

# $\bar{A}$ -movement restrictions are salvaged by deletion<sup>1</sup>

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## 1 Introduction

- It is generally assumed that there is syntax in the ellipsis site (Ross 1969; Merchant 2001), which must be isomorphic in some way with its antecedent.
  - Case in the remnant is determined by the structure of the antecedent (Ross 1969; Merchant 2001)
  - Sluicing remnants must abide by preposition stranding behavior in the language (Merchant 2001)
  - Sluicing generally does not tolerate mismatches in argument structure or voice (Chung et al. 1995; Merchant 2001, 2013; Chung 2013)
- (1) Ungrammatical argument structure mismatches
  - a. \* They sent a silly message, but it’s unclear who <they sent a silly message>.
  - b. \* They sent someone a silly message, but it’s unclear to who <they sent a silly message>.  
(adapted from Chung 2013:3)
- (2) No voice mismatches in English
  - a. \* Joe was murdered, but we don’t know who <murdered Joe>.
  - b. \* Someone murdered Joe, but we don’t know by who <Joe was murdered>. (Merchant 2013:1)
- To account for these phenomena, many have proposed that the identity condition on sluicing is at least partially syntactic (Fiengo & May 1994; Chung 2006, 2013; Merchant 2013; Rudin 2019; Mendes 2020; Ranero 2021).
  - One standard formulation of such an identity condition is presented in (3).
  - This syntactic condition is typically supplemented by semantic/pragmatic identity as well.
- (3) *Syntactic identity condition* (Merchant 2013, formalized by Chung 2013)  
The heads in the verbal spine of the elided constituent must be syntactically identical to the corresponding heads in the antecedent.
- With this backdrop, we might expect that  $\bar{A}$ -movement restrictions—which are arguably syntactic in nature—would constrain sluicing possibilities in a given language.
- ▷ In this talk, I show that this expectation is not borne out in any language: there is no known  $\bar{A}$ -extraction restriction constrains sluicing possibilities in this way (4).
- (4) **Sluicing-extraction generalization (SEG):**  
If a language has a sluicing construction and a restriction on  $\bar{A}$ -extraction, that restriction will not constrain sluicing.

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- I'll present the results from a (somewhat informal) cross-linguistic survey of eleven languages (and language families), based on published work, original fieldwork, and personal communication, showing that a number of heterogeneous  $\bar{A}$ -extraction restrictions fail to hold under ellipsis.
  - Ergative extraction restrictions: Nukuoro (Polynesian), Kaqchikel (Mayan)
  - Symmetrical voice restrictions: Malagasy (Malayo-Polynesian), Aklanon (Philippine)
  - Domain-level extraction restrictions: Nupe (Benue-Congo)
  - COMP-trace effects: Nupe, English (Germanic)
  - Oblique extraction restrictions: Chamorro (Malayo-Polynesian), Kaqchikel
- There are two existing analyses for syntactic phenomena that do not constrain sluicing:
  - We could say that these are examples of *grammatical syntactic mismatch* (e.g., Ranero 2021), weaken syntactic identity, and adopt a novel analysis of extraction restrictions.
  - We could posit that  $\bar{A}$ -extraction restrictions are *salvaged by deletion* (e.g., Mendes 2020) because ungrammaticality arises in the phonological component.
- ▷ I argue that the universality of the SEG supports a salvation by deletion analysis, where  $\bar{A}$ -extraction restrictions are derived post-syntactically (following, e.g., Mendes 2020; Mendes & Kandybowicz 2021).
  - This account provides a new lens to evaluate analyses of extraction restrictions, favoring representational and PF approaches (e.g., Fox & Pesetsky 2005; Mendes & Kandybowicz 2021) over derivational approaches (e.g., Aldridge 2004; Rackowski & Richards 2005; Deal 2017; Coon et al. 2021)
- Roadmap:
  - (i) Case study in Nukuoro
  - (ii) The salvation by deletion analysis
  - (iii) The cross-linguistic generalization
  - (iv) Implications for  $\bar{A}$ -extraction

## 2 Background on Nukuoro

- **The core claim:**  $\bar{A}$ -movement restrictions do not constrain sluicing.
- In order to make this claim about any particular language, we must show that the language has two properties:
  - (i) A restriction on  $\bar{A}$ -movement
  - (ii) A construction that involves ellipsis of a clausal constituent (i.e., sluicing)
- After providing some linguistic background, I'll show that Nukuoro has both of these properties: an ergative extraction restriction and a sluicing construction that involves clausal ellipsis.
  - This “background check” that has been run on every language I present in this talk.
- Nukuoro is a Polynesian Outlier language spoken by about 1,200 people in the Federated States of Micronesia and the U.S (Drummond & Rudolph 2021).
  - The Nukuoro data presented in this paper were elicited during ongoing fieldwork in Kolonia, Pohnpei with three speakers of Nukuoro (2015-present).<sup>2</sup>

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## 2.1 Linguistic basics

- Nukuoro has basic SVO word order and little inflectional morphology. A Nukuoro transitive clause is provided in (5): core arguments appear without case and control no agreement morphology.

(5) Tama daane laa ga gidee dahi haonga.  
 DET.child male DIST PRSP see one nest  
 ‘The boy saw a nest.’

- Relative clauses use a genitive strategy, where the subject of the relative clause appears in genitive case.
  - Genitive case is marked using the particle *a* or *o* before full NPs, or by a distinct set of genitive pronouns.
  - The *a/o* distinction corresponds to alienability in possession structures; in relative clauses, the distinction marks agentivity of the subject, with *a*-marked arguments being more highly agentive (Drummond 2016).

(6) a. de mommee { **oou** / **o** **Soni** } ne anu  
 DET place 2SG.GEN GEN Johnny PFV dance  
 ‘the place where { you / Johnny } danced’  
 b. de mommee { **aa** / **a** **Soni** } ne dugidugi deng a lau  
 DET place 2SG.GEN GEN Johnny PFV hit.RED DET.PL pandanus  
 ‘the place where { you / Johnny } pounded the pandanus leaves’

- Nukuoro *wh*-questions are pseudoclefts (Drummond to appear), which consist of a predicate *wh*-phrase with a headless relative clause as its subject (7).
  - Embedded *wh*-questions use the same pseudocleft structure under the complementizer *be* (8).

(7) a. Go ai a Soni ne gidee?  
 FOC who GEN Johnny PFV see  
 ‘Who did Johnny see?’  
 b. [<sub>Pred</sub> Go ai] [<sub>DP</sub> Ø<sub>i</sub> [<sub>TP</sub> a Soni ne gidee t<sub>i</sub> ]]?  
 (8) Au e dee iloo be [go ai a Soni ne gidee].  
 I NPST NEG know C FOC who GEN Johnny PFV see  
 ‘I don’t know who Johnny saw.’

## 2.2 The ergative extraction restriction

- Nukuoro shows a restriction on  $\bar{A}$ -movement of ergative arguments (i.e., transitive subjects).
  - Transitive subjects cannot be extracted with a bare verb, instead requiring the verb to appear with the suffix *-(C)ia* plus the (optional) postverbal particle *ina*.
- Absolutive arguments can be relativized using an unmarked gap strategy: this is demonstrated for intransitive subjects in (9a) and transitive objects in (9b).

(9) a. [Go ai]<sub>i</sub> e anu naa t<sub>i</sub>?  
 FOC who NPST dance DIST  
 ‘Who is dancing (over there)?’ (S)  
 b. [Se aha]<sub>i</sub> a de gauligi ne doolohi t<sub>i</sub>?  
 INDEF.SG what GEN DET child PFV chase  
 ‘What did the child chase?’ (O)

- Relativizing a transitive subject is impossible using the same unmarked strategy (10a).
  - Instead, extraction of an ergative requires the verb to appear with additional verbal morphology: the verbal suffix *-Cia* plus the optional particle *ina* (10b).

- (10) a. \*Go ai ne doolohi de gaagoo?  
 FOC who PFV chase DET chicken  
 ‘Who chased the chicken?’ (A)
- b. Go ai ne **dolohia (ina)** de gaagoo?  
 FOC who PFV chase.CIA INA DET chicken  
 ‘Who chased the chicken?’ (A)

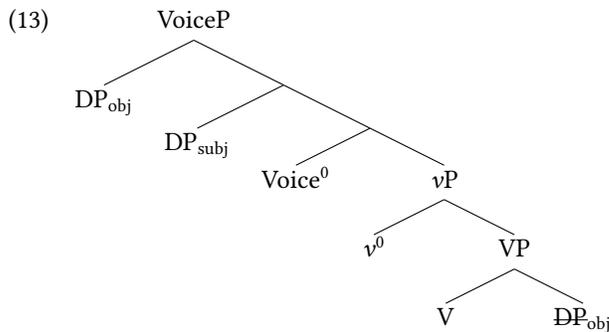
- This restriction appears in all and only transitive constructions (i.e., constructions with two DP arguments).
  - *-(C)ia + ina* is obligatory for subject extraction in ditransitives (11a) and derived transitives (11b).

- (11) a. Go ai ne gaavange **ina** de beebaa gi Soni?  
 FOC who PFV give INA DET book to Johnny  
 ‘Who gave the book to Johnny?’ [ditransitive]
- b. Go ai e haga-baguu **ina** ia?  
 FOC who NPST CAUS-fall INA 3SG  
 ‘Who tripped him?’ [derived transitive]

- *-(C)ia + ina* is ungrammatical for extraction of intransitive subjects (12a) or subjects of pseudo-transitives, which select for PP objects (12b).

- (12) a. Go ai e gadagada (\*ina) naa?  
 FOC who NPST laugh INA MED  
 ‘Who is laughing?’ [intransitive]
- b. Go ai e dele (\*ina) i de moni?  
 FOC who NPST sail INA PREP DET canoe  
 ‘Who is sailing the canoe?’ [pseudo-transitive]

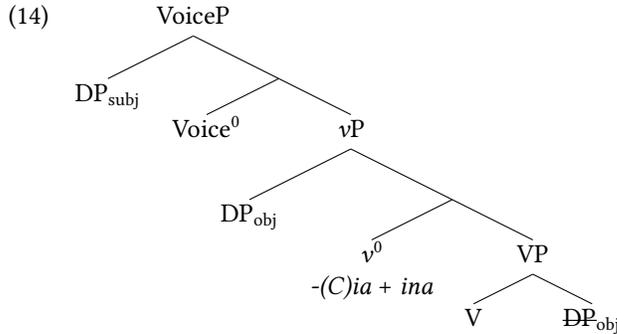
- These data show us that the restriction is not about extracting the external argument, or the agent—it’s about extracting the transitive subject (i.e., the ergative).
- I adopt an object inversion analysis of syntactic ergativity (e.g., Campana 1992; Aldridge 2004; Bittner & Hale 1996; Coon et al. 2014, 2021), where the object moves to a position structurally higher than the subject (13).<sup>3</sup>
  - In this position, the object intervenes for  $\bar{A}$ -movement, preventing subject extraction.<sup>4</sup>



<sup>3</sup>See Drummond (under review) for justification of this analysis in Nukuoro. In brief, evidence for object inversion in Nukuoro comes from the obligatory wide scope interpretation of object quantifiers, the obviation of weak crossover effects in monoclausal questions, and the ability of subject quantifiers to float in a position after the DP object.

<sup>4</sup>There are a myriad of analyses for how this structural configuration prevents subject  $\bar{A}$ -movement, including (but not limited to) minimality (Aldridge 2004; Coon et al. 2021), phasehood (Coon et al. 2014), and constraints on crossed dependencies (Tollan & Clemens 2020; Clemens & Tollan 2021). I do not adopt any particular analysis for Nukuoro, but I use ellipsis data to evaluate analyses of ergative extraction in section 6.

- To obviate the ergative extraction restriction, I propose that  $-(C)ia + ina$  realizes a type of  $v$  which licenses the object and moves it to its specifier (14).<sup>5</sup>
  - The object no longer moves to an outer specifier of VoiceP.
  - The subject is now structurally highest, and may freely  $\bar{A}$ -extract.



\* **Takeaway:** Nukuoro shows an  $\bar{A}$ -movement restriction on transitive subjects.

## 2.3 Establishing Nukuoro sluicing

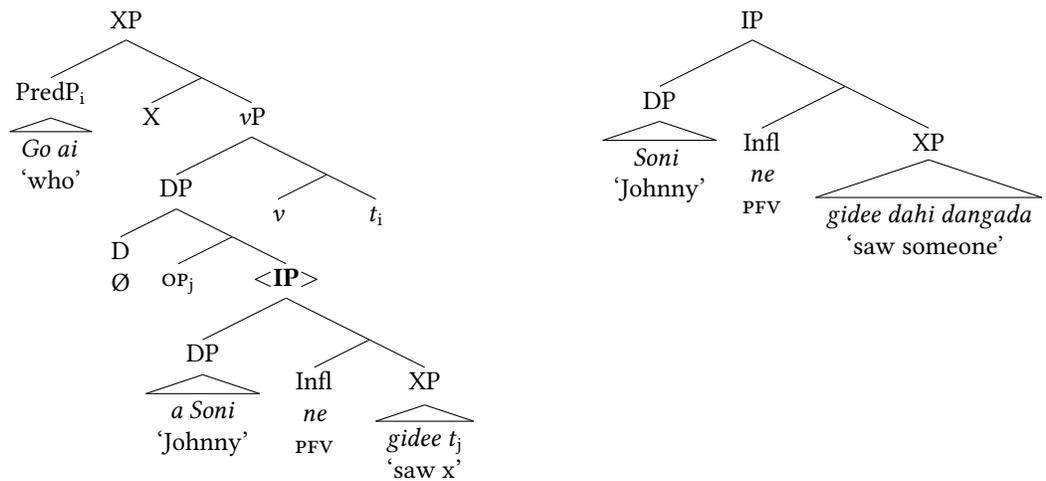
- Nukuoro has a sluicing construction, which is shown in (15).

(15) *Soni ne gidee dahi dangada, gai au e dee iloo be go ai.*  
 Johnny PFV see one person but I NPST NEG know C FOC who  
 'Johnny saw someone, but I don't know who.'

- I assume that Nukuoro sluicing targets the relative IP of a pseudocleft, which abides by syntactic identity with its antecedent (Drummond to appear).<sup>6</sup>
  - In other words, Nukuoro sluicing is an example of relative clause ellipsis, which has been described in Hungarian (Lipták 2015), Brazilian Portuguese (Rodrigues et al. 2009), and Gungbe (Lipták & Aboh 2013).

(16) Nukuoro sluice structure

(17) Nukuoro antecedent structure



<sup>5</sup>Building on insights from Coon et al. (2014), an object licensing analysis of  $-(C)ia + ina$  explains its appearance in ergative extraction contexts as well as non-finite clauses and imperatives, which lack finite Infl and thus fail to assign absolutive Case.

<sup>6</sup>This contrasts with Potsdam's (2007) view of pseudocleft sluicing in Malagasy, which he takes to be ellipsis of the matrix IP. Under this alternative view, pseudocleft sluicing is constrained not by a syntactic identity condition, but rather by a fully semantic condition.

- It's important to show that Nukuoro has a true sluicing construction involving ellipsis of a clausal constituent, as schematized in (18).

(18) Soni ne gidee dahi dangada, gai au e dee iloo be go ai <a Soni ne gidee>.  
 Johnny PFV see one person but I NPST NEG know C FOC who GEN Johnny PFV see  
 'Johnny saw someone, but I don't know who <Johnny saw>.'

- This can be contrasted with a *pseudosluicing* construction (Merchant 2001), which has cleft source that need not involve ellipsis (19).

- In a language like Nukuoro with a null expletive (and a predicative *wh*-phrase), a pseudosluicing construction would appear identical to a sluicing construction.

(19) Soni ne gidee dahi dangada, gai au e dee iloo be go ai Ø.  
 Johnny PFV see one person but I NPST NEG know C FOC who EXPL  
 'Johnny saw someone, but I don't know who it was.'

- Ruling out a structure like (19) is necessary for our discussion of salvation by deletion in the next section.

- If the Nukuoro construction involves pseudosluicing, there is no  $\bar{A}$ -movement and no ellipsis.

- I use three diagnostics to rule out a pseudosluicing analysis for Nukuoro:

- Adjunct *wh*-remnants (i.e., sprouting)
- *Else*-modification
- Non-linguistic antecedents

- Sprouting (adjunct *wh*-remnants not present in the antecedent) should be permitted with sluicing, but not pseudosluicing (Merchant 2001:121).

- Nukuoro sluicing constructions allow sprouting (20).

(20) a. Soni gu haga-mmuni de sseene, gai au e dee iloo be go hee.  
 Johnny INC CAUS-hide DET money but I NPST NEG know C FOC where  
 'Johnny hid the money, but I don't know where.'  
 b. Soni gu hai ange de stoosaa, gai au e dee iloo be go anahee.  
 Johnny INC fix AND DET car but I NPST NEG know C FOC when  
 'Johnny fixed the car, but I don't know when.'

- Modification with a particle like *else* should be possible with sluicing, but not with pseudosluicing, due to the exhaustivity associated with clefts (Merchant 2001:122).

- Nukuoro sluicing remnants can be modified by *angeange* 'else, other' (21).

(21) a. Soni gu kave Mina gi de hale golea, gai au e dee iloo be go ai angeange.  
 Johnny INC send Mina to DET house sell but I NPST NEG know C FOC who other  
 'Johnny sent Mina to the store, but I don't know who else.'  
 b. Soni ne hagao hanu laisi, gai au e dee iloo be ni aha angeange.  
 Johnny PFV buy some rice but I NPST NEG know C INDEF.PL what other  
 'Johnny bought some rice, but I don't know what else.'

- Non-linguistic antecedents are incompatible with sluicing, which involves surface anaphora, but should be possible for pseudosluicing, which should contain a deep anaphor (Potsdam 2007).

- Nukuoro sluicing constructions cannot be used with non-linguistic antecedents (22).

(22) [Context: I show you a picture of an unfamiliar person in an unfamiliar place.]

- # Au gu lodo loo gi iloo au be go ai.  
1SG INC want EMPH to know 1SG C FOC who  
Intended: ‘I want to know who.’
- # Au gu lodo loo gi iloo au be go hee.  
1SG INC want EMPH to know 1SG C FOC where  
‘I want to know where.’

\* **Takeaway:** Nukuoro sluicing constructions pattern like sluicing (and notably, unlike pseudosluicing).

- We can conclude that Nukuoro sluices involve both  $\bar{A}$ -movement and clausal ellipsis.

### 3 Salvation by deletion

- The crucial ellipsis data involves the movement of an ergative *wh*-element, which is typically subject to the ergative extraction restriction described above.

- Nukuoro allows ergative *wh*-phrases to appear as the remnant of a sluice (23), even when the antecedent contains a bare active verb.
- In other words, the ergative extraction restriction does not constrain sluicing.

(23) Dahi dangada ne **tugi** au, gai au e dee iloo be go ai.  
one person PFV hit me but I NPST NEG know C FOC who  
‘Somebody hit me, but I don’t know who.’

- The example in (23) can be understood in two ways, depending on the structure we assume for the sluice.

- The ellipsis site is faithful to the *extraction restriction*, constituting a verbal mismatch (24).

(24) Dahi dangada ne **tugi** au, gai au e dee iloo be go ai <ne **duugia** (ina) au>.  
one person PFV hit me but I NPST NEG know C FOC who PFV hit.CIA INA me  
‘Somebody hit me, but I don’t know who <hit me>.’

- The ellipsis site is faithful to *syntactic identity*, and the elided structure is appears ungrammatical (25).

(25) Dahi dangada ne **tugi** au, gai au e dee iloo be go ai <ne **tugi** au>.  
one person PFV hit me but I NPST NEG know C FOC who PFV hit me  
‘Somebody hit me, but I don’t know who <hit me>.’

- I take the second route, claiming that illicit  $\bar{A}$ -movement can be *salvaged by deletion* (e.g., Mendes 2020).

- Ergative  $\bar{A}$ -movement is derivable in the syntax, but gives rise to ill-formedness after spell-out.
- Ellipsis prevents the ergative extraction structure from being spelled out, thus salvaging the derivation.

- This allows us to maintain a head-based syntactic identity condition, and unifies the behavior of argument extraction restrictions under sluicing with the behavior of other  $\bar{A}$ -extraction constraints, like islands.

### 3.1 Walking through the analysis

- Salvation by deletion has been most widely applied to island violations, which are known to disappear under sluicing (e.g., Ross 1969; Chung et al. 1995; Merchant 2001; among others).
- We see this effect in Nukuoro, where islands constrain pronounced structure but not elided structure.

(26) Nukuoro coordinate extraction

- a. \* [Go stoosaa hee]<sub>i</sub> aana ne hagao [dahi hale ma t<sub>i</sub>] anaahi?  
 FOC car which 3SG.GEN PFV buy one house and yesterday  
 Intended: ‘Which car did she buy a house and yesterday?’
- b. Ia ne hagao dahi hale ma dahi stoosaa anaahi, gai au gu ngalo be go stoosaa hee.  
 she PFV buy one house and one car yesterday but I INC forget c FOC car which  
 ‘She bought a house and a car yesterday, but I forget which car.’

(27) Nukuoro adjunct clause extraction

- a. \* [Go ai]<sub>i</sub> a Mina e hano [noo Soni e tugi t<sub>i</sub>]?  
 FOC who GEN Mina NPST go if Johnny NPST hit  
 Intended: ‘Who will Mina leave if Johnny hits?’
- b. Mina e hano noo Soni e tugi dahi dangada. Koe e iloo be go ai?  
 Mina NPST leave if Johnny NPST hit one person you NPST know c FOC who  
 ‘Mina will leave if Johnny hits someone. Do you know who?’

- Under this view, extraction domains like islands generate PF violations, which allows them to be avoided by non-pronunciation (van Craenenbroeck & Merchant 2013; Lasnik & Funakoshi 2018).

– Following common practice, I will represent PF violations with a star ☆ (Chomsky 1971, 1972).

- Let’s apply this to Nukuoro sluicing, assuming that the structure of the antecedent and the sluice are identical.

(28) Dahi dangada ne **tugi** au, gai au e dee iloo be go ai <ne **tugi** au>.  
 one person PFV hit me but I NPST NEG know c FOC who PFV hit me  
 ‘Somebody hit me, but I don’t know who <hit me>.’

- This should run into a problem! The Nukuoro ergative extraction restriction typically prevents strings like (29), where ergative extraction co-occurs with a bare verb:

(29) \* Go ai ne tugi au?  
 FOC who PFV hit me  
 Intended: ‘Who hit me?’

- Suppose that the ungrammaticality in (29) is only an issue at spell-out, not in the syntax.

- The syntax generates the string in (29).
- If the full string survives until PF, it runs into a phonological problem (notated by ☆).
- If the clause is elided, the PF problem does not arise and the structure is grammatical (31).

(30) Syntax Go ai ne tugi au?  
 PF ☆ Go ai ne tugi au?

(31) Syntax Go ai ne tugi au?  
 Ellipsis Go ai ~~ne tugi au~~?  
 PF Go ai?

- A salvation by deletion account allows us to maintain syntactic identity under sluicing, predicting that only PF violations will be repairable by ellipsis—any instance of syntactic non-identity should be irreparable.
  - This prediction is borne out: truly syntactic mismatches, like causative-inchoative mismatches, are not tolerated in Nukuoro (32).

- (32) a. \*De hadu gu dige, gai au e dee iloo be go ai <ne **haga-digelia** ina>.  
 DET stone INC roll but 1SG NPST DET know C FOC who NPST CAUS-roll.PASS PASS  
 Intended: ‘The stone rolled, but I don’t know who <rolled it>.’
- b. \*Denga kaba gu **ma-oha**, gai au e dee iloo be go ai <ne **oha** ina>.  
 DET.PL cup INC STAT-break but I NPST NEG know C FOC who PFV break PASS  
 Intended: ‘The cups broke, but I don’t know who <broke them>.’

### 3.2 Alternative analyses

- A salvation account only holds if sluices are subject to a strict syntactic identity condition, where all heads in the verbal spine must be identical in the antecedent and the sluice.
- However, we could also account for the Nukuoro data by claiming that the sluice is faithful to the extraction restriction, regardless of the structure of the antecedent.
  - The assumed structure would be as in (33), where the antecedent and the sluice are non-identical.

- (33) Dahi dangada ne **tugi** au, gai au e dee iloo be go ai <ne **duugia (ina)** au>.  
 one person PFV hit me but I NPST NEG know C FOC who PFV hit.CIA INA me  
 ‘Somebody hit me, but I don’t know who <hit me>.’

- This alternative analysis requires us to either eliminate or weaken the syntactic identity condition on ellipsis.
  - Ellipsis is constrained by something other than syntax (e.g., QUD-equivalence approaches).
  - The antecedent and the sluice may be non-identical in specific ways (e.g., Ranero 2021).

#### 3.2.1 No syntactic identity

- We could say that syntactic identity plays no role whatsoever in sluicing, freely permitting mismatches.
- Instead, ellipsis would be entirely constrained by semantic or pragmatic identity.
  - For instance, we could say that the QUD of the antecedent and the sluice must be congruent (Ginzburg & Sag 2000; AnderBois 2011; 2014; 2016; Barros 2014; Weir 2014; Kotek & Barros 2018).
- Under this approach, causative-inchoative mismatches are ruled out because they address different QUDs.
  - \* The cups broke, but I don’t know who <broke them>.  
 \* ‘The cups broke’: QUD = What broke?  
 \* ‘Who broke the cups’: QUD = Who broke what?
- However, these approaches do not capture a key difference between English and Nukuoro, which concerns active-passive voice combinations under sluicing.
  - Merchant (2013) observes that English active-passive mismatches are ruled out (34).
  - The same sluices in Nukuoro are grammatical, where passives use *-(C)ia + ina* (35).

(34) \*Joe was murdered, but we don't know who <murdered Joe>. (Merchant 2013)

(35) Soni gu **boogia ina** mai, gai au e dee iloo be go ai <gu **boogia ina** mai Soni>.  
 Johnny INC catch.CIA INA DIR but 1SG NPST NEG know C FOC who INC catch.CIA INA DIR Johnny  
 'Johnny was caught, but I don't know who <caught Johnny>.'

- A QUD approach predicts that these constructions should behave the same way in English and Nukuoro.
  - Either the QUDs of actives and passives are not the same (to rule out English)...
  - ...or the QUDs of actives and passives are the same (to rule in Nukuoro).
- Syntactic identity provides a natural way to allow this structure in Nukuoro but rule it out in English.
  - English uses two different voice specifications, running afoul of syntactic identity.
  - Nukuoro idiosyncratically uses *-(C)ia + ina* in both passives and ergative extraction, making these two clauses syntactically identical.

### 3.2.2 Weaken syntactic identity

- The other analytic possibility is to weaken the syntactic identity condition on ellipsis.
  - Ranero (2021) argues that the antecedent and the sluice are **non-identical** in Kaqchikel: the antecedent is active voice, while the sluice contains Agent Focus voice (36).

(36) **X-Ø-u-lōq'** jun monton kotz'i'j jun wināq, po man w-etama-n ta achike wināq  
 COM-B3s-A3s-buy one bunch flower one person but NEG A1s-know-PERF NEG which person  
 <**x-Ø-loq'-o** jun monton kotz'i'j>.  
 COM-B3s-buy-AF one bunch flowers  
 'Some person bought a bunch of flowers, but I don't know which person.' (Ranero 2019:7)

- To rule out some mismatches but not others, Ranero proposes a condition on non-distinctness instead (37).
  - If a head is present in one clause but not the other, it does not count as a mismatch.

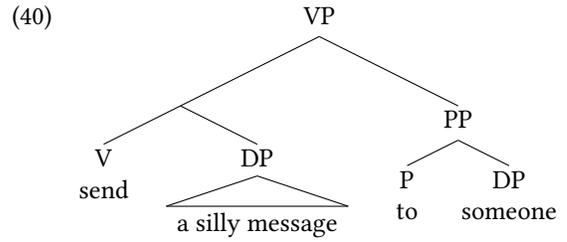
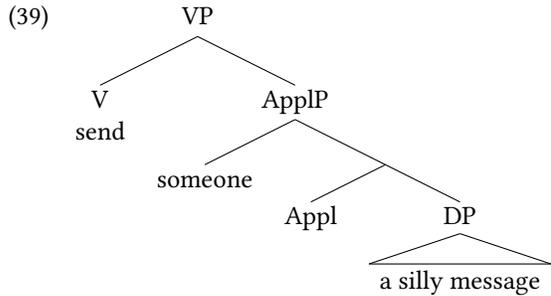
(37) *Syntactic non-distinctness condition* (Ranero 2021)  
 Antecedent and material properly contained within the ellipsis site must be featurally non-distinct.

- This alone does not capture the behavior of ergative extraction restrictions under ellipsis: we must also adopt a particular theory of ergative extraction that allows syntactic structure to be nondistinct.
- To capture the Kaqchikel facts, Ranero proposes that ergative extraction in Kaqchikel involves Exfoliation (i.e., deletion) of the VoiceP layer.
  - The AF morpheme realizes *v* when adjacent to Aspect (i.e., when Voice is missing).
  - AF counts as “non-distinct” for any Voice specification, because Voice is simply absent.

▷ Though this account can be made to work for mismatches found in Kaqchikel, I argue that it is empirically and theoretically undesirable compared with a salvation by deletion account.

- First, a weakened identity condition may be *too permissive* about the presence or absence of structure.
  - Ranero's analysis rules in any cases where structure is present in one clause but not the other.
  - This falsely rules in argument structure mismatches like (38), where the antecedent contains an applicative structure while the sluice contains a prepositional phrase.

- (38) \* They sent someone a silly message, but it's unclear to who(m) <they sent a silly message>. (adapted from Chung 2013:3)



- Second, a weakened identity analysis *still needs* salvation by deletion.
    - Ranero (2021) appeals to salvation by deletion to account for the behavior of islands under sluicing, which do not adhere to the non-distinctness condition.
    - If salvation by deletion is necessary anyway, we can unify the generalization to include both islands and argument extraction restrictions, thus minimizing the amount of machinery we need.
  - Finally, a weakened identity condition only works if we adopt a particular theory of  $\bar{A}$ -movement restrictions (namely, an Exfoliation account).
    - This analysis is highly specific to Kaqchikel, limiting its generalizability across languages.
- ▷ In the next section, I show that the behavior of  $\bar{A}$ -extraction restrictions under sluicing is not limited to Kaqchikel and Nukuoro, or even to ergative extraction: it holds of all argument extraction restrictions.

## 4 The cross-linguistic picture

- An empirical survey reveals that there is *no known argument extraction restriction* that constrains sluicing (4).
 

(4) **Sluicing-extraction generalization (SEG):**  
If a language has a sluicing construction and a restriction on  $\bar{A}$ -extraction, that restriction will not constrain sluicing.
- This generalization is based on a survey of the sluicing literature, with the prerequisites that a language must have a documented sluicing construction, as well as a demonstrated argument extraction restriction.
  - There are six resulting languages where this phenomenon is testable: Nukuoro (Polynesian), Kaqchikel (Mayan), Nupe (Benue-Congo), Malagasy, Chamorro, and Aklanon (Malayo-Polynesian).
  - There are also several languages (or families) where this prediction is untestable, at least at the moment, because they lack a demonstrated sluicing construction or a restriction in *wh*-movement.
- The surveyed languages and their sources are provided in Table 1.
- In this section, I show that the SEG holds of a number of heterogeneous  $\bar{A}$ -extraction restrictions:
  - Ergative extraction restrictions
  - Symmetrical (“Philippine-type”) voice restrictions
  - Domain-level extraction restrictions (e.g., *vP*, *DP*)
  - COMP-trace effects
  - Oblique argument extraction restrictions
- The breadth of this generalization across different kinds of restrictions supports a salvation by deletion account, which appeals to the general timing of movement restrictions rather than language specifics.

	Language	Source
Testable languages	Nukuoro	primary fieldwork
	Kaqchikel	Ranero (2021)
	Malagasy	Potsdam (2007)
	Nupe	Mendes & Kandybowicz (2021)
	English	Perlmutter (1971); Chung et al. (1995)
	Chamorro	Chung (2006, 2013)
	Aklanon	Zach Wellstood (p.c.)
No confirmed sluicing construction	Malay	Wong (2020)
	Tagalog	Kaufman & Paul (2006), Borise (2016)
	Salishan languages	Henry Davis (p.c.)
No restriction in <i>wh</i> -movement	Eskimo-Aleut languages	Michelle Yuan (p.c.)

Table 1: Languages surveyed for the SEG

#### 4.1 Ergative extraction restrictions

▷ Restrictions on the  $\bar{A}$ -movement of ergative arguments do not constrain sluicing possibilities.

- Nukuoro (Drummond to appear)
- Kaqchikel (Ranero 2021)

• We saw this in §3 for Nukuoro.

• In Kaqchikel, ergative arguments are unable to  $\bar{A}$ -move from active voice clauses (41a).

- To extract an ergative argument, the verb must appear with Agent Focus (AF) morphology, a type of voice that only appears in ergative extraction contexts (41b).

- (41) a. \*Achike x-Ø-u-tij nu-way?  
 who COM-B3S-A3S-eat A1S-tortilla  
 Intended: ‘Who ate my tortillas?’
- b. Achike x-Ø-tj-ø nu-way?  
 who COM-B3S-eat-AF A1S-tortilla  
 ‘Who ate my tortillas?’

(Ranero 2021: 50)

• This ergative extraction restriction does not constrain sluicing in Kaqchikel, as Ranero (2021) observes.

- (42) Yin x-Ø-in-tz’ët chi jun ixöq **x-Ø-u-chöy** la che’ la’. Man x-Ø-in-tz’ët ta  
 1S COM-B3S-A1S-see COMP one woman COM-B3S-A3S-cut DEM tree DEM NEG COM-B3S-A1S-see NEG  
 jab’ël achike ixöq.  
 well what woman

‘I saw that a woman cut that tree. I didn’t see clearly which woman.’

(Ranero 2021:72)

#### 4.2 Symmetrical voice restrictions

▷ In languages that show symmetrical (“Philippine-type”) voice systems, pivot-only extraction restrictions do not constrain sluicing.

- Malagasy (Potsdam 2007)
- Aklanon (Wellstood, p.c.)
- Potentially Tagalog (Kaufman & Paul 2006; Borise 2016)

- Malagasy and Aklanon both feature a Philippine-type voice system, where voice-like verbal morphology indicates the role of the DP in pivot (or topic, or subject) position.
- These languages also show a pivot-only extraction restriction, whereby only pivot/topic/subject arguments may undergo  $\bar{A}$ -movement, shown in (43) for Malagasy and (44) for Aklanon.

– The extracted argument and voice marking must “match” (AV = ‘agent voice’ and PV = ‘patient voice’).<sup>7</sup>

(43) Malagasy extraction restriction

- a. iza no mividy ny osy?  
 who PRT buy.AV the goat  
 ‘Who is buying the goat?’
- b. \*iza no vidina ny osy?  
 who PRT buy.PV the goat  
 Intended: ‘Who is buying the goat?’

(Potsdam 2007: 581–583)

(44) Aklanon extraction restriction

- a. náno ro ha-ká?on ni Huwán?  
 what TOP PV.PFV-eat UNM Juan  
 ‘What did Juan eat?’
- b. \*náno ro nag-ká?on ni Huwán?  
 what TOP AV.PFV-eat UNM Juan  
 Intended: ‘What did Juan eat?’

(Wellstood, p.c.)

- However, under sluicing, the extraction of non-subjects appears to be grammatical, both in Malagasy...

- (45) a. **nandoko** zavatra i Bao fa hadinoko hoe inona.  
 paint.AV thing Bao but forget.TT.1SG COMP what  
 ‘Bao painted something but I forget what.’

(Potsdam 2007: 584)

- ...and in Aklanon (where *?it náno* ‘which wall’ should only be extractable in locative voice).

- (46) **nag-pínta** ?imáw ?it díŋdíŋ, pero halipát akó kuŋ díŋdíŋ ?it náno.  
 AV.PFV-paint 3SG.TOP UNM wall but forget 1SG.TOP COMP wall UNM what  
 ‘He painted a wall, but I forget what wall.’

(Wellstood, p.c.)

### 4.3 Domain-level extraction restrictions

▷ Restrictions on extraction from a particular domain (e.g., vP, DP) do not constrain sluicing.

- Nupe: extraction from vP in perfect clauses (Mendes & Kandybowicz 2021)
- Many languages: Extraction from coordinate structures, adjunct CPs, complex DPs (i.e., islands)

- Nupe shows an extraction restriction in perfect clauses, where any material contained within the vP cannot be extracted (Kandybowicz 2009).

- Material at the edge of the vP domain, like subjects, may freely extract from perfect clauses (47a).
- Extraction of lower material, such as direct and indirect objects and low adjuncts, is impossible (47b-d).

- (47) a. Zě á eci pa o?  
 who PRF yam pound.PST FOC  
 ‘Who has pounded the yam?’

<sup>7</sup>I’ve changed Potsdam’s original glosses for consistency here; he labels them ‘agent topic’ and ‘theme topic’, respectively.

- b. \*Ké Musa á pa o?  
 what Musa PRF pound.PST FOC  
 Intended: ‘What has Musa pounded?’
- c. \*Zě Musa á yà èwò o?  
 who Musa PRF give.PST garment FOC  
 Intended: ‘Who has Musa given the garment to?’
- d. \*Bà-bo Musa á le o?  
 where-LOC Musa PRF sleep.PST FOC  
 Intended: ‘Where has Musa slept?’
- (Mendes & Kandybowicz 2021:7)

- Extraction of these elements from perfect clauses is, however, permitted under sluicing.

- (48) A: Musa á ejan ndoci pa.  
 Musa PRF thing certain pound.PST  
 ‘Musa has pounded something.’  
 B: Ké <Musa á pa> o?  
 what Musa PRF pound.PST FOC  
 ‘What?’
- (Mendes & Kandybowicz 2021:10)

- (49) A: Musa á eza ndoci yà èwò.  
 Musa PRF person certain give.PST garment  
 ‘Musa has given the garment to someone.’  
 B: Zě <Musa á yà èwò> o?  
 who Musa PRF give.PST garment FOC  
 ‘Who?’
- (Mendes & Kandybowicz 2021:11)

- (50) A: Musa á le ebà ndoci o.  
 Musa PRF sleep.PST place certain LOC  
 ‘Musa has slept somewhere.’  
 B: Bà-bo <Musa á le> o?  
 where-LOC Musa PRF sleep.PST FOC  
 ‘Where?’
- (Mendes & Kandybowicz 2021:11)

- It is well-described that domains for extraction known as “islands” (e.g., coordinate structures, adjunct CPs, complex DPs, etc.) fail to constrain sluicing (e.g., Ross 1969; Chung et al. 1995; Merchant 2001; among others).

- The “disappearance” of island violations under ellipsis has been documented in a wide range of languages, including (but not limited to) English, Nukuoro, Kaqchikel (Ranero 2021), and Aklanon (Wellstood, p.c.).
- Here’s an example of extraction from a complex DP in English, which does not constrain ellipsis (51).

- (51) English complex-DP extraction restriction
- a. \*Which group<sub>i</sub> has the administration issued a statement [that it is willing to meet with *t<sub>i</sub>*]?  
 b. The administration has issued a statement [that it is willing to meet with one of the student groups], but I’m not sure which one. (Chung et al. 1995)

#### 4.4 COMP-trace effects

- ▷ Subject extraction restrictions in the presence of an overt complementizer do not constrain sluicing.
  - Nupe (Mendes & Kandybowicz 2021)
  - English (Perlmutter 1971; Chung et al. 1995)

- Nupe and English both display COMP-trace effects, whereby embedded subjects cannot  $\bar{A}$ -move in the presence of a preceding overt complementizer, as shown in (52) and (53).

(52) Nupe COMP-trace effect

- a. Ké Gana gàn [gàná́n Musa du t] o?  
 what Gana say.PST COMP Musa cook.PST FOC  
 ‘What did Gana say that Musa cooked?’
- b. \*Zè Gana gàn [gàná́n t du nakàn] o?  
 who Gana say.PST COMP cook.PST FOC  
 ‘Who did Gana say (\*that) cooked the meat?’ (Mendes & Kandybowicz 2021:24)

(53) English COMP-trace effect

- a. Who do you think wrote the book?
- b. \* Who do you think that wrote the book? (Kandybowicz 2006)

- Under ellipsis, however, the same type of movement is permitted: in (54) and (55), the antecedent contains an overt complementizer, yet *wh*-movement of the embedded subject is grammatical.

(54) A: Musa gán [gàná́n ndá ndoci si kèké].  
 Musa say.PST COMP man certain buy.PST bike  
 ‘Musa said that a certain man bought the bike.’

- B: Ndá kící <Musa gàn gáná́n t si kèké> o?  
 man which Musa say.PST COMP buy.PST bike FOC  
 ‘Which man?’ (Mendes & Kandybowicz 2021:26)

(55) It appears that someone will be appointed; it’s just not clear yet who. (Chung et al. 1995)

#### 4.5 Oblique argument extraction restrictions

▷ Restrictions on extraction from syntactically intransitive constructions do not constrain sluicing.

- Chamorro: antipassive object extraction (Chung 2006, 2013)
- Kaqchikel: extraction of objects and low adjuncts from AF clauses (Ranero 2021)

- In Chamorro antipassive clauses, where the verb is formally intransitive and the theme is oblique, there is a restriction on extraction: the oblique argument of an antipassive cannot undergo *wh*-movement.

(56) a. \*Háfa na klási-n mǎnnuk mam-omoksai gui’?  
 what L sort-L chicken AGR.AP-raise.PROG he  
 Intended: ‘What sort of chickens is he raising?’

- b. \*Hǎyi mang-guaiya hao?  
 who? AGR.AP-love you  
 Intended: ‘Who do you love?’ (Chung 2013:35)

- However, the oblique argument of an antipassive is able to serve as the *wh*-remnant of a sluice.

(57) a. Mam-omoksai mǎnnuk, lao ti ta tungu’ háfa na klási.  
 AGR.AP-raise chicken but not AGR know what L sort  
 ‘He is raising chickens, but we don’t know what kind.’ (Chung 2006:78)

- b. Mang-guaiya si Julia, lao ti hu tungu’ háyi.  
 AGR.AP-love UNM Julia but not AGR know who  
 ‘Julia loves (someone), but I don’t know who.’ (Chung 2013:35)

- Kaqchikel shows a restriction on extraction out of Agent Focus clauses: in clauses with AF voice, which appear to be formally intransitive, internal arguments (58a) and adjuncts (58b) are inaccessible for  $\bar{A}$ -movement.

- (58) a. \* Achike x-Ø-tj-**o** ma Juan?  
 what COM-B3S-eat-AF CLF Juan  
 Intended: ‘What did Juan eat?’
- b. \* Ankuchi x-Ø-loq’-**o** (wi) ri kotz’i’j?  
 where COM-B3S-buy-AF FP DET flower  
 Intended: ‘Where did s/he buy the flowers?’ (Ranero 2021:51)

- Under sluicing, however, the extraction of these elements from an Agent Focus clause appears to be possible.

- (59) A: Xa xe ri ma Juan x-Ø-loq’-**o** kotz’i’j.  
 EMPH only DET CLF Juan COM-B3S-buy-AF flower  
 ‘Only Juan bought flowers.’
- B: Kan qitzij? Ta-b’ij pe chwe achike kotz’i’j!  
 INT truth IMP-say DIR PREP.A1S.RN what flower  
 ‘Really? Tell me which flowers!’ (Ranero 2021:73)
- (60) K’o jun x-Ø-loq’-**o** ri aq. Aw-etama-n achike ru-ma?  
 EXIST one COM-B3S-buy-AF DET pig A2S-know-PERF what A3S-RN  
 ‘Someone bought the pig. Do you know why?’ (Ranero 2021:73–74)

#### 4.6 Interim summary

- \* **The upshot:** All  $\bar{A}$ -movement restrictions uniformly fail to constrain sluicing.
- This unexpected uniformity can be explained if we shift the locus of  $\bar{A}$ -movement restrictions to spell-out and adopt a salvation by deletion approach.
- However, this is really surprising under a weakened identity account (Ranero 2021), which appeals to the specifics of syntactic structure under extraction.
  - With such heterogeneous languages and restrictions, it seems unlikely that there is a shared structural property underlying all of them.
  - In some cases (e.g., islands, antipassives), it’s not clear what the relevant presence/absence would be.

### 5 $\bar{A}$ -movement restrictions as PF phenomena

- Salvation by deletion provides evidence that  $\bar{A}$ -movement restrictions are (partially) phonological in nature.
  - Specifically, instances of illicit  $\bar{A}$ -movement must be generated by the syntax, but deemed ill-formed after ellipsis has applied.
- As such, we can use ellipsis as a lens to evaluate existing analyses of  $\bar{A}$ -extraction.
  - Phonological or otherwise *representational* accounts are compatible with salvation by deletion.
  - However, *derivational* accounts (i.e., those which fail to generate an illicit structure) are incompatible.
- Furthermore, this section shows that salvation by deletion is compatible with independently-motivated analyses of extraction restrictions.
  - We don’t need to radically alter our theory of movement to accommodate salvation by deletion.

## 5.1 Representational approaches

- Accounts appealing to post-syntactic constraints are compatible with salvation by deletion.
- Such accounts allow illicit movement chains to be derived, but rule them out at a later point in the derivation due to non-syntactic considerations:
  - Linearization/phase-based accounts (e.g., Fox & Pesetsky 2005; Mendes & Kandybowicz 2021)
  - Anti-locality accounts (e.g., Erlewine 2016)

### Linearization

- Fox & Pesetsky (2005) recast phase theory as a constraint on cyclic linearization of syntactic structure.
  - Syntactic structure is mapped to phonology at various points in the derivation corresponding to spell-out domains, or phases.
  - The linear order of syntactic units must remain consistent throughout the derivation.
    - \* If a future spell-out domain contradicts a previous linear order, ungrammaticality results.
- Under sluicing, these linearization statements would be deleted before a contradiction would arise, thus allowing ungrammaticality to be avoided via ellipsis.
- All phase-based analyses of extraction restrictions allow them to be analyzed along the same lines.
  - Mendes & Kandybowicz (2021): in perfect aspect clauses in Nupe, *v*Ps have no active phase edge, preventing movement out of them.
  - Coon et al. (2014): in ergative languages, object shift for absolutive licensing prevents movement of any other element out of the *v*P/VoiceP phase.

### Anti-locality

- Some movement (i.e., Spec-to-Spec movement) is considered “too short”.

(61) Spec-to-Spec Anti-Locality (Erlewine 2020:2)  
Movement of a phrase from the Specifier of XP must cross a maximal projection other than XP.
- Anti-locality has been invoked to account for COMP-trace effects and some kinds of islands (e.g., Bošković 2016), as well as ergative extraction restrictions (Erlewine 2016).
- Accounts for anti-locality are often representational, which makes them good candidates for the SEG.
  - Grohmann (2003): no two copies of the same element in a selected domain
  - Erlewine (2016): a constraint on spec-spec movement is highly ranked in an OT calculation
- If these constraints are operative after ellipsis has applied (and perhaps deleted the relevant structure), ellipsis would prevent ungrammaticality.

## 5.2 Against derivational approaches

- Crucially, salvation by deletion is incompatible with derivational approaches to extraction restrictions.
  - Minimality accounts (e.g., Aldridge 2004, 2008, 2012; Rackowski & Richards 2005; Coon et al. 2021)
  - Featural discrimination accounts (e.g., Otsuka 2006; Deal 2017)
- If illicit movement is impossible to generate, ellipsis should have no effect on grammaticality.

## Minimality

- Under minimality approaches to extraction restrictions, one element cannot undergo movement because there is a closer eligible element.
  - e.g., Relativized Minimality (Rizzi 1990), Minimal Link Condition (Chomsky 1995)
- Minimality has been cashed out to explain extraction restrictions by Aldridge (2004, 2008, 2012), Rackowski & Richards (2005), and Coon et al. (2021), among others.
  - The object moves to Spec,vP, either to get absolutive Case or due to an EPP feature.
  - C can only find and move the closest DP (assuming that Agree prefigures movement).
  - Movement of the subject is impossible because it cannot be targeted for agreement.
- A minimality view rules out illicit movement by **failing to derive it**.
  - There is no syntactic configuration that generates the illicit string.
  - Ellipsis would not change the fact that the structure is underivable.
- As further support, we can observe that other well-known examples of minimality violations, like superiority violations, are not repaired under ellipsis.
- Superiority restricts the order of *wh*-words in multiple *wh*-fronting languages (62).

(62) Bulgarian superiority effects

  - a. Koj kogo e vidjal?  
who whom AUX seen  
'Who saw whom?'
  - b. \*Kogo koj e vidjal?  
whom who AUX seen  
'Who saw whom?' (Merchant 2001:147)
- Superiority violations persist under sluicing (e.g., Stjepanovic 1999, 2003; Merchant 2001; Bošković 2011).

(63) Superiority effects persist in Bulgarian sluicing

  - a. Njakoј e vidjal njalcogo, no ne znam **koј kogo**.  
someone AUX seen someone but not I.know who whom  
'Someone saw someone, but I don't know who saw whom.'
  - b. \*Njakoј e vidjal njalcogo, no ne znam **kogo koј**.  
someone AUX seen someone but not I.know whom who  
'Someone saw someone, but I don't know who saw whom.' (Merchant 2001:147–148)
- This behavior suggests that minimality violations are *not* remedied under sluicing.

## Feature discrimination

- Another type of derivational account argues that the head responsible for movement is selective for some feature, such as Case (Otsuka 2006; Deal 2017)
- This type of proposal builds on work by Bhatt (2005), Bobaljik (2008), and Preminger (2014), which shows that a DP's ability to participate in agreement may be determined in part by its case value.
  - This concept can be extended to  $\bar{A}$ -movement, such that an  $\bar{A}$ -probe can only interact with arguments that have an unmarked case feature (like absolutive).
- Like the minimality approach, a case discrimination analysis is incompatible with salvation by deletion because it cannot derive the relevant structure that prefigures ellipsis.
  - The head responsible for Agree is simply unable to access ergative arguments, meaning that ergatives can should never undergo movement, even in clauses that are subsequently elided.

## 6 Conclusions

- This talk provides novel empirical and theoretical contributions to literature on sluicing and extraction.
- **Empirical claim:** Cross-linguistically,  $\bar{A}$ -movement shows fewer restrictions under ellipsis (4).
  - Nukuoro provides a novel case study of ergative extraction restrictions under sluicing.
- (4) **Sluicing-extraction generalization (SEG):**  
If a language has a sluicing construction and a restriction on  $\bar{A}$ -extraction, that restriction will not constrain sluicing.
- **Theoretical claim:** All  $\bar{A}$ -movement restrictions can be salvaged by deletion.
  - This extends an old insight about island repair under ellipsis (e.g., Ross 1969) to a number of movement restrictions that cannot themselves be reduced to islands.
  - We can capture the behavior of  $\bar{A}$ -movement restrictions under ellipsis without altering a syntactic identity condition, which accounts nicely for ungrammatical argument structure/voice mismatches under sluicing.
  - Alternative accounts that weaken syntactic identity have trouble accounting for the breadth of the SEG and require more theoretical machinery.
- Salvation by deletion provides a way to discriminate between the vast number of analyses for  $\bar{A}$ -movement restrictions.
  - In order to be rescued by ellipsis, movement restrictions must be derived in the post-syntax.
  - This generalization thus provides evidence against derivational syntactic accounts for movement restrictions, which fail to derive illicit structures at all.
  - In this way, the SEG shows us that there is room in the grammar for *representational constraints*, contra those that push for more derivational models of grammar (e.g., Chomsky, Preminger).

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