit arguments is given in 41, by which, combined with the generalization in 42, he derives the pattern in 40.

- (41) a. *STRONG IMPLICIT ARGUMENT (SIA)*: PRO, *pro*
 b. *WEAK IMPLICIT ARGUMENT (WIA)*: passive agent, implicit object
 (Landau 2010:359, ex. 4)
- (42) An implicit argument must be *STRONG* to license a secondary predicate.
 (Landau 2010:359, ex. 5)

According to 42, only SIAs can saturate predicates.¹⁰ If control in the context of nonattitude predicates reduces to a predication relation, one could imagine that in those languages that allow implicit predicative control, the implicit agent of a passive is represented as an SIA, whereas it is a WIA in the languages that disallow implicit predicative control. In other words, the crosslinguistic split in the acceptability of implicit predicative control would reduce to a crosslinguistic difference in the type of implicit argument involved in passives.

- (43) *THE IMPLICIT ARGUMENT VARIATION HYPOTHESIS*: Implicit predicative control is acceptable in languages where the implicit argument of passives is syntactically realized as a strong implicit argument (SIA). As such, it can enter a predication relation.

This hypothesis makes a direct empirical prediction: since in languages with implicit predicative control the implicit argument of a passive is an SIA, it should also license secondary predicates such as depictives. In languages without implicit predicative con-

⁹ We use the term ‘secondary predicate’ to refer to depictives exclusively, being aware that resultatives are typically considered to be secondary predicates too (see e.g. Schultze-Berndt & Himmelmann 2004 for discussion and a crosslinguistic investigation).

¹⁰ Syntactically, Landau explains this via the assumption that only arguments can be predicated over and WIAs are not arguments. In particular, he proposes that WIAs and SIAs differ in their feature sets, as shown in (i). Since it is the D-layer that typically is taken to map an NP predicate to an argument denotation (Longobardi 1994) and WIAs lack this layer, it is expected that they cannot enter a predication relation.

(i) a. Strong implicit argument =_{def} [D, φ-set] (= *pro*)
 b. Weak implicit argument =_{def} [φ-set] (Landau 2010:378, ex. 60)

trol, in turn, the implicit argument of passives is either not projected at all or only projected as a WIA, and therefore depictives modifying the implicit agent of passives should be infelicitous. This prediction is depicted in Table 3. (In fact, this prediction is independent from Landau’s 2010 ontology of implicit arguments. If control and secondary predication rely on the same mechanism, and the former allows implicit arguments, the latter should, too.)

IMPLICIT PREDICATIVE CONTROL ✓ ✗	AGENT-MODIFYING DEPICTIVES IN PASSIVES ✓ ✗
---	---

TABLE 3. Predictions of the implicit argument variation hypothesis.

For each of the languages under investigation, we tested whether the prediction in Table 3 is borne out. The data, reported and discussed in the following subsections, show that the predicted correlation between the acceptability of implicit predicative control and agent-modifying depictives in passives does not hold: even in English, French, Russian, and Hebrew the latter are rendered acceptable, while implicit predicative control is not (§4.1). Due to the crosslinguistic acceptability of agent-modifying depictives in passives, the implicit argument variation hypothesis therefore has to be rejected as an account of the split in the availability of implicit predicative control.

GERMAN AND DUTCH. As the following examples show, German also allows secondary predication over the implicit argument of a passive verb.

- (44) a. ?Der Patient wurde nackt untersucht.
 the patient was naked examined
 intended: ‘The patient was examined and the examiner was naked.’
- b. Dieser Brief wurde offensichtlich betrunken geschrieben.
 this letter was obviously drunk written
 ‘This letter was obviously written drunk.’
- c. Es wurde betrunken/nackt getanzt.
 it was drunk/naked danced
 ‘People/someone danced drunk/naked.’
- d. dass das Buch nackt gelesen wurde.
 that the book naked read became
 ‘that the book was read naked.’ (Müller 2008:257, ex. 3a)

While some speakers reject the agent-modifying reading of the adjectival depictive in 44a, all of our informants accepted 44b–c. Example 44d is taken from the literature. The reason some speakers reject the intended reading for 44a seems to be that they prefer to relate, if possible, a secondary predicate to an overt rather than the covert argument, in particular if the overt argument satisfies the ontological requirements of the subject of the secondary predicate, that is, if it is animate/human. Impersonal passives such as 44c, which involve no overt DP at all, are thus expected to provide the best context for agent-modifying depictives.¹¹ Other factors might also play a role regarding

¹¹ Languages without impersonal passives should thus be considered with caution in an investigation of whether the implicit argument of passives can be predicated over. The relevant interpretation could simply be blocked by the presence of the overt internal argument, an effect that seems to vary in strength across speakers as well as languages. Only if secondary predicates are illicit in impersonal passives can one conclude for sure that something is amiss with the grammatical predication relation, that is, that the implicit argument cannot function as its subject.

whether the secondary predicate can modify the implicit agent. For example, since passives foreground the theme argument, an agent-modifying element should be such that its contribution is of some relevance to the theme (Jutta Hartmann, p.c.). This would also provide a reason as to why 44b is better than 44a for some speakers: writing a letter while being drunk has a potential effect on the ultimate form of the letter, whereas it is not clear how being naked should affect the examination of the patient.¹² More research is needed to figure out which factors really play a role (see also n. 17), but the general acceptability of 44b–d is enough to show that German allows secondary predication to target the implicit argument of a passive.

Note further that even though German adjectives are formally indistinguishable from adverbs, 44 above clearly involves predicative adjectives. Evidence for this comes from a diagnostic developed by Rothstein (2006), who points out that an adverbial use, since it modifies the event, should be compatible with the negation of the adjectival use—that is, the use that modifies the state the event participant was in during the event. This is illustrated in 45a for English, where the adverbial and the adjectival form are morphologically different. In 45b, the test is applied to a relevant German example.

- (45) a. The car was driven drunkenly, but the driver was not drunk.
 b. Der Brief wurde betrunken verfasst, #aber der Autor war nicht
 the letter was drunk written but the author was not
 betrunken.
 drunk
 lit. ‘The letter was written drunk, but the author was sober.’

The continuation in 45b is infelicitous, suggesting that the first use of *betrunken* ‘drunk’ is denoting the state the author was in while writing the letter—exactly the interpretation one would expect if it was used as an adjectival depictive rather than an adverbial modifier. In fact, all of the modifiers in 44 denote the state the agent was in while carrying out the event, suggesting that we are indeed dealing with adjectival depictives. Further support for the claim that implicit argument-modifying predicates are adjectival comes from the following example. In addition to selecting a complement PP, the predicate used (*wütend* ‘angry, mad’) should be incompatible with the manner adverb ‘carefully’ if it was used adverbially. This is because in the adverbial use, it would denote that an action was carried out very emotionally and aggressively.

- (46) Wütend auf die Nachbarn wurden deren Klingeln nachts ganz vorsichtig
 angry at the neighbors were their bells at.night fully carefully
 manipuliert.
 manipulated
 ‘Angry at the neighbors, their bells were carefully manipulated at night.’

Another type of predicate used in 40 above to test whether implicit arguments of passives may enter predication is *together*. Examples 47a–c show that German equiva-

¹² This is reminiscent of a similar effect found with *by*-phrases (and instrumental PPs) in adjectival passives (e.g. Rapp 1996, 1997; see Alexiadou, Gehrke, & Schäfer 2014 and references there for further discussion). While *by*-phrases are typically excluded in adjectival passives (cf. (i)), they become acceptable if they are relevant for the characterization of the theme’s result state denoted by the adjectival passive, as in (ii).

- (i) Der Mülleimer ist (*von meiner Nichte) geleert.
 the dustbin is (*by my niece) emptied
 intended: ‘The dustbin is emptied by my niece.’ (Rapp 1996:246)
- (ii) Die Zeichnung ist (von einem Kind) angefertigt.
 the drawing is (by a child) produced
 ‘The drawing is produced by a child.’ (Rapp 1997:192)

lents of *together* are felicitous in the relevant context. (In 47a, we see again that the presence of a human theme DP makes it slightly harder for the depictive to access the implicit agent.)

- (47) a. ?Der Mann wurde zusammen/gemeinsam besucht.
the man was together/collective visited
lit. 'The man was visited together.'
- b. Das Problem wurde zusammen/gemeinsam besprochen.
the problem was together/collective discussed
lit. 'The problem was discussed together.'
- c. Am Abend wurde zusammen/gemeinsam musiziert.
at.the evening was together/collective music.made
'People made music together in the evening.'

We thus conclude that the implicit external argument of a German passive may function as the subject of a secondary predicate. Based on the implicit argument variation hypothesis, then, the acceptability of implicit predicative control would be expected: both phenomena involve a predication relation, and the implicit agent in a German passive is an SIA that can antecede such a relation.

Turning to Dutch, the data below show that secondary predication over the implicit argument of passives is in principle also possible. The judgments in 48 and 49 were provided by Marcel den Dikken (p.c.).

- (48) a. Er werde naakt gedanst.
there was naked danced
'People danced naked.'
- b. *De patient werd naakt onderzocht.
the patient was naked examined
intended: 'The patient was examined and the examiner was naked.'
- c. De deur werd naakt geopend.
the door was naked opened
lit. 'The door was opened naked.'
- d. De kamer werd boos/kwaad verlaten.
the room was angry/evil left
lit. 'The room was left angry/evil.'
- (49) a. ?De man werd gezamenlijk bezocht.
the man was together visited
lit. 'The man was visited together.'
- b. Het probleem werd gezamenlijk besproken/opgelost.
the problem was together discussed/solved
lit. 'The problem was discussed/solved together.'
- c. Er werd gezamenlijk gemusiceerd.
there was together music.made
'People made music together.'

The only clearly rejected example is 48b, which has a human theme DP as subject. In line with our discussion of the German data above, this type of subject seems to be particularly salient and therefore blocks secondary predication over the implicit argument. This example does not invalidate the claim that the implicit agent of Dutch passives can antecede a predication relation. Since Dutch also allows implicit predicative control, this language complies with the implicit argument variation hypothesis, too.

NORWEGIAN AND ICELANDIC. The same parallelism between implicit predicative control and agent-oriented depictives in passives appears to hold in Norwegian. The data

below show that it is possible to predicate depictives over the implicit agent of a Norwegian passive. Again, the predication relation is deviant or harder to get in cases where an overt human theme argument is present (50b), just as we have seen for German and Dutch (data judgments: Terje Lohndal, Inghild Høyem, and Ragnhild Eik, p.c.).

- (50) a. Det blir danset naken.
 there is danced naked
 ‘People danced naked.’
- b. *Pasienten ble undersøkt naken.¹³
 the.patient was examined naked
 intended: ‘The patient was examined and the examiner was naked.’
- c. Døren ble åpnet naken.
 the.door was opened naked
 lit. ‘The door was opened naked.’
- (51) a. ??Mannen ble besøkt sammen.
 the.man was visited together
 lit. ‘The man was visited together.’
- b. Problemet ble diskutert/løst sammen.
 the.problem was discussed/solved together
 ‘The problem was discussed/solved together.’
- c. Det ble laget musikk/danset sammen.
 there was made music/danced together
 ‘People made music/danced together.’

Note furthermore that there is no difference in this regard between the two types of passives in Norwegian. The morphological *s*-passives in 52 allow adjectival depictives just as well (or as poorly) as the periphrastic *bli*-passives in 50 do (Ragnhild Eik, p.c.).

- (52) a. Det dances naken.
 there dance.PASS naked
 ‘People danced naked.’
- b. *Pasienten undersøkes naken.
 patients examine.PASS naked
 intended: ‘The patient was examined and the examiner was naked.’
- c. Døren åpnes naken.
 the.door open.PASS naked
 lit. ‘The door was opened naked.’

Recall from §3.2 that Icelandic allows implicit predicative control. This conflicts with the standard view in the literature that secondary predication cannot target the implicit agent of passives in Icelandic (e.g. Jónsson 2009, Sigurðsson 2011, among others); see 53a–c.

- (53) a. Var hún barin (*fullur)?
 was she hit (*drunk.NOM.M.SG)
 intended: ‘Was she hit (by someone who was drunk)?’
 (Sigurðsson 2011:157, ex. 17a)
- b. *Morgunmatur er alltaf borðaður nakinn.
 breakfast is always eaten naked.NOM.M.SG
 ‘Breakfast is always eaten naked.’
 (Jónsson 2009:297, ex. 35a)

¹³ In contrast to the others who find this example unacceptable, Ragnhild Eik (p.c.) finds that predication over the implicit agent is dispreferred (“??”), but possible. The same is true of the *s*-passive version in 52b.

- c. *Það var alltaf borðað nakinn.
 there is always eaten naked.NOM.M.SG
 ‘People always eat naked.’ (Jónsson 2009:297, ex. 35b)

While 53a–c involving adjectival depictives were also judged unacceptable by our informant, he found the following examples involving prepositional depictive predicates fully acceptable.

- (54) a. Lagið var samið í drykkju.
 song was composed in drunkenness
 ‘The song was composed drunk.’
 b. Það var dansað í drykkju.
 it was danced in drunkenness
 ‘People danced drunk.’

If one takes PPs as in 54 not to be real depictive secondary predicates, the data in 53 would suggest that in Icelandic, the implicit agent of a passive cannot function as the subject of a predication relation. The fact that implicit predicative control is licit in Icelandic would then mean that the parallelism predicted by the implicit argument variation hypothesis does not hold.

In our view, however, the PPs in 54 must be analyzed as depictive secondary predicates, as they clearly express a state the agent is in during the event. If the implicit agent in Icelandic passives is accessible to secondary predication, the problem with the adjectival depictives in 53 must find a different explanation. Note that Icelandic adjectival depictives—like all predicative adjectives in Icelandic—must inflect for the ϕ -features and the morphological case feature of their subject. PP-predicates as in 54, by contrast, are uninflected. Assume now that Icelandic adjectives enter the derivation with a set of unvalued ϕ -features and an unvalued feature for morphological case. If the implicit agent in passives is not syntactically projected (e.g. Bruening 2012, Kiparsky 2013, Alexiadou et al. 2015, Reed 2018), the features on the adjective go unvalued and the derivation crashes.¹⁴ Since no feature valuation is required in the case of depictive PPs, the derivation of examples such as 54 converges. If the implicit agent was syntactically projected as a PRO, pro, or ϕ P (e.g. Collins 2005, Landau 2010 (cf. 41a above); see also Müller 2016), it should be able to value the adjectival depictive, and the contrast between 53 and 54 is unexpected. In other words, the difference between AP- and PP-depictives in Icelandic can be construed as an argument against the syntactic projection of the implicit agent in passives.

As we see below, secondary depictives in Russian and Hebrew behave very much as in Icelandic and thus strengthen the plausibility of this argument. However, we must note that it is not the case that all languages with inflected predicative adjectives preclude them from being predicated of the implicit agent of passives. For example, we have seen in 50 and 52 above that adjectival depictives can target the implicit agent of Norwegian passives, but Norwegian adjectives show some inflection for gender (neuter vs. non-neuter) and number. There is evidence, however, that the form of the adjective in 50/52 is a default form (nonneuter, singular), suggesting that the ϕ -features are not valued by the implicit agent. For example, even if the latter is construed (contextually or via a *by*-phrase) as a child (neuter) or as children (plural), the same nonneuter singular form of the adjective must surface in Norwegian, the agreeing form being infelicitous (55).

¹⁴ The adjectives in 53 are inflected for nominative, masculine, singular. As Jónsson (2009:297f.) points out, different feature specifications do not improve such examples.

- (55) Døren ble lukket naken/*nakent/*nakne (av barnet
 door.the was closed naked.NON-N.SG/*naked.N.SG/*naked.PL (by child.the
 /av barn).
 /by children)
 ‘The door was closed naked (by the child/by children).’

We have to leave open the question of why some languages such as Norwegian (and French discussed below) allow secondary depictive adjectives to appear in a default form while other languages such as Icelandic (as well as Hebrew and Russian discussed below) do not make this option available. The contrast between Norwegian and Icelandic could be related to the case feature present only on Icelandic adjectives, and such an explanation might carry over to Russian. However, Hebrew adjectives only inflect for person and number and not for case, and the language still does not make available a default form for their adjectival depictives, so adjectival depictives cannot relate to the implicit agent in passives, as we will see.

ENGLISH AND FRENCH. Recall that English and French disallow implicit predicative control. We had five native English speakers rate the acceptability of sentences that involved secondary predicates modifying the implicit argument of passives, and we provide the results in 56 and 57.

- (56) a. The patient was examined naked. (1, 2, 4, 5, 2; **2.8**)¹⁵
 (on the reading where the examiner is naked)
 b. The letter was written drunk. (4, 4, 6, 7, 7; **5.6**)
 c. The door was opened naked. (1, 2, 2, 4, 2; **2.2**)
 d. The room was left angry. (1, 1, 1, 4, 1; **1.6**)
 (57) a. The man was visited together. (1, 1, 2, 2, 1; **1.4**)
 b. The problem was discussed/solved together. (5, 7, 5, 6, 6; **5.8**)

Note first that English does not make available the best test case for predication over the implicit agent, as it lacks impersonal passives (see n. 11). Still, some of the personal passives above received quite good judgments, suggesting that predication over implicit arguments is in principle possible. Furthermore, the contrast between the good and the bad examples seems to be systematic. As we discussed in the context of German passives above, a human nominative DP seems to attract the depictive; this accounts for the low rating of 56a under the agent-modifying reading and of 57a. Furthermore, we discussed that an agent-oriented depictive in passives must have some relevance for the theme subject. While being drunk can have some effect on the properties of the theme in 56b, being naked or angry does not have any obvious effect on the theme in 56c or 56d.

Recall that based on example 40d/56d, Chomsky (1986:120–21) and Landau (2010) claim that the implicit agent in passives cannot be accessed by depictive secondary predicates. Yet many other authors have provided counterexamples to this claim, suggesting that secondary predication over the implicit agent is possible in English (see e.g. Roeper 1987:297f., Safir 1987:589, Baker 1988:318, Collins 2005:101f., Kastner & Zu 2014; see also n. 4 for a discussion of example 56d, which had previously also been given as 10c). Further support for this view comes from Müller (2008), who provides, among others, the following corpus examples.

¹⁵ In addition to the five judgments listed for this example, Kyle Johnson, David Embick, and Jim Wood (p.c.) also judged the relevant reading to be in principle available, although the patient-modifying one clearly is more salient for them.

- (58) a. ‘We would like to eventually run a shuttle between Radford and Blacksburg. Price’s Fork, the main route, is an awful road to be driven **drunk**—all are, but especially that one’ he says.
- b. Later everyone got very drunk, volleyball was played **naked** in the mud.
- c. The sport of Rugby is almost identical to an ancient Greek ball game, which was played **naked**, for an audience composed entirely of elderly aristocrats.
- d. ‘Recorded **naked** to be played **naked**.’

We conclude that English depictives can, in principle, be predicated over the implicit argument of passives. If, however, this type of predication relation involving implicit arguments is felicitous, the unavailability of implicit predicative control in English is an argument against the implicit argument variation hypothesis. Furthermore, the mismatch in English suggests that the unacceptability of implicit predicative control should not be analyzed as a failure of establishing the control relation via predication (pace Landau 2015), as such a relation is, in principle, possible.

Turning to French, the results are similar to those we found in English. We asked our French informants from §3.1 to rate the acceptability of sentences involving the relevant kind of secondary predication. The results are reported below.

- (59) a. Le patient a été examiné nu.
the patient has been examined naked
‘The patient was examined naked.’ (7, 7, 7, 7, 7; 7)¹⁶
- b. La lettre a sans doute été écrite saoul.
the letter has without doubt been written drunk
‘The letter was clearly written drunk.’ (3, 6, 5, 4, 7, 3; 4.65)
- c. La porte a été ouverte nu.
the door has been opened naked
‘The door was opened naked.’ (3, 2, 4, 4, 2; 2.5)
- d. La porte d’entrée ne doit jamais être ouverte nu.
the door of-entrance not should always be opened naked
‘The front door should never be opened naked.’ (5, 2, 3, 6, 6, 2; 4)
- e. La chambre a été quittée fâché.
the room has been left angry
‘The room was left angry.’ (2, 2, 2, 4, 3, 1; 2.3)
- (60) a. Le candidat a été examiné ensemble.
the applicant has been examined together
‘The applicant was examined together.’ (1, 1, 1, 1, 2, 2; 1.3)
- b. Le problème a été discuté/résolu ensemble.
the problem has been discussed/solved together
‘The problem was discussed/solved together.’ (7, 2, 5, 7, 6, 3; 5)

Again, we see some more and some less acceptable examples, and draw the same conclusions as from the English data: predication over implicit arguments in passives is in principle possible (though it can be disfavored by certain factors such as the lack of relevance of the depictive predication to the theme subject or the intervention of a human theme DP).¹⁷ This contrasts with the result from §3.1 that implicit predicative control

¹⁶ Due to an imprecision in the test design, the judgments in 59a refer to the reading where the depictive relates to the overt nominative theme. However, three of our consultants explicitly stated that this sentence is ambiguous, that is, that the depictive can relate to the implicit agent.

¹⁷ The contrast between 59c and 59d suggests that modality can also increase the acceptability of a reading where the depictive predicates over the implicit agent. See Poole 2015 for a related effect in the domain of implicit control into adjuncts.

is impossible in French, constituting an argument against the implicit argument variation hypothesis.

Let us add that adjectival depictives in French can target the implicit agent, although French adjectives inflect for ϕ -features. Yet, as in the case of Norwegian, the adjective surfaces in a default form. While French depictives agree with their overt antecedent in gender and number (61), the adjective in the corresponding passive is invariably masculine singular, no matter whether the implicit agent is construed as singular or, as in 62, as plural. This latter fact is strengthened by the data in 63, where an overt *by*-phrase is present. Again, the adjectival depictive must occur in the (nonagreeing) masculine singular form.

- (61) Il/elle/ils/elles a/ont joué le match nu/nue/nus/nues.
 he/she/they.M/they.F have.SG/PL played the game naked.M.SG/F.SG/M.PL/F.PL
 ‘He/she/they have played the game naked.’
- (62) Le match de foot a été joué nu/*nue/*nus/*nues.
 the match of foot has been played naked.M.SG/*F.SG/*M.PL/*F.PL
 ‘The football game was played naked.’
- (63) ?Le match de foot a été joué nu/*nues par les filles du
 the match of foot has been played naked.M.SG/*F.PL by the girls of.the
 quatrième étage, mais pas par les filles du cinquième.
 fourth floor but not by the girls of.the fifth
 ‘The football game was played naked by the girls from the fourth floor, but not by the girls from the fifth floor.’

That the masculine singular has, in fact, the status of a default form is further supported by the observation that in nonstandard French, predicative adjectives do not have to agree with their overt antecedent. If the nonagreeing form is chosen, it has to be the masculine singular (64).¹⁸

- (64) La fille elle était blonde/?blond.
 the girl she was blond.F.SG/?blond.M.SG
 ‘The girl, she was blond.’

Again, if the implicit agent was projected as an SIA to account for the predication facts in, for example, 59, 62, or 63, this pronoun should come with valued ϕ -features that, potentially, track the interpretation of the implicit agent. It is unclear, then, why the adjectival depictive necessarily surfaces in a nonagreeing default form. If, by contrast, the implicit agent is never syntactically projected, the default form of the adjective in the examples above is expected.

HEBREW AND RUSSIAN. The situation in Hebrew and Russian is very similar to what we have seen in Icelandic: while adjectival depictives cannot relate to the implicit agent, PPs expressing a state of the agent during the event, that is, PP-depictives, can very well be used. The relevant data are illustrated in 65 for Hebrew (Odelia Ahdout, Itamar Kastner, p.c.) and in 66 for Russian (Masha Polinsky, Olga Borik, and Daniil Bondarenko, p.c.). Note also the contrast between 65b and 65c, which shows again, this time for PP-depictives, that pragmatic factors can disfavor predication over the implicit agent: if the passive involves an overt human DP, speakers prefer to relate the depictive to this DP.

¹⁸ We thank Fabienne Martin for pointing this out to us (p.c.).

(65) Hebrew

- a. ha-Sir ha-ze xubar
the-song the-this was.composed
(be-hai/be-gilufin/*šiikor/*sikorim).
(in-high/in-intoxication/*drunk.M.SG/*drunk.M.PL)
'This song was composed high/intoxicated/drunk.'
- b. be-bet ha-xolim ha-ze nutxu xolim (??be-erom).
in-house.of the-patients the-this was.operated patients (??in-nudity)
intended: 'Patients in this hospital were operated on by nude doctors.'
- c. ha-mixak soxak (be-erom/*erom/*eromim).
the-game was.played (in-nudity/*nude.M.SG/*nude.M.PL)
'The game was played nude.'

(66) Russian

- a. Pacient byl osmotren v golom vide/*golym.
the.patient was examined in naked state/*naked.M.SG.INS
'The patient was examined naked.' (agent-modifying reading)
- b. Verojatno, pis'mo bylo napisano v pjanom vide/*p'janym.
arguably the.letter was written in drunk state/*drunk.M.SG.INS
'The letter was written drunk.'
- c. Dver' byla otkrita v golom vide/*golym.
the.door was opened in naked state/*naked.M.SG.INS
'The door was opened naked.'
- d. Komnata byla pokinuta v zlosti.
the.room was left in anger
'The room was left angry.'

In Hebrew and Russian, adjectival depictives must agree in gender and number with their antecedents; furthermore, Russian adjectival depictives either agree with their antecedents in case or they appear with instrumental case (see Geist 2010 for a discussion of potential semantic effects that correlate with the choice of case). The ungrammaticality of adjectival depictives in passives can then be assumed to follow from an agreement failure, as we already argued for Icelandic: the implicit argument cannot value the adjective with the relevant features, and agent-oriented adjectival depictives are therefore ungrammatical in passives. PP-depictives do not face such a morphosyntactic restriction.

INTERIM CONCLUSIONS. In §3.3, we concluded that some but not all languages allow implicit predicative control. At the beginning of §4, we formulated the implicit argument variation hypothesis (43), which states that this crosslinguistic split correlates with two syntactically different types of implicit arguments (in the sense of Landau 2010). While passives in languages that allow implicit predicative control would involve a strong implicit argument, passives in languages that do not allow this type of control would involve a weak implicit argument (cf. 41a,b). A direct prediction of this proposal was that only in the former type of language should secondary predicates such as depictives be able to target the implicit external argument in passives. However, we showed that this prediction is not borne out. All languages investigated allow either AP-depictives or PP-depictives to target the implicit external argument of passives. Even if the PP-expressions are taken not to constitute proper depictives,¹⁹ no correla-

¹⁹ Lappin and Shlonsky (1993:n. 11) claim that English adjectival depictives and PP-depictives have to be kept apart as only the latter are licit in nominalizations. However, Rothstein (2004:136, ex. 3) provides the counterexample in (i).

(i) The performance of the national anthem drunk upset everyone tremendously.

tion emerges. Some languages lack implicit predicative control and disallow adjectival depictives to target the implicit agent (Russian, Hebrew), some allow both (German, Dutch Norwegian), and, crucially, others allow only one but not the other: Icelandic allows implicit control but not agent-oriented adjectival depictives in passives, and French and English allow agent-oriented adjectival depictives but not implicit predicative control. Our results are summarized in Table 4.

	IMPLICIT PREDICATIVE CONTROL	SECONDARY PREDICATES IN PASSIVES
English	✗	✓
French	✗	✓
Hebrew	✗	✓ (with nonagreeing PPs)
Russian	✗	✓ (with nonagreeing PPs)
Dutch	✓	✓
German	✓	✓
Icelandic	✓	✓ (with nonagreeing PPs)
Norwegian	✓	✓

TABLE 4. Acceptability of implicit predicative control and agent-modifying secondary predicates in passives.

We therefore reject the implicit argument variation hypothesis and the claim that implicit predicative control is sometimes unacceptable due to a failed control relation, as implicit external arguments of passives apparently can function as the subject of a predication relation across languages.²⁰ The split regarding the acceptability of implicit predicative control observed in §3.3 must therefore find a different explanation.

In the next section, we show that there is an empirically more adequate generalization that ultimately will inform an account of the observed split: the languages that allow implicit predicative control all license impersonal passives, whereas the languages without implicit predicative control do not. Based on this correlation, we argue that implicit predicative control necessarily involves an impersonal passive, whereas the passive in implicit logophoric control may be personal by virtue of a full-fledged pronoun that is associated semantically with the embedded infinitival clause (§4.3).

4.2. IMPERSONAL PASSIVES OF STRICTLY UNERGATIVE VERBS. In this section, we show that there is a correlation between languages that allow implicit predicative control and

²⁰ At the moment, we do not see any empirical argument that implicit external arguments of passives could not be treated as purely semantic entities. We think such a treatment does not automatically predict that implicit objects should enter secondary predication (they arguably do not, as examples such as 10a,b seem to be unacceptable across languages). Implicit external arguments and implicit objects could differ with respect to the licensing of secondary depictives even if they are both present only at a semantic level. For example, it might be relevant that the external argument variable is introduced by a functional projection VoiceP (Kratzer 1996) and/or that passives introduce existential quantification of the external argument variable via a functional head PASS that selects an unsaturated VoiceP complement of type $\langle e, t \rangle$ (Bruening 2012); we assume that predication can target the variable of implicit agents at this unsaturated VoiceP level. Alexiadou, Schäfer, and Spathas (2014) argue that both properties do not hold for implicit objects of the type found in examples such as in 10a,b.

Note also that the main argument provided in Landau 2010 to really support the syntactic projection of implicit arguments (compared to leaving them syntactically unrepresented) is based on the observation that implicit arguments can function as the controller in partial-control contexts and the assumption that this type of control can only be treated in the syntax. There are two potential confounds: (i) Landau develops his argument on the basis of implicit experiencers of adjectives. But since, for principled reasons, this argument cannot be applied to implicit agents of passives, the question of whether implicit agents of passives also license partial control remains open. (ii) Pearson (2013, 2016) has recently shown that a purely semantic analysis of partial control is, in fact, possible.

languages that license strict impersonal passives (whereby we mean productive passives of plain unergative predicates that select neither a DP nor a PP complement).

LANGUAGES WITH IMPERSONAL PASSIVES. As the data below show, the languages that do allow implicit predicative control (the (a)-examples below), that is, German, Dutch, Icelandic, Norwegian, also allow impersonal passives (the (b)-examples).

(67) German

- a. Es wurde aufgehört zu rauchen.
it was stopped to smoke
'People/someone stopped smoking.'
- b. Die ganze Nacht lang wurde getanzt.
the whole night long was danced
'People/someone danced all night long.'

(68) Dutch

- a. Er werd begonnen (om) de woonkamer op te ruimen.
there was begun (COMP) the living.room up to clean
'People/someone began cleaning the living room.'
- b. ... dat (er) gedanst wordt.
that (there) danced is
'... that people are dancing.'

(Mohr 2005:120, ex. 21b)

(69) Icelandic

- a. Það var byrjað að moka snjóinn.
it was begun to shovel snow
'People/someone began to shovel snow.'
- b. Í gær var dansað.
yesterday was danced
'People danced yesterday.'

(Zaenen et al. 1985:98, ex. 9)

(70) Norwegian

- a. Først da ble det stoppet å røyke.
first then was it stopped to smoke
'Only then people/someone stopped smoking.'
- b. I går ble det danset.
in yesterday was it danced
'Yesterday, people danced.'

(Mohr 2005:35, ex. 22)

LANGUAGES WITHOUT IMPERSONAL PASSIVES. English lacks implicit predicative control (71a). As is well known, English also does not license impersonal passives of unergative verbs (71b).

(71) English

- a. *It was tried to understand the analysis.
- b. *There/it was danced.

Similarly, in French, which also lacks implicit predicative control (72a), plain unergative predicates such as *dance* or *drink* do not allow an impersonal passive (72b).

(72) French

- a. *Il a été commencé à augmenter à nouveau les impôts.
it has been begun to raise at again the taxes
'People began to raise the taxes again.'
- b. *Il a été bu.
it has been drunk
ungrammatical as: 'People drank.'
grammatical as: 'People drank it, e.g. the wine.'

(Dobrovie-Sorin 1994:143, ex. 31a)

It has to be mentioned, however, that under certain conditions what look like subjectless passives do seem to be licensed in French (73) (these and similar examples are discussed in Dobrovie-Sorin 1994 and Gaatone 1993, 1994).

- (73) a. Il a été vendu beaucoup de voitures japonaises l'an passé.
 it has been sold many of cars Japanese the-year last
 'Many Japanese cars were sold last year.'
- b. ?Il a été beaucoup bu hier soir.
 it has been a.lot drunk yesterday evening
 'People drank a lot yesterday evening.'
- c. Il sera répondu à chaque lettre.
 it will.be answered at every letter
 'Every letter will be answered.'
- d. Il a été débattu de la question.
 it has been discussed of the question
 'The question was discussed.'

We believe that the data in 73 do not undermine the correlation between implicit predicative control and impersonal passives. The French examples in 73a,b are not strict impersonal passives since they are actually passives of transitive verbs. In these examples, the internal argument DP remains inside the verbal phrase and the subject (EPP) position is occupied by the pronoun *il* 'he'. If this pronoun does not appear, the internal argument must raise to the subject position, as shown in 74a vs. 74b.

- (74) a. Trois livres ont été vendus cet après-midi.
 three books have been sold this afternoon
- b. Il a été vendu trois livres cet après-midi.
 it has been sold three books this afternoon
 'Three books were sold this afternoon.'

Note that the pronoun and not the VP-internal theme triggers verbal agreement in 74b. The pronoun *il* is thus fully specified for ϕ -features and both checks the EPP in T and values the ϕ -features on T. But why then can the pronoun *il* not appear in strict impersonal passives as in 72b? We can imagine only one reason: *il* is not a true expletive and must always be interpreted in some way. In its canonical use, *il*, like every pronoun, acts as an argument in a theta position and either refers to an element in the discourse or is interpreted as a bound variable. In its seemingly expletive use, *il* appears in a non-theta position (Spec,TP) but is actually not interpretatively exempt. In order to avoid a violation of the theta criterion (as a pronoun/DP lacking a theta-role), *il* needs to associate with another argumental phrase. In 73a,b and 74b this associate is an internal argument DP; 73c,d show that *il* can also be associated with an internal argument PP.²¹ We suggest therefore that the full-fledged pronoun *il* is necessarily interpreted as a theta-marked argument or as connected to such an argument. If no such connection can be established, as in 72b where no associate is present, only the former option is possible and *il* needs a thematic role of its own. In cases where the verb is (optionally) transitive, *il* is then referential and receives the internal theta-role (the second reading of 72b). With strictly unergative (uses of) verbs, no theta-role can be assigned to *il*, which thereby violates the theta criterion. Leaving out *il* is not an option either in these cases,

²¹ What is relevant for us at this point of the discussion is that strict impersonal passives are not possible in French with or without *il*. See §4.3 for some discussion of how this association between *il* and an argument NP/PP (as well as between *il* and an argument CP) could be formally established. Note also that Dobrovie-Sorin (1994) and Gaatone (1993, 1994) provide some more or less marginal examples where *il* associates with adjunct PPs or even some types of adverbials.

as this will result in an unchecked EPP as well as unvalued ϕ -features on T (see the next section for discussion). In sum, strict impersonal passives in French are ruled out either by the theta criterion (if *il* is present) or for EPP reasons (if *il* is absent).

Similarly, Hebrew disallows implicit predicative control (75a) as well as impersonal passives of plain unergative verbs (75b) (cf. Lappin & Shlonsky 1993). Just as in French, one can find acceptable examples of what look like impersonal passives if an argumental PP occurs inside the VP (75c,d). We propose that such cases can receive an explanation similar to that suggested above for French: Spec,TP is occupied by a pronoun comparable to French *il*, which effectively requires identification via an association relation with a theta-marked element (cf. Shlonsky 1990 for an account along these lines for postverbal subjects of unaccusative and passive verbs). Unlike in French, however, this pronoun is covert in Hebrew.²²

(75) Hebrew

- a. *nusa lehavin et ha-nituax.
was.tried to.understand ACC the-analysis
'People/someone tried to understand the analysis.'
- b. *nirkad be-beit ha-sefer kol yom.
was.danced at-house of-book every day
'People/someone danced in the school every day.' (Itamar Kastner, p.c.)
- c. Nixtav ?al-av ba-?iton.
was.written about-him in.the-paper
'It was written about him in the paper.' (Shlonsky 1990:273, ex. 21a)
- d. Bekarov yuxlat ?al haxzarat ha-staxim ha-kvusim.
soon will.be.decided on return the-territories the-occupied
'The return of the occupied territories will soon be decided upon.'
(Shlonsky 1990:273, ex. 21b)

Finally, in Russian, where implicit predicative control is also unacceptable (76a), only transitive verbs that lexically encode a resultant state are reported to passivize (e.g. Babby 1973, Paslawska & van Stechow 2003, Borik 2013, 2014, Kiparsky 2013), and passives of unergative predicates as in 76b are unacceptable. Although this is the received wisdom in the literature, we came across examples such as 76c in which, again, the acceptability of an impersonal passive depends on the presence of an argumental PP, just as we have seen for French and Hebrew. Again, the explanation for this has to be the presence of a covert pronoun in Spec,TP that is associated with the VP-internal PP complement.

(76) Russian

- a. *Bylo načato tratit' den'gi na bespoleznye lekarstva.
was begun to.spend money on useless medicines
'*It was begun to spend money on useless medicines.'
- b. *Tut bylo natanzovano.
here was danced
'Here, people/someone danced.'

²² We see no other way to account for the difference in grammaticality between passives of plain unergative verbs, as in 75b, and examples like 75c,d. The proposed analysis crucially hinges on the presence of an EPP feature on T in Hebrew. Again, in the absence of such a feature, and the consequent absence of an associate pronoun, the facts surrounding impersonal passives cannot be accommodated: Hebrew should pattern like German.

- c. Bylo napisano ob ètom v gazete.
 was written about this in the.newspaper
 ‘This was written about in the newspaper.’ (Grewendorf 1990:310, ex. 30b)

We conclude that there is in our set of languages a correlation between the acceptability of impersonal passives of strictly unergative verbs and the acceptability of implicit predicative control (see Table 5). It seems, then, that the availability of the former is a necessary condition for the latter. We now turn to our explanation of why this correlation between implicit predicative control and impersonal passives should hold, and why implicit logophoric control is crosslinguistically not restricted in such a way.

	IMPLICIT PREDICATIVE CONTROL	(STRICT) IMPERSONAL PASSIVES	SECONDARY PREDICATES IN PASSIVES
English	✗	✗	✓
French	✗	✗	✓
Hebrew	✗	✗	✓ (with nonagreeing PPs)
Russian	✗	✗	✓ (with nonagreeing PPs)
Dutch	✓	✓	✓
German	✓	✓	✓
Icelandic	✓	✓	✓ (with nonagreeing PPs)
Norwegian	✓	✓	✓

TABLE 5. Acceptability of implicit predicative control, impersonal passives, and agent-modifying secondary predicates in passives.

4.3. THE ANALYSIS: (IM)PERSONAL PASSIVES AND IMPLICIT CONTROL. Let us take stock: we have so far seen that implicit logophoric control is licit across all of the languages under investigation, and that, contrary to claims in Landau 2015, implicit predicative control is also acceptable—but only in some languages. We discussed an analysis of these facts, in particular the varying acceptability of implicit predicative control, that crucially relies on the assumption that the properties of the implicit argument of passives vary crosslinguistically, licensing a predication relation in some but not all languages. This analysis had to be rejected, though, since there was no correlation with the acceptability of agent-oriented depictives in passives, which also involve a predication relation but were shown to be fine in all of the languages discussed in this article.

We then saw that there is a correlation between implicit predicative control and a different empirical phenomenon—impersonal passives. Based on this correlation, we now gradually build our analysis of the control data. We propose that implicit obligatory control is in principle always possible, as shown in the case of implicit logophoric control, and that the reason for the unacceptability of implicit predicative control in certain languages depends on factors independent from the control relation per se. In particular: implicit predicative control is unacceptable in a language for exactly the same reason that impersonal passives are ruled out. Therefore, we first discuss below two factors that determine the acceptability of impersonal passives and, by extension, that of implicit predicative control: the EPP and the (unvalued) ϕ -features on T. For example, if a language has an operating EPP, but no way of satisfying it in impersonal passives, the same problem will arise in implicit predicative control structures. Afterward, we address an immediate question this proposal raises: Why does implicit logophoric control not correlate with the status of impersonal passives? In other words, why is implicit logophoric control different from implicit predicative control? To answer this question, we take a closer look at the apparent expletive involved in these structures and show that this element cannot be analyzed as an expletive, but must be argumental in nature. We provide evidence that it functions as a CP-placeholder pronoun in the sense of, for

example, Bennis 1986, Vikner 1995, or Ruys 2010. As such, it is base-generated in a VP-internal theta position and becomes the derived subject under passivization, essentially deriving a personal passive. The issue of an unchecked EPP or unvalued ϕ -features on T therefore does not arise, rendering implicit logophoric control acceptable across languages. The question of why implicit predicative control cannot be similarly construed as a personal passive via a CP-placeholder pronoun will also be answered, and tied to the close semantic relationship between the placeholder pronoun and the infinitival clause, to which it is cataphorically related.

IMPERSONAL PASSIVES. In principle, two possible reasons for the lack of impersonal passives come to mind, potentially in combination. First, if the EPP is operative in a language, but the language lacks a suitable TP-expletive, then impersonal passives are ruled out as a violation of the EPP. If, by contrast, an EPP language makes a suitable TP-expletive available, passives of unergative predicates are predicted to be possible. The latter scenario is instantiated by Norwegian, where an expletive must surface in impersonal passives (77).

- (77) I går ble det danset.
in yesterday was it danced
‘Yesterday, people danced.’

A second hindrance to impersonal passives could be seen in the valuation of the ϕ -features on T. We assume with Holmberg (2002) that in 77, *det* is specified for ϕ -features and can thus value the features on T. If a language lacks a suitable expletive or if it has one that, unlike Norwegian *det*, lacks inherent ϕ -feature specification, the question is how the features on T get valued.²³ Ruys (2010) argues that in such languages, the ϕ -features on T can potentially be valued via a rule of default valuation, given in 78. In languages that lack 78 and a ϕ -complete expletive, the ϕ -features on T go unvalued in impersonal passives and the derivation crashes.

- (78) **DEFAULT PHI-VALUATION** (Ruys 2010:143, ex. 5): Dutch, Danish (, ...) have a rule of default valuation [3, sg] and deletion of ϕ on T. English does not.

In sum, an impersonal passive can fail because either the EPP remains unchecked or T’s ϕ -features remain unvalued (or both) (English, French, Hebrew, Russian; see the next section for discussion). Languages in which impersonal passives are licit either are EPP languages that have a suitable expletive with ϕ -features (Norwegian), or are non-EPP languages that have the rule in 78 (German, Dutch, Icelandic).²⁴

IMPLICIT CONTROL: *it* IS NOT AN EXPLETIVE. Turning now to implicit control, the question arises of why the passivization of subject-control attitude predicates (i.e. implicit logophoric control) is licit across all of the languages we investigated, independently of whether the language licenses impersonal passives. On the surface, the English, French, Hebrew, and Russian implicit control examples in 79a–d look like impersonal passives, as these verbs seem to lack an internal argument DP that could check the EPP and/or value the ϕ -features on T. Yet as we have seen, none of these languages otherwise allows plain impersonal passives.

²³ This is the case, for example, with expletives taken from the locative domain such as Dutch *er* or English *there* (e.g. Richards & Biberauer 2005, Ruys 2010).

²⁴ Note that German and Icelandic impersonal passives do not feature an expletive (67b, 69b). In Dutch, the locative expletive *er* ‘there’ is optional (68b) (though see Richards & Biberauer 2005:142 for an exception). Note that the expletives in the implicit control structures in 67a, 68a, and 69a are located in Spec,CP in order to guarantee a V2-structure, not to check the EPP on T.

- (79) a. It was decided to leave the country immediately.
 b. Il a été décidé de quitter le pays immédiatement. (French)
 it has been decided to leave the country immediately
 ‘People decided to leave the country immediately.’
 c. huxlat le’hitkadem ba-projekt. (Hebrew)
 decided.PASS to.move.forward in.the-project
 ‘It was decided to move forward with the project.’
 d. Bylo zaplanirovano obnovit’ zdanie. (Russian)
 was planned to.renovate building
 ‘It was planned to renovate the building.’

Given our discussion about impersonal passives above, the question of why the examples in 79 are acceptable is related to the status of the subject pronoun (overt in 79a,b, covert by hypothesis in 79c,d): if it is a true expletive of the Norwegian type, why can this expletive not occur in canonical impersonal passives and render them acceptable? Although we ultimately show that the element is not an expletive, we briefly discuss a potential answer to this question. The fact that it does not work serves as a negative argument against the expletive status of this element.

An answer to the above question is proposed by Bruening (2011), who argues that English *there* and *it* are so-called DUMMIES (i.e. real expletives), which, however, must formally agree with an element bearing a specific categorial feature [F] (notated as [dummy:F]), as illustrated in 80a,b. We add the alleged French expletive in 80c (recall from §4.2 that seemingly impersonal passives in French are licit if *il* can associate with a VP-internal NP or PP argument; C would be necessary to capture implicit control structures as in 79b).

- (80) a. English *there*: Has the feature [dummy:N] (requires an Agree relation with an NP).
 b. English *it*: Has the feature [dummy:C] (requires an Agree relation with a CP).
 c. French *il*: Has the feature [dummy:N/P/C] (requires an Agree relation with an NP/PP/CP).

Impersonal passives of the Norwegian type in 77 are then correctly ruled out in English (and the other languages in 79) based on the fact that the relevant Agree-relation cannot be established, as no clausal element is present. In 79a, by contrast, expletive *it* would check the EPP, value [u ϕ] on T, and agree with the infinitival complement CP.

There are two reasons why we think this is the wrong analysis for the data in 79. First, the fact that implicit control with nonattitude matrix predicates is blocked in these languages cannot be derived. Second, the subject pronoun in 79 does not behave like an expletive, but seems to have some semantic content. We illustrate these points in turn.

Recall from §2 (see the discussion around 7 and 8) that Landau (2015) proposed the core difference between predicative and logophoric control to be that the infinitival complement denotes a property (type $\langle e\langle s,t \rangle \rangle$) in the former case, but a proposition (type $\langle s,t \rangle$) in the latter. To capture the difference in passivizability, one could now propose to adjust 80b to include s-selectional features that allow the expletive to agree with the infinitival complement only in the case of logophoric control (81). Expletive *it* would then be barred from occurring in implicit predicative control, deriving its absence from English.

- (81) English *it*: Has the feature [dummy:C_(s,t)].

Yet a number of nontrivial issues arise. First, why should an expletive s-select? There is no initially plausible reason for this property. Second, our generalization that languages

without plain impersonal passives render implicit predicative control unacceptable would lack a principled explanation. As there is nothing inherently wrong with the feature [dummy: $C_{\langle e(s,t) \rangle}$], we would expect languages to exist in which implicit predicative control is fine (i.e. they have the relevant dummy feature on their expletive) but ordinary impersonal passives are not, contrary to the picture that emerged from our language sample. We would also expect to see languages with implicit predicative control but without implicit logophoric control, that is, exactly the opposite of what we saw in our language sample. Third, the nonfinite complements of nonattitude verbs are also unacceptable as subject clauses, in which case no expletive subject occurs that could derive the distinction.²⁵

- (82) a. *It has been tried [CP to solve the problem]. (nonattitude verb: $CP_{\langle e(s,t) \rangle}$)
 b. * $[CP$ To solve the problem] has been tried several times.
 (83) a. It has been promised [CP to solve the problem]. (attitude verb: $CP_{\langle s,t \rangle}$)
 b. $[CP$ To solve the problem] has been promised several times.

We thus conclude that the contrast between 82a and 83a cannot be tied to such selectional properties of a dummy *it*. Therefore, an extension of Bruening's theory to handle the implicit control facts is not feasible, suggesting that the *it* involved in implicit logophoric control is not an expletive. In the next subsections, we back up this conclusion by showing that the subject pronoun in implicit logophoric control, unlike true expletives, has some semantic content.

It AS A CP-PLACEHOLDER. In the following, we present and motivate our claim that implicit logophoric control in languages without impersonal passives (see the examples in 79) in fact involves personal passives. Their subject pronoun is not an expletive (and thus cannot be used to form plain impersonal passives), but it is merged as the internal argument of the matrix predicate, which is cataphorically related to the infinitival clause.

Such pronouns have been extensively discussed in the context of extraposition (e.g. Bennis 1986, Zaring 1994, Müller 1995, Vikner 1995, Stroik 1996, among others), and we follow Ruys (2010) in referring to them as CP-PLACEHOLDERS. In the literature, the formal details of the relation between a CP-placeholder and its associate clause are still far from clear. For the sake of concreteness, we assume that the pro-form is a regular Case- and theta-marked variable operator-bound by its associate CP (Ruys 2010) and represent this binding via superscript indices.²⁶ Example 84 exemplifies the use of such a CP-placeholder in an active sentence.

²⁵ The structures in 82b and 83b are simplified. It has been argued that English subject clauses are satellites attached to the CP, and Spec,TP is filled by a covert NP that is semantically associated/coindexed with the subject clause (Koster 1978, Alrenga 2005, Takahashi 2010, Moulton 2013, Lohndal 2014, Ott 2017). Under this analysis, Spec,TP in 82b would be filled by a covert NP denoting a property. The same semantic question arises that we bring up below—whether properties can appear in Spec,TP.

²⁶ We remain agnostic here with regard to any details of the underlying and surface syntactic correlation between the placeholder pro-form and the complement clause. In Rosenbaum 1967, the CP is generated as a modifier of the NP headed by *it* and then extraposed. Bennis (1986) proposes that the CP is generated as an adjunct to the VP binding the pronoun generated in object position.

For Icelandic, it can be shown that the placeholder pronoun and the complement clause form a constituent (Wood 2012, building on Thráinsson 1979). In German, the corresponding data are ungrammatical. Blocking of extraction might suggest that extraposition takes place (e.g. Bennis 1986 for Dutch). However, Wood (2017) shows that the Icelandic placeholder pronoun blocks extraction even in cases where arguably no extraposition of the infinitival complement has taken place, and Fischer (2018) shows the same for related German data. The crosslinguistic picture is complicated by French *il* (Zaring 1994) and Danish *det* (Vikner 1995), which do not block extraction.

- (84) a. I regret [_{DP+θ} it]ⁱ [_{CP} that we didn't address this issue]ⁱ.
 b. I count on [_{DP+θ} it]ⁱ [_{CP} that they will solve the problem]ⁱ.

In passives, a CP-placeholder may move from its theta position to Spec,TP, where it checks the EPP. That such a pronoun can, in fact, move to subject position in a passive is suggested by the English pseudo-passive in 85b.

- (85) a. They counted [_{PP} on it]ⁱ [that Peter would bring the cake]ⁱ.
 b. Itⁱ was counted [_{PP} on #ⁱ] [that Peter would bring the cake]ⁱ.

CP-placeholder *it* is an ordinary pronoun and thus specified for φ-features ($\{3rd, sg\}$) which can value the unvalued person and number features on T. In that regard, then, a CP-placeholder behaves identically to a run-of-the-mill internal argument in a personal passive, such that examples like 85b or, more generally, configurations of the type abstractly represented in 86 qualify as personal, rather than impersonal, passives. As a consequence, under our structural analysis of implicit logophoric control, exemplified in 87, this type of construction involves a personal passive, and it is therefore not at odds with the absence of impersonal passives in English.

- (86) [_{TP} Itⁱ_{3rd, sg}] T_{[uP],[uN]} [_{PassP} Pass [_{VoiceP} Voice [_{VP} ... #ⁱ ...] ... [_{CP} ...]ⁱ ...
 (87) Itⁱ was promised #ⁱ [_{CP} to solve the problem]ⁱ.

The same argumentation applies to French, Hebrew, and Russian, the only difference being that while the placeholder pro-form is overt in English/French, we must postulate a covert pro-form for Russian and Hebrew to capture the acceptability of cases like 79c,d.²⁷

The intended analysis of implicit logophoric control can be illustrated nicely in German, a non-EPP language that allows Spec,TP to remain empty. Consider the optional CP-placeholder pronoun *es* 'it' in the following active sentence.

- (88) Mehrmals schon hat Peter (*es*ⁱ) versprochen, [den Roman zu lesen]ⁱ.
 multiple.times already has Peter (it) promised the novel to read
 'Peter has promised to read the novel multiple times already.'

Example 89 shows that passivization of 88 leads either to a plain impersonal passive (89a) or to a personal passive in which the CP-placeholder *es* 'it' is retained (89b).

- (89) a. Mehrmals schon wurde versprochen, [den Roman zu lesen]ⁱ.
 multiple.times already was promised the novel to read
 b. Mehrmals schon wurde *es*ⁱ versprochen, [den Roman zu lesen]ⁱ.
 multiple.times already was it promised the novel to read
 'It has been promised to read the novel multiple times already.'

The claim that 89b is a personal passive insofar as *es* 'it' in this example is an argument rather than an expletive is supported by a contrast with impersonal passives of unergative verbs. As is well known, the occurrence of sentence-internal *es* in German is restricted to nonexpletive uses of this pronoun (e.g. weather *it*), as is indicated by the fact that impersonal passives in German disallow sentence-internal *es* (90) (e.g. Haider

²⁷ At least for Hebrew, such a covert pronoun has been argued to also be present in other cases of sentential complementation, such as those in (i) (Shlonsky 1990).

- (i) a. Nidme l-i še-ha-šemeš šokʔat.
 seem to-me that-the-sun sinking
 'It seems to me that the sun is sinking.'
 b. Barur še-hi bašanit tova.
 clear that-she linguist good
 'It is clear that she is a good linguist.'

1987, 1990, Grewendorf 1989, Fanselow 1991). Since *es* occurs sentence-internally in 89b, it must be argumental. If *es* is argumental in 89b, this is a personal passive.

- (90) Mehrmals schon wurde (*es) in der alten Fabrik getanzt und
 multiple.times already was (*it) in the old factory danced and
 gefeiert.
 celebrated
 ‘Multiple times already there was dancing and celebrating in the old
 factory.’

Thus, whereas in German, which has impersonal passives, both of the derivations involved in the examples in 89 converge, in languages without impersonal passives, only the one in 89b leads to a felicitous outcome, because the placeholder pro-form must become the derived subject that checks the EPP and values T.

Before we proceed to further evidence for this analysis, let us now address the crucial question of what derives the contrast exemplified for English in 82a vs. 83a: that is, why is implicit logophoric control acceptable in languages that lack impersonal passives, but not implicit predicative control? Obviously, for some reason, the latter type of construction may not involve a CP-placeholder and will therefore obligatorily involve an impersonal passive, which derives the observed correlation between impersonal passives and implicit predicative control. But why should a CP-placeholder be infelicitous in these latter cases? In order to approach this question, recall the difference between 82b and 83b, repeated as 91a,b.

- (91) a. *_[CP To solve the problem] has been tried several times.
 b. _[CP To solve the problem] has been promised several times.

The infinitival complement cannot function as a subject clause of a nonattitude predicate (91a), but can do so in the context of an attitude predicate (91b)—and this contrast seems to be systematic.²⁸ Recall also that we argued in §4.2 that the unacceptability of 91a cannot be reduced to a failed control relation, as the implicit argument can in principle enter a predication relation. It seems, then, that the infinitival complement of nonattitude predicates simply cannot be linked to Spec,TP—either indirectly through a coindexed CP-placeholder, or directly via movement to this position (or, alternatively, via a link to a covert nominal in this position; cf. n. 25). This descriptive generalization can be made sense of if one assumes that the kernel of a proposition is a predication relation (Rothstein 1983, 1995, 2004, Heycock 1994, 2013, Eide & Åfarli 1999, Åfarli 2017, among others), and that a sentence potentially involves different layers of predication, mediated via functional heads (v, T, C, etc.; Heycock 1994). Passivization of an attitude predicate, whose infinitival complement denotes a proposition, then leads to a situation in which the subject of the predication relation established by T is propositional. In the case of a nonattitude predicate, by contrast, this subject denotes a property, and we submit that this creates a problem at the syntax-semantics interface. Thereby, we follow Rothstein (2004:55), who submits that ‘we expect those categories which are canonical predicates and thus unsaturated, not to be subjects’. To put it differently, we propose the generalization in 92.

- (92) Spec,TP may not be occupied by an element of type $\langle e\langle s,t \rangle \rangle$.

²⁸ We thank Gillian Ramchand, who originally pointed this out to us (p.c.).

This generalization directly accounts for implicit predicative control being unacceptable in languages without impersonal passives.²⁹ In languages with impersonal passives, no such issue arises since either Spec,TP is filled by an expletive that is not cataphorically related to the infinitival complement (e.g. Norwegian) or Spec,TP is not projected (e.g. German, Dutch, or Icelandic; Haider 1993, 2010, Wurmbrand 2006; see also Richards & Biberauer 2005). This situation is summarized abstractly in 93.

- (93) a. * $[_{TP} It^i \text{ was tried } \#^i [_{CP} \text{ to solve the problem}]^i]$.
 (English, French, Hebrew, Russian)
 b. $[_{TP} It_{\text{expl.}} \text{ was tried } [_{CP} \text{ to solve the problem}]]$. (Norwegian)
 c. $[_{TP} \emptyset \text{ was tried } [_{CP} \text{ to solve the problem}]]$. (German, Dutch, Icelandic)

Thus, 92 will never be violated in languages that allow impersonal passives, predicting implicit predicative control to be licit in such languages. As a referee points out, nonattitude predicates can be passivized in English when combined with a finite complement clause (94).

- (94) It was forgotten that everything relevant had already been said.

This observation is compatible with our analysis, since finite complement clauses denote propositions. Interestingly, many of our consultants also observed the following contrast.

- (95) a. *To close the shop at 9 pm was forgotten once again by the person in charge.
 b. That the shop will close at 9 pm was forgotten once again by many customers.

This difference is again expected under our analysis: the finite complement clause is licit as a subject clause, since it is not of type $\langle e\langle s, t \rangle \rangle$ and therefore does not violate 92.

As we conclude this subsection, we consider a nontrivial question that arises for all accounts that analyze the subject pronoun found in passives of verbs selecting a (finite or nonfinite) CP complement as a placeholder for this CP (e.g. Bennis 1986, Vikner 1995, Ruys 2010): Why can the placeholder pro-form occur productively in the subject position of the passive of such verbs in English (as well as in French), but much less productively in the object position of the corresponding active version of such verbs? Although some subject-control verbs allow the pronoun in object position in the active (cf. 96a–d, which were judged acceptable by our informants), most subject-control verbs do not (cf. 97a–d, where ‘#’ is meant to indicate that the pro-form is possible only if the embedded CP is set apart from the main clause by a strong pause, thus indicating an irrelevant right-dislocation structure).

- (96) a. Finally, I managed (it) [to read the whole book from the beginning to the end].
 b. I regret (it) [to have eaten the pasta].
 c. I promised (it) to her [to bring down the trash but I couldn’t].
 d. Everyone would prefer (it) [to come early]. (Rosenbaum 1967)

²⁹ Specificational copula clauses as in (i) pose a potential counterexample to this generalization. We thank Peter Jenks for pointing this out to us (p.c.).

(i) The culprit is me.

Mikkelsen (2005) argues that in these cases, Spec,TP is occupied by a predicate. Yet Heycock (2012) has advanced a number of arguments showing that the pre-copula NP does not behave like a predicate, but more like an intensional object in the sense of Romero 2005. If the latter view is correct, the generalization provided in 92 can be maintained.

- (97) a. The criminals decided (#it) [to leave the country immediately].
 b. I tried (#it) several times [to read the book from the beginning to the end].
 c. I forgot (#it) [to bring down the trash].
 d. We hoped (#it) [to solve the problem].

Two possible explanations come to mind, and both carry a last-resort flavor, much like what is known from the discussion of dummy expletives. Yet since we have argued above (and further substantiate in the next section) that the subject pronoun in English (or French) implicit control structures is a placeholder pro-form with semantic content, we propose that the distribution of such placeholder pro-forms can be subject to some kind of last-resort consideration, too.

In the literature on placeholder pro-forms (e.g. Bennis 1986:103, Vikner 1995:244, Ruys 2010:n. 24), it has been mentioned that the availability of these pronouns in object position is restricted by a number of factors, such as the choice of the particular matrix verb or the factivity/veridicality of the complement proposition. While the exact conditions at play are, to our knowledge, not yet fully investigated, some level of idiosyncrasy seems to be involved as languages, and even speakers, can differ in whether they allow such pronouns with individual verbs and in individual contexts. Be this as it may, in order to tackle the question above, one could assume that the syntax in principle can build both structures of an active sentence (i.e. with and without a pro-form in object position), but additional constraints related to factors of the type just mentioned may filter out the variant with the pro-form. In the corresponding passive, by contrast, the variant without the pro-form will lead to ungrammaticality in English and French due to the general impossibility of impersonal passives. The structure including the pro-form is thus the only possible one, and therefore is not filtered out.

An alternative explanation would give up the idea that all placeholder pro-forms are necessarily base-generated in a theta position (but see the next section for an argument that at least some must originate in a theta position since they carry inherent case). We have adopted to this point the position from the literature cited above that the pro-form receives the verb's internal theta-role and the CP is not theta-marked but only semantically associated with the pro-form. But assume that the relation is exactly the opposite: that is, the CP is merged as the internal argument, and the placeholder pro-form is merged in a non-theta position if it is needed for syntactic convergence, that is, to check the EPP in passives. For dummy expletives, it has been proposed that such a non-theta position is the outer Spec,vP (Richards & Biberauer 2005, Richards 2007, Deal 2009, Alexiadou & Schäfer 2011) from which the expletive raises to Spec,TP. To combine this base position of the placeholder pro-form with our main claim that the placeholder denotes the property or proposition expressed by the complement CP, one could enrich Bruening's (2011) proposal discussed above (cf. 80b) with a (semantic) mechanism which ensures that the formal Agree-relation between English *it* (or French *il*) and the complement CP necessarily leads to semantic association/coindexation. Under this proposal, placeholder pro-forms in object position of an active control configuration would then be restricted by the factors mentioned at the beginning of this section, whereas their productivity in the corresponding passive follows from the need to check the EPP. (Recall that the unavailability of this rescue mechanism in plain impersonal passives is due to the absence of an associate CP.)

We must leave it for future research to decide between these two possibilities and to work out their details.

FURTHER EVIDENCE FOR *it* BEING THETA-MARKED. Our analysis of implicit logophoric control developed in the preceding section crucially involves the assumption that

the subject pronoun found in this construction is not an expletive. It rather starts out in an argument position, and is therefore theta-marked. In this section, we provide further evidence for this claim.

First, consider the following Icelandic facts, discussed in Thráinsson 1979 and Wood 2012, 2017.

- (98) a. Böðullin frestaði aftökunni.
 the.executioner.NOM postponed the.execution.DAT
 ‘The executioner postponed the execution.’
- b. Þeir frestuðu (því) [að hálshöggva fangana].
 they.NOM postponed (it.DAT) to execute the.prisoners.ACC
 ‘They postponed executing the prisoners.’
- c. Í gær var (því) frestað [að hálshöggva fangana].
 in yesterday was (it.DAT) postponed to execute the.prisoners.ACC
 ‘Yesterday, executing the prisoners was postponed.’

Example 98a shows that the Icelandic verb *fresta* ‘to postpone’ assigns lexical dative case to its object, and 98b shows that in the case of an object clause the optional placeholder pro-form bears the same lexical case. Since lexical case is associated with thematic relations (Chomsky 1986, Woolford 2006), this supports the claim that the placeholder pro-form is assigned a theta-role. Example 98c, then, illustrates that the dative pro-form can be retained under passivization, pointing to the argumental status of the subject pronoun (cf. the Icelandic plain impersonal passive in 69b, which disallows any expletive).

Second, it is well known that PRO must bear a theta-role, even if only a quasi-argumental one, as in 99 (provided by a referee; cf. Chomsky 1981:324).

- (99) It_i snows in Scotland [PRO_i before snowing in England].

The Dutch data in 100 from Bennis 1986 suggest that CP-placeholder ‘it’ can be controlled, indicating that it indeed bears a theta-role.³⁰

- (100) Het_i is [na PRO_i tien keer uitgelegd te zijn] eindelijk duidelijk
 it is after ten times explained to be at.last clear
 geworden [dat de aarde rond is]_i.
 become that the earth round is
 ‘After it had been explained ten times it became finally clear that the earth is round.’

Our analysis of implicit logophoric control structures in languages without impersonal passives, in which the subject pronoun is a CP-placeholder pro-form, therefore predicts that this pro-form should be able to be controlled. This prediction is borne out in the following English example.³¹

- (101) It_i was decided [without PRO_i being announced] [to raise the taxes next year]_i.

³⁰ As further evidence that Dutch *het* ‘it’ is a placeholder pro-form with semantic content, Bennis (1986) argues that it can bind a reflexive pronoun and licenses parasitic gaps. Ruys (2010) concludes from the behavior of English *it* and Dutch *het* in pseudo-clefts that they are placeholder pro-forms with thematic content. For reasons of space we simply refer the reader to these works.

³¹ Control into adjunct clauses can, in principle, be OC or NOC (Landau 2013, 2017). Landau (2017) argues that control into adjunct clauses can only be OC if the adjunct clause is passivized, as in 100 and 101. Note further that since PRO in NOC must be [+human] (e.g. Landau 2013), the adjunct clauses in these examples must involve OC.

The same can be illustrated for German (for Danish, see Vikner 1995:228f.). Recall that, due to absence of the EPP property in German, a CP-placeholder pronoun is optional in the context of implicit control structures (which already suggests that this pronoun is not just a formal expletive).

- (102) Weil (es) beschlossen wurde, die Steuern zu erhöhen.
 as (it) decided became the taxes to raise
 ‘It was decided to raise the taxes.’

In the examples in 103a,b involving control into an adjunct clause, the version with the CP-placeholder pronoun is strongly preferred. This indicates that the extraposed infinitive CP cannot itself control PRO and that *es* stands semantically for the embedded CP-proposition.

- (103) a. ??weil beschlossen wurde [ohne PRO_i bekannt gemacht zu
 as decided became without known made to
 werden], [die Steuern zu erhöhen]_i
 become the taxes to raise
 b. weil es_i beschlossen wurde [ohne PRO_i bekannt gemacht zu
 as it decided became without known made to
 werden], [die Steuern zu erhöhen]_i
 become the taxes to raise
 ‘... as it was decided without being made public to raise the taxes’

In sum, there are several arguments supporting our claim that the pronominal element in examples like 83a is not a true expletive, but a CP-placeholder that is base-generated in the internal argument position. In languages without impersonal passives, this CP-placeholder is obligatorily moved to the structural subject position Spec,TP under passivization.

4.4. IMPLICIT (LOGOPHORIC) CONTROL AND THE RVG. One may have noticed that the analysis developed above is incompatible with the revised Visser’s generalization (RVG) in 104.

- (104) REVISED VISSER’S GENERALIZATION (van Urk 2013:172, ex. 12): Obligatory control by an implicit subject is impossible iff an overt DP agrees with T.

Recall from the introduction that 104 was intended to capture the following contrast (where IA stands for the implicit external argument of the passivized matrix verb).

- (105) a. *Bill was IA_i promised [PRO_i to attend the workshop].
 b. It was IA_i decided [PRO_i to attend the workshop].

Adopting Landau’s (2000 et seq.) Agree-model, van Urk argues that in 105a, the nominative DP *Bill* agrees with T and therefore blocks an Agree-relation between T and the syntactically represented implicit argument IA. This Agree-relation between an argument and a functional matrix head, however, is what mediates the control relation, correctly predicting implicit control to be unavailable in 105a. In 105b, by contrast, van Urk assumes that the implicit argument can agree with T—and thereby function as controller—because *it* is a pure expletive that lacks even ϕ -features and thus does not enter into an Agree-relation with T. Since under our analysis of 105b *it* is a cataphoric pronoun fully specified for ϕ -features, it should agree with T just as *Bill* does in 105a and thus, given 104, block implicit control—contrary to fact.

We believe, however, that there are a number of reasons to reconsider van Urk’s explanation of the contrast between 105a and 105b. First, on a purely theory-internal level, 104 relies on the Agree-model of control, which, as discussed by Landau (2015),

has a number of independent problems and should be rejected. Outside of this model, however, 104 loses much of its appeal and explanatory force. Second, the existence of a φ -defective *it*-type expletive in English needs some motivation, given that most investigations of the expletive system in English assume that pronominal *it*-type expletives are fully specified for φ -features (e.g. Richards & Biberauer 2005, Ruys 2010). If the alleged expletive is not φ -defective, however, 104 rules out implicit control in 105a and 105b alike. Third, there exist potential counterexamples to the RVG, such as the German passive example in 106b and its English translation (cf. also *Lots of money was bet on winning the race*).

- (106) a. Hans_i verwendete viel Zeit/Energie darauf [PRO_i das Problem zu
 John spent much time/energy it.on the problem to
 lösen].
 solve
 ‘John spent much time/energy on solving the problem.’
- b. Viel Zeit/Energie wurde (von Hans_i) darauf verwandt [PRO_i das
 much time/energy was (by John) it.on spent the
 Problem zu lösen].
 problem to solve
 ‘Much time/energy was spent (by John) on solving the problem.’

Example 106b and its English translation involve implicit control in the context of a nominative subject DP agreeing with T, and they constitute an RVG violation if they can be shown to involve complement control, not adjunct control. Note in this connection that the German infinitival clauses in 106a,b can be replaced by finite clauses headed by the complementizer *dass* ‘that’, which is generally used to introduce argument CPs. Furthermore, 106a,b involve OC rather than NOC, according to the tests discussed in §2 (exs. 12–14); an arbitrary interpretation of PRO is impossible, no long-distance control across the overt or implicit agent is possible when 106a,b are embedded in a further matrix clause, and PRO only allows a sloppy interpretation under ellipsis. We thus believe it is necessary to reconsider the mechanisms behind the RVG. While we cannot propose an alternative technical solution here, one obvious difference between the ungrammatical 105a and the grammatical 105b/106b lies in the (in)animacy of the subject DP. We thus hypothesize that implicit control is not blocked by an overt subject DP per se, but only by those subjects whose ontological properties would fulfill the selectional restrictions imposed by the embedded verb on the argument position of PRO. According to this idea, *Bill* in 105a could be licitly construed as the agent of *attend* and therefore block control by the implicit argument (and, as far as we know, derived subjects in examples attributed to VG are always human). In 106b, by contrast, the nonhuman subject DP cannot be construed as the agent of the embedded problem-solving event and therefore does not count as a competing controller that potentially blocks implicit control. An account of the RVG that builds on this difference would then be compatible with our analysis of implicit predicative control structures as in 105b, where the pro-form is cataphorically related to the propositional CP. As a proposition cannot be construed as the agent of *attend the workshop*, it does not block control by the implicit agent, despite the fact that it values the φ -features on T.³²

³² Furthermore, if the cataphoric pro-form in 105b was construed as the controller of PRO, this would lead to an *i*-within-*i* violation, as the infinitival CP and its PRO-subject would carry the same semantic index.

5. CONCLUSIONS. In this article, we have shown that implicit logophoric control, where the passivized verb is an attitude predicate, is possible across an array of eight languages. By contrast, implicit predicative control, where the passivized verb is nonattitudinal, is possible in some of these languages (German, Dutch, Norwegian, Icelandic) and impossible in others (English, Russian, Hebrew, French). This crosslinguistic split is a problem for the generalization proposed in Landau 2015 according to which implicit predicative control should always be unacceptable because implicit arguments cannot be predicated over for principled reasons.

We argued that this empirical split could not be derived from different properties of the implicit agent of passives in the two sets of languages. In particular, we showed that it does not correlate with a language's ability to predicate over the implicit external arguments of passives. Against some earlier claims in the literature, we provided evidence that implicit agents of passive sentences license secondary predication across languages (although we pointed out some restrictions that are, so far, not fully understood). We concluded based on this observation that implicit arguments of passives can, in principle, be the subject of predication and, thus, the ungrammaticality of implicit predicative control in some languages is not due to a failed control relation (pace Landau 2015).

While the acceptability of implicit predicative control did not correlate with the possibility of predicating over implicit arguments, we showed there to be a correlation with the availability of strict impersonal passives: only those languages in our set that have impersonal passives of plain unergative verbs allow implicit predicative control. In order to capture this correlation, we proposed that the passive of a nonattitude subject-control predicate fails at the formal syntactic level for the same reason as ordinary impersonal passives, because either T's ϕ -features remain unvalued or the EPP is unchecked (or both). Passives of attitude subject-control predicates, by contrast, are available even in languages that lack impersonal passives because they can formally be construed as a type of personal passive. A full-fledged CP-placeholder pronoun semantically identified with the (potentially extraposed) infinitival clause denoting a proposition raises from object to subject position, where it satisfies the EPP and values the ϕ -features on T. We argued that this strategy to avoid an impersonal passive syntax via a CP-placeholder pronoun is impossible in structures involving implicit predicative control. In the latter context, the CP-placeholder pronoun is semantically identified with an infinitival clause denoting a property and thus denotes a property itself. Following Rothstein (2004), who generally argues that unsaturated predicates cannot be subjects, we proposed that Spec,TP may not be occupied by an element of type $\langle e\langle s,t \rangle \rangle$: that is, the CP-placeholder pronoun in predicative control structures cannot be used to derive a personal passive in an EPP language. This explanation was confirmed by the observation that the infinitival complement clause of predicative control structures also makes no good subject clause in English.

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