

How many kinds of sluicing, and why? Single and multiple sluicing in Romanian, English, and Japanese

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1 Introduction

Romanian is a language which has *multiple sluicing* constructions¹. *Sluicing*, a term due to Ross (1967) refers to sentences in which the clausal sub-constituent of a question is elided, leaving a “floating” wh-phrase (or *remnant*). For example, in (1a-b) the remnant is English **who** or its Romanian equivalent **cine** and the ellipse is understood as meaning *ate my cookies*:

- (1) a. Someone ate my cookies, but I don’t know who.
b. Cineva mi-a mâncat prăjiturile, dar nu știu cine.
someone cl1S-past.3S eaten cookies-the but not know.1S who
“Some ate my cookies, but I don’t know who.”

Multiple sluicing are constructions with two or more remnants. While these are odd at best in English, they are perfectly acceptable in Romanian:

- (2) a. * Someone kissed someone, but I don’t know who whom.

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- b. Cineva a sărutat pe cineva, dar nu știu cine pe cine.
someone past.3S kissed acc someone but not know.1S who acc who
 “Same.”

It has also been noted that Japanese allows multiple sluicing (Takahashi 1994, Shimoyama 1995, Merchant 1998, Nishigauchi 1998, Hiraiwa & Ishihara 2002):

- (3) a. Taro-ga dareka-ni nanika-o ageta rasii ga
Taro-nom someone-dat something-acc gave heard but
 boku-wa dare-ni nani-o da ka wakara-nai.
I-top who-dat what-acc is Q know-not
 “I heard that Taro gave someone something, but I don’t know who what.”

This raises the question of whether Romanian and Japanese might have some syntactic properties in common which allows them both to generate multiple sluicing, a property which English lacks.

English sluicing has been analyzed as ellipsis of the IP-constituent of a clause, leaving a CP-projection containing a remnant (Lobeck 1995, Merchant 1998, Merchant 2000):

- (4) a. Arabelle is marrying someone you know. Guess ...
 b. ... [CP who_i [IP she is marrying t_i]] !

Shimoyama (1995), Merchant (1998), and Hiraiwa & Ishihara (2002) have argued that while Japanese examples like (5) resemble English sluicing in terms of having an ellipsis leaving floating remnants (5a), they actually contain ellipsis of the CP-constituent in a cleft construction, rather than of the IP-node of a matrix clause (5b):

- (5) a. Bill-ga nanika-o nusunda rasii keto, ...
Bill-nom something-acc stole seem but
 “It seems that Bill stole something, but ...”
 b. ... watashi-wa [CP Bill-ga nusunda no] nani-o (da) ka keto].
I-top Bill-nom stole comp what-acc is Q know-not
 “I don’t know what [it is that Bill stole].”

In addition to allowing multiple remnants, Romanian and Japanese sluicing have other parallels which exclude English: they both allow non-wh remnants as well as overt complementizers in the sluice.

The topic of this paper is whether Romanian sluices like (6) pattern with English or Japanese sluices in terms of their structure; in other words, whether (6a) or (6b) is a more appropriate structural analysis for the Romanian sluice in (6):

- (6) Cineva mi-a mâncat prăjiturile dar nu știu ...
someone refl1S-past.3S eaten cookies-the but not know.1S
 “Someone ate my cookies, but I don’t know ...”
- a. ... cine_i [IP t_i mi- a mâncat prăjiturile].
who cl.1S past.3S eaten cookies-the
 “... who [ate them].”
 - b. ... cine_i [IP t_i [CP OP_i mi- a mâncat prăjiturile]]
who cl.1S past.3S eaten cookies-the
 “... who [it is who ate them].”

We argue that despite the superficial parallels between Romanian and Japanese sluicing, an IP-ellipsis analysis of Romanian sluicing as in (6a) is to be preferred. We show that the similarities between Romanian and Japanese sluicing are epiphenomenal and follow from independent syntactic properties of the two languages. An IP-ellipsis analysis, similar to ones that have been proposed for English, immediately accounts for the key properties of Romanian sluicing. The differences between Romanian and English sluicing follow from the presence of a richer structure in the left periphery of embedded clauses in Romanian, properties which have been independently noted for the two languages.

The implication of our results is that the term “sluicing” as it has been used does not describe a natural class of syntactic structures. Instead, it seems to act as a general label for ellipsis of sub-constituents of an embedded question. In other words, *sluicing* describes a correlation between certain ellipsis configurations, the forms of which vary in different languages (see 1b, 5b, 6a or 6b), and a semantic interpretation which is, as far as we can tell, consistent across languages (as suggested by the glosses given in the examples above). Given *sluicing* as a general category, we distinguish between *English sluicing*, *Romanian sluicing*, and *Japanese sluicing*. *Sluicing* therefore implies nothing about the syntactic analysis for the data. Rather, we describe analyses in terms of different kinds of ellipsis, such as *IP-ellipsis* or *CP-ellipsis*.

The paper is organized as follows: in Section 2 we discuss the superficial similarities between Romanian and Japanese sluicing, and how these superficial similarities contrast with English sluicing. In Section 3 we discuss the crucial similarity between English and Romanian sluicing: island insensitivity. In Section 4 we compare possible analyses for Romanian sluicing and conclude that an IP-ellipsis analysis is the only option. We provide evidence which supports such an analysis. In Section 5 we conclude with a short discussion of the typological implications of our results.

2 Similarities between Romanian and Japanese Sluices

Romanian and Japanese sluices share several properties. These include allowing multiple wh-remnants (section 2.1), aggressively non-d-linked wh-remnants (section 2.2), overt complementizers (section 2.2), and a variety of non-wh remnants (section 2.3), like semantically referential, quantificational, and polarity-sensitive remnants (Shimoyama 1995, Merchant 1998). This contrasts with English, which allows only singleton wh-remnants.

2.1 Multiple WH-remnants

Romanian and Japanese sluicing both allow multiple remnants in the sluice (7a-b):

- (7) a. Ion a dat cuiva ceva,
Ion past.3S given someone-dat something
 și vreau să știu cui ce.
and want.1S subj know.1S whom-dat what
“John gave something to someone, and I want to know what to whom?”
b. Taro-ga dareka-ni nanika-o ageta rasii ga
Taro-nom someone-dat something-acc gave heard but
 boku-wa dare-ni nani-o da ka wakara-nai.
I-top who-dat what-acc is Q know-not
“I heard that Taro gave someone something, but I don’t know who what.”

In contrast, English allows only singleton remnants²

2.2 Aggressively non-d-linked wh-remnants

Both Romanian and Japanese allow aggressively non-d-linked wh-words (Pesetsky 1987) (which we refer to as *who-the-hell* phrases) as remnants (8a-b), while English does not (9):

- (8) a. Cineva mi-a ascuns cheile
someone cl1S-past.3S hidden keys-the
 și aş vrea să știu și eu cine dracu.
and opt.1S want subj know.1S even I who devil-the
“Someone hid my keys on me, and I’d like to know who-the-hell.”

²Richards (1997) has noted that unacceptability of multiple remnants in English is mitigated in two circumstances: if the remnants are separated by a conjunction, or if one or more of the remnants is a PP or non-argumental constituent.

- b. Minna-ga awateteiru keto, boku-wa ittai nande ka sirainai.
everyone-nom panic but I-top hell why Q know-not
 “Everyone is panicking, but I don’t know why-the-hell.”

(9) ?? Someone ate my sandwich, and I would really like to know who-the-hell.

According to den Dikken & Giannikadou (2002) have argued that English *what-the-hell* phrases are a kind of negative polarity item. If their arguments extent to Romanian and Japanese, then the generalization here would be that Romanian and Japanese both allow negative polarity items as remnants, while English does not.

2.3 Overt complementizers

Both Japanese and Romanian tolerate an overt complementizer in the remnant of the sluice. This complementizer can be either interrogative (10) or indicative (11):

- (10) a. Am aflat că cineva a plecat,
past.1S learned that someone past.3S left
 dar nu știu dacă Ion.
but not know.1S if Ion
 “I found out that someone left, but I don’t know if Ion.”
- b. John-ga dareka-o kubinisita rasii keto,
John-nom someone-acc fired seem but
 boku-wa Bill ka dooka siranai.
I-top Bill Q whether know-not
 “It seems that John fired someone, but I don’t know if Bill.”
- (11) a. Dan: Cine crezi că a câștigat premiul întâi?
who think.2S that past.3S won prize-the first
 “Who do you think [that] won first prize?”
- Alex: Știam că Anca.
knew.1S that Anca.
 “I know [that] Anca [did].”
- b. John-ga dareka-o kubinisita rasii keto, boku-wa Bill to omou.
John-nom someone-acc fired seem but, I-top Bill that think
 “It seems that John fired someone, and I think that (it was) Bill.”
 (Merchant 1998: 9)

English in contrast does not tolerate overt complementizers in the remnant of a sluice:

- (12) * One of the foreign students won the department fellowship, and I wonder whether/if Louise.

2.4 Non-wh remnants

Both Japanese and Romanian allow a variety of non-wh remnants, such as referential NPs (13), adverbs (14) and PPs (15):

- (13) a. Mi s-a spus că cineva s-a întâlnit cu cineva,
Me refl-past.3S told that someone refl-past.3S met with someone
 și mă întreb dacă Ion cu Maria.
and me-refl wonder.1S if Ion with Maria
 “I was told that someone met with someone, and I wonder if Ion with Maria.”
- b. John-ga dareka-o kubinisita rasii keto,
John-nom someone-acc fired seems
 boku-wa Bill-o to omou.
but I-top Bill-acc that think
 “It seems that John fired someone, and I think Bill.”
- (14) a. Carmen vrea sa-și ia mașină,
Carmen wants subj-cl.3S take car
 și suspectez că [Adv repede].
and suspect.1S that quickly
 “Carmen wants to buy herself a car, and I suspect [that] pretty soon.”
- b. Hanako-wa kuruma-o kaitagatte iru , suguni da to omou.
Hanako-top car-acc buy-want ASP soon is C think
 “Hanako wants to buy a car, [and] I suspect that soon.”
- (15) a. Da, am aflat și eu că Ioana a fugit cu cineva,
Yes, past.1S learned and I that Ioana past.3S eloped with somebody
 dar n-as paria că cu Radu.
but not-opt.1S bet that with Radu
 “Yes, I found out too that Ioana ran off with somebody, but I wouldn’t bet that with Radu.”
- b. Akiko-ga dareka-to kakeochisita to kiita keto,
Akiko-nom someone-WITH eloped C heard but
Taroo-to to-wa omowanakatta.
Taroo-WITH C-top not-expected
 “I heard that Akiko eloped with someone, but I didn’t expect Taroo.”

Similarly, Japanese and Romanian both allow a variety of strong quantificational NPs as remnants. Examples include Romanian **toți** and Japanese **minna** (both meaning “everyone”), and polarity sensitive quantifiers like Romanian **oricine** or Japanese **daredemo** (both meaning “anyone”):

- (16) a. Da, e adevărat că mulți au votat pentru Iliescu,
yes, is.3S true that many past3P voted for Iliescu

dar nu cred că toti...
but not believe.1S that everyone

“Yes, it is true that many people voted for Iliescu, but I don’t believe that everyone.”

- b. Dareka-ga kono-kuruma-o naoseru to omou keto,
someone-nom this-car-acc can-fix C think but

minna-ga to-wa omowanai.
everyone Q-top think-not

“?Someone can fix this car, but I don’t know if everyone.”

- (17) a. Știu că profesorul ajută pe multă lume,
know.1S that professor-the helps acc many people

dar mă întreb dacă pe oricine oricând.
but me-refl wonder if acc anyone anytime

“I know that the professor helps many people, but I wonder if he helps ANYone ANYtime.”

- b. Dareka-ga kono-kuruma-o naoseru to omou keto,
someone-nom this-car-acc can-fix C think but

daredemo ka-wa wakaranai.
anyone Q-top know-not

“Someone can fix your car, but I don’t know if [just] ANYbody.”

English, on the other hand, allows only wh-remnants. Non-wh-remnants of any category are degraded or unacceptable:

- (18) a. ?? I heard that Mary is marrying someone I know; I wonder if John.
b. ?? Yes, I also heard that Ioana has eloped with somebody, but I wouldn’t bet that with Radu.
c. ?? Hanako wants to buy a car, [and] I suspect that soon.
d. ?? Luis says that some people from our class cheated on the exam, but I don’t think everyone.
e. ?? Someone can fix your car, but I don’t think [just] ANYbody.

3 Similarities between Romanian and English sluices

Despite these similarities between sluicing in Japanese and Romanian, the two languages differ in one crucial respect, namely that Japanese sluices are island-sensitive, while Romanian sluices are not. Romanian patterns with English in allowing remnants to be extracted out across island boundaries inside ellided constituents in violation of well-known island constraints such as Ross’s (1967) coordinate structure constraint, complex-NP constraint, relative-clause island constraint, sentential subject constraints, and adjunct constraint. Examples are given in (19) for coordinate structure islands, in (20) for complex NP islands, in (21) for relative clause islands, and in (22) for adjunct islands:

- (19) a. He invited [*NP* Akiko and someone else],
but I don't know who (*he invited [*NP* Akiko and *t_i*]).
- b. Dan a invitat-o [*NP* pe Anca și pe încă cineva],
Dan past.3S invited-clFS acc Anca and acc other someone
dar nu știi pe cine (* Dan a invitat-o [*NP* pe Anca și *t_i*]).
but not know.1S acc who Dan past.3S invited-clFS acc Anca and
“Dan invited Anca and someone else, but I don't know who.”
- (20) a. Jerry heard [*NP* a rumor that someone burnt the archive down],
but I don't know who (*Jerry heard [*NP* a rumor that *t_i* burnt the archive down]).
- b. Emil a împrăștiat [*NP* zvonul că cineva a dat foc arhivei],
Emil past.3S spread rumor-the that someone past.3S given fire archive-dat
și sunt curioasă cine (* Emil a împrăștiat
and be.1S curious.FS who Emil past.3S spread
[*NP* zvonul că *t_i* a dat foc arhivei]).
rumor-the that past.3S given fire archive-dat
“Emil spread the rumor that someone's set the archive on fire, and I wonder who.”
- (21) a. Ana drives [*NP* a car [*CP* that belongs to somebody else]],
but I don't know who(*Ana drives [*NP* a car [*CP* that belongs to *ti*]]).
- b. Ana conduce [*NP* o mașină [*CP* care este a altcuiva]],
Ana drives a car that is gen somebody-else
dar nu știi a cui (*Ana conduce [*NP* o mașină care este *t_i*]].
but not know.1S gen who-dat Ana drives a car that is ti
“Ana drives a car that is somebody else's, but I don't know whose.”
- (22) a. The victim left [*Adjunct* after one of the linguists],
but I don't know which (*the victim left [*Adjunct* after *t_i*]).
- b. Victima a plecat [*Adjunct* după unul dintre lingviști],
victim-the past.3S left after one of-the linguists
dar nu știi după care (* victima a plecat [*Adjunct* *t_i*]).
but not know.1S after which victim-the past.3S left
“The victim left after one of the linguists, but I don't know which.”

Romanian sluices with non-wh remnants show the same island insensitivity as those with wh-remnant, indicating that a similar structure underlies the two classes of examples:

- (23) a. Dan a invitat-o [*NP* pe Anca și pe încă cineva];
Dan past.3S invited-clFS acc Anca and acc other someone
bănuí că pe Elena (* Dan a invitat-o [*NP* pe Anca și *t_i*])
suspect.1S that acc Elena Dan past.3S invited-clFS acc Anca and
“Dan invited Anca and someone else; I suspect that Elena.”
- b. Emil a împrăștiat [*NP* zvonul că cineva a dat foc
Emil past.3S spread rumor-the that someone past.3S given fire

- archivei [], și eu suspectez că George (* Emil a împrăștiat archive-dat and I suspect that George Emil past.3S spread [NP zvonul că t_i a dat foc arhivei]). rumor-the that past.3S given fire archive-dat
- “Emil spread the rumor that someones set the archive on fire, and I suspect that George.”
- c. Ana conduce [NP o mașină [CP care este a altcuiva]], dar nu sunt Ana drives a car that is gen somebody-else but not be.1S
- sigur dacă a lui Șerban (* Ana conduce [NP o mașină [CP care este t_i]]). certain if Serban’s Ana drives a car that is
- “Ana drives a car that is somebody else’s, but I am not sure if Șerban’s.”
- d. Victima a plecat [Adjunct după unul dintre lingviști], dar nu Victim-the past.3S left after one of-the linguists but not
- mi-e clar dacă după Mirel (* victima a plecat [Adjunct t_i]). dat1S-be.3S clear whether after Mirel victim-the past.3S left
- “The victim left after one of the linguists, but it is not clear to me whether after Mirel.”

In contrast, remnants in Japanese sluices obey islands: Japanese examples analogous to the English and Romanian ones in (19-22) are degraded or unacceptable:

- (24) a. ?? Taroo-wa [Akiko-to dareka]-o shootaisiita rasii keto,
Taroo-nom Akiko-and someone-acc invited seem but
watashi-wa dare-o ka siranai.
I-top who-acc Q know-not
“It seems that Taroo invited Akiko and someone, but I don’t know who.”
- b. * Taroo-ga [Hanako-ga nanika-o katta toyuu uwasa]-o
Taroo-top Hanako-nom something-acc bought comp rumor -acc
sinjiteiru ga, watashi-wa nani ka siranai.
believe but I-top what Q know-not
“Taroo believes the rumor that Hanako bought something, but I don’t know what.”
(Complex NP Island: Merchant 1998)
- c. * John-ga [dareka-ga kaite]-o sagasite iru rasii ga,
John-nom someone-nom painted -acc looking for seem but
boku-wa dare-ga ka siranai.
I-top who-nom Q know-not
“It seems that John is looking for a picture that somebody painted, but I don’t know who.”
(Relative Clause Island: Shimoyama 1995)
- d. * Taroo-wa [dareka-ga gan kamoshirenai to-o kiita]
Taroo-top someone-nom cancer may-have that-acc hear-past
naita kara ga, boku-wa dare-ga ka siranai.
because cry-past but I-top who-nom Q know-not

“Taroo cried because he heard that someone might have cancer, but I don’t know who.”
 (Adjunct Island)

To summarize the data presented in Sections 2 and 3: while Romanian and Japanese sluices seem to resemble one another in most respects, they differ in terms of the relationships they allow between remnants and the positions within the sluice that these are extracted from:

	Overt C ⁰	Multiple Wh-Remnants	Agressively Non-D-linked WH-words	Non-WH Remnants	Island Sensitivity
English	no	no	no	no	no
Romanian	yes	yes	yes	yes	no
Japanese	yes	yes	yes	yes	yes

In Section 4, we show that this is a crucial difference for understanding the structure of Romanian sluicing.

4 The Syntax of Romanian Sluices

We suggest that the following facts have to be accounted for in any analysis of Romanian sluicing:

- (25) a. Multiple remnants
- b. Non-wh remnants
- c. Overt complementizers
- d. Island insensitivity

In this section we examine possible accounts for (25a-d). We review previous analyses of sluicing in English and Japanese and show that Romanian sluicing cannot be analyzed in terms of the latter (4.1). In (4.2) we show that only an IP-ellipsis analysis accounts for (25a-d). The mechanisms behind the analysis are described in section (4). We discuss the implications for English in section (4.3).

4.1 Romanian sluicing as CP-ellipsis

Because (25a-c) above are facts that Romanian has in common with Japanese, it seems natural to try to extend the analysis of Japanese sluicing to Romanian. Shimoyama (1995), Merchant (1998), Merchant (2000), and Hiraiwa & Ishihara (2002) argue that Japanese

sluicing should be analyzed as ellipsis of the CP-constituent of a cleft structure. A Japanese cleft consists of a copular verb, one or more NPs (the *focus* or *foci*), and a relative-clause-like constituent (the *presupposition*):

- (26) a. Taroo-ga dareka-ni nanika-o ageta rasii ga,
Taroo-nom someone-dat something-acc gave heard but
 boku-wa [_{CP} Taroo-ga _{t_i} _{t_j} ageta no]-ga dare-nii nani-oj
I-top Taroo-nom gave-PAST comp -nom who-DAT what-acc
 (da) ka siranai.
 is Q know-not
 “*I heard that Taro gave someone something, but I don’t know who what it was that he gave.*”
- b. John-ga dareka-o kubinisita rasii keto,
John-nom someone-acc fired heard but
 boku-wa [John-ga _{t_i} kuninisita no]-wa Bill-oi (da) to omou.
I-top John-nom fired comp -top Bill-acc is that think
 “*I heard that John fired someone, and I think that it was Bill that he fired.*”

According to this analysis, the remnants of a Japanese sluice are the foci of the underlying cleft, and the elided CP is its presupposition:

- (27) a. Taroo-ga dareka-ni nanika-o ageta rasii ga
Taroo-nom someone-dat something-acc gave heard but
 boku-wa [_{CP} Taroo-ga _{t_i} _{t_j} ageta no]
I-top Taroo-nom gave-PAST comp
 dare-nii nani-oj (da) ka siranai.
 who-DAT what-acc is Q know-not
 “*I heard that Taro gave someone something, but I don’t know who what.*”
- b. John-ga dareka-o kubinisita rasii keto,
John-nom someone-acc fired heard but
 boku-wa [John-ga _{t_i} kuninisita no] Bill-oi (da) to omou.
I-top John-nom fired comp Bill-acc is that think
 “*I heard that John fired someone, and I think that Bill.*”

As in English clefts, the focus of a Japanese cleft is in an island-sensitive dependency with a variable within its presupposition. Furthermore, Japanese clefts allow multiple pivots (Hiraiwa & Ishihara 2002):

- (28) a. [_{CP} Taro-ga ageta no]-wa Hanako-ni ringo-o 3-tu da.
Taro-nom gave C -top Hanako-dat apple-acc 3-cl cop
 “It is 3 apples to Hanako that Taro gave.”

- b. [CP Hanako-ga sensei-ni [CP tabeta to] iituketa no]-wa Taro-ga kono-ringo-o da.
Hanako-nom teacher-dat ate C told C -top Taro-nom this-apple-acc is
 “It is Taro, this apple that Hanako told the teacher that ate.”

As such, a CP-ellipsis analysis immediately explains the island-sensitivity of Japanese clefts as well as the availability of multiple remnants.

However, Romanian lacks clefts with multiple pivots, and in fact may lack clefts altogether (Dobrovie-Sorin 1990, Merchant 2000), so a cleft-reduction analysis à la Japanese will not account for multiple sluicing in Romanian. If Romanian sluicing is not to be analyzed as CP-ellipsis, then it seems that it must be analyzed as IP-ellipsis, like English sluicing. This would at least account for (25d), island insensitivity. However, as we have seen, Romanian differs from English in terms of (25a-c). In order to apply an IP-ellipsis analysis to Romanian sluicing, we need to show that such an analysis can be extended to cover these facts, or to show that (25a-c) follow from independent properties of Romanian syntax. In what follows, we argue for the latter conclusion.

4.2 An IP-Ellipsis Account

Given that Romanian sluicing cannot be analyzed as CP-ellipsis, the remaining possibility is that it is IP-ellipsis. The basic idea is that Romanian is like English, in that sluicing is ellipsis of the clausal or propositional sub-constituent of an embedded question. We assume Merchant’s (2000) analysis of sluicing in English as a starting point. Merchant argues that IP-ellipsis is licensed under semantic rather than syntactic identity. He accounts for the apparent island insensitivity of English sluicing by arguing that English sluices actually contain no (syntactic) islands. He divides island constraints into 3 classes, which he proceeds to explain away as being due to pragmatic, phonological, and semantic constraints respectively. This allows sluicing to be uniformly explained as ellipsis of an S-node, with the remnants heading well-formed \overline{A} -chains rooted inside the ellipse. Semantic identity is enforced by the Focus Condition, which requires that the set of alternative propositions presupposed by the sluice entail its antecedent, and vice versa.

A crucial element of this analysis is the argument that a sluice and its antecedent have nearly-identical LFs, differing only in the form and indexing of the variables they contain. Merchant assumes that focused constituents, like wh-words, undergo quantifier raising, leaving traces inside the S-node in which they originate. Traces are interpreted as variables or E-type pronouns, which despite being syntactically different can have equivalent interpretations. For example, the sluice in (1b), repeated here as (29a), would be (29b), with the trace

bound by the wh-word cine. The antecedent would be (29c):

- (29) a. [IP *cineva_i* [IP *t_i* mi-a mânca prăjiturile]],
 someone *me-aux.3S eat* *cookies-the*
 dar nu ştiu [CP *cine_j* [IP *t_j* mi-a mânca prăjiturile]].
 but not know.1S *who* *me-aux.3S eat* *cookies-the*
 “Someone ate my cookies but I don’t know who.”
 b. IP *t_j* mi-a mânca prăjiturile
 c. IP *t_i* mi-a mânca prăjiturile

The sluice in (29b) and the antecedent in (29c) differ only in the indices on the traces in their subject positions, allowing the Focus Condition to be satisfied.

4.2.1 Multiple wh-fronting

Under the IP-ellipsis analysis, the availability of multiple wh-remnants in Romanian sluices follows directly from the fact that Romanian is a multiple wh-fronting language (Rudin 1988, Comorovski 1994, Dobrovie-Sorin 1990, Alboiu 2000):

- (30) a. Cine pe cine a văzut?
 who acc who past.3S saw
 “Who saw whom?”
 b. *Cine a văzut pe cine?
 who past.3S saw acc who
 “Same.”

IP-ellipsis predicts this without further elaboration, since it would involve ellipsis of the constituent(s) below the position occupied by the fronted wh-words. For example, (31a) above can be analyzed in terms of IP-ellipsis, assuming an LF-representation as follows:

- (31) a. Ion [IP *cuiva_i* ceva_j [IP a dat *t_i t_j*]],
 Ion someone-dat something past.3S given
 şि vreau să ştiu [CP *cui_i* ce_j [IP a dat *t_i t_j*]].
 and want.1S subj know.1S whom-dat what past.3S given
 “John gave something to someone, and I want to know what to whom?”

On the other hand, if Romanian lacks clefts with multiple pivots then one might suggest that Romanian multiple sluicing constructions are a kind of gapping construction. Like English, Romanian has gapping, and as in English, it occurs in non-interrogative clauses and involves multiple, non-wh remnants:

- (32) a. Gabriela a comandat o margarita și Mihai un Ursus.
Gabriela past.3S ordered a margarita and Mihai a Ursus
 “Gabriela ordered a margarita and Mihai an Ursus.”
- b. L-am văzut pe sănătatea mea la bibliotecă.
cl3MS-past.1S saw acc cousin-the my at library
 și pe nevasta sa la magazin.
and acc wife-the his at store
 “I saw my cousin at the library and his wife at the store.”

While there is still no consensus as to how gapping is to be analyzed, a gapping analysis of the Romanian data would explain both the multiple remnants and the non-wh phrases, because gapping applies to indicative clauses and leaves multiple remnants.

However, gapping is found in more restrictive syntactic contexts than sluicing is. A sluice and its antecedent are both embedded within conjoined matrix clauses, while gapping only occurs between local conjunction (Johnson n.d., p.21), (Romero 1998, p.18):

- (33) a. Andrei a luat carte și Marga atlasul.
Andrei past.3S took book-the and Marga atlas-the
 “Andrei took the book and Marga the atlas.”
- b. * (Cred că) Andrei a luat carte
believe.1S that Andrei past.3S took book-the
 și cred că Marga atlasul.
and believe.1S that Marga atlas-the
 “(I believe that) Andrei took the book and I believe that Marga the atlas.”
- c. Cred că Andrei a luat carte și că Marga atlasul.
believe.1S that Andrei past.3S took book-the and that Marga atlas-the
 “I believe that Andrei took the book and that Marga the atlas.”

In sluicing constructions, on the other hand, the sluice and its antecedent are typically embedded inside other clauses, up to arbitrary levels of embedding:

- (34) a. Cred că cineva a furat ceva,
think.1S that someone past.3S stole something,
 dar n-am nici o idee cine sau ce.
but not-have.1S any an idea who or what
 “?I think [that someone stole something], but I don’t know [who or what].”
- b. Am auzit [că George a spus [că cineva vrea să-l
past.2S heard that George past.3S said that someone wants subj-cl.3S
 înșeala pe prietenul lui]], dar nu cred [că știe [cine]].
cheat acc friend-the his , but not think.1S that know.3S who
 “I heard that George said that someone wants to cheat on his friend but I don’t think that he knows who.”

Another difference between gapping and sluicing is that sluicing allows “backwards ellipsis,” meaning that the sluice precedes its antecedent in linear order:

- (35) a. Nu stiu CINE cu CINE, dar sunt sigur că toti
 not know.1S who with who, but be.1S sure that everyone
 se vor combina cu cineva.
 refl fut.3S combined with someone
 “I don’t know WHO with WHO, but I am sure that everyone will get hooked up with someone.”

Gapping, on the other hand, does not allow “backwards” ellipsis:

- (36) a. * Andrei cartea și Marga a luat atlasul.
 Andrei book-the and Marga past.3S took atlas-the
 “Andrei the book and Marga took the atlas.”
 b. * (Cred că) Andrei a luat cartea
 believe.1S that Andrei past.3S took book-the
 și cred că Marga atlasul.
 and believe.1S that Marga atlas-the
 “(I believe that) Andrei took the book and I believe that Marga the atlas.”

Therefore a gapping analysis will not account for multiple-remnant sluicing in Romanian.

4.2.2 The structure of the remnant domain and the left periphery

As we saw, Romanian sluicing allows one or more non-wh remnants. Under an IP-ellipsis analysis, this would follow from the presence of topicalization and focus-fronting in Romanian embedded questions (37a), as well as in root clauses (37b):

- (37) a. Nu s-a stabilit [dacă la Balcescu
 not impers. past.3S established if at Balcescu
 toți profesorii sunt in grevă].
 all professors-the are on strike .
 “It is not known whether all the professors at Balcescu are on strike.”
 b. Nu știam [că pe MARIA a ales-o Ion].
 not knew.2S that acc MARIA past.3S chosen-cl.MS Ion
 “I didn’t know that Ion chose Maria (rather than Ileana).”

Topics and foci in embedded clauses are subject to the same ordering restrictions that they are subject to in root clauses. First, topics must precede foci. Topics include names, definite NPs, d-linked wh-words, and strong quantifiers:

- (38) a. Mă întreb Ion cui o fi dat carte?
refl.1S wonder.1S Ion who-dat might given book-the
 “I have no clue who Ion might have given the book to.”
- b. *Mă întreb cui Ion o fi dat carte?
refl.1S I wonder who-dat Ion might have given book-the
 “Same.”
- c. Nu știu dacă primarul pe FLORIAN îl vrea.
not know.1S if mayor-the acc Florian cl.MS want.3S
 “I don’t know whether the mayor wants Florian (rather than Ion)
- d. *Nu știu dacă pe FLORIAN primarul îl vrea.
not know.1S if acc Florian mayor-the cl.MS want.3S
 “Same.”

Second, in embedded clauses as in root clauses, foci must be immediately left-adjacent to the tensed verb, and to the right of any topics. Foci include wh-words, polarity sensitive quantifiers, negative polarity items, referential NPs pronounced with contrastive focus, and aggressively non-d-linked wh-words. These different kinds of foci are in complementary distribution with each other (39a-d), although multiple foci from one particular class may occur together (40a-d):

- (39) a. *Nu știu [pe cine nimeni n-a vrut să vad].
not know.1S acc who nobody not-past.3S wanted subj see
 “I don’t know who nobody wanted to see.”
- b. *știi [cineva pe cine vroia să lovească]?
know.2S someone acc who wanted subj hit.3S
 “Do you know who somebody wanted to hit?”
- c. *Mă întreb [unde MARIA trebuie să stea (și nu Ion)].
refl.1S ask.1S where Maria must.3S subj stay.3S and not Ion
 “I don’t know where it is that MARY has to stay (rather than Ion).”
- d. *Nu mă îndoiesc [că MARIA cu nimic nu te-a deranjat].
not refl.1S doubt.1S that Maria with nothing not cl2S- past.3S bother
 “I don’t doubt that it was MARIA that didn’t bother you with anything.”
 (adapted from Alboiu (1999a))
- (40) a. Știi [cine ce a mâncat]?
know.2S who what past.3S eaten
 “Do you know who ate what?”
- b. Mă întreb [dacă nimeni cu nimic nu te va ajuta].
refl.1S ask.1S if nobody with nothing not cl.2S fut.3S help
 “I wonder if nobody is going to help you with anything.”
- c. Nu mă îndoiesc [că cineva ceva va găsi de făcut].
not refl.1S doubt.1S that somebody something fut.3S find of done

“I don’t doubt that somebody will find something to do.”
 (adapted from Alboiu (1999a))

This shows us that the left-periphery of a Romanian embedded clause parallels the left-periphery in root clauses. So, as before, an IP-ellipsis analysis of Romanian sluicing directly predicts the presence of (possibly multiple) non-wh remnants, as these positions all c-command the ellided constituent itself. For example, (41a) is analyzed as (41b):

- (41) a. Mi s-a spus că
me refl-past.3S tell that
- [_{IP} cineva_i [cu cineva]_j [_{IP} t_i s-a întâlnit t_j]],
someone with someone refl-past.3S meet
- mă întreb [_{CP} dacă [_{IP} Ion_i [cu Maria]_j [t_i s-a întâlnit t_j]]]
me-refl wonder if Ion with Maria refl-past.3S meet
- “I was told that someone met with someone, I wonder if Ion with Maria.”

4.3 So what about English?

Given our analysis, the fact that English allows only single wh-remnants can be explained simply by the fact that English allows fronting of only one wh-word. However, English does allow topicalization and focus-fronting, if not to the same degree as Romanian. The question is, therefore, why doesn’t English sluicing allow non-wh remnants? If sluicing is simply a matter of IP-ellipsis, this should be possible.

One answer would be to follow Merchant (2000) in assuming that Romanian IP-ellipsis is subject to the focus condition, as English is, but to parameterize the syntactic licensing condition, which we call the IP-ellipsis Condition (IPEC). For English, the IPEC requires that the ellided constituent be sister to a [+Q, +WH] complementizer. Romanian would have a more relaxed version of the IPEC, which would allow IP-ellipsis under sisterhood with any complementizer other than a relative clause complementizer [+WH, -Q]. We refer to the English-type IPEC as strong IPEC and the Romanian-type as weak IPEC:

- (42) a. *English:*
- | | | |
|-----|------|---------------|
| | +Q | -Q |
| +WH | ∅ | relative-that |
| -WH | dacă | că |
- b. *Romanian:*
- | | | |
|-----|------|----|
| | +Q | -Q |
| +WH | ∅ | ∅ |
| -WH | dacă | că |

We are not presently aware of any independent motivation for this principle, so for the time being it seems to simply restate the facts.

Another answer might be English verbs like know or wonder have more restrictive semantics than their Romanian counterparts do, which disallow topicalized constituents in their complements. This might follow from the fact that although English allows topics in root clauses, it does not allow them in embedded questions Hudson (2003).

As far as Japanese goes, the IP-ellipsis condition does not apply because the remnants in a Japanese sluice are simply the foci in a cleft, and there is no restriction that we are aware of which requires cleft-foci to be wh-words. This is plain even in English examples of cleft-reduction:

- (43) a. Someone ate my cookies, and I want to know [_{CP} which one of you it was [_{CP} who ate my cookies]]!
- b. Someone ate my cookies, and I think [_{CP} that it was John [_{CP} who ate my cookies]].

(43a) is a reduced cleft within the context of an embedded question, giving it a sluice-like appearance and semantics without the actual syntax of a sluice. (43b) is a reduced cleft in a non-question environment. The two examples indicate that English clefts do not impose a wh-restriction on cleft-foci. The same seems to be true of Japanese.

5 Discussion

5.1 A typology of sluicing

According to our discussion, sluicing constructions vary across languages according to the type of ellipsis involved (CP-ellipsis vs. IP-ellipsis), and the type of remnants allowed in the sluice (weak vs. strong ellipsis condition):

	Ellipsis Type	Ellipsis Condition
Romanian	IP	Weak
Japanese	CP	Weak
English	IP, CP	Strong

We have not included size of remnant set (singleton vs. multiple) in this table because we have observed that whether or not a language allows multiple remnants follows from independent principles of the grammar. Romanian allows multiple remnants because it also allows multiple wh-fronting. Japanese, on the other hand, allows multiple remnants because

it also allows clefts with multiple foci. Therefore we conclude that whether or not Romanian, Japanese, or English allows multiple remnants in a sluice has nothing to do with properties of sluicing per se. Future research must determine whether any languages have multiple remnants with a strong IPEC, singleton remnants with CP-ellipsis, or singleton remnants with a weak IPEC.

Secondly, we conclude that the term sluicing does not actually describe a syntactic configuration at all. Instead, it seems to describe a correlation between the certain kinds of word strings found in the languages we have looked at, and kinds of interpretations associated with those strings. Note that English, Romanian, and Japanese sluices comparable word strings in at least some cases (those involving singleton wh-remnants), and as far as we can tell, sluices in all three languages have comparable semantics. However, the three kinds of sluicing differ syntactically, with Romanian and English sluicing having one general kind of structure (IP-ellipsis) which is disjoint with the structure of Japanese sluicing (CP-ellipsis). A subject for future research is how to relate the differences in structural description that we have seen to the similarities in string-language and interpretation.

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