# Situational Transparency

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## 1 Introduction/outline of talk

- · This talk reports ongoing work in progress with other members of the LASER¹ group.
- · I'll introduce you to the type of data this project deals with cases where a semantic dependency appears to condition a syntactic dependency and tell you why this sort of data is surprising.
- · I'll discuss some options for analyzing these facts, and weigh their merits.
- · Finally, I'll discuss a candidate analysis of these facts, and try to convince you that it's worth further pursuit.

# 2 The shape of the facts

#### **Background**

- · Many syntactic dependencies seem to be unable to span certain domains e.g. an *island* (Ross 1967).
- (1) \*What did you meet Mary [ before a discussion of \_\_\_\_\_]
- · At least two approaches to this sort of fact.
- · The syntactic approach: the syntax can't generate dependencies crossing these domains.
- Phases, as proposed in Chomsky (2000, 2001), fall into this category.
- The non-syntactic approach: the syntax can generate dependencies crossing these domains, but something else serves to filter out what's generated.
- Cyclic linearization, as developed in Fox and Pesetsky (2005), is an example of this sort of approach.
  - 1. Locality and the Argument-Adjunct Distinction: Structure-building vs. Structure-enrichment.

## A type of puzzle

- $\cdot\,$  Sometimes whether or not a domain is an island is conditioned by other factors.
- · The puzzle: are the factors best described as syntactic or non-syntactic?
- Depending on that choice: does the choice jive with what we know about the syntax or the relevant domain of the non-syntax.
- · This talk deals with such a puzzle.

#### A short description of the facts

- · Syntactic dependencies spanning domains are possible, in the cases of interest, only when the lower domain and higher domain share something in common, semantically.
- The presence of a binding relationship between the subject of the higher domain and the subject of the lower domain.
- The two domains describing part of the same overall event.
- The two domains overlapping spatio-temporally.
- The two domains describing similar situations.
- · We've collected a plethora of cases. I'll present some, in varying levels of detail, below.

Ā-dependencies:
$\cdot$ Newman and Branan (2022) note that movement from control adjunct clauses requires the clause to receive an Obligatory Control interpretation.
(2) a. What sort of pollinator is this flower $_i$ open [ PRO $_i$ to attract ]?
b. *What sort of confession is this $door_i$ open [ $PRO_{arb}$ to hear ]?
· Grano and Lasnik (2018) note that bound subject pronouns have similar effects on movement and ellipsis.
(3) a. ?What did Alice $_i$ go home [ after she $_i$ read]?
b. *What did Alice $_i$ go home [ after Beth $_j$ read]?
· Truswell (2007, et seq.) notes that extraction from an adjunct is possible only when the adjunct and clause it modifies may be construed as describing the same event.
(4) a. *Who did Maxi cry [ after Sigi hit ]?
b. What Maxi did drive Sigi crazy [ trying to fix ]?

- Huang (2019) notes that extraction from tensed adjunct clauses and relative clauses in a number of languages requires the clause out of which extraction takes place to be temporally dependent on a higher clause.
- · Altshuler and Truswell (2022) note that extraction from coordinate structures in English requires a particular discourse relationship between the two conjuncts, which could be described in terms of a relationship between situations.

#### **A-dependencies:**

· Landau (1999) notes that possessor raising from certain adjuncts is possible in Modern Hebrew, but enforces a particular reading of the sentence.

(5)	Gil yašan	le-Rina [	be-zman	ha-harca'a	].
	Gil slept	to-Rina	in-time	the-lecture	
	"Gil slept d	luring Rina	i's lecture."		

Specifically, he notes that this sentence is only felicitous in a situation where Gil is not only asleep during the lecture but also present where the lecture is taking place. He has to be nodding off in the lecture hall. Possessor extraction requires some sort of spatio-temporal overlap between the sleeping and the lecturing.

- · Nemoto (1993) and Takano (2010) note that Japanese control clauses seem to be full CPs. A-scrambling from these clauses is nevertheless allowed surprising, since in many other cases A-scrambling in Japanese is unable to cross a CP boundary.
- (6) a. \*Soko-no sotugyoosei-ga [ mittu-izyoo-no daigaku-ni syutugansi-yoo to ] sita it-gen graduate-nom three-or.more-gen university-dat apply-will comp did
  - b. Mittu-izyoo-no daigaku-ni soko-no sotugyoosei-ga [ syutugansi-yoo to ] sita three-or.more-gen university-dat it-gen graduate-nom apply-will comp did

"Their, graduates tried to apply to three or more, universities."

- Funakoshi (2015) notes that fully finite embedded clauses in Japanese allow A-scrambling from them when the subject is a null, bound pro.<sup>2</sup>
- · Ndayiragije (2012) notes that in-situ control clauses in Kirundi (Bantu, JD.62; Burundi) are OC, while fronted control clauses are ambiguous between OC and NOC. A-movement from fronted control clauses is possible, but it blocks the NOC reading for the fronted clause.

<sup>2.</sup> Funakoshi's claim is stronger: she claims that for some speakers, any *pro* subject will produce the transparency effect, regardless of whether or not it is bound, while others require *pro* to be bound to produce the transparency effect. I have been unable to find any speakers who allow A-scrambling from finite clauses with a deictically interpreted *pro*, but many who get the effect with bound *pro* as a subject.

# 3 The puzzle, and some options

Syntactic dependencies seem to be conditioned by a semantic one:

· A schematic and generalization:

A syntactic dependency X can only be formed across the inner domain if a semantic binding relationship Y also holds into said domain.

• The binding relationship seems to hold over a number of different variables: individuals, events, spatio-temporal coordinates, and situations.

#### Why this is puzzling

- · On a feed-forward Y/T model of the grammatical architecture, semantic dependencies shouldn't be able to condition syntactic ones.
- The range of variables that matter seems to not form a natural syntactic class.
- · Moreover: the presence or absence of variable binding doesn't seem to straightforwardly correlate with a morphosyntactic flag. For instance: nothing in the control clauses below overtly signals that PRO is bound in the first and unbound in the second.
- (8) a. What sort of pollinator is this flower $_i$  open [ PRO $_i$  to attract \_\_\_\_\_ ]? b. \*What sort of confession is this door $_i$  open [ PRO $_{arb}$  to hear \_\_\_\_\_ ]?
- But there also seems to be something syntactic about whether or not a bound individual variable renders a clause transparent: it's consistently bound *subjects* that matter.
- This makes it challenging to decide what sort of account to pursue, since both options seem to be on the table (see Grano and Lasnik 2018 for a syntactic approach to some of these effects, and Barros and Frank (2020) for a pragmatic one).

#### Some options:

- We could go all-in on a syntactic story perhaps extending the account developed in Grano and Lasnik 2018 for bound pronominal subjects to a host of other bound variables.
- · We could go all-in on a non-syntactic story perhaps extending one of the accounts developed in Barros and Frank (2020) to allow many other sorts of variables to "count" as salient discourse referents.
- · Or: a bit of both worlds this is the sort of approach pursued later on in this talk.

#### Making the puzzle more approachable

- · What goes wrong in these cases is not a ban on syntactic movement, but a consequence of how movement chains are interpreted in the semantics.
- The range of variables form a natural semantic class: they are all components of *situations*, on many formulations of situation semantics (in particular Kratzer 1989 and subsequent work).
- · Clauses are linked to other clauses by an operator at their edge:
- Syntactically, this operator requires its specifier to be filled.
- Semantically, this operator demands certain relationships to hold between the situations that the
  two clauses are interpreted with respect to, and uses whatever ends up in its specifier as one of those
  situations.

#### The underlying idea behind the candidate account

- DPs including traces left behind by movement are interpreted with respect to a particular situation.
- Traces have to be evaluated with respect to a situation that is sufficiently similar to the situation that their binder is evaluated with respect to.
- · When this is impossible, the sentence is unacceptable.
- · The presence of certain operators may render this impossible.

#### Restricting the scope of the discussion

- · We'll focus on two illustrative cases to show how the account works:
  - "Event overlap", of the sort discussed in Truswell (2007, et seq.)
  - Subject binding, of the sort discussed in Newman and Branan (2022).
- The hope then will be that an account that can cover both these cases will extend, more or less straightforwardly, to all the cases discussed before.

## 4 A candidate account

- · Four components:
  - 1. An syntactic operator that appears at the edge of certain propositional domains, and makes demands about the identity of a situation pronoun moved to its specifier, and the identity of a situation pronoun in what the domain is merged with.
  - 2. A semantic condition on movement chains, requiring them to be evaluated with respect to the same situation.
  - 3. A semantic requirement that certain situation pronouns be bound locally.

- 4. A theory of the interpretation of movement chains that allows them to contain a situation pronoun.
- The account developed here owes a particular debt to McKenzie (2012), for a similar sort of situationally-picky operator that appears at the edge of certain domains, and to Gluckman (2018) for the idea that movement chains must be interpreted with respect to similar contexts.

#### What we need from situations

- · What's a situation? It's a part of a possible world. (Perry and Barwise 1983; Kratzer 1989)
- · Situations are collections of individuals, times, places, and relationships between them, e.g. events and potentially other situations as well.
- · A possible world is just a situation that is not part of any other situation.
- · For this account, we'll be using a model where where predicates are evaluated with respect to situations.
- · I'll follow Percus (2000), Keshet (2008), and McKenzie (2012, a.o.) in assuming that situation pronouns are present in the structures we're interested in, but I won't commit to any particular location for them within the DP or clause.

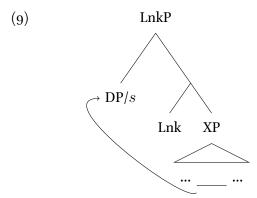
#### Three reasons for using situations here (rather than some other sort of contextual variable):

- · It's not clear to me whether we want to claim that the domains we're interested in involve different possible worlds.
- Expedience: situation semantics come with a way of defining relationships between contexts that makes our task easier.
- · Individuals: they're either a particular type of situation (Kratzer 1989, 1990), or they consistently have a corresponding situation (McKenzie 2012).<sup>3</sup> This ends up being *very* useful down the line.

#### An operator at the edge: the syntax (introducing component 1 of the account)

- The basic idea: adjunct clauses have "used up" all their selectional features.
- · This operator links adjunct clauses both syntactically and semantically to the clause they're adjoined to.
- · And: it attracts something to its specifier, in this case a situation pronoun.

<sup>3.</sup> As far as I can tell, it's still common practice to assume a type distinction between s for situations and e for individuals, despite the latter really just being a special case of the former.



· Much of this bit of the analysis follows McKenzie (2012) on Kiowa switch reference.

#### An operator at the edge: the semantics

• The basic idea: Lnk is a coordinator of propositions, with an additional identity or non-identity requirement imposed on the situations they are evaluated with respect to.<sup>4</sup>

(10) a. 
$$[[Lnk_{SS}]] = \lambda q.\lambda s.\lambda p. \ p(s') \land q(s) \land s \le s'$$
  
b.  $[[Lnk_{DS}]] = \lambda q.\lambda s.\lambda p. \ p(s') \land q(s) \land s \le s' \land s' \le s$ 

- Here,  $\leq$  denotes a part-whole relationship between situations.
- ·  $Lnk_{SS}$  requires the situation in its specifier to be a part of a particular situation in what it is adjoined to.
- ·  $Lnk_{DS}$  requires the situation in its specifier to not be a part of a particular situation in what it is adjoined to, and vice versa.
- The choice between denotations of Lnk is in principle free, but the choice may have consequences for the interpretation of chains that cross it.
- · For the sharp-eyed: s' should be bound by something.
- Many theories of switch-reference invoke a syntactic relationship between Lnk and something higher in the tree binding, for Finer (1985), Agree for Arregi and Hanink (2022), Nevins and van Urk (2020), and Tavares de Souza (2020) that gives Lnk access to the higher index relevant for computing switch reference.
- I'll commit to no approach in particular, but assume that something like this is going on "under the hood" for the cases we discuss.

<sup>4.</sup> Lnk could be "semantically spelled-out" as either denotation, following Wood and Marantz (2017) and Kastner (2020), or the two could be distinct lexical items.

#### What's the problem with movement here? (introducing component 2 of the account)

· What I want to suggest is that the difficulties that arise for movement in the cases we're considering arise from a more general restriction on movement, given informally as follows.

#### (11) Chain consistency

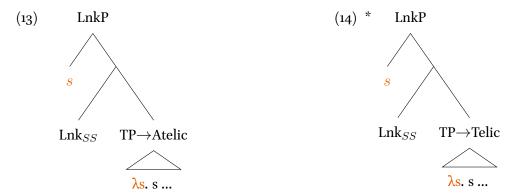
The head and tail of a chain must be interpreted with respect to compatible contexts.

- · This bears some similarity to Gluckman's *Intensional Chain Uniformity*, which requires the head and tail of movement chains to be evaluated to the same individual. One goal not to be reached in this talk will be to derive this descriptive generalization from a more general statement about semantics.
- · But first, let's see how this restriction on movement works for one of the cases we're concerned with.
- · Crucially, we'll see that the denotations of Lnk above can lead to violations of *Chain Consistency* in the cases we are concerned with,  $Lnk_{DS}$  will preclude movement out of the domain that it takes as its complement.
- The strategy, more generally, will be to understand the cases where movement is blocked as cases where the properties of the complement of Lnk are incompatible with a  $Lnk_{SS}$  interpretation.

#### Back to extraction from adjuncts (introducing component 3 of the account)

- · As noted by Truswell (2007), extraction from adjuncts is conditioned by whether or not the adjunct and modified clause describe the same event.
- This could also be thought of as a requirement for the adjunct and clause it modifies being required to be evaluated with respect to similar situations, which both must contain the event in question.
- The choice of predicate in the adjunct clause seems to matter for extraction from certain adjuncts: atelic predicates like *trying* allow extraction while telic predicates like *begin* do not.
- (12) a. What did John come home [trying to understand]?
  - b. \*What did John come home [ beginning to understand ]?

• The underlying idea is that the structures are identical, but the choice of how Lnk is interpreted is influenced by the telicity of the verb.



(I follow Nissenbaum (2000) and McKenzie (2012) in allowing the  $\lambda$ -abstractor to "slip in" to a lower position to deliver an interpretable structure).

• I adopt, following Percus (2000), a requirement that situation pronouns be locally bound, at least in the position they are selected in.

#### (15) Condition X'

Selected situation pronouns must be locally bound.

· Movement of the situation pronoun in the cases shown above will consistently require the complement of Lnk to be evaluated with respect to the situation pronoun in its specifier, since movement to that position will introduce a potential binder for situation pronouns.

#### Telicity and situations

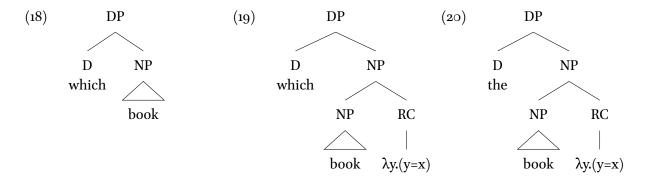
- The basic idea here will be that the telic/atelic distinction will be cashed out in the semantics in such a way that telic clauses will be incompatible with  $Lnk_{SS}$ .
- Filip (2008) suggests that telicity is best understood as a sort of maximialization operator on the predicate.
- The opacity of telic clauses, following this approach, could be understood as this operator requiring them to be evaluated with respect to the largest situation involving their predicate.
- Telic clauses, then, cannot compose with  $Lnk_{SS}$  as its complement, as doing so would demand that their situation be interpretable as part of some larger situation.

(16) 
$$[[Lnk_{SS}]] = \lambda q.\lambda s.\lambda p. p(s') \wedge q(s) \wedge s \leq s'$$

- · In other words: the denotation of  $Lnk_{SS}$  imposes a non-maximality requirement on the situation that appears in Lnk's specifier.
- · Only  $Lnk_{DS}$  will be allowed with clauses that are interpreted as being telic. This fact will lead to *Chain Consistency* being violated.

#### On the structure of traces (introducing component 4 of the account)

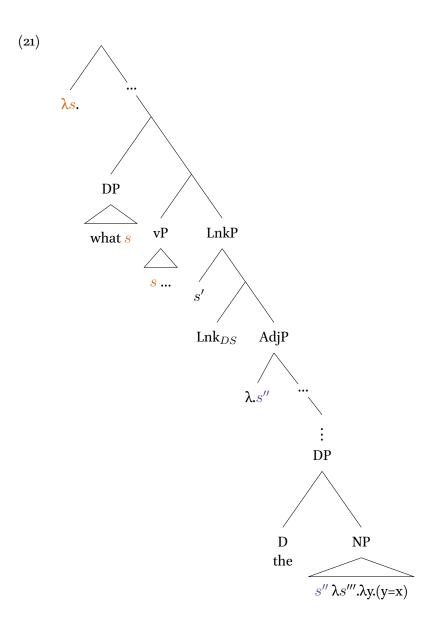
- It is fairly common practice to interpret movement chains using something like the Traces and Pronouns rule from Kratzer and Heim (1998).
- But there is also good reason to believe that pronouns and traces have internal structure, following in particular Elbourne (2005) and Fox (2002).
- Fox proposes that copies of moved nominals are subjected to a process of *Trace Conversion*, schematized below.
- (17) a. Variable insertion: (Det) Pred  $\rightarrow$  (Det) [Pred  $\lambda y.(y=x)$ ]
  - b. Determiner replacement: (Det) [Pred  $\lambda y.(y=x)$ ]  $\rightarrow$  the [Pred  $\lambda y.(y=x)$ ]
- The following illustrates how this might convert a copy of a phrase like *which book* into a bindable definite description.



- They're more or less identical, in terms of their structure, to what Elbourne proposes more generally for pronouns.
- · Since they contain a predicate of some sort for instance, the NP in question traces should contain a situation pronoun for that predicate that may be bound.

## Putting it all together

· Movement out of a telic adjunct clause will look something like the following, post-Trace Conversion.



- What and its trace contain selected situation pronouns, which must be locally bound by  $\lambda s$  and  $\lambda s'$  respectively.
- $\mathsf{Lnk}_{DS}$  ensures that s and s' are distinct: they cannot be part of one another.
- $\cdot$  For reasons discussed before, telic adjunct clauses are incompatible with Lnk $_{SS}$ .
- · Since the trace and its binder are evaluated with respect to distinct situations, *Chain Compatibility* is violated.

· Movement from a  $\operatorname{Lnk}_{SS}$  adjunct will never violate *Chain Compatibility*, since it will ensure that the situation that the adjunct is interpreted with respect to is part of the situation that the clause the adjunct modifies is interpreted with respect to.

#### Mid-point recap

- · Clauses have Lnk at their edge, and Lnk must take something in its specifier.
- · In many cases, this is the situation pronoun that the complement is interpreted with respect to.
- · Lnk is interpreted in one of two ways:
- As  $Lnk_{SS}$ , which imposes (something like) a conjointness requirement between situation pronouns for the two clauses that Lnk links.
- As Lnk $_{DS}$ , which imposes (something like) a disjointness requirement between those pronouns.
- ·  $Lnk_{DS}$  will block movement across it, at least in cases where reconstruction is blocked.

#### **Pronominal binding**

· Before, we saw a contrast between control adjuncts where PRO is bound, and control adjuncts where PRO receives an arbitrary interpretation.

(22)	a.	What sort of pollinator is this flower $_i$ open [ PRO $_i$ to attract _	]?
	b.	*What sort of confession is this door, open [ $PRO_{arb}$ to hear	]?

- · Recall also: Grano and Lasnik 2018 note a similar effect with bound pronominal subjects.
- · Given what we've seen so far, we'll want to say basically the same thing: that binding of PRO requires the presence of  $Lnk_{SS}$ , while arbitrary PRO requires the presence of  $Lnk_{DS}$ .
- · Following Landau 2015; Grano and Lasnik 2018, I'll assume that PRO is a minimal pronoun that receives an arbitrary interpretation when it fails to be bound.
- · Note: this does put us in the position of there being two types of pronoun the internally structured E-type pronoun and the less-structured minimal pronoun. This raises interesting questions for learnability, but I see no reason for the two approaches to be mutually exclusive.<sup>5</sup>

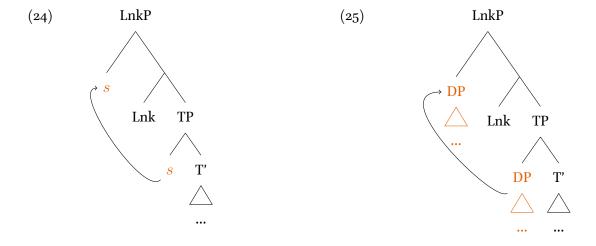
<sup>5.</sup> See Postal (1994) for good reason to believe that there might be more than one type of trace left behind by  $\bar{A}$ -movement, and Şener and Takahashi (2010) for good reason to believe that there might be more than one route to argument drop in radical argument-drop languages.

## A bit about the assignment function

- Keshet (2008) suggests that the assignment function be thought of as a partial function from the set of natural numbers to individuals and situations.
- · I'll follow this spirit, and define a variable assignment as follows:
- (23) A variable assignment is a partial multi-valued function that maps  $\mathbb{N}$  to either  $D_e$  or  $D_s$ .
- · Anything assigned a variable may thus be interpreted as either an individual or a situation.
- · As mentioned before, this is a feature of many situation semantics.
- · E.g. pronouns either denote an individual, or a situation characterizing just that individual.

#### Subjects as situations

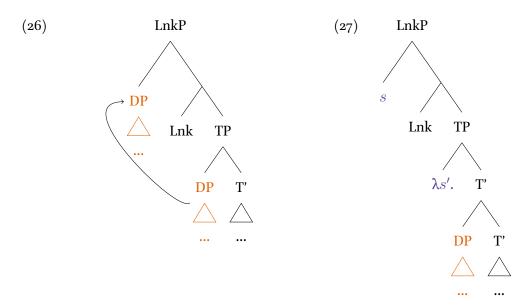
- · Before, we saw that Lnk attracted some element high in a clause to its specifier: a situation pronoun.
- · I'll assume that Lnk might also attract the highest nominal in the clause to its specifier.



• To generalize: Lnk attracts the highest referential element in its complement, which may be either a situation pronoun, or the subject of its complement, here following McKenzie (2012) closely.

#### A consequence of situation subjects

· Movement of this sort, then, will require the higher copy of the moved subject to be treated as a situation, so that Lnk may be properly interpreted.



- This may seem odd, but the idea that individuals might be situations or consistently correspond to a situation is basically a core feature of situation semantics following Kratzer (1989).
- More specifically: individuals for Kratzer are the subset of situations that do not have a non-individual situation as a component.
- The lower copy of the subject will not be bound directly by  $\lambda s$ . However:
  - If the subject contains a situation pronoun, that situation pronoun will be bound by  $\lambda s'$ .
  - For the case we are considering, the lower copy is a minimal pronoun, and must be bound by some higher DP regardless.<sup>6</sup>

#### (i.) Possible world:

A possible world is a situation that is maximal with respect to ≤.

Kratzer's system does not allow situations to be part of more than one world:

#### (ii.) Worldly partitioning:

For all situations s, there is a unique situation s' s.t.  $s \le s'$  and s' is a possible world.

A minimal pronoun, then would be something like the following: it would be a part of every situation in the possible world that it is a part of, and no other situation would be a part of it.

<sup>6.</sup> An alternative approach would be to dispense with the obligatory binding approach to minimal pronouns altogether, and develop an analysis of minimal pronouns where the desired effect makes no direct reference to binding of any sort. The following is a sketch. One way to think of the semantics of a minimal pronoun would be as the "inverse" of a possible world. Following Kratzer (1989), a possible world is any situation that is not part of some larger situation.

#### $\mathbf{Lnk}_{DS}$ enforces disjointness

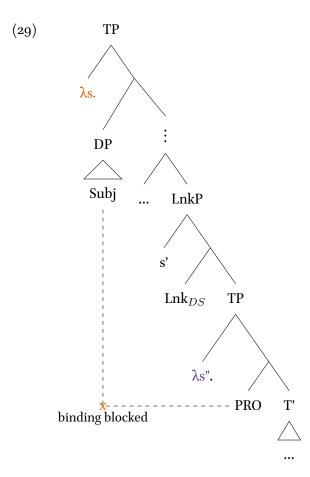
· Recall again the two possible denotations for Lnk.

(28) a. 
$$[[Lnk_{SS}]] = \lambda q.\lambda s.\lambda p. p(s') \wedge q(s) \wedge s \leq s'$$
  
b.  $[[Lnk_{DS}]] = \lambda q.\lambda s.\lambda p. p(s') \wedge q(s) \wedge s \leq s' \wedge s' \leq s$ 

- ·  $Lnk_{DS}$  imposes a disjointness requirement: the adjunct and the clause it is adjoined to must be interpreted with respect to situations that are distinct, and are not part of one another.
- · When the situation in its specifier is a co-extensive with an individual, that individual can't be part of the situation for the clause that the adjunct modifies.
- In cases where the subject of the adjunct is a minimal pronounal, this will preclude binding by an argument in the clause the adjunct modifies, since such binding would be possible only if the individual were part of both relevant situations.

# (iii.) Minimal pronoun $A \mbox{ minimal pronoun is a situation that is minimal with respect to $\le$. }$

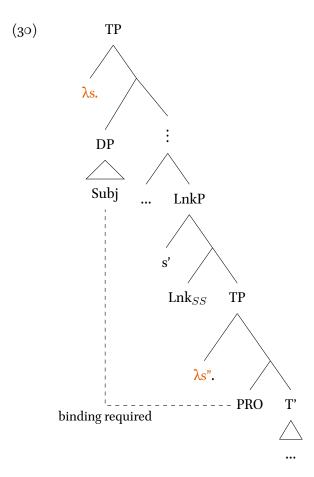
This goes part of the way of doing what we want. If such a minimal pronoun appears in the specifier of  $\mathrm{LnkP}_{DS}$ , this will require the two linked clauses to be interpreted with respect to different possible worlds. The generic reading of  $\mathrm{PRO}_{arb}$  should also arise, as a consequence of the minimal pronoun being a part of every situation co-extensive with an individual in that world. But it does not seem to ensure that obligatory coreference arises when such a pronoun appears in the specifier of  $\mathrm{LnkP}_{SS}$  — if we explain the generic reading for PRO following the reasoning above, we should expect PRO to generally allow such a reading.



- The impossibility of binding PRO gives rise to the  $PRO_{arb}$  interpretation.
- · Subsequent movement from clauses that are the complement of  $\operatorname{Lnk}_{DS}$  will violate *Chain Consistency*, as discussed before.

#### $Lnk_{SS}$ enforces co-reference and binding

- $\cdot$  In contrast, Lnk $_{SS}$  imposes something like a conjointness requirement.
- · When the situation in the specifier of  $Lnk_{SS}$  is co-extensive with an individual, that individual must be part of the situation for the clause that the adjunct modifies.
- · Since PRO is a minimal pronoun, it must be bound if possible.



• Movement from clauses that are the complement of  $Lnk_{SS}$  will respect *Chain Consistency*, as discussed before.

#### Summing up the account:

- · We've seen how *Chain Consistency*, along with certain assumptions about the structure and interpretation of adjunct clauses, is able to capture the generalization that movement out of an adjunct clause is possible only when the situation the adjunct clause is evaluated with respect to describes a state of affairs similar to that described by the situation that the clause targeted for adjunction is evaluated with respect to.
- · In principle, movement from these adjuncts is syntactically free: it is the choice of how Lnk is interpreted that determines whether or not the movement chain that results is interpretable, when combined with the fact that these domains independently block reconstruction into them.
- · When Lnk is interpreted as  $Lnk_{DS}$ , the disjointness requirement on situations it imposes results in *Chain Consistency* being violated.
- · When Lnk is interpreted as  $Lnk_{SS}$ , the conjointness requirement on situations it imposes precludes *Chain Consistency* from being violated, but requires the adjunct and modified clause to be interpreted with respect to similar situations.

• Proposed operators motivated by patterns of switch-reference marking for certain adjunct clauses in Kiowa seem to correctly account for the possibility of extraction from adjunct clauses in English (and a number of additional languages, to boot).

#### Noting some advantages and things to follow up on.

- · Maintains a feed-forward Y/T-model of the grammar.
- · Correctly predicts that bound *subjects* should render an adjunct transparent, but not bound objects, since only subjects and situation pronouns may move to spec,LnkP and have a conjointness or disjointness requirement imposed involving them.
- Correctly predicts that quantificational subjects that evoke no discourse referent have the same effect
   — also noted in Barros and Frank (2020) since they may not be interpreted as individuals, but might
   be interpretable as situations.
- (31) Some student lamented that  $\begin{cases} \sqrt{no} \\ \text{*the} \end{cases}$  professor talked about a certain topic, but I can't recall which student about which topic.
- · Correctly predicts that expletive pronominal subjects may render a domain transparent as noted in Barros and Frank (2020) since they may not be interpreted as individuals, but may be interpreted as situations.
- (32) Some student claimed that there was a problem with some professor, but I can't recall which student with which professor.
- · Potentially allows us to account for the cases of *ellipsis* that display the clause-boundedness effect, as noted in Grano and Lasnik 2018, without committing ourselves to a movement account of ellipsis, which Grano and Lasnik 2018 are forced to commit to. The basic idea would be that disjointness between the two situations, enforced by  $\operatorname{Lnk}_{DS}$ , would result in a parallelism condition on ellipsis failing to be met.
- (33) a. ?Mary<sub>i</sub> claims that she<sub>i</sub> likes oranges and Jill<sub>i</sub> claims that she<sub>i</sub> likes oranges.
  - b. \*Mary<sub>i</sub> claims that Ann<sub>k</sub> likes oranges and Jill<sub>i</sub> elaims that Ann<sub>k</sub> likes oranges.

# 5 Conclusions and things to deal with down the road.

#### What we saw:

- English is like many other languages spoken in North America, in that it has something like a switch-reference system, at least for some adjunct clauses.
- This system conditions whether or not the adjunct may be extracted from.
- · When the switch-reference head imposes situational disjointness between the two clauses, a condition on the interpretation of chains is violated.
- The syntax of this marker restricts it to considering only either the subject or closest situation pronoun as a source for comparison of situations.<sup>7</sup>

#### (Probably) not too strong

- · We might worry that this account will disallow movement out of, say, intensional complement clauses. These are places where it's quite easy to interpret the trace of a movement chain with respect to an incompatible situation from that of the matrix clause.
- There I think we're OK, since reconstruction of the offending bit of the moved element might be an option to avoid violating *Chain Consistency*.
- · Presumably it's not an option in the cases in question, since all of the domains we've looked at end up being *weak islands*, which tend to block reconstruction.
- · Open question: why are the domains *weak islands*?

#### Why isn't this sort of thing overtly lexicalized more often?

- The theory developed here owes a debt to the work on Kiowa done in McKenzie (2012).
- There the choice between  $Lnk_{DS}$  and  $Lnk_{SS}$  is flagged overtly in the morphology.
- · Why don't we see these patterns more often? It seems useful for the learner to figure out where Lnk is.

#### A hope for languages with overt switch-reference systems

- · Extraction should be easier with SS marking, and harder with DS marking.
- · Probably never going to be this clean from what's been reported: always the possibility that a resumption strategy obscures what we're hoping for when a non-subject is extracted.
- · Also: not clear if switch-reference is a unified phenomenon.
- · But: something to further investigate nevertheless.

<sup>7.</sup> For languages that just seem to consider arguments for the switch-reference calculus, the straightforward move would be to say that Lnk can't move situation pronouns to it's specifier.

## References

- Altshuler, Daniel, and Robert Truswell. 2022. *Coordination and the Syntax–Discourse Interface*. Vol. 12. Oxford University Press.
- Arregi, Karlos, and Emily A. Hanink. 2022. "Switch Reference as Index Agreement." *Natural Language & Linguistic Theory* 40 (3): 651–702.
- Barros, Matthew, and Robert Frank. 2020. "Attention and Locality: On Clause-Boundedness and Its Exceptions in Multiple Sluicing." *Linguistic Inquiry*, 1–69.
- Chomsky, Noam. 2000. *Minimalist Inquiries: The Framework*. 15. MIT Working Papers in Linguistics, MIT, Department of Linguistics.
- ———. 2001. "Derivation by Phase." In *Ken Hale: A Life in Language*, edited by Michael Kenstowicz. Cambridge: MIT Press.
- Elbourne, Paul D. 2005. *Situations and Individuals*. Vol. 90. Current Studies in Linguistics. MIT press Cambridge, MA.
- Filip, Hana. 2008. "Events and Maximalization: The Case of Telicity and Perfectivity." *Theoretical and crosslinguistic approaches to the semantics of aspect* 110:217–256.
- Finer, Daniel L. 1985. "The Syntax of Switch-Reference." *Linguistic Inquiry*, 35–55.
- Fox, Danny. 2002. "Antecedent-Contained Deletion and the Copy Theory of Movement." *Linguistic Inquiry* 33 (1): 63–96.
- Fox, Danny, and David Pesetsky. 2005. "Cyclic Linearization of Syntactic Structure." *Theoretical linguistics* 31 (1-2): 1–45.
- Funakoshi, Sayaka. 2015. "A Theory of Generalized Pied-Piping." PhD diss., University of Maryland, College Park.
- Gluckman, John. 2018. Perspectives on Syntactic Dependencies. University of California, Los Angeles.
- Grano, Thomas, and Howard Lasnik. 2018. "How to Neutralize a Finite Clause Boundary: Phase Theory and the Grammar of Bound Pronouns." *Linguistic Inquiry* 49 (3): 465–499.
- Huang, Zhipeng Nick. 2019. "Variation and Learnability in Constraints on A-bar Movement." PhD diss., University of Maryland, College Park.
- Kastner, Itamar. 2020. *Voice at the Interfaces: The Syntax, Semantics, and Morphology of the Hebrew Verb.*Language Science Press.
- Keshet, Ezra Russell. 2008. "Good Intensions: Paving Two Roads to a Theory of the de Re/de Dicto Distinction." PhD diss., Massachusetts Institute of Technology.
- $Kratzer, Angelika.\ 1989.\ ``An Investigation of the Lumps of Thought." \textit{Linguistics and philosophy}, 607-653.$
- ———. 1990. "How Specific Is a Fact." *University of Massachusetts*.
- Kratzer, Angelika, and Irene Heim. 1998. Semantics in Generative Grammar. Vol. 1185. Blackwell Oxford.

- Landau, Idan. 1999. "Possessor Raising and the Structure of VP." *Lingua. International review of general linguistics. Revue internationale de linguistique générale* 107 (1-2): 1–37.
- McKenzie, Andrew. 2012. "Austinian Situations and Switch-Reference." PhD diss., UMass Amherst.
- Ndayiragije, Juvénal. 2012. "On Raising out of Control." Linguistic Inquiry 43 (1): 275-299.
- Nemoto, Naoko. 1993. "Chains and Case Positions: A Study from Scrambling in Japanese." PhD diss., University of Connecticut.
- Nevins, Andrew, and Coppe van Urk. 2020. "Syntactic Asymmetries in Switch Reference." In *Proceedings* of NELS, vol. 50.
- Newman, Elise, and Kenyon Branan. 2022. "You're Just Projecting: A Theory of Path-Based Locality." ZAS/Edinburgh/Götti
- Nissenbaum, Jonathan W. 2000. "Investigations of Covert Phrase Movement." PhD diss., Massachusetts Institute of Technology.
- Percus, Orin. 2000. "Constraints on Some Other Variables in Syntax." *Natural language semantics* 8 (3): 173–229.
- Perry, John, and Jon Barwise. 1983. Situations and Attitudes. MIT Press Cambridge, MA.
- Postal, Paul M. 1994. "Contrasting Extraction Types." Journal of Linguistics 30 (1): 159–186.
- Ross, John Robert. 1967. "Constraints on Variables in Syntax." PhD diss., Massachusetts Institute of Technology.
- Şener, Serkan, and Daiko Takahashi. 2010. "Ellipsis of Arguments in Japanese and Turkish." *Nanzan Linguistics* 6:79–99.
- Takano, Yuji. 2010. "Scrambling and Control." Linguistic Inquiry 41 (1): 83–110.
- Tavares de Souza, Livia de Camargo Silva. 2020. "Switch-Reference as Anaphora: A Modular Account." PhD diss., Rutgers University.
- Truswell, Robert. 2007. "Extraction from Adjuncts and the Structure of Events." Lingua 117 (8): 1355–1377.
- Wood, Jim, and Alec Marantz. 2017. "The Interpretation of External Arguments." In *The Verbal Domain*, edited by Roberta D'Alessandro, Irene Franco, and Ángel J Gallego, 255–278. Oxford Studies in Theoretical Linguistics. Oxford University Press.