

Simplex yet Local*

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1. Introduction

Should Binding Theory be parametrized and to what extent? We examine in detail one case previously argued to require parametrization and show that parametrization is not needed. More specifically, we show that the simplex Icelandic reflexive *sig* is subject to the same locality constraints as the English complex reflexive *x-self*: they are both subject to the standard Condition A (cf. Chomsky 1986, i.a.), except under universally available conditions of exemption from Condition A, namely logophoric construal.

In section 2, we discuss the conditions under which, crosslinguistically, anaphors get exempted from Condition A. In section 3, we provide three arguments that Icelandic *sig* obeys Condition A, except under logophoric exemption. Our analysis relies on grammaticality judgments collected from the literature and from some native speakers, as well as from an online magnitude estimation questionnaire. We report on this questionnaire and its results in the appendix.

2. Exemption

Anaphors such as English *x-self* in (1) obey locality requirements, which we will call the ‘standard’ Condition A of the Binding Theory (Chomsky 1986): they must be bound within their clause.¹

- (1) a. [The girl]_i is looking at herself_i
in the mirror. b. [The moon]_i spins on itself_i.

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¹This approximation, which here stands for the various formulations of Condition A that have been proposed, will be sufficient for our current purposes (but see Chomsky 1986, Reuland 2011, Charnavel & Sportiche 2016, i.a., for more specific formulations of Condition A and discussion about their differences).

In various languages however, some instances of anaphors do not seem to satisfy locality conditions imposed by this standard Condition A. For instance, English *herself* in (2) is not c-commanded by its antecedent *her*, or English *himself* in (3) and Icelandic *sig* in (4) are bound from outside their clause.

(2) In her_i opinion, physicists like $herself_i$ are rare. (from Kuno 1987)

(3) $Bill_i$ said [the rain had damaged pictures of $himself_i$]. (from Pollard & Sag 1992)

(4) $Jón_i$ segir [að $María$ elski sig_i].
 John says that Mary loves-SUBJ REFL
 ‘ $John_i$ says that Mary loves him_i .’ (Thráinsson 1976)

We will call an anaphor not obeying this standard Condition A an **exempt** anaphor.

2.1 Exempt anaphors: long distance anaphors and logophors.

Exemption from the standard Condition A is reported to occur for two different reasons: the anaphor is a long distance anaphor, or it is used logophorically.

According to these reports, a long distance anaphor must be bound: it requires a c-commanding antecedent; but unlike a standard anaphor, it allows its antecedent to be outside its clause (see Pica 1987, Cole et al. 2006, Reuland 2006a,b, a.o). Icelandic *sig* bound from outside its infinitive clause as in (5) is reported to illustrate this case.

(5) $Jón_i$ skipaði Pétri [að raka sig_i á hverjum degi].
 John ordered Peter that shave-INF REFL² on every day
 ‘ $John_i$ ordered Peter to shave him_i every day.’ (Reuland & Sigurjónsdóttir 1997)

In addition, both regular anaphors and long distance anaphors can be exempted from standard condition A when used logophorically.³ Such “logophors” are not subject to any structural constraint: they neither require a c-commanding antecedent (cf. (2)), nor a local antecedent (cf. (3)), nor even an antecedent in the same sentence as in (6) below (an instance of free indirect discourse).

(6) $John_i$ was going to get even with Mary. That picture of $himself_i$ in the paper would really annoy her, as would the other stunts he had planned. (Pollard & Sag 1992)

Instead, logophors require their antecedents to be perspective holders (see Sells 1987, Pollard & Sag 1992, i.a.). In addition to complex English reflexives, simplex Mandarin *ziji*

²The following glosses are used throughout the paper: CL=classifier; IND=indicative; INF=infinitive; PERF=perfective; PRON=pronoun; REFL=reflexive; SUBJ=subjunctive.

³This is not to say that all anaphors allow logophoric usages: Greek *ton eafto tu* or Hebrew *acmo* do not, apparently

(Huang & Liu 2001), or Icelandic *sig* (Thráinsson 1976, Maling 1984, Sigurðsson 1990, i.a.), among others, can behave logophorically under appropriate discourse conditions.

On the basis of such facts, two generalizations have been claimed to hold. First morphologically complex anaphors such as English *x-self* or French *x-même* (\approx ‘x-self’) and *son propre* ‘his own’ obey the standard Condition A, unless used logophorically (Pollard & Sag 1992, Reinhart & Reuland 1993, Charnavel & Sportiche 2016, i.a.). Second, simplex anaphors such as Icelandic *sig* or Mandarin *ziji* are long distance anaphors, and are moreover subject-oriented, once again unless used logophorically (Pica 1987, Cole et al. 2006, Reuland 2006a,b, i.a.).

As the binding domain of these long distance anaphors has been claimed to vary, this has led to a parametrization of Condition A based on the standardly reported contrasts listed in (7) below. As shown, the domain can be unrestricted (Mandarin *ziji* allows any c-commanding antecedent regardless of distance), while other long distance anaphors are more restricted (Icelandic *sig* must be bound within its tensed clause: as we will see in more details in section 3, it has been claimed to be bindable from outside infinitive, and, by some, from outside subjunctive clauses, but not from outside indicative clauses).

	Long Distance Anaphors	Regular Anaphors
Morphology	simplex	complex
Local Binding Domain	a. tensed clause (Icelandic) b. main clause (Mandarin)	smallest clause (Standard Condition A)
Logophoric Use	under appropriate discourse conditions	under appropriate discourse conditions
Subject Orientation	yes	no
	Icelandic <i>sig</i> Mandarin <i>ziji</i>	English <i>x-self</i> French <i>x-même</i>

2.2 Problems

To account for the behavior of exempt anaphors, that is long distance anaphors and logophors, at least two types of theoretical ingredients are needed.

First, it is necessary to postulate different binding domains whose size correlate with the morphological complexity of anaphors: complex anaphors have to be bound within their clause, while simplex anaphors can be bound in a domain bigger than their clause (Manzini & Wexler 1987, Reuland 2006b, i.a.).

Second, a theory of logophoric exemption is needed, exempting anaphors from structural requirements under certain discourse conditions. As mentioned, the most commonly adopted hypothesis (Sells 1987, Kuno 1987, Pollard & Sag 1992, i.a.) exempts anaphors from structural requirements if they are anteceded by logophoric centers, that is, perspective centers similar to the ones relevant for logophoric pronouns in West-African languages (Clements 1975, i.a.). For instance, *herself* need not be bound in (2) because its antecedent expresses an opinion, and *himself* can be long distance bound in (3) because the antecedent *Bill* is the subject of a verb of saying.

This raises both empirical and theoretical questions.

Theoretically, the hypotheses mentioned above require us to understand why there should be (at least) three different domains (smallest clause, smallest tensed clause, main clause - i.e. the whole sentence), raising questions both of explanatory adequacy and acquisition. Obviously, it would be more parsimonious, hence desirable, if there was a single binding domain for anaphors crosslinguistically. In addition, it must be explained why anaphors can remain unbound under certain conditions.

But we may not have to worry about some of these questions because they may be based on incorrect empirical generalizations. For example, contrary to what we stated above, some authors (Anderson 1986, Pica 1987, Manzini & Wexler 1987, i.a.) assume that simplex anaphors cannot be exempt and be used logophorically. If this were true, it would be necessary to explain why some anaphors can be so used and some can't be. But this seems incorrect. Under perspective-related conditions, neither Mandarin *ziji* nor Icelandic *sig* - which underlied these claims - has to be bound as illustrated in (8)-(12). This demonstrates that monomorphemicity does not necessarily correlate with long distance binding behavior: simplex anaphors can also behave like complex anaphors that can be exempt from Condition A under logophoric conditions.

- (8) Zhangsan_i de jiao-ao hai-le ziji_i.
Zhangsan DE pride hurt-PERF REFL
'Zhangsan_i's pride hurt him_i.'
- (9) Zhe-ge xiangfa chule ziji zhiyou san-ge ren zancheng.
this-CL idea besides REFL only three-CL people agree
'As for this idea, besides myself, only three people agree.' (Huang & Liu 2001)
- (10) Skoðun Jóns_i er að sig_i vanti hæfileika.
opinion John's is that REFL lacks-SUBJ talents
'John_i's opinion is that he_i lacks talents.' (Maling 1984)
- (11) Formaðurinn_i varð óskaplega reiður. Tillagan væri svívirðileg og
the-chairman became furiously angry the-proposal was-SUBJ outrageous and
væri henni beint gegn sér_i persónulega. Sér_i væri sama...
was-SUBJ it aimed against REFL personally REFL was-SUBJ indifferent
'[The chairman]_i became furiously angry. The proposal was outrageous and it was
aimed against him_i personally. He_i was indifferent...' (Sigurðsson 1990)

Furthermore, some long distance anaphors at least must be subject to discourse conditions. For example, it has been shown that Mandarin *ziji* must be logophoric to be long distance bound. The contrast between (12) and (13) demonstrates that *ziji* can be bound from outside the relative clause containing it only when the antecedent *Zhangsan* can be a perspective center (i.e. is alive) in that clause: *ziji* is deviant in (13) because *Zhangsan* cannot be aware of the event of, or even of the plot leading to, his killing (Huang & Liu 2001).

- (12) Zhangsan_i kuajiang-le changchang piping ziji_i de naxie ren.
Zhangsan praised-PERF often criticize REFL DE those persons
'Zhangsan_i praised those people who criticize him_i a lot.' (Huang & Liu 2001)
- (13) ??Zhangsan_i kuajiang-le houlai sha si ziji_i de naxie ren.
Zhangsan praised-PERF later kill die REFL DE those persons
'Zhangsan_i praised those people who later killed him_i.' (Huang & Liu 2001)

Thirdly, it turns out that all the reported cases of long distance bound *sig* in Icelandic – that is cases in which *sig* does not obey the standard Condition A – involve centers of perspective as antecedents: for example, *Jón* in (4) and (5) is the subject of an attitude verb.

All these problems lead us to the hypothesis that all the cases of exempt anaphors could be unified and treated as logophors. This would mean that there is a single standard Condition A binding domain for all anaphors (the clause, roughly, as mentioned at the beginning of Section 2, and all cases of exemption are cases of logophoricity. The fact that anaphors can have a dual behavior (anaphoric and logophoric) still seems unparsimonious, but we will see in the concluding section that even this dichotomy could be derived from a unique principle once the conditions for exemption (i.e. logophoricity) are better understood.

- (14) *General hypothesis about anaphors (tested on Icelandic sig in this paper):*
- The sole locality constraint is Condition A: there is a unique local binding domain across languages or/and across anaphors.
 - Exemption from Condition A is uniform: the only condition that can exempt anaphors from locality requirements is logophoricity.

3. Exemption is logophoricity: the case of Icelandic

Icelandic is a privileged language to investigate how uniform exempt anaphora is as the reflexive *sig* has been assumed to behave both like a long distance anaphor and like a logophor. Specifically, *sig* must satisfy the following conditions (Reuland 2006a, i.a.):

- Sig* must be bound unless used logophorically;
- When not used logophorically, *sig*'s (closest) antecedent must be within the smallest tensed clause containing it (cf. (15) and (16));
- Used logophorically, *sig* need not be bound, and disallows antecedents situated outside indicative clauses containing it (subjunctive clauses, as in (10), are transparent).

- (15) Jón_i veit [að Pétur_k rakar sig_{k,*i} á hverjum degi].
John knows that Peter shaves-IND REFL on every day
'John_i knows that Peter_k shaves him_{k,*i} every day.' (Reuland 2006a)
- (16) Jón_i skipaði Pétri_k [að raka sig_{k,i} á hverjum degi].
John ordered Peter that shave-INF REFL on every day
'John_i ordered Peter_k to shave him_i/himself_k every day.' (Reuland 2006a)

To account for the distribution of *sig*, we need to postulate both that it has a larger binding domain than other anaphors like English *x-self* (the tensed clause instead of the clause), and that perspectival properties can exempt it from locality requirements. The former hypothesis addresses the behavior of *sig* in indicative and infinitive clauses, the latter its behavior in subjunctive clauses.⁴ In what follows, we defend the hypothesis, so far never seriously entertained, which takes *sig* anteceded from outside its clause in both infinitive and subjunctive clauses to be cases of logophoric uses. We will argue that *sig* in infinitive clauses does not have to be long distance bound. Rather, it is exempt from the standard Condition A due to logophoricity. In other words, we defend - with the three arguments that follow - the general hypothesis (14) as applied to Icelandic *sig* as below:⁵

- (17) a. *Sig* obeys the standard Condition A: its binding domain is (roughly) the clause.
b. *Sig* can be exempt from Condition A when used logophorically (standardly in infinitive and subjunctive clauses).

3.1 Logophoricity of *sig* in infinitives

According to (17), a long distance bound *sig* occurring in infinitive clauses must be logophoric.

Adopting the strategy used in Charnavel & Sportiche (2016), we use inanimates to test this prediction: under any notion of logophoricity, an inanimate cannot be a perspective center given that it lacks a mental state (17) predicts that inanimate *sig* cannot be bound from outside its infinitive clause while defenders of the long distance binding hypothesis predict the opposite. Example (18) below shows that inanimate *sig* is in principle available when it is locally bound. Example (19) illustrates that, as predicted by (17), inanimate *sig* in an infinitive cannot be long distance bound.⁶ It is important to note that just like in the

⁴Anderson (1986) defends the proposal that both infinitives and subjunctives extend the domain within which *sig* must be anteceded by a binder. This has been convincingly refuted due to the crucial role that logophoricity plays for *sig* in subjunctive clauses (see Thráinsson 1976, Maling 1984, Sells 1987, Sigurðsson 1990, Reuland & Sigurjónsdóttir 1997, Thráinsson 2007, i.a.) as illustrated in (10) above and (11).

⁵We briefly return to why indicative clauses block logophoric use in section 3.3. The existence of dialectal variation is noteworthy: some speakers accept *sig* in configurations similar to (15), Sigurðsson (1990, p. 313).

⁶Reuland & Sigurjónsdóttir (1997) reports as acceptable the following sentences involving inanimate long distance *sig* in infinitives:

- (i) Jón sagði [þetta vandamál]_i hafa neytt okkur til að leysa sig_i.
John said this problem have-INF forced us to that solve-INF REFL
‘John said [this problem]_i to have forced us to solve it_i.’
(ii) [þetta vandamál]_i var sagt hafa neytt okkur til að leysa sig_i.
this problem was said have-INF forced us to that solve-INF REFL
‘[This problem]_i was said to have forced us to solve it_i.’
We have not been able to duplicate this judgment and Reuland himself (2006a, endnote 13) rerates these sentences as ‘??’, but adds that the following sentences are well formed:
(iii) Jón sagði [þetta vandamál]_i hafa minnt á sig_i.
John said this problem have-INF reminded of REFL

subjunctive case in (20), an inanimate pronoun is acceptable in the position of *sig*, showing that the sentence is well-formed with an inanimate.

- (18) [þetta vandamál]_i minnir okkur stöðugt á sig_i.
 this problem reminds us constantly of REFL
 ‘[This problem]_i constantly reminds us of itself_i.’ (Thráinsson 2007)
- (19) [þetta vandamál]_i fékk Jón til [að leita lengi lausnar á *sér_i/ því_i].
 this problem made John to that search-INF long solution on REFL PRON
 ‘[This problem]_i made John look for its_i solution for a long time.’
- (20) [þetta vandamál]_i krafðist þess [að við hugsuðum stöðugt um *sig_i/ það_i].
 this problem demanded this that we thought-SUBJ constantly about REFL
 PRON
 ‘[This problem]_i demanded that we constantly think about it_i.’ (Sigurðsson 1990)

The contrast between the unacceptability of long distance bound inanimate *sig* and the acceptability of long distance animate *sig* when the binder is a perspective holder clearly demonstrates that *sig* has to be logophoric when it takes a long distance antecedent out of its infinitive clause.⁷

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- (iv) [þetta vandamál]_i var sagt hafa minnt á sig_i.
 this problem was said have-INF reminded of REFL

However, in (iv), inanimate *sig* is not long distance bound from outside its infinitive clause, but is locally bound within it (by the trace of *this problem* in the subject position of ‘remind’).

⁷Reuland & Sigurjónsdóttir (1997) provide the following contrast to argue that *sig* can take an antecedent out of an infinitive clause (as opposed to a subjunctive clause) even if it is not a perspective holder: in (ii), the derived subject of the passive is a possible antecedent for *sig* when it appears in an infinitive clause, but not in a subjunctive clause.

- (i) Jón_i sagði Maríu_k hafa látið mig þvo sér_{i/k}.
 John said Mary have-INF made me wash-INF REFL
 ‘John_i said Mary_k to have made me wash him_i/her_k.’
- (ii) María_k var sögð (af Jóni_i) hafa látið mig þvo sér_{k/*i}.
 Mary was said (by John) have-INF made me wash-INF REFL
 ‘Mary_k was said (by John_i) to have made me wash her_k (=Mary).’
- (iii) Jón_i sagði Pétri_k að ég elskaði sig_{i/*k}.
 John told Peter that I loved-SUBJ REFL
 ‘John_i told Peter_k that I loved him_i/himself_k.’
- (iv) Pétri_k var sagt (af Jóni_i) að ég elskaði sig_{*i/*k}.
 Peter was told by John that I loved-SUBJ REFL
 ‘Peter_k was told (by John_i) that I loved him_{*i/*k}.’

But (ii) and (iv) do not form a minimal pair: in (ii), Mary antecedes *sér* via its trace, subject of the infinitive ‘have made’, not as the subject of the passive ‘was said’.

3.2 Availability of unbound *sig* in infinitives

Conversely, hypothesis (17) predicts that as long as it is logophoric, *sig* does not have to be bound, or in other words, that unbound logophoric *sig* is acceptable in infinitive clauses.

Based on contrasts such as that between (21) and (22) below, Reuland & Sigurjónsdóttir (1997) argue that this is not borne out, and therefore conclude that the long distance use of *sig* in subjunctive clauses is fundamentally different from the long distance use of *sig* in infinitive clauses: the former is ruled by discourse factors while the latter is ruled by syntactic principles.

- (21) *Skoðun Jóns_i virðist [vera hættuleg fyrir sig_i].
 opinion John's seems be-INF dangerous for REFL
 'John_i's opinion seems dangerous for him_i.' (Reuland & Sigurjónsdóttir 1997)
- (22) Skoðun Jóns_i er [að sig_i vanti hæfileika].
 opinion John's is that REFL lacks-SUBJ talents
 'John_i's opinion is that he_i lacks talents.' (Maling 1984)

There is however a crucial confound in (21) (that Reuland 2011 is aware of, see footnote 8). It has long been noted (Clements 1975, Sells 1987, Anand 2006, i.a.) that a logophor must be included in a constituent expressing the point of view of the perspective holder antecedent of this logophor. John is indeed a perspective holder (specifically, an attitude holder) in both (21) and (22) since it is the subject of the noun 'opinion', but only in (22) does *sig* appear in the attitude context corresponding to that center. Unlike what is seen in (22), the clause containing *sig* in (21) does not express the content of John's thoughts; it is according to the speaker (the evidential source of 'seem'), not according to John, that John's opinion is dangerous to him.⁸

It is worth pointing out that this very restriction has been observed for the subjunctive case: (23) below contrasts with (21) because in (23), it is not the antecedent of *sig*'s perspective (i.e. John's) that is reported in the clause containing *sig*, but the speaker's.⁹

⁸ The same holds in the other examples provided by Reuland & Sigurjónsdóttir (1997):

- (i) *Ósk Jóns_i er líkleg til að hafa slæmar afleiðingar fyrir sig_i.
 wish John's is likely to that have-INF bad consequences for REFL
 'John_i's wish is likely to have bad consequences for him_i.'
- (ii) *Álit Jóns_i er sagt hæfa sér_i vel.
 belief John's is said suit-INF REFL well
 'John_i's belief is said to suit him_i well.'

Reuland (2011, p. 320) does remark that these examples are not decisive since the complement clause is not interpreted as being in the scope of the attitude noun, so that ideally, one should test structures of the form 'Jon's wish is for *sig* to have talent', forms he reports to be unavailable in Icelandic. The different example types we provide in (25)-(26) have the requisite structure.

⁹ Thráinsson (1976, p. 229) similarly suggests that only a certain type of subjunctives allows *sig* to take a long-distance antecedent, in particular, subjunctives which imply 'a report from the higher subject's "point of view"', not a report from the speaker.

- (23) *Skoðun Jóns_i fær mig til að halda að sig_i vanta hæfileika.
 opinion John's leads me to that believe that REFL lacks-SUBJ talents
 'John_i's opinion leads me to believe that he_i lacks talents.' (Maling 1984)

This array of data allows us to make the relevant notion of logophoricity for exemption more specific: it is not sufficient to suppose that an exempt anaphor has to be anteceded by a perspective center, it should also occur in a constituent expressing the perspective of its antecedent.

- (24) *Logophoricity of exempt anaphors*
 An anaphor can be exempt from Condition A if:
 a. it is anteceded by a perspective center;
 b. it is contained in a constituent expressing the perspective of that center.

Once we control for property (24)b, we find that the prediction made by the hypotheses in (17) is borne out: (25)-(26), originally from Gärtner (2015), demonstrate that *sig* in an infinitive clause does not have to be bound when it is logophoric and the infinitive clause containing it expresses the antecedent's thoughts.¹⁰

- (25) Krafa Jóns_i til okkar er [að styðja sig_i við þessar aðstæður].
 request John's to us is that support-INF REFL with these conditions
 'John_i's request from us is to support him_i in this situation.' (Gärtner 2015)
- (26) Ráð(legging) Jóns_i (til okkar) var [að vitna í sig_i á hverri blaðsíðu].
 advice John's (to us) was that cite-INF in REFL on every page
 'John_i's advice (to us) was to cite him_i on every page.' (Gärtner 2015)

3.3 The difference between *sig* and *hann* with respect to *de se* readings

It is sometimes reported that the reflexive *sig* and the pronoun *hann* are in complementary distribution in infinitive clauses. Our empirical findings (see appendix) suggest a more nuanced picture. First, only the pronoun can be anteceded by the non-c-commanding *Jón* in (27): *sig* is deviant.

- (27) Skoðun Jóns_i virðist [vera hættuleg fyrir *sig_i/ hann_i].
 opinion John's seems be-INF dangerous for REFL PRON
 'John_i's opinion seems dangerous for him_i.' (Reuland & Sigurjónsdóttir 1997)

¹⁰We also tested such examples involving the expression *samkvæmt* 'according to', which gave similar results, but for some speakers only. It is unclear why other speakers rejected such sentences.

- (i) Samkvæmt Haraldi_i þá fékk lagið hans Maríu til [að hugsa til sín_i].
 according-to Harold then made the-song his Mary to that think-INF to REFL
 'According to Harold_i, his song made Mary think about him_i.'

We have discussed in the previous section why *sig* is unacceptable in (27); the acceptability of the pronoun is expected under any account, since it is not c-commanded by its antecedent. Conversely however, *sig* is acceptable in (28) when bound by *Jón* outside its infinitive clause, the pronoun *hann* is less acceptable (as seen in the appendix, this effect seems real, but mild).

- (28) Jón_i skipaði mér [að raka sig_i/ *hann_i].
 John ordered me that shave-INF REFL PRON
 ‘John_i ordered me to shave him_i.’ (Anderson 1986)

Hypothesis (17) can account for why *sig* is acceptable in (28), but does not say anything about the behavior of the pronoun *hann*. The unavailability of *hann* in (28) could a priori be an instance of (a nonstandard) Condition B, thereby suggesting that the tensed clause is after all the binding domain within which *sig* should be bound and *hann* cannot. But this is doubtful. The relative acceptability of examples such as (28) seems inconsistent with Condition B, which typically yields robust deviance. Furthermore, the following example shows that this is not a condition B effect. Indeed, the data in (28) and (27) do not take into account the distinction between *de se* and *de re* readings. Once this distinction is taken into account, cases such as (28) with the pronoun *hann* are (relatively more) degraded if the pronoun is read *de se* but not when it is read *de re non de se*.

To show this, let us note first that, as the examples in (29) below show, *sig* must to be read *de se* in infinitive clauses, while *hann* cannot.

- (29) General context: *Sarah took part in a song contest. All participants had to sing the same song and were recorded. The recordings are now played on the radio.*
- a. Subcontext 1 (*de se*): *Sarah hears her own voice and says: this is very good singing; the judge should vote for me!*
 Sara_m telur dómarana eiga að kjósa sig_m/ *hana_m.
 Sarah believes the judges ought-INF to elect-INF REFL/ PRON
 ‘Sarah_m believes the judges should vote for her_m.’
- b. Subcontext 2 (*non de se*): *Sarah hears her recording without recognizing her voice and says: this is very good singing; the judges should vote for this singer!*
 Sara_m telur dómarana eiga að kjósa *sig_m/ hana_m.
 Sarah believes the judges ought-INF to elect-INF REFL/ PRON
 ‘Sarah_m believes the judges should vote for her_m.’

An account based on a nonstandard Condition B cannot explain the well-formedness of (29b) with the pronoun *hana*. We take this to mean that if *hann* is reported to be unacceptable in (28) as opposed to *sig*, it is because the sentence is by default read *de se*, which forces the use of the reflexive. This conclusion is corroborated by example (19), which involves an inanimate. Clearly, with an inanimate antecedent, the *de se* reading is unavail-

able. In this case, the pronoun is fine, a fact that could not be accounted for in terms of a nonstandard Condition B either.

This interpretively driven complementarity follows, we assume, from a general preference for more specified forms (cf. Schlenker 2005): if a more specified form is available, it must be used. Given that *sig* is specified for *de se* readings, it makes the use of the pronoun dispreferred every time the sentence is read *de se*. This reading is the unmarked case in infinitive clauses: what is reported by default is what happens when the distinction between *de se* and *de re* readings is not taken into account as in (28).

To finish, let us examine how this competition between *sig* and *hann* with respect to *de se* and *de re* readings plays out in subjunctive and indicative clauses. Both *sig* and *hann* are commonly reported to be available in subjunctive clauses as illustrated in (30), while only the pronoun is reported to be acceptable in indicative clauses as in (31).

- (30) Jón_i heldur [að þú hatir sig_i/ hann_i].
 John believes that you hate-SUBJ REFL PRON
 ‘John_i believes that you hate him_i.’ (Thráinsson 2007)

- (31) Jón_i veit [að Pétur rakar *sig_i/ hann_i á hverjum degi].
 John knows that Peter shaves-IND REFL PRON on every day
 ‘John_i knows that Peter shaves him_i every day.’

As mentioned in footnote 5, (for most speakers) the indicative mood prevents a logophoric interpretation of *sig*, which is therefore unacceptable in indicative clauses, and cannot block the use of pronouns. Given clause (b) of the generalization in (24), it is tempting to speculate as follows, attributing the behavior of indicatives to a failure of perspectivization.

In (29a) or (29b), the content of the infinitive is necessarily (or possibly by default - depending on the type of infinitive) presented from the perspective of the attitude holder. If a pronoun refers *de se* to the attitude holder *María*, the more specified option *sig* (mildly - see appendix) blocks the use of the pronoun. If *María* holds a belief *de re* non-*de se*, *sig* is excluded and the pronoun becomes possible. Such a speculation is compatible with the well-known observation that the infinitive mood requires *de se* readings of a controlled PRO in the relevant subclass of complement infinitives.

Next, we can take the behavior of the indicative (for the relevant speakers) to illustrate that the propositional content of an embedded indicative as in (31) is not and cannot be presented from the perspective of the attitude holder *Jón*. As a consequence, *sig* is excluded.

The case of the subjunctive is more complex: given that the subjunctive mood licenses a logophoric interpretation of *sig*, *sig* should enter in competition with *hann* with respect to *de se* readings as in the case of infinitives; nevertheless, both *sig* and *hann* are commonly reported to be acceptable in subjunctive clauses. Speculating further, a natural suggestion also attributes this difference to a perspectivization difference: subjunctives are truly ambiguous; unlike infinitives, they freely may or not present their propositional content from the perspective of the attitude holder. In (30), suppose that the embedded subjunctive is presented from *Jón*’s perspective. Then *sig* makes *hann* dispreferred under the default interpretation in which the pronominal forms report a *de se* reading. Suppose however, as

we assume possible, that the embedded subjunctive is not presented from *Jón*'s perspective (just like in the indicative). Then *sig* is disallowed, and *hann* becomes possible (even if the reported situation would warrant the other alternative with *sig* and *Jón*'s perspective). This speculation makes a prediction we have tested with only a few speakers that seems correct: the same subjunctive clause should not allow both *sig* and *hann* within it to refer to the same antecedent as the use of the first one requires the subjunctive clause to be presented from the perspective of this antecedent, while the use of the second one makes it dispreferred.¹¹

Needless to say, further investigation is needed, about *de se* and *de re* readings in Icelandic infinitive, subjunctive and indicative clauses among other things, to precisely understand the import of these moods and the competition between the pronominal forms with respect to *de se* readings. At this point, it is sufficient for our purposes to observe the competition between *sig* and *hann* in infinitive clauses in this respect, which derives their apparent complementarity in this type of clauses, and therefore buttresses our hypothesis that it is not the tensed clause that is the binding domain of *sig*: it is not Condition B, but the preference for *de se* readings, that explains the ungrammaticality of the pronoun in most infinitive clauses.

4. Conclusion

In sum, we have argued that the reason why Icelandic reflexive *sig* can be bound from outside infinitive clauses is not that it has a non standard binding domain for Condition A, but rather that *sig* is logophoric in such cases, hence exempt from Condition A. Moreover, the apparent complementary distribution of the reflexive and the pronoun in infinitive clauses can be derived from their different specifications for *de se* readings. More generally, this suggests that the parsimonious hypothesis that all cases of non-locally bound anaphors can be derived in a uniform way is viable in Icelandic and possibly more generally: we may not have to assume the existence of long distance anaphors (that is, that binding domains can have different sizes) nor an unexplained connection between monomorphemicity and locality.

Of course, whether this fully generalizes will depend on the outcome of meticulous investigations of other languages with long distance anaphors.

A last issue is raised by the dual behavior of anaphors, either not exempt or logophoric. Given the crosslinguistically pervasive identity in form between exempt anaphors and locally bound anaphors (as e.g. Mandarin *ziji*, English *himself*, French *son propre*, Japanese *zibun*, Icelandic *sig*, among many others), something general must be involved.

¹¹ For example, we tested the following four sentences under two scenarios. In scenario #1 (*de se*): John said to Mary: "my father hates me". In scenario #2 (*mixed*), John entered a singing contest broadcast on the radio. His father tells him he hated the third contestant. John, who does not know he is the third contestant, reported this to Mary by saying: "my father hated the third contestant". Mary and I both know that the third contestant is in fact John. Can Mary truthfully report to me what John said as one of the sentences (i)-(iv) (all translated as *Jon_m thinks that his_m father hates him_m*)? (i) *Jón heldur að pabbi sinn/ hati sig*; (ii) *Jón heldur að pabbi hans hati hann*; (iii) *Jón heldur að pabbi sinn hati hann*; (iv) *Jón heldur að pabbi hans hati sig*. As expected under our speculative hypothesis, speakers ranked (i) and (ii) under scenario #1 and (ii) under scenario #2 as fine, and all others options as worse or much worse.

We briefly deal with this issue here by assuming Charnavel (2014)’s hypothesis that anaphors are in fact never exempt: they are always locally bound. We use the presence of a silent logophoric operator OP_{LOG} (a head) of a type proposed for Abe in Koopman & Sportiche (1989) and adapted since, e.g. in Anand (2006). The subject argument PH (for perspective holder) of OP_{LOG} acts as a local, Condition A compliant, binder for the anaphor, and is coreferential with or bound by the superficial antecedent of this exempt anaphor, as illustrated in (32):

- (32) Krafa **Jóns_k** til okkar er [PH_k [OP_{LOG}
request John’s to us is
að styðja **sig_k** við þessar aðstæður]].
to support-INF REFL with these conditions
‘John_k’s request from us is to support him_k in this situation.’

The presence of OP_{LOG} derives the logophoric interpretation of exempt anaphors. Indeed the function of OP_{LOG} is to code the fact that the propositional content of the clause it c-commands (boxed in (32)) is expressed from the perspective of its subject argument PH.¹² In turn, PH, must be capable of perspective, and must thus be antecedent by a center of perspective (namely the superficial antecedent of the exempt anaphor).

In sum, the threefold behavior of an anaphor such as *sig* can be derived uniformly: this anaphor always needs to obey Condition A. The appearance of long distance binding and exemption comes from the presence of intermediate silent logophoric operators that introduce local binders. It remains to be seen whether this account can be extended to all cases of so-called long distance and exempt anaphors so as to obtain crosslinguistic and cross-anaphoric uniformity.

Appendix: Experimental Results

A total of 74 native speakers of Icelandic were asked to perform grammaticality judgment tasks online on 75 randomly ordered sentence items based on a 6-point Likert scale. Each sentence contained either the reflexive *sig* or the pronoun *hann*. The sentences were divided into two lists so that each participant only had to judge 37 (or 38) sentences and saw each particular token sentence either with the pronoun or with the reflexive but never with both. In the case of *de se* vs. non *de se* readings, participants were presented with the two interpretations (made clear by a description of two different contexts) on the same page, so that they could provide comparative judgments. Items varied along the following dimensions for *sig/hann*:

1. Locality of with respect to antecedent (in same indicative clause/ in different clauses, the bottom one either infinitive or subjunctive).
2. C-commanding vs. non c-commanding antecedent.

¹²It is this very notion that we use in speculating about the differences between infinitive, subjunctive and indicative clauses at the end of Section 3.2.

3. Logophoricity (inanimate vs animate, in clause expressing the antecedent's perspective).

4. In the latter case (animate, logophoric) *de se* vs. non *de se* reading.

The three crucial sets of results are reported in the tables below where for each condition. "Mean" is the average rating, SD the standard deviation. Unbound means with a non c-commanding antecedent. A number of t-tests were run on relevant pairs of conditions showing that the distinctions they code are significant - for example local vs non local binding of inanimate *sig*, with in general p vanishingly small, $p < 0.001$). In the third table below, the behavior of the reflexive *sig* and the pronoun *hann* in infinitives bound from one clause up in non *de se* contexts correlate ($p = 0.56$), as that of *hann* read *de se* or not bound from one clause up in infinitives *hann* ($p = 0.37$) or subjunctives ($p = 0.91$).

INANIMATE + BOUND	Bound within same clause	In infinitive bound from one clause up	In subjunctive bound from one clause up
Reflexive <i>sig</i>	Mean=5.52, SD=1.31 cf. (18)	Mean=2.58, SD=1.82 cf. (19)	Mean=1.44, SD=1.22 cf. (20)
Pronoun <i>það</i>	n/a	Mean=4.57, SD=1.68 cf. (19)	Mean=5.75, SD=0.84 cf. (20)

LOGOPHORIC + UNBOUND	In infinitive clause	In subjunctive clause
Reflexive <i>sig</i>	Mean=4.29, SD=1.84 cf. (25). (26)	Mean=4.2, SD=1.88 cf. (22)
Pronoun <i>hann</i>	Mean=5, SD=1.5 (not shown here)	Mean=5.33, SD=1.27 (not shown here)

LOGOPHORIC + BOUND	In infinitive read <i>de se</i>	In infinitive read non <i>de se</i>	In subjunctive read <i>de se</i>	In subjunctive read non <i>de se</i>
Reflexive <i>sig</i>	Mean=5.71, SD=1.07 cf. (29a)	Mean=3.73, SD=2.08 cf. (29b)	Mean=5.66, SD=1.17 not shown here	Mean=3.86, SD=2.05 not shown here
Pronoun <i>hann</i>	Mean=3.89, SD=1.98 cf. (29a)	Mean=4.12, SD=1.92 cf. (29b)	Mean=4.51, SD=1.81 (not shown here)	Mean=4.36, SD=1.9 (not shown here)

References

- Anand, Pranav. 2006. *De de se*. Doctoral dissertation, MIT.
- Anderson, Stephen R. 1986. The typology of anaphoric dependencies: Icelandic (and other) reflexives. In *Topics in Scandinavian syntax*, 65–88. Springer Netherlands.
- Charnavel, Isabelle. 2014. Perspectives on binding and exemption. Talk given at MIT Ling-lunch. Manuscript available at lingbuzz/002683.
- Charnavel, Isabelle, & Dominique Sportiche. 2016. Anaphor binding - what French inanimate anaphors show. *Linguistic Inquiry* 47:35–87.
- Chomsky, Noam. 1986. *Knowledge of language: Its nature, origin, and use*. New York: Praeger.
- Clements, George N. 1975. The logophoric pronoun in Ewe: Its role in discourse. *Journal of West African Languages* 10:141–177.
- Cole, Peter, Gabriella Hermon, & C.-T. James Huang. 2006. Long-distance binding in Asian languages. In *The Blackwell companion to syntax*, 21–84. Wiley and Sons.

- Gärtner, Hans-Martin. 2015. On infinitivals hosting logophors: The case of Icelandic. *Nordic Journal of Linguistics* 38:365–370.
- Huang, C.-T., & C.-S. Luther Liu. 2001. Logophoricity, attitudes and *ziji* at the interface. In *Long distance reflexives*, ed. Cole, Hermon, & Huang, volume 33 of *Syntax and Semantics*, 141–195. San Diego, CA: Academic Press.
- Koopman, Hilda, & Dominique Sportiche. 1989. Pronouns, logical variables, and logophoricity in Abe. *Linguistic Inquiry* 20:555–589.
- Kuno, Susumo. 1987. *Functional syntax. anaphora, discourse and empathy*. Chicago: University of Chicago Press.
- Maling, Joan. 1984. Non-clause bounded reflexives in Modern Icelandic. *Linguistics and Philosophy* 7:211–241.
- Manzini, Rita M., & Kenneth Wexler. 1987. Parameters, binding theory, and learnability. *Linguistic Inquiry* 413–444.
- Pica, Pierre. 1987. On the nature of the reflexivization cycle. In *Proceedings of the North East Linguistic Society* 17, 2, 483–500.
- Pollard, Carl, & Ivan A. Sag. 1992. Anaphors and the scope of binding theory. *Linguistic Inquiry* 23:261–303.
- Reinhart, Tanya, & Eric Reuland. 1993. Reflexivity. *Linguistic Inquiry* 24:657–720.
- Reuland, Eric. 2006a. Icelandic logophoric anaphora. In *The Blackwell companion to syntax*, 544–557. Wiley and Sons.
- Reuland, Eric. 2006b. Long distance binding in Germanic languages. In *The Blackwell companion to syntax*, 85–108. Wiley and Sons.
- Reuland, Eric. 2011. *Anaphora and language design*. Cambridge, MA: MIT Press.
- Reuland, Eric, & Sigríður Sigurjónsdóttir. 1997. Long distance ‘binding’ in Icelandic: Syntax or discourse? In *Atomism and binding*, 323–340. Foris Publications.
- Schlenker, Philippe. 2005. The lazy Frenchman’s approach to the subjunctive. In *Romance languages and linguistic theory*, 269–309. Amsterdam/Philadelphia: Benjamins.
- Sells, Peter. 1987. Aspects of logophoricity. *Linguistic Inquiry* 18:445–479.
- Sigurðsson, Halldór Ármann. 1990. Long distance reflexives and moods in Icelandic. *Modern Icelandic Syntax; Syntax and Semantics* 24:309–346.
- Thráinsson, Höskuldur. 1976. Reflexives and subjunctives in Icelandic. In *Sixth Annual Meeting of the North East Linguistics Society*, 225–239.
- Thráinsson, Höskuldur. 2007. *The syntax of Icelandic*. Cambridge University Press.

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