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# Recoverability and Identity Are Dissociable in Double Ellipsis

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## 1. Introduction

Ellipsis might seem to radically undermine form-meaning mapping; in the absence of the form <thus indicated> in (1), we still understand its meaning:

- (1) a. John bought something, but I don't know what <he bought  $t_{\text{what}}$ >.  
b. John bought a book, and Mary did too <buy a book>.

But form-meaning mapping is not undermined by ellipsis to the extent that the understood meaning must be recovered from spoken form, subject to identity (Hankamer 1971, Sag 1976, Williams 1977).

With respect to recoverability, Fiengo & Lasnik (1972) said it all with their paper 'On nonrecoverable deletion in syntax': in the absence of any form to go on, silence is meaningless.

But further to recoverability, ellipsis requires identity with an antecedent.<sup>1</sup> As an example, sluicing requires identity in voice (Merchant 2013). Insofar as active and passive are truth-conditionally equivalent, recoverability is satisfied in (3) just as much as in (2). Yet due to the further requirement for identity, the voice matches in (2) are grammatical, whereas the mismatches in (3) are not:<sup>2</sup>

- (2) a. Someone saved Alex, but we don't know who < $t_{\text{who}}$  saved Alex>.      *active = active*  
b. Alex was saved, but we don't know by whom <Alex was saved>.      *passive = passive*
- (3) a. \*Someone saved Alex, but we don't know by whom <Alex was saved>.      *active ≠ passive*  
b. \*Alex was saved, but we don't know who < $t_{\text{who}}$  saved Alex>.      *passive ≠ active*

It is often assumed that recoverability and identity go hand-in-hand. Craenenbroeck & Merchant (2013: 710), for example, thus pose "the question of recoverability: To what extent and in what way is the abstract elliptical structure identical to the overt syntax of the ellipsis antecedent?" On this view, ellipsis sites must establish identity with the same material from which their meaning is recovered.

On the contrary, this paper will argue that recoverability and identity are dissociable: ellipsis sites need not establish identity with the same material from which their meaning is recovered. This separability comes to light from studying 'double ellipsis'. Where a lone ellipsis is bad for violating identity, adding a second ellipsis makes both good, since the two ellipses then satisfy identity for one another.

We will proceed through a series of case studies where a single ellipsis fails, as concretely in (3) or schematically in (4). In these scenarios, in spite of preceding spoken material from which the meaning of the ellipsis might have been recoverable (↑), ellipsis fails due to lack of identity (\*=):

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<sup>1</sup> Not that exact identity is required. Already in (1), there are tolerable mismatches between *something* and the trace of *wh*-movement (a), and between the morphological forms of *bought* vs. *buy* (b). Still, 'identity' will suffice for our purposes.

<sup>2</sup> The requirement for identity is thus already somewhat dissociated from recoverability in the sense of being additional. The extent of dissociation argued for here will be more radical.

- (4) Spoken material  
 ↑, \*=  
 bad <ellipsis>

Yet, keeping all else equal, the very same ellipsis becomes good after adding a second, intermediate ellipsis, as schematically in (5). While the meaning of the ellipses continues to be recoverable (↑) from the preceding spoken material, identity (=) can now be satisfied between the two. In other words, the ellipsis sites are mutually licensing with respect to identity:

- (5) Spoken material  
 ↑  
 intermediate <ellipsis>  
 =  
 previously bad <ellipsis> becomes good

We begin by demonstrating the ability of double ellipsis to ameliorate voice mismatches like (3). We then discuss the limits of double ellipsis before proceeding to three case studies in double verb phrase ellipsis.

## 2. Argument structure

We begin with a case study in argument structure and clausal ellipsis. As reviewed in the introduction, sluicing requires structural identity in voice (Merchant 2013). In (6) = (3a), sluicing is ungrammatical for attempting to switch from active antecedent to passive ellipsis:

- (6) \* Someone saved Alex, but we don't know by whom <Alex was saved>. *active ≠ passive*

Nakamura (2013), however, observes the examples in (7):<sup>3</sup>

- (7) a. Not so much whether to teach the Bible in public schools, but how? And by whom?  
 b. GE Capital and Xerox in Stamford responded to inquiries about their use of extended-stay hotels by saying that they use them from time to time, but they were not sure how much or by whom.

The naturally occurring sluices in (7) look to be counterexamples to the requirement for structural identity in voice. As laid out in (8), the final sluices are passive despite the preceding spoken material being active:<sup>4</sup>

- (8) a. Active: ... teach the Bible in public schools ...  
 Passive: And by whom <the Bible should be taught>?  
 b. Active: ... they use them from time to time ...  
 Passive: ... or by whom <they are used>.

Faced with (7), Nakamura (2013) argues that structural identity should be abandoned. On the contrary, I will defend the claim that voice matching is always respected in sluicing. I will argue that structural identity holds in (7), though dissociated from recoverability.

Notice first that both examples in (7) involve two instances of ellipsis, as set out in (9):<sup>5</sup>

<sup>3</sup> Sources for (7): (a) – *Corpus of Contemporary American English*; (b) – *The New York Times*, Aug 9, 1998.

<sup>4</sup> See Anand et al. (2021: sect. 5.2) regarding the appearance of the modal in the ellipsis site in (8a).

<sup>5</sup> See Citko & Gračanin-Yuksek (2020) for robust argumentation that coordinated and disjoined sluices involve two separate instances of clausal ellipsis.

Their paper, like this one, is limited to English. This provides one reason why double ellipsis might not ameliorate mismatches in other languages: in a language where coordinated and disjoined sluices do not involve two separate instances of clausal ellipsis, amelioration is not expected.

Another reason why the capacity of double ellipsis may vary cross-linguistically could have to do with morphology: in languages with richer morphology – e.g. for case, gender, etc. – it might be harder to conjure the syntax of an ellipsis site absent an overt, structurally identical antecedent.

- (9) a. . . . , but how? And by whom?  
 b. . . . how much or by whom.

Such ‘double ellipsis’ is in fact crucial to (7). Without the intermediate *how (much)* sluices, the single active-passive mismatches laid out in (8) are ungrammatical in (10):

- (10) a. \* Not so much whether to teach the Bible in public schools, but by whom?  
 b. \* They use them from time to time, but they were not sure by whom.

To account for (7), I propose that recoverability and identity are dissociable facets of ellipsis. Their separability comes to light from cases of double ellipsis like (7). As laid out for (7a) in (11), the meaning of the two ellipses can be recovered (↑) from the preceding spoken active material – in much the same way as for other anaphoric devices, like pronouns. Preserving truth-conditional equivalence, this recovered meaning can be syntactically represented with passive elided structure. With single ellipsis, this would violate identity, resulting in ungrammaticality – viz. (3a, 6). But with double ellipsis, making this choice for the intermediate ellipsis site means identity will be satisfied, as the two ellipses are then identical (=) with one another as passive:

- (11) Applied to (7a):
- |                                      |
|--------------------------------------|
| <i>teach(bible)</i>                  |
| ↑                                    |
| how <the Bible should be taught>     |
| =                                    |
| by whom <the Bible should be taught> |

The intermediate ellipsis thus provides a space that can be filled with identical structure, resolving the problem of non-identity with the spoken material from which meaning is recovered. The two ellipsis sites are then mutually licensing with respect to identity, separate from the anaphoric process of recoverability from structurally non-identical spoken material. The same is laid out more compactly for (7b) in (12):

- (12) Applied to (7b): ↑ *use(hotels)(they)* how much <they are used> = by whom <they are used>

Thus recoverability and identity are dissociable in double ellipsis.

The empirical point does not depend on any peculiarities of the naturally occurring examples in (7) – viz. intermediate sluices with *how*, and PRO (a) and bound *they* (b) subjects. The constructed examples in (13)-(16) avoid these features but pattern the same way. In all cases, the preceding spoken material conveys a meaning against which ellipsis is eminently recoverable (↑). Without the parenthesised intermediate ellipsis, single ellipsis is bad, since it mismatches the preceding material in voice. With double ellipsis, however, acceptability improves, since the two ellipses can match in voice for identity (=). While these constructed examples have a slightly reduced ‘?’ level of acceptability, the contrast with ‘\*’ single ellipsis is appreciable:

- (13) ? The university appoints vice chancellors, but the regulations don’t say \*(when, or) by whom.  
 ↑ *appoint(VCs)(uni)* when <VCs are appointed> = by whom <VCs are appointed>
- (14) ? Somebody hacked our computer network, but we’ve no idea \*(why, or) by whom.  
 ↑ ∃x.*hack(net)(x)* why <our network was hacked> = by whom <our network was hacked>

Nor is it necessary for the intermediate sluice to be an adjunct, as so far with *how*, *how much*, *when* and *why*. In the constructed (15), the intermediate sluice is an argument:

- (15) ? The news was reporting that the exam board had inadvertently revealed the A-level questions to a certain school ahead of time, but they couldn’t say \*(to which school, or) by whom.  
 ↑ *reveal(q)(s)(b)* to which school <the A-level questions had been revealed>  
 = by whom <the A-level questions had been revealed>

It is also possible to construct examples with voice mismatch the other way round. Where in (7) and (13)-(15) mismatch proceeds from active spoken material to a passive second sluice, in (16) voice mismatch is mediated in the opposite direction from passive to active:

- (16) ? Vice chancellors are appointed, but the regulations don't say \*(when, or) which committee.  
 $\uparrow \exists x.appt(VCs)(x)$  when <someone appoints VCs> = which committee <*t* appoints VCs>

The relative order of the two sluices is crucial, however. Reversing the order from (7) to place the passive sluice first is unacceptable in (17):

- (17) a. \* Not so much whether to teach the Bible in public schools, but by whom? And how?  
 b. \* They use them from time to time, but they were not sure by whom or how much.

This unacceptability can be attributed to local, intermediate ungrammaticality. In (17), the combination of active spoken material and passive first sluice is ungrammatical, causing the parser to give up at *\*by whom*. In (7), on the other hand, the combination of active spoken material and the first sluice is grammatical. After parsing the first sluice initially as active, the passive second sluice forces reanalysis of the first to be passive, following which the sentence remains grammatical and acceptable. Thus (7) can be parsed as grammatical throughout, in contrast to the intermediate but fatal ungrammaticality local to the first sluice in (17).

In support of this explanation, the acceptability of the 'passive sluice first' order in (17) improves when local ungrammaticality is not given the chance to arise. In (18), ellipsis is cataphoric, with the active spoken material following both ellipses. With two ellipsis sites in hand on encountering the spoken material, it is possible to arrive directly at the grammatical parse without an abortive local mismatch: identity will be satisfiable between the two ellipses, regardless of any structural mismatch with the subsequent spoken material. 'Backwards' double ellipsis in (18) is accordingly far more acceptable than (17):<sup>6</sup>

- (18) ? While they weren't exactly sure by whom < > or how often < >, the company admitted to using extended stay hotels from time to time.

The amelioratory effect of double ellipsis generalises to other argument structure alternations. Further to voice, sluicing disallows ditransitive diathesis (Merchant 2013), as without the parenthesised material in (19). However, the mismatch is much improved when bridged by an intermediate sluice:<sup>7</sup>

- (19) ? They served someone milk, but I don't know \*(why, or) to whom.  
 $\uparrow \exists x.serve(m.)(x)(they)$  why <they served milk to someone> = to whom <they served milk *t*>

As with voice, therefore, dissociating identity from recoverability allows structural identity conditions on ellipsis to be maintained in the face of an apparent argument structure mismatch like (19). While the meaning is recovered anaphorically from the preceding spoken material, identity is established between the two ellipses, which mutually license one another.

In sum, this section has mounted a defence of the claim that sluicing requires structural identity. Apparent counterexamples in fact exhibit two instances of ellipsis. Double ellipsis mediates mismatches that are impossible with single ellipsis because the two ellipses can establish identity with one another. Since the meaning must still be recovered from the structurally mismatching spoken material, double ellipsis shows identity and recoverability to be dissociable facets of ellipsis. Subsequent case studies in this paper apply this perspective to some puzzles in verb phrase ellipsis. But first, the next section shows that double ellipsis has its limits.

<sup>6</sup> Similarly *either* presages the coming of a second clause which might satisfy identity, somewhat improving acceptability in (i):

- (i) ? They use them from time to time, but they were not sure either by whom < > or how much < >.

<sup>7</sup> Alternations between null arguments and PPs (i) (Merchant 2013) seem worse (a), especially with adjectives (b):

- (i) a. (? ) John was arguing, but I can't reveal \*(when, or) who.  
 $?(?)\uparrow argue(j)$  when <John was arguing with someone> = who <John was arguing with *t*>  
 b. (? )\* John was afraid, but I don't know (why, or) what.  
 $(?)\uparrow argue(j)$  why <John was afraid of something> = what <John was afraid of *t*>

It may be that there is difficulty in imputing the preposition to the ellipsis site without an overt clue that this is required – cf. pronunciation of *to* in (19). Cf. also the second point in note 5 and Chung's (2006) 'No new words' generalisation.

### 3. Limits

The thesis of this paper is that recoverability and identity are dissociable facets of ellipsis. While meaning is recovered from spoken material, identity can be established separately between two mutually licensing ellipses.

This begs the question of how far removed the ellipses can be from the spoken material. The previous section analysed ellipsis sites as differing in argument structure from spoken material along the dimensions of voice and ditransitivity. Does this mean that just any structure can be conjured in ellipsis sites, as long as it preserves truth-conditional equivalence? This section answers in the negative by considering the limits of double ellipsis. Double ellipsis is not an all-powerful amelioratory device; instead, there remain important roles for structural identity and lexical recoverability.

Beginning with structural identity, consider (20). Manipulating the *spray-load* alternation places conflicting requirements on the elided structure. Including the prepositions in the sluicing remnants forces the first ellipsis to have the *onto* structure, whereas the second has the *with* structure. The ensuing non-identity (\* $\neq$ ) results in ungrammaticality:<sup>8</sup>

- (20) \* Mary loaded some stuff onto some vehicle, but I don't know (onto which vehicle, or) with what stuff.  $\uparrow$  *load(stuff)(vehicle)(m)*  
 onto which vehicle <she loaded some stuff *t*> \* $\neq$  or with what stuff <she loaded the vehicle *t*>

There also remains a role for lexical recoverability, in that relational opposites (cf. Hartman 2009) apparently cannot be recovered from one another. In (21), someone beating you at tennis entails that you lost to someone at tennis. This presents an opportunity to reconcile the preposition *to* in the final sluice remnant by imputing *lose to* into both ellipsis sites. Still, the example remains unacceptable, apparently because *lose to* cannot be recovered (\* $\uparrow$ ) from its relational opposite *beat*:

- (21) \* Someone beat Roger at tennis, but I don't know (when, or) to whom. *be beaten ~ lose to*  
 $\uparrow \exists x.beat(r)(x)$  when <he lost to someone at tennis> = to whom <he lost *t* at tennis>

Similar applies to (22). Were *borrow* recoverable from *lend*, identity would be achievable while reconciling *from* in the final sluice remnant. Instead, (22) is bad because relational opposites are not lexically recoverable from one another (\* $\uparrow$ ):

- (22) \* Someone lent John £100, but he won't tell me (on what terms, or) from whom. *lend ~ borrow*  
 $\uparrow \exists x.lend(\pounds 100)(j)(x)$  on what terms <he borrowed £100 from someone>  
 = from whom <he borrowed £100 *t*>

<sup>8</sup> Left Branch Extraction (LBE) potentially provides another limiting case on the ability of double ellipsis to circumvent mismatches. Sluices whose *wh*-remnant has been extracted from a left branch, e.g. adjectives, necessitate 'short sources' (Barros et al. 2014, Abels 2018). In (i) none of the ungrammatical candidate structures in (a)-(c) are available, only the copula predication structure in (d):

- (i) The government makes frequent use of outside consultants, but it won't say how frequent <???>.  
 a. \*... [how frequent] <it makes *t* use of outside consultants>. *active*  
 b. \*... [how frequent <use of outside consultants>] it makes *t*>.  *pied piping*  
 c. \*... [how frequent] <*t* use of outside consultants is made>. *passive*  
 d. ... [how frequent] <it is *t*>. *short source*

Since LBE sluices do not contain 'full source' structure, they should not be able to bridge voice mismatch in double ellipsis. An example like (ii) is thus predicted to be ungrammatical due to the non-identity of (a) and the ungrammaticality of (b), in minimal contrast with an example like (iii):

- (ii) (\*) The government makes frequent use of outside consultants, but it won't say how frequent, or by which departments.  
 a. <it is>  $\neq$  <consultants are used>  
 b. \*... by which departments <it is>.  
 (iii) The government makes use of outside consultants, but it won't say how often, or by which departments.

Further empirical work is necessary to establish these contrasts.

Downsizing to verb phrase ellipsis, a special case of lexical identity regarding auxiliaries demonstrates another limit on double ellipsis. According to Warner's (1985) Auxiliary Verb Generalization, in verb phrase ellipsis headed by an auxiliary verb, the auxiliary must have the exact same morphological form as its antecedent. This generalization is violated in (23). Disregarding the parenthesised material first, single ellipsis is bad due to the form of the passive auxiliary mismatching between *was* in the antecedent and *be* in the ellipsis. Adding in the parenthesised intermediate ellipsis is of no help. The mismatch persists with double ellipsis, since the intermediate sluice would also contain *was*, mismatching with the finally elided *be*:

- (23) \* She was appointed to the board, even though it was unclear (for how long, or) whether she was eligible to.  $\uparrow \exists x. \textit{appoint}(b)(x)$   
 for how long <she was appointed to the board>  
 \*≠ whether she was eligible to <be appointed to the board>

In sum, while double ellipsis mediates argument structure mismatches that are impossible with single ellipsis, it does so within the limits of structural identity and lexical recoverability. The rest of this paper studies three cases where recoverability and identity come apart in double verb phrase ellipsis.

#### 4. Dahl's many clauses puzzle

Dissociating recoverability from identity can explain away Dahl's many clauses puzzle in ellipsis. As set up, consider (24), fixing *he* to mean *John*. This meaning can arise in two ways, with the pronoun either referential or bound. This pronominal ambiguity becomes observable under ellipsis, so that even after fixing *he* to mean *John* the single instance of verb phrase ellipsis has two readings. On the so-called 'strict' reading (a), the pronoun is referential, and so continues to point to John in the ellipsis. On the 'sloppy' reading (b), the pronoun is bound, covarying with the matrix subject. Thus while meaning John in the first clause, it switches to Sam in the elliptical clause:

- (24) John realises that  $he_{(John)}$  is a fool, though Sam doesn't < >.  
 a. Strict reading, referential ( $\rightarrow$ ) pronoun:  
 John realises that  $he_{\rightarrow John}$  is a fool, though Sam doesn't <realise that John is a fool>.  
 b. Sloppy reading, bound ( $x$ ) pronoun:  
 John $_x$  realises that  $he_x$  is a fool, though Sam $_x$  doesn't <realise that  $x=\underline{Sam}$  is a fool>.  
 c. \* Disjoint reference:  
 \* John realises that  $he_{(John)}$  is a fool, though Sam doesn't <realise that Bill is a fool>.

There is no third reading (c) of (24) that takes the pronoun to mean someone else, e.g. Bill, in the elliptical clause after meaning John in the first clause.

Yet double ellipsis supports just such a third reading (Schiebe 1973, via Dahl 1973). Consider (25), which adds an intermediate elliptical clause to (24). Consistently strict (a) and sloppy (b) readings are available, as before. But now a third reading is also available (c). On this third 'mixed' reading, the pronoun is apparently read sloppily for the first ellipsis, then strictly for the second. The pronoun first covaries with the subject of the intermediate clause before remaining strict in reference to it:

- (25) John realises that  $he_{(John)}$  is a fool, and Bill does too < >, though Sam doesn't < >.  
 a. Both strict: John realises that  $he_{\rightarrow John}$  is a fool,  
 and Bill does too <realise that John is a fool>,  
 though Sam doesn't <realise that John is a fool>.  
 b. Both sloppy: John $_x$  realises that  $he_x$  is a fool,  
 and Bill $_x$  does too <realise that  $x=\underline{Bill}$  is a fool>,  
 though Sam $_x$  doesn't <realise that  $x=\underline{Sam}$  is a fool>.  
 c. Mixed reading: John $_x$  realises that  $he_x$  is a fool,  
 sloppy  $\nearrow$  and Bill $_x$  does too <realise that  $x=\underline{Bill}$  is a fool>,  
 strict  $\nearrow$  though Sam doesn't <realise that Bill is a fool>.

This mixed reading is a problem to the extent that recoverability and identity are intertwined.<sup>9</sup> On that view, each ellipsis needs to independently establish identity with the recoverable spoken material. But the structure of that spoken material must be fixed as either strict (a) or sloppy (b); structure cannot oscillate between its ambiguities, as apparently needed for (c) (see Hardt 2021: 6).

The mixed reading is not a problem, however, on the proposal here that recoverability and identity are dissociable facets of ellipsis. As laid out in (26), the ‘Bill meaning’ of the first ellipsis can be recovered sloppily from the preceding spoken material. This meaning can be syntactically represented with a referential pronoun rather than binding, since  $[\lambda x. x \text{ thinks } x \text{ is a fool}](b) = b \text{ thinks } b \text{ is a fool}$  (cf. Dalrymple et al. 1991: 424f.) The representation with a referential pronoun allows for identity with a strict second ellipsis, which in turn recovers its meaning from the first:

- (26)  $[\lambda x. x \text{ thinks } x \text{ is a fool}]$   
 $\uparrow$   
 and Bill does too <realise that Bill is a fool>  
 $\uparrow, =$   
 though Sam doesn’t <realise that Bill is a fool>

Thus the mixed reading follows naturally from the present proposal that recoverability is dissociable from identity. Furthermore, a ‘reverse mixed’ reading is correctly predicted to be unavailable. Where the mixed reading (c) of (25) appears to proceed from sloppy to strict, it is not possible to mix readings the other way round from strict to sloppy, as in (27). This follows straightforwardly from the present proposal as a failure of identity, since *John* ≠ *Sam*:

- (27) \*Reverse mixed: John realises that he<sub>→John</sub> is a fool,  
 strict ↗ and Bill does too <realise that John is a fool>,  
 sloppy ↗ though Sam<sub>x</sub> doesn’t <realise that x=Sam is a fool>.

In sum, the mixed reading of Dahl’s many clauses puzzle ceases to be problematic once recoverability and identity are dissociated. Just as double ellipsis mediated otherwise impossible argument structure mismatches in sluicing, here it supports referential possibilities that are not available with single ellipsis. The next section outlines another case where two instances of verb phrase ellipsis are better than one.

## 5. Elliptical answers

This section shows that double ellipsis can resolve problems in certain elliptical answers that are unable to establish identity with their corresponding question. As set up, consider the polar and subject question-answer pairs in (28)-(29). Verb phrase ellipsis (a) is perfectly possible in the answers compared to fully pronounced controls (b) (SMALL CAPS = focus):

- (28) Did John go shopping? a. He DID <go shopping>. b. He DID go shopping.  
 (29) Who went shopping? a. SAM did <go shopping>. b. SAM went shopping.

But in answer to an adjunct question (30), verb phrase ellipsis (a) is bad; this despite the fully pronounced (b) showing congruence, and the intended meaning of the ellipsis being eminently recoverable from the question:

- (30) Where did John go shopping?  
 a. \*He did <go shopping> in PARIS. b. He went shopping in PARIS.

<sup>9</sup> A mixed reading can also originate with an exceptionally case-marked reflexive (i). Syntactically, the reflexive in the first ellipsis has to Vehicle Change (Fiengo & May 1994) into a pronoun in the second ellipsis. This does not cause an identity problem in examples like (ii) (Sag 1976 et seq.):

- (i) John considers himself a genius, and Bill<sub>b</sub> does too <consider himself<sub>b</sub> a genius>,  
 though Sam doesn’t <consider him<sub>b</sub> a genius>.  
 (ii) Bill defended himself<sub>b</sub> better than his lawyer did <defend him<sub>b</sub>>.

It is not altogether clear what the problem is with verb phrase ellipsis in answer to adjunct questions (30) – see Kuno (1975), Levin (1979) and Stockwell (2020: sect. 5.7) for discussion. Most pertinently here, however, ellipsis becomes good in answer to the same question when accompanied by an additional contrasting elliptical clause in (31):<sup>10</sup>

(31) Where did John go shopping?

He DIDN'T <go shopping> in PARIS; but he DID <go shopping> in LONDON.

The amelioration from (30) to (31) follows from the present proposal as in (32). While the meaning continues to be recoverable from the preceding question in (31) just as in (30), now identity can be established between the two ellipses, resolving the problem that obtained with single ellipsis:<sup>11</sup>

(32)  $\uparrow \{shop'(j) \text{ in } x \in D_{loc}\}$  he DIDN'T <go shopping> in PARIS = he DID <go shopping> in LONDON

Thus elliptical answers to adjunct questions present another case of double ellipsis being good where single ellipsis was bad, since recoverability and identity are dissociable. The final section suggests that this finding can shed light on some cases of verb phrase ellipsis that apparently lack antecedents.

## 6. No (overt) linguistic antecedent

In arguing that recoverability and identity are dissociable facets of ellipsis, we have seen that elided material need not establish identity with *overt* linguistic material. In each of the preceding case studies of double ellipsis, while meaning has been recovered from spoken material, identity has been established separately between the two ellipsis sites, which license one another for identity. That is, each ellipsis site satisfies identity with respect to other covert elided material.

This section argues that this perspective allows us to make progress in understanding certain cases of verb phrase ellipsis that are acceptable despite lacking preceding spoken material. With double ellipsis, each ellipsis can provide linguistic material for the other to satisfy identity, separate from recovering the meaning from a non-linguistic scene.

For the most part, ellipsis is not possible in the absence of preceding spoken material. Even with the context of (33), the attempt at ellipsis in (a) fails (Hankamer & Sag 1976: 392, ex. 6):

(33) (Context: Sag produces a cleaver and prepares to hack off his left hand.)

- a. Hankamer: #Don't be alarmed . . . he never actually does < >. *'surface' ellipsis*  
 b. Hankamer: Don't be alarmed . . . he never actually does it. *'deep' pro-form*

The context in (33) is surely rich enough to satisfy recoverability. The scene makes abundantly clear that the intended meaning of the ellipsis is *hack off his left hand*. And indeed, with the addition of *it* to make a pro-form in (b), anaphoric resolution to the non-linguistic scene is successful. This is Hankamer & Sag's (1976) distinction between 'deep' and 'surface' anaphora: in contrast to pro-forms like *do it*, ellipsis generally requires a linguistic antecedent.

Yet ellipsis is sometimes possible without a linguistic antecedent. One such circumstance is double ellipsis.<sup>12</sup> Compared to the single ellipsis in (33), antecedent-less double ellipsis works in (34). With the

<sup>10</sup> The same goes for alternative questions (i):

(i) Did John recommend Mary with a phone call or with a letter?

- a. \* He did <recommend her> with a LETTER.      b. He recommended her with a LETTER.  
 c. He DIDN'T <recommend her> with a PHONE CALL; he DID <recommend her> with a LETTER.

<sup>11</sup> The elliptical constituents are identical up to focus: *DIDN'T* vs. *DID*, *PARIS* vs. *LONDON*. In the terminology of Stockwell (2020, 2022), building on Rooth (1992a,b), the elliptical constituents are 'proper alternatives' to each other.

<sup>12</sup> Double ellipsis is far from the only circumstance where verb phrase ellipsis appears to lack a linguistic antecedent. A full defence of the claim that ellipsis requires a linguistic antecedent would need to address all of them, but is beyond the scope of this paper.

For example, in 'split antecedent' cases like (i) (Webber 1978), there is no single antecedent for the apparently



same context, double ellipsis is good in (a), in minimal contrast with the attempts at single ellipsis in (b). This contrast is accounted for on the proposal here that recoverability and identity are dissociable, as laid out in (c). The meaning of the ellipses can be recovered from the non-linguistic scene, as for *do it* in (33). There ellipsis failed identity in the absence of matching linguistic material. With double ellipsis, however, identity can be satisfied between the two ellipses. Each ellipsis provides non-overt linguistic material to match the other for identity:

- (34) (Context: Sag produces a cleaver and prepares to hack off his left hand.)
- a. He wouldn't, would he? (cf. Jacobson 2022: ex. 21)
  - b. # He wouldn't. / # Would he?
  - c. ↑ *cut(hand)(s)* he wouldn't <cut his hand off> = would he <cut his hand off>

The further examples in (35) and (36) work similarly. The context again makes clear a recoverable meaning. Double ellipsis (a) succeeds where a single ellipsis (b) fails, since only double ellipsis provides linguistic material for each ellipsis site to satisfy identity based on the other:<sup>13</sup>

elided verb phrase 'sail around the world or climb Kilimanjaro':

- (i) Wendy is eager to sail around the world and Bruce is eager to climb Kilimanjaro, but neither of them can < > because money is too tight.

There are also lexicalised idiomatic cases of verb phrase ellipsis that can be uttered in the absence of a linguistic antecedent. The list in (ii) is compiled from Schachter (1977), Hankamer & Sag (1976: 409f., fn. 19), Hankamer (1978: 69) and Pullum (2000):

- (ii) Don't! You didn't! You mustn't! I really shouldn't. Oh, you shouldn't have! Shall we? May I? Please do. How could you? Oh no you don't! You wouldn't! Must you? Should I? Not in my X, you don't!

Miller & Pullum (2013) argue that antecedent-less ellipsis is not limited to fixed idioms. They emphasise the role of *p* versus  $\neg p$  alternatives, whether explicitly stated or raised to salience by contexts of permission or direction. For further discussion, see Poppels (2022: sect. 3.2.1).

<sup>13</sup> Other examples of apparently missing antecedents offered by Jacobson also involve double ellipsis; e.g. (i) (cf. Jacobson 2009: 86, ex. 4b) and (ii) (cf. Jacobson 2003: 79, ex. 32; 2008: 58, ex. 41a; 2022: ex. 24):

- (i) (Context: I see my friend Chris, about to ski down Inferno on cross-country skis, and say:) He's not really going to <ski down there>, is he <going to ski down there>?
- (ii) (I point to one batch of cookies and say:) These, you may <eat *t*>. (Pointing to a second batch I say:) Those, you can't <eat *t*> – at least not until they cool down.

The second ellipsis in (ii) might not be necessary, per (iii) (Jacobson 2003: 79, ex. 31):

- (iii) (Context: I see you about to grab some cookies:) Not those, you don't < >.

Though again, a second ellipsis might still be present by strong implication; compare tailing off at the semicolon in (31). Alternatively, (iii) could be added to the list of lexicalised idioms in note 12 (cf. especially *Not in my X, you don't!*).

Others of Jacobson's examples lie further beyond reach. Double ellipsis would have to work across speakers to capture (iv) (Jacobson 2022: ex. 20):

- (iv) (Scenario: I see my friend Chris at the top of a double diamond ski slope, and I know he is only a beginner skier. You are concerned and say:) Do you think he really might < >? (I turn to you and say:) No don't worry. I don't think he really will < >.

The modals in (iv) could be crucial, as also in (v) (cf. Jacobson 2022: ex. 25):

- (v) (Scenario: Dad is with two of his kids, Keela and Zack. Keela (the older) has been trying to tell Dad for quite some time that she is very independent and doesn't need help typing her shoes. But Dad is a creature of habit, so he reaches down to help Keela – who says:) Keela: Dad. Please! I DON'T WANT you to < >!!!

- (35) (Tagline of a Clariol hair dye advert.) (Schachter 1977)
- a. Does she or doesn't she?
  - b. # Does she?
  - c.  $\uparrow$  *colour(hair)(she)* does she <colour her hair> = doesn't she <colour her hair>
- (36) (Context: I see two people clearly thinking about whether to jump into a very cold pool of water at the bottom of a rock formation while hiking. I turn to you and say:)
- a. You know what? I kind of think that he will if she does. (Jacobson 2022: ex. 19)
  - b. # You know what? I kind of think that he will.
  - c.  $\uparrow$   $\lambda x. jump(x)$  he will <jump> = she does <jump>

This section started from the fact ellipsis is usually bad without an antecedent. Even though a contextual scenario might make the intended meaning clearly recoverable, a lone ellipsis fails for lacking a linguistic antecedent with which to establish identity. The fact that double ellipsis can be good in such circumstances follows on the proposal that recoverability and identity are dissociable. While the meaning of the ellipses can be recovered from the scenario, each ellipsis provides linguistic material for the other to satisfy identity.<sup>14</sup>

## 7. Conclusion

This paper argued that recoverability and identity are dissociable facets of ellipsis. We proceeded through several case studies in double ellipsis of the shape schematised at the outset in (4) vs. (5) – minimally updated here to reflect the previous section's point that recoverability need not be to spoken material. A lone ellipsis that fails identity can become possible with respect to the same recoverable, perhaps non-linguistic material, when bridged by an intermediate ellipsis with which it establishes identity:

- |  |  |
|--|--|
| <p>(37)</p> <p style="text-align: center;">Recoverable material</p> <p style="text-align: center;"><math>\uparrow</math>, *=</p> <p style="text-align: center;">bad &lt;ellipsis&gt;</p> | <p>(38)</p> <p style="text-align: center;">Recoverable material</p> <p style="text-align: center;"><math>\uparrow</math></p> <p style="text-align: center;">intermediate &lt;ellipsis&gt;</p> <p style="text-align: center;">=</p> <p style="text-align: center;">previously bad &lt;ellipsis&gt; becomes good</p> |
|--|--|

For clausal ellipsis, dissociating recoverability from identity allowed structural identity conditions on ellipsis to be maintained in the face of apparent argument structure mismatches, within the limits of structural identity and lexical recoverability. And for verb phrase ellipsis, separating the two resolved Dahl's puzzling mixed reading and enabled headway on understanding elliptical answers to adjunct questions and 'missing' antecedents.

More broadly, the dissociation of recoverability from identity supports the conclusion that there is syntactic structure inside ellipsis sites. On the opposing view (e.g. Dalrymple et al. 1991, Hardt 1993, Ginzburg & Sag 2000), it might be possible to enforce structural identity as a component of recoverability as long as the two are intertwined; a pro-form embedded in passive structure, for example, might be required to source its meaning from a passive antecedent. But if identity can be satisfied with respect to ellipsis sites in double ellipsis, then there must be structure inside them to evaluate for identity.

## References

- Abels, Klaus. 2018. Movement and islands. In *The Oxford handbook of ellipsis*. Oxford University Press.
- Anand, Pranav, Daniel Hardt & James McCloskey. 2021. The Santa Cruz sluicing data set. *Language* 97(1). e68–e88.
- Barros, Matthew, Patrick Elliot & Gary Thoms. 2014. There is no island repair. Ms., Rutgers, UCL, University of Edinburgh.

<sup>14</sup> On this view, such ellipses are 'exophoric' (Miller & Pullum 2013) – that is, pointing outside the linguistic discourse to the world – only with respect to recoverability. Identity is resolved internally to the sentence, since double ellipsis provides matching, if non-overt, linguistic material to establish identity between the two ellipses.

- Chung, Sandra. 2006. Sluicing and the lexicon: the point of no return. In Rebecca Corver & Yuni Kim (eds.), *Proceedings of the Berkeley Linguistics Society 31*, 73–91.
- Citko, Barbara & Martina Gračanin-Yukseš. 2020. Conjunction saves multiple sluicing: how \*(and) why? *Glossa* 5. 92.
- Craenenbroeck, Jeroen van & Jason Merchant. 2013. Ellipsis phenomena. In Marcel den Dikken (ed.), *The Cambridge handbook of generative syntax*, 701–745. Cambridge: Cambridge University Press.
- Dahl, Östen. 1973. On so-called ‘sloppy identity’. *Synthese* 26. 81–112.
- Dalrymple, Mary, Stuart Shieber & Fernando Pereira. 1991. Ellipsis and higher-order unification. *Linguistics and Philosophy* 14(4). 399–452.
- Fiengo, Robert & Howard Lasnik. 1972. On nonrecoverable deletion in syntax. *Linguistic Inquiry* 3. 528.
- Fiengo, Robert & Robert May. 1994. *Indices and identity*. Cambridge, MA: MIT Press.
- Ginzburg, Jonathan & Ivan Sag. 2000. *Interrogative investigations*. Stanford, CA: CSLI.
- Hankamer, Jorge. 1971. *Constraints on deletion in syntax*. New Haven, CT: Yale University dissertation.
- Hankamer, Jorge. 1978. On the nontransformational derivation of some null VP anaphors. *Linguistic Inquiry* 9. 66–74.
- Hankamer, Jorge & Ivan A Sag. 1976. Deep and surface anaphora. *Linguistic Inquiry* 7. 391–426.
- Hardt, Daniel. 1993. *Verb phrase ellipsis: form, meaning, and processing*. Philadelphia, PA: University of Pennsylvania dissertation.
- Hardt, Daniel. 2021. Ellipsis and identity. In Daniel Gutzmann, Lisa Matthewson, Cécile Meier, Hotze Rullmann & Thomas Ede Zimmermann (eds.), *The Wiley Blackwell companion to semantics, first edition*, 1–15. Hoboken, NJ: John Wiley & Sons.
- Hartman, Jeremy. 2009. When eGIVENness overpredicts identity. Paper presented at Brussels Conference in Generative Linguistics 4, Brussels.
- Jacobson, Pauline. 2003. Binding without pronouns (and pronouns without binding). In G.-J. M. Kruijff & R. T. Oehrle (eds.), *Resource-sensitivity, binding and anaphora*, 57–96. Dordrecht: Kluwer.
- Jacobson, Pauline. 2008. Direct compositionality and variable-free semantics: the case of antecedent contained deletion. In Kyle Johnson (ed.), *Topics in ellipsis*, 30–68. Cambridge: Cambridge University Press.
- Jacobson, Pauline. 2009. Do representations matter or do meanings matter: the case of antecedent containment. In E. Hinrichs & J. Nerbonne (eds.), *Theory and evidence in semantics*, 81–107. Stanford, CA: CSLI Publications.
- Jacobson, Pauline. 2022. No I’m not on mute: I actually didn’t say anything. You’re on Mute Workshop, 6 May.
- Kuno, Susumu. 1975. Conditions for verb phrase deletion. *Foundations of Language* 13. 161–175.
- Levin, Nancy Sue. 1979. *Main-verb ellipsis in spoken English*. Columbus, OH: The Ohio State University dissertation.
- Merchant, Jason. 2013. Voice and ellipsis. *Linguistic Inquiry* 44(1). 77–108.
- Miller, Philip & Geoffrey K. Pullum. 2013. Exophoric VP ellipsis. In Philip Hofmeister & Elisabeth Norcliffe (eds.), *The core and the periphery: data-driven perspectives on syntax inspired by Ivan A. Sag*. CSLI.
- Nakamura, Taichi. 2013. Semantic identity and deletion. *English Linguistics* 30(2). 643–658.
- Poppels, Till. 2022. Explaining ellipsis without identity. *The Linguistic Review* 39(3). 341–400.
- Pullum, Geoffrey. 2000. Hankamer was! In Sandra Chung, James McCloskey & Nathan Sanders (eds.), *Jorge Hankamer WebFest*, <https://babel.ucsc.edu/jorgewebfest/pullum.html>.
- Rooth, Mats. 1992a. A theory of focus interpretation. *Natural Language Semantics* 1. 75–116.
- Rooth, Mats. 1992b. Ellipsis redundancy and reduction redundancy. In Berman & Hestvik (eds.), *The Stuttgart Ellipsis Workshop*, SFB 340.
- Sag, Ivan. 1976. *Deletion and logical form*. Cambridge, MA: MIT dissertation.
- Schachter, Paul. 1977. Does she or doesn’t she? *Linguistic Inquiry* 8. 763–767.
- Schiebe, Traugott. 1973. Zum problem der grammatisch relevanten identität. In F. Kiefer & N. Ruwet (eds.), *Generative grammar in Europe*, 482–527. Dordrecht: D. Reidel Publishing Company.
- Stockwell, Richard. 2020. *Contrast and verb phrase ellipsis: triviality, symmetry, and competition*. Los Angeles, CA: University of California dissertation.
- Stockwell, Richard. 2022. Contrast and verb phrase ellipsis: the case of tautologous conditionals. *Natural Language Semantics* 30. 77–100.
- Warner, Anthony R. 1985. *The structure of English auxiliaries: a phrase structure grammar*. Bloomington, Ind: Indiana University Linguistics Club.
- Webber, Bonnie L. 1978. *A formal approach to discourse anaphora*. Published 1979 by Garland Publishing, New York. Cambridge, MA: Harvard University dissertation.
- Williams, Edwin. 1977. Discourse and logical form. *Linguistic Inquiry* 8. 101–139.