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Sluicing and Multiple Wh-fronting.

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Abstract:

This paper explores multiple wh-fronting under Sluicing. Contrary to previous proposals that an interrogative *+wh* complementizer licenses TP-ellipsis, I propose that *+focus* feature licenses this ellipsis operation. Assuming the deletion analysis of sluicing, following Ross (1969), I argue for focus-licensed sluicing based on data from Slavic languages like Russian and Polish, where it is possible to have focused R-expressions as remnants of sluicing. I demonstrate how semantic restrictions in multiple interrogatives are maintained under sluicing, presenting a new argument for the clausal structure of the sluice. Finally, I explore Superiority effects under sluicing, deriving those from parallelism in variable binding.

Keywords: ellipsis; sluicing; wh-movement; focus; parallelism; superiority

1. Introduction

This paper explores how the properties of multiple interrogatives manifest themselves in structures involving sluicing. First, I determine what positions the remnant wh-phrases occupy in sluices (i.e., the clauses undergoing sluicing) cross-linguistically. The nature of these positions is important for understanding what licenses sluicing. I argue that contrastive focus is capable of licensing sluicing in languages like Russian, Polish, Hungarian, and Chinese. To support this conclusion, I show that contrastively focused R-expressions can be remnants of sluicing in these languages. However, it has been argued by Lobeck (1995) and Merchant (2001) that the +*wh* feature on the interrogative C^0 licenses sluicing in English. To avoid the stipulation that two different features (i.e., +*focus* and +*wh* features) can license sluicing in different languages, I propose that even in English, the +*focus* feature, and not the +*wh* feature, licenses sluicing. Wh-movement in this language is then viewed simply as an operation that gets a wh-phrase to the Spec of the projection that bears a (weak) +*focus* feature.

Second, I demonstrate how semantic properties of multiple interrogatives affect the availability of sluicing in certain contexts. Specifically, the semantic restrictions on Single-pair readings in Russian multiple interrogatives constrain the nature of the antecedent clauses required in multiple sluicing in these languages. This presents a new argument to the effect that the sluice contains a full clausal structure.

Finally, I explore how Superiority effects are manifested under sluicing. I demonstrate that although Superiority effects are not generally present in Russian, they emerge in sluicing contexts. A similar situation has been observed in Serbo-Croatian by Stjepanović (2003). I will derive these puzzling effects from Parallelism, an independently motivated property of ellipsis.

2. The Phenomenon of Sluicing

Sluicing refers to a phenomenon of clausal ellipsis, which was first discovered and explored by Ross (1969). A typical instance of sluicing can be found in an interrogative clause with only a

wh-element pronounced, as in (1). The crossed out text indicates the unpronounced yet interpreted part of the structure.

(1) a. John will buy something but I don't know what [John will buy *t*].

Both the subject *John* and the modal auxiliary *will* are elided in (1). The fact that modals, located in T^0, and subjects, occupying SpecTP, are elided in sluicing constructions suggests that we are dealing with TP-ellipsis. Sluicing occurs in main clauses as well, as can be seen in (2).[1]

(2) *Speaker A:* John loves somebody.
    Speaker B: Who [John loves *t*]?

I adopt the basic analysis of sluicing as in Ross (1969), Lasnik (2001) and Merchant (2001), where the derivation proceeds as in (3): a wh-phrase undergoes wh-movement to SpecCP and then TP is deleted at PF.[2]

(3) *Step 1:* John bought something. I wonder [CP *what* [TP John bought *t*]
    Step 2: John bought something. I wonder [CP *what* [TP John bought *t*]

There are alternative analyses of ellipsis, in which an empty category is present in the position of the elided TP and is replaced by copying the antecedent TP at LF. In this case, no deletion takes place since there is no clausal structure in the sluice to start with. Such analyses have been developed in Williams (1977), Lobeck (1991, 1995), and Chung et al. (1995). There are also strictly semantic approaches, as developed in Dalrymple et al. (1991), Jacobson (1992), and Hardt (1993, 1999). However, extensive arguments against the non-deletion approaches can be found in Ross (1969), Merchant (2001) and Stjepanović (2003). Thus, in what follows, I will assume the PF-deletion analysis of sluicing.

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[1] See Bechhofer (1976 and 1977), Lasnik (2001), and Merchant (2001) for extensive arguments that sluicing in main clauses is indeed an instance of clausal ellipsis and is different from fragment questions.

[2] Ross (1969) actually argues for the deletion taking place at S-structure. However, with the elimination of S-structure as a level of representation, the deletion can be viewed as taking place at PF or at the point of Spell-out.

Sluicing is quite common across languages and is very productive in Slavic. I will primarily focus on Russian and Polish, and draw parallels with other Slavic languages whenever relevant. Consider the sluicing examples from Russian and Polish in (4) and (5) respectively, where the (a) examples demonstrate embedded sluicing and the (b) examples demonstrate matrix sluicing.[3]

(4) a. Ivan budet davat' komu-to   podarki, no ja ne znaju komu/*kto   *Russian*

     Ivan will give someone$_{DAT}$ presents but I not know who$_{DAT}$/$_{NOM}$

     'Ivan will be giving someone presents but I don't know who.'

  b. *Speaker A:* Ivan budet davat' komu-to   podarki.

            Ivan will   give someone$_{DAT}$ presents

            'Ivan will be calling someone.'

    Speaker B: Komu/*Kto?

           who$_{DAT}$/who$_{NOM}$

           'Who?'

(5) a. Jan bedzie dawac komus   prezenty ale nie wiem komu/*kto.   *Polish*

    Jan will   give   someone$_{DAT}$ presents but not know who$_{DAT}$/$_{NOM}$

    'Jan will be giving someone presents but I don't know who.'

  b. *Speaker A:* Jan bedzie dawac komus   prezenty.

            Jan will   give   someone$_{DAT}$ presents

            'Jan will be giving someone presents.'

    Speaker B: Komu/*Kto?

           who$_{DAT}$/who$_{NOM}$

           'Who?'

Notice that the remnant wh-phrases in these examples are obligatorily marked with overt dative case morphology and match the case of the indefinites in the antecedent clauses. The

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[3] For the corresponding examples from Bulgarian and Serbo-Croatian, see Merchant (2001) and Stjepanović (2003) respectively.

Russian verb *davat'* and the Polish verb *davac*, corresponding to the English verb *give*, obligatorily assign dative case to the indirect object. The fact that switching the case of the remnant wh-phrases to nominative produces unacceptability argues that these wh-phrases have indeed moved from a position inside TP, where the dative case was assigned. This strongly suggests that we are, in fact, dealing with sluicing. A potential alternative is pseudosluicing, which would have a cleft structure in the sluice, as in (6).

(6) John called someone on the phone but I don't know who [it was].

Clefted elements in Slavic obligatorily bear nominative case, as shown in (7) from Russian and (8) from Polish.

(7) Ivan podaril komu-to podarok, no ja ne znaju kto/*komu eto byl.   *Russian*
    Ivan gave   someone present   but I not know who$_{NOM}$/$_{DAT}$ it was
    'Ivan called gave someone a present but I don't know who it was.'

(8) Jan dal   komus   prezent ale nie wiem   kto/*komu to byl.   *Polish*
    Jan gave someone present but not I-know who$_{NOM}$/$_{DAT}$ it was
    'Ivan called gave someone a present but I don't know who it was.'

It is the opposite of what we find in the paradigm in (4) - (5). Thus, we can conclude that the examples in (4) - (5) are indeed instances of sluicing.

Besides sluicing with a single wh-remnant, Slavic also permits sluicing with multiple wh-remnants, as in (9) and (10). Following Takahashi (1994), I will refer to this phenomenon as *multiple sluicing*. Like single sluicing, multiple sluicing is available in embedded clause, as in the (a) examples, and in main clauses, as in the (b) examples below.

(9) a. Každyj   priglasil kogo-to na tanec, no ja ne znaju kto kogo.   *Russian*
      everyone invited someone to dance but I not know who whom
      'Everyone invited someone to dance but I don't know who whom.'

b. *Speaker A:* Každyj   priglasil kogo-to na tanec.

everyone invited someone to dance

'Everyone invited someone to dance.'

Speaker B: Kto kogo?

who whom

'Who whom?'

(10) a. Kazdy   zaprosil kogos   do tanca, ale nie pamietam kto kogo.   *Polish*

everyone invited someone to dance but not know   who whom

'Everyone invited someone to dance but I don't know who whom.'

b. *Speaker A:* Kazdy   zaprosil kogos   do tanca.

everyone invited someone to dance

'Everyone invited someone to dance.'

Speaker B: Kto kogo?

who whom

'Who whom?'

It is this construction that is most relevant for our task of exploring how syntactic and semantic properties of multiple interrogatives are manifested under ellipsis.

The availability of multiple sluicing in Slavic is not surprising since it is well known that Slavic languages are multiple wh-fronting languages. That is, all wh-phrases are typically fronted in non-elliptical multiple questions in Slavic. This is shown below with a representative paradigm from Russian, although similar paradigms for other Slavic languages can be found in Rudin (1988), Bošković (1997a, 1998, 2002a), Richards (1997), among others.

(11) a. Kto_1 $kogo_2$ [t_1 ljubit t_2]?

who whom   loves

'Who loves who?'

b. *Kto_1 [t_1 ljubit kogo]?

who   loves whom

Since there is an independent way for multiple wh-remnants to move out of TP in Slavic, it is reasonable to assume that the same happens in multiple sluicing. This line of reasoning has implications for languages that might have something resembling multiple sluicing found in Slavic, yet no multiple wh-fronting. Japanese, Hindi, and certain contexts in English have been reported to allow structures that look like multiple sluicing (see Takahashi (1994) for Japanese, Merchant (2001) and Mahajan (this volume) for Hindi, and Richards (2001) and Lasnik (2005) for English). In the most straightforward scenario, these cases would have to be analyzed as involving a different derivation from the one operative in Slavic. And many researchers have gone precisely in that direction, attributing the rise of these structures to pseudo-clefting (Takahashi, 1994), gapping (Mahajan, this volume), or extraposition (Lasnik, 2005).

In the following sections, we will examine how the syntactic and semantic properties of multiple interrogatives are manifested in the context of multiple sluicing and what these properties can tell us about the nature of sluicing.

3. Licensing TP-deletion

One of the central issues in ellipsis is what categories license the elision of their complements. Beginning with Ross (1969), researchers have been identifying the interrogative $+wh$ complementizer as the head licensing the deletion of its complement TP. This conclusion is largely based on the fact that sluicing in Germanic is restricted to the interrogative clauses with a wh-phrase in SpecCP. Lobeck (1995) and Merchant (2001) examine various contexts in English where one might expect TP-ellipsis to be possible, yet it is not. These contexts include finite declarative clauses, lexically governed TP-s, and relative clauses (including clefts and free relatives). Thus, Merchant (2001) concludes that the complementizer bearing the $+Q$ and the $+wh$ features licenses the deletion of its complement TP. This is illustrated in (12).

(12) John bought something. I wonder [$_{CP}$ what C^0 [$_{TP}$ ~~John bought *t*~~].

$$+Q$$
$$+wh$$

However, it is not clear how this analysis can be straightforwardly extended to the Slavic languages that exhibit a rather different pattern of wh-movement from the one found in Germanic. Stjepanović (1998) and Bošković (1998, 2002a) extensively argue that wh-fronting in Slavic languages like Russian, Polish, and some contexts in Serbo-Croatian involves focus-movement of the wh-phrases to a position below CP. In some languages, like Bulgarian, the *+focus* feature is located on the interrogative C^0, along with the strong *+wh* feature. The target position of wh-movement in Bulgarian is then SpecCP, just as in English, presenting no problem for C^0 being the licenser of sluicing. However, sluicing in Russian, Polish and certain contexts in Serbo-Croatian is in need of explanation. How do the remnants of sluicing survive deletion if their target position of movement is part of the complement of C^0? Why are they not deleted along with the complement of C^0?

3.1. Multiple wh-fronting and contrastive focus

Let me describe the focus-movement analysis of wh-fronting. I will concentrate on Russian but the same logic extends to Polish. Stepanov (1998) argues that wh-movement in Russian is not driven by the *+wh* feature of C^0 and, therefore, the wh-phrases, even though they move, do not end up in SpecCP in overt syntax. He uses superiority as a diagnostic of a strong feature triggering movement and assumes the Economy approach to superiority, where C^0 with a strong *+wh* feature attracts the closest element with a +wh feature to SpecCP for feature checking, as in the Minimal Link Condition of Chomsky (1995). This approach explains the presence of superiority effects in English. Consider the paradigm from English in (13). In both (13b) and (13d), C^0 attracts *what*, which is not the closest wh-phrase to C^0. The closer wh-phrase is *who*, hence the instances of wh-movement in (13b) and (13d) are not economical.

(13) a. Who bought what?
      b. ??What did who buy *t*?
      c. Who did John persuade *t* to do what?
      d. *What did John persuade who to do *t*?

Notice that only one wh-phrase is fronted in English. Some multiple wh-fronting languages also exhibit superiority effects. Bulgarian is a language like that. The order of the fronted wh-phrases is fixed in Bulgarian, such that the wh-phrase which is the closest to C^0 prior to wh-movement precedes other wh-phrases after all wh-phrases move. This is shown in (14) for main and embedded clauses.[4]

(14) a. Koj kogo   e   pokanil na večeriata?   *Bulgarian*
        who whom Aux invited   to party
        'Who invited who to the party?'

   b. *Kogo koj   e   pokanil na večeriata?
        whom who Aux invited   to party

   c. Tja me popita koj   kogo   e   pokanil na večeriata.
        she me asked who whom Aux invited   to party
        'She asked me who invited who to the party.'

   d. *Tja me popita kogo   koj   e   pokanil na večeriata.
        she me asked whom who Aux invited   to party

In order to extend the Economy analysis of superiority to Bulgarian successfully, it is not sufficient for C^0 to attract the closest wh-phrase to its Spec first. It must be insured that either the next wh-phrase tucks-in underneath the first one, as in Richards (1997), or that it necessarily right-adjoins to the first wh-phrase, as in Rudin (1998) and Bošković (1998).

   Unlike English and Bulgarian, Russian multiple wh-questions do not exhibit superiority effects in virtually any contexts. This is illustrated in (15) for main and embedded clauses.

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[4] I am using '*who*' for both subject and object wh-phrases for the Slavic paradigms in order to avoid the homophony created by the *'who-what'* combination in these languages. Homophony tends to interfere with superiority effects, as was observed by Stepanov (1998) and Boskovic (2002). The accusative *who* is different enough from the nominative *who,* allowing us to control for this interfering factor.

(15) a. Kto kogo   priglasil na večer?   *Russian*

   who whom invited   to party

   'Who invited who to the party?'

   b. Kogo kto   priglasil na večer?

   whom who invited   to party

   c. Ja ne znaju kto kogo   priglasil na večer.

   I not know who whom invited   to dinner

   'I don't know who invited who to the party.'

   d. Ja ne znaju kogo   kto   priglasil na večer?

   I not know whom who invited   to party

How can these facts be reconciled with the Economy approach to superiority? Stepanov (1998) proposes that Russian has a weak +*wh* feature, like in the wh-in-situ languages (e.g., Japanese, Korean, etc.). Thus, the +*wh* feature in Russian does not trigger overt wh-movement and hence we do not find superiority effects.

This raises the question as to why wh-phrases obligatorily front in Russian. Stepanov attributes such fronting to contrastive focalization. The idea is based on the correlation between *wh*-fronting and fronting of contrastively focused R-expressions in Slavic, first observed by Stjepanović (1998). Just like wh-phrases, contrastively focused R-expressions are fronted in Slavic, as demonstrated in (16).[5]

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[5] It is also possible to front the focused phrases to the immediately preverbal position in Russian as in (i). This suggests that there might be two focus positions in Russian: one is TP internal and the other is TP external. Interestingly, wh-phrases can use the lower focus position as well, as in (ii).

   (i) Ja IVANA vstretila.

      I Ivan$_{ACC}$ met$_{1.FEM.SG}$

      'I met IVAN'
   (ii) Komu   Ivan čto   dal?

      who$_{DAT}$ Ivan what$_{ACC}$ gave

      'To whom did Ivan give what?'

(16) a. IVANA   ja   vstretila   *t*.   *Russian*

   Ivan$_{ACC}$ I   met$_{1.FEM.SG}$

   'I met IVAN'

   d. ??Ja vstretila IVANA.

      I   met   IVAN$_{ACC}$

Thus, Stepanov (1998) concludes that wh-phrases in Russian are fronted to a *focus* position below CP. As mentioned before, the same argument can be made for Polish, since superiority effects are absent in Polish in the same contexts as in Russian. Stepanov (1998) further explains the insensitivity of such focalization to superiority by suggesting, following Bošković (1998), that each wh-phrase itself carries a strong *+focus* feature and therefore the wh-phrases do not compete with each other with respect to the closeness to C^0. See also Bošković (2002a) for the purely Attract-based version of this analysis.

3.2. Focus-licensed Sluicing

Now returning to sluicing, we must explain how the remnant wh-phrases in Russian and Polish sluicing survive the deletion if they are not in SpecCP. I propose that any functional category bearing a *+focus feature* can license the deletion of its complement, as illustrated in (17) below.

(17) Ivan kupil čto-to,   no ja ne znaju [**čto** X^0 [$_{TP}$ ~~Ivan kupil *t*~~]]?

                                                        +focus

   Ivan bought something but I not know what   Ivan bought

   'Ivan bought something but I don't know what.'

This allows for the wh-phrases in Russian and Polish to survive TP-deletion.

A direct implication of this proposal is that sluicing should be possible with contrastively focused R-expressions as remnants. The data from Russian below shows that contrastively focused R-expressions can indeed be remnants of sluicing. In (18), the remnant is *Mašu* and, in

(19), we have three remnants: a wh-phrase and two R-expressions. This further strengthens the parallelism between wh-fronting and contrastive-focus-fronting in Slavic.

(18) *Speaker A:* Ty skazala čto on budet uvažat' Mašu?   *Russian*
        you said   that he will   respect Maša_{ACC}
        'Did you say that he will respect Maša?'

    Speaker B: Net. Ja skazala čto IVANA [on budet uvažat' t]
            no I said   that Ivan_{ACC} he will respect
            'No. I said that (he will respect) IVAN.'

(19) *Speaker A:* Ty ne pomniš   kogda Ivan   vstretil Mašu?
         you not remember when Ivan_{NOM} met   Maša_{ACC}
         'You don't remember when Ivan met Maša?'

    Speaker B: Net, ja ne pomnju   GDE   SERGEY   LENU
            no I not remember where Sergey_{NOM} Lena_{ACC}
            'No, I don't remember WHERE SERGEY (met) LENA.'

    Polish shows the same behavior, as demonstrated in (20) and (21).

(20) *Speaker A:* Powiedzialas, že   szanujesz   Marie?   *Polish*
         you-said   that he-will-respect Maria_{ACC}
         'Did you say that he will respect Maria?'

    Speaker B: Nie, powiedzialam že   Jana   [szanujesz t].
            no   I-said   that Jan_{ACC} he-will-respect
            'No. I said that (he will respect) JAN.'

(21) *Speaker A:* Nie pamietasz,　　kiedy Jan　spotkal Marie?

not you-remember when Jan$_{NOM}$ met　　Maria$_{ACC}$

'You don't remember when Ivan met Maria?'

Speraker B: Nie. Nie pamietam　GDZIE BARBARA ZOSIE.

no.　not I-remember where Barbara$_{NOM}$ Zosia$_{ACC}$

'No. I don't remember WHERE BARBARA (met) ZOSIA.'

Let us examine the properties of this construction in detail. First, it is important to make sure that we are actually dealing with sluicing. Alternative derivations could involve pseudogapping or gapping.

It is quite unlikely that the data above are the instances of pseudogapping, which has been analyzed VP-ellipsis in much of the literature (e.g., Sag (1976), Jayaseelan (1990), and Lasnik (1995)). Notice that, in (18), the auxiliary *budet 'will'* is elided, indicating that a larger constituent than VP is elided (under the standard assumption that such auxiliaries are generated in T^0). In addition, pseudogapping is not readily available in Slavic in general, as shown in Russian (22).

(22) *Maša　　budet čitat'knigu,　a Ivan　　budet gazetu　　[čitat' t].

Maša$_{NOM}$ will read book$_{ACC}$ and Ivan$_{NOM}$ will newspaper$_{ACC}$ read

'Maša will read a book and Ivan will a newspaper.'

Another possibility to consider is that the data above are derived through gapping. However, given the well known properties of gapping, it too cannot account for the cases under consideration. First, similarly to English, gapping in Slavic is largely restricted to local coordinations with conjunctions corresponding to the English *and* and *or*; the conjunction corresponding to *but* cannot occur in gapping structures, as demonstrated in (23).

(23) a. Maša　　budet čitat' knigu,　a Ivan　　budet čitat' gazetu.

Maša$_{NOM}$ will read book$_{ACC}$ and Ivan$_{NOM}$ will   read newspaper$_{ACC}$

'Maša will be reading a book and Ivan a newspaper'

b. Ili   Maša   budet čitat' knigu,   ili Ivan   ~~budet čitat'~~ gazetu.

   either Maša$_{NOM}$ will   read   book$_{ACC}$ or Ivan$_{NOM}$ will   read   newspaper$_{ACC}$

   'Either Maša will be reading a book or Ivan a newspaper'

c. *Maša   budet čitat' knigu,   no Ivan   ~~budet čitat'~~ gazetu.

   Maša$_{NOM}$ will   read   book$_{ACC}$ but Ivan$_{NOM}$ will   read   newspaper$_{ACC}$

   'Maša will be reading a book and Ivan a newspaper'

This is not the case in (18) - (21). Since these easily contain *but*, as demonstrated below.

(24) Ty   skazala čto on budet uvažat' Mašu,   **no** ja dumaju čto IVANA

   you   said   that he will   respect Maša$_{ACC}$ **but** I think   that Ivan$_{ACC}$

   'You said that he will respect Maša, but I think that he will respect Ivan.'

   Second, as in English, gapping cannot take place in an embedded clause in Russian, as shown by the contrast between (25a) and (25b).

(25) a. Maša   budet čitat' knigu,   a   Ivan   ~~budet čitat'~~ gazetu.

   Maša$_{NOM}$ will   read book$_{ACC}$ and Ivan$_{NOM}$ will   read   newspaper$_{ACC}$

   'Maša will be reading a book and Ivan a newspaper'

b. *Maša budet čitat' knigu, a   Lena   dumala, čto Ivan gazetu.

   Maša will   read book and Lena$_{NOM}$ thought that Ivan newspaper

   'Maša will be reading a book and Lena thought that Ivan a newspaper.'

Moreover, gapping cannot seek an antecedent in en embedded clause, as the contrast between (26a) and (26b) illustrates.

(26) a. Ili   Maša   budet čitat' knigu, ili Ivan   ~~budet čitat'~~ gazetu.

   either Maša$_{NOM}$ will   read book$_{ACC}$ or Ivan$_{NOM}$ will   read   newspaper$_{ACC}$

   'Either Maša will be reading a book or Ivan a newspaper'

b. *Ili   Lena dumala, čto Maša budet čitat' knigu, ili Ivan budet čitat' gazetu.

  either Lena thought that Maša will   read book or Ivan will read newspaper

  'Either Lena thought that Maša will be reading a book, or Ivan a newspaper'

None of these basic requirements for gapping are met in (18) - (21), leaving sluicing as the only plausible derivation for these data. From the data we have examined in this section, we can conclude that contrastive focus licenses sluicing in Russian and Polish. The idea that focus can license the deletion of its complement is also used in the analysis of fragment answers in English by Merchant (2004) and in Korean by Park (2005). A similar conclusion is also reached in the analysis of ellipsis in relative clauses in Hungarian by van Craenenbroeck and Lipták (2005). Thus, we can conclude that focus has an ellipsis-licensing capability in a number of languages.

3.3. Unifying the theory of licensing TP-deletion.

However, recall the conclusions reached by Merchant (2001) for English, namely, that it is the +*wh* feature that licenses sluicing in this language. How can we reconcile these with our conclusions reached in the previous section? Are +*wh* and +*focus* features both capable of licensing TP-deletion or is the +*focus* feature the licenser of TP-deletion in general. The latter option is the stronger one and therefore is more difficult to maintain, especially in a language like English, where contrastively focused phrases always remain in situ. However, this is the direction I would like to pursue. I propose that sluicing is licensed by the +*focus* feature with an overtly realized specifier of the head carrying this feature. This is illustrated in (27).

(27)
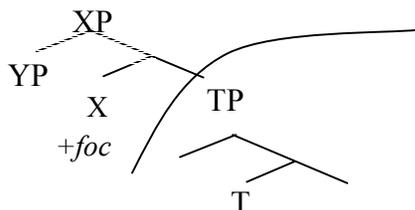
The +focus feature can be weak, as in English, or strong, as in Russian. If we try to unify the sluicing licensing mechanism in both types of languages, the feature strength should not matter for licensing sluicing. Given this, let us consider what the CP layer looks like in English:

(28)

CP

what

C
+*foc*
+*wh*

TP

T
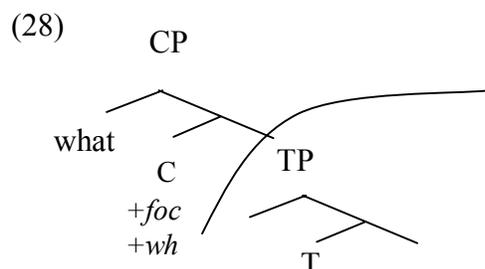
What this means is that wh-movement in English simply happens to be the operation that creates the needed configuration for licensing TP-deletion. The +*wh* feature itself, however, has nothing to with licensing TP-deletion. This seems to be a promising hypothesis, especially since the environments that do not permit sluicing in English tend to contain elements that cannot be focused, such as the relative pronouns in relative clauses and complementizers like *that* and *if*.

4. Multiple sluicing and semantics of multiple interrogatives

In this section, I examine how the interpretive properties of multiple interrogatives are manifested under sluicing. Consider the contrast between (29) and (30) from Russian.

(29) Každyj   priglasil kogo-to na tanec, no ja ne pomnju   kto kogo.
    everyone invited someone to dance but I not remember who whom
    'Everyone invited someone to a dance but I don't remember who whom.'

(30) ??Kto-to   priglasil kogo-to na tanec, no ja ne pomnju   kto kogo.
    someone invited someone to dance but I not remember who whom
    'Someone invited someone to a dance but I don't remember who whom.'

     The contexts which allow multiple sluicing in Russian seem to depend on the interpretation of multiple interrogatives in this language. Russian, unlike languages like Serbo-

Croatian or Japanese, lacks single-pair readings in multiple interrogatives. The crucial facts are as follows. Multiple interrogatives in general can have a Pair-List (PL) or a Single-Pair (SP) reading, with the SP reading being more restricted crosslinguistically, as discussed by Wachowicz (1974), Hagstrom (1998), Bošković (2003) and Grebenyova (2004). The readings are demonstrated in the scenarios in (31) and (32) with respect to the English question in (33), which is infelicitous on the SP scenario in (32) since English also lacks SP readings.

(31) *Scenario 1 (PL):* John is at a formal dinner where there are diplomats and journalists. Each journalist was invited by a different diplomat. John wants to find out all the details, so he asks the host:

(32) *Scenario 2 (SP):*   John knows that a very important diplomat invited a very importan journalist to a private dinner. John wants to find out all the details, so he asks the caterer:

(33) Who invited who to the dinner?   *PL/*SP*

Bulgarian and Russian pattern with English in lacking the SP reading in multiple interrogatives, as demonstrated in (34). Languages like Serbo-Croatian and Japanese, on the other hand, allow both PL and SP readings.

(34) a. [Bulgarian]
        Koj kogo   e   pokanil na večerjata?   *PL/*SP*
         who whom Aux invited   to dinner
         'Who invited who to the dinner?'

      b. [Russian]
        Kto   kogo   priglasil na užin?   *PL/*SP*
        who whom invited   to dinner
        'Who invited who to the dinner?'

(35) a. [Serbo-Croatian]

    Ko   je   koga   pozvao   na   večeru?   *PL/SP*

    who Aux whom invited to   dinner

    'Who invited who to the dinner?'

  b. [Japanese]

    Dare-ga dare-o syokuzi-ni manekimasita-ka?   *PL/SP*

    who$_{NOM}$ who$_{ACC}$ dinner$_{DAT}$ invited-Q

    'Who invited who to the dinner?'

Therefore, it seems plausible to analyze the degraded status of the Russian multiple sluicing example in (30) as the result of the antecedent clause imposing a single-pair reading on the interrogative clause in the sluice, since this is a reading which a multiple wh-question cannot have in Russian.[6]

    There is another reading, sometimes not easily distinguished from the SP reading, namely, the *Order* reading, as in (36) from English. Multiple sluicing is available with this reading in Russian if the antecedent provides the relevant context, as in (37).

(36) John and Bill were fighting. Who hit who first?

(37) *Maša i   Ivan pošli na večer. Kto-to iz nix   priglasil drugogo na*

    Maša and Ivan went to party. One   of them invited the-other to

    tanec, no ja ne znaju kto kogo.

    dance but I   not know who whom.

    'Maša and Ivan went to a party. One of them invited the other to a dance but I don't know who invited who.'

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[6] For specific accounts of what prohibits SP readings in certain languages, see Chapter 3 of this thesis.

Thus, we arrive at the rather straightforward generalization that the only interpretations of wh-interrogatives available under sluicing in a given language are the interpretations generally available to wh-interrogatives in that language. This presents a new argument for the analysis of the sluices as full interrogative clauses.

One of the predictions of this outcome is that multiple sluicing should not be available with adjunct wh-questions since the order reading is impossible with adjuncts. The prediction is borne out, as shown in (39).

(38) *Kto-to   sprjatal gde-to   zdes' klad,   no ja ne znaju kto gde.
      someone hid   somewhere here treasure but I not know who where
      'Someone hid the treasure somewhere here but I don't know who hid it where.'

Another control test for the generalization above comes from Serbo-Croatian, a language allowing SP readings in multiple interrogatives. The Serbo-Croatian equivalent, from Stjepanović (2003), of the unacceptable Russian example in (30), is fine, as expected:

(39) [Serbo-Croatian]
      Neko   je video nekog,   ali ne znam ko koga.
      somebody is   seen somebody but not know who whom
      'Somebody saw someone, but I don't know who whom.'

5. Superiority under Sluicing

In this section, we will examine another property of sluicing in Russian. The main generalization here is that sluicing enforces superiority effects in contexts where parallel non-elliptical structures do not exhibit any superiority effects. This was observed for Serbo-Croatian multiple sluicing in main clauses with null C^0 by Stjepanović (2003). The same is true of Russian multiple sluicing in both main and embedded clauses.

First, consider the data in (40) and (41) (slightly modified examples from Bošković (1998)), demonstrating that superiority effects in Serbo-Croatian are present in embedded but not in main clauses.

(40) a. Ko   šta$_1$ o   njemu govori t_1?   *Serbo-Croatian*

   who   what   about   him   says

   'Who says what about him?'

   b. Šta$_1$ ko o njemu govori t_1?

(41) a. Pavle je   pitao   *ko* *šta$_1$*   o   njemu govori t_1.

   Pavle aux asked who what about him   says

   'Pavle asked who says what about him.'

   b. ??Pavle je pitao *šta$_1$* *ko* o njemu govori t_1.

However, as Stjepanović (2003) points out, superiority effects emerge in Serbo-Croatian in main clauses under sluicing:

(42) *A:* Neko   voli   nekog.

   somebody loves somebody

   'Somebody loves somebody.'

   B1: Ko   koga?

   who whom

   B2: *Koga ko?

The same effects hold under sluicing in embedded clauses in Serbo-Croatian, but that is of no relevance since this corresponds to the facts in the parallel non-elliptical structures.

   Let us now examine the same contexts in Russian, a language without any superiority effects in either main or embedded clauses in non-elliptical structures, as we recall from Stepanov (1998). Like in Serbo-Croatian, superiority effects emerge in Russian under Sluicing in both main in embedded clauses, as demonstrated in (43) and (44).

(43) a. *Speaker A:* Každyj priglasil kogo-to na tanec. *Russian*

everyone invited someone to dance

'Everyone invited someone to a dance.'

b. *Speaker B:* Kto kogo?

who whom

c. *Speaker B:* *Kogo kto?

(44) a. Každyj priglasil kogo-to na tanec, no ja ne pomnju *kto kogo.*

everyone invited someone to dance but I not remember who who

'Everyone invited someone to a dance but I don't remember who who.'

b. *Každyj priglasil kogo-to na tanec, no ja ne pomnju *kogo kto.*

These are rather surprising facts, given that sluicing is known to sometimes repair the derivation (e.g., amelioration of island effects under sluicing investigated by Ross (1969), Lasnik (2000) and Merchant (2001)). It is surprising that, in the cases above, sluicing seems to destroy it. Of course, if superiority effects are essentially minimality effects and minimality is encoded into the definition of Attract (Chomsky 1995), such violations cannot technically exist in any derivation and therefore cannot be repaired by deletion. This means that we would not expect superiority effects in non-elliptical structures in a language like Bulgarian to disappear under sluicing. Merchant (2001) reports data demonstrating that this is indeed the case in Bulgarian. This, as Merchant points out, presents additional evidence for the deletion approach to ellipsis, since superiority is a diagnostic of movement and movement could have taken place out of the ellipsis site only if a full clause is present in the structure from the beginning and is deleted at PF. But why would sluicing invoke superiority effects in languages and contexts that lack superiority effects without ellipsis, as in Serbo-Croatian and Russian?

Stjepanović (2003) attempts to explain the Serbo-Croatian data as follows. Assuming that the feature licensing TP-deletion must be on C^0, she concludes that C^0 must be merged in overt

syntax in sluicing constructions. The strong +*wh* feature of C^0 then triggers superiority effects in Serbo-Croatian matrix sluices.

However, it is difficult to extend this analysis to Russian. Since the +*wh* feature is weak in Russian, merging C^0 overtly cannot result in superiority effects. I would like to explore an alternative account and suggest that the superiority effects observed under Sluicing follow from an independent property of elliptical structures, namely, quantifier parallelism.

I adopt the notion of parallelism of Fiengo and May (1994), further developed by Fox and Lasnik (2003), which requires that variables in the elided and antecedent clauses be bound from parallel positions. I also assume that the variable introduced by an indefinite in the antecedent clause is bound by existential closure (Kratzer 1997).

Let us now consider the LF of the antecedent in Russian multiple sluicing in (45a), given in (46).

(45) a. *Speaker A:* Každyj   priglasil kogo-to   na tanec.
                      everyone invited   someone to dance
                      'Everyone invited someone to a dance.'

    b. *Speaker B:* Kto   kogo [priglasil na tanec]?
                      who whom invited to dance

    c. *Speaker B:* *Kogo kto [priglasil na tanec]?

(46) $\forall x \exists y$ [x priglasil y na   tanec]
                        invited   to   dance

This is the only reading available in (45a), since surface quantifier scope is preserved in Russian. This can be seen in (47) and even more clearly in the unacceptable (48), based on an English example in Fox (2000:70). For similar observations, see also Ionin (2001), Pereltsvaig (in press), and Bailyn (2006).

(47) Kakoj-to paren' poceloval každuju devušku.   ∃x ∀y / *∀y ∃x

    some   guy$_{NOM}$ kissed   every   girl$_{ACC}$

    'Some guy kissed every girl.'

(48) #Odin/kakoj-to časovoj stoit   naprotiv   každogo zdanija.

    one/some   guard   is-standing in-front-of every   building

    'One/some guard is standing in front of every building.'

Now consider the LF representations of the acceptable sluice in (45b) and the unacceptable one in (45c), given in (49b) and (49c) respectively. Do they meet the parallelism requirement? That is, are the variables in these sluices and in the LF of the antecedent (repeated as (49a)) bound from parallel positions?

(49) a. ∀x∃y [x priglasil y na tanec]   ← *LF (antecedent)*

                invited   to   dance

    b. kto x kogo y [x priglasil y na tanec]   ← *LF (wh1 > wh2)*

       who   whom   invited   to   dance

    c. kogo y kto x [x priglasil y na tanec]   ← *LF (wh2 > wh1)*

       whom   who   invited   to   dance

The parallelism in variable binding is met between (49a) and (49b), but it is not met between (49a) and (49c). That is, the quantifier binding the object variable is inside the scope of the quantifier binding the subject variable in the antecedent clause, while it is outside the scope of the parallel quantifier in the sluice in (49c).

    To test this further, let us scramble the object quantifier over the subject in the antecedent clause, as in (50a). This results in an acceptable sluice with the *wh2>wh1* order in (50b), as

predicted by the parallelism account, since now the object quantifier is outside the scope of the subject quantifier in both the antecedent and the sluice.[7]

(50) a. *Speaker A:* Každogo$_1$ kto-to   priglasil t_1 na tanec

                everyone$_{ACC}$ someone$_{NOM}$ invited   to dance

                'Someone invited everyone to a dance.' *(with $\forall x\ \exists y$)*

    b. *Speaker B:* Kogo   kto?

                whom who

    c. *Speaker B:* *Kto   kogo?

                who whom

And the subject>object order of the wh-phrases in (50c) is unacceptable now, which strengthens the parallelism account proposed above.[8]

Thus, the source of the apparent superiority effects under sluicing in Russian turns out to be parallelism and not minimality. The next step is to see if this analysis can be extended to Serbo-Croatian, the language exhibiting similar effects under sluicing.

Unfortunately, there is an interfering factor in Serbo-Croatian. According to Sandra Stjepanović (p.c.), scrambling an object over the subject prohibits sluicing all together in Serbo-Croatian. This is true even with single sluicing, as can be seen in (51).

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[7] The universal quantifier is used as the object here to maintain the pair-list reading requirement in Russian multiple interrogatives.

[8] Steven Franks (p.c.) reports of a Russian informant who does not share the judgments in (37). The same informant, however, is sensitive to superiority effects in Russian (i.e., not allowing the lower wh-phrase to be fronted over the higher one even in non-elliptical contexts.) As Merchant (2001) shows for Bulgarian, a language with robust superiority effects, such effects do not go away under sluicing if they are present in non-elliptical contexts. Thus, parallelism and superiority are independent properties of grammar and can be distinguished from each other under ellipsis only if a speaker is insensitive to superiority in non-elliptical contexts (as my Russian informants and myself are). The attested variation with respect to superiority effects is itself an interesting puzzle for syntactic theory and is in need of further exploration.

(51) *Speaker A:* Nekog   je Petar   volio.

                    somebody$_{ACC}$ is Petar$_{NOM}$ loved

                    'Petar loved somebody'

      Speaker B: *Koga?

                  whom

Thus, running the diagnostic with scrambling, as in Russian (50), is problematic in Serbo-Croatian. When I attempted to run it with a number of Serbo-Croatian speakers, as in (52), the judgment was as expected: scrambling does improve the *wh2>wh1* order in the sluice but it does not make it perfect.

(52) *Speaker A:* Nekog   neko   voli

                    somebody$_{ACC}$ someone$_{NOM}$ love

                    'Petar loves somebody'

      Speaker B: ?/??Koga ko?

                  whom who

Although, identifying of the source of the mysterious effect in (51) is beyond the scope of this paper, I will point out a few directions for further research. One plausible direction would be to identify the position where the scrambled indefinite moves in the antecedent clause and the position where the wh-phrase moves in the sluice. These positions might be different in such a way that the parallelism is violated.

Another potential source of this effect is the specificity effect produced by scrambling in Serbo-Croatian, as brought to my attention by Sandra Stjepanović (p.c.). It is known that an indefinite that is a correlate of the remnant of sluicing already has a specificity requirement on it. That is, it is already interpreted as specific. Now, if scrambling an indefinite object over the subject has its own specificity effect in Serbo-Croatian, it might be incompatible with sluicing,

where the indefinite is already specific to start with. Of course, this matter needs more exploration before a more solid conclusion can be reached.[9]

6. Summary

To summarize, we have examined how the syntactic and semantic properties of multiple interrogatives are manifested in sluicing and reached the following results.

First, given the movement of wh-phrases to a focus position in Russian and Polish, I proposed that contrastive focus licenses TP-deletion deletion in these languages. As a correct prediction of this proposal, I showed that contrastively focused R-expressions can also be the remnants of sluicing in Russian and Polish. I further extended this analysis to English by arguing that wh-movement to SpecCP only gets a potential remnant of sluicing into the right position (the specifier of the projection carrying *+focus* feature) and it is the *+focus* feature with the overt material in its Spec that licenses sluicing.

Second, we have seen that sluicing licensing contexts depend on the interpretation of multiple interrogatives in a given language. That is, sluicing is prohibited in Russian if an antecedent imposes the SP reading on the interrogative in the sluice, just as non-elliptical multiple interrogatives are unacceptable under the SP reading in this language.

Finally, considering the quantifier parallelism requirement in ellipsis allowed us to analyze apparent superiority effects under sluicing as parallelism effects. That is, the unacceptability of certain sluices is caused by the lack of parallelism in quantifier-variable binding between the antecedent and the sluice. This analysis provides a prediction for further research, namely, that there is no language with fixed isomorphic scope that allows for free ordering of wh-phrases under sluicing.

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[9] For a related discussion of superiority under sluicing in Bangla and Hindi, see Bhattacharya and Simpson (To appear).

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