0. Introduction

This paper is concerned with a variant of the English wh-cleft construction which we refer to as amalgam wh-cleft, following Lambrecht (2001). Amalgam wh-clefts are not generally used in writing, but they are common in spoken discourse. An example is given in (1).\(^1\)

(1) So what I’m gonna do is,
I’m gonna leave the small ones here,
and take my mother’s big one. (CFAE 4315, 3:43)

Amalgam wh-clefts differ from standard wh-clefts in the syntactic form of the copular complement, or focus phrase (FP). Whereas in standard wh-clefts the FP has a form appropriate to its role as a syntactic argument, in the amalgam variant the FP displays a lack of syntactic integration, having instead the form of an independent main clause; cf. (2) and (3). This main clause typically corresponds to the canonical (non-cleft) counterpart of the wh-cleft construction; cf. (4).

(2) What I’m gonna do is \([\text{FP} \text{ leave the small ones here ...}]\]
(3) What I’m gonna do is, \([\text{FP} \text{ I’m gonna leave the small ones here ...}]\]
(4) I’m gonna leave the small ones here ...

The amalgam structure is unexpected from a traditional view of wh-clefts. Wh-clefts (or pseudoclefts) are traditionally understood as information structure constructions which pragmatically structure a proposition into two parts, a presupposition and a focus (Prince 1978, Lambrecht 2001, \textit{inter alia}). The wh-

\(^1\) Examples with corpus citations are taken from our data base of six corpora of spoken American English (see Section 2). Transcription conventions follow Du Bois \textit{et al.} (1993). A new line represents a new intonation unit, and three types of prosodic boundaries are distinguished: final intonation (.), continuing intonation (,), and appeal intonation (?).
clause expresses a presupposed open proposition, i.e., a proposition with a missing argument (e.g., ‘I’m gonna do x’), and the FP provides a value for the variable in the presupposed open proposition (e.g., ‘leave the small ones here’). The function of the construction is to specify the content of the FP as the value for the variable contained in the wh-clause (e.g., x = ‘leave the small ones here’).

However, as pointed out by Lambrecht (2001: 499), amalgam wh-clefts do not accord with this traditional view. First, they display a syntactic mismatch. An independent main clause appears as a syntactic argument, which is not generally possible in English. Second, there is a semantic mismatch. The FP contains more material than is strictly required to supply a value for the variable in the wh-clause. It is not intuitively obvious why speakers ‘repeat’ the subject, as well as other material (e.g., I’m gonna in (1)), rather than use the structurally simpler standard variant.

Amalgam wh-clefts have been cited in the syntactic literature on cleft constructions as evidence for a deletion analysis of wh-clefts (Ross 1972, 2000; Den Dikken et al. 2000). The deletion account assumes that at an underlying level of representation the FP of wh-clefts is a main clause. Standard wh-clefts are then derived by means of an optional deletion (or ellipsis) rule, as in (5a). Non-application of this rule results in amalgam wh-clefts like (5b).

(5) a. What they should do is they should pat the cat. (Ross 2000:385)
b. What they should do is they should pat the cat.

The explanatory power of the deletion analysis however is limited. Deletion accounts seem to require that the wh-clause and the FP contain lexically identical material (e.g., they should in (5)) for the ellipsis rule to apply. The examples cited in the syntactic literature are of the same form as the sentences in (5), with FPs that are the canonical (non-cleft) counterpart of the cleft construction and that therefore ‘repeat’ material from the wh-clause. Yet, although most amalgam wh-clefts in our data fit this pattern, not all do.

First, as pointed out by Weinert & Miller (1996:178), in amalgam wh-clefts the TAM values of the wh-clause do not always match those of the FP. An example of tense-aspect mismatch (past perfect vs. simple past) is given in (6).

(6) Also what it’d done,
    is it caused him to be introverted, (SBCSAE 6, 18:21)

Second, amalgam wh-clefts sometimes contain wh-clause and FP subjects that are not lexically identical. Pronominalization, as in (7), is fairly common.2

Example (7) also illustrates another common non-integration effect, viz. omission of the copula. Copula omission occurs almost exclusively in cases of amalgam syntax. See also ex. (19).

2 Example (7) also illustrates another common non-integration effect, viz. omission of the copula.
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(7) What the kid’s able to do now, he’s able to go to any grad school he wants to.  (CFAE 6092, 10:28)

Finally, speakers sometimes use wh-clefts with ‘split’ subjects, as in (8), where the wh-clause subject denotes a set of participants which includes, but is not co-extensive with, the referent of the FP subject.

(8) What we would do is, they would take care of the account maintenance.  (SBCSAE 14, 17:50)

The option of having non-identical subjects is used in order to specify events involving multiple participants (e.g., What we’ll do is, John will write up a draft and you and I will send him our comments).

Non-integration effects like those seen in (6) - (8) demonstrate that the FP in amalgam wh-clefts need not be the canonical (non-cleft) counterpart of the cleft construction. That is, speakers are not strictly bound by the syntactic form of the wh-clause in constructing the FP. While this calls into question the deletion analysis on formal grounds, an account which seeks to relate two types of wh-clefts (standard and amalgam) in purely formal terms is also lacking in other ways. In particular, it remains silent on the question of what, if any, functional differences exist between these two wh-cleft constructions, and thus leaves unexplored the possibility that the observed syntactic effects may be explained by the discourse functions associated with the two constructional variants.3

In this paper, we propose that the formal properties of amalgam wh-clefts can be insightfully related to their information structure and discourse function. To this end, we present a multifactorial, statistical analysis of the distribution of standard and amalgam wh-clefts in spoken discourse to establish the factors which determine the selection of one or the other variant. On the basis of this analysis, we then interpret the non-integration effects found in amalgam wh-clefts with reference to the information structure and discourse function of the two types of wh-cleft constructions.

1. Methodology and Data Base
Our methodological approach is usage-based, in the sense that it seeks to derive the constraints on constructions from statistical generalizations emerging from usage data. The data used for the analysis presented in this paper is a subset of a larger data base consisting of the wh-clefts occurring in the following corpora of spoken American English: the Santa Barbara Corpus of Spoken American

3 In fact, Ross (1972:89) explicitly claims that the two wh-cleft variants are in “free variation with one another.” Den Dikken et al. (2000:46) find that amalgam wh-clefts “vary in acceptability from case to case and speaker to speaker” and that the “reasons behind much of this variation are obscure.”
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English (Du Bois et al. 2000-2005), the Callfriend and Callhome corpora of American English (Canavan and Zipperlen 1996a, 1996b; Canavan et al. 1997), the Corpus of Classic Sociolinguistic Interviews (Strassel et al. 2003; US speakers only), as well as samples of the Switchboard-1 corpus (Godfrey and Holliman 1997) and the Michigan Corpus of Academic Spoken English (Simpson et al. 2002). In order to ensure that all wh-clefts were exhaustively identified, we extracted exhaustive concordances of each wh-word and then individually inspected each hit.

Our analysis here is restricted to what-clefts because amalgam syntax is best attested for this type, which is also far more common than wh-clefts built on other wh-words. We further included only those structural types to which the standard vs. amalgam alternation applies, thus excluding cases in which what appears as the subject of the wh-clause (e.g., What bugs me is ...). Finally, we also did not count as wh-clefts instances of the That’s X is Y construction (e.g., That’s what I’m trying to do is go back to blonde), a conventionalized grammatical construction in its own right, with its own information structure and discourse function (see Ross-Hagebaum 2004).

To begin with, our data show a strong asymmetry in the types of wh-clause predicates used in the two constructions. Previous authors, working on the basis of grammaticality judgments (Ross 2000, Den Dikken et al. 2000), have reported that speakers more readily accept amalgam wh-clefts if the wh-clause predicate is the verb do (as in all examples cited so far) than, for example, verbs projecting an NP object complement. An example of the latter type is given in (9).

(9) What they want, is they want American accents.
   For their data base. (CFAE 4074, 0:17)

This intuition is supported by our data. Table 1 shows that the amalgam is indeed far more common with do as wh-clause predicate, i.e., in cases where the standard wh-cleft has a non-finite VP in its FP, than with predicates projecting copular complements of other phrasal categories. In fact, when the wh-clause predicate is do, the amalgam variant is more common than the standard variant.

<table>
<thead>
<tr>
<th>Projected phrasal category</th>
<th>Standard wh-cleft</th>
<th>Amalgam wh-cleft</th>
</tr>
</thead>
<tbody>
<tr>
<td>VP (i.e., do in wh-clause)</td>
<td>47% (120)</td>
<td>53% (136)</td>
</tr>
<tr>
<td>NP</td>
<td>80% (86)</td>
<td>20% (22)</td>
</tr>
<tr>
<td>other (PP, AP, that-clause)</td>
<td>98% (249)</td>
<td>2% (5)</td>
</tr>
</tbody>
</table>

2. Factors Predicting Amalgam or Standard Wh-Cleft

We coded all wh-clefts in our data for various semantic, syntactic, prosodic, and discourse-level variables which we suspected might be correlated with the choice of either of the two constructional variants. We then fit a logistic regression model...
to the data in order to determine which variables actually govern the alternation. We chose to include in our regression model only cases of projected VPs because the data on projected NPs and other phrasal categories does not include enough amalgams to yield significant results (cf. Table 1; the issue of projected NPs will be taken up again in Section 4.) Moreover, as one of the predictor variables in our model is the length of the FP, measured in terms of the number of clauses contained in it, we had to exclude all cases for which no such number could be established because the wh-cleft construction was abandoned in favor of another grammatical construction prior to completion. As a result, the number of observations in our model is 229, which is slightly smaller than the number of cases of projected VP tabulated in Table 1. The model is shown in Table 2.

Table 2: Logistic regression model predicting amalgam wh-cleft

<table>
<thead>
<tr>
<th>Significant predictors of amalgam</th>
<th>z</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>academic discourse</td>
<td>-3.98</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>no. of additional FP syllables</td>
<td>-5.22</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>no. of FP clauses</td>
<td>3.78</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>(strict) topic continuity</td>
<td>-2.45</td>
<td>0.014</td>
</tr>
</tbody>
</table>

Total Chi-squared = 84.91, p < 0.0001, Pseudo r-squared = 0.27

As seen in Table 2, we found four significant predictor variables, which will be explained and discussed in the remainder of this section. The z-score in the second column of Table 2 is a normalized regression coefficient, which indicates the strength and the direction of the effect of each predictor variable. Positive z-values indicate that the variable favors the amalgam; negative z-values indicate that the variable favors the standard variant.

2.1. Predictor #1: Discourse Genre
The amalgam wh-cleft is more widely used in informal than in formal (here, academic) discourse. Our operational definition of academic discourse is occurrence in the MICASE corpus.

Table 3: Distribution of wh-cleft variants across discourse genres

<table>
<thead>
<tr>
<th>Discourse genre</th>
<th>Standard wh-cleft</th>
<th>Amalgam wh-cleft</th>
</tr>
</thead>
<tbody>
<tr>
<td>academic (= MICASE)</td>
<td>68% (54)</td>
<td>32% (25)</td>
</tr>
<tr>
<td>informal (= all other corpora)</td>
<td>38% (57)</td>
<td>62% (93)</td>
</tr>
</tbody>
</table>

This sociolinguistic constraint is in line with the known restriction of amalgam wh-clefts to spoken language and the normative pressures of academic discourse.

2.2. Predictor #2: Number of Additional FP Syllables
Note that main clause FPs always include at least one more word than their non-finite VP counterparts, viz. the subject; cf. (10) and (11a). Complex wh-clauses
containing modal, auxiliary, or other additional verbs require the ‘repetition’ of even more material, as shown in (11b) and (11c).

\[(10) \quad \text{What she did is call me.}\]

\[(11)\]

\[\begin{array}{ll}
\text{a.} & \text{What she did is, she called me.} \\
\text{b.} & \text{What she could do is, she could call me.} \\
\text{c.} & \text{What she should have done is, she should have called me.}
\end{array}\]

The amount of additional syllables required to construct a main clause FP (rather than a non-finite VP) is inversely correlated with the likelihood of speakers choosing the amalgam. The histograms in Figure 1 show that the amalgam is strongly preferred when only a single syllable is ‘repeated’, as in (11a), but that there is no such effect in the case of the standard variant.

Figure 1: Choice of wh-cleft variant by (potential) additional FP syllables

We interpret this result as a processing constraint which leads speakers to produce the structurally simpler standard variant when using the amalgam would involve additional effort. However, if that additional effort is limited to having to produce only one extra syllable, the amalgam is strongly preferred.

2.3. Predictor #3: Number of Clauses in the FP

It is not unusual for wh-clefts in spoken discourse to include FPs which consist of multiple clauses, or in fact, multiple independent sentences, constituting an entire discourse segment (see also Hopper 2001, to appear). For example, the FP of Kirsten’s wh-cleft in (12) contains four independent main clauses.

\[(12) \quad \text{KIRSTEN:} \quad \text{So what a penguin will do,} \\
\text{is it’ll go back,} \\
\text{it’ll squeeze the gland,} \\
\text{it’ll get some oil on its beak,} \\
\text{and then,} \\
\text{.. it’s rubbing .. [that waterproofing],} \\
\text{LORI:} \quad \text{[So it can keep itself water]proof,}\]
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Wh-clefts with longer, more complex FPs (measured in terms of the number of contained independent or dependent clauses) are more likely to take the amalgam form. The histograms in Figure 2 show that the standard wh-cleft is strongly preferred when the FP contains only a single clause, or at most two clauses. The amalgam shows no such extreme skewing and also occurs with much longer FPs.

Figure 2: Choice of wh-cleft variant by number of FP clauses

We interpret the effect of FP length as a clear reflection of the amalgam construction’s discourse function (see below).

3.4. Predictor #4: Topic Continuity

Previous discourse-based studies have found that wh-clefts (in general) are used for topic management purposes, specifically to shift the discourse topic. In written English (Jones and Jones 1985), wh-clefts often occur at transition points as writers turn from one idea to the next. In conversation (Kim 1995), wh-clefts are used to re-orient the course of the ongoing talk, for example, when resuming a temporarily suspended topic after a digression. This topic shift function can be seen in example (13), taken from a question-and-answer session after a guided tour of the Hoover Dam. Note how Ben’s wh-clause brings about a shift from ‘where the electricity goes’ to ‘what the government did.’

(13) AUD: How far are you sending electricity. California?
BEN: .. Okay.
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Fifty-six percent of our power goes to southern California, twenty-five percent of it stays in Nevada, nineteen percent of it goes to Arizona. What the government did, is that they got together the delegates from those three states in nineteen-thirty. To allocate the power that would be generated here when this dam was completed.

(SBCSAE 38, 10:22)

However, previous studies did not systematically operationalize the notion of topic shift. Doing so is difficult because topics at the level of discourse are less easy to identify objectively than sentence topics. Moreover, there are different degrees of topic shift, from more dramatic to more subtle ones. We therefore decided, for reasons of methodological rigor, to code the parameter of topic shift vs. topic continuity in a binary fashion, distinguishing only between cases where strict topic continuity is identifiable on the basis of lexico-grammatical criteria and those where it is not. An example of the former type is given in (14).

(14) Now blood tests aren’t really being .. called for, what they’re doing is, calling for piss tests. (SWB 4307, 2:21)

We can be sure that the wh-cliff in (14) continues the discourse topic of the preceding talk because an alternative value for the variable grammatically coded in the wh-clause of the cleft was mentioned and rejected in the immediately preceding clause (i.e., we are dealing with a contrastive context).

Table 5 shows that strict topic continuity, defined in this way, correlates with the selection of the standard wh-cleft.

<table>
<thead>
<tr>
<th></th>
<th>Standard wh-cleft</th>
<th>Amalgam wh-cleft</th>
</tr>
</thead>
<tbody>
<tr>
<td>(strict) topic continuity</td>
<td>71% (15)</td>
<td>29% (6)</td>
</tr>
<tr>
<td>other</td>
<td>46% (96)</td>
<td>54% (112)</td>
</tr>
</tbody>
</table>

We interpret this correlation as evidence that the amalgam wh-cleft is specifically associated with the function of topic shift at the level of discourse.

3. Sentence Topic and Discourse Topic

Wh-cleft constructions (in general) are known topic marking constructions. For example, in (15) the VP leave the small ones here forms part of a sentence whose topic is the wh-clause what I’m gonna do.

(15) [TOP What I’m gonna do] is leave the small ones here ...

(= [2])

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However, in the amalgam construction, where the FP is an independent main clause with its own topic-comment articulation (in the sense of Lambrecht 1994), the pragmatic role of the wh-clause is different. Note that the VP leave the small ones here in (16) is part of a sentence whose topic is I.

(16) What I’m gonna do is, [TOP I]’m gonna leave the small ones here ... (= [3])

What, then, is the role of the wh-clause in (16)? We argue that the role of the wh-clause in the amalgam construction is that of discourse topic (D-TOP), which we distinguish from sentence topic (S-TOP) (in Lambrecht’s 1994 sense). We follow Ochs Keenan and Schieffelin’s (1983) definition of discourse topic as

a proposition (or set of propositions) expressing a concern (or set of concerns) the speaker is addressing. [...] It may be the case that the same discourse topic is sustained over a sequence of two or more utterances. (p. 72, emphasis added)

We then define the information structure of the two wh-cleft types as follows:

(17) Information structure of standard wh-cleft:
[S-TOP What I’m gonna do] is leave the small ones here.

(18) Information structure of amalgam wh-cleft:
[D-TOP What I’m gonna do] is, [S-TOP I]’m gonna leave the small ones here.

The amalgam construction assigns a different pragmatic interpretation to the wh-clause. The choice of either variant provides speakers with a way of differentially coding these two types of topics.

An understanding of the information structure of amalgam wh-clefts in terms of the notion of discourse topic accounts for both predictors #3 and #4. As for the effect of FP length seen in Section 2.3, the amalgam wh-cleft is specifically used to define a topic that is to be subsequently sustained over multiple clauses or independent sentences. This is precisely the distinguishing feature of discourse topics, as emphasized in the above definition. With regard to the topic shift function, as pointed out in Section 2.4, wh-clefts are known to shift the discourse topic, so the use of the amalgam variant in topic shift situations, and the use of the standard variant in topic continuity situations come as no surprise.

We represent this division of labor in topic management in terms of the discourse-pragmatic map in Figure 3.
Figure 3: Form-function mapping of wh-cleft variants

[--------------------------- Amalgam wh-cleft ---------------------------]
[--------------------------- Standard wh-cleft --------------------------]

Topic continuity ← ← Topic shift

In summary, we propose that the main functional difference between standard and amalgam wh-clefts lies in how they are employed for topic management purposes. The two quantitative measures which speak to this (predictors #3 and #4) can both be motivated by this difference. The use of the standard variant signals that the FP is to be understood as relevant with respect to the current topic, whereas the amalgam variant signals that the FP is to be understood as relevant with respect to a more general topic, one that has not already been at issue at the point the construction is uttered. The constraint against extra FP syllables (predictor #2), and the sociolinguistic constraint (predictor #1) are obviously not represented on the map in Figure 3. However, it is worth pointing out that, were there no such constraints, the form-function mapping would show even less overlap because the amalgam wh-cleft could be used more frequently, and the standard wh-cleft less frequently, in topic shift situations.

4. Amalgam Wh-Clefts with Verbs Projecting NP Focus Phrases

We can now propose several reasons for why amalgam wh-clefts are more common with do than with verbs taking an NP complement, e.g., lexical verbs like want in (9). First, verbs other than do will almost always require more ‘repeated’ words (subject and verb). Second, wh-clauses with do are better suited to express discourse-level variables than lexical verbs are because do is semantically general, whereas lexical verbs are semantically more concrete.

The other verbs that show a tendency to be used in the amalgam wh-cleft are, in fact, those which are semantically more abstract. One of these is the verb be (our data include 6 standard and 6 amalgam wh-clefts with be), as in (19).

(19)  
A: It’s uh like a bright flash,  
B: Yeah.  
A: out of the uh,  
left part of the eye,  
you know I see em every once in a while?  
And what it is,  
it’s called like a sinus migraine.  
(CFAE 6955, 18:30)

The verb be does not incur an extra syllable when it cliticizes onto the subject, as in what it is, it’s ... seen in (19), and wh-clauses with be are also semantically general.
5. Conclusion

We have found that the selection of either of the two wh-cleft variants is determined by a combination of social, cognitive, and pragmatic factors. Regarding the latter, most important factor, and in terms of information structure, the wh-clause in the standard variant has the role of sentence topic, while in the amalgam variant it has the role of discourse topic. One of the motivations for marking a discourse topic is that of changing the topic. The discourse functions of the standard and amalgam wh-clefts map onto opposite regions of a discourse-pragmatic continuum from topic continuity to topic shift.

Returning to the problems posed by the amalgam construction for the traditional analysis of wh-clefts, we can note that, first, the syntactic mismatch is only apparent. Since the wh-clause in the amalgam wh-cleft codes a discourse-level (rather than sentence-level) variable, it is not unexpected that the value specification should take the form of a discourse-sized FP, i.e., an independent main clause or a sequence of such clauses. Second, there is also no semantic mismatch. The ‘repetition’ of wh-clause material in the FP is an epiphenomenon. It is also expected that aspects of the definition of a discourse topic (such as participants in an event) will reappear in the sentence or set of sentences which specify the discourse-level variable. The syntax of the FP thus need not mirror the grammar of the wh-clause in terms of the identity of the subject and TAM values.

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