

The Mechanics of Mismatched Ellipsis

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1 INTRODUCTION

Ellipsis refers to the linguistic phenomena in which there can be meaning without corresponding form; elided parts of a sentence are understood semantically, despite not being pronounced phonologically, as in the example below. Labelled brackets denote the antecedent clause (A), the ellipsis clause (E), and the ellipsis site (ϵ).

- (1) [_A Emma studies at Cambridge and] [_E Susan does [_{ϵ} ~~study at Cambridge~~]
too].

Ellipsis requires the presence of an antecedent which gives meaning to the ellipsis site, based on similarity; various theories' approaches to this similarity are discussed in [section 2](#). Despite this similarity, the two can also differ in meaning, creating mismatches, abundant in both language corpora and linguistic literature. Mismatches between A and E can be categorised as internal or external to ϵ , as discussed in [section 3](#).

Traditional ellipsis theories are predicated on similarity, viewing mismatches as aberrations requiring explanation. However, some frameworks do not prioritise similarity, instead considering mismatches fundamental to the ellipsis mechanism. Such approaches are discussed in [section 4](#), which refocuses the general idea of mismatches as easily permissible, or even necessary, rather than anomalous. Overall semantic contrasts between A and E are ubiquitous, and hence theories that not only account for them, but utilise them, may be more empirically valid than those that don't. This work critically analyses mismatches in traditional ellipsis theories, and explains why a theory that emphasises difference as much as similarity is preferable to the traditional notions of identity and sameness.

2 IDENTITY AND MECHANISMS

Literature uses several terms for the relationship of similarity between A and E, namely 'recoverability', 'identity', and 'parallelism'. Though often assumed to be interchangeable, these concepts require distinction to avoid confusion.¹ 'Recoverability' refers to the broad ability to retrieve meaning from ϵ , without assuming a specific mechanism. Without recoverability, elided constituents are meaningless,

¹ These definitions broadly encompass those in the literature, but do not claim to be universally acknowledged.

as succinctly exemplified by [Fiengo & Lasnik \(1972\)](#). ‘Identity’ refers to syntactic equivalence in the underlying structures of A and E. ‘Parallelism’ is a semantic term, referring to overall sameness in meaning between A and E. Hence, both identity and parallelism can be considered the underlying cause of recoverability, depending on whether the proposed relationship is syntactic or semantic (respectively). Recoverability is fundamental when discussing ellipsis mismatches, as it relates to the relationship between A and E, hence how they can or should differ.

An overview of approaches and how they differ is provided in [Figure 1](#), adapted from [Banerjee \(2020\)](#).

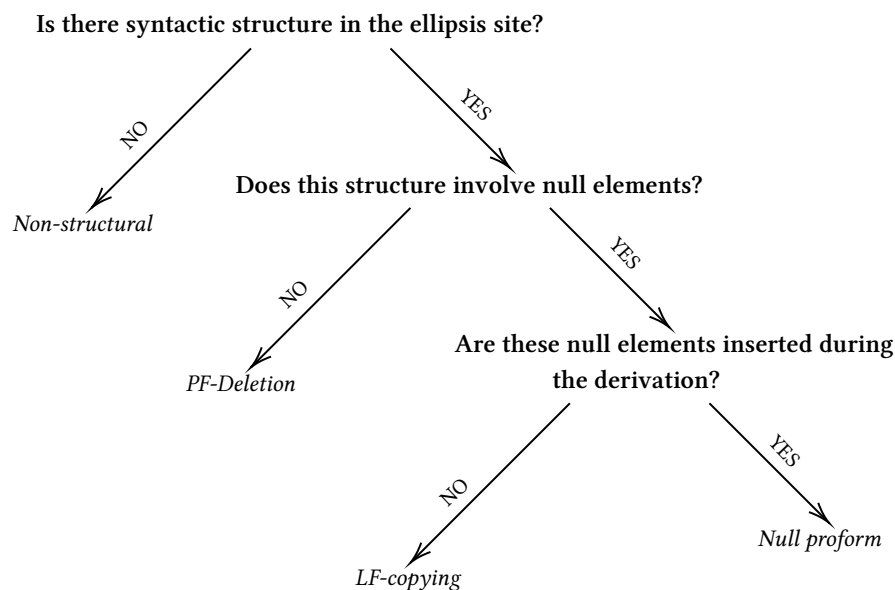


Figure 1 Approaches to ellipsis.

Under a PF-deletion account, there is identity between A and E. Ellipsis constructions are exactly the same as their fully pronounced counterparts, with only phonology deviating from syntax. The mechanism for ellipsis proposed by [Merchant \(2001\)](#) and supported by most ellipsis research within generative syntax since is straightforward. There is a syntactic formal feature [E] in an Agree relation with the head licensing ellipsis. Merging of this feature causes ellipsis to occur; no structure in ϵ is realised at PF, despite its presence at LF.

In contrast, non-structural approaches, predictably, posit a non-structural relationship between A and E, similarly to ‘deep’ anaphora ([Hankamer & Sag 1976](#)), and recoverability via semantic inferencing. These suggest a ‘what-you-see-is-what-you-get’ (WYSIWYG) approach to syntax; there is no more structure than is overtly realised. There are also mixed approaches, allowing for some syntactic effects (such as binding or licensing) but a largely semantic mechanism for recoverability, such as those that propose ϵ is a null proform, or LF-copying. For example, [Lobeck \(1995\)](#) argues that ϵ is an empty, non-referential, pronominal that must be syntactically licensed (in accordance with the Empty Category Principle) but whose meaning is

recovered by a semantic mechanism. A comparison of these approaches' proposed underlying structures is given below, using (1).

- (2) Emma studies at Cambridge and . . .
- a. Susan does [_{VP} ~~study at Cambridge~~] too. *PF-deletion*
 - b. Susan does too. *Non-structural*
 - c. Susan does [_{VP} \emptyset] too. *Null-proform*

The tension between approaches reflects the variation in evidence regarding ellipsis. In some ways, ε is dependent on syntax, in terms of both licensing and recoverability. Regarding mismatches, this applies to ε -external mismatches, discussed in [section 3.1](#), where there is structural identity between ε and its antecedent in A. Mismatches concerning items within ε are more complicated. Most scholars accept that some kind of semantic inferencing is necessary for these cases, but more strictly syntactic operations have also been proposed, alleviating the need for semantic inferencing. Generally, parallelism between A and E holds, and it is this semantic similarity that allows recoverability for these mismatches.

3 MISMATCHES

3.1 External mismatches

Some mismatches can be explained in terms of functional heads surviving ellipsis, based on underlying structure and abstracting away from morphological forms. Mismatches of this kind include negation, tense, and voice; examples are given below (assuming PF-deletion).

- (3) a. 'Anna can play the violin but Lauren can't ~~play the violin~~.' *Negation*
- b. 'Suzie went to private school so her sister will ~~go to private school~~.' *Tense*
- c. 'Enya washes her hair whenever it should be ~~washed~~.' *Voice*

In (3a), E is negated, whereas A is not. Similarly, in (3b) A and E differ in tense (past and future, respectively). This is permissible because tense is realised on a separate head to the verb itself (T) and lowers to inflect in A, whereas in E it is realised as the future tense marker 'will'. In (3c), there is a voice mismatch as A is active (*washes*) and E is passive (*be washed*). This can be explained by positing an underlying Voice projection outside the elided VP ([Merchant 2013](#)), but this projection is not realised in the surface string, unlike negation or tense. Possible underlying structures for these examples are given in the following figures.

In these examples the embedded VP² is ε , denoted by angle brackets, which crucially does not include Neg/T/Voice. ε has a formally identical antecedent in A, despite morphological or semantic differences, since the 'mismatch' is a result of

² Collapsing the v/V distinction as the internal structure of the thematic domain is irrelevant here.

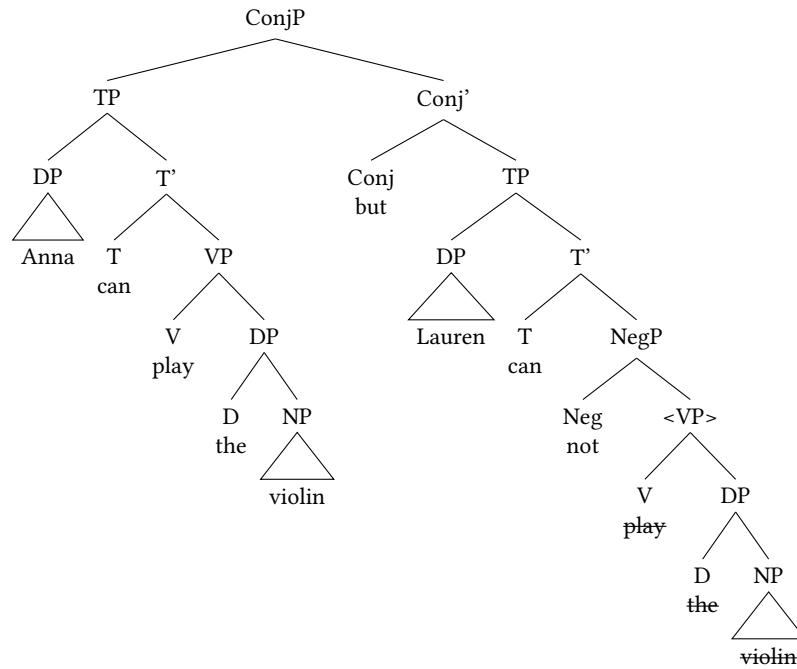


Figure 2 Structure of (3a)

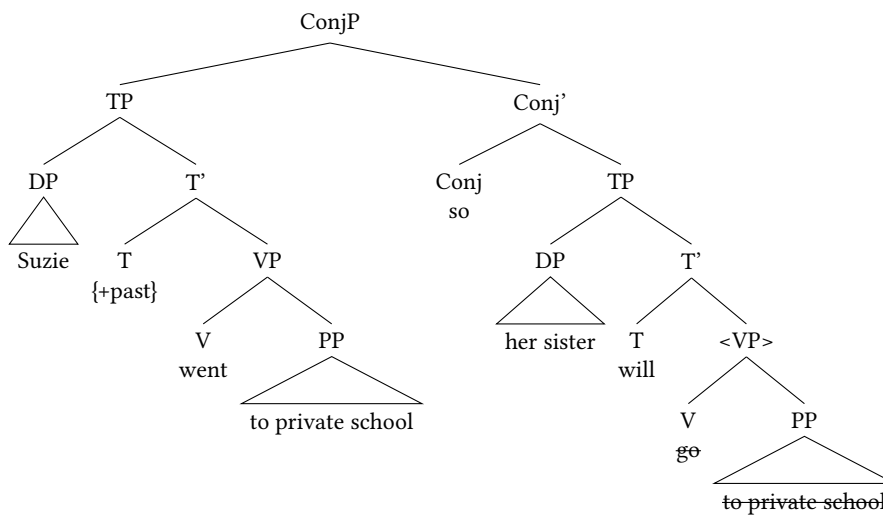


Figure 3 Structure of (3b)

the relevant functional heads surviving ellipsis. These are examples of ‘low’ ellipsis (Merchant 2013), targeting only the thematic V domain and nothing higher, as is true of VP ellipsis in general (Aelbrecht & Harwood 2015, Johnson 2001, 2014, Merchant 2001, Sailor 2014). Since T, Neg, and Voice heads are structurally higher than the ellipsis target, they escape ellipsis, allowing an apparently mismatched realisation.

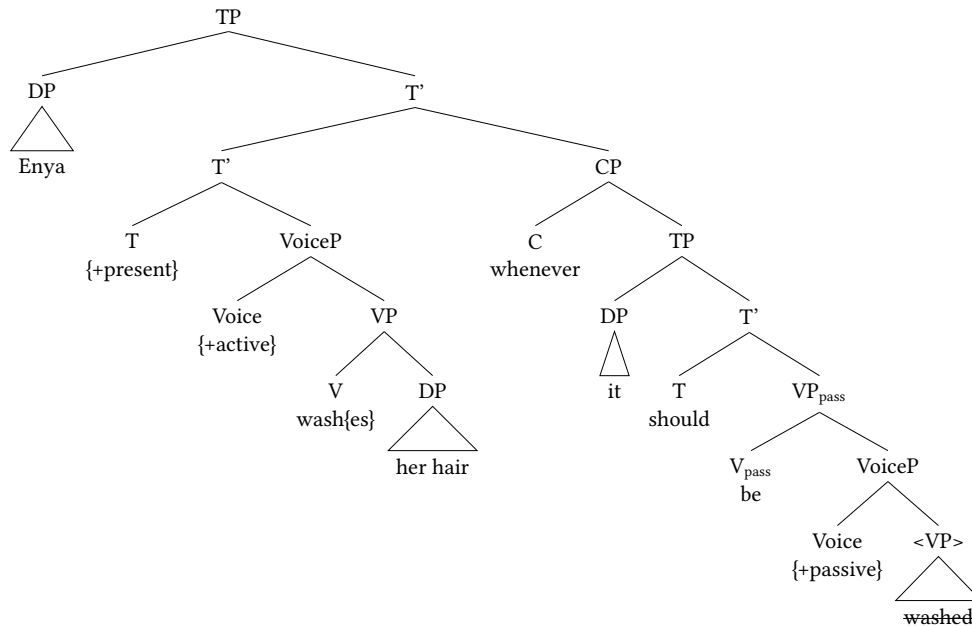


Figure 4 Structure of (3c)

Merchant (2001, 2013) provides a convincing argument for positioning Voice above VP, allowing the Voice feature to be separate from the head it is morphologically realised on. Voice mismatches are allowed in ‘low ellipsis’ but ungrammatical in ‘high ellipsis’ (targeting higher projections, such as TP or CP), as shown by the sluicing (TP-deletion) examples in (4). This suggests a syntactic relationship between A and E, since implicit structure (the Voice projection) affects grammaticality.

- (4) a. *Joe was murdered, but we don’t know who.
 b. *Someone murdered Joe, but we don’t know who by. (Merchant 2013: 81)

This is slightly different to the mechanisms for tense and negation mismatches, as they must be realised at PF. Tense mismatches that lack a modal or aspectual auxiliary in T default to inserting dummy *do* as a host for morphemes/features in T. The verb itself cannot be the host as it remains in V, shown in (5).

- (5) Ed doesn’t like cats and dogs, but Chris does/*likes. (Aelbrecht 2009: 180)

Negation mismatches also require a host for negation morphemes (similarly defaulting to dummy *do*), or else are ungrammatical.

- (6) a. Sophie likes caviar but Georgia *(doesn’t).
 b. *Sophie likes caviar but Georgia not.

Like voice, negation and tense features cannot survive high ellipsis. Under sluicing, negation can only apply to the higher clause (E), and not ϵ . This is shown in (7), where negation obligatorily modifies *know* and not the lower *likes*.

- (7) Sophie likes some types of fish, but I don't know which ~~types of fish~~ Sophie ~~likes~~/~~*doesn't like~~.

These apparent mismatches are also permissible in approaches which do not have ϵ -internal structure. The elided VP could be an empty category (as in [Lobeck 1995](#)), which is still structurally lower than the Voice/Neg/Tense heads. These heads can therefore still overtly modify VP, creating the apparently mismatched realisation.

In non-structural approaches, since there is no structural relationship proposed, structural mismatches are irrelevant. These examples have perfect parallelism between ϵ and its antecedent, with differences in meaning likewise caused by overt heads. This does not, however, account for the voice mismatches, as under a WYSIWYG account, there should be no Voice projection in the embedded clause since it is not in the surface string, and hence it shouldn't affect grammaticality. The allowance of Voice mismatches therefore supports a syntactic approach to ellipsis.

3.2 Internal mismatches

Ellipsis mismatches also apply to elements *inside* ϵ . These mismatches are retained in the non-elided versions; the mismatch itself is independent of ellipsis. Hence, under PF-deletion, where the underlying structure (fed to LF) is the same in elliptical and non-elliptical constructions, these mismatches are not an issue. However, the question then arises as to how the fully articulated structure can be recovered, given the lack of identity, an issue which strongly suggests a recoverability mechanism that is not exclusively syntactic, but allows semantic inferencing. Without any semantics, the syntactic mechanism becomes very convoluted in attempting to account for these differences, creating complications which are intuitively undesirable.

General negation mismatches are easily explained by the account in [section 3.2](#), but negation's binding of existentials requires a change in vocabulary (i.e. some-any inversion).

- (8) a. Joey saw someone but Rachel didn't see ~~anyone~~/~~*someone~~.
 b. Phoebe didn't like any of the dresses but Ross did ~~like some~~/~~*any of the dresses~~.

Similarly, polarity switching can be found in specific sluicing examples, where disjunction contexts require a change to polarity.

- (9) Either the Board_i grants the license by December 15 or it_i explains why it_i ~~didn't~~/~~*did *t*~~. ([Stockwell 2020](#): 218)

Another kind of mismatch involves the ambiguous nature of ellipsis constructions that allow both strict and sloppy readings.

- (10) John_i loves his_i mother and Bill_j does ~~love his_{i/j} mother~~ too.

In the strict reading, Bill loves John's mother; in the sloppy, he loves his own. Although one reading may be the default interpretation, both are available. This ambiguity arises from whether the second *his* has a bound variable or a referential interpretation (Fiengo & May 1994). As a bound variable, it is bound according to Binding Theory (Principle A) to the subject in its binding domain, and hence refers to Bill (sloppy identity). Under the referential reading, both iterations of *his mother* have the same real-world referent, namely John's mother (strict identity). In each case, there is parallelism between the logical forms of the VPs in A and E, as shown by the semantic representations below.

- (11) a. John_i [_{VP} λ x. x loves his_i mother] and *Referential*
 Bill_j does [_{VP} λ x. x loves his_i mother] too.
 b. John_i [_{VP} λ x. x loves x's mother] and *Bound variable*
 Bill_j does [_{VP} λ x. x loves x's mother] too.

Nominals inside of ϵ can also be mismatched compared to their antecedents in order to adhere to the principles of Binding Theory, a phenomenon termed Vehicle Change by Fiengo & May (1994). In the examples below, principles of Binding Theory (C and A, respectively) would be violated, hence the pronominal must be altered (regarding a strict reading of 12b; a sloppy reading, using *him*, is also available).

- (12) a. Mary_h loves John_i and he_i thinks Susan_j does ~~love him_i / *John_i~~ too.
 b. John_i loves himself_i as much as Mary_j does ~~love herself_i / *himself_{i/j}~~.

Another kind of ϵ internal mismatch involves transitivity. Symmetrical predicates, such as *meet*, have intransitive forms that entail transitive forms, and vice versa. This pattern is shown in (13); all three sentences entail each other and are equivalent, despite differing in transitivity, allowing for the mismatch in (13c).

- (13) a. John and Mary met \leftrightarrow John met Mary \wedge Mary met John
 b. meet(j+m) = meet(j,m) = meet(m,j)
 c. John₁ and Mary₂ met because she₂ wanted to ~~meet him₁~~
(Stockwell 2020: 108)

Further examples of ϵ -internal mismatches, from Webber's seminal work on this issue, are given below. (14a) shows similar transitivity switching to (13), but this is due to the collective adverb *together* rather than the verb itself being inherently symmetrical. (14b) is ambiguous; ϵ can refer to either participant and hence to either destination.

- (14) a. Irv and Mary want to dance together, but Mary can't ~~dance with Irv~~/^{*}dance together, since her husband is here.
 b. Mary₁ wants to go to Spain and Fred₂ wants to go to Peru, but...only one of them₁₊₂ can go ~~to where s/he_{1/2} wants to go~~. (Webber 1978: 128)

There can even be categorial mismatches between ϵ and A, shown by (15), from *You'll Never Eat Lunch in This Town Again* by Julia Philips (page 90).

- (15) David Begelman is [_{DP} a great laugher], and when he does [_{VP} laugh], his eyes crinkle. . . (Hardt 1993: 34)

Here, the meaning of ϵ is recovered through a *nominal* antecedent (Determiner Phrase). This seems like clear counter evidence to identity between A and E, as they fundamentally differ in syntactic category, despite semantic similarity.

Explanations for these internal mismatches often rely on meaning beyond structure; the relationship between A and E cannot just be one of strict syntactic identity, since there is no such relationship. Instead, recoverability is based on semantic parallelism, which emphasises similarity in meaning, despite difference in form and structure. The nature of these semantic mechanisms are debated, but suggestions include abstract logical representations of 'inference schema' (Webber 1978), the notion of 'repair' allowing inferencing (Hardt 2004), or the necessity of belonging to the same focus group as the antecedent (Stockwell 2020).

Not all scholars agree that these examples necessitate a semantic mechanism; it can be argued that there is still syntactic identity between A and E. Larson (1998) proposes that nominals contain event arguments, which can hold syntactic identity to other event arguments (i.e. VP). Similarly, following Fu, Roeper & Borer (2001), the phrase *laugher* can be considered a 'deverbal noun'; they argue that such 'process nominals' fundamentally contain syntactic VPs, allowing underlying syntactic identity. This does not, however, account for the fact that the VP in the AC is contained within a DP, whereas the VP in ϵ is not; in explaining one syntactic mismatch, another is created. Similarly, for polarity switching (9), it can be argued that *some* and *any* are underlyingly the same quantifier, and the specific lexical form is generated by the presence or absence of negation (Klima 1964). By abstracting away from surface forms to deeper, underlying mechanisms, syntactic identity may hold, but this approach requires independent constraints on how far such abstraction can go, such as which nominals contains event arguments/VPs. Although theoretically possible, explaining these mismatches syntactically is arguably far more complex and hence less appealing than allowing broader semantic inferencing.

4 CONTRAST

4.1 Simpler syntax

The theories discussed thus far approach ellipsis from the viewpoint of similarity (identity/parallelism/recoverability), and propose mechanisms to allow for non-

identity, such as semantic inferencing or non-elided functional heads. Alternatively, ellipsis can be approached from the principle of contrast. In this sense, mismatches are not an undesirable complication in need of explanation, but rather an expected outcome based on the ellipsis mechanisms themselves.

The non-structural approach to ellipsis in *Simpler Syntax* emphasises equally the notions of parallelism and contrast (Culicover & Jackendoff 2005). This approach is semantic, assuming a null-proform theory (similarly to Lobeck 1995). Their explanation is based on the fundamental domain-general cognitive relation SAME-EXCEPT, by which humans spontaneously evaluate similar objects in terms of being the same, except for contrastive features. First proposed by James (1890), this mechanism is well attested in general psychology. Culicover and Jackendoff argue that this relation holds for many linguistic phenomena, including contrastive stress, anaphors, and ellipsis. For VPE, this mechanism means that the pro-VP (i.e. ϵ) is the same as its antecedent, except for optional contrastive elements (e.g. different subjects) present in the surface string. Culicover and Jackendoff use tableaux to show the semantics of such constructions:

- (16) Joe didn't sneeze, but Bill did [_{VP} \emptyset]

	E1 (A)	E2 (E)
SAME	NEG JOE SNEEZE	SITUATION ₁
EXCEPT	JOE	BILL
EXCEPT	NEG	POS

(Culicover & Jackendoff 2019: 173)³

The process of understanding E is taking A and changing the contrastive elements:

- (17) E2 \approx NEG JOE SNEEZE (- JOE + BILL) (- NEG + POS)
 = POS BILL SNEEZE

Since this is a semantic mechanism, it also allows for internal mismatches as long as these mismatches retain the same meaning. The examples discussed in section 3 have syntactic mismatches, but generally have parallel semantics (with mismatches either overtly present, such as negation, or easily inferrable, such as Vehicle Change), which is the basis of this approach. Whilst *Simpler Syntax* accounts for contrast between A and E, it does not require it.

4.2 The Contrast Condition

In comparison, Stockwell (2020), building on Griffiths (2019), proposes a *necessary* contrast condition on ellipsis. Specifically, for VPE, ' ϵ must be contained in a phrase

³ Their use of E1 and E2 is equivalent to A and E.

E that differs in meaning from an antecedent A.’ Stockwell (2020: 2), based on applying Rooth’s theory of focus interpretation Rooth (1992b) to ellipsis. Previous approaches in this vein (Griffiths 2019, Heim 1997, Rooth 1992a, Takahashi & Fox 2005) have emphasised the focus membership condition (see 18a below) but dismissed the contrast condition. Focus groups comprise all possible alternatives for a given focused value. For example, in *John likes cake*, where *John* is focused, the focus group would be all ‘x likes cake’ for any x (including John). The specific conditions on ellipsis that Stockwell proposes are given below, where $F(E)$ denotes the focus group of E.

- (18) For ϵ to be elided, ϵ must be inside a phrase E that has an antecedent A such that either:
- a. $\llbracket A \rrbracket \in F(E)$ and $\llbracket A \rrbracket \neq \llbracket E \rrbracket$; or
 - b. $\llbracket A \rrbracket \subseteq F(E)$

Either the antecedent is in the same focus group as the ellipsis clause, but a separate member, or it denotes a subset of this focus group. The first condition is more relevant to Stockwell’s thesis, as if A denotes a set (which itself is a subset of the focus group of E) then A and E can be the same. An example of such a construction is given in (19), where *what she plays* contains the set of *plays something*, but both clauses can refer to the same thing (e.g. *football*). Hence, the crucial factor concerning the necessity of a contrast condition on ellipsis is whether the antecedent denotes a set.

- (19) Sandy plays something, but I don’t know what ~~she plays~~.
(Stockwell 2020: 190)

Stockwell’s argument is based on the observation that certain elliptical constructions with perfect identity between A and E are ungrammatical, such as tautologous conditionals and tautologous free relatives, demonstrated below.

- (20) a. If John is wrong, then he is *(wrong).
b. John eats what he does *(eat).

Both these sentences satisfy the first conjunct of (18a) ($A \in F(E)$) but not the second ($A \neq E$). The concept of contrast evoked by Stockwell refers to the phrasal level, E rather than ϵ . At this higher level, every prior example in this paper satisfies the contrast requirement; where there is perfect identity between A and E, there is still contrast in terms of a factor such as subject, negation, etc., as the reader may verify.

Though compelling, Stockwell’s argument can be criticised. He describes multiple factors that count for focus membership and contrast (including negation, intensionality, and temporal adverbs), he does not offer an extensional list nor an intensional definition for why these factors, and not others (such as tense) count. Such an explanation may well be beyond the scope of his work, but the vagueness regarding factors that affect contrast/focus membership for ellipsis is a flaw nonetheless.

His argument is also based on grammaticality judgements that lack empirical evidence. For example, in applying the concept of contrast to noun phrase ellipsis, he provides the following judgements (page 205) to show a contrast condition on NPE:

- (21) John bought five books and Mary bought
a. three.
b. *five.

As a native English speaker, I judge (21b) to be grammatical, and the difference between the two examples to be one of acceptability, not grammaticality, something Stockwell has more recently acquiesced to (p.c.). Empirical research on the grammaticality and acceptability of these constructions, obtained from native English speakers' intuitive judgements, is necessary to determine whether the contrast condition truly applies to all forms of ellipsis.

The above examples are also contrasted to the grammatical version below:

- (22) John bought five books and Mary bought five, too.

Stockwell's explanation for the difference between (21b) and (22) is that the addition of *too* moves the boundary of the ellipsis phrase, and hence its focus. He argues that in (21b), E is *five books*, which is identical to A, whereas in (22) E is *Mary bought five books*, allowing for subject contrast at the clause level, since Mary and John are different members of the same focus group, and the focus is on *Mary* (rather than *five*). However, there is no explanation offered as to why *too* has this effect on the boundary of E, and Stockwell maintains that the domain is generally unconstrained (Stockwell, p.c.). A similar issue arises with the example in (20b), which becomes grammatical with the addition of a *because*-clause.

- (23) John eats what he does because he's vegetarian.

Stockwell's explanation is that *because* modifies intensionality, based on the arguments put forward by Kratzer (1998). However, for this to count for contrast, A and E must differ in intensionality, meaning *because* should only modify one or the other. Intuitively, *because* in (23) modifies the entire sentence, including both A and E, meaning they don't differ in intensionality; neither Kratzer nor Stockwell explicitly address why this may not be the case. It can also be argued that (20b) is grammatical, particularly given specific intonation or discourse context. For example, in response to the question *Does anyone ever question John's weird food choices?*, I would judge (20b) to be an acceptable response dismissing the topic, but this may be due to some other contrastive elements. A similar effect can also be achieved by substituting *whatever* for *what*, which raises the issue of what the difference is between these two words. Despite obvious semantic similarity, the effect of substitution on grammaticality suggests that *whatever* may contribute towards contrast. Syntax also varies, with proposals suggesting that the *-ever* suffix is a D head

outside of the CP to which *what* incorporates (Kayne 1994: 125). The syntax and semantics of the *-ever* suffix is itself a contentious and complex issue well beyond the scope of this paper.

5 CONCLUSIONS

It is well established that the recoverability condition on ellipsis imposes necessary similarity between antecedents and elided constituents, although the nature of this similarity is contentious between syntactic and semantic approaches. This superficially suggests that differences between A and E are anomalous, but the wide variety of possible mismatches ubiquitous in language may indicate that approaches which discount contrast as anomalous are empirically unmotivated. This is true of mismatches regarding overall clausal meaning, as well as those that specifically apply to elements internal to the ellipsis site.

The explanations of how and why mismatches are allowed are varied. Syntactic approaches, most notably Merchant (2001), can easily explain some mismatches (such as those predicated on functional heads surviving ellipsis) but become complicated very quickly when trying to account for the variety of ϵ -internal mismatches. The lack of clear identity between A and E in these cases supports the existence of a semantic mechanism that allows the meaning of ϵ to be inferred, independently of the structure of E. However, specific constructions may retain syntactic identity despite these differences, particularly concerning event arguments within nominals and some/any inversion.

Mismatches, as general differences in meaning between an antecedent and an ellipsis construction, should not be considered anomalies undermining traditional theories of identity or parallelism, but rather a fundamental part of the ellipsis mechanism itself. This viewpoint, in line with Culicover & Jackendoff (2019) and Stockwell (2020), can more meaningfully contribute to theories which explain the full variety of ellipsis constructions. Future research regarding to what extent contrast is necessary, and how it should be defined (particularly in light of the criticisms to Stockwell's work) is required to refine working theories of ellipsis.

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