Fabian Bross (2024): Wh-doubling in German Sign Language: Why not sluicing? In: *Sign Language & Linguistics*, 26(2), 258–275. DOI: 10.1075/sll.22005.bro.
Author accepted manuscript
https://www.jbe-platform.com/content/journals/10.1075/sll.22005.bro

Wh-doubling in German Sign Language: Why not sluicing?

Abstract *Wh*-doubling is a widely attested phenomenon in sign languages. Several analyses are found in the literature assuming, for example, base-generation of one of the doubles or making (heavy) use of remnant movement. Using data from German Sign Language, this article discusses the possibility that the structure might be derived from a relative clause embedded under a *wh*-question which finally undergoes sluicing. It will be argued that such an account correctly predicts the distribution of the *wh*-phrases found in German Sign Language doubling constructions.

Keywords: *Wh*-doubling; focus doubling; sluicing; syntax

1 Introduction

The syntax of *wh*-questions has been one of the most active research topics in sign language linguistics since the early days of the discipline. One reason for this is that *wh*-phrases in many sign languages do not occur in a clause-initial position as is found in the vast majority of spoken languages exhibiting overt *wh*-movement. Instead, *wh*-phrases tend to show up in a clause-final position in many of the world's sign languages (Zeshan 2004) including German Sign Language (e.g., Happ & Vorköper 2014). What is more, many sign languages allow *wh*-doubling, i.e., a *wh*-phrase occurs twice in a question, namely in a clause-initial as well as in a clause-final position, as illustrated for German Sign Language (*Deutsche Gebärdensprache*, DGS) in (1).[1]

(1) $\overline{\text{WHAT PAUL BUY WHAT}}^{\text{wh}}$
'What did Paul buy?'

Wh-doubling has been described for several sign languages, for example, for American Sign Language (e.g., Petronio 1993), Brazilian Sign Language (e.g., Nunes & Quadros 2005), Italian Sign Language (e.g., Branchini et al. 2013), Flemish Sign Language (e.g., Pfau & Bos 2016), Russian Sign Language (e.g., Kimmelman 2013), or DGS (e.g., Bross 2020b).

[1] See also the supplementary video files attached to this article illustrating the relevant data patterns.

Two major approaches to *wh*-doubling can be distinguished. On some accounts one of the doubles is base-generated, either the clause-initial one (e.g., Neidle, Kegl & Bahan 1994) or the clause-final one (e.g., Petronio & Lillo-Martin 1997). On remnant-movement accounts the clause-final double is a non-deleted copy of the *wh*-phrase left behind by an intermediate movement step (e.g., Bross 2020b). One major difficulty for these accounts is the specific data pattern observed with *wh*-doubling. The most widely-discussed problem is that the final double can be a *wh*-phrase (e.g., WHAT), but cannot be a complex *wh*-phrase (e.g., WHICH COMPUTER). As I will argue, a relative-clause analysis plus sluicing offers an elegant solution to this problem. To be more precise, I will argue that the available data suggests that *wh*-doubling could be the result of a deletion operation in which all material except for a *wh*-phrase is elided as illustrated for English in example (2).

(2) Someone bought beer, but I don't know who ~~bought beer~~.

Sluicing as in (2) is an ellipsis phenomenon and assumed to proceed as follows: First, the *wh*-element (here: *who*) is moved out of the TP and the TP is subsequently deleted (cf., for example, Ross 1970; Merchant 2001; see also the overviews in Merchant 2019 and Vincente 2019 and the references cited therein for arguments in favor of this view).[2]

While sluicing has been discussed in the sign language literature (e.g., Koulidobrova 2012; 2017), even in relation to the position of *wh*-phrases (Petronio & Lillo-Martin 1997) and *wh*-doubling (Koulidobrova & Zidani-Eroglu 2018), it has, to the best of my knowledge, not been proposed to analyze *wh*-doubling as the result of a sluicing operation.[3]

The structure of this squib is as follows. First, I will review the data that needs to be accounted for and discuss why the idea of analyzing *wh*-doubling as sluiced relative clauses is worth a shot in Section 2. In Section 3, I review *wh*-constructions from different languages which exhibit the same restrictions as the doubling construction under discussion when it comes to which *wh*-elements may or may not appear. In Section 4, a tentative syntactic implementation of the idea that *wh*-doubling may be the result of sluicing is presented. In Section 5, I conclude the proposal.

[2] There are also proponents of the idea that the *wh*-elements in sluicing constructions are base-generated in the CP (see, for example, Chung, Ladusaw & McCloskey 1995; Lobeck et al. 1995; Ginzburg & Sag 2000), yet nothing hinges on this.

[3] Petronio & Lillo-Martin (1997) briefly discuss the question of whether clause-final *wh*-elements could be the result of sluicing. They assume that real sluicing structures should result in a structure in which only the *wh*-phrase is accompanied by a question NMMs. On this analysis, there are two clauses (similar to *Someone bought a beer. Who?*).

2 The data to be accounted for and the hypothesis

The data to be accounted for comes from DGS and is taken from Bross (2020b) (with the notation being slightly adapted).[4] In DGS, regular *wh*-phrases occur in a clause-final position (3a), although they are also allowed clause-initially (3b) (see also Herrmann, Proske & Volk 2019).

(3) a. $\overline{\text{YESTERDAY } t_i \text{ BEER BUY WHO}_i}^{\text{wh}}$
'Who bought beer yesterday?'

b. $\overline{\text{WHO}_i \text{ YESTERDAY } t_i \text{ BEER BUY}}^{\text{wh}}$
'Who bought beer yesterday?'

Additionally, DGS allows *wh*-doubling, as shown in (4a). Optionally, the clause-final *wh*-element may be stressed.[5] Doubling is only an option for simple *wh*-phrases (4a) and *wh*-phrases contained in a PP (4b), but not for complex *wh*-phrases (4c). What is possible, however, is to only double the *wh*-expression of a complex *wh*-phrase without its restriction (4d). Note that this pattern cannot be reversed (4e), thus, there is a true asymmetry between the two *wh*-elements.

(4) a. $\overline{\text{WHO YESTERDAY BEER BUY } \overline{\text{WHO}}^{\text{(foc)}}}^{\text{wh}}$

b. $\overline{\text{WITH WHO INDEX}_2 \text{ COOK WITH WHO}}^{\text{wh}}$
'With whom did you cook?'

c. * $\overline{\text{WHICH COMPUTER PAUL BUY WHICH COMPUTER}}^{\text{wh}}$
Intended: 'Which computer did Paul buy?'

d. $\overline{\text{WHICH COMPUTER PAUL BUY WHICH}}^{\text{wh}}$
'Which computer did Paul buy?'

e. * $\overline{\text{WHICH PAUL BUY WHICH COMPUTER}}^{\text{wh}}$
Intended: 'Which computer did Paul buy?'

Taken together, the data pattern to be accounted for looks as in Table 1.

[4] This data has been elicited by first showing participants written sentences to be translated. Afterwards, participants were asked for (informal) acceptability judgments. DGS will also be the language for which a syntactic model will be presented (see Section 4).

[5] Note that it is a common pattern in sign languages that stressed or focused material appears in a clause-final position (cf. Wilbur 1996). It is unclear whether or not it is possible for both copies to receive stress. At least I am not aware of examples of both instances being stressed.

Type of *wh*-element	Example	Doubling allowed?
Simple *wh*-phrases	WHAT	✓
Wh-Phrases contained in a PP	WITH WHAT	✓
Complex *wh*-phrases	WHICH COMPUTER	✗
Complex *wh*-phrases without restriction	WHICH	✓

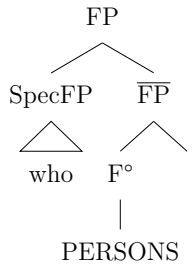
Table 1: Data pattern observed in *wh*-doubling in DGS.

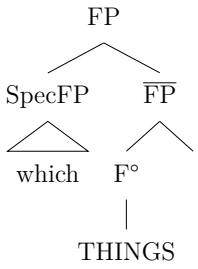
The basic hypothesis presented in this squib is that the two instances of *wh*-elements are not copies, but that the clause-initial element is a *wh*-phrase, while the clause-final element is a *wh*-relative pronoun. If the hypothesis that the clause-final double is indeed a *wh*-relative pronoun is correct we would predict that it behaves in exactly the same way as *wh*-relative pronouns generally do.

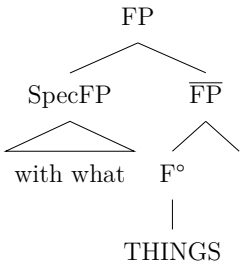
Indeed, *wh*-relative pronouns in relative clauses allow simple *wh*-elements and *wh*-elements contained in a PP, but not complex *wh*-phrases, as illustrated for English in the examples in (5). Note that the examples show a cross-linguistically attested pattern of *wh*-relative pronouns and English only serves as an example here (see Cinque 2020).

(5) a. the man who I saw
b. the woman with whom I spent my summers
c. *the computer which computer I bought
d. the computer which I bought

This means that the hypothesis that the second *wh*-double is not a real *wh*-phrase, but a *wh*-relative pronoun exactly predicts the data pattern observed. Now one may ask why relative clauses exhibit this pattern. Cinque (2020) assumes that *wh*-pronouns cross-linguistically consist of a *wh*-element in the specifier of a functional projection and a restriction serving as the head of the respective projection. For example, *who* is located in the specifier of a projection hosting human functional nouns. The head of this projection is the silent restriction PERSONS (6a). The same pattern applies to other *wh*-elements, for example: *when* would be [$_{\text{SpecFP}}$ when [$_{\text{FP}^\circ}$ TIMES]] or *where* would be [$_{\text{SpecFP}}$ where [$_{\text{FP}^\circ}$ PLACES]]. The assumption of silent elements is based on the observation that there are languages which spell out these silent heads (see also Cinque 2016). For *which*, Cinque (2020: 50–51) proposes an analysis as a pronominal DP occurring in the Spec of a functional projection whose head is a silent noun THINGS (6b). Along these lines we would take a *wh*-element contained in a PP, say *with what*, to occur in the Spec of a functional projection whose head is an empty noun THINGS (6c).

(6) a. 

b. 

c. 

When it comes to *wh*-doubling in DGS, one hypothesis one could entertain is that this structure derives from embedded *wh*-relative clauses with the remaining structure being elided (i.e., sluiced). However, while this basic idea seems to be a fruitful approach the exact implementation remains open. In the following, I will present some constructions from spoken language which exhibit a similar distribution of *wh*-relative pronouns and then proceed with a tentative implementation of the idea that the DGS *wh*-doubling construction is actually an embedded clause undergoing sluicing.

3 Comparable constructions in other languages

In this section, I will discuss constructions from spoken languages in which a *wh*-relative clause is embedded under a matrix clause *wh*-question with the *wh*-elements being co-indexed. In addition, the question whether DGS generally allows similar relative-clause constructions will be addressed. Finally, I will briefly discuss data from Frisian showing that sluiced *wh*-relative clauses exhibit a data pattern similar to what is found in DGS doubling.

Indeed, many languages allow *wh*-questions with an embedded *wh*-relative clause. Interestingly, in such constructions, the *wh*-phrase in the matrix and the *wh*-relative pronoun in the embedded clause are the same (modulo case marking; see below). This is, for example, the case in the so-called "wh ... wh construction" found inter alia in German. As the embedded clause is a *wh*-relative, this construction follows the same pattern as *wh*-doubling in DGS, as illustrated in (7) using data from Central Swabian, a dialect of German.[6]

(7) a. Was glaubsch du, was die Joy kauft?
what believe you what the Joy buys
'What do you believe is it that Joy buys?'

[6] I'm using dialectal data here to make the phenomenon more salient. The only difference to Standard German is that examples like the one in (7d) are marked, but crucially not ill-formed in Standard German (cf. Groat 2015: 308). Note that I have carefully checked the examples with native speakers of Central Swabian.

b. Mit wem denksch du, mit wem der Paule sich trifft?
with who think you with who the Paul himself meets
'With whom do you believe is it that Paul will meet?'

c. * Welchas Audo glaubsch du, welchas Audo er kauft?
which car believe you which car he buys
'Which car do you believe is it that he will buy?'

d. Welchas Audo glaubsch du, welchas er kauft?
which car believe you which he buys
'Which car do you believe is it that he will buy?'

Note that a similar construction is possible in German Sign Language. At least when explicitly asked native DGS signers (here: from Southern Germany) allow structures highly resembling the Swabian data. In my own corpus, I found several instances of such constructions as shown in Figure 1.[7] The signers depicted judged such structures to be well-formed with simple, but not with complex *wh*-phrases. This shows that it is generally possible to embed a *wh*-relative clauses under a *wh*-question in German Sign Language leading to a similar structure as in (Swabian) German.

While the literature on the German wh ... wh construction usually discusses cases in which the matrix clause contains verbs of thinking (like *glauben* 'think', *denken* 'think', or *meinen* 'deem') a similar construction is found when the matrix clause is a clefted question. The following data, again from dialectal German, show that this construction behaves in the exact same way, i.e., it can contain simple *wh*-elements (8a) as well as *wh*-elements contained in a PP (8b), but no complex *wh*-phrases (8c)/(8d):

(8) a. Was war des, was du kauft hosch?
what was that what you bought have
'What did you buy?'

b. Mit wem war des, mit wem du kocht hosch?
with whom was that with whom you cooked have
'With whom did you cook?'

c. * Welchas Audo war des, welchas Audo du kauft hosch?
which car was that which car you bought have
Intended: 'Which car did you buy?'

d. * Was fir a Buach war des, was fir a Buach du glesa hosch?
what for a book was that, what for a book you read have

[7] The data was elicited in a similar way as described above: Signers were first presented with written sentences and then asked for informal acceptability judgments.

Figure 1: Three examples of relative clauses embedded in *wh*-questions from German Sign Language (from my own corpus; all signers are native signers having acquired DGS from birth).

Intended: ‘What kind of book did you read?’

While it is, again, not possible to spell out two copies of the complex *wh*-phrases in (8c)/(8d), doubling of the *wh*-element without its restriction is possible (9).

(9) a. Welchas Audo war des, welchas du kauft hosch?
which car was that which you bought have
‘Which car did you buy?’

b. Was fir a Buach war des, was du glesa hosch?
what for a book was that, what you read have
‘What kind of book did you read?’

The standard analysis of cases of two instances of the same *wh*-element in a matrix and in an embedded clause in German involves cyclic movement of the *wh*-phrase (e.g., McDaniel 1989; Höhle 2000; Felser 2004). However, there are good arguments against such an approach. First, an analysis based on cyclic movement would not predict that copying of a complex *wh*-phrase is ruled out (see, for example, Pankau et al. 2014; Rugna 2020; and also Murphy

2016 for more arguments against a copying analysis). Second, the case of the matrix *wh*-element and the embedded *wh*-element in the clefted construction can diverge, as shown in (10). Thus, there is evidence that the two *wh*-elements are generated independently of one another.

(10) Wer war des, wen du troffa hosch?
who.NOM was that who.ACC you meet have
'Who was it you met?'

Instead of an approach with a non-deleted copy, we can assume some kind of correlative structure with the embedded *wh*-pronoun being a placeholder for the *wh*-element in the matrix clause. That is, the constructions discussed consist of a main clause plus an embedded *wh*-relative clause.[8]

Although there are two instances of the same *wh*-elements (modulo case) in the German construction just discussed, the second one is contained in a clause of its own. This is obviously different in the *wh*-doubling construction in DGS, where there is no overt embedded clause and the second *wh*-element occurs on its own. If one wanted to analyze this second *wh*-element as a remnant left over by a sluicing operation as suggested here one question is whether there are languages exhibiting the same data pattern that was discussed above in sluiced clauses. One particular construction I want to briefly discuss is *dat*-sluicing in Frisian. The example in (11) shows a Frisian *wh*-relative clause containing the pronoun *dat* 'that' (example from van Craenenbroeck 2010a).

(11) Wat dat op tafel ligt is voor jou.
what that on tabel lies is for you
'What lies on the table is for you.'

The same pronoun occurs in clarifying questions in Frisian (see Hoekstra 1993), which were argued to derive from a sluicing operation (van Craenenbroeck 2004; 2010c). The example in (12a) illustrates that this sluicing construction allows simple *wh*-phrases, (12b) shows that *wh*-phrases contained in a PP are also fine, while (12c) illustrates that sluicing with a complex *wh*-phrase is not possible. The example in (12d) shows an attested example in which only the *wh*-phrase without the restriction is used. Note that I marked this example as

[8] I will remain agnostic about the exact way the embedded relative pronoun connects to the *wh*-element in the main clause, but refer the reader to the literature in which it is often assumed that such connections are established via binding (cf. Srivastav 1991; Bhatt 2003; Dayal 2012 for accounts on correlative clauses which, however, connect a *wh*-pronoun to a demonstrative, but nothing hinges on this).

being marked (by using a percentage sign) as not all Frisian speakers seem to readily accept it.[9]

(12) a. A: I met someone.
B: Wa dat?
who that$_{\text{DEM}}$
'Who?'

b. A: He is against someone.
B: Tsjin wa dat?
against who that$_{\text{DEM}}$
'Against whom?'

c. A: I received an advice.
B: *Hokker advys dat?
which advice that$_{\text{DEM}}$
'Which advice?'

d. A: I received an advice.
B: %Hokker dat?
which that$_{\text{DEM}}$
'Which one?'

Taken together, the clause-final *wh*-elements in the DGS doubling construction have the same distribution found in *wh*-relative clauses. Such clauses also occur in *wh*-questions in other languages like German where we also find that the two *wh*-elements have the same form (although they might diverge in case). In addition, DGS signers judge similar sentences to be well-formed. Finally, there is evidence that languages allow *wh*-relative clauses to be sluiced (see also van Craenenbroeck & Lipták 2006). In the next section, I will illustrate how *wh*-doubling in DGS could tentatively be modeled as consisting of a matrix question with a sluiced embedded relative clause.

4 A relative-clause sluicing analysis of *wh*-doubling in DGS

In this section, I suggest that sentences involving a *wh*-double might in fact be bi-clausal structures with a matrix clause *wh*-question followed by an embedded *wh*-relative clause. This would explain why simple *wh*-phrases and *wh*-phrases contained in a PP can appear at the end of the doubling construction, but not complex *wh*-phrases, while *wh*-phrases without a restriction are fine – as this is just the pattern found in *wh*-relative clauses. The whole construction is, similar

[9] Example from https://www.demoanne.nl/it-senioare-orkest/, received September, 16th 2022. Note that *Hokker dat?* is judged to be not well-formed in Hoekstra (1993). Besides the fact that the example in (12d) is an attested example, I consulted three native speakers of Frisian. Two consultants immediately accepted *Hokker dat?* while one found it marked, but crucially well-formed. All of them completely rejected examples spelling out the restriction (*Hokker advys dat?*), as described in the literature (Hoekstra 1993; van Craenenbroeck 2004; 2010c).

to the German constructions discussed above, correlative in nature, with the *wh*-pronoun being a placeholder for the *wh*-element in the main clause. This accounts for the fact that the two *wh*-elements have the same form (modulo the missing restriction).

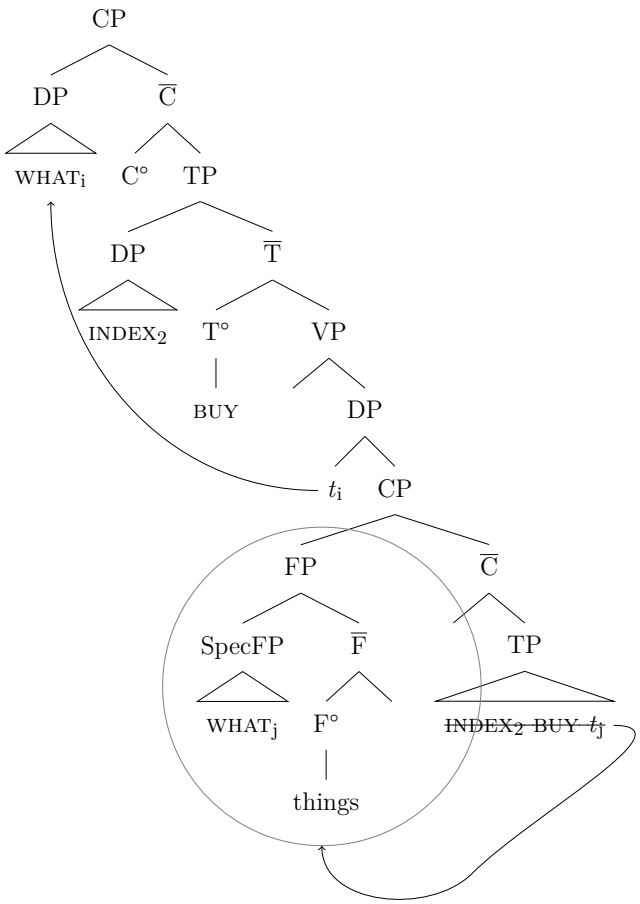
To illustrate what such a preliminary analysis could look like I take the DGS example in (13) as a starting point.

(13) $\overline{\text{WHAT INDEX}_2 \text{ BUY WHAT}}^{\text{wh}}$
'What did you buy?'

Under the assumption that *wh*-doubling is the result of a sluiced *wh*-relative clause embedded into a *wh*-question the underlying structure of (13) would look as shown in (14). Several notes are in order here. First, movement of the verb and the subject are left out for reasons of simplicity. Second, I assume *wh*-movement to be to the left here, but other options can surely be implemented as well. Third, the functional projection containing the clause-final *wh*-double is part of the internal head of the embedded relative clause (the internal head is marked by a circle). The whole functional projection is base-generated in the TP and moved into SpecCP (see Cinque 2020 for details). I indicated the non-pronounced head of the internal head by writing it in lower case.

To account for the fact that the clause-final "double" (the internal head) can be stressed, one could assume that this phrase is moved into a focus projection inside the CP it is part of. Another attractive option would be to assume that the embedded relative clause is a cleft underlyingly. In fact, the idea that sluicing generally derives from cleft structures instead of a full-fledged version of the corresponding *wh*-question is entertained by a growing number of researchers (see, van Craenenbroeck 2010b for an overview or Hiraiwa & Ishihara 2002 and Hiraiwa & Ishihara 2012 who assume that clefts and sluicing are derived from the same underlying focus construction). Such cleft analyses suggest that the underlying structure of sluicing does not look as in (15a), but as in (15b).

(14)



(15) a. Joy bought something and I want to know what ~~Joy bought~~.

b. Joy bought something and I want to know what ~~it was Joy bought~~.

Note that the sluiced structure in (15b) is an *it*-cleft containing a *wh*-pronoun. Interestingly, clefted constituents were often analyzed as being moved into a focus position (e.g., Meinunger 1998). This fits in well with the idea that the second *wh*-element in *wh*-doubling can, but does not need to be stressed as the realization of focus in clefts is generally not a necessity (Hole 2011: 1709). The idea that the final *wh*-double moves to some focus projection is also found in many previous accounts on *wh*-doubling in sign language (e.g., Petronio & Lillo-Martin 1997). If the preliminary analysis presented here is indeed on the right track and *wh*-doubling in DGS indeed is derived from a cleft, the underlying structure of *wh*-doubling might thus be something along the lines

what was it you bought.[10] Note that this would explain why the clause-final *wh*-element receives stress, but it would not make the manual signs in the deleted clause differnt from the manual signs in the (spelled-out) matrix clause because there is neither a copula in DGS nor a resumptive pronoun like English *it*.[11]

Taken together, the proposed analysis assumes that the clause final *wh*-double in the DGS doubling construction is a sluiced relative clause cleft. This cleft is embedded into a matrix clause question. The matrix clause *wh*-phrase and the embedded *wh*-pronoun form a correlative structure. This analysis accounts for the distribution of the *wh*-elements, i.e., it explains why the clause-final double can be a simple *wh*-phrase, a *wh*-phrases embedded in PP, but not a complex *wh*-phrase. In addition, the proposed account explains why the second *wh*-element can be stressed because it is a cleft underlyingly. Another interesting point which would fit into this analysis is that *wh*-doubling leads to presuppositional readings. While the observation that doubling trigger such existential presuppositions was mentioned for DGS (see Bross 2020b: 128), this behavior was most thoroughly described for Italian Sign Language: "identical WH-duplication is possible only if the question presupposes that there is someone or something that is the answer to this question" (Branchini et al. 2013: 174).[12] Thus, the doubling structure in (13), repeated in (16a), for example, would presuppose that the addressee bought something (in contrast to a regular *wh*-question where this presupposition is absent or at least not so strong (16b)).

(16) a. $\overline{\text{WHAT INDEX}_2\ \text{BUY WHAT}}^{\text{wh}}$
'For which x is it true that Paul bought x and I know that there is one x for which Paul bought x is true.'

b. $\overline{\text{INDEX}_2\ \text{BUY WHAT}}^{\text{wh}}$
'For which x is it true that Paul bought x?'

This is interesting because it is well-known that cleft sentences trigger exactly this kind of presuppositions (cf., for example, Hedberg 1990; 2000; Hole 2011;

[10] Note that there already are some analyses assuming that some *wh*-question types in sign languages may in fact be *wh*-clefts. Abner (2011), for example, assumes that all clause-final *wh*-phrases in ASL are underlyingly *wh*-clefts.

[11] Note that regular cleft sentence in DGS were claimed to contain an overt relative pronoun (Bross 2020a; for the pronoun see also Pfau & Steinbach 2005). Such a pronoun, however, can only appear if there is one unique identifiable referent which is not the case in *wh*-questions.

[12] *Wh*-questions generally presuppose the truth of at least one Hamblin answer (Katz & Postal 1967). Thus, it is probably better to say that *wh*-doubling questions have a stronger existential presupposition compared to regular *wh*-questions.

Hartmann & Veenstra 2013). Thus, this observation would also be in line with an analysis of *wh*-doubling being derived of a sluiced *wh*-relative clause cleft. That questions involving *wh*-doubling are actually cleft sentences is, interestingly, also the conclusion drawn by Branchini et al. (2013: 57) for Italian Sign Language. Finally note that the paraphrase of a regular *wh*-question contains two variables. The second x in the paraphrase in (16b) represents the base-generated *wh*-phrase (which is an argument of the verb), while the first x represents the moved scope-marking *wh*-phrase. In the paraphrase in (16a) there are not two, but four variables which fits the tree structure in (14).

One question is, of course, why the proposed structure should be generated at all and the answer might be connected to the role played by focus in clefts as well. A preliminary idea might thus be that the construction has a special information-structural function, namely exactly the function that is also found in clefts and in clefted questions in particular: The signer wants to stress that she or he strongly assumes one Hamblin answer to be true, but now wants to have a definite response to what exactly the answer is.[13]

Another question is why the structure is sluiced and not spelled out. To understand what might be going on let's consider first how the non-sluiced version of the sentence under discussion would look like. This structure, shown in (17a) cannot be distinguished from a mere repetition of two clauses which is trivially possible.[14] Note that there is a huge unresolved discussion about the question of whether *wh*-movement in sign languages like DGS is to the left or to the right as *wh*-phrases in regular content questions usually appear in a clause-final position, but are also well-formed in a clause-initial position. In the tentative sluicing analysis provided here I assumed *wh*-movement to the left which is somehow at odds with what we find in regular *wh*-questions. This, however, would lead to a structure as in (17b) where two *wh*-elements are directly adjacent.

(17) a. WHAT INDEX$_2$ BOUGHT WHAT INDEX$_2$ BOUGHT
b. *INDEX$_2$ BOUGHT WHAT WHAT INDEX$_2$ BOUGHT

Such structures with two adjacent *wh*-elements are generally ruled out because of "horror aequi", i.e., the principle involving "the widespread (and presumably universal) tendency to avoid the repetition of identical and adjacent gram-

[13] This is probably also the function of the clefted questions in Central Swabian and the clarifying questions in Frisian discussed in Section 3.

[14] Note that I left out the non-manuals here. Maybe the non-manuals could help distinguishing between the question whether we are dealing with one complex clause or two separate clauses. However, not much is known about the behavior of non-manual markers of clauses embedded in *wh*-questions in DGS.

matical elements or structures" (Rohdenburg 2003: 205). This also applies to the structure in (17a), which one the one hand cannot be distinguished from clause repetition although it should have a cleft-interpretation, and on the other hand violates the horror aequi constraint. One empirical prediction the account sketched makes which should be tested in the future is whether it is acceptable to produce two instances of one clause with the first containing a complex *wh*-phrase with and the second the same *wh*-phrase without the restriction, such as the following:

(18) $\overline{\text{WHICH COMPUTER INDEX}_2\ \text{BUY WHICH INDEX}_2\ \text{BUY}}^{\text{wh}}$

In the end, there are, thus, some obvious open questions and challenges to the account sketched here – similar to the accounts found on the market. However, the assumption that the second *wh*-element in the DGS doubling construction is a *wh*-relative pronoun provides us with an explanation of why a complex *wh*-phrase can only be doubled without its restriction, while a *wh*-element inside a PP can – a fact which cannot be accounted for by copying accounts usually assuming of the copies being located in a head (e.g., Neidle, Kegl & Bahan 1994 or Petronio 1993).

5 Conclusions

In this squib, I have argued that the clause-final *wh*-double in the DGS *wh*-doubling construction shows the same distribution cross-linguistically found with *wh*-relative pronouns. Interestingly, some languages allow a *wh*-relative clause to be embedded into a matrix *wh*-question which leads to constructions in which the two *wh*-elements are co-indexed and thus have the same form (although they might diverge in case) and DGS principally allows for similar complex sentences. Following these observations, I have argued that the DGS *wh*-doubling construction might perhaps be derived from a regular *wh*-question with an embedded *wh*-relative clause which finally undergoes sluicing. One modeling option would be to assume that this embedded clause is a cleft underlyingly.

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