

RELATIVIZED AGREE

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This paper presents a new theory of Agree, and demonstrates how it accounts for various syntactic facts. The subject DP in SPEC-T serves as a probe for T and gets transferred for that purpose. On the other hand, Transfer does not apply to DP if it remains in $v(*)P$ since T is the probe in such a structure. The asymmetry in Agree relations explains why preverbal and postverbal subjects may induce different agreement patterns. The proposed theory also accounts for the presence and absence of subject island effects and defective intervention effects.*

Keywords: *Relativized Agree, Transfer, agreement asymmetries, subject island, defective intervention*

1. Introduction

Probe and *goal* are relative notions: When α and β have some matching features, the c-commanding one is the probe and the c-commanded one is the goal. This is explicitly stated by Chomsky in his explanation of how expletive *there* (EXPL) and T undergo Agree. When EXPL is externally merged in SPEC of finite T, T cannot find EXPL since “the probe should search the smallest domain to find the goal: its c-command domain” (Chomsky (2008: 146)). In this case, EXPL, being “an X^0 head” and “therefore able to probe its domain T” (Chomsky (2000: 128)), works “as a probe and can match and agree with the goal T” (Chomsky (2004:

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114)). Consequently, “[a]pparent Spec-H relations are in reality head-head relations involving minimal search (local c-command)” (Chomsky (2004: 113)). On the other hand, when EXPL is externally merged in SPEC of infinitival T, it “will await a higher complete probe (either C-T or v)” (Chomsky (2004: 114)), which searches its domain and finds EXPL as its goal. The same item can thus be either a probe or a goal, depending on the structural relationship with its match. I call this *Relativized Agree (RA)*.

I propose that all subjects in SPEC-T serve as probes for T. This is a necessary consequence of recent minimalist assumptions: Agree between the subject and T is then relativized in the following way:

- (1) a. The subject is the probe if it moves to SPEC-T.
- b. T is the probe if the subject remains in v (* P).

A variety of seemingly-unrelated syntactic properties are given a uniform account under the RA theory, as will be shown in sections 3–6. To illustrate these properties, I primarily use examples from English, but the same or similar phenomena observed in other languages can also be accounted for by the RA theory.

The paper is organized as follows. In section 2, I demonstrate how the RA theory is derived from recent minimalist assumptions and how it requires the subject to undergo Transfer. In sections 3–6, we see how the RA theory accounts for a variety of syntactic facts. Section 3 addresses number agreement asymmetry, in which the subject triggers different number inflections on the verb depending on its surface position. Section 4 discusses person agreement asymmetry, where preverbal and postverbal subjects trigger different person inflections. Section 5 addresses the presence and absence of subject island phenomena in English and Spanish. In section 6, I discuss the A/A'-asymmetry in dative intervention effects in Icelandic. Section 7 is a summary.

2. A Framework

2.1. Agree, Cyclicity and Transfer

In this section, I clarify the theory of Agree and how other mechanisms can be made compatible with the theory. Chomsky has repeatedly explained the mechanism of Agree in his recent papers. The general picture is this: At a certain stage of derivation, a probe finds a goal with a matching feature in its c-command domain. Eventually their unvalued (i.e. uninterpretable) features (uFs) are valued by Agree and then deleted by Transfer. But Chomsky’s explanations differ in detail. We therefore need

to decide what to keep and what to discard. For the purpose of this paper, we have to decide (I) what can be a probe or a goal, (II) whether Agree precedes or follows Move, and (III) when in the derivation Agree takes place. I adopt the following assumptions:

- (I) Only heads can be a probe or a goal. (cf. Chomsky (2004: 113, 2007: 9))
- (II) Agree does not apply until Move is completed. (cf. Chomsky (2008: 150))
- (III) Agree applies at the phase level. (cf. Chomsky (2007: 19, 2008: 154))

Different assumptions are found elsewhere in Chomsky's work. As for (I), it is stated that the *label* works as a probe in Chomsky (2007: 8–9, 2008: 141). However, this conflicts with the assumption that the labeling algorithm LA “operat[es] at the phase level” (Chomsky (2013: 11)). Labels, absent before Transfer, are unable to work as probes or goals. Given LA, only heads are available in syntax.¹

Assumptions (II) and (III) differ from what was assumed in Chomsky (2000, 2001), in which Agree applies as soon as possible: “[I]f local (P, G) [probe and goal] match and are active, their uninterpretable features must be eliminated at once” (Chomsky (2001: 15)).² Agree of this type is untenable if we assume that a valued goal becomes “invisible to further computation” (Chomsky (2008: 150)). Suppose that T is merged with v*P and agrees with DP in SPEC-v* at once. Then the DP could not move to SPEC-T. We thus conclude that Agree does not apply before Move. I assume with Chomsky (2007, 2008) that Agree applies at the phase level.

Furthermore, I do not follow several of Chomsky's recent proposals. First, I dismiss the assumption that “operations at the phase level are in effect simultaneous” (Chomsky (2004: 116)) in favor of “a step-by-step procedure for constructing Exp[ression]s” (Chomsky (2000: 98)). This leads to the fourth assumption:

- (IV) Derivation is strictly cyclic. (cf. Chomsky (1995: 190, 2000: 98, 2001: 12))

Although Chomsky (2004) claims that simultaneity is empirically supported,

¹ More precisely, labels of transferred phrases are also available (see section 2.2).

² In Chomsky (2001), “deleted features remain visible until the strong-phase level” (p. 19) so that “they may have phonetic effects” (p. 5) in phonology or “induce intervention effects” (p. 27) in syntax.

the data can be explained under strict cyclicity as well. Suppose that a derivation has reached the following stage:

(2) [T [_{v*P} **who** [_{v*} he see *t*]]]

Who has been raised to the edge of the v*P phase. In strict cyclic derivation, Chomsky argues, *he* moves to SPEC-T, “skipping wh- in apparent violation of the Minimal Link Condition” (Chomsky (2004: 123)). No violation arises if movements of *he* and *who* are simultaneous.

Recall, however, that uFs become invisible once valued. Thus, *who*, with its [uCase] valued in the v*P phase, should no longer be an intervenor. Similar arguments have also been made by Richards (2008) and Obata and Epstein (2011). With no positive reason to pursue simultaneity, I assume strict cyclicity for minimal computation.³

Related to this, I do not adopt the theory of ϕ -feature inheritance from C to T (Chomsky (2007: 19, 2008: 143–144, 2013: 43)). If we assumed simultaneous operations, ϕ -inheritance would make a good explanation for simultaneity.⁴ If we assume strict cyclicity, on the other hand, there is no room for ϕ -inheritance since it necessitates countercyclic operations. One might argue that ϕ -inheritance is supported by the fact that T is ϕ -complete only when it is selected by (certain types of) C (Chomsky (2007: 20, 2008: 143)). However, ϕ -dependency is observed elsewhere as well: Verbs such as *confide*, *object*, *protest*, and *repeat* only select finite (i.e. ϕ -complete) clauses, for example (cf. Quirk et al. (1985: 1181)). ϕ -dependency may have to do with the selectional requirement of a selecting item. I therefore assume that T has its own ϕ -features.

Another important assumption is *full Transfer* as a last resort:

³ Chomsky counts intervention effects in Icelandic as another piece of evidence for simultaneity. However, I will show in section 6 that they can also be accounted for under strict cyclicity.

⁴ Chomsky (2008) explains the motivation of ϕ -inheritance. He first makes the following assumptions:

- (i) Valued uFs (\mathfrak{u} Fs) are indistinguishable from inherently valued features (iFs).
- (ii) Transfer deletes only \mathfrak{u} Fs but cannot retrieve the history of derivation.

These assumptions entail that Agree (valuing) and Transfer (deleting) are simultaneous. If C had its [u ϕ] valued by the subject, the [$\mathfrak{u}\phi$] would survive after Transfer and cause problems in the next phase. For convergence, therefore, C must hand over its [u ϕ] to T.

However, this account is untenable. Notice that [\mathfrak{u} Case] of *who* remains in the CP phase in (2) since *who* has not been transferred. It means that \mathfrak{u} Fs do not cause problems in the next phase.

- (V) Transfer spells out either the domain of a phase or *the phase in full*. The latter option is available when necessary for convergence. (cf. Chomsky (2004: 108))

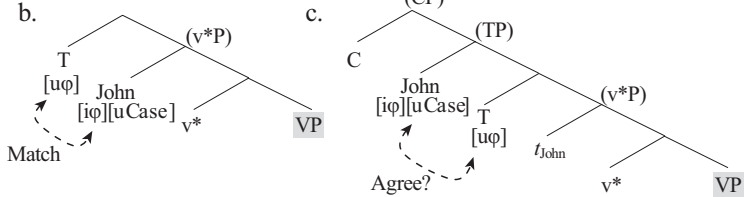
Full Transfer is a necessary option because otherwise “root clauses would never be spelled out” (Chomsky (2004: 108)). I propose that full Transfer applies to certain DPs as well. The reason for this is explained in section 2.2.

With the assumptions (I)–(V) in mind, let us proceed to the theory of RA.

2.2. Relativized Agree and Transfer of the Subject

RA is not a special case for EXPL-T relations but a necessary consequence of recent minimalist assumptions. Let us begin by considering how uninterpretable features are valued in sentence (3a).

- (3) a. John bought a book.



(Labels in parentheses are merely for illustration. They are not present in syntax at this stage.) Suppose that the derivation has reached the stage (3b). T probes its domain and finds *John* as its goal based on ϕ -feature matching (Match). However, Agree does not occur until the phase is completed. Suppose then that the CP phase has been constructed as in (3c). At this stage T searches for a goal again for Agree. However, the search fails since *John* is no longer in its search domain and A-traces are invisible to Agree (Chomsky (2000: 131, 2001: 28, 2008: 150)). How are T’s features valued, then? RA provides an answer: T has its features valued *as a goal*. And there is a good candidate for the probe, i.e. *John* in SPEC-T. Let us assume (for the time being) that *John* is a simple D.⁵ Thus, it can search its domain and find T as a goal.

This is not the end of the story, though. An apparent problem arises when the subject is complex. Let us consider how agreement is established if the subject *John* in (3) is replaced with *the smart boy*:

⁵ In section 4 I argue that pronouns are not primitives but have internal structure. If this is correct, simple words like *John* may well be complex as well.

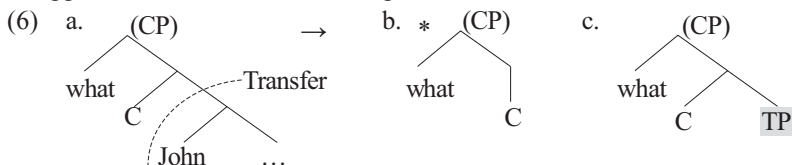
(4) **The smart boy** bought a book.

At the point of Agree, *the smart boy* occupies SPEC-T. From this position, however, neither *the* (D) nor *boy* (N) c-commands T. Given that Agree is established between heads in a c-command relation, we cannot expect Agree between the subject and T.

Thus we seem to get caught in a double bind: The subject must be the probe but no head in the subject c-commands T. But there is a way out of this dilemma:

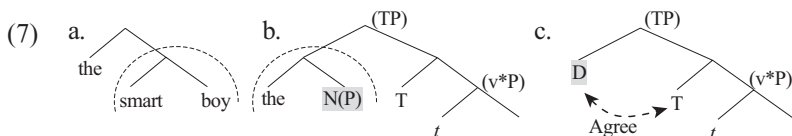
(5) Transfer applies to the subject when it moves to SPEC-T.

Recall that a transferred phrase is labeled by LA. Although Chomsky (2008) assumes that labels are assigned for interpretation, I propose that the highest label of a transferred phrase is visible in the syntax to conform to the No-Tampering Condition (NTC). To see this, consider the results after Transfer applies to the domain of a CP phase:



If nothing remained visible after Transfer as in (6b), *what* would no longer be SPEC of C. Such an operation is illegitimate since “operations do not tamper with the basic relations involving the label that projects: the relations provided by Merge and composition” (Chomsky (2000: 136)). To conform to the NTC, therefore, the label of a transferred phrase must be visible as in (6c).

With this in mind, let us return to proposal (5). I assume, following Heck et al. (2009) and Jiménez-Fernández (2009), that D may be a strong or weak phase head. If D is strong, the domain of DP is transferred, as in (7a), as soon as the DP is completed. The label is left behind after Transfer.



When the DP moves to SPEC-T, the c-command relation between T and *the* is lost, as in (7b). Full Transfer therefore applies as a rescue operation. I assume that Transfer of this type is applicable even if D is a weak phase head since it is a rescue operation for convergence. After Transfer the assigned label c-commands T.

What is *label*, then? According to Chomsky (2000: 133), “label(α) = α , for α an LI [lexical item].” More specifically, since “the new unit { α , β } is regarded as a ‘projection’ of some head of α or β ,” “{ α , β } is identified either by α or by β (its *label*); a label, then, is always a head” (Chomsky (2004: 108–109)). The label of *the smart boy*, informally dubbed “DP,” should then be *the* (D). The label, being a head, now can probe its domain and find T as a goal. *The smart boy* and T thus agree in (7c).

A note is in order.⁶ One might suspect that Transfer as in (7c) should not be allowed since the transferred phrase contains an unvalued Case feature ([uCase]). Notice, however, that [uF] causes trouble at interfaces, not the derivation itself (cf. Chomsky (2004: 106)). After Transfer of DP, the label D, carrying [uCase], remains visible and participates in computation. If some kind of connection exists between the label and the transferred phrase, [uCase] of the latter is valued and deleted along with that of the former before reaching the interfaces.⁷

Given this much, T and subject DP establish agreement in the following way. To avoid confusion between a head and a label that operates as a head after Transfer, I indicate the latter with shadowing.

(8) *Relativized Agree (RA)*

- a. **D** is the probe for T if the DP moves to SPEC-T.
- b. T is the probe for **D** if the DP remains in v(*)P.

One might wonder what significant difference (8a) and (8b) can make: Feature values are exchanged between T and D in either case. However, there are cases in which assigned values differ depending on the surface position of the subject. In the following two sections I discuss two such cases, both of which follow naturally under the RA theory.

3. Number Agreement Asymmetry

In many languages the verb agrees with the whole conjoined subject if it is preverbal, but only with the first conjunct if the subject is postverbal.⁸ English is among these languages:

⁶ This was pointed out to me by Kunihiro Iwakura (personal communication).

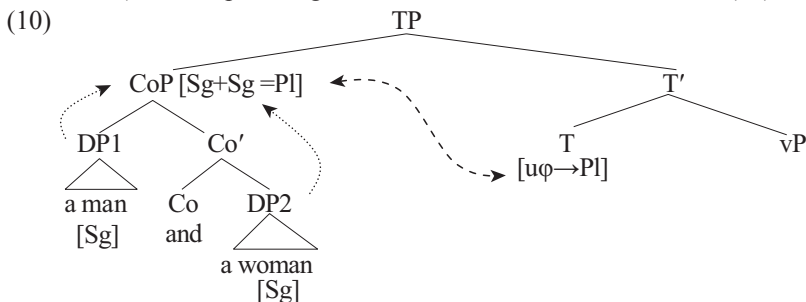
⁷ This process may be reduced to a chain convention that “require[s] erasure of F throughout the array of chains containing F” (Chomsky (1995: 303)).

⁸ For example, Standard Arabic, Czech, Irish, and Serbo-Croatian (Munn (1999)).

- (9) a. [A man and a woman] {**are**/*is} in the house.
 b. There {**is**/*are} [a man and a woman] in the house.

(Bošković (1997: 87))

Partial agreement as in (9b) has been explained in terms of government (McCloskey (1986), Munn (1999)) or feature lowering (Bošković (1997)). This might be restated in minimalist terms as follows: A probe T agrees only with the first conjunct (*a man*) since it is the closest goal. Plural agreement as in (9a), on the other hand, has been attributed to SPEC-Head agreement (Bahloul and Harbert (1993), Munn (1999)). To achieve plural agreement, we need to assume that a coordinated phrase (CoP) carries a [Plural]-feature by adding up the [Singular]-features of its conjuncts (number feature percolation). (According to Lieber (1989) and Cole et al. (1993), feature percolation from a non-head is allowed if the head is not specified for that feature.) Then plural agreement is obtained as illustrated in (10).⁹



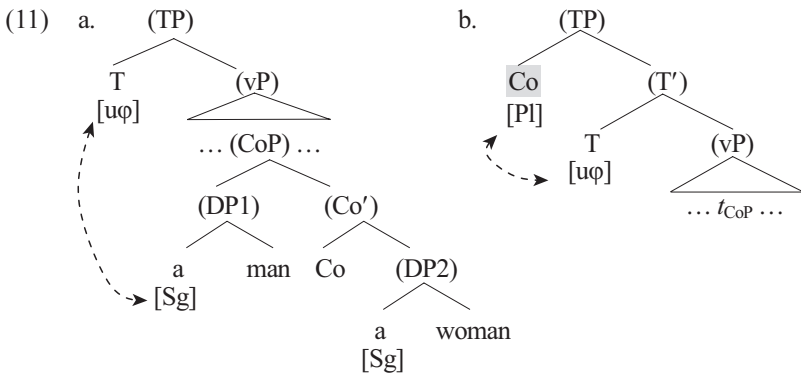
This explanation, however, raises a question. The absence of plural agreement in (9b) indicates either (i) that number feature percolation does not occur when CoP is postverbal, or (ii) that T cannot see the percolated plural feature when CoP is postverbal. Why is it that a postverbal CoP cannot make use of number feature percolation? Munn (1999: 664) argues that "specifier-head agreement is looser than governed agreement and thus may be affected by other factors," but it remains unclear why this is

⁹ The following abbreviations are used in the present paper: 1/2/3 = 1st/2nd/3rd person, A = Southern Tiwa number-noun class combination of type A, Abs = absolutive, Acc = accusative, An = animate, Aux = auxiliary, C1 = Swahili noun class 1 (equivalent to number and gender; cf. Baker (2011)), Dat = dative, Det = determiner, Emph = emphatic, Erg = ergative, F = feminine, Fut = future, Gr = gender, Imp = imperative, M = Masculine, Neg = negative, Nom = nominative, Nr = number, O = object, Pl = plural, Pn = person, Pres = present, S = subject, Sg = singular.

For the sake of uniformity, abbreviation marks in the glosses may be altered from those used in the cited paper.

so. One might want to assume that number feature percolation is a last resort operation. Namely, percolation takes place in (10) since otherwise agreement cannot be established. In (9b), on the other hand, percolation need not (and hence cannot) take place since T can agree with the first conjunct. The validity of this explanation, however, depends on the validity of the assumption of percolation as a last resort. The explanation is hence not sufficiently conclusive unless there is an adequate explanation of why percolation is constrained.

The RA theory provides a simple account for the number agreement asymmetry. Let us first consider how partial agreement is obtained in (9b). A partial structure of (9b) is given in (11a).



In (11a), T serves as a probe for ϕ -Agree since it is higher than CoP. T cannot find CoP since probe-goal is a relation between *heads*. The closest goal for T is, therefore, D (*a*) of the first conjunct.¹⁰ Partial agree-

¹⁰ Transfer applies to the *domain* of CoP in (11a) if it is a strong phase. In this case, too, T agrees with the head of DP1.

An anonymous reviewer asks how the head of DP1 is considered closer to T than the head of DP2 without c-command relation between the two heads. At present I have no well-grounded answer, but can suggest a possible explanation. Suppose that the order of Merge is crucial when the probe searches for its goal. In strictly cyclic derivation, the syntactic object (SO2) that corresponds to DP2 merges with Co, and then the outcome merges with SO1, which corresponds to DP1. If computation has phase-level memory, it knows that SO1 is “newer” than SO2. T can then choose the head in SO1 as the closer goal. If this is correct, closeness is understood as newness.

In this regard, I would like to note that the locality problem is more general. Take subject and object DPs for example. We can say that the subject DP is higher (or superior) than the object DP since the former c-commands the other. With no labels in syntax, however, how can we say that D of the subject is higher than D of the object? Re-definition of the locality condition is required in any version of label-free syntax.

ment in (9b) is thus obtained. Let us then consider Agree in (9a), a partial structure of which is given in (11b). The RA theory requires CoP to undergo Transfer when it moves to SPEC-T. Transfer leaves behind the label *Co*, and at this level the percolated features are added up as shown in (10).¹¹ In this structure *Co*, as a probe, assigns a [PI]-value to T. Plural agreement in (9a) is thus obtained.

To summarize, the RA theory provides a simple account for the number agreement asymmetry in sentences involving a conjoined subject phrase (CoP). The label of the phrase, *Co*, bears [PI] as a result of number feature percolation. But *Co* is available for Agree only after full Transfer, that is, only when CoP moves to SPEC-T. Preverbal CoP thus triggers plural agreement. When CoP remains in vP, on the other hand, the probe T agrees with the head of the first conjunct. Partial agreement is thus obligatory when CoP is postverbal.

4. Person Agreement Asymmetry

4.1. The Absence of Person Agreement in English

According to Baker (2008, 2011), predicative adjectives in many languages agree with their subjects in number and gender, but not in person. The absence of person agreement is also observed between ditransitive verbs and their theme arguments in languages with rich object agreement morphology. Building on these observations, Baker proposed the following condition:

(12) *The Structural Condition on Person Agreement (SCOPA)*

A category F can bear the features +1 or +2 if and only if a projection of F merges with a phrase that has that feature and F is taken as the label of the resulting phrase. (Baker (2011: 878))

Put simply, while number and gender agreement can be established under Agree, person agreement requires a SPEC-Head relation. The absence of person agreement is thus reduced to the absence of a SPEC-Head relation between DP and its licensing head.

Although not discussed by Baker, corresponding examples can be found in English as well. Consider the examples in (13) and (14). According to

¹¹ Recall that a label is identical with its head. Since a head is a “collection (perhaps structured) of (A) phonological, (B) semantic, and (C) formal features” (Chomsky (2001: 10)), the percolated feature is added to the subset (C).

Chomsky (2000), sentences as in (14a, b) are acceptable with a list reading, in response to questions such as “Who’s still here to do the work?”

- (13) a. I {**am**/*is} here.
 b. We **are** here.
- (14) a. There {**is**/*am} only me.
 b. There **are** only us.

(adapted from Chomsky (2000: 149, note 90))

The examples in (13a, b) indicate that the verb agrees with the preverbal subject both in number and person. In contrast, we see from the examples in (14a, b) that the verb agrees with the postverbal subject in number, but not in person. Given the SCOPA, the absence of person agreement in (14a) can be attributed to the absence of a SPEC-Head relation between the postverbal subject and T.

It is simple and straightforward, but the SCOPA analysis poses a question: Why is there such a condition at all? Moreover, it would be a challenge to accommodate the SCOPA in the minimalist framework, in which “there should be no m-command, hence no SPEC-head relations” (Chomsky (2008: 146)). The SCOPA is, in effect, a generalization that should be reduced to more fundamental principle(s), as acknowledged by Baker (2011: 877, note 3) himself.

In this section I argue that the RA theory explains SCOPA phenomena without recourse to the SCOPA or SPEC-Head relations. English examples are discussed first, and then SCOPA phenomena are observed in other languages.

Before turning to the data, however, I point out two properties of pronouns that are the necessary background for the analysis to come. First, 3rd person is a non-person (cf. Anderson (1982), Benveniste (1966), Kayne (2000), Rezac (2003), Sigurðsson (1996)). Namely, 3rd person pronouns are pronouns lacking a person feature, and so-called 3rd person inflection on a head is a default form when the head’s [u ϕ] is not specified for person.

Second, pronouns have a complex structure (cf. Cardinaletti (1994), Chomsky (2013), Uriagereka (1988)). I assume the following three-layer structure for 1st and 2nd person pronouns in English proposed by Déchaine and Wiltschko (2002, D&W henceforth).¹² D is a determiner, and ϕ is a

¹² D&W claim that 3rd person pronouns in English are ϕ Ps or DPs. I do not discuss the internal structure of 3rd person pronouns since it has no relevance to the present discussion.

head that encodes ϕ -features.



In some languages the complexity of pronouns is morphosyntactically manifested. Observe, for example, the paradigm of independent (emphatic) pronouns in Halkomelem (a Central Coast Salish language) given in (16).

(16) Halkomelem independent pronouns

	Singular	Plural
1	te- 'élthe (Det-1.Sg) te- á'elthe (Det-1.Sg.Emp)	te- lhlímelh (Det-1.Pl)
2	te- léwe (Det-2.Sg)	te- lhwélep (Det-2.Pl)
3	tú-tl'ò (Det-3.Sg) thú-tl'ò (Det.F-3.Sg)	tu-tl'ó:lem (Det-3.Pl) thu-tl'ó:lem (Det.F-3.Pl) yu-tl'ó:lem (Det.Pl-3.Pl)

(D&W: 412)

Each of these is composed of a determiner and a person-number morpheme. Notice that the same determiner, *te-*, appears in all 1st and 2nd person pronouns, indicating that the determiner of 1st/2nd person pronouns does not carry person information. The information should be located below the DP layer, i.e. ϕ P. Since ϕ is a locus that encodes ϕ -features, it seems natural to assume that it bears a full set of ϕ -features.

Incidentally, the determiner *te-* typically occurs with common nouns that are singular, non-feminine and absolutive (Wiltschko (2009)). Namely, *te-* may bear [Gender (Gr)] and [Number (Nr)] features, but not [Person (Pn)].

This is not an accident observed only in pronouns. Ds that occur with common nouns generally lack person inflection. According to Wiltschko (2009), for example, determiners in Halkomelem inflect for number, gender, case and location (visible, invisible or remote), but not for person. Ds in Spanish may inflect for gender and number, and Ds in German for gender, number and case, but not for person:

(17) a. Spanish:

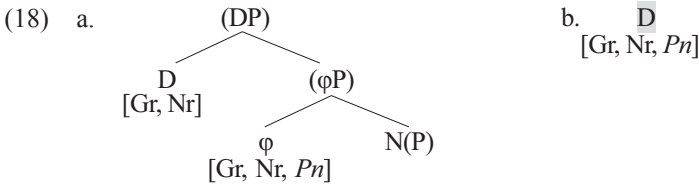
el	hombre,	los	hombres;	la	mujer,	las	mujeres
M.Sg	man	M.Pl	men	F.Sg	woman	F.Pl	women

b. German:

der/den/dem	Mann, die
M.Sg.Nom/M.Sg.Acc/M.Sg.Dat	man M.Pl.Nom(or Acc)
Männer; die/der	Frau, den
men F.Sg.Nom(or Acc)/F.Sg.Dat	woman F.Pl.Dat
Frauen	
woman	

This is not at all surprising given that common nouns are uniformly 3rd person, i.e. non-person: Ds that occur with common nouns never have [Pn]. If Ds in pronouns are the same in nature, they should have no [Pn] either.

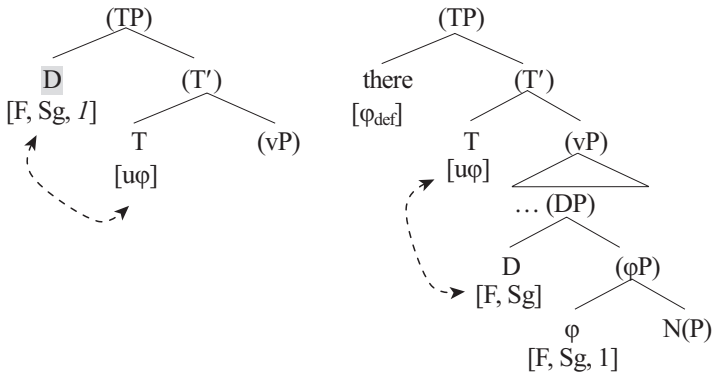
Based on these assumptions, I suggest the following distribution of ϕ -features in pronouns:



ϕ bears a full set of ϕ -features. D may have [Gr] and [Nr] features redundantly, but not [Pn]. But the label \bar{D} , which becomes visible after Transfer as in (18b), bears a full ϕ -set with [Pn] percolated from ϕ to DP (person feature percolation).

With this in mind, let us return to the examples in (13) and (14). Partial structures of (13a) and (14a) are given in (19a) and (19b), respectively.

(19) a. I {am/*is} here. b. There {is/*am} only me.



Transfer applies to the subject (*I*) in (13a)/(19a) when it moves to SPEC-T, making only its label \bar{D} visible in syntax. Since the label \bar{D} bears a full ϕ -set, it assigns full ϕ -values to T. Pronouns in subject position thus trig-

ger person agreement. In (14a)/(19b), on the other hand, Transfer need not (and hence cannot) apply to the in-situ subject. T serves as a probe and finds the head D as its closest goal. Since D bears [Gr, Nr] but not [Pn], T is not assigned a person value. The absence of person agreement with the postverbal pronominal subject is thus explained.

Summarizing, person agreement requires a SPEC-Head relation between a pronoun and its licensor (T) because (i) the person feature of a pronoun is made visible by Transfer, and (ii) Transfer applies to a pronoun only when it moves to SPEC-T.

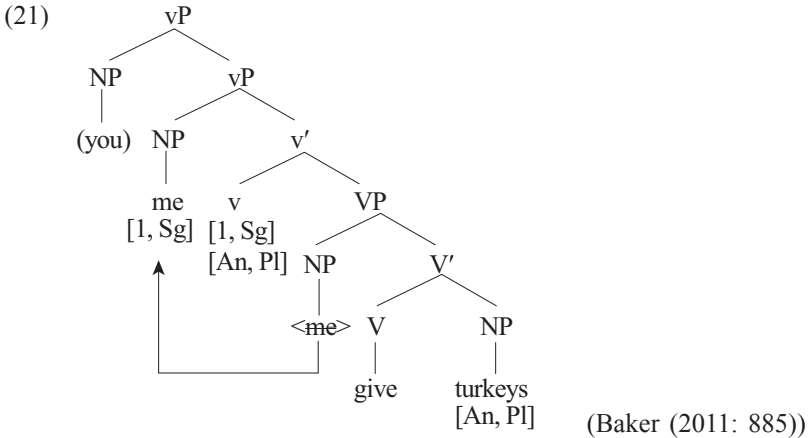
4.2. The Absence of Person Agreement in Other Languages

In this section I show that the SCOPA phenomena discussed by Baker (2011) also follow naturally from the RA theory. Let us first consider agreement between a ditransitive verb and its theme object. Examples are provided from Nahuatl and Southern Tiwa (a Tanoan language of New Mexico):

- (20) a. Xi-nēch-**im**-maca huēhuèxōlō. Nahuatl
 2.Sg.S.Imp-1.Sg.O-[PI]-give turkeys
 ‘Give me some turkeys.’
- b. **Ka**-’u’u-wia-ban. Southern Tiwa
 1.Sg.S/2.Sg.O/[A.O]-baby-give-Past
 ‘I gave you the baby.’ (Baker (2011: 876, 883))

Nahuatl has a rich system of inflection: The transitive verb agrees in number and person both with the agent and the theme. In double object constructions such as (20a), however, the verb agrees only in number with the theme. Baker calls this *two-and-a-half agreement*. This type of agreement is also observed in Southern Tiwa as in (20b). In this language the verb prefix varies with ϕ -values of the agent, the goal and the theme. According to Baker, there are three different inflection forms, *ka-*, *kam-* and *kow-*, when the agent is 1st person singular and the goal is 2nd person singular. The choice among them “is determined by the number and gender of the theme argument” (Baker (2011: 884)). Namely, the person of the theme does not affect the choice.

Baker explains two-and-a-half agreement effects in terms of the SCOPA. He assigns the following Larsonian VP-shell to (20a) (Larson (1988)):



EPP of T triggers movement of the agent (*you*) to its SPEC, yielding person agreement between them. Similarly, EPP of *v* triggers object movement to SPEC-*v*. In this configuration the goal (*me*), higher than the theme (*turkeys*), is attracted. Person agreement between the verb and the goal is thus obtained. *v* undergoes second Agree with the theme in COMP-V, but it can only agree in gender and number. Two-and-a-half agreement effects in double object constructions can thus be explained in terms of the SCOPA.

Two-and-a-half agreement is explained by the RA theory as follows. In (21), Transfer applies to the goal (*me*) since it must serve as a probe for $v^{(*)}$ -V. As a result, only the label **D** is left behind in syntax. Accordingly, [Pn], percolated from φ to **D** as in (18b), becomes available for Agree. Person agreement is thus established between the goal and $v^{(*)}$ -V. The theme, on the other hand, need not (and hence cannot) undergo Transfer since it is the goal for $v^{(*)}$ -V. At the point of Agree, $v^{(*)}$ -V searches its domain and finds the head D of the theme DP. Since the head D does not bear [Pn], Agree between $v^{(*)}$ -V and the theme does not result in person agreement.

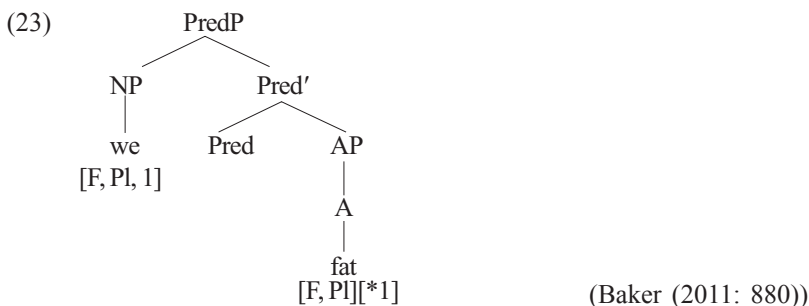
Next, let us consider why predicate adjectives in many languages do not inflect for person. Examples are given from Spanish (22a) and Swahili (22b):

- (22) a. (Nosotras) somos gord-**as**/*gord-amos. Spanish
 we.F.PI are.1.PI fat-**[F.PI]**/ fat-1.PI
 ‘We are fat.’
- b. Ni **m-refu**. (cf. Hamisi yu **m-refu**.) Swahili
 1.Sg.be **[C1]**-tall Hamisi C1.be **[C1]**-tall
 ‘I am tall.’ ‘Hamisi is tall.’

(Baker (2011: 876, 879))

The adjective in Spanish changes to reflect the number and gender features of its subject, but not the person feature of it. In Swahili, too, “adjectives agree in number and noun class (gender), but not in person” (Baker (2011: 879)).

Partial agreement in predicative adjectival sentences is explained under the SCOPA analysis as follows. Baker (2003, 2008, 2011) argues on independent grounds that the subject of A is not generated within AP, but in SPEC of the higher predicate (Pred). (22a) thus involves the structure in (23).

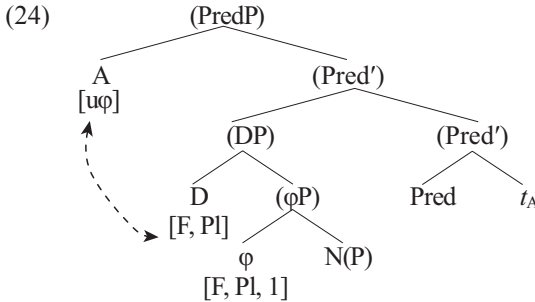


Since the subject and A are not in a SPEC-Head relation, A cannot agree in person with the subject.

The absence of person agreement on predicative adjectives is accounted for under the RA theory as well, together with two assumptions suggested on independent grounds. First, I adopt Bošković’s (2014) idea that the highest (extended) phrase of any major category (N, A, V, P) can constitute a phase (although semantic and other factors may affect the phasehood). Second, I assume, following Matushansky (2006), that head movement targets SPEC. The head in SPEC undergoes morphological merge with the attracting head (after Transfer) if either head is affixal.

With these assumptions in mind, let us consider the structure (23). PredP should be a phase since it is an extended projection of A. In this configuration Agree between *we* and A is impossible since neither c-commands the other. If Transfer applies to (the domain of) PredP in (23), the derivation crashes since the transferred phrase contains A’s unvalued ϕ -features. For convergence, therefore, A must move to a position that c-commands *we*, i.e. to SPEC-Pred, which generates the following structure:¹³

¹³ An anonymous reviewer asks what prevents the other option in which the subject DP is transferred and serves as a probe for A in situ, inducing full agreement. It might



At the point of Agree, A probes its domain and finds D. Since [Pn] ([1] in this case) is not located in D, A cannot be assigned a person value. The adjective is therefore unable to agree with the subject in person.

4.3. A Note on the Person-Case Constraint

Before leaving this section, I would like to comment on a possible problem with the present analysis. The RA theory (as well as Baker's SCOPA) argues that 1st/2nd person pronouns do not trigger person agreement unless they occupy SPEC of their match. Hence the postverbal pronominal subject in (14a), repeated here as (25), agrees with the verb in number, but not in person.

(25) There {is/*am} only me.

In some languages, however, sentences involving such 1st/2nd person pronouns do not converge with partial agreement, but are simply *ill-formed*. This is typically observed in double object constructions (DOCs), and is known as the Person-Case Constraint (PCC) (Bonet (1991)). The following is a simplified formulation of the PCC given by Richards (2005: 384):

(26) If there is a dative argument, the accusative argument must be 3rd person.¹⁴

Strong and weak versions of the PCC have been noted (cf. Baker (2011)). The weak version is observed in Romance languages such as French and Italian, where the PCC is relevant only when both dative and accusative

be that full Transfer becomes available only after Move. Alternatively, A might be raised not for Agree, but for other reasons, presumably for the same reason that forces V-to-v(*) raising. Incidentally, several researchers have proposed A-raising over its subject based on different grounds (e.g. Hicks (2009) and Bowers (2010)). I leave open the question of which analysis is correct.

¹⁴ "Accusative" is replaced by "absolute" in ergative languages.

arguments are clitics (cf. Bianchi (2006), Rezac (2011)). Consider French examples (27a, b). (27a) is ruled out since the accusative 1st pronoun clitic cannot occur with the dative clitic. Compare it with the semantically-equivalent example in (27b), which is legitimate since the dative argument is not a clitic.

- (27) a. *Elle **nous** **vous** présentera.
 she us.Acc you.Dat introduce.Fut
 b. Elle **nous** présentera **à vous**.
 she us.Acc introduce to you
 ‘She will introduce us to you.’ (Rezac (2011: 2))

To some speakers the PCC is further weakened to allow the co-occurrence of 1st and 2nd person clitics. Bianchi (2006) points out that some Italian speakers allow the co-occurrence if the 1st person clitic precedes the 2nd person clitic as in (28a), while the reversed order as in (28b) is totally unacceptable.

- (28) a. %**Mi ti** ha affidato.
 me you has entrusted
 ‘He entrusted me to you.’ Or, ‘He entrusted you to me.’
 b. ***Ti mi** ha affidato. (Bianchi (2006: 2027))

The strong version of the PCC is observed in languages like Basque, where the PCC constrains non-clitic arguments as well. In (29), for example, the dative *Joni* blocks the occurrence of the absolutive 1st person pronoun *ni*.

- (29) *Lapurrek **Joni ni** saldu n-(a)i-o-te.
 thieves.Erg Jon.Dat me.Abs sold Abs.1-Aux-Dat.3-Erg.3.Pl
 ‘The thieves have sold me to Jon.’ (Richards (2005: 384))

The RA theory does not account for why the dative and the 1st/2nd person accusative/absolutive cannot co-occur. However, I do not believe this undermines the validity of the theory. The RA theory simply predicts that DOCs involving a 1st/2nd person theme argument will converge with partial agreement *if they are not ruled out by other constraints*. The examples above indicate that such constraints do hold in some languages.

It may be possible to reduce the PCC to more fundamental principle(s). One way is to assume that T/v* assigns Case to a DP only if it agrees with all ϕ -features borne by the DP (cf. Baker (2011), Rezac (2008)). Recall that in a DOC the verb (v*-V) is the probe for the theme argument DP. The verb agrees with the theme in [Gr, Nr] but not in [Pn]. Hence v*-V cannot assign Case to the 1st/2nd person theme. The PCC is therefore reduced to the Case Filter. Another approach is to assume that the

1st/2nd person pronoun must be related to some left-peripheral, discourse-related head (via Agree or Move). The relation is blocked by an intervening dative (clitic) argument (cf. Bianchi (2006), Boeckx (2000)). Whichever proposal is taken, the task will remain of accounting for why the PCC varies among languages and/or among constructions. I refrain from further discussion here, and simply note that the distribution of 1st/2nd person pronouns is constrained in some languages.

To summarize, the RA theory explains why a SPEC-Head relation is required for person agreement. On independent grounds I have posited a complex structure for 1st/2nd person pronouns. Whereas [Gr, Nr]-features are held by the highest head D, [Pn] (if any) is held by a lower head ϕ . When a licensing head (T or v*-V) is higher than a pronoun, it can only see [Gr, Nr] of the head D. The head is therefore unable to agree with the lower pronoun in person. When a pronoun moves to SPEC of T/v*-V, on the other hand, Transfer applies and the label **D** is left behind in the syntax. Since **D** bears [Pn] percolated up from ϕ , **D** assigns full ϕ -values to T/v*-V. The licensing head is thus able to agree with the higher pronoun in person.

5. (The Absence of) Subject Island Effects

The RA theory requires DP to be transferred when it moves to SPEC-T. I have shown in the previous two sections that this explains the fact that the DP can trigger different agreement patterns depending on its surface position. In this section I take up another consequence of the RA theory. Since transferred elements become unavailable for further computation, it is predicted that nothing can be extracted from DP in SPEC-T. Subject island effects are thus obtained. I argue that the presence and absence of subject island effects are both well-accounted for under the RA theory. I first consider data from English and then data from Spanish.

5.1. Subject Island Effects in English

5.1.1. Data

In English, PP-extraction from objects is allowable while PP-extraction from subjects is not.¹⁵

¹⁵ For the sake of comparison I concentrate on pied-piping examples. P-stranding extraction from the subject may yield better or worse results. Jiménez-Fernández (2009)

- (30) a. **Of which car** did they find [the driver t]?
 b. ***Of which car** did [the driver t] cause a scandal?

(adapted from Chomsky (2008: 147))

However, extraction from the subject seems acceptable (i) when the subject remains in vP (as in (31)), (ii) when it is not an external argument (as in (32)), or (iii) when it undergoes successive-cyclic A-movement (as in (33)).

- (31) **Of whom_i** is there [a picture t_i] on the wall?

(adapted from Uriagereka (2012: 94))¹⁶

- (32) a. He is the person **of whom_j** [pictures t_j]_i are t_i on the table.
 b. It was the CAR (not the TRUCK) **of which_j** [the driver t_j]_i was found t_i .
 c. **Of which car_j** was [the driver t_j]_i awarded t_i a prize?
 ((a) adapted from Chomsky (1986: 32), (b)–(c) from Chomsky (2008: 147))

observes that the P-stranding example in (ia) is slightly better than the pied-piping example in (ib).

- (i) a. ?**Which car** did [a driver of t] cause a scandal?
 b. ??**Of which car** did [a driver t] cause a scandal?

(Jiménez-Fernández (2009: 111))

Chomsky (1986), on the other hand, finds the pied-piping example in (iib) “less severe” (p. 32) than the P-stranding example in (iia).

- (ii) a. the man **who** [pictures of t] are on the table
 b. He is the person **of whom** [pictures t] are on the table.

(Chomsky (1986: 31, 32))

The subject in (ia, b) is an external argument while the subject in (iia, b) is an internal argument. I am not sure, however, whether this is the cause of the difference in judgment. In fact, other researchers reject both types of P-stranding examples as violations of the Subject Condition (cf. Lasnik and Park (2003), Gallego and Uriagereka (2007)).

As an anonymous reviewer points out, the present analysis predicts that P-stranding examples are underivable. *Who* in (iia) right-adjoins to VP before reaching SPEC-C, but rightward movement never permits P-stranding:

- (iii) *John counted [on t] for support [a total stranger]. (Jayaseelan (1990: 66))

We would have to explain how examples like (ia) and (iia) are derived, therefore, if they turned out to be acceptable. Without stable judgments on the data, I will not go into further discussion.

¹⁶ Uriagereka regards the fronted PP in (31) as a prolepsis, that is, a topic phrase base-generated in its surface position. I do not deny the possibility, but argue that (31) can be derived by PP-extraction as well.

- (33) a. **Of which car_j** is [the driver t_{j_i}] likely [t_i to [t_i cause a scandal]]?
 b. **Of which car_j** did they believe [the driver t_{j_i}] t_V [t_i to have [t_i caused a scandal]]?¹⁷

(adapted from Chomsky (2008: 153))

In the next section I review Chomsky's (2008) explanation of the preceding data, and spell out the unclear, problematic assumptions underlying this explanation. An alternative account in terms of RA is developed in section 5.1.3.

5.1.2. An Explanation by Chomsky (2008)

Let us first consider how (30b) is ruled out. The external argument, [*the driver of which car*], is merged in SPEC- v^* in the course of derivation. Extraction of [*of which car*] does not occur in the v^* P phase since it is not in the search domain of v^* whose edge feature (EF) triggers movement. In the next higher phase, T raises [*the driver of which car*] to SPEC-T, and C raises [*of which car*] to SPEC-C. The two operations "can apply in either order, or simultaneously, with only certain choices converging" (Chomsky (2008: 151)). Accordingly, C has two candidates to attract: (i) PP inside the DP in SPEC- v^* (if the DP has not moved yet), or (ii) PP inside the DP in SPEC-T:

- (34) C [TP ([DP the driver **of which car**)] T [v^* P [DP the driver **of**
 [EF] (ii)
which car] v^* -cause [V(P)]]
 (i)

According to Chomsky (2008), however, neither option is available, for the following reason:

- (35) a. *Why can C not attract the PP in (i)?*
 "That could reduce to a locality condition: *which* in α [i.e. DP in this case] is embedded in the lower phase, which has already been passed in the derivation. We know that the external argument itself can be accessed in the next higher phase, but there is a cost to extracting something embedded in it[.]"
 (Chomsky (2008: 147–148))

¹⁷ The ECM subject is assumed to be raised to SPEC of matrix V (cf. Chomsky (2007, 2008, 2013)).

- b. *Why can C not attract the PP in (ii)?*

“[T]he Spec-T position is impenetrable to EF[...] (...) A reasonable principle, then, is that an A-chain becomes invisible to further computation when its uninterpretable features are valued.” (Chomsky (2008: 150))

In simpler terms: DP in SPEC-v* is “faded” since it is in the old phase, and DP in SPEC-T is “frozen” in place since its uninterpretable (i.e. Case) feature has been valued.¹⁸ C can see a faded DP itself, but not what’s inside it. Extraction of PP in (i) is thus impossible. On the other hand, C cannot see a “frozen” DP at all. Consequently, extraction of PP in (ii) is impossible as well. Since neither candidate is extractable, there is no way to derive (30b). Chomsky thus accounts for subject island effects based on the assumptions in (35a, b).

The above account entails that subject island effects disappear when subject DP occurs in a position that can be accessed by C. Let us now turn to cases in which the subject DP is base-generated somewhere below VP. The relevant examples are (31) and (32a–c).¹⁹ Since they are unaccusative/passive sentences, the minimal phase containing the VP is CP. When C is introduced in the derivation, C directly accesses PP within the DP. The access is possible since the DP is neither “faded” (i.e. in the old phase) nor “frozen” (i.e. in Case position). After PP-movement the DP involving PP-trace may undergo A-movement to SPEC-T (as in (32a–c)) or stay in situ (as in (31)). Subject island violation is thus avoided when the subject is not an external argument.

Let us now consider (33a, b). In both examples, the subject is generated in SPEC-v*. Unlike the deviant (30b), it moves to the matrix subject position via SPEC of infinitival T. Suppose that the derivation has reached the following stage:

- (36) a. [_{CP} C [_{TP} T [_{VP} v-be likely [_{TP} [_{DP} the driver **of which car**]_i to *t_i* **cause a scandal**]]]]
 b. [_{v*P} they v*-believe [_{TP} [_{DP} the driver **of which car**]_i to have *t_i* **caused a scandal**]]

¹⁸ This is a modified version of the Freezing Principle originally proposed by Wexler and Culicover (1980). The same constraint is referred to in Chomsky (2000, 2001, 2004) as well.

¹⁹ Copular sentences are assumed to have the structure as in (i) (cf. Chomsky (2013), Moro (2000)). Subject XP is generated in a small clause embedded in a copular VP.

(i) XP_i copula [_{Small Clause} *t_i* YP]

The minimal phase containing the infinitival TP is CP in (36a), and v*P in (36b). In either case, the phase head can access [*of which car*] since the host DP is neither “faded” nor “frozen.” Subject island effects thus disappear when the subject undergoes successive-cyclic A-movement.

Notice that Chomsky’s account heavily relies on the assumptions of “fadedness” and “freezing.” I suspect, however, that neither assumption is unproblematic. First, there is no conceptual necessity to posit “fadedness.” The notion of edge is a conceptual necessity: Cyclic computation would be impossible without it. But what is the necessity of discriminating between terms in an edge and terms in the next higher phase, both active and visible in the phase? Put differently, why does the history of Transfer ever affect what hasn’t been transferred? Moreover, what is the “cost” to look into the faded phrase? Also unclear is the target of fading: DP itself is not faded (since it becomes transparent again if it moves to SPEC of infinitival T, as shown in (36a, b)) but being in the edge makes the DP faded. What does it mean that a *position* that has escaped Transfer is faded but a *phrase* that has escaped Transfer is not? Chomsky’s account is not sufficiently convincing unless the notion of fadedness is clarified.

The notion of “freezing” is also problematic because it is in conflict with what Chomsky states in other passages. According to Chomsky, C cannot access the DP in SPEC-T at the stage (34) since its Case feature has already been valued. Inconsistently, Chomsky also argues that Agree must wait until “the stage in computation where they are transferred” (Chomsky (2008: 154)). Given this argument, the DP in SPEC-T in (34) must be active since the CP phase has not been transferred yet. The account in (35b), therefore, is problematic unless the conflict is resolved.

To sum up, Chomsky’s (2008) account for subject island effects is based on the problematic assumptions of “fadedness” and “freezing.” In the next section I demonstrate that the RA theory can account for subject island effects without recourse to problematic assumptions.

5.1.3. An RA Account

Let us first consider how subject island effects are derived. The relevant example (30b) is repeated here as (37).

(37) ***Of which car** did [the driver *t*] cause a scandal?

Recall that derivation is strictly cyclic. The subject DP [*the driver of which car*] is generated in SPEC-v*. Extraction of the PP [*of which car*] is impossible in the v*P phase since it is not in the domain of v*. In the next higher phase CP, T is introduced before C is introduced. The DP is

then raised to SPEC-T and transferred. Since what is within the DP becomes invisible after Transfer, C cannot extract the PP out of the DP. Subjects thus constitute islands.

Let us now turn to cases in which extraction from subject seems possible. Let us first consider sentences involving unaccusative/passive verbs. Relevant examples are repeated below:

- (38) a. **Of whom**_i is there [a picture t_i] on the wall? (= (31))
 b. He is the person **of whom**_j [pictures t_j]_i are t_i on the table. (= (32a))
 c. It was the CAR (not the TRUCK) **of which**_j [the driver t_j]_i was found t_i . (= (32b))
 d. **Of which car**_j was [the driver t_j]_i awarded t_i a prize? (= (32c))

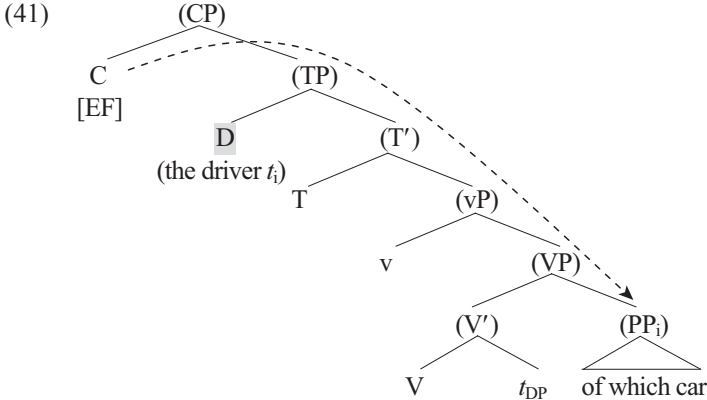
The subject DP in each example is base-generated within VP, either as the internal argument of the verb or as the subject of a small clause. The derivation of (38a) is straightforward: With the host DP remaining in situ, C can directly access and attract the PP within the DP.

The derivation in the other sentences is a bit more complicated. C cannot search into the DP in SPEC-T since it has been transferred. Therefore, the PP inside must be extracted *before* the DP moves to SPEC-T. The extraction must be adjunction since there is no phase head that triggers movement to the edge before C is introduced. What is the adjunction site, then? The answer can be determined from the following examples involving rightward PP-extraction:

- (39) a. John drove [a car t_i] in Boston **with a sunroof**_i. (Takami (1995: 154))
 b. They desired that [pictures t_i] be painted **of each other**_i. (Chomsky (1986: 41))
 c. [A man t_i] came in **with blue eyes**_i. (Nakajima (1995: 17))
 (40) a. *[A man t_i] hit Mary **with hostility toward her**_i.
 b. *[A new book t_i] has attracted people **about the origin of human language**_i. (Nakajima (1995: 21))

The host DP in each (39a–c) is base-generated within VP as an internal argument. Extraction of the PP inside is legitimate. The host DP in (40a, b) is, on the other hand, base-generated in SPEC-v*. The ill-formedness indicates that the PP inside cannot make use of a legitimate adjunction site. Putting these facts together, I thus assume that PP within DP can be extracted to a VP-adjoined position. With this in mind, let us consider the derivation of (38b–d). Suppose that the subject DP is generated within VP

and the PP inside is extracted to a VP-adjoined position. Subsequently, T is merged and the subject DP containing the PP-trace is raised to SPEC-T. When C is merged with the TP, therefore, it can see the PP in the VP-adjoined position:



The PP can therefore be attracted to SPEC-C.²⁰ To recapitulate, subject island effects are absent in (38a–d) either because C can access the DP within VP directly ((38a)), or because PP can be extracted to a VP-adjoined position.

Finally, let us consider the derivation of (33a, b), repeated here as (42a, b).

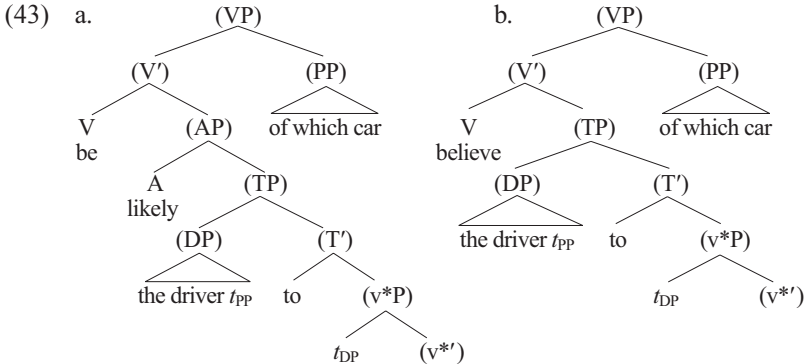
- (42) a. **Of which car_j** is [the driver t_{j_i}]_i likely [t_i to [t_i cause a scandal]]?
 b. **Of which car_j** did they believe [the driver t_{j_i}]_i t_V [t_i to have [t_i caused a scandal]]?

The subject DP in either example is base-generated in SPEC- v^* . The PP inside cannot be extracted in the v^* P phase. Suppose that the derivation

²⁰ An anonymous reviewer asks how the target of movement is determined in this framework. If EF can target only heads, a phrase must be transferred and labeled before movement. I do not adopt this assumption because it would make (42a, b) undervivable: If [*the driver of which car*] were transferred before it moves to SPEC of infinitive T, *of which car* could not be extracted from the DP. Then we are forced to assume that EF can target unlabeled syntactic objects (SOs). Given that Agree can target only heads, the reviewer notes, the asymmetry between Agree and Move might need an explanation.

I do not think, however, that the asymmetry is problematic. Merge is “an operation that takes structures already formed and combines them into a new structure” (Chomsky (2007: 5)). Namely, unlabeled SOs can be inputs of Merge. Since Move is identified as Internal Merge (Chomsky (2004, 2007, 2008)), EF can target unlabeled SOs.

proceeds to the next higher phase and infinitival T is introduced. The DP moves to its SPEC to satisfy the EPP. It should be noted that at this stage Transfer need not (and hence cannot) apply to the DP: The DP in (42a) needs to be transferred when it moves to SPEC of finite T, from which position the label **D** works as a probe for finite T as well as infinitival T. In the case of (42b), Transfer can wait until the DP moves to SPEC-V.²¹ In either case, therefore, the DP is transparent when it moves to SPEC of infinitival T. The derivation proceeds and the matrix V is introduced in the derivation. The PP within the DP can then be extracted to a VP-adjoined position, as schematized below:



Later, the host DP undergoes A-movement to SPEC-T in (42a)/(43a) or to SPEC-V in (42b)/(43b). When a phase head (C in (a) and v* in (b)) is introduced, it can access the PP in the VP-adjoined position and attract it to its edge. To recapitulate, subject island effects disappear if the subject undergoes successive-cyclic A-movement because PP is extractable from SPEC of infinitival TP.²²

²¹ The ECM subject DP is a probe for infinitival T, but a goal for matrix v*-V. Transfer must take place for Agree of the former type.

²² The deviance of the following example is unexpected under the present analysis:
 (i) *[The driver t_i] is likely to cause a scandal [of the car]_i. (Chomsky (2008: 154))
 The only difference from (42a) is that the PP in (i) remains in the VP-adjoined position. I assume that the deviance is not syntactic but semantic. Nakajima (1995) observes that PPs in the extraposed position must denote a reason, a supplementary explanation or an implication of the preceding proposition. The following examples illustrate the point:

- (ii) a. A man died {with malignant tumors/*with blue eyes}.
 - b. A man was arrested {with lots of drugs/*with a headband}.
- (Nakajima (1995: 33))

In summary, subject island effects emerge when the subject moves directly from SPEC-v* to SPEC-T: C cannot search into the DP in SPEC-T since it has been transferred. On the other hand, subject island effects do not arise if there is a stage of derivation in which the subject DP is locally dominated by VP. The PP inside can then either be directly accessed by C (if the DP remains within VP), or be raised to SPEC-C via a VP-adjoined position.

5.2. Subject Island Effects in Spanish

In the previous section, we have seen that subject island effects are absent (i) when the subject is not an external argument or (ii) when the subject undergoes successive-cyclic A-movement. Spanish data tell us that there is another way to avoid island violations: (iii) when the subject is extraposed to a postverbal position. Compare the ill-formed (44) involving PP-extraction from the preverbal subject with the well-formed (45) involving PP-extraction from the postverbal subject.²³

If a PP stays in an adjoined position and gets interpreted there, it is subject to the above semantic constraint, which is the cause of the deviance of (i).

An anonymous reviewer asks whether PP-extraction as in (i) becomes acceptable if the PP satisfies Nakajima's semantic constraint. I asked six native speakers of English for their judgment on (i) and (iii-a-c). I asked them to construe the bracketed PP as a modifier of *the driver* and judge the acceptability of each sentence on a four-level scale. All the informants rejected (i). The judgments on (iii-a-c) are shown to the right of each example:

		Number of subjects			
		OK	?	??	*
(iii)	a. [The driver <i>t</i>] is likely to cause a scandal [of the illegally modified car].	1	0	2	3
	b. [The driver <i>t</i>] is likely to cause a scandal [with a bad temper].	2	0	1	3
	c. [The driver <i>t</i>] is likely to cause a scandal [with a lot of drugs].	3	0	1	2

Three or four of them reported that the sentences in (iii-a-c) are acceptable or better than (i). I interpret these results to suggest that PP-extraction of this type is semantically constrained.

²³ Jiménez-Fernández (2009) observes that extraction from preverbal subject can be allowed. His examples, however, are unaccusative sentences involving copular or psych verbs. As I have shown in the previous section, subject island effects are absent when the subject is not an external argument. Relevant data in Spanish might also be given the same account.

- (44) *Esta es la autora **de la que**_i [varias traducciones t_i] han
 this is the author by the whom several translations have
 ganado premios internacionales.
 won awards international
 (Lit.) ‘This is the author by whom several translations have won
 international awards.’ (Chomsky (1986: 26))
- (45) **De qué equipo**_i dices que han bailado
 of what team say.Pres.2.Sg that have.Pres.3.Pl danced
 [_{DP} cuatro participantes t_i]?
 four participants
 ‘Which team do you say that four members of have danced?’
 (Jiménez-Fernández (2009: 101))

The acceptability of the example (45) is accounted for under the RA theory as follows. It is well known that Spanish is a pro-drop language: EPP of T may be satisfied by a null pronoun (*pro*). Hence the overt subject need not move to SPEC-T. There is an independent requirement, however, that something must evacuate v^*P (cf. Alexiadou and Anagnostopoulou (2001), Chomsky (2008)). Let us suppose, then, that the subject in (45) has been extraposed to satisfy this requirement, yielding the following structure:

- (46) C [_{TP} *pro* T [_{v^*P} t_i v^* -dance [**V(P)**]] [_{DP} four participants [_{PP} **of what team**]]]_i

Recall that full Transfer occurs only when Agree is otherwise impossible. The dislocated DP need not be transferred since T can probe its domain and find the head D as a goal.²⁴ C can therefore search into the DP and attract the PP inside. PP is thus extractable from the postverbal subject.

The ill-formedness of (44) is accounted for in the same manner as the English example (30b). The preverbal subject is considered to occupy SPEC-T. Since Transfer applies to this position, C can no longer search into the DP and extract the PP inside. Extraction is therefore impossible from the preverbal subject.

The analysis can be extended to the case cited by Chomsky (1986): The subject ceases to be an island when it undergoes *wh*-movement.²⁵ Compare

²⁴ An anonymous reviewer asks how *pro* is related to the extraposed subject. Here I assume with Rizzi (1982) that *pro* is an expletive when the sentence contains an overt subject. They might be related as an expletive and its associate.

²⁵ The same seems to hold true for Italian.

(i) ?**Di quale autore**_i ti domandi [[quanti libri t_i]] siano stati censurati t_j]?
 by which author you wonder how.many books have been censored

the ill-formed (44) with the example below:

- (47) **De que autora_i** no sabes [qué traducciones t_i] han
 by what author Neg know.2.Sg what translations have
 ganado premios internacionales?
 won awards international
 (Lit.) ‘By what author don’t you know what translations have
 won international awards?’ (Chomsky (1986: 26))

The acceptability is explained under the present analysis as follows. Suppose that the subject wh-phrase has been extraposed to a postverbal position when the embedded C is introduced, as illustrated in (48).

- (48) C [_{TP} pro T [_{v*P} t_i v*-V [V(P)]]] [_{DP} what translations [_{PP} **of what author**]]_i

Since Transfer does not apply to the extraposed position, C can search into the DP and attract the PP inside. C also triggers wh-movement of the DP [*what translations of t_{PP}*]. Multiple attraction of this kind is possible since EF is “undeletable” (Chomsky (2007: 11)). The resulting structure will then be (49).

- (49) [_{CP} [_{DP} what translations t_j]]_i [_{PP} **of what author**]_j C [_{TP} pro T
 [_{v*P} t_i v*-V [V(P)]] t_i]]

Later in the derivation the PP undergoes further movement to SPEC of matrix C, yielding (47). In summary, PP-extraction from the subject wh-phrase is allowed since the subject can move to SPEC-C via an extraposed position, from which C can attract the PP inside.

Thus, the presence and absence of subject island effects in Spanish is accounted for by the RA theory. Spanish differs from English in that the subject argument can be extraposed to a postverbal position. Since C can search into the extraposed DP, extraposition from the postverbal subject is allowable. Subject island effects are therefore absent when the subject appears postverbally. The analysis can be extended to sentences with wh-subjects. Since the subject can move to SPEC-C via an extraposed position, C can search into the extraposed subject and attract the PP inside. Extraction can thus be possible when the subject is a wh-phrase.

- (Lit.) ‘By which author do you wonder how many books have been censored?’
 (Rizzi (2006: 114))

6. (In)visibility of Traces and Intervention Effects in Icelandic

6.1. A/A'-Asymmetry in Visibility of Traces

I have assumed so far that “traces (technically, lower copies) are invisible” (Chomsky (2008: 150)). Under the copy theory of movement, however, it is not necessarily straightforward why this is so. In this section I will motivate this assumption along the line of Chomsky (2000, 2001), and show that this, together with the RA theory, can account for intervention effects in Icelandic.

(In)visibility of traces is discussed by Chomsky (2000, 2008), based on agreement patterns in Icelandic dative-nominative experiencer constructions, the structure of which is schematized in (50).

(50) C [T [DAT [v* NOM...]]] (Chomsky (2008: 152))

DAT in (50) indicates an argument marked with dative Case. According to Chomsky, it is quirky Case which is “(θ-related) inherent Case with an additional structural Case feature” (Chomsky (2000: 127)).²⁶ Although DAT is active in syntax with the unvalued structural Case feature, it can only assign default ϕ -values (i.e. 3rd person singular) (Chomsky (2000: 128)). NOM, on the other hand, is an argument with only a structural Case feature, which is to be assigned a nominative value under Agree with T. NOM, as an ordinary DP, has the ability to assign its ϕ -values to T. However, feature valuation from NOM to T is blocked if DAT intervenes between them. The blocking effect is explained in terms of locality: $[u\phi]$ of T should be valued by the closer goal, DAT. Default inflection is thus obligatory when DAT remains in situ. If DAT moves to SPEC-T, on the other hand, the verb may have plural inflection reflecting agreement between T and NOM. This means that the A-trace of DAT ceases to be an intervener of Agree (T, NOM). Invisibility of A-traces is thus attested. A'-traces, in contrast, are visible in syntax. Chomsky (2008) observes that when DAT is wh-moved, feature valuation from NOM to T is still blocked.²⁷ The observed agreement patterns are thus explained with the assumption that A-traces are invisible while A'-traces are not.

Here arise two questions. First, what causes the A/A'-asymmetry? If

²⁶ See also Chomsky (2001: 43, note 8) for similar remarks.

²⁷ Chomsky (2008) assumes that DAT moves to SPEC-C directly, without stopping at SPEC-T (see section 5.1.2). Therefore, what intervenes between T and NOM is the A'-trace of DAT.

the lack of phonological content were responsible for invisibility of A-traces, for example, A'-traces should be invisible as well. The second question concerns the fact that A-traces are not necessarily invisible. As shown by the example below, default agreement is also possible when DAT is removed by A-movement.

- (51) **Mér** finnst/finnst tölvurnar ljótar.
 me.Dat find.3.Pl/find.3.Sg the.computers.Nom ugly.Nom
 'I find the computers ugly.'

(Holmberg and Hróarsdóttir (2003: 999))

Compare (51) with the examples (52a, b), in which default inflection is obligatory. Overt DAT intervenes between T and NOM in (52a), and the A'-trace of DAT intervenes between them in (52b):

- (52) a. Það virðist/*virðast einhverjum manni
 EXPL seem.3.Sg/seem.3.Pl some man.Dat
 [hestarnir vera seinir].
 the-horses.Nom be slow

'It seems to some man that the horses are slow.'

- b. Hvaða manni veist þú að virðist/*virðast t_{wh}
 which man.Dat know you that seem.3.Sg/seem.3.Pl
 [hestarnir vera seinir]?
 the-horses.Nom be slow

'To which man do you know that the horses seem to be slow?'

(Holmberg and Hróarsdóttir (2003: 998))

Default agreement in (51) reveals that A-traces can be visible interveners. Why can A-traces be either visible or invisible?

To sum up, we have the following three questions regarding visibility of traces. In the next section I provide an account under the RA theory.

- (53) a. Why can traces be invisible at all?
 b. Why can only A-traces be invisible?
 c. Why can A-traces be either visible or invisible?

6.2. An Account

Let us first consider the question (53a). An answer can be given based on Chomsky's (2000, 2001) notion of chain. Chomsky considers a chain "a sequence of *occurrences* of a single α " (Chomsky (2000: 114)). If we take the occurrence of α to be its sister, *John* in example (54a) has two occurrences as in (54b).

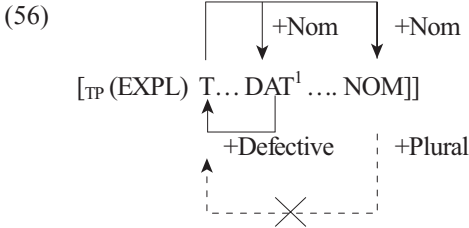
- (54) a. John was killed. (Chomsky (2001: 39))
 b. {T', V}

In other words, the single element *John* is related to the two positions. Being a single element, *John* should be able to participate in Agree only once. Recall at this point that Agree, unlike the bottom-up structure building procedure, is established in a top-down manner: The probe, i.e. the higher head, searches *down* the c-command domain for a matching goal. Consequently, if an element α has more than one occurrence, α in the highest position must be the one that participates in Agree. It entails that all traces (A or A') are invisible.

If this argument is on the right track, then a trace of α is invisible not because it is null or inactive, but because there is a higher occurrence of α available for Agree. With this in mind, let us reconsider possible agreement patterns of Icelandic dative-nominative constructions:

(55)				Possible verbal inflection
a.	[_{CP} C	[_{TP} (EXPL) T ...	DAT ¹ ... NOM]]	Default
		[u ϕ]	[ϕ [ϕ] [Dat] [uCase] [uCase]	
b.	[_{CP} C	[_{TP} DAT ² T ...	<i>t</i> _{DAT¹} ... NOM]]	Agree with NOM, or Default
c.	[_{CP} DAT ³ C	[_{TP} <i>t</i> _{DAT²} T ...	<i>t</i> _{DAT¹} ... NOM]]	Default

Let us first consider Agree in (55a)/(52a). Chomsky once explained that Agree (T, NOM) is blocked by DAT (cf. Chomsky (2000: 127–128, 130–131)). But this explanation is abandoned in favor of Hiraiwa's (2001) multiple Agree: “[I]ntervention effects will hold only if the intervening element is not rendered inactive by P [probe; T in this case] itself” (Chomsky (2004: 115)). Namely, T can agree both with DAT and NOM, assigning them nominative values. The lower argument can therefore be marked with nominative. Then, how is feature valuation from NOM to T blocked? It seems reasonable to assume that feature valuation from NOM to T is blocked by locality conditions: The closer goal DAT must assign values, as schematically illustrated in (56). Once [uF] is assigned a value, rewriting of the value is not allowed. Consequently, default inflection is obligatory in (55a)/(52a).

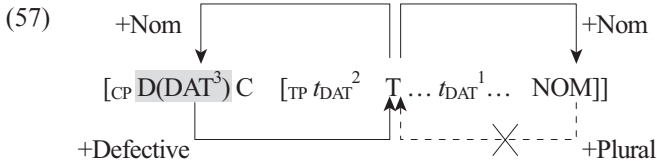


Consider then (55b)/(51) where DAT is moved to SPEC-T. The two possible agreement patterns are explained under the RA theory as follows. Default inflection is obtained if Transfer applies to DAT when it moves to SPEC-T. Then it serves as a probe for T at the point of Agree. Since Agree takes place in a top-down manner, it is DAT that assigns values to T, yielding default inflection. Valuation from NOM, on the other hand, is obtained if Transfer does not apply to DAT. Agree between DAT and T does not take place since the head of DAT does not c-command T. Notice that the nonapplication of Transfer does not pose a problem since T has another match, i.e. NOM. T, as a probe, can search its domain and agree with NOM.²⁸ The verb can therefore have either agreed or default inflection when DAT occupies subject position.

Let us now turn to (55c)/(52b). Under strict cyclicity, DAT must move to SPEC-T before it reaches SPEC-C. Hence the A-trace of DAT (t_{DAT^1}) intervenes between T and NOM. Under the present analysis, however, what blocks valuation from NOM to T is not t_{DAT^1} , but DAT³ in SPEC-C. As we have already seen, Transfer may not apply to DAT in SPEC-T. However, Transfer must apply when DAT moves to SPEC-C. This relates to the requirement that DAT should work as an operator “taking scope over an A-chain regarded as a variable” (Chomsky (2007: 24)), or/and that a phrase “labeled by an interpretable interrogative *wh*-feature” should “reach the right position in the left periphery for interpretation” (Chomsky (2008: 151)). The latter requirement may be understood as a version of Rizzi’s (1996) Wh-Criterion that requires a *wh*-phrase and [+*wh*] C to be in a SPEC-Head relation. If we assume, as we have done so far, that a SPEC-Head relation is defined in terms of c-command between heads, DAT in

²⁸ I assume that [uCase] of DAT need not be valued since it has valued Case, i.e. dative. Unvalued features may not necessarily be valued. As we have seen in sections 3 and 4, the derivations converge with partial ϕ -values assigned to T. DAT with valued ([DAT]) and unvalued ([uCase]) Case features may be another case of partial Agree.

SPEC-C must be transferred to enable its label **D** to c-command C (or bind its A-chain). At the point of Agree, therefore, DAT³ in (55c) c-commands T as well as C. Since Agree takes place in a top-down manner, DAT³ must assign default ϕ -values to T as a probe. Under the Multiple Agree theory, T can remain active and assign a nominative value to NOM, this time as a probe.²⁹ NOM, however, cannot assign ϕ -values to T since T is already assigned default values from DAT. This is schematically illustrated in (57).



Under the RA theory, therefore, the intervention effect in (55c)/(52b) is attributed to obligatory application of Transfer to the head of an A'-chain. Default agreement is induced by the label of the transferred DAT, not by the A'-trace.

Summarizing, the puzzles of (in)visibility of traces are solved by the RA theory, together with Chomsky's (2000, 2001) notion of chain. First, traces (A or A') are all invisible because the highest occurrence of a chain participates in Agree. Second, the optional absence of intervention effects in dative-nominative sentences involving A-movement of DAT is due to the optional application of Transfer to DAT in SPEC-T. The nonapplication is allowed in these constructions since T has the other match, i.e. NOM. Third, obligatory intervention in dative-nominative sentences involving A'-movement is due to the obligatory application of Transfer to DAT in SPEC-C. Transfer must apply because otherwise DAT cannot be interpreted as an operator. As a result of Transfer, the label of DAT serves as a probe for T, assigning it default values. Under the RA theory, therefore, the presence and absence of intervention effects are reduced to the (non)application of Transfer to DAT.

²⁹ As an anonymous reviewer points out, in Hiraiwa's analysis a single probe agrees with multiple goals. In the current analysis, on the other hand, a single element can act both as a probe and a goal. This change is necessary under the RA theory, in which probe and goal are relative notions. When two matching heads agree, the higher one is called the "probe" and the lower one is called the "goal."

7. Conclusion

Agree is established under a c-command relation between heads. It entails that DP in SPEC-T must be transferred to make its label D a probe for T. If a DP remains in $v(*)P$, on the other hand, T serves as a probe for the head D. Various syntactic facts follow naturally from this Relativized Agree (RA) theory.

Among these is the number agreement asymmetry. When the subject remains in vP , T serves as a probe, and agrees with the closest head D. This accounts for first conjunct agreement in sentences involving postverbal conjoined subjects (section 3). The plural feature is held by the label of the conjoined subject phrase, which is made visible by Transfer. Plural agreement is therefore observed when the conjoined subject phrase occupies subject position.

Another case of partial agreement was discussed in section 4. When a pronoun subject appears postverbally, the verb agrees with the subject in number, but not in person. Partial agreement of this type is obtained because T agrees with the head D, which may carry only [Gender, Number]. [Person] is held by a lower head ϕ and percolated up to the label of the pronoun. Since [Person] is made visible by Transfer, person agreement is observed only when the pronoun moves to subject position.

In section 5, I accounted for the presence and absence of subject island effects. Since DP is transferred when it moves to SPEC-T, PP inside the DP cannot be extracted. Subjects thus constitute islands. The RA theory also explains why subject island effects are obviated (i) when the subject is not an external argument, (ii) when it undergoes successive-cyclic A-movement, or (iii) when it is displaced. In each case there is a stage of derivation in which a phase head (C or v^*) can access PP.

In section 6, I considered the presence and absence of intervention effects in Icelandic dative-nominative constructions. Based on the assumption that a chain is a sequence of occurrences of an identical element, I maintained that an element in the highest position must participate in Agree. A- as well as A'-traces are therefore invisible. The visibility of A'-traces is an epiphenomenon: Their highest occurrence, transferred obligatorily, blocks feature valuation from the nominative DP to T. Agreement patterns observed in these constructions are thus accounted for without stipulating the (in)visibility of traces.

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