

Sluicing Phenomena*

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The paper shows that in various sluicing types, the *wh*-phrase in the sluicing sentence as well as its *relatum* in the antecedent clause must be F-marked, and it explains this observation with Schwarzschild's (1999) and Merchant's (1999) focus theory. According to the semantics of the *wh*-phrase, it will argue that the *relatum* of the *wh*-phrase is an indefinite expression that must allow a specific interpretation. Following Heusinger (1997, 2000), *specificity* will be defined as an anchoring relation between the discourse referent introduced by the indefinite expression and a discourse given item. Because specific indefinite expressions are always novel, contexts like the scope of definite DPs, the scope of thematic matrix predicates, and the scope of downward-monotonic quantifiers which all exhibit non-novel indefinites do not allow sluicing.

0. Introduction

Sluicing constructions present a lot of interesting problems that are related to ellipsis, specificity, and sentence types. Thus, it is a worthwhile topic to show the interface between syntax, semantics and pragmatics as well as to discuss the status of information structure within these three domains.

Before we formulate the problems associated with sluicing constructions like (1) and try to handle them, let's first see what is meant by the notion of *sluicing*.

(1) Peter is reading, but I don't know what ___.

A sluicing construction consists of two conjoined sentences with the first one being the *antecedent sentence* (AS) and the second one the *sluicing sentence* (SS). The latter consists of a matrix clause (MC) and an embedded *wh*-clause. And what is characteristic for sluicing is that the *wh*-clause, we call it *sluicing clause* (SC), contains merely a *wh*-phrase. The antecedent sentence includes the *antecedent clause* which renders the antecedents for the deleted material in the sluicing clause. And, in most cases, it introduces the discourse referent the *wh*-phrase is related to. We will call the linguistic expression that denotes this discourse referent *relatum*. The clause that contains the *relatum* we label *relatum clause*. Usually, but not always the antecedent and the *relatum* clauses coincide. Cases where the *relatum* of the *wh*-phrase is not contained in the sentence that immediately precedes the sluicing sentence are the following - cf. Merchant (1999):

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- (2) a. There was a party yesterday. Do you know who was at this party?
 BETH was there, but I don't know who else.
 b. Sheila has some cats and dogs. Do you know how many dogs and cats she has?
 She has five CATS, but I don't know how many DOGS.

Here, the antecedent sentences are non-exhaustive answers to contextually given questions that relate to a sentence that introduces the relatum of the wh-phrase in the sluicing clause. The stress on the subject in (2a) or on the object in (2b) in the sentence that precedes the sluicing clause indicates that there are alternatives given by the discourse.

Sluicing clauses are mostly embedded in a matrix clause but can also occur alone:

- (3) a. A: What is Hans doing?
 b. B: Hans is reading a book.
 c. A: Which one?

Many authors who are concerned with sluicing phenomena, for instance Chung/Ladusaw/McCloskey (1995) and Romero (2000), have observed that the wh-Phrase may escape *islands* in a sluicing construction - cf. (4a) whereas it cannot in the corresponding full fledged version - cf. (4b).

- (4) a. Sandy was trying to work out which students would be able to solve a certain problem, but she wouldn't tell us which one_i; ~~she was trying to work out [which students would be able to solve t_i]~~
 b. *Sandy was trying to work out which students would be able to solve a certain problem, but she wouldn't tell us which one_i; she was trying to work out [which students would be able to solve t_i]

That the wh-Phrase seems to be channeled or sluiced through syntactic islands within these constructions was the reason that such constructions were labeled as *sluicing*. But, as we will see below, there is no need to assume islands with respect to sluicing constructions and therefore it would be better to call these constructions *wh-ellipsis*. But let's be indulgent like we are when we use the term *atom*; which means indivisibility, to designate something that is divisible.

The paper will show that and why the wh-phrase in the sluicing clause as well as its related constituent in a preceding sentence must be focus-marked. Furthermore, it aims to determine the possible linguistic contexts for the relata of the wh-phrases. It will turn out that such contexts must allow for a specific reading of the relatum. The notion of specificity will be based on von Stechow's (1997, 2000) theory of indexed epsilon terms.

As to the structure of the paper, we will give an overview of sluicing types and their syntactic and semantic properties in section one. In section two, we will explain the information structural properties of sluicing constructions on the basis of Schwarzschild's (1999) and Merchant's (1999) focus theory. And finally in section three, we will turn to the context conditions for the relatum of the wh-phrase and its referential properties.

1. Syntactic and semantic properties of sluicing constructions

With sluicing constructions it is useful to distinguish between constructions where the antecedent sentence and the sluicing sentence are conjoined *asyndetically* and those where both are conjoined by a connective. Both types have in common that the *wh*-phrase in the sluicing sentence is related to a *relatum* that is implicitly or explicitly expressed by a linguistic item in a preceding sentence or that is contained in a proposition that can be derived from a preceding sentence. In most cases, the *relatum* as well as the antecedents for the deleted material in the sluicing clause are given by the antecedent sentence:

- (5) a. Hans is reading a book (and) I would like to know which one.
 b. Hans is reading. Guess what!
 c. Hans is reading a book. Do you know which one?

That the antecedents and the *relatum* are contained in a proposition that is derived from the preceding sentence show the following examples:

- (6) a. Go and buy a book (and) then tell me which one!
 b. Go and buy a book (and) if you will have bought one, tell me which one!
 c. #Go and buy a book (and) tell me which one!

The interpretation succeeds if it is possible to derive a proposition from the first imperative. This proposition is supposed to be true by the attitudinal subject of the sluicing sentence. That the anticipated proposition 'the addressee buys a book' is considered to be true in some situation is expressed by *then* in (6a) and by the conditional in (6b). The interpretation fails when both conjuncts are interpreted as being only a sequence of imperatives as in (6c). The reason is that it must be possible to derive a judgement from the imperative sentence that states that the addressee has bought a book. This judgement introduces a *relatum* that is accessible for the *wh*-phrase. The same holds if the antecedent sentence is a yes/no-interrogative like (7):

- (7) a. Did Peter buy a book and do you also know which one?
 b. #Did Peter buy a book and do you know which one?

In (7a), the *wh*-phrase in the sluicing clause has access to the discourse referent introduced by the indefinite expression in the antecedent sentence because *also* relates the sluicing sentence and thus the *wh*-phrase to the positive answer of the yes/no-question. In (7b), on the other hand, the *wh*-phrase in the sluicing sentence has hardly access to a discourse referent because a positive answer to the interrogative is not implicated.

The only difference between *asyndetic* and *syndetic* sluicing constructions is that the former ones allow for the conjunction of different sentence types (cf. (8)) whereas the latter allow only for the conjunction of identical sentence types.

- (8) a. Hans is reading a book. I would like to know which one.
 b. Hans is reading a book. Guess which!
 c. Hans is reading a book. Do you know which one?
 d. Hans is reading a book, but which one?

That syndetically conjoined sluicing constructions allow only for the conjunction of identical sentence types is due to the categorial properties of the conjunction, which coordinates only conjuncts of the same semantic type. This connective may be the neutral conjunction *and*, adversative conjunctions like *but* and *however* and subordinating conjunctions like *because* and *so that*. Depending on the structural properties of the antecedent sentence and the sluicing sentence, sluicing constructions may have different shapes.

The antecedent and the sluicing sentence can be conjoined root clauses:

- (9) a. Hans reads a book, but I don't know which one.
 b. Hans reads a book and I even know which one.

The antecedent sentence can be subordinated whereas the sluicing sentence is a main clause.

- (10) a. They want to hire a linguist who should speak a Balkan language, but they don't tell us which. Merchant (1999)
 b. Peter got stressed because his boss wants a list, but he doesn't tell us which one. Merchant (1999)
 c. Hans told us that Maria will come, but not when.

We will see later that although the antecedent sentence is subordinated, it behaves as if it were a root clause, which means that it may function as a speech act by itself.

The sluicing sentence can be subordinated as well, namely as an adverbial or relative clause in a complex sluicing sentence:

- (11) a. Paul saw that John killed a girl and because he knew which one, he didn't go to the police.
 b. Peter has bought a car and I am sad because he didn't tell me which one.
 c. Paul will come tomorrow. The person who knows with whom will get the prize.
 d. Peter wants some money. If he doesn't tell me what for I won't give it to him.

Finally, there are cases where both, the antecedent and the sluicing sentence are conjoined and subordinated:

- (12) a. Hans left after his mother had cooked something and he didn't want to tell us what.
 b. Hans got stressed because his boss wanted a detailed list and didn't want to tell him how detailed. Merchant (1999)
 c. They hired someone who speaks a Balkan language and doesn't tell us which.
 d. If someone meets a student of his class and does not tell us which one, he is impolite.
 e. Paul told me that he had met a girl and had not known which one.

Notice that the adversative connectives *but* and *however* are impossible if the sluicing sentence is subordinated as in (11) and (12) and that in these cases the sluicing sentence

can hardly be interpreted as an indirect *wh*-interrogative. That such sluicing sentences do not allow adversative coordination and an indirect *wh*-interrogative interpretation will be explained in section two once we know more about the relation between the antecedent and the sluicing sentence.

The following coordinative sluicing schemes are meant to summarize the short overview on sluicing types. Recall that ‘AC’ stands for the clause that contains the antecedents for the deleted material in the sluicing clause and that ‘SS’ labels the sluicing sentence (matrix clause plus sluicing clause).

- (13) i. AC & SS (9)
 ii. [_{AS} [AC]] & SS (10)
 iii. AC & [[SS] ...] (11)
 iv. [... [AC & SS] ...] (12)

These schemes tell us that the antecedent clause and the sluicing sentence need not be conjoined symmetrically in that each of them can be subordinated and that the sluicing sentence is always adjacent to the antecedent clause.

1.1. Properties of the sluicing sentence

As already mentioned in the introduction, a sluicing sentence consists of a matrix and a sluicing clause and that there are cases like (3) where the sluicing clause is a simple interrogative sentence with a deleted IP.

If the complex sluicing sentence is a root clause, adversative conjunctions are possible. Due to the semantics of these conjunctions, which always combine categories of the same type, as well as to the fact that the antecedent sentence has declarative sentential force or must allow to derive a judgement, the sluicing sentence cannot be a *wh*-interrogative sentence and thus a direct question act. If the sluicing sentence were an interrogative sentence, it should allow a *wh*-phrase in SpecCP. This is not possible as we see in the following German example:

- (14) *Hans sagte, dass er eine schöne Frau kennengelernt hat, aber welche
 Hans told that he a beautiful women met but which one
 zögert er zu sagen (dass er kennengelernt hat).
 hesitates he to say (that he met)
 ‘Hans told us that he met a beautiful women, but which one he hesitates to say.’

If we neglect the full-fledged version of (14), it seems to be well formed. But as we see in (14’), it is not the *wh*-phrase that is moved to SpecCP, but the topicalized sluicing clause.¹

¹ That it is the sluicing clause that is moved to SpecCP of the matrix clause was also shown by Merchant (1999: 55) who goes back to Ross (1999). They use this observation to argue that *wh*-clauses are CPs but not fragments.

- (14') Hans sagte, dass er eine schöne Frau kennengelernt hat, aber welche
 Hans told that he a beautiful women met but which one
 (er kennengelernt hat), zögert er zu sagen.
 (he met) hesitates he to say
 'Hans told us that he met a beautiful women, but which one (he met) he hesitates
 to say.'

That the sluicing sentence has declarative sentence force is further supported by the fact that it can be negated and/or referred to by a sentential pronoun as in (15):

- (15) a. A: Hans told us that he has met a beautiful woman but he hesitated to
 say which one.
 b. B: This is not true since he did say which one.

That the sluicing sentence does not allow the *wh*-phrase to be in its SpecCP, that it can be negated, and referred to by a sentential pronoun makes it clear that it is a declarative sentence and does not indicate interrogative sentence force. It is, however, without doubt that it can perform an indirect interrogative speech act.

As to the internal structure of the sluicing sentence, the matrix clause, as Ross (1969) already mentioned, allows for all and only predicates that *s*-select questions and *c*-select CPs. Adversative cases additionally need predicates that are adversative and/or must be within the scope of an adversative conjunction or particle:

- (16) a. Peter has bought a book, but I don't know which one.
 b. Peter has bought a book and I ask you which one,
 c. Peter has bought a book and I even know which one.
 d. Peter has bought a book and he hesitates to say which one.

The sluicing sentence can contain conjoined sluicing clauses as in (17), or it embeds two *wh*-clauses with the first one supplying the antecedent for the sluicing clause – cf. (18).

- (17) A girl has got dirty a table-cloth and I want to know which girl and which table-cloth.
 (18) a. This report details WHAT IBM did and WHY.
 b. I know that Maria will come and also why.

The following schemes summarize the internal structure of the sluicing sentence:

- (19) i. [ss MC [sc whP_i [IP \dots t_i \dots]]] (16)
 ii. [ss ... [SC & SC] ...] (17)
 iii. [ss ... [AC & SC] ...] (18)

The sluicing clause itself consists of a *whP* or *whPs* in SpecC and a phonologically empty IP – cf. (19i). We may state that every *wh*-phrase can function as a sluice.

If the relatum of the *wh*-phrase of the sluicing clause is in the scope of an universal QP, the sluicing clause contains either an anaphorical expression or a QP that relates to

this QP as indicated within the brackets in (20a) and (20b).² Or it contains two wh-phrases as in (21). In both cases, a pair-list answer corresponds to the sluicing clause:

- (20) a. A: Every boy was dancing with a girl last night, but I cannot tell you with which girl (they were dancing each/every boy was dancing).
 B: Peter was dancing with Maria, Paul with Petra, ...
 b. A: If John has guests, he cooks, but I cannot tell you what (he always cooks on these occasions/if he has guests).
 B: On Monday he makes pasta, on Tuesday paella,

- (21) Every boy was dancing with a girl last night, but I cannot tell you which boy with which girl.

The same happens if there is an implicit relatum in the antecedent clause:

- (22) Every boy was dancing last night, but I won't tell you with whom (they were dancing each/every boy was dancing).

That the sluicing clause with a non-overt relatum may contain an intervening operator phrase as the whP in (21) or the distributing operators like *each* or *always* in (20) contradicts Romero's (2000: 197) claim that an operator of any kind cannot intervene between the sluiced wh-phrase and its trace. We will come back to this in section 3.2..

Additionally, it is not true that implicit indefinites must always have narrowest scope. There are cases where also implicit indefinites may have wide scope, as the following example shows:

- (23) A: Every child in the kindergarten is dancing, but I do not know with whom.
 B: With Agnes, I believe.

For all examples handled so far, we may state that the wh-phrase as the only overt element of the sluicing clause is focus marked.

As to the phonologically empty IP, all empty material in it must be *given*. This means that we consider the IP to be internally structured – cf. Merchant (1999, 2001) and Schwabe (2000). The structure of the IP resembles the structure of the IP in the antecedent clause except for the focus marked elements. Unlike Chung et al. (1995) and Romero (2000) and like Merchant (1999), we regard the IP of the sluicing clause to be the copy of only the antecedent clause, this means of the IP that immediately dominates the antecedents of the phonologically empty material in the sluicing clause. In that the sluicing clause is not a copy of the whole first conjunct, there is no need to explain why wh-phrases may escape islands - cf. the discussion centring on example (3).

1.2. Properties of the antecedent sentence

We already know from the previous sections that the antecedent sentence must have declarative sentence force or allow to derive a judgement. Thus it supplies directly or

² The anaphorical expression *they* refers to a discourse referent that results from the semantic operation Abstraction. This operation applies to discourse referents in the scope of an operator as *every* in (20) - cf. Kamp & Reyle (1993). Thus the plural pronoun *they* refers to the set of objects that are boys and that were dancing.

indirectly the relatum for the wh-phrase and the antecedents for the phonologically empty material in the sluicing clause.

We also know that the relatum may either be *given* explicitly as by an indefinite DP,

(24) Hans reads a book and I even know which one.

and it can be *given* implicitly by the unspecified argument provided by the argument structure of the verb:

(25) She is writing, but I can't imagine where/why/with whom.

The semantics of verbs such as *write* provides argument variables and/or variables for modification that are not specified by the sentence meaning. As we will see in section three, these variables are similar to specific indefinite DPs in that the discourse referents they introduce are anchored to linguistically or contextually *given* individuals. In all cases, the relatum for the wh-phrase must always be focus-marked.

The form of the relatum is determined by the semantics of the wh-phrase in the sluicing clause. Thus *who*, *what*, *where*, *when*, *why* and *in what way* need an unspecified argument or modifier variable as relatum, whereas *whichX* and *whatX* relate to an indefinite DP.

There are certain contexts that prevent the wh-phrase from having access to its potential antecedent. Contexts of this kind are for instance the description of definite DPs (26) and (27), complements of thematic matrix predicates (28) and (29), the scope of downward-monotonic quantifiers (30) and (31), and the dependency on non-specific indefinite DPs (32).

(26) a. *They found the man yesterday who has murdered a women, but they won't tell us which one.
 *Yesterday, I bought the book about a politician, but I've forgotten about which one.

(27) Yesterday, I saw the boy who was reading, but I cannot say what.

(28) a. *Ramon is glad that Sally was dancing with a boy, but I don't remember with which one.
 b. *They regretted that they were talking to some girls, but I don't know to whom (they talked). (Romero 2000)

(29) a. *Ramon is glad that Sally was dancing, but I don't remember with whom.
 b. *They regretted that they were reading, but I don't know what.

(30) a. *They hired few people who spoke a lot of languages – guess how many! (Merchant 1999)
 b. *Joan rarely read any book, but I don't know which one.
 c. *They hired no people who spoke a lot of languages - guess how many!
 d. *John never makes any joke when he has guests, but I don't know which one.

- e. *John rarely sings any song when he has guests, but I don't know which one.
 *Paul didn't want to read any book, but I don't know which one.
- (31) a. *Few kids ate, but I don't know what. Romero (2000: 200)
 b. *Joan rarely fed my fish, but I don't know with which product.
 c. *They met no people who were reading, but they did not tell us what.
 d. *John never cooks himself when he has guests, but I don't know what.
 e. *John rarely cooks himself when he has guests, but I don't know what.
 f. *Paul didn't want to read, but I don't know which book.
- (32) They are looking for some linguist who has written a thesis, but they cannot tell you which one.

That sluicing constructions are not felicitous if there is a thematic matrix predicate or a downward-monotonic quantifier was also observed by Romero (2000). She attributes her observations to the above mentioned constraint that in the sluicing clause of antecedentless sluicing, no operator can intervene between the *wh*-phrase and the trace of this *wh*-phrase. In that she investigates only antecedentless sluicing, she suggests that this a special property of antecedentless sluicing. But as we can notice with respect to (26), (28), and (30), also antecedent clauses with overt relata exhibit this context restriction. As already mentioned above, Romero's explanation of this restriction cannot be maintained because there are operators that intervene between the *wh*-phrase and its trace - cf. (20) and (21).

The observations made so far, that the relatum as well as the *wh*-phrase must be focus-marked, that the sentence that contains the relatum must always be declarative or allow to derive a judgement so that the discourse referent the *wh*-phrase relates to becomes accessible for the *wh*-phrase and that certain contexts of the relatum do not allow for sluicing, result in the following questions:

- i Why must the relatum and the *wh*-phrase be focus-marked?
- ii Why must the relatum sentence always be a judgement?
- iii What are the referential properties of the relatum and how do they determine the respective context?

As we will see below, the answers to these questions will follow from Schwarzschild's (1999) focus theory and its modification by Merchant (1999), from the semantics of the *wh*-clause and of the relatum. The latter we will base on von Stechow's (1997, 2000) theory on indexed epsilon terms.

2. Information structure of the antecedent clause and the sluicing clause

According to Schwarzschild (1999), F-markers are freely assigned and subject to constraints such as *FOC*, *HEADARG*, *GIVENness*, and *AVOIDF*. *FOC* demands that a F-marked phrase contains an accent if it is not immediately dominated by another F-marked node whereas. *HEADARG* regulates that a head is less prominent than its internal argument. *AVOIDF* prevents F-marking more phrases than necessary whereby *GIVENness* must not

be violated. The latter constraint says that a constituent that is not F-marked must be *given*. As to Schwarzschild's definition of *given* see (33):³

- (33) (i) *Definition of Given* (informal version)
 An utterance U counts as *GIVEN* iff it has a salient antecedent A and if U is of type e, then A and U corefer;
 otherwise: modulo \exists -type shifting, A entails the Existential Closure of U.
 (ii) *Existential Closure of U* (F-clo (U))
 The result of replacing F-marked phrases in U with variables and existentially closing the result, modulo existential type shifting

It follows from Schwarzschild's theory that only *given* constituents must be licensed and that F-marked constituents may be either *novel* or *given*. Turning to the possibility of ellipsis as in the sluicing clause, Merchant (1999) has shown that Schwarzschild's focus theory must be extended to ensure the semantic identity of the phonological empty material with the antecedent material it corresponds to. Thus, the IP in the sluicing clause can only be deleted if the sluicing clause satisfies e-*GIVENNESS*.

- (34) e- *GIVENNESS* (Merchant 1999)
 An expression E counts as e-GIVEN iff E has a salient antecedent A and, modulo \exists -type shifting,
 i. A entails F-clo(E), and (cf. Schwarzschild 1999)
 ii. E entails F-clo(A).

Note that 'F-clo' corresponds to Schwarzschild's Existential Closure in (33). As we may see with respect to (35), the matching of the information structural properties of the sluicing and the antecedent clause with e- *GIVENNESS* entails that the whP as well as its relatum must be F-marked and that the antecedent clause must be propositional.

- (35) They hired a linguist who speaks a [BALKAN language]_F but I do not know [which one]_F ~~he speaks~~

Here the antecedent clause is the relative clause of the first conjunct - cf. (13ii) - where only the object *a Balkan language* is F-marked. Because the IP in the sluicing clause is *given*, it must fulfill e-*GIVENNESS*. According to the definition of e-*GIVENNESS* in (34i), the antecedent clause entails the existential F-closure of the sluicing clause (35'i). And, vice versa, according to (34ii), the proposition derived from the interrogative sluicing clause by existential type shifting entails the existential F-closure of the antecedent clause (35'ii). We get the existential F-closure of the sluicing clause by binding the variable that is given by the focused wh-phrase existentially.⁴

³ Schwarzschild (1999) defines existential type shifting as raising expressions to type t, by \exists -binding unfilled arguments.

⁴ Following Stechow & Zimmermann (1984) and Krifka (2001a), we consider a question to be a function which results in a proposition if it is mapped onto the meaning of its answer:

- i. A: Who does Hans love? $\lambda x \in \text{PERSON} [\text{love}(\text{hans})(x)]$
 B: Anna. anna
 question mapped onto the answer: $\lambda x \in \text{PERSON} [\text{love}(\text{hans})(x)](\text{anna})$
 $= \text{love}(\text{hans})(\text{anna})$

- (35') i. He speaks a Balkan language $\rightarrow \exists x$ [speak (he) (x)]
 (= ||AC||)
 ii. $\exists x$ [speak (he), (x)] $\rightarrow \exists x$ [speak (he) (x)]
 (= ||SC||)

In that the antecedent clause must be a proposition, it is a non-restrictive relative clause. This means it cannot be interpreted as a restrictive relative clause, since the latter is of type $\langle\langle e,t \rangle, \langle e,t \rangle\rangle$. Additionally, it is a judgement because the adversative sluicing sentence can only be related to a proposition that is asserted.

The next example shows what happens if the whole IP of the antecedent sentence is F-marked.

- (36) They hired a linguist who [speaks_F a Balkan language_F]_F but I do not know [which one_F ~~he speaks~~]
 i. He speaks a Balkan language $\rightarrow \exists x$ [speak (he) (x)]
 ii. $\exists x$ [speak (he), (x)] $\rightarrow \exists x \exists Q$ [Q (he) (x)]

IP-ellipsis in the sluicing clause is possible because e-GIVENNESS is satisfied. That the relatum of the wh-phrase must be F-marked follows, as we may see in (35ii) and (36ii) from (ii) in e-GIVENNESS (34).

E-GIVENNESS also explains why the VP must be F-marked if the relatum is expressed implicitly. According to (34ii), it must be F-marked so that the existential F-closure of the antecedent clause can be entailed by the sluicing clause.

- (37) She is writing_F, but I can't imagine what_F.
 (i) She is writing $\rightarrow \exists x$ [write (she) (x)]
 (ii) $\exists x$ [write (she), (x)] $\rightarrow \exists Q$ [Q (she)]

That the relatum of the wh-phrase can also be an unspecified argument of a relational noun can be seen in the next example:

- (38) Maria has [_F bought_F tickets_F]_F, but she doesn't tell us for which film.

Up to now, the antecedent for the sluicing clause was always a proposition that was expressed by the antecedent clause. But, as we already know from the examples (6) and (7) in section one, there are cases where the sluicing clause relates to a proposition that must be derived from the antecedent clause of the sluicing clause – cf. Merchant (1999: 239):

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- ii. A: Does Petr read a book? λf [f (read (p) (b))]
 B: Yes. λp [p]
 question mapped onto the answer: λf [f (read (p) (b))] (λp [p])
 = read (p) (b)
- iii. A: Does Petr read a book? λf [f (read (p) (b))]
 B: No. λp [$\neg p$]
 question mapped onto the answer: λf [f (read (p) (b))] (λp [$\neg p$])
 = \neg read (p) (b)

- (39) a. Sandy was trying to work out which student solved a certain problem, but she wouldn't tell us which one. Merchant (1999: 239)
 b. Peter told me who Mary met and why.
 c. Did Peter buy a book and do you also know which one?
 d. Go to the party, but do not tell me with whom!

Similarly to our discussion with respect to (5) and (6), the propositions that are to be derived are something like: 'The student that Sandy has identified solved a problem' for (39a), 'Mary met somebody' for (39b), 'Peter bought a book' for (39c), and 'Hearer goes to the party' for (39d). Following Schwarzschild (1999: 157), let's try to use existential type shifting to obtain a proposition out of the interrogative antecedent in (39a) by binding the free variable *there* by an existential operator and checking whether *e-GIVENNESS* (34) is met.

- (40) i. $\exists x \exists y [\text{student}(x) \wedge \text{problem}(y) \wedge \text{solve}(x)(y)] \rightarrow$
 $\exists y \exists x [\text{student}(x) \wedge \text{problem}(y) \wedge \text{solve}(x)(y)]$
 ii. $\exists y \exists x [\text{student}(x) \wedge \text{problem}(y) \wedge \text{solve}(x)(y)] \rightarrow$
 $\exists y \exists x [\text{student}(x) \wedge \text{problem}(y) \wedge \text{solve}(x)(y)]$

We may observe that *e-GIVENNESS* is met in (40), where the subject in the antecedent clause, which is represented similarly to an indefinite, is copied into the sluicing clause. However, (40) does not account for the fact that the subject of the sluicing clause must be an anaphoric expression as indicated in (41):

- (41) Sandy was trying to work out which student solved a certain problem,
 a. *but she wouldn't tell us which (a student solved).
 b. but she wouldn't tell us which one (the student she has worked out solved).

This example as well as (39b) show that we cannot gain the necessary antecedent proposition by existential type shifting of the interrogative antecedent clause, but by accommodating an answer to the question that contains an anaphoric expression such as 'the student that Sandy has identified solved a certain problem' or 'Mary met the person she met'.

Turning to (39c), we may notice that also there it is not possible to obtain the antecedent proposition for the sluicing clause by existential type shifting the yes-no interrogative.

- (42) i. $\exists f \exists x [f(\text{book}(x) \wedge \text{read}(\text{peter})(x))] \rightarrow \exists x [\text{book}(x) \wedge \text{read}(\text{peter})(x)]$
 ii. $\exists x [\text{book}(x) \wedge \text{read}(\text{peter})(x)] \rightarrow \exists f \exists x [f(\text{book}(x) \wedge \text{read}(\text{peter})(x))]$

The entailment relation would be invalid if the variable 'f' were instantiated by a negative proposition - cf. fn. 4:

- (43) i. $\neg \exists x [\text{book}(x) \wedge \text{read}(\text{peter})(x)] \rightarrow \exists x [\text{book}(x) \wedge \text{read}(\text{peter})(x)]$
 ii. $\exists x [\text{book}(x) \wedge \text{read}(\text{peter})(x)] \rightarrow \neg \exists x [\text{book}(x) \wedge \text{read}(\text{peter})(x)]$

Since the antecedent proposition cannot be obtained by existential type shifting, it must be derived in some other way. It can be derived by accommodating the affirmative answer to the question given by the antecedent clause. As to the imperative in (39d), the antecedent is the accommodated proposition that represents the action the addressee is asked to do.

So far we have shown and explained that and why the relatum in the antecedent as well as the wh-phrase in the sluicing clause must be F-marked with respect to examples that belong to type i and ii in (13). That Merchant's and Schwarzschild's theory also holds for the types (13iii) and (13iv) is easy to work out. Additionally, we have shown that if the antecedent clause is non-propositional, the antecedent proposition must be derived by accommodation.

In section one, we have mentioned that there are contexts that prevent the wh-phrase from having access to its potential antecedent. Now we can try to explain this with the aid of Schwarzschild's and Merchant's theory.

3. Appropriate and non-appropriate contexts for sluicing

3.1. The need for specificity

Recall that contexts that do not allow for Sluicing are the description of definite DPs (26) and (27), the description of complements of thematic matrix predicates (28) and (29), the scope of downward-monotone quantifiers (30) and (31), and the dependency on non-specific indefinite DPs (32).

- (44) a. *They found the man who has kissed a woman, but they won't tell us which one.
 b. *Ramon regrets that Sally was dancing with a boy, but I don't remember with which one.
 c. *They hired few people who spoke a lot of languages – guess how many!
 d. ?They are looking for some linguist who has written a thesis, but they cannot tell you which one.

With Heim (1982) and Schwarzschild (1999), we regard the referent of a definite DP to be an entity which is thematic or given, respectively. But to be given need not mean that it must have been mentioned in the current discourse or that it is prominent in the utterance situation. An entity can also be seen as *given* if it is anchored in the mental lexicon of the discourse participants. Then, it can be retrieved from there and introduced as a novel discourse referent into the current discourse.⁵ Let us assume that as the description of definite DPs, also the description of thematic complements and the scope of downward-monotonic quantifiers are thematic, that means given. According to *AVOIDF* and *GIVENNESS*, the constituents in these contexts actually need not be F-marked.

That according to *GIVENNESS*, non-F-marked constituents must be *given* does, however, not mean that all F-marked constituent must be non-*given*. Or to formulate the

⁵ That there are definite DPs that denote discourse referents that are novel with respect to the discourse is also discussed in Umbach (2001). She remarks that such definite DPs contain an accent whereas definite DPs that are given in the discourse do not. To contain an accent indicates that the definite DP is either F-marked itself or is dominated by a F-marked constituent.

question in another way: Are there given elements that can be asked for? Schwarzschild (1999: 158ff.) shows that there are cases like (45) where a *given* constituent must be F-marked to satisfy *GIVENness*.

- (45) *Who did John's mother praise?*
A: She praised [HIM]_F

Here, the object in the answer must be F-marked because the existential F-closure of the answer must be entailed by the type shifted question. If it were not F-marked, existential F-closure could not take place. Now we may ask whether the *given* definite DP can be F-marked. The answer is yes, as long as it can be asked for and thus the *GIVENness* effect (33) can obtain.

To demonstrate this, we take (46a) as a contextually given questions. With this question, the whole DP in the answer (46b) must be F-marked.

- (46) a. They have found somebody, but I don't know *who*?
b. They found [the man who kissed a WOMAN]_F.

According to Schwarzschild's (1999: 170) *Foc* constraint, *Foc*-marked material must be accented. Therefore *woman* carries the pitch accent. The question that arises now is why the *indefinite* in thematic contexts cannot be related to by the wh-phrases in the following sluicing constructions:

- (47) *They found [the man who has kissed a WOMEN]_F, but they won't tell us which one.
(48) *Ramon regrets [that Sally was dancing with a BOY]_F, but I don't remember with which one.

We suggest that an *indefinite* in a thematic context cannot be related to by a wh-phrase if the entity it denotes is interpreted as non-specific by the attitudinal subject of the wh-interrogative. We consider the latter to be the subject that poses the question. It can either be expressed explicitly within the matrix proposition of the sluicing sentence or be the speaker in case the sluicing sentence consists only of a wh-phrase as given in (3c).

That the relatum of the wh-phrase must be an *indefinite* and that this *indefinite* must allow for a *specific interpretation* for the attitudinal subject is presupposed by the wh-Phrase. Let's suppose that a wh-question is something like an instruction to choose a value for a variable out of a value set.⁶ This value set is denoted by the restriction of the wh-phrase. Thus the wh-phrase presupposes *first* a value set that is not a singleton. *Second* the wh-Phrase presupposes that the choice of a particular value out of this set is possible. Both is necessary to get a coherent answer for the question. As to the antecedent clause for a question, the value set is denoted by the description of the relatum DP or by the semantics of the verb in that clause. This DP can only be an *indefinite* DP because the value set for an *indefinite* DP is not a singleton and because *indefinites* allow the choice of a particular value for the variable they introduce. If there is a choice of a particular value for a value set, we speak, following Farkas (2001), of a *specific*

⁶ As to the notion of 'value set' see Farkas (2001).

interpretation of the indefinite or, to be short, of a specific indefinite. A definite DP, on the other hand, has a value set that is a singleton. This prevents it from serving as the relatum for a wh-phrase.

Let us return to contexts as in (44) that do not allow a specific interpretation of the indefinite *a woman* for the attitudinal subject *they*. Notice that the antecedent of the attitudinal subject is not contained in the thematic antecedent clause, but in the non-thematic matrix clause. Now the question arises why the attitudinal subject of a non-thematic sentence cannot have access to a discourse referent introduced by an antecedent clause as in (44a-c) which contains given or thematic material.

If an indefinite is given, a discourse referent with the same description has been introduced before and has not been assigned a value, and has thus become existentially bound. This happens if the discourse referent is not relevant to the subsequent discourse. If it is not relevant, it, metaphorically speaking, logs out or goes offline, respectively. Then it can go lost and it can hardly be retrieved anymore.⁷ A discourse referent goes online when it is introduced or logged in by an indefinite expression in a particular sentence (see Heim's (1982) Novelty condition). If the discourse referent is needed for the ongoing discourse as in the sequence of an antecedent clause and a sluicing clause, this means transsententially, it must stay online and thus be anchored to the discourse. It is then anchored to a further discourse referent and thus accessible to the attitudinal subject of the sluicing sentence. As we can see with respect to the complements of the thematic predicates in (44a-c), they only consist of one clause which means that within this thematic context, the discourse is not continued. It follows that the discourse referent introduced by the indefinite is not anchored to the discourse and thus not accessible to the attitudinal subject of the sluicing sentence.

But what happens if the discourse proceeds in thematic contexts? The next examples show that sluicing is possible also in thematic contexts. Sluicing only obtains there if the attitudinal subject is in this thematic context as well.

- (49) a. They found [the man who has kissed [a women_{the man}]_F and who didn't tell us which on]_F
 b. *They [found the man who has kissed a women_{they}]_F and I won't tell you which one.
- (50) a. Ramon [regrets that Sally was dancing with [a boy_{sally}]_F and that she didn't remember with which one]
 b. *Ramon [regrets that Sally was dancing with a boy_{ramon}]_F and he doesn't remember with which one.

In (49a) and (50a), the discourse referent introduced by the indefinite can only be anchored to the subject of the embedded antecedent clause and not to the subject of the matrix clause or to the speaker. If it is anchored to the subject of the embedded relative

⁷ Krifka (2001b) terms given indefinite NPs as "non-novel indefinites". He discusses them in the context of adverbial quantification and information structure, in examples like (i) and (ii). An indefinite NP in the background is marked as non-novel (=NN). The difference in information structure determines the domain of quantification as in the paraphrases illustrated:

(i) [A freshman]_{NN} usually wears a BASEBALL cap. "Most freshmen wear a baseball cap"

(ii) A FRESHMAN usually wears a [baseball]_{NN} cap. "Most baseball caps are worn by freshmen"

or complement clause, it can be specific for the attitudinal subject of the sluicing sentence.

From this we may conclude that the discourse referent introduced by the indefinite in thematic clauses can only be anchored to a discourse referent that is introduced by this thematic proposition. If, on the other hand, the respective proposition is non-thematic, it can be anchored to a discourse referent either introduced by this proposition as in (51a) or by an embedding proposition as in (51b). Or it even can be anchored to the speaker as shown in (51c).

- (51) a. Peter told us that Karl kissed a woman_{karl}, but he_{peter} cannot tell you which one.
 b. Peter met a boy who kissed a woman_{peter}, but he_{peter} cannot tell you which one.
 c. Peter wants to read a Norwegian novel_{speaker}, but I don't tell you which one.

That the relatum of the *wh*-Phrase must allow a specific interpretation for the attitudinal subject also holds for the relatum of the *whatP* as in (52), which is often thought to be non-specific.

- (52) A: Peter is reading a book, but I do not know what kind of book (the book he is reading is).
 B: The book he he is reading is a BORING one.

The *whatP* asks for a property of a specific DP, this means it asks for a further predication of an online discourse referent. This is attested in (52) by the full-fledged version of the sluicing clause and by the definite expression in the answer

Let's conclude: On the one hand, the relatum of a *wh*-Phrase must be specific for the attitudinal subject of the sluicing sentence. It only can be specific if it is online for the attitudinal subject. On the other hand, an indefinite DP in a thematic context cannot be interpreted as being specific if the attitudinal subject of the sluicing sentence is outside this thematic context. Then the information structural status of the indefinite tells the attitudinal subject of the sluicing sentence that there is a *given*, but offline discourse referent. That this discourse referent has gone offline is due to its irrelevance for the discourse. This irrelevance is passed on the subsequent discourse so that the discourse referent introduced by the indefinite in thematic contexts has no choice but to log out. This contradiction explains why the discourse referent that is introduced by an indefinite in a thematic context is not accessible to an attitudinal subject and thus for the *wh*-phrase outside the thematic context.

In the following section, we will see how the notion of specificity given up to now pretheoretically is modelled in Heusinger's (1997, 2000) theory.

3.2. The representation of specificity in sluicing

As von Heusinger (1997, 2000) explains, indefinite DPs can vary in their referential properties along (at least) two dimensions: scope and specificity. To represent these independent properties appropriately, we take von Heusingers (1997, 2000) theory, in which indefinite DPs are represented as indexed epsilon terms. This is illustrated in (53):

(53) a painting: $\exists x$ [painting(x)]

The epsilon operator is interpreted as a choice function that assigns to each (non-empty set) one of its elements. In other words, the referent of an indefinite DP is found by the operation of selecting one element out of the set that is described by the description. The selection depends on the context in which the indefinite is located. This treatment is similar to that of discourse representation theories (Heim 1982; Kamp 1981), where indefinites introduce new individual variables or discourse referents. One of the main advantages of using choice function variables instead is the following: Indefinites need not be moved or raised for expressing different dependencies. They remain *in situ*, whereas the choice function variable can be bound by different operations, e.g. adverbs of quantification, existential closure, etc. This causes different scope readings of the indefinites:

Specificity is taken as an independent referential property of indefinite DPs (see Fodor & Sag 1982, Enç 1991, Farkas 1995 and 2002). Following von Heusinger (2001), we assume that a specific indefinite DP is “referentially anchored” to a discourse item. This can be the speaker or some other index of the utterance context, on the one hand, or some introduced referent, on the other. In that the discourse referent is anchored to some discourse participant, it can stay online and be subject to further linguistic operations.

The anchor-relation is represented by a function f from that discourse item to a certain choice function. In other words, the function f links the choice of the indefinite to the value of this discourse item. This means that the indefinite receives the same scope as the discourse item it depends on. If the indefinite DP is not anchored and goes thus offline, its context index variable is existentially bound.

Example (54) illustrates the different referential options of the indefinite. The example may be assigned a non-specific reading of the indefinite (“There is some painting by Picasso or other such that John likes it”), as in (54a). The more prominent specific reading (54b) can be paraphrased as “I can identify a picture and this picture is such that John admires it”. There is another specific reading of (54), namely (54c) with the paraphrase “John has a particular picture of Picasso in mind, and he admires it, but I cannot tell which one”.⁸

(54) John admires a painting of Picasso.

- a. $\exists i$ [admire(john, $\epsilon_i x$ [painting(x)])]
(non-specific)
- b. admire(john, $\epsilon_f(\text{speaker})x$ [painting(x)])]
(specific: *speaker-anchored*)
- c. admire(john, $\epsilon_f(\text{john})x$ [painting(x)])]
(specific: *subject-anchored*)

(54b) and (54c) differ in that the indefinite is anchored to different discourse items.

⁸ The formulations “has in mind” or “can identify” should motivate the specific reading. However, such formulations are very informal, and in certain contexts even misleading (see von Heusinger 2001 for a detailed discussion).

The different referential properties of indefinite DPs are additionally dependent on the information structure (see Lenerz 2001) and on other constructions, such as coordination (see Schwabe & von Heusinger 2001).

Having the two necessary ingredients: the need for specificity and the appropriate representational format, we can now represent the different contextual behavior of antecedent clauses.

If the relatum of the wh-phrase in the sluicing sentence must allow a specific interpretation, the context index of the epsilon operator in the semantic representation of the relatum must be substituted by a function f from some discourse item to a certain choice function. This means that the function f assigns to the discourse item a particular choice function, and thus a particular element that is assigned to the given set. In the following example the function f relates the particular choice function to the speaker:

- (55) Peter is dancing with a girl, but I won't tell you with which one.
 peter was dancing with $\epsilon_{f(\text{speaker})z}$ [girl (z)], but ... wh (z): girl(z): peter was-dancing-with z

If the relatum is in the scope of a universal quantifier as in (56), the function f relates the particular choice function to a particular boy – each boy has his own choice of a particular girl.

- (56) Every boy was dancing with a girl, but I don't know with which one!
 Every(x): boy(x): x was dancing with $\epsilon_{f(x)z}$ [girl(z)],
 but ... wh (z): girl (z): Dist (x): boy (x): x was dancing-with z

The answer to such a sluicing sentence would be a pair-list answer such as *Peter was dancing with Petra, Paul was dancing with Maria,* This example shows that to get the specific-narrow scope reading in the sluicing clause, there must be an intervening operator between the wh-phrase and its trace. The distributing operator in (56) is necessary to prevent the cumulative reading. It distributes over the set of boys such that each boy dances with a particular girl. Contrary to Romero (2000: 197ff.), the example (57) shows that also a sluicing clause with a non-overt relatum may contain an operator:

- (57) Every boy was dancing last night, but I won't tell you with whom (they were dancing each/every boy was dancing).

She bases her claim on the scope parallelism requirement between the antecedent and the sluicing clause (Chung et al. 1995) and on the observation that implicit indefinites have always narrowest scope (Fodor-Fodor 1980). In her framework, the wh-phrase in the sluicing clause has wide scope and because the implicit indefinite in the antecedent clause must have narrow scope, the parallelism requirement is not met. If there are any "apparent intervenors" as in (57) between the wh-phrase and its trace, she translates the QP into an E-type pronoun that doesn't count as an intervenor anymore. But, her proposal does not hold because a distributing operator is needed to interpret the predicate in the sluicing clause - see (56) and (57). And as we have already mentioned in section 1.1., it is not true that implicit indefinites must always have narrowest scope. There are cases like (23) repeated here as (58) that show that implicit indefinites may have wide scope:

- (58) A: Every child in the kindergarten is dancing, but I do not know with whom.
 B: With Agnes, I believe.

We can also construe a context where the indefinite DP in (56) has wide scope as the implicit indefinite in (58). Then the choice of the indefinite DP depends on the speaker or some other discourse participant:

- (59) Every(x): boy(x): x was dancing with $\epsilon_{f(\text{speaker})}z$ [girl(z)],
 but ... wh(z) : girl(z): Dist (x): boys (x): x was dancing-with z

The relatum however cannot have a non-specific interpretation like the narrow scope one in (60) or the wide scope one in (61) because it would then not be accessible to the wh-phrase in the sluicing sentence.

- (60) *Every(x): boy(x): \exists_i [x was dancing with $\epsilon_i z$ [girl(z)]], but ...
 (61) * \exists_i [Every(x): boy(x): x was dancing with $\epsilon_i z$ [girl(z)]], but ...

As we have already mentioned, the specific reading of the relatum cannot obtain if the relatum is in the scope of a definite article or a thematic predicate and the attitudinal subject of the sluicing sentence is not. Because the description of definite DPs as in (44a) and the complement of thematic matrix predicates as in (44b) are thematic or *given*, respectively, the indefinite expression in them is also *given*. To be *given* means for an indefinite DP that a discourse referent with the same description has previously been introduced, but has gone offline. That it has gone offline indicates that there wasn't any interest to anchor it. Because there is no need for its anchoring, the discourse referent that according to Heim's Novelty (1982) condition is introduced by the indefinite expression in the antecedent clause is also not anchored – cf. (62) and (63). Thus sluicing always fails in such contexts.

- (62) * \exists_i [They found the man yesterday who has kissed $\epsilon_i x$ [women (x)]] but they won't tell us which one.
 (63) * \exists_i [Ramon is glad that Sally was dancing with $\epsilon_i x$ [boy (x)]] but I don't remember with which one.

That indefinite DPs in thematic antecedent clauses cannot be specific for attitudinal subjects outside this thematic context explains why their context index cannot be substituted with a function *f* that relates a particular discourse item to a particular choice function. Their context index can only be bound existentially, which blocks them from being related to by the wh-phrase of the subsequent sluicing clause.

That thematic relata are unsuitable antecedents for the wh-phrase outside the thematic contexts can also be attested with respect to downward-monotone quantifiers. Their scope is *given* by the context as well. Thus, they can only contain non-novel indefinite expressions and not render relata for the wh-phrase.

But as Merchant (1999: 252) and Romero (2000) point out, constructions such as (64) are evaluated as well-formed by some informants.

- (64) a. ?They hired few people who spoke a lot of languages – guess how many!
 b. ?Few kids were reading, but I don't know what (they were reading each).

This becomes possible when these informants interpret the expression *few linguists* as a plural set and not as a downward-monotone quantifier. The plural set can be related to by an E-type pronoun in the sluicing clause (cf. Evan (1980)). But to obtain the correct interpretation of the predicate in the sluicing clause, this set must be distributed. Because the set interpretation does not presuppose *given* material, the indefinite expression *a lot of language can be non-given* and thus specific so that the choice function can be related to a particular discourse item.

The following example shows that an indefinite DP is not accessible to a wh-Phrase if this indefinite depends on a non-specific indefinite DP.

- (65) They are looking for a linguist who speaks a Balkan language, but they cannot tell you which.
 $*\exists_i$ [They are looking for $\epsilon_i x$ [linguist(x)] & $\epsilon_i x$ [linguist(x)] speak $\epsilon_{f(x)} z$ [Balkan language (z)]], but ...

If the first indefinite DP *a linguist* is non-specific and the reference of the second indefinite DP *a Balkan language* depends on the first indefinite, the DP *a Balkan language* inherits the non-specificity of this DP. Then sluicing is not possible.

The indefinite DP *a Balkan language*, however, can be specific if it is related to some discourse referent as for instance the speaker (66) or to the linguistically introduced discourse item *a linguist* which is related by the function *f* to the subject of the antecedent sentence (67).

- (66) \exists_i [They are looking for $\epsilon_i x$ [linguist(x) & speak (x) ($\epsilon_{f(\text{speaker})} z$ [B.l.(z)]])], but ...

- (67) They are looking for $\epsilon_{f(\text{they})} x$ [linguist(x) & speak (x) ($\epsilon_{f(x)} z$ [B.l.(z)]]), but ...

To sum up this section, we should record that the antecedent or relatum, respectively, of the wh-phrase must allow a specific interpretation for the attitudinal subject. For this reason, the scope of thematic predicates, the description of definite DPs, the scopi of downward-monotone quantifiers, and the dependency on non-specific indefinite DPs cannot render the needed relata if the attitudinal subject is not in the scope of thematic predicates, articles and downward-monotone quantifiers as well as of non-specific indefinites. If, on the other hand, the attitudinal subject is in the scope of the above mentioned items, sluicing is obtainable.

- (68) a. Ramon regrets that Fred kissed a girl and didn't tell him which one.
 b. Tom criticized the friend who kissed a girl and didn't tell him which one.
 c. Noone has read a book and didn't say which one.
 d. They are looking for a linguist who knows a Balkan language and doesn't tell them which one.

4. Conclusion

The observation that in various sluicing types, the wh-phrase in the sluicing sentence as well as its relatum in the antecedent clause must be F-marked was explained along Schwarzschild's (1999) and Merchant's (2001) focus theory. Furthermore, according to the semantics of the wh-phrase, it was argued that the relatum of the wh-phrase must be

an indefinite that must allow a specific interpretation. According to Heusinger (1997, 2000) specificity was defined as an anchoring relation between the discourse referent introduced by the indefinite expression and a discourse given item.

It has turned out that specific indefinite expressions are always novel or non-*given* and thus F-marked. The reason is that they introduce a new discourse referent that is contextually anchored after its introduction. If there were already a contextually anchored discourse referent, it could not be an indefinite that could be used to pick up this discourse referent, but a definite expression. Non-specific indefinites, on the other hand, can be *given* as well as non-*given*. In both cases, their context index is existentially bound, which means that the discourse referent they denote is not relevant for the discourse. A *given* indefinite merely indicates that a discourse referent with the same description has been introduced previously, has been considered to be irrelevant, and therefore has been logged out.

Because specific indefinite expressions are always non-*given*, contexts such as the scope of definite articles, the scope of thematic matrix predicates, and the scope of downward-monotonic quantifiers that exhibit *given* indefinites do not allow Sluicing.

To stay online, specific discourse referents that are introduced by indefinites must be picked up by an anaphoric expression in the next sentence. This explains why the antecedent clause must be adjacent to the sluicing sentence.

Indefinites that are in thematic contexts can be related to by a *wh*-phrase if the attitudinal subject of the sluicing sentence is identical with the discourse referent the indefinite is anchored to. This discourse referent can only be expressed by the proposition the indefinite is contained in. Since the proposition is a thematic context, there are no discourse referents available the indefinite could be anchored to be specific for the discourse outside the thematic context.

In that, unlike Chung et al. (1995), and Romero (2000), we see specificity as decisive for well formed sluicing constructions, we get the possibility of an unified account for Sluicing with explicit and implicit relatives and a more comprehensive and appropriate account for the failing of Sluicing in the above mentioned contexts. Furthermore, we could show that Sluicing is nothing more than a text relation between an antecedent clause and a *wh*-question where ellipsis is possible because of Merchant's *e-GIVENNESS*.

References

- Chung, S. & Ladusaw, W. A. & McCloskey, J. (1995): Sluicing and Logical Form. In: *Natural Language Semantics* 3: 239-282.
- Enç, M. (1991): The Semantics of Specificity. In: *Linguistic Inquiry* 22: 1-25.
- Evans, G. (1980): Pronouns. In: *Linguistic Inquiry* 11: 337-362.
- Farkas, D. (1995): Specificity and Scope. In: L. Nash & G. Tsoulas (eds.), *Actes du Premier Colloque Langues & Grammaire*, 119-137. Paris.
- Farkas, D. (2002): Specificity Distinctions. To appear in a special issue of the *Journal of Semantics*.
- Fodor, J. & Sag, I. (1982): Referential and Quantificational Indefinites. In: *Linguistics and Philosophy* 5: 355-398.
- Heim, I. (1982): The Semantics of Definite and Indefinite Noun Phrases. Ph.D. Dissertation, University of Massachusetts, Amherst. Ann Arbor: University Microfilms.
- Heusinger, K. von (1997): *Saliency and Referenz. Der Epsilonoperator in der Semantik der Nominalphrase und anaphorischer Pronomen* [Studia grammatica 43]. Berlin: Akademie Verlag.

- Heusinger, K. von (2000): The Reference of Indefinites. In: K. von Heusinger & U. Egli (eds.), *Reference and Anaphoric Relations*, 247-265. Dordrecht: Kluwer.
- Heusinger, K. von (2001): Specificity and Definiteness in Sentence and Discourse Structure. Submitted to *Theoretical Linguistics*.
- Kamp, H. (1981): A Theory of Truth and Semantic Interpretation. In: J. Groenendijk & T. Janssen & M. Stokhof (eds.): *Formal Methods in the Study of Language*, 277-322. Amsterdam: Amsterdam Center.
- Kamp, H. & Reyle, U. (1993): *From Discourse to Logic. Introduction to Modeltheoretic Semantics of Natural Language, Formal Logic and Discourse Representation Theory*. Dordrecht: Kluwer.
- Krifka, M. (2001a): For a structured account of questions and answers. In: C. Féry & W. Sternefeld (eds.), *Audiatur vox sapientiae*. Berlin.
- Krifka, M. (2001b): Non-novel Indefinites in Adverbial Quantification. In: C. Condoravdi & G. Renardel, *Logical Perspectives on Language and Information*. Stanford: CSLI Publications.
- Lenerz, J. (2001): Word Order Variation. In: G. Müller & W. Sternefeld (eds.), *Competition in Syntax*, 249-281. Berlin: de Gruyter.
- Merchant, J. (1999): *The syntax of silence. Sluicing, islands, and identity in ellipsis*, Doctoral Dissertation, University of California Santa Cruz.
- Merchant, J. (2001): *The syntax of silence. Sluicing, islands, and identity in ellipsis*. Oxford: Oxford University Press.
- Romero, M. (2000): Antecedentless Sluiced Wh-Phrases and Islands. In: K. Schwabe & N. Zhang (eds.), *Ellipsis in Conjunction*, 195-220. Tübingen.
- Ross, John R. (1969): Guess who? – In: R. Binnik et al. (eds.): *Proceedings of the Sixth Annual Meeting of the Northeastern Linguistics Society*, GLSA, Dept. of Linguistics, University of Massachusetts, Amherst, 205-211.
- Schwarzschild, R. (1999): Givenness, Avoid F and other Constraints on the placement of Accent. In: *Natural Language Semantics* 7: 141-177.
- Schwabe, K. (2000): Coordinative Ellipsis and Information Structure. In: K. Schwabe & N. Zhang (eds.), *Ellipsis in Conjunction*, 247-269. Tübingen.
- Schwabe, K. & Heusinger, K. von (2001): On Shared Indefinite NPs in Coordinative Structures. To appear in: *Journal of Semantics*.
- Stechow, A. von & Zimmermann, Th. E. (1984): Term answers and contextual change. In: *Linguistics* 22: 3-40.
- Umbach, K. (2001): (De)accenting Definite Descriptions. To appear in *Theoretical Linguistics*.