Invisible Last Resort
A note on clefts as the underlying source for sluicing

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A B S T R A C T

Merchant (2001:120–127) presents 10 arguments against an analysis of sluicing that posits an elided cleft in the ellipsis site. This seems at odds with the growing body of literature that argues sluicing can resort to underlying clefts in order to circumvent otherwise illicit instances of preposition stranding. In this short paper I reexamine Merchant's arguments and show (a) that some of them are orthogonal to the issue at hand, and (b) that the remaining ones are compatible with the Last Resort scenario adopted by the sluicing-as-cleft literature. As such, the discussion sheds new light on the precise form of the unpronounced syntactic structure found in sluicing.

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1. Introduction: the hidden syntax of sluicing

Consider a basic sluicing example in (1).

(1)   John saw someone, but I don't know who.

Assuming that the resolution of ellipsis requires the postulation of unpronounced syntactic structure inside the ellipsis site (*pace* Culicover and Jackendoff, 2005; see Merchant, 2001 and van Craenenbroeck, 2010 for argumentation), two possible analyses for (1) readily come to mind. Either this example is the elliptical version of a full-fledged wh-question as in (2), or of a short cleft as in (3).[1,2]

(2)   John saw someone, but I don't know who <John saw>.
(3)   John saw someone, but I don't know who <it was>.

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[1] For expository purposes I refer to examples such as (3) as 'short clefts' or simply 'clefts' throughout this paper. This use of terminology is not intended to reflect a particular analysis. For example, it might well be that such examples are more adequately characterized as copular clauses (see Mikkelsen, 2004:173–192 and Vicente, 2008).

[2] The type of analysis illustrated in (3) is sometimes inaccurately referred to as 'pseudosluicing'. See Merchant, 1998, 2001:115–120 and van Craenenbroeck, 2010:79–81 for discussion.

Although both approaches have been proposed in the ellipsis literature—see, e.g. Ross (1969), Merchant (2001) for the analysis in (2) and Erteshik-Shir (1977), Pollman (1975) for the approach in (3)—it is the former that has become mainstream. This arguably has to do with the fact that Merchant (2001:120–127) presents no less than 10 arguments against a cleft analysis of sluicing. At the same time, though, there is a growing body of literature arguing that sluicing *does* make use of an underlying cleft when it needs to circumvent an otherwise fatal preposition stranding violation (see Rodrigues et al., 2009; Szczegelniak, 2005, 2008; Vicente, 2008). In this short paper I attempt to resolve the tension between these two approaches by reexamining Merchant's arguments and by showing (a) that some of them are orthogonal to the issue at hand, and (b) that the remaining ones are all compatible with a scenario in which sluicing derives from clefts only as a Last Resort. As such, the discussion presented in this paper sheds new light on the precise characterization of the unpronounced syntactic structure found in sluicing.

This paper is organized as follows. In the next section I introduce Merchant's (2001:120–127) arguments against postulating clefts as the underlying source for sluicing. Section 3 introduces the approach that does posit elided clefts in sluicing contexts, thus setting up the central tension of the paper. In section 4 I then return to Merchant's arguments and show that on closer inspection some of them are irrelevant for the issue at hand, while all the others are compatible with a Last Resort scenario. Section 5 sums up and concludes.

2. Against the cleft analysis of sluicing: Merchant (2001)

2.1. Introduction

In the following subsections, I present Merchant's arguments against the analysis illustrated in (3). I will keep the discussion fairly brief, on the one hand because I assume at least some of the arguments will be familiar, on the other because the logic of the argumentation is the same in every case—except for one, which I discuss in section 2.10. Given that I will be re-using that same logic in section 4, though, it is worth making it explicit here. In all but one of the cases outlined below a particular phenomenon X is combined with sluicing on the one hand and clefts on the other. Whenever this yields divergent results—e.g. because X is well-formed in sluicing but ruled out in clefts or vice versa—Merchant concludes that sluicing cannot be derived from an underlying cleft, i.e. that (3) cannot be the correct representation of (1).

2.2. Adjuncts and implicit arguments

The example in (4)a shows that the wh-remnant in sluicing can be an adjunct, while the b-example illustrates that such a remnant need not necessarily have an overt correlate in the antecedent clause (a construction dubbed sprouting by Chung et al., 1995). If sluicing were derived from short clefts, one would expect to find the same judgments in non-elliptical short clefts, but as the examples in (5) illustrate, this expectation is not borne out.[3] As such, sluicing with adjuncts and implicit arguments constitutes a first argument against the cleft analysis of this construction.

(4)   a.   He fixed the car, but I don't know how.

        b.   They served the guests, but I don't know what.

(5)   a.   *He fixed the car, but I don't know how it was.

        b.   *They served the guests, but I don't know what it was.

2.3. Prosody

Sluiced wh-phrases are necessarily stressed. This is illustrated in (6), where the use of capital letters indicates stress.

(6)   Someone gave me a valentine, but I don't know WHO/*who.

Once again, clefts behave differently: it is not the wh-pivot, but rather the copula that receives extra stress:

(7)   Someone gave me a valentine, but

        a.   *I don't know WHO it was.

        b.   I don't know who it WAS.

Just like the adjunct and implicit argument facts, then, these data argue against a cleft source for sluicing.

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[3] As pointed out to me by Mark Baltin (personal communication), the examples in (5) are fine if a 'long' cleft is used, as in (i).

(i)   a.   He fixed the car, but I don't know how it was that he fixed the car.

        b.   They served the guests, but I don't know what it was that they served the guests.

I return to this observation in note 10 and stick with Merchant's data for the time being. See also note 4 for a related observation.

2.4. Aggressively non-D-linked wh-phases

So-called aggressively non-D-linked wh-phrases (Pesetsky, 1987) are disallowed in sluicing (cf. (8)a), but perfectly fine in clefts ((8)b). They constitute Merchant's third argument against the analysis sketched in (3).

(8)   Someone dented my car last night.
  a.   *I wish I knew who the hell!
  b.   I wish I knew who the hell it was!

2.5. 'Mention some'-modification

The argument in this and the following two subsections are closely related. They all hinge on the meaning difference between clefts with a wh-phrase as pivot on the one hand and regular wh-questions on the other. In particular, while a felicitous answer to the interrogative cleft in (9)b requires an exhaustive list of all the (contextually relevant or salient) people the addressee saw, the wh-question in (9)a imposes no such requirement. This means that clefts should be incompatible with modification signaling non-exhaustivity, but perfectly fine when combined with exhaustive modifiers. Non-exhaustive modification is discussed in this subsection and in section 2.7, while section 2.6 deals with exhaustive modifiers.

(9)   a.   Who did you see?
  b.   Who is it that you saw?

As predicted by the preceding discussion and illustrated in (10)Bb, an interrogative cleft cannot be combined with a modifier such as *for example*, since the latter explicitly indicates that the answer to the question need not be exhaustive. Contrary to the expectations of the cleft analysis of sluicing, however, such modification is perfectly fine in sluicing. These facts thus present a fourth argument against such an account.

(10)   A: You should talk to somebody in the legal department for help with that.
  B: a.   Who, for example?
    b.   *Who is it, for example?

2.6. 'Mention all'-modification

With respect to modifiers signaling exhaustivity, we find the opposite data pattern. As the examples in (11) show, such modification is "degraded in sluicing in some examples" (Merchant, 2001:122) but perfectly fine in clefts. Thus, they constitute a fifth case where sluicing diverges from clefts.

(11)   A bunch of students were protesting,
  a.   *and the FBI is trying to find out who all.
  b.   and the FBI is trying to find out who all it was.

2.7. else-modification

A special case of 'mention some'-modification are sluices in which the wh-phrase is modified by *else*. Just like *for example*, this modifier signals that the expected response is partial and hence non-exhaustive, but it differs from the cases discussed above in that the correlate of a sluiced wh-phrase modified by *else* is not an indefinite, but rather a focused XP. Apart from that difference, however, the judgments run completely parallel to those in section 2.5. That is, *else*-modification is disallowed in clefts but fine in sluicing. The relevant examples are given below. They represent Merchant's sixth argument against deriving sluicing from clefts.

(12)   Harry was there, but
  a.   I don't know who else.
  b.   *I don't know who else it was.

2.8. Swiping

As was first observed by Ross (1969), sluicing allows the unmarked order between a preposition and its wh-complement—i.e. the former precedes the latter—to be inverted. This phenomenon was dubbed swiping—an acronym which stands for **S**luiced **W**h-word **I**nversion with **P**repositions **I**n **N**orthern **G**ermanic—by Merchant (2002) and

it is illustrated in (13) (cf. Rosen, 1976; Merchant, 2002; Hartman, 2007 and van Craenenbroeck, 2010 for detailed discussion).

(13)   She bought a robe, but God knows who for.

If sluicing were derived from clefts, one might expect such inversion to occur there as well. As the example in (14) makes clear, however, this is a false prediction. Swiping thus constitutes Merchant's seventh argument.

(14)   *She bought a robe, but God knows who for it was.

2.9. Languages with limited or no cleft strategy

If sluicing is derived from clefts, then languages without clefts (in certain contexts) should disallow sluicing (in those contexts). This too is a false prediction. Romanian, for example, is a language that disallows clefts of the English type (Merchant, 2001:125), but nevertheless allows sluicing. German disallowes PP wh-phrases as pivots of clefts (cf. (15)), but displays no such restriction in sluicing (cf. (16)).[4]

(15)   *Mit wem war es, daβ er esprochen hat?
        with who was it that he spoken   has
        INTENDED: 'With whom was it that he spoke?' (German)

(16)   Er hat mit jemandem gesprochen – rate   mal mit wem!
        he has with someone   spoken   guess PRT with who
        'He spoke with someone – guess with whom!' (German)

2.10. Case matching

The data discussed in this section concern languages in which wh-phrases are morphologically marked for case. As was first observed by Ross (1969) and further developed by Merchant (2001), sluiced wh-phrases always bear the case that they would bear in the corresponding non-elliptical wh-question. This is illustrated in (17), where the wh-phrase obligatorily bears the accusative case assigned by the (elided) verb *anekrine* 'interrogated'.

(17)   I   astinomia anekrine   enan   apo tous Kiprious prota,
        the police   interrogated one.ACC from the Cypriots first
        ala dhen ksero {* pjos/   pjon} ~~anekrine   i   astinomia~~.
        but not   I.know who.NOM who.ACC interrogated the police
        'The police interrogated one of the Cypriots first, but I don't know who.' (Greek)

Clefts on the other hand show a different case pattern. The wh-pivot of a cleft is always marked nominative, regardless of the grammatical function of its correlate. This is illustrated in (18).

(18)   I   astinomia anekrine   enan   apo tous Kiprious prota,
        the police   interrogated one.ACC from the Cypriots first
        ala dhen ksero {pjos   /*pjon} itan.
        but not   I.know who.NOM who.ACC it.was
        'The police interrogated on of the Cypriots first, but I don't know who (it was).' (Greek)

The data in (17)–(18) thus constitute a ninth argument against the cleft analysis of sluicing: if sluicing were derived from an underlying cleft, a sluiced wh-phrase would invariably surface in the nominative case, contrary to fact. Note that the logic of the argumentation here differs from that of the other cases: it is not the case that a certain phenomenon X is well-formed in

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[4] Note that this is the only one of the 10 arguments where Merchant relies on 'long' clefts to make his point. If we restrict our attention to short clefts, the argument based on German is weakened, as the non-elliptical short cleft version of (16) is perfectly well-formed:

(i)   Er hat mit jemandem gesprochen – rate   mal mit wem es war!
        he has with someone   spoken   guess PRT with who it was
        'He spoke with someone – guess with whom it was!' (German)

See note 10 for discussion and note 3 for a related observation.

clefts and ill-formed in sluicing or vice versa. Rather, both are well-formed, but they yield a different morphological output—accusative for the sluice, nominative for the cleft. I return to this difference in section 4.1.

2.11. Left branch sluices

Merchant's tenth and final argument concerns the fact that sluicing allows—otherwise illegitimate—extraction from left branches (cf. (19)a), whereas clefts do not (cf. (19)b). Left branch extraction thus constitutes yet another empirical domain in which sluicing and clefts differ.

(19)   He married a rich woman –
     a.   wait till you hear how rich!
     b. *wait till you hear how rich it is!

2.12. Conclusion

I have outlined Merchant's (2001:120–127) arguments against the cleft analysis of sluicing, thus setting up the first half of the central tension of this paper. In the next section I take a step back from Merchant's arguments and introduce the other side of the puzzle, i.e. a body of literature suggesting that sluicing *can* be derived from an underlying cleft. The remainder of the paper will then be devoted to reconciling these at first sight contradictory claims.

3. In favor of the cleft analysis of sluicing: violations of the P-stranding generalization

3.1. Introduction: Merchant's (2001) P-stranding generalization

As pointed out by Merchant (2001), there is a striking correlation between the behavior of sluicing and that of non-elliptical wh-questions when it comes to the (im)possibility of preposition stranding. The correlation can be formulated as in (20).

(20)   **P-stranding generalization (PSG)** (Merchant, 2001:92)[5]
     A language L will allow preposition stranding under sluicing iff L allows preposition stranding under regular wh-movement.

In order to see how this generalization works, consider the English data in (21)–(22) and the Greek data in (23)–(24).

(21)   Who was Peter talking with?
(22)   Peter was talking with someone, but I don't know (with) who.

(23)   *Pjon milise   me?
     who she.spoke with
     INTENDED: 'Who did she speak with?'
(24)   I   Anna milise me   kapjon,   alla dhe ksero *(me) pjon.
     the Anna spoke with someone but not I.know with who
     'Anna spoke with someone, but I don't know with who.' (Greek, Merchant, 2001:94)

The example in (21) shows that English is a language that allows preposition stranding under wh-movement. What (22) shows is that—in accordance with the PSG—this same phenomenon is attested under sluicing. Here it manifests itself as the optionality of the preposition next to the sluiced wh-phrase, the idea being that when *with* is absent, it has been stranded inside the ellipsis site. Greek on the other hand displays the opposite pattern. The example in (23) shows that preposition stranding is not allowed in non-elliptical wh-questions, and (24) illustrates that the preposition cannot be left out under sluicing either. In short, both in English and in Greek there is a full parallel between sluicing and non-elliptical wh-questions with respect to the (im)possibility of preposition stranding.

The next subsections show that there are a number of languages that at first sight seem to violate the PSG in that they allow P-stranding under sluicing, but not in non-elliptical wh-questions. On closer inspection, though, it will turn out that the P-stranding sluices are not derived from an underlying wh-question—with a concomitant illegitimately stranded preposition—but rather from a cleft.

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[5] Merchant calls this generalization the "Form-identity generalization II: Preposition-stranding", but given that it is commonly—and more succinctly—referred to as the 'Preposition stranding generalization', I adopt that terminology here as well.

3.2. Apparent exceptions to the PSG[6]

As evidenced by the data in (25) and (26), Spanish is a language that—at least at first sight—violates the PSG. In particular, while (25) shows that P-stranding is not allowed in non-elliptical wh-questions, (26) illustrates that it is perfectly fine under sluicing.

(25) *¿Qué chica rubia   ha hablado Juan con?
     what girl   blonde has talked   Juan with
     INTENDED: 'What blonde girl did Juan talk to?'

(26) Juan ha hablado con una chica rubia, pero no sé   cuál
     Juan has talked   with a   girl   blonde but not know which
     'Juan talked to a blonde girl, but I don't know which.'

In spite of first appearances, however, Vicente (2008) argue that the sluicing example in (26) is not derived from a P-stranding and hence illicit wh-question, but rather from a short cleft (cf. also Rodrigues et al., 2009 for a related account). His analysis can be schematically represented as in (27).

(27) Juan ha hablado com una chica pero no sé   cuál   ~~es pro~~.
     Juan has talked   with a   girl   but not know which is it
     'Juan talked to a girl, but I don't know which (girl it was).'

In this example, the ellipsis site does not contain a stranded preposition. As such, it can be legitimately deleted by sluicing, thus yielding the impression of P-stranding under sluicing—and a concomitant PSG-violation—in (26). Although I refer the reader to the references given above for the full details of this analysis, I present one argument in its favor here, as it involves one of Merchant's 10 data sets introduced in the previous section, i.e. *else*-modification (see section 2.7). Consider the example in (28).

(28) Juan ha hablado con una chica rubia, pero no sé
     Juan has talked   with a   girl   blonde but not know
     *(con) qué   chica más.
     with what girl   else
     'Juan talked to a blonde girl, but I don't know to what other girl.'

This example shows that while modification with *más* 'else' is generally allowed in Spanish sluicing, it becomes illicit when combined with P-stranding under sluicing. Rodrigues et al. (2009) and Vicente (2008) take this to be strong support in favor of their analysis. In particular, they argue that apparent PSG-violations are derived from clefts, and as (29) illustrates, modification by *más* 'else' is disallowed in clefts. As such, the judgment in (28) follows straightforwardly from the judgment in (29).[7]

(29) *Juan ha hablado con una chica rubia, pero no sé
     Juan has talked   with a   girl   blonde but not know
     qué   chica más es *pro*.
     what girl   else is it
     *'Juan talked to a blonde girl, but I don't know to what other girl it was.'

In short, there are good reasons to assume that at least some cases of sluicing are derived from clefts. Moreover it should be pointed out that this is by no means an isolated quirk of Spanish. In particular, the cleft analysis of sluicing has recently received support from a growing number of languages, including French, Italian (Vicente, 2008), Polish (Szczegelniak, 2005, 2008), Dutch, and possibly Brazilian Portuguese (Rodrigues et al., 2009; *pace* Almeida and Yoshida, 2007) and English (van Craenenbroeck, 2004:122).

3.3. Conclusion

It is clear that there is a tension between the data discussed in this section and those outlined in section 2. On the one hand Merchant seems to make a strong case against the cleft analysis of sluicing, while on the other there are contexts and languages where such an analysis seems unavoidable. In the next section I attempt to reconcile these two data sets by reconsidering Merchant's arguments from a slightly different perspective.

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[6] This section relies heavily on Rodrigues et al. (2009) and Vicente (2008), both in terms of data and in terms of analysis.
[7] Many thanks to Violeta Vazquez Rojas for providing me with the example in (29).

4. Resolving the tension: Merchant's arguments revisited

4.1. Introduction: four possible scenarios

In order to fully evaluate Merchant's argumentation, we need to make explicit (a) what scenario exactly he is arguing against, and (b) which one he is proposing instead. These two scenarios are represented as (30)a and (30)b respectively.

(30)   a.   **AlwaysCleft**: The structure underlying sluicing is always a cleft.
       b.   **AlwaysWH**: The structure underlying sluicing is always a full wh-question.

The scenario sketched in (30)a is the one Merchant is explicitly taking issue with: a generalized cleft analysis of sluicing, whereby every single instance of sluicing is derived from a cleft. The one in (30)b is the analysis that he is adopting instead— implicitly in the section reviewed above, but explicitly in the rest of his book—i.e. a generalized wh-analysis of sluicing, whereby this construction is always derived from a full wh-question. However, these two options do not exhaust the logical space of possibilities when it comes to analyzing the underlying structure in sluicing. In particular, one can also think of more 'mixed' approaches such as the ones in (31).

(31)   a.   **Optionality**: The structure underlying sluicing can be either a cleft or a wh-question (and the choice between them is completely free).
       b.   **LastResort**: An underlying cleft is only used in sluicing when the corresponding wh-question is independently unavailable.

In the remainder of this section I reexamine Merchant's arguments, but this time with the four scenarios in (30)–(31) in mind. This implies that the data set under consideration will have to be expanded as well: instead of just looking at clefts and sluicing, I will also systematically take non-elliptical wh-questions into account. Note that the predictions made by the scenarios in (31) differ from the ones made by those in (30). Abstractly, the full range of logical possibilities can be represented as in Table 1.

Table 1
Predictions made by the four scenarios based on grammaticality judgments.
(32)

Sluicing	Cleft	wh	AlwaysCleft	AlwaysWH	Optionality	LastResort
*	*	*	Yes	Yes	Yes	Yes
*	*	OK	Yes	No	No	No
*	OK	*	No	Yes	No	No
*	OK	OK	No	No	No	No
OK	*	*	No	No	No	No
OK	*	OK	No	Yes	Yes	Yes
OK	OK	*	Yes	No	Yes	Yes
OK	OK	OK	Yes	Yes	Yes	Yes

The first three columns in this table indicate the eight possible judgment combinations for sluicing, clefts and wh-questions.[8] The final four columns indicate which of the four scenarios introduced above is compatible with which judgment combination— whereby 'yes' indicates compatibility and 'no' incompatibility. Before turning to the actual data in the following subsections, let us explore these compatibility options in somewhat more detail here. The first scenario, AlwaysCleft, only compares the judgment of sluicing with that of clefts. Only if these two match are the data compatible with this scenario. In the table in (32) this requirement is met in the first two and the last two judgment combinations, but not in any of the others. The second scenario, AlwaysWH, follows the exact same reasoning, but this time with respect to wh-questions instead of clefts. Accordingly, compatibility arises in the first, third, sixth and eighth combination and incompatibility in the rest. The third scenario, Optionality, states that a sluice is well-formed if and only if at least one of two possible underlying structures is well-formed. That condition is met in the first row and in the final three. Finally, the fourth scenario, LastResort, states that sluicing is well-formed if the corresponding wh-question is well-formed, and that it bears the same judgment as the cleft if the corresponding wh-question is ill-formed. In this table, this yields the same compatibility pattern as Optionality. In other words, as it stands, the table in (32) is unable to distinguish between the two last scenarios. Recall, though, that for one of Merchant's data sets—i.e. case matching—the logic of the argumentation was different from the other nine (cf. supra, section 2.10). Specifically, it was not the judgments of the various constructions that mattered, but rather their morphological output, and while a construction cannot be optionally well-formed, it can optionally yield different morphological outcomes.[9] Table 2 in (33) summarizes the results of this line of reasoning.

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[8] I am limiting myself to the two extreme judgments here (full acceptability vs. full unacceptability), on the one hand to not unnecessarily complicate the table, on the other because the data discussed in the remainder of this section warrant such a simplification.
[9] Note that I do not intend to make any claims here about the role of optionality in natural language (cf. Fukui, 1993 for relevant discussion). I am only using the term as a basic descriptive device.

Table 2
Predictions made by the four scenarios based on the morphological outcome of sluicing.
(33)

Sluicing	Cleft	wh	ALWAYSCLEFT	ALWAYSWH	OPTIONALITY	LASTRESORT
A	A	B	Yes	No	No	No
B	A	B	No	Yes	No	Yes
A/B	A	B	No	No	Yes	No
C	A	B	No	No	No	No

Assume that clefts yield a particular morphological outcome—labeled A here—which differs from that found in wh-questions—annotated as B. The corresponding sluice can then yield one of the four following outcomes: A, B, A and B—i.e. optionality between the two morphological outcomes—or a completely different form—labeled C in (33). With respect to the first two scenarios, nothing much changes. They still only compare the output of sluicing with that of clefts and wh-questions respectively, and only if there is a complete match are the data compatible with this scenario. This means compatibility for ALWAYSCLEFT when sluicing yields A, for ALWAYSWH when sluicing yields B, and incompatibility in all the other cases. For OPTIONALITY and LASTRESORT, however, there is a difference compared to the previous table. If clefts and wh-questions yield grammatical but morphologically different outputs, OPTIONALITY predicts both forms to surface, while LASTRESORT only expects the form found in wh-questions to surface in sluicing. That is, the two scenarios differ in their compatibility with the second and third row in the table in (33). Looking ahead, this means the data from case matching will be crucial in distinguishing between these two scenarios.

Summing up, in this subsection I have argued that in order to fully evaluate Merchant's argumentation we have to take into account a more elaborate set of possible sluicing analyses. In the remainder of this section, I argue that this extra complexity is warranted, in that the LASTRESORT-scenario will turn out to be as compatible with Merchant's data as the ALWAYSWH-option. In the subsections that follow, I revisit each of Merchant's arguments, but this time from the point of view of the four scenarios discussed above. This means that the data sets will include not only sluicing and clefts, but also non-elliptical wh-questions.

4.2. Adjuncts and implicit arguments

When non-elliptical wh-questions are added to the adjunct and implicit argument data from section 2.2, the resulting data pattern is as in (34) and (35): clefts are ill-formed, but sluicing and wh-questions are fine. This corresponds to the sixth row of the table in (32). That is, these data are incompatible with the ALWAYSCLEFT-scenario, but compatible with the other three.

(34)   a.   **sluicing:**   He fixed the car, but I don't know how.
       b.   **cleft:**   *He fixed the car, but I don't know how it was.
       c.   **wh:**   He fixed the car, but I don't know how he fixed the car.

(35)   a.   **sluicing:**   They served the guests, but I don't know what.
       b.   **cleft:**   *They served the guests, but I don't know what it was.
       c.   **wh:**   They served the guests, but I don't know what they served the guests.

4.3. Prosody

The exact same reasoning applies to the prosody argument of section 2.3: sluicing and wh-questions pattern alike and yield a well-formed result, while clefts are out. The only scenario with which such a data constellation is incompatible is ALWAYSCLEFT.

(36)   Someone gave me a valentine, but
       a.   **sluicing:**   I don't know WHO.
       b.   **cleft:**   *I don't know WHO it was.
       c.   **wh:**   I don't know WHO gave me a valentine.

4.4. Aggressively non-D-linked wh-phrases

The argument based on aggressively non-D-linked wh-phrases yields a different result. Consider the basic facts:

(37)   Someone dented my car last night–
       a.   **sluicing:**   *I wish I knew who the hell!
       b.   **cleft:**   I wish I knew who the hell it was!
       c.   **wh:**   I wish I knew who the hell dented my car!

Aggressively non-D-linked wh-phrases are allowed in clefts and wh-questions, but illicit under sluicing. This corresponds to the fourth line of the table in (32). Such a data pattern is incompatible with AlwaysCleft and AlwaysWH because the judgment in sluicing differs from that in clefts and wh-questions respectively. Moreover, given that both Optionality and LastResort predict a sluice to be well-formed if the corresponding wh-question is well-formed, these two scenarios also yield the wrong result. That means the data in (37) are incompatible with all four scenarios introduced above.

4.5. 'Mention some'-modification

The data pattern for 'mention some'-modification is identical to that of adjuncts and implicit arguments: only the cleft version is ill-formed. This means only the AlwaysCleft-scenario is ruled out.

(38)   A: You should talk to somebody in the legal department for
              help with that.
        B: a.   **sluicing:**   Who, for example?
              b.   **cleft:**   *Who is it, for example?
              c.   **wh:**   Who should I talk to, for example?

4.6. 'Mention all'-modification

'Mention all'-modification patterns with the aggressively non-D-linked wh-phrases: it is disallowed under sluicing, but fine in clefts and non-elliptical wh-questions. Once again, then, none of the four scenarios can account for these data.

(39)   A bunch of students were protesting,
        a.   **sluicing:**   *and the FBI is trying to find out who all.
        b.   **cleft:**   and the FBI is trying to find out who all it was.
        c.   **wh:**   and the FBI is trying to find out who all was protesting.

4.7. else-modification

Else-modification patterns with adjuncts and implicit arguments in ruling out only the AlwaysCleft-scenario. This is illustrated in (40).

(40)   Harry was there, but
        a.   **sluicing:**   I don't know who else.
        b.   **cleft:**   *I don't know who else it was.
        c.   **wh:**   I don't know who else was there.

4.8. Swiping

Just like aggressively non-D-linked wh-phrases and 'mention all'-modification, swiping is not compatible with any of the four scenarios. The patterning of the judgments is different, though. Swiping is well-formed under sluicing, but disallowed in both clefts and wh-questions—i.e. it corresponds to the fifth row of the table in (32).

(41)   She bought a robe, but
        a.   **sluicing:**   God knows who for.
        b.   **cleft:**   *God knows who for it was.
        c.   **wh:**   *God knows who for she bought a robe.

4.9. Languages with limited or no cleft strategy

The eighth argument once again tracks the one based on adjuncts and implicit arguments. Specifically, clefts are ill-formed, but sluicing and wh-questions are well-formed. Accordingly, only the AlwaysCleft-scenario is ruled out.

sluicing

(42)   Er hat mit jemandem gesprochen – rate mal mit wem!
        he has with someone   spoken   guess PRT with who
        'He spoke with someone – guess with whom!'   (German)

cleft

(43)   *Mit wem war es, daβ er gesprochen hat?
          with who was it   that he spoken   has
          INTENDED: 'With whom was it that he spoke?'   (German)

wh

(44)   Mit wem hat er gesprochen?
          with who has he spoken
          'With whom did he speak?'   (German)

4.10. Case matching

Recall that the argument based on case matching does not involve the grammaticality judgments of the various constructions, but rather the morphological output they produce (cf. the table in (33)). The basic facts are given in (45).

(45)   I   astinomia anekrine   enan   apo tous Kiprious prota,
          the police   interrogated one.ACC from the Cypriots first
          ala dhen ksero
          but not   I.know
          a. **sluicing:**   {* pjos   /   pjon}
                               who.NOM   who.ACC
          b. **cleft:**   { pjos   / *pjon}   itan.
                               who.NOM   who.ACC it.was
          c. **wh:**   { *pjos   / pjon}   anekrine   i   astinomia.
                               who.NOM   who.ACC interrogated the police

In both the sluice ((45)a) and the non-elliptical wh-question ((45)c), the wh-phrase is obligatorily marked accusative, while in the cleft ((45)b) it can only bear nominative. This corresponds to the second line of the table in (33). As such, these data are compatible with AlwaysWH and LastResort, but incompatible with AlwaysCleft—which would predict nominative in the sluice—and Optionality—which would predict a choice between nominative and accusative in the sluice.

4.11. Left branch sluices

Left branch sluices pattern with swiping in being incompatible with all four scenarios: they are allowed under sluicing, but illicit in both clefts and non-elliptical wh-questions:

(46)   He married a rich woman –
          a. **sluicing:**   wait till you hear how rich!
          b. **cleft:**   *wait till you hear how rich it is!
          b. **wh:**   *wait till you hear how rich he married a woman!

4.12. Summary and conclusions

In the preceding 10 subsections I have reexamined Merchant's (2001:120–127) arguments against the cleft analysis of sluicing with a slightly extended data set and four possible sluicing analyses. The main findings are summarized in Table 3 in (47).

Table 3
(In)compatibility of the four sluicing scenarios with Merchant's 10 data sets.
(47)

	ALWAYSCLEFT	ALWAYSWH	OPTIONALITY	LASTRESORT
Adjuncts and implicit arguments	No	Yes	Yes	Yes
Prosody	No	Yes	Yes	Yes
Aggressively non-D-linked wh-phrases	No	No	No	No
'Mention some'-modification	No	Yes	Yes	Yes
'Mention all'-modification	No	No	No	No
Else-modification	No	Yes	Yes	Yes
Swiping	No	No	No	No
Languages with limited or no cleft strategy	No	Yes	Yes	Yes
Case matching	No	Yes	No	Yes
Left branch sluices	No	No	No	No

Three conclusions can be drawn from these data. First of all, the ALWAYSCLEFT-scenario is incompatible with all data sets. This is not surprising as this is precisely the scenario Merchant was arguing against when presenting these data. What the table in (47) shows, then, is that Merchant's arguments were successful in this respect.[10]

Secondly, four of Merchant's criteria—aggressively non-D-linked wh-phrases, 'mention all'-modification, swiping and left branch sluices—are incompatible with all four scenarios under consideration. When taken at face value, these data seem to suggest that none of these four analyses can be on the right track. However, if the discrepancy between ellipsis—sluicing—and non-ellipsis—clefts and wh-questions—can be shown to be due to an independent interfering factor, these data simply become irrelevant with respect to the issue at hand, i.e. they do not reveal anything about the syntactic structure underlying the ellipsis site in sluicing. Interestingly, for three out of these four data sets, such an alternative account has indeed been proposed. For example, Sprouse (2006) argues that aggressively non-D-linked wh-phrases are disallowed in sluicing, but allowed in non-elliptical questions because of their phonological or prosodic properties. In a nutshell, *the hell* cannot bear sentence accent, but in sluicing it ends up in a position where it must bear such accent. As a result, aggressively non-D-linked wh-phrases are disallowed in sluicing (cf. the original paper for more details and cf. also den Dikken and Giannakidou, 2002:42–43 for relevant discussion). What is important from the present perspective, is that Sprouse's account renders the sluicing behavior of aggressively non-D-linked wh-phrases irrelevant for the issue under investigation here, i.e. they are uninformative as to whether the structure underlying sluicing is a cleft or a wh-question. A similar fate befalls the swiping data of section 4.8. van Craenenbroeck (2010:64–66) argues that the absence of non-elliptical swiping is due to a repair effect induced by ellipsis (cf. also Merchant, 2002; Hartman and Ai, 2007 for alternative but similar accounts). Once again, this renders these data irrelevant for the present discussion, because elliptical repair should in principle be applicable both to an underlying cleft and to an underlying wh-question. The same holds for left branch sluices. Kennedy and Merchant (2000) and Merchant (2001:163–183) have argued that the absence of Left Branch Condition violations under sluicing is due to elliptical repair. The only data set that is incompatible with all four sluicing scenarios and for which I know of no alternative account concerns 'mention all'-modification. Recall that such modification is disallowed in sluicing—or rather, "degraded in sluicing in some examples" (Merchant, 2001:122)—but fine in clefts and non-elliptical wh-questions. It is tempting, though, to try and relate the ill-formedness of (11)a (repeated below as (48)) to the prosodic properties of *all*—parallel to Sprouse's account of aggressively non-D-linked wh-phrases in sluicing.[11] In particular, assume that *all* cannot bear sentence accent, but that it is forced to bear such accent under sluicing. That would explain the ill-formedness of (48) and the well-formedness of its non-elliptical counterparts—whether cleft or wh-question.

(48) *A bunch of students were protesting, and the FBI is trying to find out who all.

One indication that this type of account is on the right track concerns the fact that, as pointed out to me by C. Thiersch (personal communication), the example in (48) improves considerably when the wh-phrase is stressed:

(49) ?A bunch of students were protesting, and the FBI is trying to find out WHO all.

Although I will not attempt to give a full account of 'mention all'-modification under sluicing here, it seems likely that this set of data will receive an alternative analysis as well, thus rendering it orthogonal to the discussion at hand.

The third conclusion I want to draw from the table in (47) is the most important one from the point of view of this paper. When the four irrelevant data sets discussed above are factored out, there are two scenarios that are fully compatible with the data discussed by Merchant: ALWAYSWH and LASTRESORT. In other words, the data used by Merchant to argue that the syntactic structure underlying sluicing is a wh-question leaves room for a second scenario, namely that wh-questions are only used as the first option, and that clefts are available as Last Resort. Needless to say, this is precisely the type of leeway needed to allow for the accounts discussed in section 3, as the underlying cleft only shows up under sluicing if the corresponding regular wh-question is ill-formed due to the ban on preposition stranding.[12]

5. Conclusion

This paper took as a starting point the tension between Merchant's (2001:120–127) arguments that sluicing is not derived from an underlying cleft and the opposite claim found in such papers as Rodrigues et al. (2009), Vicente (2008), Szczegelniak (2005, 2008). I have revisited Merchant's arguments, pitting them against four possible analyses of sluicing: (i) all instances of sluicing are derived from the corresponding full wh-question, (ii) all instances of sluicing are derived from a

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[10] One caveat is in order here: if we envision a cleft analysis in which the underlying structure for sluicing is either a long or a short cleft, then the data discussed in notes 3 and 4 would render two of Merchant's arguments—adjuncts/implicit arguments and languages with limited or no cleft strategy—without force, as the data would then be compatible with all four scenarios. In other words, those data sets would simply cease to be arguments and Merchant's total of 10 would be reduced to eight. Even under that scenario, though, the case against ALWAYSCLEFT would still be very strong.

[11] Thanks to Øystein Nilsen (personal communication) and Craig Thiersch (personal communication) for suggesting this analysis.

[12] It is worth pointing out that the only data set distinguishing OPTIONALITY from LASTRESORT is morphological case marking. This seems to predict that languages like Greek should allow for Last Resort nominative marking on an otherwise accusative sluiced wh-phrase in cases where the corresponding non-elliptical wh-question is ill-formed, e.g. due to a violation of the ban on preposition stranding. As discussed by van Craenenbroeck (2009), this prediction is not borne out. However, addressing those data here would lead me too far afield and hence go beyond the scope of this paper. I refer the reader to van Craenenbroeck (2009) for a detailed analysis, which is compatible with the conclusions drawn in this paper.

short cleft, (iii) all instances of sluicing can be optionally derived from either the corresponding full wh-question or a short cleft, and (iv) all instances of sluicing are derived from the corresponding full wh-question, but a short cleft is available as Last Resort when the wh-question is not well-formed. When confronted with the full data set—which included not just sluicing and clefts, but also non-elliptical wh-questions—two of these analyses came out on top, i.e. the first and the fourth one. Put differently, Merchant's argumentation is fully compatible with an analysis of sluicing that posits underlying clefts as a Last Resort option. Given that the data discussed in section 3 warrant precisely such an approach, the fourth analysis seems to be the correct one. In short, in resolving the tension between the two approaches in sections two and three, we have gained more insight into the correct analysis of sluicing and the proper characterization of the unpronounced syntactic structure found in that type of ellipsis.

Note that the discussion in this paper also has theoretical consequences beyond those pertaining to sluicing proper. For example, to the extent that the above reasoning is on the right track, it suggests that the two derivations schematically represented in (2)–(3)—repeated here as (50)–(51)—can be in an Economy-relation to one another, i.e. that they can be in the same reference set. This seems to suggest that the definition of reference set cannot be based on the Numeration (*pace* Chomsky, 1995:227), as the two derivations sketched below clearly have a different Numeration.

(50)   John saw someone, but I don't know who <John saw>.
(51)   John saw someone, but I don't know who <it was>.

Moreover, the present paper suggests that the conclusion of Merchant (2007) needs to be further refined.[13] He discusses fragmentary utterances and proposes a metric for choosing between various alternative derivations. A crucial ingredient in that metric concerns the question of whether there is a linguistic antecedent for the ellipsis site. In a nutshell, if there is one then it must be used, but if there is no linguistic antecedent, then other means of resolving the ellipsis can—and must—be called into action, one of which—Merchant's (2007:25) "limited ellipsis" option—bears a close resemblance to the cleft analysis discussed here. What the sluicing data suggest, however, is that it is not just the presence of the antecedent that plays a role, but also the question of whether that antecedent is well-formed. Put differently, even a linguistically present but syntactically ill-formed antecedent can trigger recourse to alternative ellipsis resolution mechanisms. Needless to say, I do not intend to work out this Economy issue in full here, but instead leave it as a topic for further research. What should be clear, though, is that ellipsis once again serves as a useful probe into the workings of natural language grammar.

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[13] Many thanks to a *Lingua*-reviewer for pointing out the relevance of Merchant (2007) in this respect.

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