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# The Syntax of Elliptical Constructions in Jordanian Arabic

Juman Albukhari

*University of Wisconsin-Milwaukee*

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# THE SYNTAX OF ELLIPTICAL CONSTRUCTIONS IN JORDANIAN ARABIC

by

Juman Al Bukhari

A Dissertation Submitted in  
Partial Fulfillment of the  
Requirements for the Degree of

Doctor of Philosophy

in Linguistics

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## ABSTRACT

# THE SYNTAX OF ELLIPTICAL CONSTRUCTIONS IN JORDANIAN ARABIC

by

Juman Al Bukhari

The University of Wisconsin-Milwaukee, 2016  
Under the Supervision of Professor Nicholas Fleisher

The syntax of Arabic elliptical constructions is unsettled, as there are few studies that have been done in the Arabic descriptive literature, as well as in Jordanian Arabic (henceforth, JA) specifically. Therefore, this paper will investigate some elliptical constructions in JA in particular to figure out the analysis of these constructions. In order to pursue this research, it is crucial to determine how JA elliptical data behave inasmuch as some examples are diagnosed as gapping constructions, while others are sluicing constructions. The research questions are: “What are the properties of JA elliptical constructions including gapping and (pseudo)-sluicing?”, “what is the syntax of these constructions in JA?”, “how do the facts of JA structure contribute to the literature of ellipsis?”, “does JA violate or salvage the Preposition Stranding Generalization?”, and “ how does the availability of wh-clefting in JA salvages PSG?”

As for gapping, there have been two leading proposals or analyses; JA exhibits either low coordination of two vPs, “conjunction analysis” and across-the-board (ATB) movement of the verb (Johnson, 2009), or coordination of two vPs with VP-Ellipsis from which the gap arises (Toosarvandani, 2013). The first analysis proposed by Johnson (2009) in which he argues that gapping involves a low coordination structure and ATB verb movement to a position he refers to as the Predicate Projection (PredP), higher than the vP but lower than TP. In order to determine which

analysis is the best for JA data diagnosed as gapping, the properties of gapping will be tested towards JA data. Since English gapping literature is very rich (Johnson, 2009; Toosarvandani, 2013; Coppock, 2001; inter alia), I will compare and contrast with English gapping examples and research, to determine the facts and the properties of JA gapping.

It is not obvious whether such elliptical constructions in JA are gapping or pseudogapping case due to the nature of the JA auxiliaries, so I want to establish some piece of evidence in favor of one or the other. The unavailability of two conjuncts where each conjunct has its own T while the verb is absent in the second conjunct, demonstrates that JA does not show cases of pseudogapping. The reason is that when the second case has its own T and only the verb is absent, this is a case of VP-ellipsis, which is not plausible in JA.

On that account, the properties of JA gapping constructions can be summarized as: 1) JA gapping constructions only occur in coordination cases which is English gapping-like; 2) In JA, the antecedent cannot occur within an embedded clause, which is a property of gapping, while English pseudogapping can occur within an embedded clause; for that reason, JA resembles English gapping in the embedding structure case; 3) English gapping exhibits scope relation as the subject of the first conjunct binds the pronoun in the second conjunct, which Arabic exhibits as well, whereas JA has asymmetrical scope relations between the first and the second subject. As a result, my data are diagnosed as gapping constructions because they satisfy the properties of gapping constructions. On the other hand, JA does not exhibit pseudogapping constructions because for independent reasons that I will show in more detail later in the discussion, a VP cannot elide leaving T (VP-ellipsis), which is the core of pseudo-gapping constructions. Thus, the unavailability of VP-ellipsis in JA which is the common analysis for pseudogapping cases, shows that JA cannot exhibit pseudogapping cases.

For several reasons, I adopt Johnson's (2009) analysis, which includes low coordination of the two vPs, with the gap derived via ATB movement of the verb. First, T is missing in the second conjunct as multiple vPs are embedded under one single T; this is achieved through a coordinator that combines the two vPs, which is crucial for low-coordination (Johnson, 2009). The second reason is that ATB movement satisfies the verb-raising requirement in Arabic, since Arabic perfective form has to raise to T. Third, VP-ellipsis in which the VP is elided and T remains does not exist in JA. Accordingly, based on our knowledge of the verb movement in JA, the dissertation adopts the notion of ATB movement of Johnson's which plays a crucial role for the data that include the perfective<sup>1</sup> form of the verb; because the past tense verb forces V to T movement, which will force the verb to raise. Nevertheless, the ATB movement I propose is different than Johnson's to some extent depending on the tense and the aspect of the verb. Johnson (2009) proposed that the lower VP of each conjunct evacuates to the periphery of vP through ATB of the two VPs, while I am proposing two possible analyses of ATB movement of VPs depending on what assumptions are considered. The first analysis involves one ATB movement of VP, while the second analysis includes double ATB movement analysis, one for the head V, followed by ATB of the two identical VPs.

When the verb is in the perfective form (past tense), there must be an extra final movement for JA that will eventually raise the head V to T, since JA is verb raising language when the verb is in the perfective form. First, the subject of the first subject raises to matrix Spec, TP to check case, the second subject remains in-situ (default case), the two objects shift to the right adjoining the two VPs; resulting in identical VPs. And thus ATB movement of the two VPs applies in order to raise the VPs to a projection higher than vP but lower than Spec, TP for linearization. Afterwards, the head V in the derived specifier raises to T when the verb is in the perfective form (past) in order to

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<sup>1</sup> The perfective form of the verb in Arabic is used with the past tense verb, which forces the verb to raise to T, while the imperfective form of the verb does not require V to T movement in Arabic. (Benmamoun, 2010)

satisfy the requirement of the verb raising from V to T in JA. In this last operation, I assume that extracting out of a derived specifier or out of a moved constituent is grammatical.

When V is in the imperfective form (present), the ATB movement of the two VPs is the final movement. That is to say, when the verb is non-past or in the imperfective form, there is no V to T movement based on the facts about JA imperfective verbs. When V is in the past or perfective form, the verb tense forces V to T movement to satisfy the dependency between the tense and the verb (Chomsky, 1995) which means that I am assuming that extraction out of a ATB moved projection is a grammatical movement.

If extraction out of a derived specifier is not grammatical, the other possible analysis is two ATB movements; the first one involves ATB movement of the head V from the two conjunct VPs to T (head to head), and then the VPs in each conjunct, which are identical and structurally parallel including the traces, undergo another ATB movement to a projection higher than vP but lower than TP. In this possibility, the head V in T still c-commands its trace in each conjunct, as long as T is higher than PredP to which the VPs have been ATB moved. The motivation behind the final ATB movement of the two VPs, which include only traces, is to account for those cases where more than just the verb is elided. In this case, everything is left in the two VPs will still have to move to PredP, higher than the low coordination, but lower than TP.

With regard to sluicing, there are two ways to approach the sluicing data. The first approach posits no syntactic structure in the ellipsis site referred to as the nonstructural approach (Merchant, 2001), which means there are no materials to be pronounced (Ginzburg and Sag, 2000; Culicover and Jackendoff, 2005). This means there is meaning without form. Nevertheless, the second approach assumes a syntactic structure that only derivational and transformational approach can determine, which I will assume. I will look at different analyses of sluicing to investigate the syntax of (pseudo)-sluicing in JA. Under the structural approach, there are two ways to look at the

unpronounced syntactic structure, which are the ordinary syntax or the null lexical element. The former shows that there is some kind of deletion process that has been applied which causes syntax to become unpronounced. The latter deals with null items that are replaced at some point in the representation, away from PF, that is at LF or the semantic part of the ellipsis site.

In terms of the structural approach I am adopting in order to analyze JA, some syntacticians propose that ellipsis posits null element(s) in the syntax. Hardt (1993), and Lobeck (1995) among others, propose that there is a single null element; whereas Wasow (1972) and Ludlow (2005) argue that there are multiple null elements.

Assuming the structural analysis for the ellipsis site of sluicing, there are two major analyses that have been proposed. Ross (1969) was the first to propose that sluicing involves some movement of the *wh*-phrase out of the sentential constituent, such as S, IP, or TP, and then a deletion of that node applies. A second analysis proposed by Lobeck (1995) and Chung et al (1995) illustrates that ellipsis involves a designated null category drawn from the lexicon that is replaced after SS or Spell-out by a phrase marker copied from the antecedent at LF. That is to say, at Spell-out, there is ellipsis under TP that is replaced by the remnants at LF. In other words, there is no movement involved in which *wh*-remnant is base-generated in Spec, CP and it binds a variable only at LF. Ross (1969) observed that this non-movement approach is motivated by the fact that sluicing is insensitive to islands. Strictly speaking, the *wh*-phrase in sluicing corresponds to a variable, which is related to a correlate internal to an island, e.g Relative Clause Island or Comp-trace effects, in the antecedent (Ross, 1969). I will adopt the movement approach to my Arabic data for its appropriateness.

Additionally, (Pseudo)-sluicing in Arabic is contentious inasmuch as there are very few studies that have been done on sluicing in Arabic, such as sluicing in LA by Algryani (2010), and sluicing in Emirati Arabic (henceforth, EA) by Leung (2014). Leung (2014) looked at EA to argue

that there are cases in Arabic that falsify the Preposition Stranding Generalization (henceforth, PSG) of Merchant (2001), and others like Stjepanović (2008) and Rodrigues, Nevins, and Vicente (2009) have argued that Serbo-Croatian and French respectively confirms PSG as well. They have shown some cases in both languages in which P-stranding is banned in *wh*-questions, yet sluicing is possible when the underlying structure contains a stranded preposition. Leung (2014) argues that EA allows both sluicing (*wh*-fronting) and pseudosluicing (*wh*-cleft), and that EA falsifies PSG albeit it exhibits sluicing and pseudosluicing. He suggested a modification to PSG in which he emphasized the claim that PSG is a PF phenomenon, and hence PSG violation is precisely rescued by sluicing, i.e. it is remedied by deletion at PF.

Based on my knowledge of JA facts and on JA speakers' intuitions, I argue that JA data does not show PSG violation. In order to argue so, I investigate the underlying derivation of the elided clause from which the *wh*-word raised out to the sluice site as a remnant. The underlying derivation can either be a *wh*-cleft or a *wh*-fronting which is determined based on the facts about question formation in JA since the sluice site involves *wh*-word movement which is a mechanism shared with question formation. I argue that JA exhibits sluicing (*wh*-fronting) and pseudosluicing (*wh*-cleft) as both *wh*-fronting and *wh*-cleft are available as underlying derivations in the target, that is the non-elliptical counterexample of (pseudo)-sluicing.

Whether a *wh*-construction can occur in *wh*-fronting or *wh*-cleft varies among *wh*-expressions. *Wh*-fronting is more common than *wh*-cleft because it can occur with more *wh*-expressions than *wh*-cleft, such as *wh*-words and *wh*-phrases *fu*: 'what', and others like *wh*-PP, *which*-NP, *wh*-arguments and *wh*-adjuncts. Possible examples of *wh*-fronting questions in JA include *wh*-words and *wh*-phrases, *wh*-PP, and *wh*-adjunct and *wh*-arguments. *Wh*-cleft allows only bare *wh*-words and *wh*-arguments including *fu*: 'what', *mi:n* 'who' and *ʔaj-NP* 'which-NP'.



Therefore, there are constraints on the contexts in which the copular pronoun (wh-cleft), and class II resumption (wh-cleft without a copula) occur. Both are constrained in contexts with wh-PP, wh-adjunct, or wh-argument, hence this illustrates that such JA examples whose underlying source can only exhibit wh-fronting are cases of sluicing. Since the wh-adjuncts such as *ki:f* ‘how’, *ʔemta* ‘when’ and *le:f* ‘why’, *we:n* ‘where’, and wh-PPs like *min we:n* ‘from where’ and *min ʔemta* ‘since when’, cannot occur with a copula nor wh-cleft and can only occur in wh-fronting, the elliptical question constructions containing the aforementioned wh-words can only be sluicing cases because the only possible underlying derivation is wh-fronting.

I demonstrate that when the complement of the wh-expression is elided leaving only the wh-word as a remnant, there are three possible underlying derivations for such constructions: i. wh-fronting, ii. wh-cleft without a copula (Class II resumption in Arabic, Aoun et al., 2010), and iii. wh-cleft with a copula. Yet there is no clear-cut piece of evidence whether the example is diagnosed as sluicing (wh-fronting) or pseudosluicing (wh-cleft) since both wh-fronting and wh-cleft are plausible. However, I show that since the copula is droppable in other contexts independently, then it is possible that the copula was present underlyingly in the elliptical constructions where the entire complement of the wh-word elides, which means wh-cleft is possibly one of the underlying derivations for constructions where only the wh-word is left as a remnant. That is why, wh-cleft is a possible derivation for elliptical constructions when only the wh-word is left as a remnant. Hence it could plausibly be analyzed as pseudosluicing (wh-cleft). In other words, JA exhibits pseudosluicing, and not only sluicing.

When the complement of the copula is elided leaving the copular pronoun and a wh-expression as remnants, then the underlying derivation must include a copular pronoun, which is a wh-cleft source. Accordingly it is obviously a pseudosluicing case.

A piece of evidence is the ungrammaticality use of wh-pseudosluice in expressions, such as

\**ʔemta huwe* ‘how COP’, \**ki:f huwe* ‘how COP’ or \**lə:f huwe* ‘why COP’. Therefore, the three wh-adjuncts can only appear in wh-fronting, which means they are sluicing cases only. On the other hand, the wh-expression *ʃu:* ‘what’ or *mi:n* ‘who’ can either be wh-sluiice type or wh-pseudosluiice type as the copular pronoun’s presence or absence is grammatical in both cases, hence sluicing or pseudosluiicing.

It is also crucial to point out that the P-stranding and resumptive pronominal item effects on the wh-sluiice remain the central issue in sluicing in this paper. Since sluicing is limited to questions, the presence of the wh-movement is part of the occurrence of a preposition stranding in the sluiice site. And thus the p-stranding effect on JA sluicing will remain an important issue, which suggests that JA sluicing is a PF phenomenon, yet preposition stranding and PSG play the preeminent role in the analysis.

JA seems ostensibly to violate PSG at first sight because it is a non p-stranding language, yet the preposition strands under sluicing. However, this is not sufficient to conclude that JA violates PSG. I argue that since there is a resumptive pronominal item cliticized with the preposition at all times and in different constructions including sluicing and embedded question, the resumption strategy under sluicing rescues PSG.

The nature of the wh-PP differs in a way that some of them can leave the preposition in-situ, while other wh-PP do not allow the preposition to strand neither in regular question nor in non-elliptical counterexamples of sluicing, such as *min we:n* ‘from where’ and *min ʔemta* ‘since when’. In the former cases where the preposition does not pied-pipe, the available underlying derivations are wh-cleft (copular, complementizer and resumptive pronominal item) or class II resumption (complementizer and resumptive pronominal item) where there is resumption. The reason that wh-fronting is not available with a wh-word without a pied-piped preposition is that the basic condition of sluicing won’t be satisfied; the two verbs will not have the same inference in wh-fronting.

The syntactic or structure isomorphism fails to account for sluicing, because the IP can elide even when there is no overt correlate to the elided constituent. Accordingly, sluicing shows semantic identity, which includes GIVENness condition and focal parallelism, instead which means that the elided phrase and the antecedent phrase semantically entail each other. When mutual entailment holds between the IP in the antecedent and the IP in the elided clause, the interpretation of the verb in each IP matches. This is the case when there is wh-cleft or Class II resumption underlyingly in the target, which confirms that resumption strategy always rescues PSG in JA since the two available derivations include a resumptive item, which will always occur to rescue PSG, and there is no preposition stranding.

Another piece of evidence in favor of resumption as an available strategy that salvages PSG violation is embedded statements and questions. For instance, constructions with resumption strategy exist instead of P-stranding; whether class II resumption or regular resumption strategy (Aoun et al., 2010) in embedded questions. On the other hand, the counterexamples without the resumption strategy are not grammatical. Yet another piece of evidence against the proposal that JA violates the PSG is those examples that are ungrammatical with resumptive pronominal element although they are grammatical with resumption under sluicing. For instance, *fu*: ‘what’ and *ʔajja-NP* ‘which-NP’ cannot occur with resumption (Aoun et al., 2010) unless there is an antecedent, that is those contexts under sluicing which by definition have an antecedent. For example, the resumptive pronominal item is not allowed with *fu*: ‘what’ in wh-fronting, yet it is allowed in other contexts where there is an antecedent.

We can appeal to a resumption strategy to show that there is no PSG violation observed under sluicing in this language. There will always be a resumptive pronominal item as an object in the form of a clitic on the preposition, and not a case of preposition stranding. Thus, it does not violate PSG because the resumptive pronominal item salvages PSG. I also show that at all cases

where the resumption strategy is used in questions, there must be an antecedent discourse, which is also a given condition for sluicing constructions via the antecedent clause.

To sum up, JA elliptical constructions where a verb gaps in the second conjunct look similar to English gapping on the surface as they show the common properties of gapping, nevertheless, their underlying analyses differ since VP-ellipsis which has been proposed as the right analysis for English (Toosarvandani, 2013) is independently not an available mechanism in Arabic. On the other hand, elliptical constituent question constructions like (pseudo)-sluicing are similar to the English counterexamples since they exhibit wh-remnant outside the target, albeit the wh-question formation in both languages differs.

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To,  
my parents,  
and my two brothers,  
Hasan and Omar

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# LIST OF ABBREVIATIONS

1, 2 , 3	1st, 2nd , 3rd person
ACC	Accusative case
ALT	Alternative
ASP	Aspect
ATB	Across-The-Board
CP	Complementizer Phrase
COMP	complementizer
COP	Copular pronominal item
CSC	Coordinate Structure Constraints
DAT	Dative case
DP	Determiner Phrase
<i>e</i>	Null element
E	Ellipsis
EA	Emirati Arabic
E-feature	ellipsis-feature
F	Feminine
F-clo	Focus closure
Foc	Focus
FP	Functional Projection
IMP	Imperfective Verb
INST	Instrumental
IP	Inflectional Phrase
JA	Jordanian Arabic

LA	Libyan Arabic
LF	Logical Form
M	Masculine
NEG	Negation
NOM	Nominative case
NP	Noun Phrase
P	Plural
PER	Perfective Verb
PF	Phonological Form
PP	Preposition Phrase
PRON	Pronoun
PSG	Preposition Stranding Generalization
P-stranding	Preposition Stranding
S	Singular
SA	Standard Arabic
Spec, CP	Specifier of CP
Spec, TP	Specifier of TP
Spec, VP	Specifier of VP
SVO	Subject-Verb-Object typology
TOP	Topic
TP	Tense Phrase
TPE	TP-ellipsis
vP	“light- v” phrase
V	Verb

VP	Verb Phrase
VPA	Verb Phrase in antecedent
VPE	VP-ellipsis
VSO	Verb-subject-object typology

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My father left our native Jordan to work elsewhere when I was young. He left behind a library of some ten thousand books scattered all over our home. Every time I felt I missed him, I would read another one of his books. This is how I fell in love with reading and languages. My parents have always emphasized education, particularly for women. They believe that educating a woman is like educating a society, which also determines future of women.

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Juman Al Bukhari

# Chapter One

## Introduction and Background

*Ellipsis* is a term that refers to constructions where there is some material missing, such as the verb and its complement. This mechanism is typically thought to apply only to syntactic constituents and not to arbitrary and discontinuous strings. There are several types of ellipsis that have been coined, such as NP-ellipsis, VP-ellipsis, and TP-ellipsis. Moreover, an overt finite auxiliary is left after the ellipsis of the VP, as in (1).

- 1) George likes to dance, but Jane doesn't [~~like to dance~~].

Moreover, VP-ellipsis in English is applicable only when T is filled with an auxiliary, such as *have* or *be*; and the dummy *do*, *infinitive to*, or *a modal* (Lobeck, 1995; Johnson, 2001, 2004; Agbayani & Zoerner 2004).

Such constructions have been the attention of linguists in the last decades of 20<sup>th</sup> century, such as Keenan (1971), Sag (1976), Williams (1977), Sag and Hankamer (1984). Before analyzing the type of syntax in the ellipsis site, we need to determine whether or not there is syntax in the ellipsis structure. Accordingly, there have been two answers to this question: syntax exists (structural approach) or syntax is absent (non-structural approach).

In other words, elliptical constructions have been examined either as an internal structure as in (2) or non-structural in which there is meaning without form as in (3). In the latter, there is no material to pronounce whereas the former approach means that there is material that becomes unpronounced at later stages in the derivation either at PF or LF.

- 2) John made cookies, and Mary did *e* too. (No structure in ellipsis site)
- 3) John made cookies, and Mary did [~~make cookies~~] too. (Structure in ellipsis site)

The structural analysis has proposed that there is structure throughout the entire derivation and so PF-deletion; or LF-copying that is there is a null lexical element. The first approach supports the fact that the ellipsis site has an internal structure that is treated like other syntactic structures, that gets unpronounced at PF (Ross, 1969; Sag, 1976; Hankamer, 1979; Merchant, 2001; inter alia). The second approach interprets the ellipsis site as empty site without structure that gets interpreted by copying at LF (Williams, 1977; Chung et al., 1995; Lappin 1999 among others). Under the deletion approach, *identity* or *GIVENness*, which I will touch upon in the next chapter, is the core view of ellipsis in the Principle and Parameter framework as well as the Minimalist Program.

A third approach into ellipsis that has been looked at as different from the two aforementioned approaches is the one that deals with the ellipsis site as it deals with anaphoric elements. This approach considers the ellipsis site as an anaphoric element without internal structure in which the reference must be interpreted the same way the reference of anaphoric items are interpreted.

Some studies focused on the identity of the ellipsis site that can either be a syntactic identity (Fiengo and May, 1994) or a semantic identity (Merchant, 2001; Fox, 2000). Another studies investigated the analysis of the ellipsis site as VP-ellipsis for pseudogapping (Merchant, 2008), and deletion for gapping constructions (Coppock, 2001) or ATB movement for gapping (Johnson, 2009).

Merchant (2001) has summarized the previous work on the structure of the ellipsis horizontally and the identity of the ellipsis vertically in Table (1).

		<b>Is there syntax in the ellipsis site?</b>	
		Yes	No
<b>Is identity syntactic or semantic?</b>	Syntactic	Sag 1976, Williams 1977, Fiengo & May 1994, Chung et al. 1995, Kehler 2002, etc.	N/A (incoherent)
	Semantic	Sag and Hankamer 1984, Merchant 2001, van Craenenbroeck 2010, Aelbrecht 2010, etc.	Keenan 1971, Hardt 1993, Dalrymple et al. 1991, Ginzburg & Sag 2000, Culicover & Jackendoff 2005, etc.

Table 1: Some previous research on the two ellipsis questions

(Merchant, 2001, p. 5)

One of the first questions to discuss in the studies of ellipsis, in the broad meaning of ellipsis, is concerned with the structure. This first question tries to reach an answer to whether there is a syntactic structure that is unpronounced with a syntactic identity (Fiengo and May, 1994; Chung et al, 1995) or semantic identity (Merchant, 2001; Aelbrecht, 2010) as shown in Table (1).

A second question is what Merchant (2001) calls the licensing question. Therefore, some studies such as Zagona (1982), and Lobeck (1995) among others have looked at the head or structures that license the ellipsis as well as the locality conditions on the interaction or the link between the structure and ellipsis mechanism.

Another angle in which elliptical constructions have been studied in the literature is the type of deletion, taking into account the diagnosis of the constructions. The first set of deletion type includes sluicing (4), verb phrase ellipsis or VP-ellipsis (5), and NP-ellipsis or N'-ellipsis (6).

4) John can play something, but I do not know what.

5) John can play the guitar and Mary can, too.

6) John can play five instruments, and Mary can play six. (Merchant, 2001, p. 3)

The interpretation of the three constructions is understood as the following 3 corresponding examples in (7), (8), and (9) respectively.

- 7) John can play something, but I do not know what John can play.
- 8) John can play the guitar and Mary can play the guitar, too.
- 9) John can play five instruments, and Mary can play six instruments.

(Merchant, 2001, p. 3)

Others like Algryani (2011) has analyzed some elliptical constructions in Libyan Arabic (henceforth, LA) as modal ellipsis in which VP elides as in (10); and he analyzed sluicing in LA as TP-ellipsis (Algryani, 2010) as in (11).

- 10) *Ali yəgdar yə-ṭkəlləm iṭali, w hətta David yəgdar*  
 Ali can.3ms speak.3ms Italian and too David can.3ms  
 ‘Ali can speak Italian, and David can too.’ (Algryani, 2011, p. 3)

- 11) *Ali tekəlləm mʕa wəhed lakin ma-naʕrəf-š*  
 Ali talked.3MS with someone but NEG-know.1S-NEG  
 [CP *man*<sub>i</sub> [<sub>TP</sub> *t<sub>i</sub>* (*hu*) — [<sub>DP</sub> *illi* [<sub>TP</sub> *Ali tekəlləm mʕa-ah*]]]].  
 who (PRON.he) that Ali talked.3MS with-him  
 ‘Ali talked with someone, but I don’t know who’. (Algryani, 2010, p. 6)

Gapping proposed by Ross (1970) and pseudogapping proposed by Levin (1986) are two similar elliptical constructions in (12a) and (12b) respectively and they illustrate a great similarity (Stump, 1977).

- 12) a. Some have served mussels and others swordfish.  
 b. Some have served mussels and others have swordfish.

In (12a), the main verb *served* and the auxiliary *have* are missing in the second conjunct. Additionally, there is a coordination of two VPs under one T in (12a), because there is no T in the first place; the two VPs share one T *have*, referred to as low-coordination (Siegel, 1987). Nevertheless, (12b) shows a coordination of two TPs in which the second conjunct misses only the VP commonly via VP-ellipsis. (Stump, 1977; Jayaseelan, 1990; Lasnik, 1999 a, b, c), while T remains.

Sluicing and Pseudosluicing proposed by Merchant (2001) are two similar constructions, which look very similar on the surface. The difference is identified through the underlying derivation of the elliptical constituent question before deletion, as in (13).

- 13) a. John met someone, but I do not remember who <TP John met>.  
b. John met someone, but I do not know who <it was><sup>2</sup>.

I will adopt the syntactic approach of ellipsis and analyze the unpronounced underlying syntactic structure of the JA data. Thus, the elliptical JA data I will be investigating include gapping in (14) and (pseudo)-sluicing in (15).

14) Gapping data

- a. *hasan b-j-akol pizza, w ʕumar [ \_\_\_\_\_ ] burger*  
Hasan Asp-3ms-eat.IMP pizza and Omar burger  
'Hasan eats pizza, and Omar [eats] burger.' (simultaneously)
- b. *hasan b-ə-ʕzəf pjano, bas ʕumar [ \_\_\_\_\_ ] gi:tar*  
Hasan Asp-3ms-play.IMP piano but Omar guitar  
'Hasan plays piano, but Omar [plays] guitar.'
- c. *hasan ra:h ʕa-l-ʕa:mʕa, w ?b-a-zon ʕumar [ \_\_\_\_\_ ] ʕa-l-be:t*  
Hasan go.3ms.PER to-the-university and Asp-1s-think.IMP Omar to-the house  
'Hasan went to university, and I think Omar [went] home.'
- d. *?ala-t ?aħmad tʕaffa ʕibnə, w ʕumar [ \_\_\_\_\_ ] ħummos<sup>ʕ</sup>*  
say-3fs.PER Ahmad eat-dinner.3ms.PER cheese, and Omar Hummus  
'She said that Ahmad ate cheese, and Omar [ate] Hummus.'
- e. *kul bənt raħ t-safər ʕa-tunis, w ?um-ha [ \_\_\_\_\_ ] ʕa-mas<sup>ʕ</sup>ər*  
every girl will 3fs-travel.IMP to-Tunisia, and mother-her to-Egypt  
'Every girl will fly to Tunisia and her mother to Egypt.'

15) (Pseudo)-sluicing data

- a. *hasan ftara ?iʕi, bas ma b-a-ʕraf fu: (huwe<sub>i</sub>)*  
Hasan buy.3ms.PER something, but not Asp-1s-know.IMP what 3ms.it.COP  
'Hasan bought something, but I do not know what.'
- b. *hasan ʕa:f wa:ħadi, bas ma b-a-ʕraf mi:n (huwe<sub>i</sub>)*  
Hasan see.3ms.PER someone, but not Asp-1s-know.IMP who 3ms.it.COP  
'Hasan bought someone, but I do not know who (he is).'
- c. *ʕumar it<sup>ʕ</sup>asal, bas ma b-a-ʕraf {?emta/ ki:f/ le:f / we:n}*  
Omar call.3ms.PER, but not Asp-1s-know.IMP {when how why where}  
'Omar called, but I do not know {when, how, why, where}.'

<sup>2</sup> The elliptical construction in (13b) is not a plausible analysis for English, but rather a schematic demonstration of a pseudosluicing derivation.

- d. *hasan raḥ ji-ftari sajja:raḥ, bas ma b-a-ṣraf ʔaj no:ʕ*  
*hijjeḥ*  
 Hasan go.3ms.PER 3ms-buy.IMP car , but not Asp-1s-know.IMP which kind/brand  
 3fs.it.COP  
 ‘Hasan went to buy a car, but I do not know what/which.’
- e. *ʕumar fa:t ʕa-ʕa:mʕa bi ʔamri:ka, bas ma b-a-ṣraf*  
*ʔaj ʕa:mʕa*  
 Omar join.3ms.PER to-university in America, but not Asp-1s-know.IMP  
 which university  
 Omar joined a university in America, but I do not know which university.
- f. *ʕumar riʕeʕ, bas ma b-a-ṣraf min we:n / we:n*  
 Omar return.3ms.PER, but not Asp-1s-know.IMP from where/ where  
 ‘Omar came back but I do not know from where/with who.’
- g. *ʕumar riʕeʕ ji-lʕab b-l-ʕem, bas ma b-a-ṣraf*  
*min ʔemta/ ʔemta*  
 Omar return.3ms.PER 3ms-play.IMP in-the-gym but not Asp-1s-know.IMP  
 since when/ when  
 ‘Omar went back to the gym, but I don’t know since when/when.’
- h. *hasan ḥaka maʕ waḥad, bas ma b-a-tzakkar mi:n*  
 Hasan talk.3ms.PER with someone but not Asp-1s-remember who  
 ‘Hasan talked with someone, but I do not know who.’
- i. *ʕumar ḥaka maʕ waḥad, bas ma b-a-tzakkar maʕ mi:n*  
 Omar talk.3ms.PER with someone but not Asp-1s-remember with who  
 ‘Omar talked with someone, but I do not remember with who.’

The organization of this paper will be as follows; in Chapter 2, I will discuss some facts and theories about ellipsis. I will also introduce some facts about Arabic/JA, such as subject analyses, verb movement, VP-ellipsis feasibility, and wh-questions in Chapter 3. Then I will indulge in the issue of gapping with some relevant facts to my topic in Chapter 4. I will also examine the properties of gapping in addition to the three mechanisms of gapping analyses: low coordination, ATB, and VP-ellipsis, and adopt an analysis to JA gapping constructions in chapter 4 as well. In Chapter 5, I will analyze (pseudo)-sluicing data in JA. In chapter 6, I will conclude with a summary of some facts and analysis, and I finally close up with my future thoughts and research.



# Chapter Two

## Background on Ellipsis

### 2.0 Introduction

Before I indulge in the analysis of the elliptical constructions of Jordanian Arabic, I will discuss some known theories, analyses, and recent studies on both languages, Arabic and English. I will also show some examples from other languages to show how other types of relative ellipsis work.

Some elliptical phenomena are more common than others; for instance, sluicing is more widespread than VP-ellipsis. Later on, I will discuss the widespread of sluicing in Arabic, and the limited examples of VP-ellipsis, or Modal ellipsis, which Algryani (2011) has diagnosed as a case of VP-ellipsis because it exhibits some properties of VP-ellipsis. I will come back to this again in chapter 3 when I shed light on Arabic syntax.

There are many types of deletion or ellipsis that languages of the world exhibit, such as gapping, pseudogapping, stripping, sluicing, pseudo sluicing, NP-ellipsis, VP-ellipsis, conjunction reduction, and others. Broadly speaking, these types behave differently, yet Lobeck (1995) put them in two categories; the first includes gapping (1), pseudogapping (2) and stripping (3) in which he shows that they have similarities, while the second category contains VP-ellipsis (4), sluicing (5), and NP-ellipsis (6) which also share certain properties that set them apart from the first category.

- 1) John cooked rice, and Mary [<sub>VP</sub> \_\_\_\_\_ ] sushi. (gapping)
- 2) John can make cookies, and Mary can [<sub>VP</sub> \_\_\_\_\_ ] croissant. (pseudogapping)
- 3) John can make cookies, and Mary [<sub>TP</sub> \_\_\_\_\_ ] too. (stripping)
- 4) John made cookies, and Mary did [<sub>VP</sub> \_\_\_\_\_ ], too. (VP-ellipsis)
- 5) John met someone, but I do not know who [<sub>TP</sub> \_\_\_\_\_ ] (sluicing)
- 6) John can speak four languages, and Mary can speak five [<sub>NP</sub> \_\_\_\_\_ ]. (NP-ellipsis)

Other types of clausal ellipsis involve deletion of an entire clause excluding one or more clause internal constituents; which have been argued to move to the left periphery of the clause prior to deletion. Those clausal ellipsis are spading, sprouting, swiping, fragment answers, and null complement anaphora as in (7).

- 7) Dutch (Craenenbroeck and Merchant 2004)
- a. Jef eid iemand gezien, mo ik weet nie wou da (Spading)  
 Jef saw someone seen but I know not who that  
 ‘Jef saw someone, but I don’t know who.’
  - b. John is reading, but I do not know what. (Sprouting)
  - c. John read a book, but I don’t know what about. (Swiping)
  - d. A: What did you read? B: a magazine. (Fragment Answers)
  - e. John wanted Bill to kiss Mary, but he refused. (Null complement anaphora)

## 2.1 The Issue of Ellipsis

Ellipsis has been examined in terms of the internal structure that is either structural or non-structural in which there is meaning without form. In the non-structural approach, there is no material to pronounce as in (8), whereas the structural approach means that there is material that becomes unpronounced at later stages in the derivation either at PF or LF as in (9).

- 8) John made cookies, and Mary did *e* too. (No structure in ellipsis site)
- 9) John made cookies, and Mary did [~~make cookies~~] too. (Structure in ellipsis site)

For the nonstructural approach, for instance, Ginzburg and Sag (2000), and Culicover and Jackendoff (2005) inter alia, have proposed that there is no syntactic material in wh-phrase in sluicing, and that wh-word is the only daughter of the S node in the complement of *know* in (10).

- 10) John can play something, but I do not know [<sub>S</sub> what].

### 2.1.1 The Syntax of the Ellipsis Site

Assuming that there is structure in the ellipsis site, there are two ways to look at the unpronounced syntactic structure, which are the ordinary syntax (PF-deletion) or the null lexical element (LF-copying). The former shows that there is some kind of deletion process that causes

syntax to become unpronounced. The latter deals with null items that are replaced at some point in the representation, away from PF, but rather at LF or the semantic part of the ellipsis site<sup>3</sup>.

In addition, there are factors that argue in favor of the unpronounced structure (PF-Deletion) in ellipsis. The factors include connectivity effects, locality effects, P-stranding effects, case matching effects, and others.

One of the factors that play a role in determining whether or not there is a structure in the ellipsis site is connectivity effects. For instance, if there are connectivity effects that seem to be due to the elided material, then there must be an internal structure, whereas if there is no effect found, this is an argument for the nonstructural approach.

Locality effects plays a role the analysis of VP-ellipsis, fragment answers, Stripping or ‘bare argument ellipsis’, gapping, sluicing, and sluicing over a covert or implicit correlate. The locality effects between the correlate and the ellipsis site show island constraints that might be due to restrictions on syntax, then they exist in the ellipsis site.

PSG is another piece of evidence for structure inside the ellipsis site. Based on a survey of more than twenty languages, Merchant (2001) states the PSG as in (11):

- 11) A language L will allow preposition stranding under sluicing iff L allows preposition stranding under regular wh-movement. (Merchant, 2001, p. 92)

The twenty languages that confirm PSG of Merchant include English, Swedish, Danish, Norwegian and others; while other languages like Polish (Stjepanović, 2008) and Emirati Arabic (henceforth, EA) (Leung, 2014) do not seem to confirm the PSG unless there is repair strategy

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<sup>3</sup> Under the null elements analysis, Hardt (1993) and Lobeck (1995) have proposed there is a single null element (i), whereas Wasow (1972) and Ludlow (2005) have argued that there are multiple null elements, as in (ii).

i. I do not know [CP what [IP e ]]	single null element
ii. I do not know [CP what [ IP e <sub>1</sub> e <sub>2</sub> e <sub>3</sub> t <sub>4</sub> ]]	multiple null elements

(Stjepanović, 2008) or PSG modification (Leung, 2014). One language that Merchant (2001) has investigated is Russian that confirms PSG as shown in (12).

12) Russian

- a. Anja govorila s kem-to, no ne znaju \*(s) kem.  
 Anja spoke with someone, but not I-know with who  
 ‘Who did Ana speak with?’
- b. \*kem ona govorila s?  
 whom.INST she spoke with

In (12a), sluicing does not allow P-stranding, and so the constituent question does not allow stranding the preposition *s* ‘with’ as in (12b), which means that Russian confirms the generalization.

In other words, there is a strong correlation between the languages that allow P-standing in non-elliptical constructions on the one hand, and in sluicing or fragment answers on the other. However, PSG is not perfect and Merchant (2001) shows an exception to PSG in Serbo-Croatian that later on was investigated intensely by Stjepanović (2008, 2012).

Stjepanović (2008) shows that the Serbo-Croatian does not allow P-stranding in constituent questions, but it allows prepositions to delete under sluicing, she tries to find an analysis to keep the generalization confirmed. Thus she claims that this preposition deletion is not a result of P-stranding. Serbo-Croatian seems to falsify PSG.<sup>4</sup> Later in this chapter, I will touch upon PSG in more details and the analysis that Stjepanovic (2012) proposes.

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<sup>4</sup> Serbo-Croatian is another language that falsifies PSG, and thus it is ostensible that in (i) and (ii) unlike English, Serbo-Croatian does not allow preposition stranding.

- i. Sa kim je Ana govorila?  
 with whom.INST is Ana spoken  
 ‘Who did Ana speak with?’
- ii. \*Kim je govorila Ana sa?  
 whom.INST is spoken Ana with

(Stjepanović 2008:180)

Also, preposition stranding is allowed under sluicing as in (iii) which opposes the generalization of Merchant (2001).

- iii. Ana je govorila sa nekim ali ne znam \*(sa) kim.  
 Ana is spoken with someone.INST but not I.know with whom.INST  
 ‘Ana spoke with someone, but I don’t know whom with.’

Yet another piece of evidence for a syntactic internal structure in the ellipsis site is case-matching. This effect found in sluicing and fragment answers (Ross, 1969) is found in German as shown in (13);

13) German

- a. Er will jemandem schmeicheln, aber sie wissen nicht, { \*wer / \*wen / wem }.  
     he wants someone.DAT flatter but they know not who.NOM who.ACC who.DAT  
     ‘He wants to flatter someone, but they do not know who.’
- b. Er will jemandem loben, aber sie wissen nicht, { \*wer / wen / \*wem }.  
     he wants someone.ACC praise but they know not who.NOM who.ACC who.DAT  
     ‘He wants to praise someone, but they do not know who.’

Apparently, there is case matching between the correlate and the wh-word in the ellipsis site. In (13a), the correlate bears a dative case that matches the case of the wh-word in the sluice site, where as (13b) shows an accusative case matching that both the correlate and the wh-word bear.

Additionally, some linguists treat the syntactic analysis of ellipsis as a PF-deletion phenomenon or LF-Copying phenomenon to capture the facts of the ellipsis construction under investigation. For instance, Goldberg (2005) argues in favor of PF-deletion over LF-copying to capture V-stranding VP-Ellipsis facts. Others have also adopted PF-deletion analysis (Chomsky and Lasnik, 1993; Fox, 2000; Johnson, 2001; Merchant, 2002; inter alia) for VP-ellipsis. In the PF account, the null element of ellipsis constructions or VP-ellipsis is fully articulated syntactic structure, and then the VP elides at PF. On the other hand, Zagana (1988b), Chao (1987), Lobeck (1995, 1997), and Chung, Ladusaw, and McCloskey (1995) have proposed LF-copying account of VP-ellipsis or other ellipsis constructions in which the null VP is base-generated without an internal syntax, which is structured only at LF. In this copying account, the elided constituent receives meaning from the copying of the antecedent in addition to acquiring a semantic identity between the null element and its antecedent.

Conversely, there are arguments against the structure analysis inside the ellipsis, such as the absence of island sensitivity in sluicing, and the PSG exception in some languages. However, I will not indulge into more details of this approach for convenience (see Merchant, 2001, p. 86).

### **2.1.2 The Identity and Isomorphism of Ellipsis**

There are several types of relations and theories that determine whether the identity of ellipsis is syntactic or semantic considering that the understood material in the ellipsis site is identical to the material in the antecedent. In the traditional generative approach, identity condition in ellipsis was looked at as an identical material in the antecedent and the target; that is to say that the identity condition in ellipsis is stated over syntactic representation.

It could be an identical relation in which the material is exactly the same in the antecedent and the ellipsis site, as in (14), the so-called syntactic isomorphism that Fiengo and May (1994) requires for sluicing to be interpreted. In (14a), the elided phrase does not only mean the same thing that the antecedent mean, but also it contains the same syntactic items too. In order to ensure that (14) is correct, the interpretation of the ellipsis site must be that *Ben was drinking coffee* too, and not something else. Under this approach, if syntactic isomorphism is not satisfied, then the deletion process is not allowed. In other words, there must be identical structure in both the antecedent and the ellipsis site, and not only the meaning is the same.

- 14) a. John was drinking coffee, while Ben *was*.  
b. \*John was drinking coffee, while Ben *was drinking*.

However, advanced work on the syntax-semantic interface suggests that identity is semantic and not syntactic. In (14b), focus condition of Rooth (1992a) must be satisfied. Rooth (1992) takes into account the syntactic isomorphism condition but also considers the semantic identity from which he attached an operator  $\sim$  to LF constituent in the ellipsis site that is identical to some phrase in the antecedent. The VP *was drinking* in the antecedent implied a proposition that must be in the

focus value of the deaccented<sup>5</sup> VP in ellipsis site. Accordingly, in (14b), the VP *was drinking* cannot be elided under syntactic identity (Fiengo and May, 1994), and the syntactic isomorphism condition presents the ellipsis site to be interpreted as *Ben was drinking coffee*.

On the other hand, testing examples like (15), deletion is acceptable yet there is an overt correlate in the antecedent that does not have an identical item in the sluice site before deletion applies.

15) John bought something, but I do not know what [TP \_\_\_\_ ].

Accordingly, there must be another identity under which the ellipsis is grammatical. This means that there is an entailment relation that forces Merchant (2001) to refute the isomorphism requirement of Fiengo and May (1994) as in (15), in sluicing cases, and consider a semantic identity or semantic isomorphism. The elided TP is *John bought*, while there is an overt correlate in the antecedent that does not exist in the elided TP. However, for Fiengo and May (1994), the antecedent need not be uttered; it could be uttered or unuttered. And the latter does not have to argue against a structural theory of reconstruction (Fiengo and May, 1994).

Yet Merchant (2001) suggests that the syntactic isomorphism fails under the dependency theory, as shown in (15), in which the elided part is *John bought* and the covert correlate *someone* is not part of the ellipsis site.

Isomorphism requirement also fails in sluicing in Romanian. Dobrovie-Sorin (1993) shows that clitic-doubling is obligatory in questions with certain D-linked wh-phrases and she also shows that a deleted IP under sluicing can correspond to non-clitic-double correlate in the antecedent IP. Another piece of evidence is clear in gerund and infinitive structures as in (16).

16) Decorating for the holidays is easy if you know how [ ~~to decorate for the holidays~~ ].

(Merchant, 2001, p. 22)

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<sup>5</sup> Deaccented statement is the non-elliptical counter example statement of a deleted one adapted from Merchant (2001). Similarly, deaccented VP is the non-elliptical counterexample of VP.

Apparently, the deleted infinitival clause in the ellipsis site corresponds to a gerund in the antecedent. This shows that the items in the ellipsis site need not be identical to covert correlates.

### 2.1.3 The Semantics of Ellipsis

Given these shortcomings that rise against the syntactic isomorphism requirement, many have adopted the semantic approach, such as Dalrymple et al (1991), Hardt (1993, 1999), and Asher et al (1997) among others. For instance, Merchant (2001) adopts the focus condition and GIVENness theory of Schwarzschild's (1999), from which he expanded the definition into what he calls e-GIVENness into two-way entailment adding (17ii) to the definition, which is defined as follows in (17).

17) e-GIVENness:

An expression E counts as e-GIVEN iff E has a salient antecedent A and, modulo  $\exists$ -type shifting,

- i) A entails the focus-closure of E, and
- ii) E entails the focus-closure of A. (Merchant, 2001, p. 26)

Merchant (2001) have used the focus condition in (18) as a condition on IP-ellipsis, which is based on the definition of e-GIVEN in (17).

18) Focus condition on VP-ellipsis

A VP  $\alpha$  can be deleted only if  $\alpha$  is e-GIVEN. (Merchant, 2001, p. 26)

This is understood under the assumption that the deleted constituent will not be F-marked; only the extracted material from the ellipsis site will be F-marked. This means that the unelided material that is extracted out of the ellipsis bears a focus, as shown in (19).

19) Abby sang because [Ben]<sub>F</sub> did. (Merchant, 2001, p. 14)

Extending this condition to sluicing, the F-marked material [Ben]<sub>F</sub> in IP<sub>2</sub> can be replaced by  $\exists$ -bound variable:  $\exists x.\text{sing}(x)$ , as schematized in (20) at LF.

20) [ IP<sub>1</sub> Abby sang, because [IP<sub>2</sub> Ben<sub>F</sub> did ~~sing~~ ]



Therefore, Merchant (2001) has generalized the two-way entailment condition on VP-ellipsis and IP-ellipsis. Romero (1998) applied the focus condition on IP-ellipsis and sluicing; however, the result is an ungrammatical sentence in (21).

- 21) \* I know how many politicians she called an idiot, but I do not know WHICH politicians [~~IP~~  
~~she insulted t~~] (Merchant, 2001, p. 31)

*Calling politicians idiots* entails *insulting them*, whereas *insulting them* does not entail *calling them idiots*. Therefore, the two-way entailment requirement of Merchant (2001) is unavoidable. In other words, structure isomorphism condition can be abandoned. In this example, IP<sub>E</sub> cannot be elided because IP<sub>A</sub> is not e-given as *he insulted x* does not entail *she called x an idiot*. In order to allow example (21); Merchant applies his revised focus condition to allow (22).

- 22) I know how [MANY IP<sub>A</sub>' politicians she called in idiot], but I don't know WHICH [IP<sub>E</sub>'  
(politicians) she called an idiot].

Presumably, an IP  $\alpha$  can be deleted only if  $\alpha$  is e-GIVEN; in this case IP<sub>E</sub> *she called an idiot* is elided since  $\alpha$  is e-given. It is e-given because it satisfies the two parts of the e-givenness definition in (17)."

- 23) a. IP<sub>A</sub>' =  $\exists x$ .she called x an idiot  
b. F-Clo (IP<sub>E</sub>) =  $\exists x$ .she called x an idiot  
c. IP<sub>E</sub>' =  $\exists x$ .she called x an idiot  
d. F-Clo (IP<sub>A</sub>) =  $\exists x$ .she called x an idiot

Apparently, IP<sub>A</sub>' entails Focus-closure of IP<sub>E</sub>, and IP<sub>E</sub>' entails the Focus-closure of IP<sub>A</sub> in (23).

Understanding the structure in the ellipsis sites and what factors rule out the ellipsis, I discuss the mechanism that licenses the silence of syntax in the next subsection.

#### 2.1.4 Licensing Deletion

The issue to examine is what kind of head or position allows an ellipsis and the locality conditions on the relation between structure and ellipsis. Several linguists have looked at licensing including Zagana (1982), Lobeck (1995), Johnson (2001), Merchant (2001) among other.

Under this structural approach, ellipsis can be licensed either through the deletion approach or through null anaphora approach. In the former approach, the difference between the elliptical VP and its corresponding non-elliptical VP is the presence and absence of [E] feature on I that can be checked only by [+wh, +Q] in C head, which license the deletion of the complement of C, namely IP at PF. Moreover, this feature provides phonological, syntactic and semantic information of the ellipsis. In phonology, [E] gives a null phonological value; in syntax, it determines which head can host this [E] feature, in other words, the way in which ellipsis is licensed; and finally in semantics, the elided phrase requires identity conditions discussed in the previous sub-section 2.1.2.

Merchant (2001) also assumes that [E] involves syntactic features that include an uninterpretable [wh-] feature and an uninterpretable [Q]-feature. In this case, [E] needs to check those features in local configuration of head-to-head configuration. Mainly, the feature [E] moves from I to C to get checked in C. Merchant (2001,2004) argues that sluicing, for example, has a formal feature (E) on the head I that gets featured checked in C and so it licenses the deletion of the complement of C, that is IP.

This represents the syntactic requirement of sluicing, which means sluicing is restricted to wh-questions because [E] and wh-phrase in Spec, CP has the same features [+wh] and [+Q]. Accordingly, this ensures that sluicing is restricted to wh-question. Technically, wh-question moves to the left-periphery to check its features [wh], [Q], and it checks [E] feature which adjoins CP head, and thus licenses sluicing that elides the head complement, IP in this case. This analysis applies to languages like English in which the wh-phrases moves high to Spec, CP.

On the other hand, in languages like Hungarian, wh-movement is different than the genuine wh-movement of English. Craenenbroeck and Liptak (2009) argue that Hungarian shows a Focus movement through which the wh-phrase raises to Focus Projection higher than IP but lower than CP. Since English and Hungarian wh-question differ, they must exhibit different facts and analysis in sluicing. Yet both FocP head in Hungarian, and CP head in English, have [E] feature to be checked. Accordingly, English deletes the complement of the head C, while Hungarian deletes the complements of Foc head.

As for the second approach of null anaphora, Merchant (2001) suggested an empty node in the structure, which plays the role of a null anaphor, and thus it must be replaced at LF by full structure (LF-copying account). In this account, there is a local licensing condition on null VPs, TPs, and NPs in elliptical constructions. The syntax of ellipsis is the same as the syntax of non-elliptical constructions with the E-feature adjoining the head of position where wh moves.

Next, I will discuss the syntax of gapping and sluicing in the linguistics descriptive literature, which are the core topics of my research.

## **2.2 Gapping**

Gapping proposed by Ross (1970) and pseudogapping proposed by Levin (1986) are two similar elliptical constructions as in (24a), and (24b) respectively and they illustrate a great similarity (Stump, 1977).

- 24) a. Some have served mussels and others swordfish.
- b. Some have served mussels and others have swordfish.

### **2.2.1 The Syntax of Gapping**

Linguists analyzed gapping as a low coordination structure in which there are two coordinated VPs that share one single T. Apparently, gapping constructions show low coordination as the two VPs share one T as in (25) the derivation for (24a).

- 25) [<sub>TP</sub> Some have [<sub>VP1</sub> order mussels and [<sub>VP2</sub> others \_\_\_\_ swordfish]

On the other hand, pseudogapping shows the coordination of two TPs instead of two VPs in which the conjuncts do not share a T, but rather each conjunct has its own T, as in (26), the derivation for (24b).

26) [<sub>TP</sub> Some have [<sub>VP</sub> served mussels, and [<sub>TP</sub> others have [<sub>VP</sub> \_\_\_\_ swordfish]

Gapping as well as pseudogapping are both subject to Coordinate Structure Constraints (CSC). Pseudogapping involves VP-ellipsis, while gapping is created through either ATB (Johnson, 2009) or VP-ellipsis (Toosarvandani, 2013). In the next three subsections, I will shed the light on CSC, ATB movement and VP-ellipsis.

### **2.2.1.1 Low coordination and CSC**

Grosu (1973) and Pollard and Sag (1994) have differentiated between two constraints in which both share the same principle; extraction out of one of the conjuncts is not allowed. The first is the *Conjunct Constraint*, and the second is *Element constraints*.

As Ross (1967) proposed coordinate structure constraint, Conjunct Constraint (Grosu, 1973; Pollard and Sag, 1994) is an island from which one element cannot be extracted out of one of the conjuncts. That is to extract from one of the VPs is not allowed as shown in (27).

27) \* This is the magazine which John bought the book and.

The *Element Constraints* also disallows the extraction out of one of the conjuncts in examples like (28).

28) \*What <sub>i</sub> did Bill cook \_\_\_\_<sub>i</sub> and wash the dishes?

Yet Ross (1967) notes that the extraction of identical elements from all conjuncts is possible, as shown below in the next subsection, which is the CSC defined so as to permit movement out of conjuncts just in case the movement occurs from parallel positions in all conjuncts (i.e., just in case it is ATB movement).

Low coordination mechanism shows two VPs sharing one single T, in which there is no T in the second conjunct, and there is one T shared by the two VPs *played Piano*, and *played Violin*. Low coordination has been proposed for what is known as *Gapping* in (29).

29) [TP John has [VP<sub>1</sub> played piano] and Mary [VP<sub>2</sub> \_\_\_\_\_ violin].

On the other hand, some constructions have coordination of two TPs as in (30), which is different from low coordination. The two-TP analysis has been proposed for pseudogapping, which cannot show low-coordination of two vPs because they do not share one single T, but rather there are two Ts, one in each conjunct as schematized in (30).

30) [TP Some had [VP served mussels, and [TP others [VP had swordfish]

### 2.2.1.2 Across-the-board movement

Ross (1967) suggested that there is an element that appears to be extracted from more than one position in coordinate structures; he described ATB as a set of rules that simultaneously move a constituent out of every conjunct of a coordinate structure.

Ross (1967) also investigated ATB movement in backward conjunction reduction and relative clause formation; while Williams (1978) investigates ATB movement in wh-movement in embedded questions, forward ellipsis (conjunction reduction and comparative deletion). ATB movement does not violate CSC, and thus extracting an element out of two conjuncts is allowed, as in (31), the wh object *which class* ATB moves out of the two conjuncts.

31) [Which class]<sub>1</sub> [ does John add t<sub>1</sub> and Mary drop t<sub>1</sub>?

ATB movement is not only allowed in wh-movement in a variety of wh-constructions, but also it is allowed in A'-movement, such as topicalization (32), ATB relativization (33), A-movement in raising (34a) and passive contexts (34b), head movement of aspectual (35a) and modal verb (35b). Also, conjuncts from which an element is extracted must be parallel, and

parallelism falls naturally from ATB.

- 32) This man, Peter wants to meet \_ but Susan prefers to avoid \_ .  
33) These are the books *OP* (that) Peter wrote \_ and Susan admired \_ .  
34) a. Peter seems to \_ like plays and to \_ go to the theater quite often.  
b. *This book* is written \_ by Peter and illustrated \_ by Susan.  
35) a. Never *has* Peter \_ eaten pork or Mike \_ drunk alcohol.  
b. Never *will* Peter \_ eat pork or Mike \_ drink alcohol. (Vries, to appear, p. 4)

Other languages such as Dutch exhibit ATB scrambling of an object across adverbs (36a); while Romance and Slavic languages exhibit ATB of clitic extraction (36b).

- 36) a. Dutch  
Susan heeft *dit boek* gisteren \_ gekocht en vandaag \_ gelezen  
Susan has this book yesterday bought and today read  
'Susan bought this book yesterday and read it today.' (Vries, to appear, p. 4)  
b. European Portuguese  
Todos o viram \_ ba aula e cumprimentaram delicadamente  
all him<sub>CL</sub> saw in.the classroom and greeted politely  
'They all saw him in the classroom and greeted him politely.' (Mato, 2000, p. 233)

Vries (to appear) argues that there are cases of ellipsis that might be considered as ATB. Williams (1978) also proposed a special ATB mechanism for conjunction reduction, specifically comparative deletion and gapping. In chapter 4, I adopt ATB movement of Johnson's to JA gapping constructions.

### 2.2.1.3 VP-Ellipsis

The term VP-ellipsis (VPE) refers to the phenomenon in which the main predicate of a clause with its argument are missing as in (37).

- 37) a. Mary is studying, and Bill is \_\_\_\_ too.  
b. John will meet Mary, and Bill will \_\_\_\_ too.

The sentences in (37) are interpreted as in (38).

- 38) a. Mary is studying, and Bill is <studying> too.

b. John will meet Mary, and Bill will <meet Mary> too.

VPE has taken a big attention of seminal work and publications of many, such as Sag (1976), Hankamer and Sag (1976), Williams (1977), Zagana (1982), Hardt (1993), Fiengo and May (1994), Lobeck (1995), Goldberg (2005) and others. Typically, an overt finite auxiliary that precedes the elided main verb along with its argument, leaving the remnant auxiliary behind, licenses VPE. For example, when T is filled with a lexical item, such as a modal *will*, infinitival marker *to*, dummy *do*, auxiliary verb *to be* and *to have*, as proposed by Lobeck (1995), Johnson (2001), and Agbayani & Zoerner (2004), a VP elides via a mechanism, namely VPE.

VPE does not commonly exist cross-linguistically as other ellipsis phenomena, such as gapping and sluicing. For instance, Dagnac (2010) argued that French (39a), Italian (29b) and Spanish (39c) do not exhibit VP-ellipsis process like English, but rather they show modal-ellipsis, which involves an ellipsis of TP, and not VP.

39) a. French (Lobeck, 1995, p. 142)

\*Claudine est une bonne etudiante, et Marie est [e] aussi.  
Claudine is a good student and Mary is [e] too

b. Spanish (López, 1999, p. 265)

\*Susana había leído Guerra y Paz pero Maria no había [e].  
Susana has read War and Peace but Maria not has

c. Italian (Dagnac, 2010, p. 157)

\*Tom ha visto a Lee ma Maria non ha\_\_.  
Tom has seen (to) Lee but Mary NEG has

In VP-ellipsis, the verb and its argument go missing under identity with some salient linguistic antecedent, and so the main verb elides, while the auxiliary in T remains, as in (40).

40) John read a book, and Mary did too.

It has been proposed that there is an internal structure in the ellipsis site (41a), while others adopted non-structure analysis in the ellipsis site (41b).

- 41) a. John read a book, and Mary did < read a book > too.  
b. John read a book, and Mary did *e* too.

Moreover, VP-ellipsis mechanism has been argued to be the right analysis that creates the gap in gapping constructions by some linguists like Toosarvandani (2012) and he argues that ATB movement is not a plausible analysis for gapping. There are good reasons to adopt VP-ellipsis, however, it might be at cost. For instance, in order to apply VP-ellipsis, we must ensure that the two conjuncts in gapping are parallel, because parallelism does not follow naturally from VP-ellipsis. Therefore, Toosarvandani (2012) suggested *Low-coordinate parallelism* constraint in order to ensure parallelism. For economy, it might be more convincing to adopt another analysis from which parallelism follow naturally. Another reason against VP-ellipsis for gapping is that some languages do not exhibit VP-ellipsis. Therefore, VPE cannot be adopted cross-linguistically.

Since some languages do not exhibit VP-ellipsis, another analysis might be feasible to such languages. Consequently, I will investigate gapping in JA in Chapter 4.

## 2.3 Sluicing

The term “sluicing” refers to a phenomenon that involves deletion in the constituent question from which the wh-phrase remains as a remnant (Merchant, 2003) for a preceding discourse or antecedent, such as the data in (42).

- 42) a. Jack bought something, but I do not know what.  
b. Jack called, but I do not know {when/how/why/where from}. (Merchant, 2003, p. 1)

The interpretation of the examples in (42), are as follows in (43).

- 43) a. Jack bought something, but I do not know what [~~Jack bought~~].  
b. Jack called, but I do not know {when/how/why/where from} [~~Jack called~~].  
(Merchant, 2003, p. 1)



It is also crucial to distinguish between two types of constructions where there is deletion in the constituent question, which are sluicing and pseudosluicing. The former is an elliptical wh-construction formed by wh-fronting type as in (42); while the latter is the elliptical wh-construction formed by wh-clefts (Merchant, 2001), as in (44) where the pseudo-slucose arises from pro-drop of the subject *it* and the copula *was*, unlike wh-cleft which arises from TP-ellipsis. Yet, Merchant does not propose this as a possible analysis of English sluicing, but rather a schematization of some other languages that exhibit wh-cleft..

44) John bought something, but I don't know what [~~it was~~].

Preposition stranding phenomenon plays a crucial role in the analysis of sluicing and it remains a central issue of the sluicing chapter in this research; therefore, I will explore more details on preposition stranding in general and in sluicing in particular.

### **2.3.1 Preposition Stranding in sluicing**

Preposition stranding is a phenomenon in which the preposition with an object is left in-situ in the construction while its object moves. For instance, the object of the preposition in constituent questions is a wh-word that is fronted due to wh-movement, while the preposition is stranded in-situ as in (45). The wh-word *what* moves higher leaving the preposition stranded.

45) What<sub>i</sub> are you talking about t<sub>i</sub>?

Ross (1969) has proposed that sluicing is derived by IP-deletion from underlying wh-construction at the level of PF, and Merchant (2001) proposed that sluicing is derived by IP-deletion as well; however, he proposed that the sluice with a preposition stranding captures the parallelism between sluicing and wh-questions. The possibility of p-stranding under wh-movement predicts the possibility of the preposition to remain in-situ or stranded in sluicing constructions when wh-word moves out of the IP in the target.

When a language, such as Serbo-Croatian that is known to be a non-stranding language, allows the preposition to strand in sluicing constructions, there is a puzzle that can be solved after determining the underlying source of such constructions; whether it is a regular constituent question or a cleft construction.

The reason behind this confusion is that Serbo-Croatian shows structures that would be ill-formed in the absence of sluicing. However, Stjepanović (2012) shows two-violation repairs which suggest that Serbo-Croatian confirm the PSG; the first repair is P-drop which Stjepanović (2012) shows through the coordination of two wh-PP remnants in the case of multiple sluicing. The P-drop mechanism supported by sluicing, licenses preposition omission, which rescues the PSG. Another repair mechanism is genitive of quantification (Stjepanović, 2012) in Serbo-Croatian in which higher numerals assign a genitive case to their NP complements. Other rescuing strategy is resumption strategy, which I will argue that salvages PSG in JA.

### 2.3.2 The structure of sluicing

Sluicing was also classified into three types across languages; 1) the wh-phrase corresponds to an overt correlate, 2)<sup>6</sup> the displaced wh-phrase is an adjunct that corresponds to nothing in the antecedent clause, and 3) the wh-phrase corresponds to an implicit argument licensed by argument structures as in the following three examples respectively in (46).

46)

- a. Mary saw someone, but I do not know who.
- b. John's writing, but I cannot imagine where/why/ to whom.
- c. John is reading, but I cannot imagine what.

Example (46a) is referred to as a type of sluicing called *sprouting* (Chung et al., 1995) which is a sluicing construction in which the remnant of the ellipsis *where* has no overt correlate,

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<sup>6</sup> 2 and 3 are varieties of sprouting.

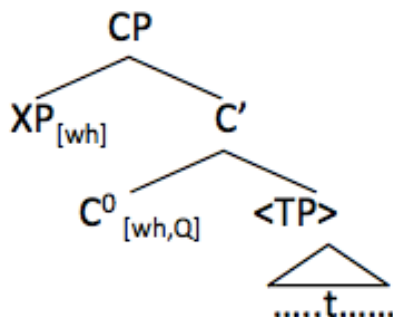
while example (46b) is referred to as *merger* (Chung et al., 1995) where the remnant of the ellipsis *who* has an overt correlate *someone*.

Cross-linguistically, sluicing is widespread among a quite large number of languages in some forms (Merchant, 2003) including Slavic, Semitic, Asian, Roman, and Germanic languages.

Merchant (2001) shows that the sluice behaves like CPs in that the sluice must contain a CP and a sentential elided domain, IP. He then discusses the conditions from which the IP is licensed to silence. He also suggests that the sluiced wh-phrase ends in Spec, CP where regular interrogative wh-phrase sits. Thus, IP goes missing, in which CP selects IP, and so wh-phrase must be base generated somewhere else. In other words, there is an implemented, moved or base-generated local feature guarantees that the deletion happen at PF.

Assuming the structural analysis for the ellipsis site of sluicing, there are two major resolutions that have been proposed, PF-deletion (movement approach) vs. LF-copying (non-movement approach) as I mentioned earlier. The former was first proposed by Ross (1969) and illustrates that sluicing has a full syntactic structure that involves a movement of the wh-phrase out of the sentential constituent, such as S, IP, or TP, and then a deletion of that node applies at PF, as schematized in (47).

47)



(Merchant, 2003, p. 2)

An example to illustrate this derivation is in (48).

- 48) John bought something, but I don't know [<sub>CP</sub> what<sub>i</sub> C<sup>0</sup> <[TP he bought t<sub>1</sub>]>].  
(Merchant, 2003, p. 2)

As for the second analysis, LF- copying consists of a null category from the lexicon that is base-generated without an internal structure replaced after SS or Spell-Out by copying the semantics from the antecedent only at LF (Lobeck, 1995; Chung et al, 1995), as in (49).

- 49) a. At Spell-Out  
Jack bought something, but I don't know [<sub>CP</sub> what C<sup>0</sup> [<sub>TP</sub> e]]  
b. At LF  
Jack bought something, but I don't know [<sub>CP</sub> what C<sup>0</sup> [<sub>TP</sub> Jack bought something]].  
(Merchant, 2003, p. 5)

That is to say that at Spell-out, there is ellipsis under TP replaced by the remnants at LF. In other words, there is no movement involved in which wh-remnant is base-generated in Spec, CP and it binds a variable only at LF. Ross (1969) observed that this non-movement approach is motivated by the fact that sluicing is insensitive to islands. Merchant (2003) suggested an explanation that relies on the wh-phrase in sluicing and its corresponding variable. Namely, the wh-phrase in sluicing can correspond to a variable, which in turn corresponds in a position to a correlate internal to an island, e.g. relative clause island or Comp-trace effects, in the antecedent (Ross, 1969).

### **2.3.3 The Semantic Isomorphism of Sluicing**

Similar to other types of ellipsis constructions, sluicing shows that an elided constituent must have an antecedent in order to elide. As I have discussed above in section 2.1.2, the syntactic or structure isomorphism fails to account for sluicing, because the IP can elide even when there is no overt correlate to the elided constituent. Accordingly, sluicing shows semantic identity, which includes GIVENness condition and focal parallelism instead which means that the elided phrase and the antecedent phrase semantically entail each other. This indicates that the non-focused

material in the antecedent TP as well as the non-focused material in the elided TP must also entail each other.

Like VP-deaccenting<sup>7</sup>, the antecedent in VP-ellipsis constructions must entail the elided VP. In VP-ellipsis, the condition requires that the elided VP entails the antecedent (Merchant, 2001). Likewise, this mutual entailment condition between the VP-ellipsis and its antecedent extends to sluicing. Romero (1998) shows that sluicing, not IP-deaccenting<sup>8</sup>, satisfy the mutual entailment condition. He extended the focus condition to sluicing by replacing the VP-ellipsis in focus condition in (50), which is based on the e-GIVENness condition in (17).

50) Focus condition on IP-ellipsis

An IP  $\alpha$  can be deleted only if  $\alpha$  is e-GIVEN.

Satisfying this condition in sluicing implies that only one-way entailment is satisfied, whereas in sluicing the reverse entailment must be satisfied. For instance, in example (21) above, repeated in (51) for convenience, the IP antecedent *politicians she called an idiot*, entails the elided IP *she insulted t*<sup>9</sup>, whereas the reverse entailment is not satisfied. Nonetheless, looking at (52), both the antecedent IP and the elided IP entail each other, as the e-GIVENness condition of Merchant in (17) requires.

51) \*I know how many [IP<sub>A</sub> politicians she called an idiot, but I do not know WHICH politicians [IP<sub>E</sub> ~~she insulted t~~].

52) I know how MANY [IP<sub>A</sub> politicians she called in idiot], but I don't know WHICH politicians [IP<sub>E</sub> ~~she called an idiot t~~].

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<sup>7</sup> VP-deaccenting is the non-elliptical counter example of VP.

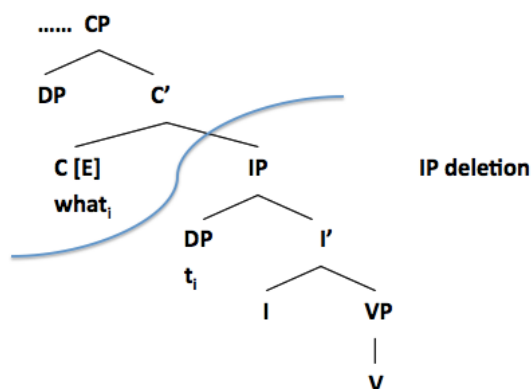
<sup>8</sup> IP-deaccenting is a term adopted from Merchant (2001) indicating the non-elliptical counter example of sluiced IP.

<sup>9</sup> The trace of the NP, *politician*.

### 2.3.3 Licensing Sluicing

In order to license sluicing, Merchant (2001, 2004) argues that sluicing has a formal feature (E) on Spec, CP where wh-phrase moves and so it licenses the deletion of the complement of Spec, CP in (53).

- 53) a. John met someone, but I don't know [<sub>CP</sub> who [<sub>IP</sub> John met]].  
b.



(Adapted from Merchant, 2001)

In addition, Merchant (2001) assumes that [E] involves syntactic features that include an uninterpretable [wh-] feature and an uninterpretable [Q]-feature. In this case, [E] needs to check those features in local configuration, head-to-head configuration. This represents the syntactic requirement of sluicing, which means sluicing is restricted to wh-questions because [E] and wh-phrase has the same features [+wh] and [+Q]. Accordingly, this is how Merchant (2001) ensures that sluicing is restricted to wh-question. Technically, wh-question moves to the left-periphery to check its features [+wh], [+Q], as well as the feature checking of [E] which adjoin to CP head, and licensing sluicing that elides the head complement. This analysis applies to languages like English in which the wh-phrases raise high to Spec, CP. In chapter 5, I will investigate sluicing in JA, and apply sluicing to some constructions following Merchants assumptions.

### 2.4 Conclusion

In this chapter, I have to set the stage for the investigation of elliptical constructions in JA that includes gapping and sluicing. This has been done taking into account multiple works under the two analyses of ellipsis (PF-Deletion vs. LF-Copying), in addition to the reference to isomorphism, licensing conditions and identity under which the deletion, in its broad meaning, is satisfied, whether it is gapping or sluicing or any other elliptical construction.

In the next chapter, I will introduce the syntax of JA including word order, subject, and verb movement in Arabic, VP-ellipsis feasibility as well as *wh*-questions before I discuss the elliptical examples in JA in Chapters 5 and 6 that discuss gapping and (pseudo)-sluicing, respectively.

## **Chapter Three**

### **Background to Arabic**

Prior to analyzing the elliptical constructions in JA in the following chapters, I discuss the word order in JA without any deletion or ellipsis in addition to the verbal system and other issues. This overview of Arabic syntax will help us understand Arabic sentence structure in order to adopt some mechanisms, or analyses that fit the verb and subject displacement in Arabic as well as question formation in JA. Therefore, this chapter will include sections on subject analysis and verb movement in Arabic, in addition to wh-question constructions that is required for (pseudo)-sluicing examples where there are elliptical wh-constructions.

This chapter will start with non-elliptical constructions in JA; so the first section will discuss word order. Then, conjoined clauses will be explored for the sake of investigating how low-coordination would apply to Arabic gapping examples. The feasibility of VP-ellipsis will also be considered because it is crucial for the analysis of JA data gapping in chapter 4. Afterwards, I will look into inflectional projection in Arabic to check whether or not IP-ellipsis (Ross, 1967) is applicable to the Jordanian sluicing data, and finally, I will discuss multiple types of question formation in Arabic and JA to set the stage for determining the underlying derivation of the constituent question of the sluice site in chapter 4.

#### **3.1 Word order and subject in JA**

The main word order in JA is SVO as shown in (1a) the same as other Arabic dialects, unlike Standard Arabic (SA) whose main word order is VSO, which is also acceptable in JA among orders. The following simple sentences in (1) are from JA that illustrate the word order as SVO (main word order in JA), VSO, and VOS in (1a, b, c) respectively.



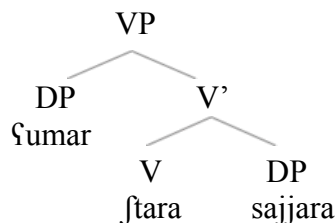
1) Jordanian Arabic word order

- a. *ʕumar ftara sajja:ra*  
Omar buy.3ms.PER car  
'Omar bought a car.'
- b. *ftara ʕumar sajja:ra*  
buy.3ms.PER Omar a car  
'Omar bought a car.'
- c. *ftara sajja:ra ʕumar*  
buy.3ms.PER a car Omar.  
'Omar bought a car.'

The position of the subject has been the most studied in Arabic syntax. In JA, the subject can occur before the verb and the object resulting in SVO which is the main order as in (1a), it can also occur between the verb and the object resulting in VSO as in (1b), or it can occur after the verb and the object resulting in VOS sequence as in (1c).

Koopman & Sportiche (1991) and McCloskey (1996, 1997) argued that the subject could occupy one of two positions in a clause. One position is where thematic subjects receive a thematic role from the predicate that is within the VP shell as in (2);

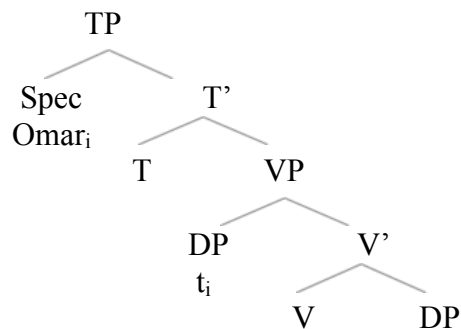
2)



(adapted from Koopman & Sportiche, 1991)

The other position is Spec, TP, that is the functional projection as in (3).

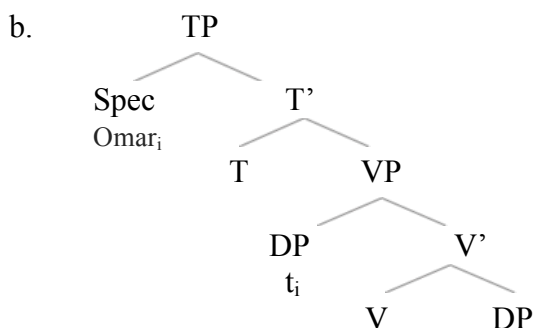
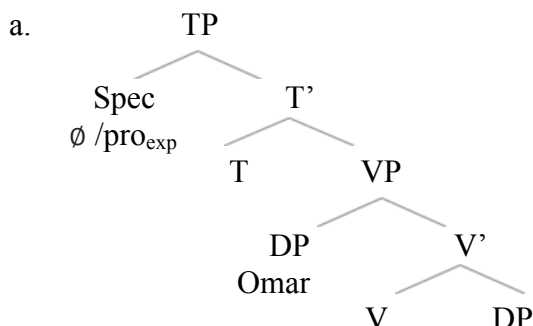
3)



(adapted from Koopman & Sportiche, 1991)

For Arabic, there are three proposals that have been suggested for the distribution of subjects. The first one proposes that the subject in the VSO order is within the VP shell as shown in (4a), in which there is a null expletive, *pro* in Spec, TP or just empty. Also, the subject movement from Spec, VP to Spec, TP is optional in this first proposal, unlike English upon which there is an agreement that the subject moves overtly from Spec, VP to Spec, TP. In (4a), the subject does not move to Spec, TP; nevertheless, it moves in (4b).

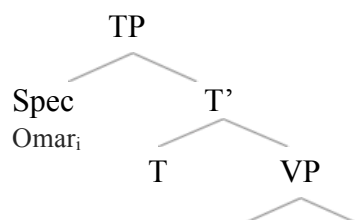
4)

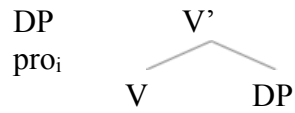


(Aoun et al., 2010, p. 50)

In the latter, the subject moves overtly to Spec, TP leaving a trace in Spec, VP. In the second proposal, the subject (null *pro*) is also merged in Spec, VP and it is related to Spec, TP that a lexical NP occupies, as shown in (5).

5)





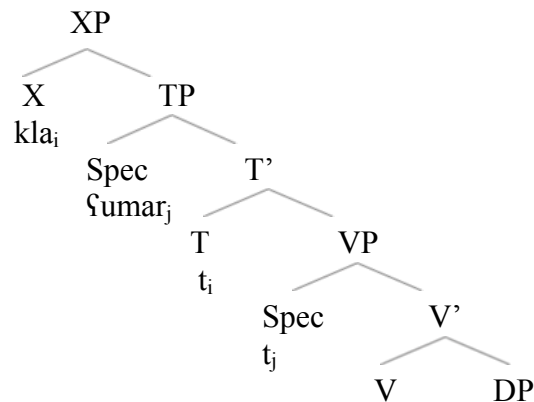
(Aoun et al., 2010, p. 51)

Moreover, the verb and the subject in this proposal may move to a specifier of another higher projection than TP.

A third analysis suggests that the subject in SVO and VSO in Arabic word order is outside the VP shell. In VSO sequence, the subject is in Spec, TP while the verb is in a higher position, yet below CP, say XP as in (6).

6)

- a. *kla<sub>i</sub>*                      *ʕumar*  
 eat.3ms.PER              Omar  
 Omar ate.....
- b.



(Aoun et al., 2010, p. 51)

As a consequence, in SVO, the verb and the subject could be in TP or in a higher position. Another option would be that the subject could be in a higher position that is TP, while the verb is in XP. This entails that there is an additional projection below CP that the verb and the subject can occupy. This analysis assumes that there is only one single position for the subject in the A-domain, which is Spec, TP that always hosts the overt subject. Accordingly, comparing Arabic with English and French, the verb and the subject in Arabic may move beyond TP.

I will reflect on different subject positions when discussing the analysis of subjects in elliptical constructions.

### 3.2 Verbal system in JA

In this section, I will give a brief background about the tense and the morphology of the verb in order to give the reader an idea on how the regular verb system in JA works. Doing so, I support some facts about ellipsis in JA, such as simple gap where there is a verb but no T in the second conjunct. I will touch upon these facts under section 3.3 that shows simple gap examples from JA that indicate the availability of low-coordination constructions in Arabic.

Starting with tense, there is systematicity in the difference between present and past tense with verbal predicates. Benmamoun (2000) proposed some facts with regard to present and past tense in SA. For instance, the present tense verb in SA prefers to follow the subject in sentences as in (7a), while the past tense verb in SA prefers to precede the subject as in (7b).

- 7) a. *ḥasan ja-frab-u qahwa*  
       Hasan 3s.IMP-drink-NOM coffee  
       ‘Hasan drinks coffee.’  
    b. *fariba ḥasan qahwa*  
       drink-PER Hasan coffee  
       ‘Hasan drank coffee.’

Nevertheless, the basic word order in JA is SVO and other Arabic dialects; hence past and present tense verb prefer to follow the subject as in (8) and (9). Yet other word order is acceptable. Furthermore, the present tense in Arabic lacks [+V] categorical feature (Benmamoun, 2000) as shown in example (8), in other words, the verb does not raise to TP, but rather it has the [+D] feature; it interacts with NP subject. However, the past tense in (9) has the categorical feature [+V] and [+D] which means that the verb attracts the NP subject and the subject agreement.

- 8) *ʕumar b-j-staʔjer be:t*  
       Omar Asp-3ms-rent.IMP house  
       ‘Omar rented a house.’

- 9) *ʕumar staʔjar be:t*  
 Omar rent.3ms.PER house  
 ‘Omar rented a house.’

As for constructions with a modal in T, the form of the verb following the modal is in the imperfective form (present). When the event is in the past, the modal takes the perfective (past) form while the main verb remains in the imperfective (present) form. Apparently, the form of the main verb in (11) is in the imperfective form where the modal indicates the past tense through the use of the perfective form.

- 10) *ʕumar b-je-ʔdar je-staʔjar be:t*  
 Omar Asp-3ms-can.IMP 3ms-rent.IMP house  
 ‘Omar can rent a house.’
- 11) *hasan ʔeder je-staʔjar sajja:ra*  
 Hasan can.3ms.PER 3ms-rent.IMP car  
 ‘Hasan could rent a car.’

Thus, the verb *je-staʔjar* ‘3ms-rent.IMP’ is used when preceded by a modal *ʔeder* ‘can.3ms.PER’ as in (11) that is different from the verb form without a modal in T, *staʔjar* ‘3ms-rent.PER’ as in (9), although the form is the same in the present tense with the presence or absence of a modal in T. In addition, the verb *je-staʔjar* ‘3ms-rent.IMP’ is also used when preceded by a modal is in the imperfective form as *b-je-ʔdar* ‘Asp-3ms-can.IMP’ in (10). I will refer to this in the following section to show that JA exhibits simple gap in which there is a coordination of two vPs under one single T.

### 3.3 Conjunction of 2 TPs vs. 2 VPs. in Arabic/JA

In order to apply Johnson’s analysis, which includes low-coordination for gapping data, I will discuss some conjoined constructions without any ellipsis to show that low-coordination has been proposed and it is applicable to Arabic. The following sentence has two conjuncts without any gapping or elliptical constructions from JA in (12) which will be compared with elliptical

constructions where there is missing material in the second conjunct, such as the examples in (14) in Chapter 1 where there is one T, which will be revisited in detail later on in this dissertation.

- 12) [ TP *ʕumar* [T *rah* [ VP *je-ftari* *sajja:ra*], w [TP *hasan* [T *rah* [VP *je-ftari* *be:t*]  
*Omar* will 3ms-buy.IMP car and Hasan will 3ms-buy.IMP  
house  
‘Omar will buy a car and Hasan will buy a house.’

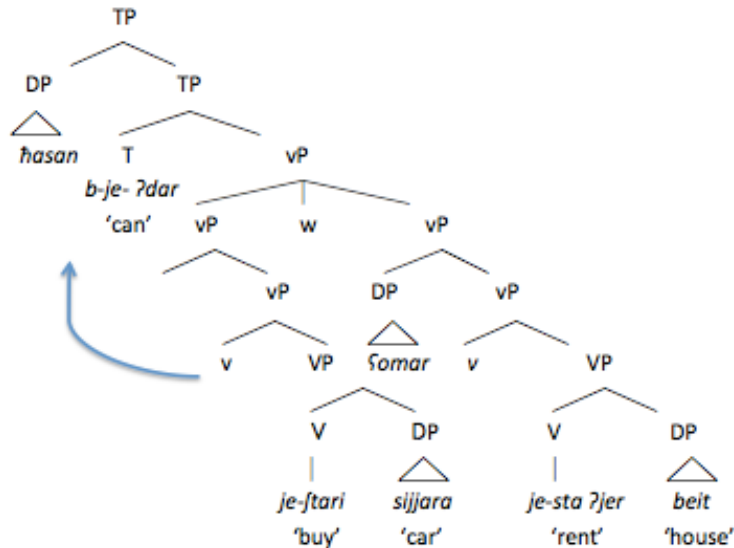
This piece of data shows a coordination of two TPs, which means there are two distinct T’s, one for each clause, yet VP-coordination under one single T is also available in JA in example (13).

13) JA

- a. *hasan b-je-ʔdar je-ftari sajja:ra w ʕumar je-staʔjer be:t*  
Hasan asp-3ms.can.IMP 3ms-buy.IMP car and Omar 3ms-rent.IMP house  
‘Hasan can buy a car, and Omar rent a house.’
- b. *hasan ʔeder je-ftari sajja:ra w ʕumar je-staʔjer be:t*  
Hasan can.3ms.PER 3ms-buy.IMP car and Omar 3ms-rent.IMP house  
‘Hasan could buy a car, and Omar rent a house.’

The representational derivation of (13a) is shown in (14).

14)



Examining (13b), the verb in the second conjunct is *je-staʔjer* “rent” with the presence of the modal *ʔeder* “could” in the first conjunct. However, the form of the past tense verb with the

absence of the modal “could” in regular finite clauses, would be *staʔjar* “rented” as in (9). As a result, the two-TPs-conjunction analysis does not work here since the form of the verb in (13b) is not the expected form when there is no modal. Nevertheless, in (13b), it is apparent that there are two conjoined clauses under one T; the modal *ʔeder* “could” is in T, while the second conjunct does not have TP as T is missing in the first place. In other words, this is a low coordination of two vPs under one single T, which Toosarvandani calls “simple gap” as in (15).

#### 15) Simple gap

Some had ordered mussels, and others [ \_\_\_\_ ] drunk a cocktail.

Toosarvandani (2013) illustrates that simple gap misses only T in the second conjunct. Also, following Siegel (1987), he suggests that simple gap in (15) is a clear case of low coordination structure as T is missing in the second conjunct because it was never there, and the single matrix T head is shared by both vP conjuncts.

After discussing coordination in Arabic and showing different instances of two TPs coordination likewise two VPs coordination, I will relate to the facts that Arabic exhibits low-coordination and I will touch upon coordinated clauses with elliptical constructions in Chapter 4 as part of the analysis for gapping constructions.

In the next section of this chapter, I will illustrate VP-ellipsis in Arabic to show Arabic does not have VP-ellipsis.

### 3.4 VP-ellipsis in Arabic

I will discuss VP-ellipsis instances in Arabic in several constructions to show the impossibility of adopting VP-ellipsis for my data. Genuine VP-ellipsis is applicable only when T is filled with an auxiliary, such as *have* or *be*; and the dummy *do*, infinitive *to*, or a modal in English (Lobeck, 1995; Johnson, 2001, 2004; Agbayani & Zoerner, 2004).

Algryani (2011) has proposed that there is modal ellipsis and verb-stranding VP ellipsis. He

proposed that the former is a case of VP-ellipsis, while the latter is not a case of VP-ellipsis. In the modal ellipsis, the main verb is deleted which is a type of VP-ellipsis since it shows traits of VP-ellipsis. The traits include sloppy/strict reading, modal ellipsis allows backward anaphora, they do not show any sensitivity to island effects (Sag, 1976; Merchant, 2008a), modal ellipsis allows both antecedent and/or the ellipsis site to be embedded. I discuss these traits intensely later on in this subsection.

In terms of the verb-stranding VP-ellipsis where the complement of the main verb and all vP-related material are deleted, it is not a case of VP-ellipsis, but rather a null object construction in LA constructions like (16).

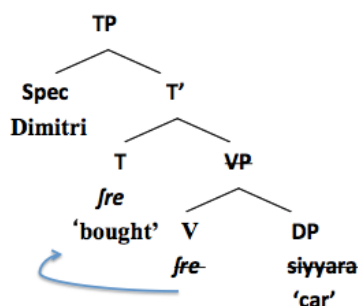
16) LA

<i>Ana</i>	<i>fret</i>		<i>sijjara</i>	<i>li?ena</i>		<i>Dimitri</i>	<i>fre</i>
I	bought.1MS		car	because		Dimitri	bought.3MS

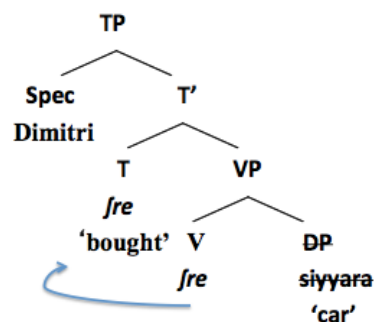
‘I bought a car because Dimitri did.’ (Algryani, 2011, p. 13)

He shows that such constructions are analyzed as a null object argument or individual argument drop (Algryani, 2011), as schematized in (17b), and not as Verb Stranding VP-ellipsis in (17a).

17) a. Verb Stranding VP-ellipsis



b. Null object construction



(Algryani, 2011, p.13)

After determining the context under which both analysis occur, Algryani (2011) shows that



VP-ellipsis is not the possible analysis for the prototypical verb-stranding VP-ellipsis. He uses the droppability of vP-internal constituents, such as locative and benefactive PPS as in (18), and vP adverbs as the supporting point that argues for the fact that VP ellipsis analysis in (17a) is not the right analysis for LA verb-stranding VP-ellipsis.

- 18) *ane rgədət ʕəl s-salon, lakən Yasin ma-rgəd-f*  
 I slept.1MS on the-sofa but Yasin NEG-slept.3MS-NEG  
 ‘I slept on the sofa, but Yasin didn’t.’ (intended reading). (Algryani, 2011, p. 18)

Others have analyzed the verb-stranding VP-ellipsis as VP-ellipsis for some languages, such as VP ellipsis in Farsi (Toosarvandani, 2009), Hebrew (Doron, 1999; Goldberg, 2005) and Finnish (Holmberg, 2001).

Some verb-raising languages, such as Farsi and Hebrew, show a type of VP-ellipsis that is referred to as *verb stranding VP-ellipsis*. In this type of ellipsis, the internal arguments of the verb are missing, while the main verb raises to T before the entire vP layer is deleted at PF.

In LA, however, Algryani (2011) suggests that there is modal ellipsis, which he diagnoses as VP –ellipsis, stating several facts. To start with, LA licenses VP-ellipsis with - a modal *yəgdar* ‘can.3ms’ (Algryani, 2011) as in (19).

- 19) *Ali jəgdar yə-tkəlləm itali w hətta David yəgdar*  
 Ali can.3MS speak.3MS Italian and too David can.3MS  
 ‘Ali can speak Italian, and David can too.’

On the other hand, this example is hard to accept in JA as in (20a), so it is implausible to claim that VP-ellipsis exists in JA. Another reason is that other modals and copulas like *ka:n* ‘be.PER’, *rah* ‘will’ and others which usually license the prototypical VP-ellipsis, do not license VP-ellipsis neither in JA nor LA (20), and they are ungrammatical.

- 20) a. *?hasan ʔeder je-ftari sajja:ra bas ʕumar ma ʔeder*  
 Hasan can.3ms.PER 3ms-buy.IMP car but Omar NEG can.3ms.PER  
 ‘Hasan could buy a car, but Omar could not.’  
 b. *\*hasan ka:n je-ftari sajja:ra bas ʕumar ma kan*

Hasan be.3ms.PER 3ms-buy.IMP car but Omar NEG be.3ms.PER  
 ‘Hasan was buying a car, but Omar wasn’t.’

According to Algryani (2011), modal ellipsis is VP-ellipsis because he shows 4 properties that both modal ellipsis and VP-ellipsis exhibit. Therefore, modal ellipsis is on par with VP-ellipsis. Algryani (2011) has proposed that like VP-ellipsis, (property 1) modal ellipsis allows strict and sloppy reading as VP-ellipsis in (21). In sloppy reading, it could mean that ‘Ali could not call Philip’s brother’, while the strict reading would be ‘Ali could not call his own brother’. Similarly, this is the case with VP-ellipsis in English when the auxiliary *be* and a VP in its complement.

- 21) *Phillip gder jəʔtʔsʔəl bi xu-h lakən Ali ma-gdər-f*  
 Philipp could.3ms call.3ms with brother-his but Ali Neg-could.3ms-Neg  
 ‘Philipp could call his brother, but Ali could not.’ (Algryani, 2011, p. 5)

Second, modal ellipsis (property 2) allows backward anaphora in which the ellipsis site precedes the antecedent as in (22).

- 22) *liʔəna ma-gdər-f ani mʔet bədləh l-sug*  
 because Neg-could.3ms.Neg I went.1ms instead-him to-the-market  
 ‘Because he couldn’t, I went to the market instead of him.’ (Algryani, 2011, p. 5)

Third, both VP-ellipsis and modal-ellipsis (property 3) do not show any sensitivity to island effects (Sag, 1976; Merchant, 2008a) as in (23).

- 23) a. *David gder jəʔfri fəga l-sara?*  
 David could.3ms buy.3ms flat to-Sara  
 ‘Could David buy a flat for Sara?’  
 b. *eh gder lakən wahəd nʔər ifaʔa inn-əh ma-gdər-f*  
 yes could.3ms but someone spread.3ms rumor that –he Neg-could.3ms.Neg  
 ‘yes, he could, but someone has spread a rumor that he couldn’t.’ (Algryani, 2011, p. 6)

In addition, modal ellipsis (property 4) allows both antecedent and/or the ellipsis site to be embedded as in (24). Hence, modal-ellipsis is a case of VP-ellipsis since it happens at LF and so it does not have a phonological representation. It is apparent that there is embedding in the second conjunct.

- 24) *Ane nābbi nzi lakən nfek inn-i nāgdar.*  
 I want.1ms come.1ms but suspect.1ms that-I can.1ms  
 ‘I want to come but I doubt that I can.’ (Algryani, 2011, p. 6)

Accordingly, Algryani (2011) concludes that LA exhibits VP-ellipsis, yet LA does not license VP-ellipsis with any auxiliary or modal like English, but rather a VP-ellipsis is licensed by one single modal *jigdar/jiʔdar* “can” in LA and JA, respectively. Algryani shows this ellipsis in (19), repeated in (25).

- 25) *Ali jegdar je-tkəlləm iṭali, w hətta David jegdar* (=19)  
 Ali can.3ms speak.3ms Italian and too David can.3ms  
 ‘Ali can speak Italian, and David can too.’

A similar example from JA is not grammatical which means that the modal *b-je-ʔdar* ‘can.IMP’ does not license VP-ellipsis as shown in (26) where a modal occupies T.

- 26) \**ʕumar b-je-ʔdar je-ftari sajja:ra, w hasan kman b-je-ʔdar*  
 Omar Asp-3ms-can.IMP 3ms-buy.IMP car and Hasan too Asp-3ms-can.IMP  
 ‘Omar can buy a car, and Hasan can too.’

Therefore, JA does not exhibit the genuine VP-ellipsis phenomena. For instance, the verb *ka:n* ‘to be’ does not license VP-ellipsis either as in (27).

- 27) \* *hasan ka:n je-tʕaffa bas ʕumar ma ka:n*  
 Hasan be.3ms.PER 3ms-eat dinner. IMP but Omar NEG was  
 ‘Hasan was eating dinner, but Omar was not.’

It is an extra piece of evidence that JA does not exhibit genuine VP-ellipsis. Moreover, unlike LA or JA, regular auxiliaries can license VP-ellipsis in English or Moroccan Arabic as in (28).

- 28) Moroccan Arabic  
*Yasin ka:n kajalʕab l-kura w Yousre ka:n [ \_\_\_\_ ] hetta huwa.*  
 Yasin was playing football and Yousre was [ \_\_\_\_ ] too he  
 (Kotobi, 2002, p. 226)

Algryani (2011) proposed that their use is constrained in LA as modality occurs by modal particles and adverbs, such as *yemken* ‘maybe’, *la:zem* ‘must be’, *daruri* ‘be necessary’, and *momken* ‘be possible/probable’. Nevertheless, he adds that the root modal *je-gdar* ‘can/be able to’ licenses ellipsis of its complement, which seems to be a case of VP-ellipsis. It is VP-ellipsis because root modals like *je-gdar*, take VP complements and not TP complements. On the other hand, root modals in languages, such as French, Spanish, and Italian (Dagnac, 2010) take TP complements. This modal in question behaves like regular lexical verbs or transitive lexical verbs as it inflects for tense and phi-features as in example (29), and it could occur with an auxiliary as in (30).

- 29) *Humma gedru je-fru fega w hatta hna gderna.*  
 they.3mp can.3mp 3p-buy.3ms flat and too we could.1mp  
 ‘They can buy a flat and we can too.’

- 30) *ka:nu je-gdru je-fru fega lakin hna ma-kuna-f negdru*  
 were.3mp can.3mp buy.3mp flat but we NEG-were.1mp-NEG could.1mp  
 ‘They were able to buy a flat, but we were not able [~~to buy a flat~~].’

(Algryani, 2011, pp. 3-4)

Note that the complement of the modal verb *je-gdar* must be in the imperfective form and the modal indicates the tense, which means that the complement of *je-gdar* will never be a TP, as it does not indicate the tense of the statement. The fact that the modal verb cannot take a complementizer as a complement means that the complement that the modal takes cannot be a CP, which means that the modal takes a vP complement (Algryani, 2011).

On the other hand, JA modal verb *ji-2dar* ‘3ms-can.IMP’ can take a complementizer, which means that it can take CP or TP as its complement as in (31).

- 31) *b-ji-2dar 2inno ji-hki maf-ha*  
 ASP-3ms-can.IMP that 3ms-talk.IMP with her  
 ‘He can talk to her.’

Algryani (2011) had to assume that present tense in Arabic requires V to T movement following Fassi Fehri (1993), which raises the present verb *jegdar* ‘can.3ms.IMP’ to T in order to elide VP and so he concluded that VP-ellipsis is available. However, recent work by Aoun et al. (2010) shows that present tense does not require V to T movement and only past tense requires V to T movement. As I mentioned earlier in this chapter, the present tense in Arabic lacks [+V] categorical feature (Benmamoun, 2000) as shown in example (8), in other words, the verb does not raise to TP, but rather it has the [+D] feature; it interacts with NP subject. Thus, this exclude another case from licensing VP-ellipsis, and we are left only with the past tense *geder* ‘can.3ms.PER’, which is not convincing to conclude that Libyan Arabic exhibits modal-ellipsis, VP-ellipsis, or Verb-stranding VP-ellipsis.

In the next section, I will introduce wh-question in Arabic, which will play a role in JA (pseudo)-sluicing data.

### 3.5 Two types of wh-questions in Arabic

Arabic exhibits two types of wh-questions including wh-fronting and wh-cleft (Wahba, 1984; Shlonsky, 1997; Aoun et al., 2010) as in (32) and (33) respectively.

- 32) *fu:ᵢ    ftare:t            tᵢ    mbareḥ?*  
 What   buy.2ms.PER           yesterday  
 ‘What did you buy yesterday?’

- 33) *fu:ᵢ    huwe   illi    ftare:t-oᵢ        mbareḥ?*  
 What   COP    that   bought-2ms    yesterday  
 ‘What was it that you bought it yesterday?’

Many have argued that wh-fronting leaves a movement gap, which is referred to as a gap strategy in (32), while wh-clefts are non-movement type that requires a resumptive pronoun in tandem with the relative complementizer *illi in* (33)<sup>10</sup>.

However, wh-cleft is not as common as wh-fronting because the latter occurs with any wh-phrase including wh-words and wh-phrases like (32) and (33), wh-PP (34) and wh-adjuncts and wh-arguments (35).

- 34) *bi-ʔaj*      *ʒa:mʕa*      *daras-t*      *liɣwistiks*  
 at-which      university      study-2ms.PER      linguistics  
 ‘at which university did you study linguistics?’
- 35) *ki:f*      *xallas-t*      *ir-risaleh*  
 how      finish-2ms.PER      the-dissertation  
 ‘how did you finish the dissertation?’

Since JA is a non p-stranding language, stranding a preposition in (36) is not allowed.

- 36) \**ʔaj*      *ʒa:mʕa*      *daras-t*      *liɣwistiks*      *bi*  
 which university      study-2ms.PER      linguistics      in  
 ‘which university did you study linguistics at?’

Moreover, wh-clefts allow only bare wh-words and wh-arguments as in (33), as well as and which-NP (37) excluding wh-PP with a pied-piped preposition (38a) and wh-adjuncts (38b).

Therefore, the following two examples in (38) are ungrammatical with cleft structure.

- 37) *ʔaj*      *ʒa:mʕa*      *hijje*      *illi*      *daras-t*      *liɣwistiks*      *fi-ha*  
 which      university      3ms.it.COP      that      study-2ms.PER      linguistics      in-it  
 ‘which university did you study linguistics at?’
- 38) a. \**bi-ʔaj*      *ʒa:mʕa*      *hijje*      *illi*      *daras-t*      *liɣwistiks*  
 which      university      3ms.she.COP      that      study-2ms.PER      linguistics  
 ‘which university did that you study linguistics?’
- b. \**ki:f*      *huwe*      *illi*      *xallas-t*      *ir-risaleh*  
 how      3ms.it.COP      that      finish-2ms.PER      the-dissertation  
 ‘how did you finish the dissertation?’

In Arabic, wh-words are also put into two classes (Aoun et al., 2010); nominal wh-words vs. adverbial wh-words. The former includes *mi:n* ‘who’, *ʃu:* ‘what’, *ʔajja* ‘which’, and *kam* ‘how

<sup>10</sup> The distribution of the resumptive pronoun, the complementizer *illi* and the copular pronoun *huwe* is as follows: i. *illi* and the resumptive pronoun co-occur, and dropping one of them creates ill-formed sentences, ii. the copular pronoun *huwe* requires the complementizer to immediately follow, which also requires the resumptive pronoun (as in i).

many', while the latter includes *we:n* 'where', *ʔemta* 'when', *ki:f* 'how', *le:f* 'why', and *ʔadde:f* 'how much'. Wahba (1984) added another class of wh-words from Egyptian along with adverbial wh-words, both of which classified as non-nominal wh-words. This category is prepositional phrases, such as *maʃ mi:n* 'with whom', *men ʔemta* 'how long', and, *ʃala we:n* 'where to'. There are equivalent prepositional phrases in JA as well which are *maʃ mi:n* 'with whom', *men ʔemta* 'how long', *men we:n* 'from where' and, *ʃa-we:n* 'where to'.

### 3.6 Resumption strategy and gap strategy in Arabic

Given Arabic dialects exhibit several strategies, and thus it is helpful in interpreting the syntactic differences among them. Aoun et al (2010) conclude that there is difference between the resumption strategy as opposed to gap strategy, in which the correlation between the displaced wh-phrase and its resumption is different than the correlation between the displaced wh-phrase and its gap. In other words, there is a difference between a fronted wh-phrase and its resumption on the one hand, and its gap on the other hand.

There are four strategies (Aoun et al., 2010) to form wh-interrogatives in Arabic, which include gap strategy (39a)<sup>11</sup>, resumption strategy (39b), what Aoun et al. (2010) call "Class II resumptive strategy (39c), and in-situ strategy (39d). The first three are wh-fronting, while the forth is the genuine in-situ strategy.

- 39) a. *ʔaj sʰaħeb ʃuft b-l- ʒa:mʕa?*  
       which friend see-2ms.PER in-the-university  
       'which friend did you see at the university?'  
   b. *ʔaj sʰaħeb ʃuft-o b-l- ʒa:mʕa?*  
       which friend see-2ms.PER-him in-the-university  
       'which friend did you see at the university?'  
   c. *mi:n illi ʃuft-o b-l- ʒa:mʕa*  
       who that see-2ms.PER-him at-the-university  
       'who is that you saw at the university?'  
   d. *ʃuft ʔaj sʰaħeb b-l- ʒa:mʕa?*  
       see-2ms.PER-him which friend at-the-university

<sup>11</sup> Examples in (39) are from JA.

‘which friend did you see at the university?’

Aoun et al. (2010) shows examples from Lebanese Arabic that are equivalent to the examples in (39) from JA. Apparently, the first one shows a fronted wh-phrase that is related to a gap, the second one exhibits a resumptive pronoun, both of which in the internal position corresponding to the wh-constituent. And the third shows a variation on the resumptive strategy whereby the clause initial wh-constituent which is related to a resumptive pronoun in the sentence internal position corresponds to the wh-constituent immediately preceding the complementizer *illi* ‘that’, and the forth shows a wh-phrase in the sentence internal position.

Class II resumptive class of Aoun et al. (2010) is very similar to the wh-cleft in JA shown in (33) where there is a copular pronoun *huwe* ‘he.COP’ and a complementizer *illi* ‘that’ following the wh-phrase.

Interestingly, there is a restriction on which wh-words get a resumptive pronoun and which do not. All wh-words in Arabic use the gap strategy, however, only *mi:n* ‘who’ and *?aj/?ajja-NP* ‘which-NP’ can be classified together as the wh-words that can be related to the resumptive strategy (Aoun et al 2010) in a simple interrogative statement as in (40).

- |                              |                   |  |
|------------------------------|-------------------|--|
| 40) <i>mi:n/?ayya mariiD</i> | <i>zeert-o</i>    | <i>nadia?</i>                                |
| Who/ which patient           | visited.3fs-him   | Nadia  |
| ‘who/which patient           | did Nadia visit?’ | (Lebanese Arabic, Aoun et al., 2010, p. 132) |

Unlike Lebanese, JA shows ungrammaticality with such constructions. On the other hand, *?aj/?ajja-NP* ‘which-NP’ in JA can be resumed by a pronominal. Thus, the JA equivalence to *mi:n* ‘who’ and a resumptive pronoun must be the wh-cleft question-type which includes a copular pronoun and a complementizer *illi* ‘that’ immediately preceding the head on which the resumptive pronoun is cliticized as in (41c) as a fronted wh-word or the gap strategy. (41b) is less acceptable, and falls under the in-situ strategy, which is an echo-question. Note that the three cases in (41)



require an antecedent discourse, which is similar to sluice site that also require an antecedent. I will touch upon these more in detail in the analysis of sluicing in chapter 5.

- 41) a. *ʔaj s<sup>ʕ</sup>aħeb fuft-o b-l- ʒa:mʕa?*  
 which friend see-2ms.PER-him in-the-university  
 ‘which friend did you see at the university?’  
 b. *mi:n fuft-o b-l- ʒa:mʕa?*  
 who see-2ms.PER-him in-the-university  
 ‘who did you see at the university?’  
 c. *mi:n huwe illi fuft-o b-l- ʒa:mʕa?*  
 who he.COP that see-2ms.PER-him at-the-university  
 ‘who did you see at the university?’

On the contrary, some nominal wh-words cannot be related to a resumptive element (Aoun et al., 2010) inside the sentence, such as *fu:* ‘what’ as in (42a), *ʔaddə:f* ‘how much’, and *kam* ‘how many’ in Lebanese. Similarly, JA follows the same proposal about the possibility of the wh-words being resumed by a pronominal, however, the use of wh-cleft rescues the ungrammaticality of the aforementioned three wh-words with which a resumed pronominal exists in the internal position of the wh-constituent, as in (42b).

- 42) a. \**fu: talbat-o laila b-l-mat<sup>ʕ</sup>ʕam?* Lebanese Arabic  
 what order.3fs-it Laila in-the-restaurant  
 ‘what did Laila order at the restaurant?’ (Aoun et al., 2010, p. 136)  
 b. *fu: huwe illi talbat-o laila b-l-mat<sup>ʕ</sup>ʕam?*  
 what it.COP that order.3fs-it Laila in-the-restaurant  
 ‘what did Laila order at the restaurant?’ JA

Another wh-words that do not relate to resumptive pronoun in the internal position of the wh-constituent are wh-adverbials, which have a corresponding example with *ʔaj-NP* ‘which-NP’; accordingly, example (43b) is not grammatical.

- 43) a. *ʔajja mat<sup>ʕ</sup>ʕam ruħtu-l-o*  
 which restaurant went.2p-to-it  
 ‘which restaurant did you go to?’  
 b. \**wə:n ruħtu-l-o*  
 where went.2p-to-it?  
 ‘where did you go?’ (adapted from Aoun et al., 2010, p. 136)

However, in JA, it is important to note that only *ʔajja-NP* ‘which-NP’ and *mi:n* ‘who’ are able to occur with resumptive wh-interrogatives (Aoun et al., 2010). Nevertheless, *fu:* ‘what’ is able to occur with a resumptive only in wh-cleft formation as in (42b) compared to (42a), and (44) where Class II resumption strategy (Aoun et al. 2010) is acceptable.

- 44) *fu: illi talbat-o laila b-l-matʕam?*  
 What that order.3fs-it Laila in the restaurant  
 ‘What is it that Laila ordered?’

I will revisit these facts later in Chapter 5 to draw the distinction between genuine sluicing and pseudosluicing.

In Chapter 4, I will look at the issue of gapping to diagnose gapping constructions in JA. In order to do that, I will discuss the properties of gapping and test them against the JA data. I will also examine different analyses of gapping that have been proposed by different syntacticians and adopt one to JA. I will also point out how JA facts support one analysis (Johnson’s, 2009) over the other (Toosarvandani’s, 2013).

# Chapter Four

## Gapping

### 4.1 Introduction

The term *gapping* refers to two conjoined clauses in which the second clause is missing the verb. Gapping constructions consist of “the antecedent” and the gapped clause. In his dissertation, Sag (1976) has deeply investigated gapping as a kind of deletion and suggested that the remnant moves out at the sentence level before ellipsis applies. Coppock (2001) has adopted a similar analysis to Sag’s with one difference in which the object remnant moves to the right, adjoining the VP.

Gapping proposed by Ross (1970) and pseudogapping proposed by Levin (1986) are two similar elliptical constructions as in (1a) and (1b) respectively, and they illustrate a great similarity (Stump, 1977).

- 1) a. Some have served mussels and others swordfish.  
b. Some have served mussels and others have swordfish.

In (1a) which Toosarvandani calls *complex gap*, the main verb *served* and the auxiliary *have* are missing; whereas in (1b), the finite element is not removed. Therefore, it has been proposed that pseudogapping is a kind of VP-ellipsis (Stump, 1977; Jayaseelan, 1990; Lasnik, 1999 a, b, c). In such analysis, the object remnant *swordfish* is raised out of the VP through an NP shift to the right, before the VP is deleted leaving the finite auxiliary, in which VP-ellipsis occurs at PF (Merchant, 2001).

Another way to define gapping is comparing and contrasting the following examples in (2) with the typical gapping examples, as Jackendoff (1971) suggested in order to point out the traits of gapping.

- 2) a. Jerry met ~~the kids from OshKosh~~ and Sally scrutinized the kids from OshKosh.  
 b. Sam ate and ~~Sam~~ was put to bed.

In (2a), Postal (1974) referred to this as, “Right Node Raising” which exhibits some kind of deletion of the object in the first conjunct. While in (2b), there are two plausible analyses: the two VPs *ate* and *was put to bed* conjoin to select Sam as a subject, or (2b) exhibits subject deletion analysis. It is apparent that these are different from the gapping examples in (1) above.

I will refer to the material in the first conjunct as *the antecedent* ‘have served’ as in (1), to the non-elided material in the second conjunct as *the remnants* ‘others swordfish’, and to the material in the antecedent that corresponds to the remnant as *the correlates* ‘some mussels’.

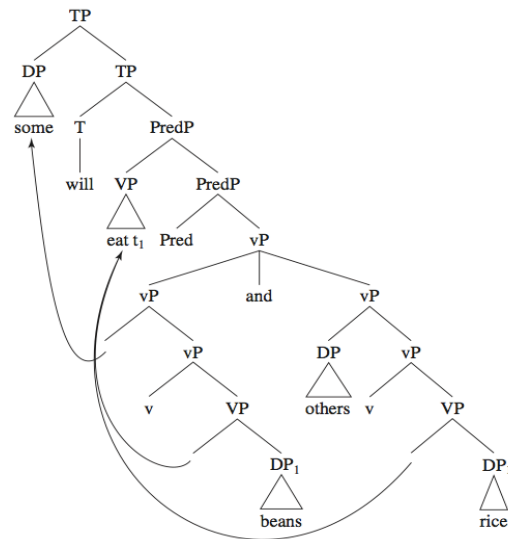
There are two leading analyses for gapping. The first one was proposed by Coppock (2001) and Lin (2002), in which they proposed that gapping is an ellipsis construction. However, Johnson (1994) was the first to propose that gapping involves an alternative analysis of the verb, which is ATB verb movement out of vP to PredP, in order to license the evacuating movements to the periphery of vP, taking into account the following two assumptions:

- i. Coordination occurs at vP level.
- ii. The subject of the first conjunct moves to Spec, TP, while the subject of the second conjunct stays in Spec, vP, and the verb undergoes ATB movement out of vP to PredP.

(Vicente, 2010, p. 509)

Johnson (2009) provided the derivation for his analysis of gapping constructions as in (3); the remnant *rice* and the correlate *beans* raise out to adjoin VP first, and since the two conjuncts become identical, ATB movement of the VP *eat* applies. Then the result shows that the verb surfaces outside the vP which Johnson (2009) refers to as *Predicate Shift*.

- 3) a. Some will eat beans and others rice.  
 b.

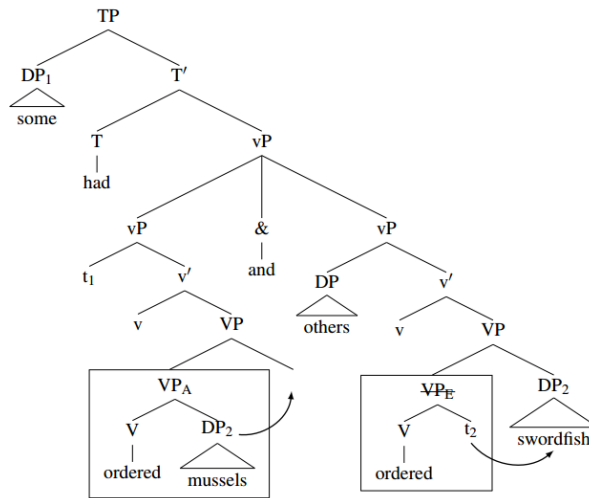


(Johnson, 2009, p. 307)

Other researchers adopted these assumptions, such as Coppock (2001) and Lin (2002) in which assumptions (i) and (ii) capture the negation and modals that are located in the first conjunct in addition to their scope, which is outside coordination (Siegel, 1984).

On the other hand, Toosarvandani (2013) argues against Johnson's ATB movement of VP because it does not capture some specific properties of gapping and it does not capture specific syntactic contexts, which I will discuss later in the chapter, yet he adopts part of Johnson's proposal, the first mechanism of gapping namely *low coordination*. As a result, Toosarvandani uses ellipsis to account for gapping claiming that it is *low coordination* plus *VP ellipsis*. The following is the derivation that Toosarvandani (2013) has proposed for gapping constructions in which the verb *ordered* and the auxiliary *had* or T are missing in (4) in the second conjunct.

- 4) a. Some had ordered mussels, and others swordfish.  
b.



(Toosarvandani, 2013, p. 20)

In this chapter, JA elliptical constructions will be examined and taking into account the properties of gapping, JA will be diagnosed for the sake of adopting the right analysis. Consequently, one of the goals of this chapter is to analyze the following JA examples in (14) from chapter 1, which are repeated in (5) for convenience. Such constructions will be investigated in order to answer the following questions: (i) “what are the properties of JA gapping data in (5)?”, (ii) how do these JA properties explain the facts about gapping in the literature?, and finally (iii) “what is the syntax of gapping in JA?”

5)

- a. *ḥasan b-j-akol pitza, w ʕumar [ \_\_\_\_ ] burger.*  
 Hasan Asp-3ms-eat.IMP pizza and Omar burger  
 ‘Hasan eats pizza, and Omar [eats] burger.’ (simultaneously)
- b. *ḥasan b-e-ʕzef pjano, bas ʕumar [ \_\_\_\_ ] gi:tar*  
 Hasan Asp-3ms-play.IMP piano but Omar guitar  
 ‘Hasan plays piano, and Omar [plays] guitar.’
- c. *ḥasan raḥ ʕa-l-ʒa:mʕa, w b-a-zon ʕumar [ \_\_\_\_ ] ʕa-l-be:t.*  
 Hasan go.3ms.PER to-the university and Asp-1s-think.IMP Omar to-the house.  
 ‘Hasan went to the university, and I think Omar [went] home.’
- d. *ʔalat ḥasan tʕaffa ʒibnə, w ʕumar [ \_\_\_\_ ] ḥumus.*  
 Say-3fs-PER Hasan eat-dinner.3ms-PER cheese, and Omar Humus  
 ‘She said that Hasan ate cheese, and Omar [ate] Hummus’
- e. *kul bent raḥ tsafer ʕa-tunis, w ʔum-ha [ \_\_\_\_ ] ʕa-masʕar*  
 every girl will 3fs-travel to-Tunisia, and mother-her to-Egypt  
 ‘Every girl will fly to Tunisia and her mother to Egypt.’

The syntax of gapping in Arabic is unsettled as there are few studies that have been done in the Arabic descriptive literature. There are also only a few studies that have been done on elliptical constructions in Arabic. Algryani has several studies on elliptical constructions in LA such as VP-ellipsis (Algryani, 2011), *stripping* (Algryani, 2013) and *sluicing* (Algryani, 2010); Leung (2014) had another paper on sluicing in (EA). Thus, the goals of this chapter are: i) to provide a syntactic analysis that explains some of the properties of gapping constructions in JA, ii) to show that VP-ellipsis is not plausible in JA, and thus iii) to argue in favor of ATB movement (Johnson, 2009) vs. VP-ellipsis (Toosarvandani, 2013)

In the next section, I will give a background of the different mechanisms used in analyzing gapping constructions.

## 4.2 The issue of gapping

In this section, I will look at some facts and properties of gapping. I will also look at several analyses taking into account Johnson (2009) and Toosarvandani (2013) briefly before adopting one to my data from JA.

To start with, there are two types of gapping that need to be distinguished: simple gap (when T is absent) and complex gap (when T and additional items are absent), according to Toosarvandani (2013). The following examples show each of the two types of gapping respectively.

- 6) a. Some had ordered mussels, and others [ \_\_\_ ] drunk a cocktail.  
 b. Some had ordered mussels, and others [ \_\_\_ ] swordfish (=<sub>1</sub>)

In (6a), only T *had* is missing in the second conjunct making this a simple gap case; whereas (6b) is a complex gap in which T *had* is missing as well as the main verb *ordered*.

In terms of elliptical constructions in JA, both types of gapping are available: An example from JA that resembles simple gap is given in (7). Apparently, there is low coordination under one single T, which means there is no T in the second conjunct.

- 7) *ḥasan ʔidər ja-kol pitza w ʕumar [ \_\_\_\_ ] ji-frab koktail*  
 Hasan can.3ms.PER 3ms-eat.IMP pizza and Omar 3ms-drink.IMP cocktail  
 ‘Hasan could eat pizza, and Omar [ can ] drink cocktail.’ (simultaneously)

Another example from JA that resembles complex gap is in (5a), repeated in (8), where coordination structures occur;

- 8) *ḥasan b-jakol pitza, w ʕumar [ \_\_\_\_ ] burger.* (=5a)  
 Hasan Asp-3ms-eat.IMP pizza and Omar burger  
 ‘Hasan eats pizza, and Omar [eats] burger.’ (simultaneously)

Johnson (2009) proposed that gapping is a low-coordination structure, following Siegel (1987) and he illustrated that in (6b), not only the subject of the first clause *some* moves to Spec, TP and the second subject of the second clause *others* remains in Spec, VP, but also a heavy movement NP shift of *mussels* and *swordfish* must apply to reorder the arguments in a way that feeds the deletion of the verb through ATB movement of the verb to PredP.

Toosarvandani (2013) adopting low-coordination of Johnson (2009) but adding VP-ellipsis, analyzes constructions like (1a) from the assumption that the subject in the second conjunct starts outside of the absent VP. The object remnants move through an NP shift to the right, an exceptional movement operation to escape deletion, yet the subject does not need to escape through this mechanism.

Nevertheless, ATB movement derives the wrong linear order with object control verbs as in (9b); hence, Toosarvandani (2013) adopts low coordination and VP-ellipsis, not ATB movement of the verb.

- 9)  
 a.  $I_1$  have  $[[_{VP} t_1 [_{VP}$  persuaded Tom to write  $t_3$  ] a novel $_3]]$ , and  $[_{VP} t_1 [_{VP}$  persuaded Bill to write  $t_3$  ] a short story $_3$  ]].  
 b.  $*I_1 [_{PredP} [persuaded t_4]_2 [_{FP}$  to write  $t_5$  ] $_4$  ]  $[_{VP} t_1 [_{DP}$  Tom] $_3$   $t_2$  [DP a novel] $_5$ ], and  $[_{VP} t_1 [_{DP}$  Bill] $_3$   $t_2$  [DP a short story] $_5$  ]].

(Toosarvandani, 2013, p. 12)



In both analyses, there are two assumptions that have been made. First, A-movement must be constrained by Coordinate Structure Constraint (CSC) in order to allow the first subject to raise out of the coordination to Spec, TP. Lin (2000) has offered a way to explain this as follows: if the CSC holds at LF representation as Fox (2002) argues; and if A-movement re-constructs, then A-movement will not be subject to CSC. The second assumption that both analyses have considered is that subjects must be able to receive case in the position where they originate so that the second subject in the second coordinate remains in-situ in Spec, VP; which is a default case.

Taking into account different analyses, I will discuss the properties of gapping before I delve into the analysis of JA and the verb movement therein.

### **4.3 Properties of Gapping in Jordanian Arabic**

Johnson (2009) focuses on the idea that gapping results through ATB verb movement, from which he has identified 3 properties of gapping which show uniqueness to gapping (Johnson, 2009). Johnson also explains that ATB verb movement illustrates the fact that gapping occurs in coordination cases (Jackendoff, 1971; Hudson, 1976).

Later, I will determine which analysis to adopt depending on whether the JA data exhibit the properties of gapping or not in addition to the feasibility of different mechanisms in the two analyses of Johnson's and Toosarvandani's. Therefore, I will focus on the properties of gapping in this section.

Comparing the following examples, gapping (Property 1) can occur in coordinate structures as in (10a), but not in subordination which pseudogapping structure allows as in (10b).

- 10) a. Sandy plays guitar, {and/or/ \*because/\*after/\*if/\*better than} Betsy  
       [ \_\_\_\_\_ ] the harmonica.  
       b. Sandy plays the guitar {and/or/ because/after/if/better than} Betsy  
       does/did [ \_\_\_\_\_ ] too. (Vicente, 2010, p. 509)

However, gapping cannot occur in embedded structures (Koutsoudas, 1971; Hankamer, 1979; Wilder, 1994) as in (11a), but pseudogapping can as in (11b).

11)

- a. \*Amanda went to Santa Cruz, and Bill thinks that Claire [ \_\_\_\_ ] to Monterrey.
- b. Amanda went to Santa Cruz, and Bill thinks that Claire did [ \_\_\_\_ ] too.

(Vicente, 2010, p. 509)

In JA, coordination occurs as in (12) so it satisfies the first part of property 1.

- 12) *ḥasan b-e-ʕzeʃ pjano, {o /ʔaw/ \*laʔennu/\*eza /\*baʕden} ʕumar [ \_\_\_\_ ]*  
*gi:tar*  
 Hasan Asp-3ms-play.IMP piano {and/or/ \*because/\*if/ \*after } Omar [ \_\_\_\_ ]  
 guitar  
 ‘Hasan plays piano, and/or Omar [plays ] guitar.’ (=5b)

This means that example (12) is identified as a gapping case because it occurs in the coordination structure, and it does not allow subordination. As for the second part of Property 1, JA does not allow embedding in the second conjunct of the ellipsis site as in (13) either, so *ba-zon* ‘Asp-think.1s.IMP’ is considered unacceptable. Yet the sentence is grammatical in some contexts when *ba-zon* ‘Asp-think.1s.IMP’ is parenthetical with a different pitch.

- 13) *ḥasan ra:ḥ ʕa-l- ʒa:mʕa, w ʔba-zon ʕumar [ \_\_\_\_ ] ʕa-l-be:t* (=5c)  
 Hasan go.3ms.PER to-the-university and Asp-think.1s.IMP Omar to-the house  
 ‘Hasan went to the university, and I think that Omar [went] home.’

Another property (Property 2) that Johnson (2009) has observed is that an antecedent cannot occur within an embedded clause in gapping as in (14a); however, pseudogapping allows the antecedent to occur within an embedded clause as in (14b).

- 14) a. \* She’s said Peter has eaten his peas, and Sally [ \_\_\_\_ ] her green beans, so now we can have dessert.  
 b. ?She’s said Peter has eaten his peas, and Sally has [ \_\_\_\_ ] her green beans, so now we can have dessert.  
 Intended meaning: (proposition 1): she said that Peter has eaten his peas.  
 Proposition 2: (not embedded) Sally has eaten her green beans.  
 (Johnson, 2009, p. 293)

Applying this property to JA, an antecedent cannot occur with an embedded clause as in (15).

- 15) *\*ʔalat ḥasan tʕaffa ʒibne, w ʕumar [ \_\_\_\_ ] ḥumus* (=5e)  
 Say.3fs.PER Hasan eat dinner.3ms.PER cheese, and Omar Humus

‘She said that Hasan ate cheese, and Omar [ate] Hummus.’

The sentence in (15) is marked as ungrammatical when the antecedent is interpreted as embedded. Therefore, taking into account Johnson’s judgments, JA data show similarity to the behavior of the English gapping in (14a) instead of pseudogapping in (14b) because the antecedent cannot occur with an embedded clause in JA.

Additionally, Oehrle (1987) and McCawley (1993) have argued that gapping derives a different scope relation (Property 3). Examining (16), the subject of the first conjunct is able to bind the pronoun in the second conjunct as in (16a), but this is impossible in (16b) where pseudogapping occurs.

- 16) a. No woman can join the army and her girlfriend the navy.  
b. No woman can join the army and/but her girlfriend can the navy.

(Johnson, 2009, p. 293)

JA has asymmetrical scope relations between the first subject *kul bent* ‘every girl’ and the second subject’s pronoun *-ha* ‘her’ in *ʔum-ha* ‘her mother’, and so the subject of the first conjunct is able to bind the pronoun in the second conjunct in (17) in the same manner as (16a). This makes (17) a grammatical case of gapping.

- 17) *kul bent raħ t-safer řa-tunis, w ʔum-ha [ \_\_\_\_ ] řa- masʕar* (=5e)  
every girl will 3fs-travel to-Tunisia, and mother.sg-her to-Egypt  
‘Every girl will fly to Tunisia and her mother to Egypt.’

Finally, I demonstrate that my JA example in (5) is clearly a case of gapping (not pseudogapping), since JA satisfies the three properties of gapping. Accordingly, in the next section, I will follow Johnson’s and Toosarvandani’s analysis of low-coordination and ultimately, I will adopt Johnson’s account of ATB movement, and show that for independent reasons, a VP-ellipsis analysis (Toosarvandani, 2011) is implausible in this language favoring ATB movement treatment (Johnson, 2009).

## 4.4 Analysis

In this section, I will analyze the data in terms of the properties discussed above as well as the 3 mechanisms: low coordination, ATB movement and VP-ellipsis in order to adopt ATB movement fashion.

### 4.4.1 Supporting low-coordination.

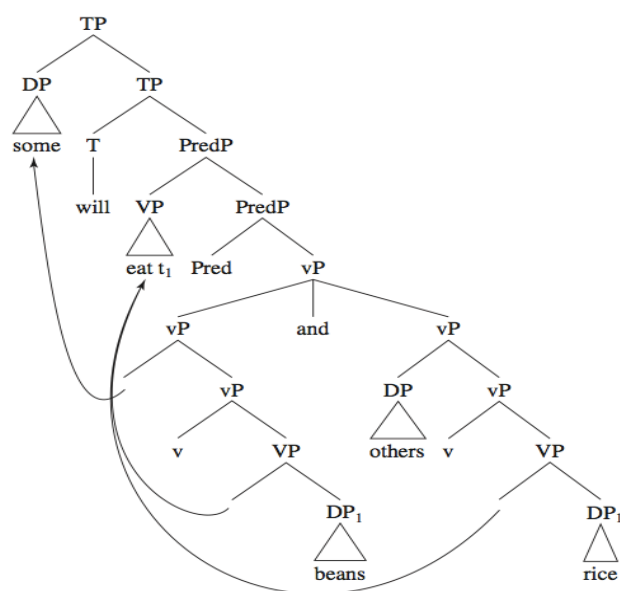
Gapping will arise only in coordination (Jackendoff, 1971; Hudson, 1976) because it appears to elide the finite auxiliary in T. Low coordination accounts for Property 1 of coordination and embedding, which became quite crucial in distinguishing between gapping and pseudogapping.

In (18), it is obvious that there are two conjuncts that share a single T, and since gapping occurs only in coordination, then low-coordination of two vPs under a single T is the possible mechanism. Later, in order to apply ATB movement of the two VPs, they must be identical after the two object NPs, the correlate *beans* and the remnant *rice*, shift to the right to escape deletion or raising with the two VPs to PredP, as shown in (3b) repeated (18b) for convenience.

18) a. Some will eat beans, and others [ \_\_\_\_ ] rice.

b.

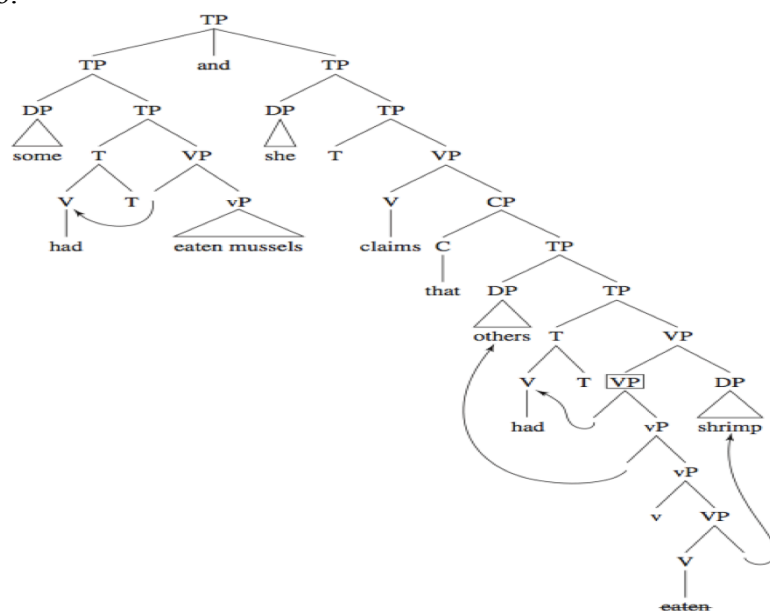
(=3b)



(Johnson, 2009, p. 307)

Consequently, gapping will arise only in coordination because it appears to elide the finite auxiliary in the second conjunct, and the matrix T is shared between the two conjuncts (Siegel, 1987), in which there is no T in the second conjunct because it was never there. However, continuing with Property 1, gapping cannot occur in embedded contexts (Johnson, 2009). For instance, in (19) there is T in each conjunct that is pseudogapping, which entails two TPs analysis. Therefore, this indicates that pseudogapping cannot show low-coordination of two vPs because they do not share a single T, but rather it is a coordination of two TPs as shown in (19).

- 19) a. Some had eaten mussels and she claims that other had [ \_\_\_\_ ] shrimp.  
b.



(Johnson, 2009, p. 299)

Examining the same example with no TP under the embedded clause, the two vPs cannot share the matrix T when the second vP is embedded. Consequently, the maximum that can be achieved from the syntax in (19) is pseudogapping because the elided VP does not include the TP, so the auxiliary remains.

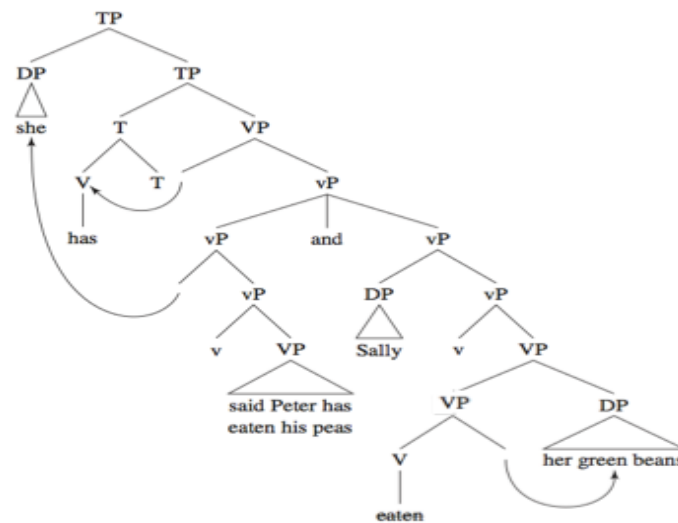
Both Johnson and Toosarvandani suggest that low coordination accounts for Property 1 of coordination and embedding, which became quite crucial to distinguish between gapping

(coordination) and pseudogapping (embedding).

As for property 2, the antecedent of a gap cannot be embedded in gapping constructions (Koutsoudas, 1971; Hankamer, 1979; Wilder, 1994). Example (20) shows that the first conjunct cannot be embedded under “she’s said” clause, when the second conjunct is not embedded, because otherwise they won’t be able to share the matrix T as in (20b).

20)

- a. \*She's said Peter has eaten his peas, and Sally her green beans, so now we can have dessert. (=14a)
- b.



(Johnson, 2009, p. 300)

The ungrammaticality of (20a) is deduced from the intended meaning: *\*she said Peter has eaten his peas; and Sally her green beans*. Strictly speaking, the gapped VP/vP and its antecedent must be at the same level of embedding, which means they are either both embedded or both unembedded. However, the pseudogapping counterexample in (14b) is grammatical when the second conjunct is interpreted as embedded within the embedded clause, that is to say, the difference in the level of embedding in pseudogapping is acceptable. In this case, T is not shared and each conjunct has its own T, which makes it bear the two TPs analysis.

Another reason for this ungrammaticality in gapping is that if the first conjunct is embedded when the second conjunct is not embedded, T in the first conjunct cannot be shared with the second conjunct because they are not parallel, which is an important requirement to assure the syntax of low-coordination. A third reason is that the data from JA captures what Toosarvandani (2013) refers to as *No Embedding Generalization*, which states that the correlates in gapping cannot be embedded.

In order to assure the feasibility of low-coordination, Toosarvandani observed some assumptions and proposed other constraints. The reason that the antecedent cannot occur in embedded constructions is that the two conjuncts must have the same level of embedding; Specifically, Toosarvandani (2013) proposed a constraint that he calls *Low-coordinate Parallelism*, which assures that the two VPs are parallel because parallelism does not follow naturally from VP-ellipsis in other constructions. This means that we see other cases like pseudogapping<sup>12</sup> where VP-ellipsis applies without having the same level of embedding.

Toosarvandani (2013) also considered two crucial observations of (Kuno, 1976) as in (21):

- 21) i. *Focused Remnants Requirement*: Toosarvandani (2013) asserts that new information that is accented is usually in focus. The remnants *others* and *swordfish* in (1a), bear a pitch accent and they correspond to a preceding discourse, whereas the nonfocused items, the subject *some* and the correlate object *mussels*, do not give new information.
- ii. Contrastive relationship between the remnants and the correlates: Toosarvandani pointed out the intonational contour in (1a) between the remnants *others* and *swordfish*, and the correlates *some* and *mussels* (corresponding phrase) in the first conjunct respectively, which have always been remarked upon by Kuno (1976), Hankamer (1979), and Levin and Prince (1986) inter alia, and arise from *Low Coordinate Parallelism*.

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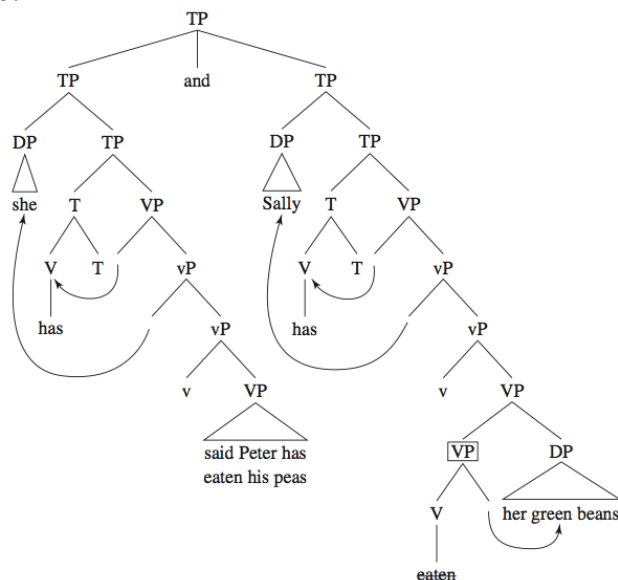
<sup>12</sup> Pseudogapping analysis involves the coordination of two TPs in which the two coordinates are not parallel (for detailed analysis, read Stump (1977)).

However, the derivation for the pseudogapping example in (22a) is presented in (22b) and illustrates that pseudogapping allows the first conjunct to embed since each conjunct has its own T. This suggests parallelism is not required when there is no shared T.

22)

a. ?She's said Peter has eaten his peas, and Sally has her green beans, so now we can have dessert. (=14b)

b.



(Johnson, 2009, p. 301)

The reason that Johnson considers the examples in (20) and (22) grammatical and ungrammatical respectively, and that he did not apply low-coordination is because the interpretation indicates that only the first coordinate is embedded which is schematized in the following:

23) She has said that Peter has eaten his peas, and Sally her green beans. (=14a)

Interpretation: She said that Peter has eaten his peas; Sally has eaten her green beans.

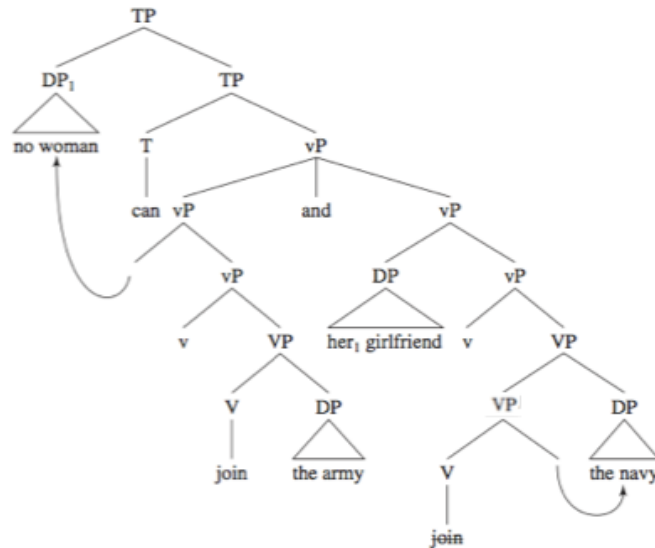
In terms of Property 3, McCawley (1993) observed that the subject of the first conjunct binds the second subject in the second conjunct, because the subject of the first conjunct in gapping constructions can have scope over the subject pronoun of the second conjunct which means the pronoun is in the scope domain of the first subject because *no woman* c-commands the pronoun *her* in (24).



24)

- a. No woman can join the army and her girlfriend the navy.  
b.

(=16a)



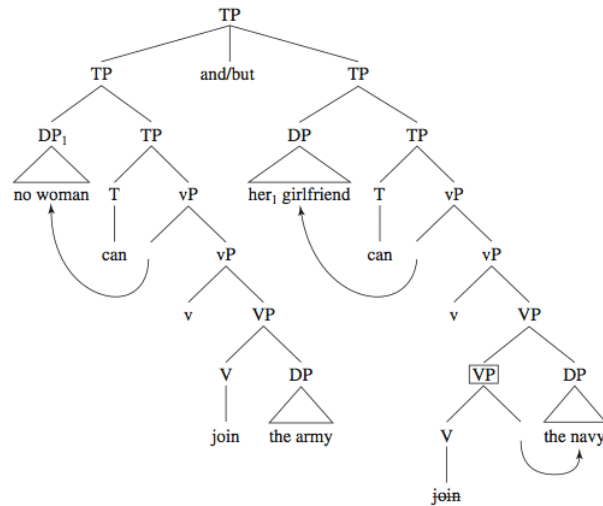
(Johnson, 2009, p. 297)

Nevertheless, in pseudogapping it is impossible that the subject of the first conjunct *woman* is to be interpreted as binding the variable *her* in the second coordinate as in (25b), because the coordinated phrase must be able to include the auxiliary, which means that there must be two TPs. The coordination of the two TPs will put the pronoun of the second conjunct outside the c-command domain of the first subject in the first conjunct as in (25).

25)

- a. No woman<sub>1</sub> can join the army and/but her<sub>1</sub> girlfriend can the navy.  
b.

(=16)



(Johnson, 2009, p. 298)

Toosarvandani argues that unlike gapping, example (25) is ungrammatical and does not permit variable binding across coordinates. Therefore, when low coordination is applied to gapping in sentence (24a) where there is no T in the second conjunct, the subject of the first coordinate will be located outside the coordination at the surface structure (SS) and it will c-command the pronoun in the second conjunct's subject position. Thus the subject of the first conjunct is able to bind the subject pronoun in the second coordinate. In short, gapping contrasts with pseudogapping, and variable binding phenomenon is available across the coordination of gapping, not the coordination of pseudogapping.

Moreover, the fact that JA exhibits examples with simple gap as in (26) suggests that low coordination is the right analysis since there is not T in the second conjunct, which picks the imperfective form of the verb (present) although the event is in the past. This shows that the matrix T is shared as it takes care or shows the tense.

- 26) *hasan*    *ʔidər*                    *ja-kol*                    *pitza w*    *ʕumar* [ \_\_\_\_ ] *ji-frab*                    *koktail*  
 Hasan   can.3ms.PER                    3ms-eat.IMP    pizza and Omar                    3ms-drink.IMP   cocktail  
 'Hasan could eat pizza, and Omar [ could ] drink cocktail.' (simultaneously)

This suggests that the auxiliary in T of the first conjunct is shared by the second conjunct, which also demonstrate that the two VPs are both under T in low-coordination fashion.

It follows that, in the coordination construction, 1) T is shared between the two conjuncts, as there is no T in the second conjunct in the first place, 2) the first conjunct cannot be embedded leaving the second one unembedded because this will not allow the latter to share the matrix T, and 3) the subject of the first conjunct c-commands the subject of the second conjunct in coordination but not subordination; thus the subject in the first conjunct binds the subject in the second conjunct. Accordingly, low-coordination accounts for Property 1 of coordination, Property 2 of embedding, and Property 3 of subject binding in JA as well.

In the next subsection, I will look at the second mechanism, which is VP-ellipsis that applies to identical VPs after the two object NPs shift to the right adjoining the respective VPs and creating two identical VPs.

#### **4.4.2 Against VP-ellipsis.**

The discussion demonstrates that, for independent reasons discussed above in subsection 4.4.1, low-coordination can account for the three properties of gapping in addition to the constraints on low-coordination. I also argue against VP-ellipsis analysis (Toosarvandani, 2013) because it is implausible in JA, favoring ATB movement treatment (Johnson, 2009).

As mentioned in Chapter 2, Algryani (2011) has proposed that LA exhibits VP-ellipsis specifically in modal ellipsis and verb-stranding VP ellipsis. In the modal ellipsis, VP (modal complement) goes missing, which Algryani proposed as an instance of VP-ellipsis because it exhibits the same traits as VP. He also shows that it behaves like lexical verbs, in order to argue that it undergoes V to T raising, and then deletion of the VP applies, VP-ellipsis.

On the other hand, if it is true that there is a split in the tense requirement between the present and the past tense, then we expect to find verb stranding VP-ellipsis analysis in the past where V raises to T, then VP-ellipsis applies, and no VP-ellipsis in the present. Accordingly, this is against VP-ellipsis analysis in JA.

Algryani (2010) proposes that Verb stranding VP-ellipsis cases are not VP-ellipsis phenomena, but rather null object analysis as in (17) in chapter 3. This indicates that only modal-ellipsis cases show VP-ellipsis analysis. He shows that the limited modals behave like lexical verbs to argue that they undergo V to T movement. Yet, he does not explain this puzzle.<sup>13</sup> That is to say, it is unavoidable to explain the reason behind the constraints on VP-ellipsis in LA except with *ʔedər* ‘could’ and *jəʔdar* ‘can’. Moreover, if present tense does not raise to T, this is another crucial problem to this analysis.

Dagnac (2010) analyzed modal ellipsis in French, Italian and Spanish as TP-ellipsis, and Aelbrecht (2008, 2010) has analyzed Dutch modal ellipsis as TP-ellipsis where root modals in these languages take TP complements.

VP-ellipsis in English is applicable only when T is filled with an auxiliary, such as *have* or *be*; and the dummy *do*, infinitive *to*, or a modal (Lobeck, 1995; Johnson, 2001, 2004; Agbayani & Zoerner, 2004). In Jordanian Arabic, however, the modals *ʔedər* ‘could’ and *jəʔdar* ‘can’ in JA does not license VP-ellipsis, while *gedər* ‘could’ and *jəgdar* ‘can’ in LA (Algryani, 2011) licenses the ellipsis as in (27).

- 27) Ali jəgdar jə-tkəlləm itali w hətta David jəgdar (chapter 2, = 19)  
 Ali can.3MS speak.3MS Italian and too David can.3MS  
 ‘Ali can speak Italian, and David can too.’

Therefore, Algryani (2011) proposed that the two modals, *gedər* ‘could’ and *jəgdar* ‘can’ in LA are more like lexical verbs for several facts found in LA, but not accurately applicable in JA. First, the modal *jəgdar* inflects for tense and phi-features, such as number, gender, and person, as in (28a). Also, the two modals can occur with another modal as in (28b).

- 28) a. Humma gedru yessru sega, w hetta hne gedrna  
 They.3MP could.3MP buy.3MS flat, and too we could.1MP

<sup>13</sup> The question that rises here is, “why is it the case that only modal ellipsis in LA shows VP-ellipsis analysis?” and “what is the reason behind the lack of VP-ellipsis with other lexical verbs?”

- ‘They could buy a flat and we could too.’
- b. *kanu jegdru yessru sega, laken hne ma-kuna-s ngedru*  
 were.3MP can.3MP buy.3MS flat, but we NEG-were.1MP-NEG could.1MP  
 ‘They ere able to buy a flat, but we were not able to.’
- (Algryani, 2011, pp.3-4)

An example from JA that show the impossibility of modal-ellipsis is shown in (29)<sup>14</sup> where a modal precedes the verb and the complement of the modal is elided in the second conjunct.

- 29) *?ʕumar b-je-ʔdar je-ftari sajja:ra w ʔasan b-je-ʔdar kman*  
 Omar Asp-3ms-can.IMP 3ms-buy.IMP car and Hasan Asp-3ms-can.IMP too  
 ‘Omar can buy a car, and Hasan can too.’

A third argument for LA is that the modal *jəgdar* ‘can’ take an argument like other lexical verbs, as in (30a), whereas JA does not allow such a construction as in (30b).

- 30) a. *Hisham yegdar il-kors*  
 Hisham can.3MS the-course  
 ‘Hisham can (do) the course. (Libyan Arabic: Algryani, 2011, p. 4)
- b. *\*ʔasan b-je-ʔdar il-madde*  
 Hasan Asp-3ms-can.IMP the-material  
 ‘Hasan can (do) the course.’ (Jordanian Arabic)

Yet this property of the modal *jəgdar* ‘can’ is very limited in terms of which types of arguments it takes in LA.

Moreover, in JA and LA, other auxiliaries and modals like *ka:n* ‘be’ (31a) do not license VP-ellipsis. Also, assuming *mumken*<sup>15</sup> ‘probably’ (31b) and *la:zem* ‘must’ (31c) as modals in JA, they cannot license VP-ellipsis, although the genuine VP-ellipsis is typically licensed with modals and auxiliary verbs, such as “to be.”

- 31) a. *\*ʕumar ka:n judros w ʔasan ka:n kma:n.*  
 Omar was.3ms.PER 3ms.study.IMP and Hasan was.3ms.PER too  
 ‘Omar was studying, and Hasan was too.’
- b. *\*ʕumar mumken judros w ʔasan mumken kma:n*  
 Omar probably 3ms.study.IMP and Hasan probably too  
 ‘Omar might study, and Hasan might too.’

<sup>14</sup> According to Native Speakers of JA, this sentence sounds odd and not right.

<sup>15</sup> In LA, modality is realized by a modal particle or adverbs (Algryani, 2011) including *mumken* ‘probably’ and *la:zem* ‘must’.

- c. \*ʕumar    la:zem                judros                w    ḥasan    la:zem    kma:n  
          Omar    must                3ms.study.IMP    and    Hasan    must                too  
          ‘Omar must study, and Hasan must too.’

In addition, the availability of some examples in JA that selects the complementizer *ʔinno* ‘that’, illustrated that the modal *ʔeder* and *b-je-ʔdar* in JA can select CP as a complement, as in (32).

- 32) *b-ji-ʔdar*                *ʔinno*    *ji-ḥki*                *maʕ-ha*.  
       Asp-3ms-can.IMP    that    3ms-talk.IMP    with-her.  
       ‘He can talk to her.’

It is not conceivable to adopt VP-ellipsis to JA data in gapping construction because VP-ellipsis is only possible in Arabic with the modal *b-je-gdar* ‘Asp-3ms-can.IMP’, that Algryani calls modal ellipsis. It is the only case that shows the same traits of VP-ellipsis. Thus one instance of modal-ellipsis or VP-ellipsis cannot guarantee the generalization of VP-ellipsis to Arabic or JA. Accordingly, I will have to disagree with Algryani’s (2011) proposal that Arabic exhibits VP-ellipsis because Arabic does not exhibit the genuine VP-ellipsis phenomenon.

That said, a language like JA that has been categorized as a verb raising language, shows a piece of evidence that VP-ellipsis is not plausible in JA.

Moreover, Toosarvandani (2011) has to put constraints on VP-ellipsis to ensure that the two VPs to which the deletion applies are identical. In order to apply VP-ellipsis, we must ensure that the two conjuncts in gapping are parallel, because parallelism does not follow naturally from VP-ellipsis. Therefore, Toosarvandani (2012) suggested *Low-coordinate parallelism* constraint in order to ensure the same level of embedding. For economy, it is more convincing to adopt another analysis from which parallel embedding follows naturally.

In the next subsection, I will explore ATB movement as proposed by Johnson (2009) toward which the JA data tips the scale.

### 4.4.3 Supporting Across-the-board movement

Since VP-ellipsis is not available in JA, it cannot be used cross-linguistically. In the current literature of gapping, the other available mechanism is ATB movement, which I am adopting for the language under study. The significance of the availability of ATB fashion to JA takes its importance when it is contrasted with the implausibility of VP-ellipsis.

#### 4.4.3.1 Object Control Verb and ATB movement in English

It has been pointed out that the ATB-movement approach to gapping predicts the wrong linear order for object control sentences (Johnson, 2009; Toosarvandani, 2015) as shown in the following.

33) a. [TP I<sub>1</sub> have [[<sub>VP</sub> t<sub>1</sub> [<sub>VP</sub> persuaded Tom to write a novel]], and [<sub>VP</sub> t<sub>1</sub> Bill<sub>2</sub> <<sub>VP</sub> persuaded t<sub>2</sub> to write t<sub>3</sub>> a short story<sub>3</sub> ]].

b.\* [TP I<sub>1</sub> have [PredP [persuaded t<sub>4</sub>]<sub>2</sub> [TP to write t<sub>5</sub> ]<sub>4</sub> ] [<sub>VP</sub> t<sub>1</sub> [<sub>DP</sub> Tom]<sub>3</sub> t<sub>2</sub> [<sub>DP</sub> a novel]<sub>5</sub>], and [<sub>VP</sub> t<sub>1</sub> [<sub>DP</sub> Bill]<sub>3</sub> t<sub>2</sub> [<sub>DP</sub> a short story]<sub>5</sub> ]]. (Toosarvandani, 2013, p. 12)

Apparently, the VP precedes the subject of the first conjunct, *Tom*, after ATB movement raises the two VPs to PredP. Johnson suggests that the subject of the first conjunct raises to check case. Therefore, raising the subject might solve the issue. However, it must be located somewhere between the main verb *persuaded* and the infinitival clause *to write*.

Accordingly, based on Johnson (2009) suggestion of ATB movement and the subject of the first conjunct raising to Spec, CP to get the right linearization of object control verbs, Toosarvandani (2015) illustrated multiple operations under ATB analysis which are as follow: first, the remnants, *Bill* and *a short story*, and the correlate *a novel* evacuate the two VPs in both conjuncts, creating two identical VPs *persuaded to write*; second, the subject of the first conjunct *Tom* raises to Spec, FP above the coordination through ATB leaving a trace inside the two VPs; the

infinitival clauses raises to another Spec, FP immediately above the two VPs and lower than Spec, FP of the subject Tom; and finally the VP raises higher than both *Tom* and the infinitival clause, as schematized in (34) which Toosarvandani (2015) suggested.

- 34) [<sub>TP</sub> I<sub>1</sub> have [<sub>FP</sub> [<sub>t<sub>3</sub></sub> persuaded <sub>t<sub>4</sub></sub> ]<sub>2</sub> [<sub>FP</sub> Tom]<sub>3</sub> [<sub>TP</sub> to write <sub>t<sub>5</sub></sub> ]<sub>4</sub> ] [<sub>VP</sub> <sub>t<sub>1</sub></sub> <sub>t<sub>2</sub></sub> [<sub>DP</sub> a novel]<sub>5</sub>],  
and [<sub>VP</sub> <sub>t<sub>1</sub></sub> [<sub>DP</sub> Bill]<sub>3</sub> <sub>t<sub>2</sub></sub> [<sub>DP</sub> a short story]<sub>5</sub> ]].

#### 4.4.3.2 Object Control Verbs in JA

Interestingly, the gapping properties of JA are the same as those of English, yet each language bears different analyses. It is even more interesting that JA show that it is implausible to derive JA gapping constructions via VP-ellipsis. Therefore, the other available analysis for gapping constructions in the literature is ATB movement, which I will apply to JA data in the next section. Like English, applying Johnson's ATB movement to gapping counterexamples from JA creates the wrong linearization as shown in (35) with object control verbs, which I will get back to in the next section under application.

- 35)  
a. \* [<sub>TP</sub> [<sub>PredP</sub> <sub>t<sub>2</sub></sub> *ʔaqnaʕat* *ju-dros* <sub>t<sub>3</sub></sub>]<sub>1</sub>] [<sub>VP</sub> [<sub>VP</sub> *ħasan* <sub>t<sub>1</sub></sub> *adab*]<sub>3</sub>]  
w [<sub>VP</sub> *ħumar*<sub>2</sub> [<sub>VP</sub> <sub>t<sub>1</sub></sub> *tarzame*]<sub>3</sub> ]].  
b. \* [<sub>TP</sub> [<sub>PredP</sub> persuade-3ms.PER 3ms-study.IMP <sub>t<sub>3</sub></sub>]<sub>1</sub>] [<sub>VP</sub> [<sub>VP</sub> *hasan* <sub>t<sub>1</sub></sub> literature]<sub>3</sub>]  
and [<sub>VP</sub> Omar<sub>2</sub> [<sub>VP</sub> <sub>t<sub>1</sub></sub> translation]<sub>3</sub> ]]  
'I persuaded Hasan to study literature, and Omar translation.'

Accordingly, to get the right linearization, an analysis similar to Toosarvandani (2015) schematized in (34) must apply.

After examining different proposals, I will determine the feasibility of those mechanisms in JA in the next section.

## 4.5 Application

### 4.5.1 The Syntax of Gapping

I propose that my data of complex gap in (5) arise through ATB movement of the verb that applies to low-coordination constructions, which creates the environment for the verb to elide.



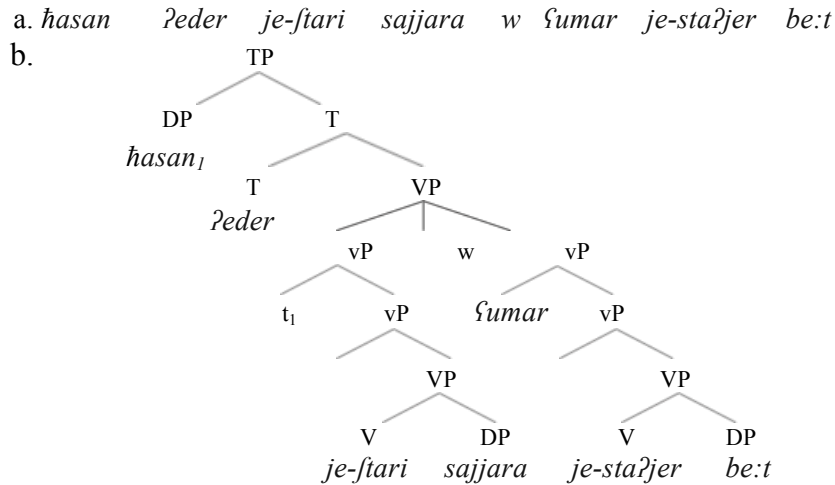
In order to adopt low-coordination analysis for JA data, I show piece of evidence from Arabic that there is coordination of two verbs under a single T with two distinct subjects. In Arabic, two verbs can occur under a single T, when T is occupied by the modal *b-je-ʔdar* ‘can’ or *ʔeder* ‘could’ and there are two distinct subjects as in (36).

36)

- a. *ḥasan b-je-ʔdar je-ftari sajja:ra w ʕumar je-staʔjer be:t*  
 Hasan asp-3ms.can 3ms-buy.IMP/PRT car and Omar 3ms-rent.IMP house  
 'Hasan can buy a car, and Omar rent a house.'
- b. *ḥasan ʔeder je-ftari sajja:ra w ʕumar je-staʔjer be:t*  
 Hasan can.3ms.PER 3ms-buy.IMP car and Omar 3ms-rent.IMP house  
 'Hasan could buy a car, and Omar rent a house.'

As I have shown in section 2.3, it is a case of simple gap (Toosarvandani, 2013). There is no overt modal in the second conjunct; hence there is no pseudogapping, but rather a gapping construction. The representation of (36b) is shown in (37).

37)



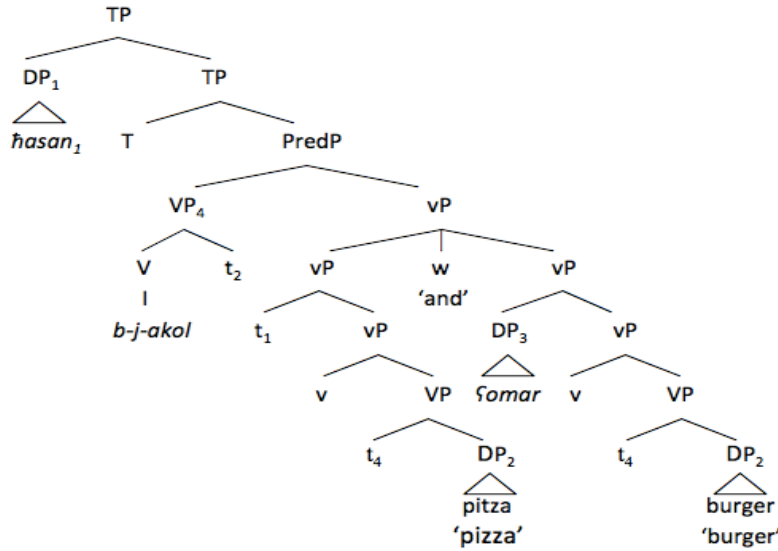
Obviously, one single T is shared between the two conjuncts with two distinct subjects, one in each coordinate clause. Following Siegel (1987) and what Toosarvandani (2015) assumed so that low-coordination applies, the subject of the first clause moves to Spec, TP, while the second subject of the second clause remains in Spec, VP. Assuming that A-movement must be constrained by

CSC, the first subject raises to Spec, T; and assuming that subjects receive case in the place where they originate, the second subject remains in Spec, VP of the second conjunct where it gets a default case.

In terms of the subject proposal to JA where the word order is SVO, Koopman and Sportiche (1991) and McCloskey (1996) argue that the subject could occupy at least two positions, one of which is the position where the thematic subject receives a thematic role from the predicate, which is within the VP shell. As shown in (37), the two subjects start in Spec, VP. The first subject occupies Spec, VP then it moves Spec, TP leaving a trace, which is one of the possible proposals for subject position in Arabic. Although the subject movement from Spec, VP to Spec, TP is optional (Aoun et al., 2010) in Arabic, it can still raise to Spec, TP and leave a trace. In addition, the assumption that subjects in low-coordination constructions receive case in the position where they originate also allows the second subject to remain in-situ.

After showing that gapping clearly involves low-coordination in JA; demonstrating that the second mechanism of ATB movement that JA requires, as well as arguing that the VP-ellipsis analysis is implausible in JA for independent reasons discussed in chapter 3, I offer the derivation of JA gapping examples in (38).

- 38) a. *hasan b-j-akol pizza, w ʕumar [ \_\_\_\_\_ ] burger*  
       Hasan Asp-3ms-eat.IMP pizza and Omar burger  
       ‘Hasan eats pizza, and Omar [eats] burger.’ (simultaneously)  
       b.



Apparently, there is low-coordination of two vPs under a single T, and the two objects; the correlate *pitza* and the remnant *burger* shift to the right to adjoin the VP and escape any process of the verb evacuation or deletion. This process makes the two VPs identical, and thus ATB move the two VPs.

In order for ATB movement to apply, the two VPs must be parallel and there must be a contrastive relationship in gapping constructions (Kuno, 1976; Sag, 1976; Kehler, 2002) among the remnants *fumar* ‘Omar’ and *burger* ‘burger’, on the one hand, and the elements in the first coordinate *hasan* ‘Hasan’ and *pitza* ‘pizza’ on the other hand, as schematized in (39). The remnants also bear a pitch accent (the new information) with the corresponding elements in the first coordinate, and thus each one can compensate for the other.

39) [[<sub>VP1</sub> [*hasan*]<sub>F</sub>    *b-j-akol*    [*pitza*]<sub>F</sub>],    w    [<sub>VP2</sub>    [*fumar*]<sub>F</sub>    \_\_\_\_\_    [*burger*]<sub>F</sub> ] ]

According to the ATB movement analysis of Johnson (2009), the two conjuncts must be identical in order to apply ATB movement of the two VPs. Therefore; identical VPs are achieved through the covert movement of *the object remnant in the first conjunct and its correlate*, NP shift to the right. Hence, they do not go missing when the VP raises to PredP from both conjuncts via

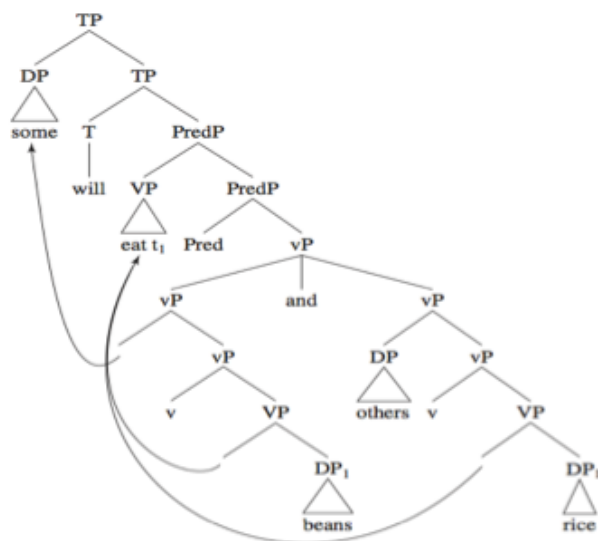
ATB fashion. Nevertheless, the Arabic perfective verb must raise to T; therefore, ATB movement is not the last mechanism to apply.

Based on our knowledge of past tense verb in Arabic, which forces V to T raising (Benmamoun, 2000), such cases where the verb is in the past tense or the perfective form as in (40), require an extra movement.

- 40) *ḥasan ftara sajja:ra, w ʕumar [ftara] be:t*  
 Hasan buy.3ms.PER car and Omar [buy.3ms.PER] house  
 'Hasan bought a car, and Omar a house.'

To recall, Johnson's analysis shows ATB movement of the two VPs to a projection that he calls PredP as in (41).

41)

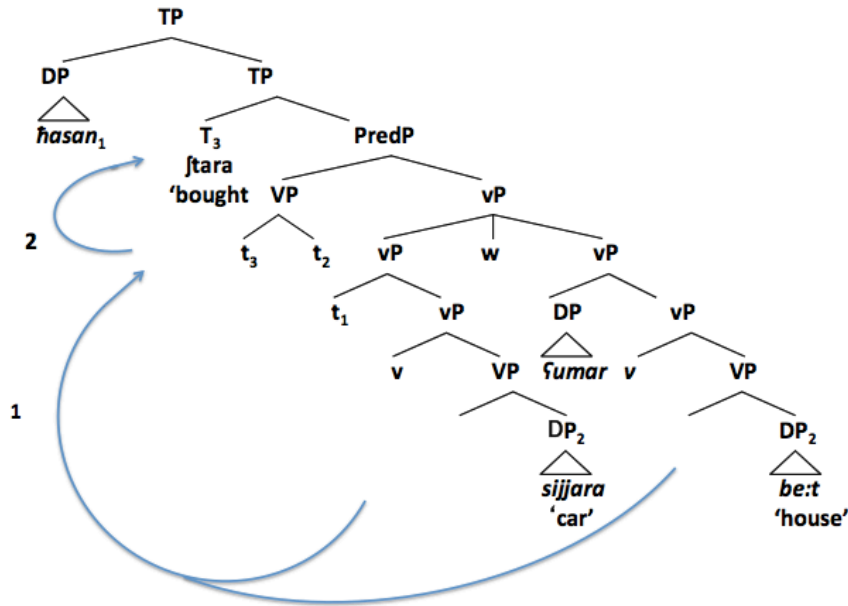


(Johnson, 2009, p. 307)

Therefore, I propose an extra movement in addition to Johnson's ATB movement of VP to PredP. Because the past tense in Arabic forces the verb to raise to T, I propose that the V head of the constituent in [Spec, PredP] raises to T, which would be an instance of head-movement out of a

derived specifier<sup>16</sup>, as shown in (42). This movement is labeled as movement number 2 which the final movement. I show ATB treatment of the counterexample of (38) with the extra movement of the perfective form in (42).

- 42) a. [<sub>TP</sub> *ḥasan*<sub>1</sub> T *ʃtara*<sub>3</sub> [<sub>PredP</sub> [<sub>VP</sub> *t*<sub>3</sub> *t*<sub>2</sub> ] .. [<sub>VP</sub> *t*<sub>1</sub> [<sub>VP</sub> *t*<sub>3</sub> *sijjara*<sub>2</sub>]] o [<sub>VP</sub> *ʕumar* [<sub>VP</sub> *t*<sub>3</sub> *t*<sub>2</sub>]] *be:t*<sub>2</sub>]]]  
 b.



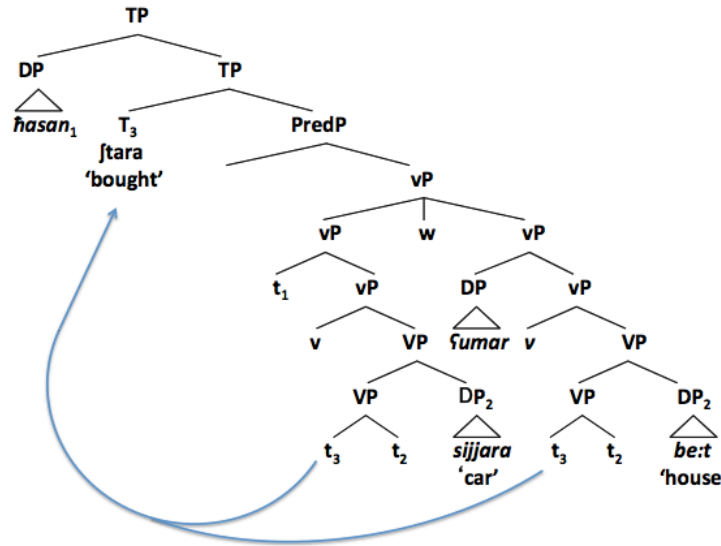
If the assumption of the grammaticality of moving the head V (movement 2) out of a derived specifier or a moved constituent is not possible, another possibility that can utilize ATB analysis in addition to taking care of the past tense requirement, shows double ATB movement.

In this second possible treatment in (43), the first movement involves ATB movement of the head V from the two conjunct VPs to T, and then the VPs in each conjunct, which are identical and structurally parallel including the traces, undergo another ATB movement to PredP. In this

<sup>16</sup> In this analysis, I assume that it is grammatical to move a head, V in this case, out of a moved constituent.

possibility, the ATB-moved V still c-commands its trace in each conjunct, as long as T is higher than PredP to which the VPs were ATB moved.

43)



The movement of the head V results in the right linear order that we need; however, when there is additional elided material more than just the verb, which is still occupied in the two identical VPs, ATB movement of the two VPs is necessary to PredP.

As for the wrong linearization of object control verb constructions with ATB fashion, this criticism extends to JA. I propose, adopting a suggestion made in Toosarvandani (2015) that in object control sentences, there is ATB-movement of the infinitival clause of the matrix verb to a position immediately higher than the conjunction, as well as movement of the subject of the first conjunct *Tom* in (33) repeated here in (44), to a position immediately higher than the infinitival clause. Finally, the verb *persuaded* ATB moves higher than both the subject and the infinitival clause to FP, as in (45), similar analysis applies to JA example in (45).

- 44) [TP I<sub>1</sub> have [FP [t<sub>3</sub> persuaded t<sub>4</sub> ]<sub>2</sub> [FP Tom]<sub>3</sub> [TP to write t<sub>5</sub> ]<sub>4</sub> ] [VP t<sub>1</sub> t<sub>2</sub> [DP a novel]<sub>5</sub>],  
and [VP t<sub>1</sub> t<sub>2</sub> [DP Bill]<sub>3</sub> [DP a short story]<sub>5</sub> ]].

45) [TP [FP [t<sub>3</sub> *laqnaʕat* t<sub>4</sub> ]<sub>2</sub> [FP *ḥasan*<sub>3</sub> ] [FP judros t<sub>5</sub> ]<sub>4</sub> ] [VP t<sub>4</sub> t<sub>2</sub> [DP *adab*]<sub>5</sub> ],  
w [VP t<sub>1</sub> [DP *ʕumar*]<sub>6</sub> t<sub>2</sub> [DP *tarzame*]<sub>5</sub> ]].

[TP [FP [t<sub>3</sub> persuaded t<sub>4</sub> ]<sub>2</sub> [FP *Hasan*<sub>3</sub> ] [FP to study<sub>5</sub> ]<sub>4</sub> ] [VP t<sub>4</sub> t<sub>2</sub> [DP literature]<sub>5</sub> ],  
and [VP t<sub>1</sub> [DP Omar]<sub>6</sub> t<sub>2</sub> [DP translation]<sub>5</sub> ]].

‘I persuaded Hasan to study literature, and Omar translation.’

For the Arabic perfective form to end in T, the VP has to raise via ATB movement outside the low-coordination at the first place (Johnson, 2009). The verb movement in Arabic serves as a tool for determining the best analysis for ellipsis in Arabic, and thus the final movement in (45) is to raise the verb *laqnaʕat* ‘persuaded’ to T since it is in the perfective form. As I mentioned earlier, I assumed that extracting a head out of a derived specifier is grammatical.

The second possibility, which I showed in this subsection, is schematized in (46) where double ATB movement applies, just in case it is not grammatical to extract the head V out of a moved constituent VP after it undergoes ATB analysis.

46) [TP [T [t<sub>3</sub> *laqnaʕat* ]<sub>2</sub> [FP *ḥasan*<sub>3</sub> ] [FP t<sub>2</sub> judros t<sub>5</sub> ]<sub>4</sub> ] [VP t<sub>4</sub> [DP *adab*]<sub>5</sub> ],  
w [VP t<sub>1</sub> [DP *ʕumar*]<sub>6</sub> [DP *tarzame*]<sub>5</sub> ]].

[TP [T [t<sub>3</sub> persuaded ]<sub>2</sub> [FP *Hasan*<sub>3</sub> ] [FP to study<sub>5</sub> ]<sub>4</sub> ] [VP t<sub>4</sub> t<sub>2</sub> [DP literature]<sub>5</sub> ],  
and [VP t<sub>1</sub> [DP Omar]<sub>6</sub> t<sub>2</sub> [DP translation]<sub>5</sub> ]].

‘I persuaded Hasan to study literature, and Omar translation.’

#### 4.5.2 The semantics of gapping

Johnson (2009) also suggested that his analysis requires identical remnants and correlates; however, I also assume Rooth’s (1985, 1992) assumption of alternative semantics for *focus*, which is stated as, “for vPs  $\alpha$  and  $\beta$ , if  $\alpha$  and  $\beta$  are coordinated,  $\llbracket \alpha \rrbracket \in \text{ALI}(\beta)$ , and  $\llbracket \beta \rrbracket \in \text{ALI}(\alpha)$ .”

Linguistic expressions of the same type are alternatives; that is to say that the set of alternatives of any linguistic expression is the set of ordinary meanings derived by substituting focus-marked constituents, such as those in (39) in the first conjunct, with every expression of the same type in the second conjunct. On the other hand, the non-focused material must have the same semantic type that is they must be semantically identical in order to also alternate or substitute each other.

The alternative sets of the two coordinates must be the same since they bear the same focus and type, and the nonfocused material is also the same because they are semantically identical. Examining the semantic entry of  $vP_1$  and  $vP_2$ , it is apparent that they are identical as shown in (47).

47)  $\llbracket \alpha \rrbracket \in ALT(\beta)$ , and  $\llbracket \beta \rrbracket \in ALI(\alpha)$

$\llbracket vP_1 \rrbracket = b-j-akol(pitza)(\acute{h}asan) \in ALT(vP_2) = \{ b-j-akol(x)(y) \mid x,y \in De \}$

$\llbracket vP_2 \rrbracket = b-j-akol(burger)(\acute{f}umar) \in ALT(vP_1) = \{ b-j-akol(x)(y) \mid x,y \in De \}$

As a result, the semantic value of  $ALT \llbracket vP_1 \rrbracket$  is the same as the semantic value of  $ALT \llbracket vP_2 \rrbracket$ . This contrast explains the second property of gapping that does not allow the first conjunct to embed, inasmuch as the first conjunct needs to be parallel with the second conjunct. In other words, the first conjunct cannot be embedded alone, because then the two conjuncts won't be parallel and won't satisfy the alternatives analysis. Additionally, the alternatives *hasan* and *fumar*, which are contrast pairs, bear a pitch accent, while non-contrasting elements must be elided. In the second conjunct, the remnants *fumar* and *burger* both have pitch accent or focus. Hartman (2000) proposed that gapping is determined by condition operation at the interface of syntax and prosody, in which the gapping process itself is a result of phonological deletion.

To conclude, I have provided a syntactic analysis that explains the properties of gapping constructions in JA. I have argued for a low-coordination analysis for gapping in JA in addition to



ATB movement that creates the gap, and I have proposed V to T movement of V out of a derived specifier. I have also adopted Toosarvandani's (2015) suggestion, based on Johnson (2009), for object control verbs.

# Chapter Five

## Sluicing in JA

### 5.0 Introduction

The term “sluicing” refers to a phenomenon that involves deletion in the constituent question from which the wh-phrase remains as remnant (Merchant, 2003) for a preceding discourse or antecedent, such as the data in (1) from English.

- 1)
- a. Jack bought something, but I do not know what.
  - b. Jack called, but I do not know {when/how/why/where from}. (Merchant, 2003, p.1)

The interpretation of the examples in (1), are as follows in (2):

- 2)
- a. Jack bought something, but I do not know what [~~Jack bought~~].
  - b. Jack called, but I do not know {when/how/why/where from} [~~Jack called~~]. (Merchant, 2003, p.1)

Chung et al (1995) have distinguished between two types of sluicing, one involves an interrogative phrase as a remnant with an overt correlate in the antecedent clause called *merger* as in (2a); while the other type leaves an interrogative phrase of a constituent question as a remnant without an over correlate called *sprouting* as in (2b).

It is also crucial to distinguish between two types of constructions where there is deletion in the constituent question, which are sluicing and pseudosluicing. The former is an elliptical wh-construction formed by wh-fronting type as in (1); while the latter is the elliptical wh-construction formed by wh-clefts (Merchant, 2001), as in (3)<sup>17</sup> where the pseudo-sluice arises from pro-drop of the subject *it* and the copula *was*, unlike wh-cleft which arises from TP-ellipsis.

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<sup>17</sup> The example in (3) is not a plausible analysis for English, but rather a schematic demonstration of a pseudosluicing derivation.

- 3) John bought something, but I don't know what [~~it was~~].

Sluicing was also classified into three types across languages; 1) the wh-phrase corresponds to an overt correlate 'merger', 2) the displaced wh-phrase is an adjunct that corresponds to nothing in the antecedent clause, and 3) the wh-phrase corresponds to an implicit argument licensed by argument structures, as in the following three examples respectively in (4)<sup>18</sup>.

- 4)
- a. Mary saw someone, but I do not know who.
  - b. John's writing, but I cannot imagine where/why/ to whom.
  - c. John is reading, but I cannot imagine what.

Another construction in which the cleft subject and copula are dropped results is a case similar to sluice, which Merchant coined as pseudosluicing<sup>19</sup>. The first use of pseudosluicing was meant for sluicing-like-constructions, which do not involve a surface anaphoric (Hankamer and Sag, 1976) PF-deletion process through which TP is deleted in a constituent question. For instance, in (5), Japanese involve non-elliptical cleft question looks like sluice when the subject and the copula are dropped for independent reason, since it is null subject language.

- 5) *Dareka-ga sono hon-o yon-da ga, watashi-wa dare data ka wakaranai.*  
someone-NOM that book-ACC read-past but, I-top who was Q know.not  
'Someone read that book, but I don't know who it was.'

Since these cases are not the genuine sluicing, but rather sluicing-like-constructions, Merchant (1998) referred to them 'pseudosluicing'. Yet Merchant (1998) proposed that (5) is derived by the independent availability of a null copular subject and copular verb. Yet the copula *data* 'was' from Japanese may optionally be overt. Therefore, Merchant (1998) supported the fact that Japanese sluice is derived by the independent availability of a null copular subject and copular verb, and not PF deletion of TP. This case is not a genuine ellipsis as the null subject and null

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<sup>18</sup> (4) are referred to the so-called 'sprouting' case where the wh-phrase does not have an explicit correlate in the antecedent.

<sup>19</sup> the use of "pseudosluicing" encompasses wh-cleft copular source, with the copula remaining outside the domain in which ellipsis takes place.

copula in null subject and null copula languages, are not surface anaphoric processes and not constituent deletions. Thus, the missing material in the sluice is not due to TP-deletion.

(Pseudo)-sluicing in Arabic is contentious inasmuch as there are very few studies that have been done on sluicing in Arabic, such as sluicing in LA by Algryani (2010), and sluicing in EA by Leung (2014).

I will investigate JA (pseudo)-sluicing answering the following questions: i) does JA exhibit sluicing and/or pseudosluicing constructions? ii) what is the underlying source of (pseudo)-sluicing in JA? iii) does JA violate PSG at all? iv) what is the semantic interpretation and the semantic entailment of the antecedent and the target?

In order to answer these questions, I will investigate the following empirical data shown in (6) - (12), which will draw the facts and the properties of JA (pseudo)-sluicing

(Chapter 1, =15)

- 6) a. *ḥasan ftara ʔiʃi:ᵢ bas ma b-a-ʃraf fu:*  
 Hasan buy.3ms.PER something.ms, but not Asp-1s-know.IMP what  
 ‘Hasan bought something, but I do not know what.’  
 b. *ḥasan ftara ʔiʃi:ᵢ bas ma b-a-ʃraf fu: huweᵢ*  
 Hasan buy.3ms.PER something.ms, but not Asp-1s-know.IMP what it.1ms.COP  
 ‘Hasan bought something, but I do not know what (it is).’
- 7) a. *ḥasan ʃa:f wa:ḥadeᵢ bas ma b-a-ʃraf mi:n*  
 Hasan see.3ms.PER someone.fs, but not Asp-1s-know.IMP who  
 ‘Hasan saw someone, but I do not know who.’  
 b. *ḥasan ʃa:f wa:ḥadeᵢ bas ma b-a-ʃraf mi:n hijjeᵢ*  
 Hasan see.3ms.PER someone.fs, but not Asp-1s-know.IMP who she.COP  
 ‘Hasan saw someone, but I do not know who (he is).’
- 8) *ʕumar iʔasal, bas ma b-a-ʃraf {ʔemta/ ki:f/ le:f/ we:n}*  
 Omar call.3ms.PER, but not Asp-1s-know.IMP {when/how/ why/where}  
 ‘Omar called, but I do not know {when, how, why, where}.’
- 9) a. *ḥasan ftara sajja:ra bas ma b-a-ʃraf ʔaj no:ʕ*  
 Hasan buy.3ms.IMP car, but not Asp-1s-know.IMP which kind  
 ‘Hasan went to buy a car, but I do not know what/which brand that he will buy.’  
 b. *ʕumar fa:t ʔaj ʔaj ʕa:mʕa bi-ʔamri:ka, bas ma b-a-ʃraf*  
*ʔaj ʕa:mʕa*

Omar join.3ms.PER to-the-university in-America, but not Asp-1s-know.IMP  
 which university  
 ‘Omar joined a university in America, but I do not know which university.’

- 10) a. *ʕumar riʒeʃ, bas ma b-a-ʕraf min we:n / we:n*  
 Omar return.3ms.PER, but not Asp-1s-know.IMP from where/ where  
 ‘Omar came back but I do not know from where/with who.’  
 b. *ʕumar riʒeʃ ji-lʕab b-l-ʒem, bas ma b-a-ʕraf*  
*min ʔemta/ ʔemta*  
 Omar return.3ms.PER 3ms-play.IMP in-the-gym but not Asp-1s-know.IMP  
 since when/ when  
 ‘Omar went back to the gym, but I don’t know since when/when.’
- 11) *ʕasan ʕaka maʕ waʕad, bas ma b-a-tzakkar mi:n*  
 Hasan talk.3ms.PER with someone but not Asp-1s-remember who  
 ‘Hasan talked with someone, but I do not know who.’
- 12) *ʕumar ʕaka maʕ waʕad, bas ma b-a-tzakkar maʕ mi:n*  
 Omar talk.3ms. PER with someone but not Asp-1s-remember with who  
 ‘Omar talked with someone, but I do not remember with who.’

As illustrated in the JA data from (6) to (12) there are wh-phrases in JA that are similar to those in English used to form wh-question and sluicing, such as *ʕu:* ‘what’, *ʔemta* ‘when’, *ki:f* ‘how’, *le:f* ‘why’, *wə:n* ‘where’, and *ʔaj* ‘which’. Moreover, JA constructions in (6) – (12) are similar to English sluicing constructions inasmuch as they exhibit wh-remnant outside the ellipsis site or the target, albeit the wh-question formation in both languages differs.

First, I would like to point out some of the terminologies that have been conventionally used in the literature of ellipsis in general and sluicing in particular to refer to sluicing constructions. The wh-interrogatives in (4), and their equivalent Arabic interrogative words in the JA data from (6) to (12) are referred to as the *remnant(s)*. In Arabic, the question words that can be remnants are *ʕu:* ‘what’, *ʔemta* ‘when’, *ki:f* ‘how’, *le:f* ‘why’, *we:n* ‘where’, *mi:n* ‘who’, *min wə:n* ‘from where’, and *maʕ mi:n* ‘with who’. Following Toosarvandani (2015), the *target* is the part of constituent question that gets deleted. Both the remnant and the target make the so-called the *sluice*. The target must be semantically or syntactically identical to the antecedent clause, which contains the

correlate. The correlate is another term that is used conventionally to refer to the constituent in the antecedent that corresponds to the remnant (the wh-interrogative). Also, the sluice could have an overt correlate like *someone* (4a) or there could be covert correlate (4b) in which the remnant does not refer back to an overt constituent in the antecedent.

The chapter is organized as follows; in section 5.1, I will give a brief background about the two distinct approaches to (pseudo)-sluicing and show which one I am adopting. In the next section 5.2, I will discuss the issue of sluicing and the role of PSG (Merchant, 2001) in sluicing. In 5.3, I will look at the literature of sluicing in order to establish the facts of (pseudo)-sluicing for JA. To answer question 1 of this chapter, I demonstrate that JA exhibits sluicing and pseudosluicing based on the underlying source of the wh-fronting (wh-sluice) or wh-cleft (wh-pseudosluice) that answers question 2 in section 5.4. Then, I will show the context in which the copula is droppable as well as the constraints on the complementizer *illi* ‘that’ and the resumptive pronominal item. I will then show that PSG is not violated, but rather salvaged by the resumption strategy in section 5.4 to answer question 3 of this chapter.

### **5.1 Background: Two Distinct Approaches to Sluicing**

There are different angles from which syntacticians have studied sluicing. Some have investigated sluicing from the nonstructural approach; there is no syntactic structure in the ellipsis site, which means there are no materials to be pronounced (Ginzburg and Sag, 2000; Culicover and Jackendoff, 2005), in which there is meaning without form. They have suggested that a clausal node immediately dominates the wh-phrase. The second approach assumes a syntactic structure in the ellipsis site, that only derivational and transformational approach can determine, which I will assume for a number of reasons shown below in subsection 5.1.1, but I will not investigate more details of the second approach because it is beyond the purpose of this paper.

There are a number of factors that play a role between the elided clause and its antecedent in both analyses, movement (second approach, PF-deletion) vs. non-movement analysis (first approach, LF-copying). Those factors include connectivity effects such as case matching, PSG, among others which establish the properties of the wh-sluiice. I will test case matching/mismatching, P-stranding, and binding phenomena (Merchant, 2003) towards JA in the next subsection.

Sato (2011) used multiple tests<sup>20</sup> from Merchant (2011) and Fortin (2007) in order to diagnose sluicing in Indonesian, yet he discusses examples from the given language to show that these tests are not applicable to Indonesian. Consequently, Sato (2011) proposed novel tests or observations that support his argument that the derivational source of P-less<sup>21</sup> sluices cannot be a cleft.

### 5.1.1 PF-deletion vs. LF-copying.

Assuming the structural analysis for the ellipsis site of sluicing, there are two leading analyses that have been proposed for ellipsis, which are PF-deletion (movement approach) supported by Tancredi (1992), Chomsky and Lasnik (1993), Fox (2000), Johnson (2001), Merchant (2002a, 2003), and LF-copying (non-movement approach) advocated by Hardt (1992, 1993), Lobeck (1995), Zagana (1988b), and Chao (1987). As for the former, the ellipsis construction is base generated with a full syntactic structure in which a non-pronunciation process happens at PF. On the other hand, the LF-copying approach proposes that the ellipsis construction is base generated or interpreted without syntactic content inside the ellipsis site in which the structure gets interpreted at LF. In this research, I argue in favor of PF-deletion over LF-copying for JA as I show

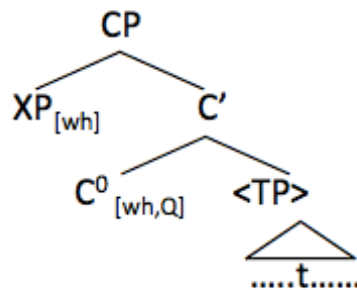
<sup>20</sup> The tests are mention-some modification, mention-all modification, else-modification, prosody and others (see Sato (2011) for details).

<sup>21</sup> P-less sluice is a term that Sato (2011) used to refer to examples in Indonesian that allow p-stranding as in (i).  
 (i) Saya ingat Ali berdansa dengan seseorang, tapi saya tidak tahu (dengan) siapa.  
     I remember Ali dance with someone but I NEG know with who  
     'I remember Ali danced with someone, but I do not know (with) whom.'  
     (Sato 2011:343)

a piece of evidence from JA that sluicing has a full syntactic structure that gets deleted later at PF.

PF-deletion approach for sluicing was first proposed by Ross (1969) and illustrates that sluicing involves some movement of the wh-phrase out of the sentential constituent, such as S, IP, or TP, and then a deletion of that node applies at PF, as schematized in (13).

13)



An example to illustrate this derivation is in (14).

- 14) John bought something, but I don't know [<sub>CP</sub> what<sub>i</sub> C<sup>0</sup> <[TP he bought t<sub>1</sub>]>].  
 (Merchant, 2003, p. 2)

On the contrary, LF-copying consists of a designated null category from the lexicon that is replaced after SS or Spell-Out by copying the semantics from the antecedent at LF (Lobeck, 1995; Chung et al., 1995), as in (15).

- 15) a. At Spell-Out  
 Jack bought something, but I don't know [<sub>CP</sub> what C<sup>0</sup> [<sub>TP</sub> e]]  
 b. At LF  
 Jack bought something, but I don't know [<sub>CP</sub> what C<sup>0</sup> [<sub>TP</sub> Jack bought something]].  
 (Merchant, 2003, p. 5)

That is to say that at Spell-out, there is ellipsis under TP replaced by the remnants at LF. In other words, there is no movement involved in which wh-remnant is base-generated in Spec, CP and it binds a variable only at LF. Ross (1969) observed that this non-movement approach is motivated by the fact that sluicing is insensitive to islands. Merchant (2003) suggested an



explanation that relies on the wh-phrase in sluicing and its corresponding variable. Namely, the wh-phrase in sluicing can correspond to a variable, which in turn corresponds in a position to a correlate internal to an island, e.g. relative clause island or Comp-trace effects, in the antecedent (Ross, 1969).

In order to adopt LF-copying or PF-deletion for JA, a deep background on each must be discussed thoroughly by testing the factors that support one -approach, on JA data from (6) to (12) in the previous section.

### 5.1.2 Evidence of PF-deletion in JA sluicing

This subsection touches upon the properties of the sluicing constructions in JA. Multiple properties argue in favor of a full internal syntactic structure in JA, such case, PSG, and binding phenomenon. Starting with case matching, if coindexing proposed by Chung et al. (1995) influences case matching, then connectivity effect can be considered as in German in example (16).

- 16) a. Er will jemandem schmeicheln, aber sie wissen nicht, wem  
       he wants someone.DAT flatter but they know not who.DAT  
       ‘He wants to flatter someone, but they do not know who.’  
       b. \*Er will jemandem schmeicheln, aber sie wissen nicht wen  
       he wants someone.DAT flatter but they know not who.ACC  
       ‘He wants to flatter someone, but they do not know who.’  
       c. \*Er will jemandem schmeicheln, aber sie wissen nicht, wer  
       he wants someone.DAT flatter but they know not who.NOM  
       ‘He wants to flatter someone, but they do not know who.’  
       d. Er will jemanden loben, aber sie wissen nicht, wen  
       he wants someone.ACC praise but they know not who.ACC  
       ‘He wants to praise someone, but they do not know who.’

Apparently, there is case matching between the wh-slucose and its correlate in (16a), which Ginzberg and Sag (2000) refers to as *uniformity constraint* that ensures matching the case and the phi-features of the remnants with those of its correlate *jemanden* ‘someone’. Nonetheless, there is

case mismatch in (16b and c) and in the non-elliptical construction in (17) that corresponds to (16a), where case matching is clear.

- 17) Sie wissen nicht, { \*wer / \*wen / wem } er schmeicheln will  
 they know not who.NOM who.ACC who.DAT he flatter wants  
 ‘They don’t know who he wants to flatter.’

Chung et al. (1995) suggested that there must be some coindexing at LF between the wh-phrase in Spec, CP and its copied correlate in TP in which both have the same case and phi-features. Nevertheless, unlike SA, JA and other Arabic dialects are not morphologically case-marking languages; hence, the generalization of case matching between the sluice and its correlate is not applicable to JA because there is no marker to indicate what case it holds, so the sluiced wh-phrase gets the same form whatever the syntactic position it occupies. Therefore, Merchant’s (2001) identity-form generalization I, which states that the sluice wh-phrase must bear the case that its correlate bears, does not apply.

JA is a non-p-stranding language as shown in (18a) in which the preposition cannot be stranded in regular wh-questions, and so it is expected that the wh-sluice does not allow p-stranding according to PSG. Considering the data in (18), it is tempting to argue that JA is another language that shows PSG violation at PF since it is a non-preposition stranding language (18b), yet p-stranding in wh-sluice in (18a) is allowed.

- 18) a. *ʕumar ʔaka maʕ hada, bas ma b-a-ʕraf mi:n*  
       [ ~~*ʕumar ʔaka maʕ*~~ ]  
       Omar talk.3ms.PER with someone, but not Asp-1s-know.IMP who  
       [ ~~Omar talk.3ms.PER~~ ]  
   b. \**meen ʔaka ʕumar maʕ*  
       who talk.3ms.PER Omar with  
       ‘who did Omar talk with?’

Sato (2011) proposed that p-stranding in Indonesian contradicts Merchant’s (2001) generalization and that PSG violation can be solved under sluicing and so it is interpreted at PF. Similarly, it is very appealing to propose that JA does not confirm the identity-form generalization

II (PSG) of Merchant (2001, p. 92); that states, “a language L will allow preposition stranding under sluicing iff L allows preposition stranding under regular wh-movement”, as shown in (18). However, I will argue that JA does not violate PSG, which I will illustrate this later on in section 5.4.3.

Another property for JA, it is also predictable that sluicing can repair P-stranding in JA in which-NPs, *aj ʔusta:z* ‘which teacher’. Example (19) is grammatical with the absence (19a) or presence (19b) of the preposition *maʕ* ‘with’.

- 19) a. *hasan ʃtayaʎ maʕ daktor, bas ma b-a-ʃraf ʔaj daktor*  
 Hasan work.3ms.PER with professor, but not Asp-1s-know.IMP which professor  
 ‘Hasan worked with a professor, but I do not know which professor.’
- b. *hasan ʃtayaʎ maʕ daktor, bas ma b-a-ʃraf maʕ ʔaj daktor*  
 Hasan work.3ms.PER with professor, but not Asp-1s-know.IMP with which professor  
 Hasan worked with a professor, but I do not know with which professor.

(19) shows that sluicing is possible in which *ʔaj-NP* ‘which-NP’ can be a remnant when its correlate is an entire prepositional phrase, and the optionality of the correlate along with *ʔaj-NP* ‘which-NP’ as a remnant with the existence or absence of the preposition, are not predicted by PSG.

In other words, the grammaticality of the preposition absence in (19) shows that which-NP is a result of wh-cleft, which leaves a preposition in-situ, followed by IP-deletion at PF under which the preposition was elided. It is the case because the cleft source is plausible with wh—NPs as I have shown above in example (38) in chapter 3 repeated here for convenience in (20).

- 20) *ʔaj za:mʕa hijje illi daras-t lɪŋwɪstɪks \*(ʃi-ha)*  
 which university 3ms.she.COP that study-2ms.PER linguistics in-it  
 ‘which university that you studied linguistics at?’

In addition, the antecedent can bind elements in wh-phrase remnants (Lasnik, 2001) as illustrated in (21).

- 21) Every linguist<sub>1</sub> criticized some of his<sub>1</sub> work, but I'm not sure how much of his<sub>1</sub> work,  
 <every linguist<sub>1</sub> criticized *t*>.

In the same token, JA shows that the antecedent can bind an element in the wh-phrase remnant as in (22).

- 22) *kul* *ʔusta:z<sub>1</sub>* *b-i-sa:ʕed* *t<sup>ʕ</sup>ulab-o<sub>1</sub>* *bas ma b-a-ʕraf* *ʔakammen*  
*t<sup>ʕ</sup>alb* *men* *t<sup>ʕ</sup>ulab-o<sub>1</sub>* [*kul* *ʔusta:z<sub>1</sub>* *b-i-sa:ʕed* ]  
 every teacher Asp-3ms-help.IMP students-his, but not Asp-1s-know.IMP how-many  
 student from students-his [every teacher Asp-3ms-help]  
 'Every teacher helps his students, but I do not know how many of his students < every  
 teacher helps.>

En masse, JA does not have overt case markings and so the case feature does not apply, which means case cannot be accounted for as a piece of evidence for an argument in JA; JA lacks p-stranding, yet it shows a preposition stranding in the target; and finally the subject in the antecedent can bind elements in the wh-phrase in JA. Accordingly, those two traits in JA show that this language has a full syntactic structure then deletion applies at PF. I will investigate these three properties with more JA data in the future because they are beyond the work of this paper.

#### 5.1.2.1 The Syntax of Sluicing as a PF phenomenon

Ross (1969) has proposed that sluicing is derived by IP-deletion from underlying wh-construction at the level of PF, and Merchant (2001) proposed that sluicing is derived by IP-deletion as well; however, he proposed that the sluice with a preposition stranding, captures the parallelism between sluicing and wh-questions, as in (23).

- 23) a. Jack bought something, but I do not know [<sub>CP</sub> what<sub>i</sub> [<sub>IP</sub> ~~Jack bought *t<sub>i</sub>*~~ ]]  
 b. Jack talked to someone, but I do not know [<sub>CP</sub> who<sub>i</sub> [<sub>IP</sub> ~~Jack talked to *t<sub>i</sub>*~~ ]]

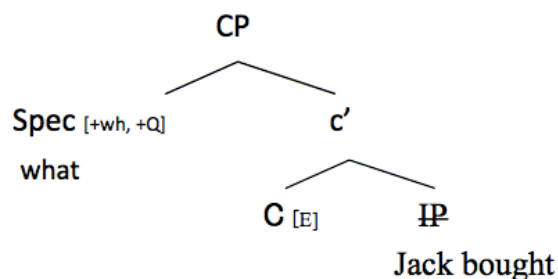
Under Merchant (2001) analysis, the ellipsis occurs in the syntactic derivation either at the narrow syntax, PF, or LF in which some elements delete with the intervention of a feature (E-feature) proposed by Merchant (2001) on some head that selects some XP that gets elided. For

instance, sluicing occurs as the wh-word moves high to COMP domain (Merchant, 2001) where COMP is dominated by a CP but selects IP. This structure is accompanied by E feature on the head COMP that causes IP to elide creating the sluice.

Another possible syntactic analysis is the focus movement proposed by Toosarvandani (2008) to Farsi, a wh in-situ language. Yet another possible analysis is the cleft construction to Uzbek (Gribanova, 2013).

Accordingly, some assumptions must be made in order to create the sluice. First, the elided constituent licensed by the E feature, must be on an overt inflectional head (Zagona, 1988; Chao, 1987; Lobeck, 1992), C head in this case in the COMP domain, which happens at Spell-Out. Also, the null IP must be selected by a head C that is specified for [+wh] and [+Q] and coindexed with a lexical wh-phrase in Spec, CP. The feature on the head C [+wh, +Q] distinguishes sluicing constructions from relative clauses and ensures that sluicing is limited to a construction similar to constituent questions or wh-question. Merchant (2001) assumes that [E] involves syntactic features that include an uninterpretable [wh-] feature and an uninterpretable [Q]-feature. In this case, [E] needs to check those features in local configuration of head-to-head configuration. This represents the syntactic requirement of sluicing, which means sluicing is restricted to wh-questions because [E] and wh-phrase has the same features [+wh] and [+Q]. This means that IP elides and in the next sub-section I show that deletion of IP happens at PF. Then, the identity of the null elements and the antecedent happen at LF when the [E] feature applies to an inflectional head C at PF creating a null IP. Therefore, an example like (23) shows the wh-word *what* raises to Spec, CP and the E-feature on C causes the IP *Jack bought* to elide under the semantic identity of its antecedent, which interpret the meaning at LF, as schematized in (24).

24)



(Adapted from Merchant, 2001)

### 5.1.2.2 Sluicing structure in JA

In LA, Algryani (2010) proposed that sluicing, like pseudosluicing is derived by wh-movement followed by IP-deletion at PF as in (25);

- 25) *Ali te-kellem mša wahed lakin...*  
 Ali talked.3MS with someone but

*ma-našraf-š* [CP *man<sub>i</sub>* [<sub>TP</sub> *t<sub>i</sub>* (*hu*) [DP *illi* [<sub>TP</sub> *Ali tekællem mša-ah*]]]].  
 NEG-know.1S-NEG who (PRON.he) that Ali talked.3MS with-him

(Algryani, 2010, p. 18)

Moreover, sluicing in JA is not derived by truncated cleft and the piece of evidence is an example in (26) in which wh-adjunct is not allowed. Also, the object of *it<sup>š</sup>asal* ‘call’ is not overtly expressed in the antecedent so the second clause is ungrammatical.

- 26) *šumar it<sup>š</sup>asal, bas ma b-a-šraf {ʔemta/ ki:f/ le:f} (\*ka:n)*  
 Omar call.3ms.PER, but not Asp-1s-know.IMP {when, how, why} it was  
 ‘Omar called, but I do not know {when, how, why, from where} it was.’

The use of wh-slucose and wh-pseudoslucose shows two types of wh-constructions in JA which are wh-fronting and wh-cleft respectively. With regard to the syntax, I assume that JA sluicing is a PF-deletion phenomenon.

After determining the properties of JA data of (pseudo)-sluicing, I will argue that preposition stranding and variable binding in the elided clauses prove that sluicing in JA is a PF phenomenon. Consequently, I adopt the syntactic analysis from Merchant (2001) that proposes that

(pseudo)-sluicing clauses involve wh-movement followed by IP-deletion with the intervention of a feature (E-feature) proposed on some head that selects some XP that gets elided.

In JA, the head that hosts E-feature is C, which triggers the complement of C to elide. In the case of sluicing where the remnant is only the wh-word, the E-feature on C elides the complement of C, which is the IP in this case. When the complement of the copular pronoun elides, the copular pronoun ends on some head where E-feature resides and causes its complement XP to elide.

## 5.2 The issue of sluicing

Ross (1969) has proposed that sluicing is derived by IP-deletion from underlying wh-construction at the level of PF, and Merchant (2001) proposed that sluicing is derived by IP-deletion as well; however, he proposed that the sluice with a preposition stranding captures the parallelism between sluicing and wh-questions. It is apparent that in (27a) the preposition is pied-piped with the remnant wh-interrogative, while in (27b), the wh-interrogative remnant raises out of the target stranding a preposition behind.

- 27) a. Jack talked to someone, but I do not know [<sub>CP</sub> to whom [<sub>IP</sub> ~~Jack talked to t<sub>i</sub>~~]]  
 b. Jack talked to someone, but I do not know [<sub>CP</sub> who<sub>i</sub> [<sub>IP</sub> ~~Jack talked to t<sub>i</sub>~~]]

The elided clause must have an antecedent that is identical, which is referred to as the syntactic isomorphism; it is a condition on sluicing in which the elide IP must be identical to the antecedent IP. However, some elided clauses are licensed with an implicit correlate, which entails that syntactic isomorphism is not necessarily sufficient. Consequently, a basic licensing condition on sluicing that has been proposed (Merchant, 2001) is semantic isomorphism, in which the elided phrase and the antecedent phrase semantically entail each other, mutual entailment.<sup>22</sup>

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<sup>22</sup> Detailed background on sluicing and its licensing condition are in chapter 2 of this work, also see Merchant (2001).

Moreover, Merchant (2001, 2004) argues that sluicing has a formal feature (E)<sup>23</sup> on Spec,CP where wh-phrase moves and so it licenses the deletion of the complement of Spec,CP, as schematized in example (53) in chapter two about sluicing. I will touch upon the semantic condition on sluicing later in this chapter in order to interpret the semantics of the relationship between the antecedent and the elided clause which tackles question 4 in this chapter.

In order to investigate JA sluicing data, it is important to determine whether JA sluicing satisfies or falsifies PSG that captures the parallelism between sluicing and wh-questions (Merchant, 2001). As I mentioned previously, the generalization states that if a language allows preposition stranding in sluicing constructions, then it must allow preposition stranding under regular wh-movement as in (28).

#### 28) Preposition Stranding Generalization

A Language *L* will allow preposition stranding under sluicing iff *L* allows preposition stranding under regular wh-movement. (Merchant, 2001, p. 92)

JA is a non preposition-stranding language as shown in (18) repeated in (29) in which the preposition cannot be stranded in regular wh-questions, and so it is expected that the wh-sluice does not allow p-stranding according to PSG, yet p-stranding under sluicing is allowed as in (29a). Considering the data in (29), it is very tempting to argue that JA is another language that shows PSG violation at PF like Serbo-Croatian as shown in footnote 4 in chapter 2.<sup>24</sup>

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<sup>23</sup> Merchant (2001) assumes that [E] involves syntactic features that include an uninterpretable [wh-] feature and an uninterpretable [Q]-feature. In this case, [E] needs to check those features in local configuration, head-to-head configuration. This represents the syntactic requirement of sluicing, which means sluicing is restricted to wh-questions because [E] and wh-phrase has the same features [+wh] and [+Q]. Accordingly, this is how Merchant (2001) ensures that sluicing is restricted to wh-question. Technically, wh-question moves to the left-periphery to check its features [+wh], [+Q], as well as the feature checking of [E] which adjoin to CP head, and licensing sluicing that elides the head complement. This analysis applies to languages like English in which the wh-phrases raise high to Spec, CP.

<sup>24</sup> Serbo-Croatian is another language that falsifies PSG, and thus it is obvious that in (i) and (ii), unlike English, Serbo-Croatian does not allow preposition stranding, unlike English.



- 29) a. *ʕumar ʔaka maʕ ʔada, bas ma b-a-ʕraf mi:n*  
       [ ~~*ʕumar ʔaka maʕ*~~ ]  
       Omar talk.3ms.PER with someone, but not Asp-1s-know.IMP who  
       [ ~~Omar talk.3ms.PER with~~ ]  
       ‘Omar talked to someone, but I do not know who [Omar talked with].’  
   b. *\*meen ʔaka ʕumar maʕ*  
       who talk.3ms.PER Omar with  
       ‘who did Omar talk with?’

P-stranding is also not available in embedded wh-questions as in (30a), while the pied-piped example in (30b) is acceptable.

- 30) a. *\*ma smiʕə-t mi:n ʔaka maʕ*  
       not hear-1s.PER who talk-3ms.PER with  
       ‘I did not hear who he talked to.’  
   b. *ma smiʕə-t maʕ mi:n ʔaka*  
       not hear-1s.PER with who talk-3ms.PER  
       ‘I did not hear to whom you talked.’

It is very appealing to propose that JA does not confirm the identity-form generalization II (PSG) of Merchant (2001, p. 92). However, this is not enough to conclude that JA violates PSG without examining the syntactic source of the possibility of the preposition absence in (29a), which I will touch upon in details later in this section.

To investigate JA data, it is important to diagnose the underlying source or the target of the sluice in order to categorize them as sluicing or pseudosluicing cases, and to determine whether JA sluicing satisfies or falsifies PSG. We cannot predict that JA falsifies PSG by looking at such data independently. In order to answer this question, we need to look at the source of the sluice, the behavior of prepositions in JA in addition to the facts and the properties of JA to check what they can contribute to the analysis.

- 
- Continue 24...
- i. Sa kim je Ana govorila? (Stjepanović 2008:180)  
     with whom.INST is Ana spoken  
     ‘Who did Ana speak with?’
- ii. \*Kim je govorila Ana sa?  
       whom.INST is spoken Ana with

### 5.3 Sluicing and Pseudosluicing in Arabic

In this section, different analyses for sluicing/pseudosluicing in Arabic dialects that have been studied so far will be reviewed. EA (Leung, 2014) and LA (Algryani, 2013) are the only two Arabic dialects in which sluicing has been analyzed, to the best of my knowledge.

Leung (2014) looked at EA to argue that there are cases in Arabic that falsify the PSG of Merchant (2001). He is not the first to show that some languages falsify PSG, but rather others like Stjepanović (2008) and Rodrigues, Nevins, and Vicente (2009) have argued that Serbo-Croatian and French respectively falsify PSG as well. They have shown some cases in both languages in which P-stranding is banned in *wh*-questions, yet sluicing is possible when the underlying structure contains a stranded preposition, as shown in chapter 2 in footnote 2 above.

Leung (2014) also argued that EA ostensibly seems to have some cases that PSG does not account for since Arabic possesses two types of *wh*-questions: *wh*-fronting, which involves movement; and *wh*-clefts which do not involve movement. Therefore, Leung (2014) argues that EA allows both sluicing (*wh*-fronting) and pseudosluicing (*wh*-cleft), and that EA falsifies PSG as in (31a) albeit it exhibits sluicing (31b) and pseudosluicing (31c), and thus he suggested a modification to PSG. He then claimed that PSG is PF phenomenon, and PSG violation is precisely rescued by sluicing, i.e. it is remedied by deletion at PF.

31) a. John fərab gahwa [wɪjja həd], bəs maa ʕərf [mənu ~~John fərab gahwa [wɪjja t]~~]

John drank coffee with someone but not I.know [who John drank coffee with  
'John drank coffee with someone, but I don't know who John drank coffee with.'

(Leung, 2014, p. 332)

b. John fərab xamer, bəs maa ʕərf wɪjja mənu

John drink alcohol, but not I.know with who (\*hu)

‘John drinks alcohol, but I don’t know who.’

c. John ʃərab ʃaj, bəs maa ʃərf [ʃuu-(~~hu~~)]

John drank something, but not I.know what 3SM

‘John drank something , but I do not know what.’

(Leung, 2014, p. 335)

Pseudosluicing is used to refer to a sluiced copula with a non-copular antecedent. They are sluicing-like constructions, which Merchant (1998) has analyzed as constructions that do not show surface anaphoric PF-deletion process that applies to TP in a constituent question. Merchant (1998) has coined the term pseudosluicing for languages that have sluicing-like constructions where there are null subject and null copula, such as Japanese as in (5), which will be revisited later when discussing the possibility of the copula droppability in JA pseudosluicing.

Given the two types of wh-constructions in chapter 3 under section 3.5, JA exhibits sluicing and pseudosluicing which are derived by wh-fronting and wh-clefts respectively. The examples from (6) to (12) show that any type of wh-expressions can form a wh-sluice and the use of copular pronoun *huwe* ‘he.COP’ or *hejje* ‘she.COP’ can form a wh-pseudosluice. I discuss this analysis in the next subsection.

### 5.3.1 Types of questions in JA

Arabic exhibits two types of wh-questions including wh-fronting and wh-cleft (Wahba, 1984; Shlonsky, 1997; Aoun et al., 2010) as in (32) and (33) respectively.

32) *ʃu:ᵢ ʃtare:t tᵢ mbareh?*  
What buy.3ms.PER yesterday  
‘What did you buy yesterday?’

(gap strategy, wh-fronting)

33) *ʃu:ᵢ huweh illi ʃtare:t-oᵢ mbareh?*  
What COP that bought-2ms yesterday  
‘What was it that you bought it yesterday?’

(resumptive strategy, wh-cleft)

Many have argued that wh-fronting leaves a movement gap, which is referred to as a gap strategy in (32), while wh-clefts are non-movement type that requires a resumptive pronoun in tandem with the relative complementizer *illi in* (33). In (34), there is what Aoun et al (2010) illustrate as a variation of resumptive strategy where the wh-constituent that is related to a resumptive pronominal item in the sentence internal position, in which the wh-word immediately precedes the complementizer<sup>25</sup> *illi* ‘that’. They classified it as Class II Resumptive strategy.

- 34) *fu:i illi ftare:t-o<sub>i</sub> mbareh?*  
 What that bought-2ms yesterday  
 ‘What is it that you bought it yesterday?’ Class II Resumptive strategy (Aoun et al., 2010)

Possible examples of wh-fronting questions in JA include wh-words and wh-phrases as in (32), wh-PP (35a), and wh-adjunct and wh-arguments as in (35b), and which-NP as in (35c) where there must be resumption.

- 35) a. *bi-ʔaj ʒa:mʕa daras ʕumar*  
 in-which university study-2ms.PER Omar  
 ‘At which university did Omar study?’  
 b. *ki:f xallas-t ir-risaleh*  
 how finish-2ms.PER the-dissertation  
 ‘how did you finish the dissertation?’  
 c. *ʔaj ʒa:mʕa daras-t liɣwistiks \*(fi-ha)*  
 which university study-2ms.PER linguistics in-it.fs  
 ‘which university is it that you studied linguistics in it?’

Wh-cleft allows only bare wh-words and wh-arguments (36), as Leung (2014) illustrates for EA, which is also true for JA as in (32), but it does not allow the rest: wh-PP in (37a) when the preposition is pied-piped, and wh-adjuncts (38). Yet (37b) shows that which-NP occurs with wh-cleft when the preposition is stranded and rescued by the resumption, while resumption in (38b)

<sup>25</sup> Example (33) is adapted from Aoun et al. (2010), while Class II resumption in Aoun et al. (2010) is a variation on the resumptive strategy where the clause initial wh-constituent, immediately precedes the definite relative clause complementizer (ya)lli ‘that’ which corresponds to *illi* in JA, as in i:

i. *miin (ya)lli sʔəft-o b-l-maTʕam?*  
 who that saw.2ms-him in-the-restaurant  
 ‘Who is it that you saw in the restaurant?’

does not rescue the ungrammaticality in (38a). Also, *ʔaj-NP* ‘which-NP’ allows wh-cleft only when the preposition is stranded as illustrated in (37b) to which (37a) is the grammatical counterexample.

- 36) a. *fu:*      *huwe*      *illi ʔaxad-o*      *ʕumar*  
           what    3ms.COP    that pick.3ms.PER-RP    Omar  
           ‘What is it that Omar took?’  
   b. *mi:n*   *huwe*      *illi ʔaxad-o*      *ʕumar*      Cleft Structure (Eid,1983)  
           who   3ms.COP    that pick.3ms.PER-RP    Omar  
           ‘who is it that Omar picked?’
- 37) a. *\*bi-ʔaj*      *ʒa:mʕa*      *hijje*      *illi la2e-t*      *ʕumar*  
           in-which    university    3fs.it.COP    that find-2ms.PER    Omar  
           ‘In what university did you find Omar?’  
   b. *ʔaj*      *ʒa:mʕa*      *hijje*      *illi la2e-t*      *ʕumar*    *fi-\*(ha)*  
           which    university    3fs.it.COP    that find-2ms.PER    Omar    in-it  
           ‘what university did you study linguistics at?’
- 38) a. *\*ki:f*      *hijje*      *illi xallas-t*      *ir-risaleh*  
           how    3fs.it.COP    that finish-2ms.PER    the-dissertation  
           ‘how is it that you finished the dissertation?’  
   b. *\*ki:f*      *hijje*      *illi xallas-t- \*ha*      *ir-risaleh*  
           how    3fs.it.COP    that finish-2ms.PER-it    the-dissertation  
           ‘how is it that you finished the dissertation?’

Apparently, wh-fronting is more common than wh-cleft because it can occur with more wh-expression than wh-cleft, like wh-words and wh-phrases *fu:* ‘what’ in (32) and (33), and others like wh-PP, wh-arguments and wh-adjuncts (35).

### 5.3.2 The distribution of resumptive pronominal item in JA

In this subsection, I will address the facts of resumption strategy with regular questions and in embedding constructions, which indicates how productive the resumptive strategy in JA is. JA shows three possible strategies of resumption as in (39) and (40). I also show that the resumption is necessary in (41), while (42a) with *fu:* ‘what’ is not allowed.

- 39) a. *#mi:n fuft-o*      *b-l- ʒa:mʕa?*<sup>26</sup>  
           who see-2ms.PER-him in-the-university  
           ‘who did you see at the university?’ (resumption strategy)  
   b. *mi:n illi fuft-o*      *b-l- ʒa:mʕa?*

<sup>26</sup> The square sign has conventionally been used to indicate that the statement is grammatical in a different context; it also means that the statement is acceptable in a different interpretation, other than the intended one.

who that see-2ms.PER-him in-the-university  
 ‘who did you see at the university?’ (class II Resumption, Aoun et al., 2010)

- c. *mi:n huwe illi fuft-o b-l- za:mfa?*  
 who he.COP that see-2ms.PER-him in-the-university  
 ‘who did you see at the university?’ (wh-cleft)

Like *fu*: ‘what’ in (32) to (34), *mi:n* ‘who’ can occur with resumption as in (39a), (39b) shows that *mi:n* ‘who’, which occurs with a resumptive item in *Class II resumption* strategy (Aoun et al., 2010) is followed immediately by a complementizer, but no copular pronoun, and (39c) is another grammatical case where a resumption is grammatical in wh-cleft with *mi:n* ‘who’, and copular pronoun followed by a complementizer.

It is important to note that only *mi:n* ‘who’ (39) and *ʔajja-NP* ‘which-NP’ (40), can be related to a resumptive element (Aoun et al., 2010) inside a simple wh-interrogative in Arabic, and in JA as well. As for *ʔajja-NP* ‘which-NP’, it also occurs with the three aforementioned resumptive strategies, as shown in (40)<sup>27</sup>.

- 40) a. *#ʔaj ʔu:staz fuft-o b-l- za:mfa?*  
 which teacher see-2ms.PER-him in-the-university  
 ‘which teacher you saw at the university?’ (resumption strategy)
- b. *ʔaj ʔu:staz illi fuft-o b-l- za:mfa?*  
 which teacher that see-2ms.PER-him in-the-university  
 ‘which teacher you saw at the university?’ (class II Resumption, Aoun et al., 2010)
- c. *ʔaj ʔu:staz huwe illi fuft-o b-l- za:mfa?*  
 which teacher he.COP that see-2ms.PER-him in-the-university  
 ‘which teacher you saw at the university?’ (wh-cleft)

<sup>27</sup> (40) is grammatical in a context where the speaker mentioned which teacher s/he had seen at the university, and so the hearer wants to confirm what he has just heard (explicit correlate), while the other two examples in (b and c) do not necessarily mean that the speaker mentioned which teacher s/he had seen. That is to say that there is either an explicit or an implicit correlate for the wh-remnant. In b and c, the speaker could have mentioned the teacher he had seen (explicit correlate) or not (implicit correlate), and then the hearer asks which teacher. Also, (a) is an in-situ strategy which is not how JA questions are formed and thus it is the case that the hearer repeats after the speaker to confirm what s/he just mentioned as an echo question. Same context applies to (39) where there is a square on both examples in a.

Nevertheless, as I have pointed out in chapter 3, *mi:n* ‘who’ and *?aj-NP* ‘which-NP’ can occur with a resumptive item when there is an antecedent discourse in which there is an overt correlate and thus they are echo or in-situ questions in (39) and (40)<sup>28</sup>.

When the question includes a preposition, the preposition can either be pied-piped with the wh-word or stranded. And only when the preposition is stranded, a resumptive item is a must to make (41a and b) grammatical with wh-fronting or cleft construction respectively. However, JA is a non p-stranding language as I have shown earlier in this chapter in (18b). Therefore, the stranded preposition in such questions in (41)<sup>29</sup> is rescued by a resumptive pronominal item *ha* ‘it’ where the result is a preposition and its complement pronoun.

- 41) a. *?aj za:mʕa daras-t liɣwistiks fi-\*(ha)?*  
       which university study-2ms.PER linguistics in-it  
       ‘which university did you study linguistics at?’  
   b. *?aj za:mʕa illi daras-t liɣwistiks fi-\*(ha)?*  
       which university that study-2ms.PER linguistics in-it  
       ‘which university is that you study linguistics at?’

I also propose that resumptive pronominal item is grammatical in echo questions with *?aj-NP* ‘which-NPs’. That is to say that it has to have an antecedent discourse with an explicit correlate.

On the other hand, *fu:* ‘what’ does not occur with resumption in wh-fronting questions or *illi*-less ‘that-less’ constructions in JA (42a) regardless whether there is an antecedent discourse with an explicit or implicit correlate. Yet it can be grammatical with Class II resumptive strategy (Aoun et al. 2010) as in (42b) with an antecedent discourse and an explicit correlate. *fu:* ‘what’ also occurs with resumption in wh-cleft questions with a copular pronoun and a complementizer where there is an antecedent discourse and overt correlate as in (42c).

- 42) a. *\*fu: talbat-o laila b-l-matʕam?*  
       what order.3fs-it Laila in-the-restaurant

<sup>28</sup> In other words, these constructions are only possible when the speaker overtly mentions the correlate that is to say the construction involves an explicit correlate.

<sup>29</sup> Whether the preposition and the cliticized resumptive item precede or follow the direct object, the two possibilities are grammatical, but I will not investigate this fact since it is beyond the purpose of this chapter.

- ‘what did Laila order at the restaurant?’ (Lebanese Arabic, Aoun et al., 2010, p.136)
- b. *fu: illi tʰalbat-o laila b-l-matʰam?*  
 what that order.3fs-it Laila in-the-restaurant  
 ‘what is it that Laila order at the restaurant?’
- c. *fu: huwe illi tʰalbat-o laila b-l-matʰam?*  
 what it.COP that order.3fs-it Laila in-the-restaurant  
 ‘what is it that Laila order in the restaurant?’

Another piece of evidence in favor of resumption productivity in rescuing ungrammaticality in JA is embedding constructions. A construction where a resumption strategy exists is in embedded statements as in (43a), or embedded questions as in (43b) with a resumptive pronoun that rescues the ungrammaticality of the stranded preposition.

- 43) a. *ma smiʕə-t mi:n illi haka maf-\*(o) b-l-za:mʕa*  
 not hear-1s.PER who that talk-2ms.PER with-him at-the-university  
 ‘I did not hear who that you talked with at the university.’
- b. *b-t-iʕraf mi:n illi haka maf-\*(o) b-l-za:mʕa*  
 Asp.2s.know.IMP who that talk-2ms.PER with-him at-the-university  
 ‘Do you know who that you talked with at the university?’

### 5.3.3 The distribution of the complementizer *illi* ‘that’ in JA embedded questions

The complementizer *illi* ‘that’ shows a distribution in embedded questions, thus we need to look at the distribution of *illi* ‘that’ with the three wh-words *mi:n* ‘who’, *ʔaj-NP* ‘which-NP’ and *fu:* ‘what’, that allow wh-cleft meaning allow the use of the complementizer *illi* ‘that’<sup>30</sup>.

In embedded questions, the use of *illi* ‘that’ is always required, as shown in (44) with *mi:n* ‘who’. Apparently, the embedded question is not allowed in (44a)<sup>31</sup> with the absence of the

<sup>30</sup> If the resumptive pronominal item *o* ‘him’ is dropped, (44) can be grammatical as in i; however, I did not listed it under example (44) since the focus of the subsection 5.3.3 is the distribution of *illi* which does not occur in the grammatical example in i.

i. *saʔal-u:-ni: mi:n fuft b-l-za:mʕa*  
 ask.PER-3p-me who see.2s in-the-university  
 ‘they asked me who is it that I saw at the university.’

<sup>31</sup> The only context in which (44) is grammatical is when the speaker meant to quote what they have literally asked him/her, hence the interpretation would be as; *saʔal-u:-ni: “mi:n fuft-o b-l-za:mʕa?”* ‘they asked me, “who I saw at the university?”’, which also means that there was an explicit correlate to the wh-word in the antecedent discourse. In other words, the speaker must have mentioned who s/he had seen but people asked him because they did not hear well or forgot.



complementizer, hence it is required as in (44b), and it is also a must in (44c) when the copular pronoun *huwe* ‘he.COP’ is present.

- 44) a. #*saʔal-u:-ni:*      *mi:n*    *ʃuft-o*      *b-l-ʒa:mʕa*  
      ask.PER-3p-me    who    see.2s-him    in-the-university  
      ‘they asked me who is it that I saw at the university.’  
   b. *saʔal-u:-ni:*      *mi:n*            *illi*      *ʃuft-o*      *b-l-ʒa:mʕa*  
      ask.PER-3p-me    who            that    see.2s-him    in-the-university  
      ‘they asked me who is it that I saw at the university.’  
   c. *saʔal-u:-ni:*      *mi:n*      *huwe*    *\*(illi)*    *ʃuft-o*      *b-l-ʒa:mʕa*  
      ask.PER-3p-me    who      he.COP    that    see.2s-him    in-the-university  
      ‘they asked me who is it that I saw at the university.’

When the copular pronoun is present, the complementizer *illi* ‘that’ must appear along with the resumptive pronominal item *o* ‘him’ in (44c) and so it is not droppable, which means if the resumptive pronoun is dropped, the sentence will be ungrammatical. Similarly, the same facts apply to *ʃu:* ‘what’ in (45) and *ʔaj-NP* ‘which-NP’ as in (46). The example without the complementizer in (a) is ungrammatical, the example with the complementizer in (b) is grammatical, and the example in (c) is grammatical with the complementizer since there is a copula.

- 45) a. \**saʔal-u:-ni:*      *ʃu:*      *tʰalabt-o*      *b-l-matʰʕam.*  
      ask.PER-3p-me    what    order.1s-it    in-the-restaurant  
      ‘they asked me what I ordered at the restaurant.’  
   b. *saʔal-u:-ni:*      *ʃu:*      *illi*    *tʰalabt-o*      *b-l-matʰʕam.*  
      ask.PER-3p-me    what    that    order.1s-it    in-the-restaurant  
      ‘they asked me what is it that I ordered at the restaurant.’  
   c. *saʔal-u:-ni:*      *ʃu:*      *huwe*    *illi*    *tʰalabt-o*      *b-l-matʰʕam.*  
      ask.PER-3p-me    what    it.COP    that    order.1s-it    in-the-restaurant  
      ‘they asked me what is it that I ordered at the restaurant.’

It is also obvious that the complementizer *illi* is in tandem with the resumptive pronoun. There must be a resumptive pronoun when *illi* ‘that’ is present as shown in the examples (43) to (46).

- 46) a. # *saʔal-u:-ni:*      *ʔaj-ʒa:mʕa*      *daras-t*      *ʃi:-ha*  
      ask.PER-3p-me    which-university    study-1ms.PER    in-it  
      ‘They asked me which university is it that he studied at.’  
   b. *saʔal-u:-ni:*      *ʔaj-ʒa:mʕa*      *illi*    *daras-t*      *ʃi:-ha*  
      ask.PER-3p-me    which-university    that    study-1ms.PER    in-it

- ‘They asked me which university is it that he studied at.’  
 c. *saʔal-u:-ni: ʔaj-za:mʕa hejje illi daras-t fi:-ha*  
 ask.PER-3p-me which-university it.COP.3fs that study-1ms.PER in-it  
 ‘They asked me which university is it that he studied at.’

Likewise, example (47a) with the absence of both the resumptive and the complementizer is acceptable, and the presence of both the resumptive item and the complementizer is also grammatical (47b). Namely, this illustrates that the complementizer and the resumptive pronominal item complement each other that is to say they appear together (47a) or disappear together (47b). Subsequently, they must co-occur which means (47c and d) are ungrammatical with the absence of either *illi* or the absence of the resumptive pronominal item respectively. As for the copula, the presence of the resumptive pronominal item is a must with the copula as in (47e) and thus the presence of the complementizer is a must as well.

- 47) a. *b-j-iʃraf mi:n tzawaʒ-t*  
 Asp-3ms-know.IMP who marry-1s.PER  
 ‘he knows who I married.’  
 b. *b-j-iʃraf mi:n illi tzawaʒ-t-ha.*  
 Asp-3ms-know.IMP who that marry-1s.PER-her  
 ‘he knows who it is that I married.’  
 \*c. *b-j-iʃraf mi:n tzawaʒ-t-ha.*  
 Asp-3ms-know.IMP who marry-1s.PER-her  
 ‘he knows who it is that I married.’  
 \*d. *b-j-iʃraf mi:n illi tzawaʒ-t*  
 Asp-3ms-know.IMP who that marry-1s.PER  
 ‘he knows who it is that I married.’  
 e. *b-j-iʃraf mi:n hejje \*(illi) tzawaʒ-t-ha.*  
 Asp-3ms-know.IMP who she.COP that marry-1s.PER-her  
 ‘he knows who it is that I married.’

Thus *illi* ‘that’ shows a distribution in embedded questions. That said, in the following section, I will discuss *illi* ‘that’ since both sluicing and pseudosluicing constructions involve ellipsis of material in embedded questions, the matter of whether *illi* ‘that’ is required in embedded question has a bearing on the matter of what precisely is elided under (pseudo)-sluicing.

Before I start with the analysis, it is also crucial to point out that the P-stranding and resumptive pronominal item effect on the wh-slalice will remain the central issue in this paper. Since sluicing is limited to questions, the presence of the wh-movement is part of the occurrence of a preposition stranding in the sluice site. And thus the p-stranding effect on JA sluicing will remain an important issue throughout the chapter, which will suggest that JA sluicing is a PF phenomenon. The wh-word that remains stranded outside the sluice site must be linked to a position or an element in the elided material inside the sluice site. Consequently, throughout the chapter, I argue that JA sluicing occur via the unpronunciation of some elements in the sluice at PF level and not in the narrow syntax, yet preposition stranding and PSG play the preeminent role in the analysis.

## 5.4 Analysis

Having the facts of JA questions and resumption as well as embedded questions, (pseudo)-sluicing constructions in JA can be analyzed since they include shared elements with wh-questions and embedded questions. Those elements are wh-words as remnants, and resumptive pronominal items as part of the target.

### 5.4.1 Diagnose data as sluicing vs. pseudosluicing

Apparently, the facts in section 5.3.1 on question formation in JA illustrate that wh-fronting is more common than wh-cleft since more wh-expressions occur with wh-fronting strategy, as indicted in the examples from (32) to (38). Obviously, sluicing is derived via wh-fronting and pseudosluicing via wh-clefting, and the question is what the distinct distributions of the different JA wh-expressions types tell us about (pseudo)-sluicing in the language. In this subsection, I will analyze wh-expressions, such as *fu*: ‘what’, *mi:n* ‘who’, *ʔaj-NP* ‘which-NP’, and wh-adverbials like *ki:f* ‘how’, *we:n* ‘where’, *ʔemta* ‘when’, *min we:n* ‘from where’, and *min ʔemta* ‘since when’; and I will discuss wh-expressions with a preposition in the next subsection to illustrate how JA salvages PSG.

Copular pronoun plays a role in distinguishing sluicing and pseudosluicing cases. Leung (2014) argues that in EA elliptical constructions, when the copula is elided, there is no clear-cut evidence that it is a sluicing or pseudosluicing case. However, I argue that the independent droppability of the copula in (48) indicates that an example with *fu* ‘what’ or *mi:n* ‘who’, is plausibly analyzable as pseudosluicing. In other words, since *huwe* ‘3ms.it.COP’ is droppable in (48), it is possible that the copula was present underlyingly, which means wh-cleft is possibly one of the underlying derivations and thus it could plausibly be analyzed as pseudosluicing (wh-cleft). However, there is an independent piece of evidence that a pseudosluicing analysis doesn’t work for the full range of cases (37) and (38) where wh-cleft is not possible.

- 48) *ma b-a-ʃraf fu (huwe) illi ʃtara-a*  
 not Asp-1s-know.IMP what 3ms.it.COP that buy.3ms.PER-it  
 ‘I do not know what is it that he bought.’

This piece of evidence suggests that ellipsis examples that lack an overt copula could plausibly be derived from a copular/pseudosluicing source.

The examples from JA show that wh-expression can derive the wh-sluiice as in (6a) repeated in (49a) where the complement of *fu*: ‘what’ is elided, while the use of a wh-pseudosluice is distinguished by the use of the copular pronoun ‘*huwe*’ in JA as in example (6b) repeated in (49b) where the complement of the copular pronoun *huwe* ‘it.ms.COP’ is elided. However, we need to look at the underlying source of the sluice or the target since resumption and the complementizer *illi* ‘that’ also play a role.

- 49) a. *ʃasan ʃtara ʔiʃi:ᵢ bas ma b-a-ʃraf fu: (=6)*  
 Hasan buy.3ms.PER something.ms, but not Asp-1s-know.IMP what  
 ‘Hasan bought something, but I do not know what.’  
 b. *ʃasan ʃtara ʔiʃi:ᵢ bas ma b-a-ʃraf fu: huweᵢ*  
 Hasan buy.3ms.PER something.ms, but not Asp-1s-know.IMP what it.ms.COP  
 ‘Hasan bought something, but I do not know what.’

The underlying source of the target in the two examples in (49) is illustrated in (50). Since the complement of *fu*: ‘what’ is entirely elided leaving only *fu*: as a remnant, it is tempting to say

that (49a) has three possible derivations underlyingly, as wh-fronting, class II resumption, and wh-cleft with a droppable copula<sup>32</sup> as in (50a, b, and c) respectively.

- 50) a. ... *bas ma b-a-ʕraf fu: ftara*  
 ... but not Asp-1s-know.IMP what bought.3ms.PER  
 ‘... but I do not know what it is that Hasan bought.’  
 b. ... *bas ma b-a-ʕraf fu: illi ftara:-a*  
 ... but not Asp-1s-know.IMP what that bought.3ms.PER-it  
 ‘... but I do not know what it is that Hasan bought.’  
 c. ... *bas ma b-a-ʕraf fu: huwe illi ftara-a*  
 ... but not Asp-1s-know.IMP what it.ms.COP that bought.3ms.PER-it  
 ‘... but I do not know what it is that Hasan bought.’

JA data is diagnosed as sluicing and pseudosluicing based on the absence and presence of the copular pronoun, the use of the resumption strategy and the complementizer presence. The examples in (49a) can plausibly be analyzed as sluicing (50a) or pseudosluicing (50c). Yet (49b) is even a stronger argument to be a case of pseudosluicing because of the presence of the complementizer *illi*, the resumption in addition to the copular pronominal item as shown in the target of (50c).

In the same token, the use of *mi:n* ‘who’ in (7a) repeated in (51a) with the absence of copular pronoun is distinguished from *mi:n* ‘who’ in (7b) repeated in (51b) with the copular pronoun. This means the difference is in the deleted clause. The complement of the copular pronoun is deleted in the latter (51b), while the complement of the *mi:n* ‘who’ is deleted in the former (51a).

- 51) a. *ḥasan ʃa:f wa:ḥade<sub>i</sub> bas ma b-a-ʕraf mi:n* (=7)  
 Hasan see.3ms.PER someone.f, but not Asp-1s-know.IMP who  
 ‘Hasan saw someone, but I do not know who.’  
 b. *ḥasan ʃa:f wa:ḥade<sub>i</sub> bas ma b-a-ʕraf mi:n hijje<sub>i</sub>*  
 Hasan see.3ms.PER someone.f, but not Asp-1s-know.IMP who she.COP  
 ‘Hasan saw someone, but I do not know who (he is).’

<sup>32</sup> In other words, since *huwe* ‘3ms.it.COP’ is droppable in (48), it is also possible that the copula was dropped in elliptical case like (49a). That is to say that if there were a copula underlyingly, then wh-cleft would be one of the possible underlying derivations for (49a), which makes it a pseudosluicing case as in (50c).

The underlying source of these two examples with *mi:n* ‘who’ is illustrated in (52). We predict three possible underlying derivations for (51a) where the complement of the wh-word is elided, which are wh-fronting, class II resumption, and wh-cleft with a droppable copula. Accordingly, (51a) can either be a sluicing case as in (52a) or pseudosluicing as in (52b) and (52c) in which the piece of evidence is in (48). (52b) is diagnosed as pseudosluicing since it includes the copular pronoun *hijje*, the complementizer *illi* and the resumption *ha* ‘her’ as a complement to the verb *fa:f* ‘see.3ms.PER’. On the contrary, (51b) can only be analyzed as pseudosluicing since the copular pronoun is part of the remnant. The presence of the copular pronoun *hijje* ‘it.fs.COP’, indicates that the underlying derivation of (51b) must involve the complementizer *illi* immediately following the copula which also means the occurrence of the resumptive pronominal item *ha* ‘her’ because it co-occurs with the complementizer *illi* as in (52c).

- 52) a. ...*bas*    *ma*    *b-a-ʕraf*                      *mi:n*        *fa:f*  
          but    not    Asp-1s-know.IMP    who        see.3ms.PER  
          ‘...but I do not know who she is that Hasan saw.’  
       b. ...*bas*    *ma*    *b-a-ʕraf*                      *mi:n*        *illi*    *fa:f-ha*  
          but    not    Asp-1s-know.IMP    who        that    see.3ms.PER-her  
          ‘...but I do not know who she is that Hasan saw.’  
       c. ...*bas*    *ma*        *b-a-ʕraf*                      *mi:n*    *hijje<sub>i</sub>*        *illi*    *fa:f-ha*  
          but    not    Asp-1s-know.IMP    who    it.fs.COP    that    see.3ms.PER-her  
          ‘...but I do not know who she is that Hasan saw.’

In spite of that, there are constraints on the contexts in which the copular pronoun, class II resumption (*illi* and resumptive pronominal element) occurs. Both are constrained in contexts with wh-PP, wh-adjunct, or wh-argument as in (37a) and (38), so this illustrates that such JA examples whose underlying source is wh-fronting are cases of sluicing. Since the wh-adjuncts, such as *ki:f* ‘how’, *ʔemta* ‘when’ and *le:f* ‘why’, *we:n* ‘where’ in (8), and wh-PPs as *min we:n* ‘from where’ and *min ʔemta* ‘since when’ in (10), cannot occur with a copula nor wh-cleft (with or without the copular pronoun), and can only occur in wh-fronting, they are sluicing cases.

Both wh-adjuncts in (8) and wh-PP in (10) are repeated in (53) and (54) respectively for convenience, in which the examples in (53a) and (54a) show that wh-adjuncts and wh-PP, are the grammatical examples with wh-fronting (sluicing), while the counterexamples in (b) are not grammatical due to the fact that they do not occur with a complementizer, and (c) examples are not grammatical due to the presence of the copular pronoun and the resumptive pronoun in wh-cleft construction so they cannot be diagnosed as pseudosluicing.

53) (wh-adjunct)

- a. *ʕumar itʕasal, bas ma b-a-ʕraf {ʔemta/ ki:f/ le:f} itʕasal*  
 Omar call.3ms.PER, but not Asp-1s-know.IMP {when/ how/ why} call.3ms.PER  
 ‘Omar called, but I do not know {when, how, why} he called.’
- b. \**ʕumar itʕasal, bas ma b-a-ʕraf {ʔemta/ ki:f/ le:f}*  
*illi itʕasal*  
 Omar call.3ms.PER, but not Asp-1s-know.IMP {when/ how/ why}  
 that call.3ms.PER  
 ‘Omar called, but I do not know {when, how, why} that he called.’
- c. \**ʕumar itʕasal, bas ma b-a-ʕraf {ʔemta/ ki:f/ le:f}*  
*huwe illi itʕasal*  
 Omar call.3ms.PER, but not Asp-1s-know.IMP {when/ how/ why}  
 it.ms.COP that call.3ms.PER  
 ‘Omar called, but I do not know {when, how, why} that he called.’

54) (wh-PP)

- a. *ʕumar rijeʕ, bas ma b-a-ʕraf min we:n*  
 Omar return.3ms.PER, but not Asp-1s-know.IMP from where  
 ‘Omar came back but I do not know from where.’
- b. \**ʕumar rijeʕ, bas ma b-a-ʕraf min we:n illi rijeʕ*  
 Omar return.3ms.PER, but not Asp-1s-know.IMP from where that return.3ms.PER  
 Omar came back but I do not know from where.’
- c. \**ʕumar rijeʕ, bas ma b-a-ʕraf min we:n huwe*  
*illi rijeʕ*  
 Omar return.3ms.PER, but not Asp-1s-know.IMP from where it.ms.COP  
 that return.3ms.PER  
 ‘Omar came back but I do not know from where that he came back.’

Conversely, which-NP in (9a), without a preposition repeated in (55), shows that *ʔaj-NP* ‘which-NP’ occurs with wh-fronting structure in embedded question when there is an antecedent and an explicit correlate, which the NP in *ʔaj-NP* in the target refers to.

55) (which-NP)

- a. *ʕasan ʕtara sajjara, bas ma b-a-ʕraf ʔaj no:ʕ*

- Hasan buy.3ms.PER car , but not Asp-1s-know.IMP which brand  
 ‘Hasan went to buy a car, but I do not know which brand.’
- b. *hasan ftara sajjara:ra bas ma b-a-ʕraf ʔaj no:ʕ hejje*  
 Hasan buy.3ms.PER car , but not Asp-1s-know.IMP which brand it.fs.COP  
 ‘Hasan went to buy a car, but I do not know which brand.’

Leung (2014) argues that since wh-NPs like *ʔaj no:ʕ* ‘which kind’ in EA can only be used in wh-fronting as in (56), the underlying source of an example like (56b) must be wh-fronting. This is confirmed by the ungrammaticality of *ʔaj no:ʕ huwe* ‘which kind COP’ in EA where there is a wh-pseudosluicing.

- 56) a. *ʔaj kitab ftaret ʔms?*  
 which book bought-2SM yesterday  
 ‘Which book did you buy yesterday?’ (Leung, 2014, p. 334)
- b. *John jʔfrʔb xamar, bs maa ʕarf [ʔaj nooʕ (\*hu)]*  
 John drink alcohol but not 1.know which kind 3SM  
 ‘John drinks alcohol, but I don’t know which kind.’ (Leung, 2014, p. 335)

In JA, which-NP like *ʔaj no:ʕ* ‘which-brand/type/kind’ can occur in wh-fronting (40a) as well as wh-cleft (40c). Thus, the first expected derivation for (55a) is in (58c). This also asserts the fact that the examples with *fu:* ‘what’ (49a) and *mi:n* ‘who’ (51a) where only the wh-expressions are the remnants while its complement is entirely elided, can plausibly be analyzed as wh-cleft/copular pseudosluicing since the underlying derivation could include a copula, a complementizer and a resumptive pronoun. It is obvious that a wh-expressions like *ʔaj no:ʕ* ‘which-NP’ in JA can leave the copula as a remnant along with the *ʔaj-NP* ‘which-NP’ in elliptical constructions as shown in (55), and thus wh-cleft with *ʔaj no:ʕ* ‘which-NP’ is acceptable as in embedded questions (57a), and in regular questions as (57b), as well as (57c) which is the non-elliptical counterexamples to (55).

- 57) a. *b-t-iʕraf ʔaj no:ʕ huwe illi ftaret-o*  
 Asp.2s.know.IMP which brand/type it.COP.3fs that buy-2ms.PER-it  
 ‘Do you know which brand is it that you bought?’
- b. *ʔaj no:ʕ huwe illi ftara-a*  
 which brand/kind it.COP.3fs that buy-3ms.PER-it  
 ‘which kind is it that he bought?’



- c. *ħasan ftara sajja:ra bas ma b-a-ħraf ʔaj no:ħ*  
 huwe illi *ftara-a*  
 Hasan buy.3ms.PER car , but not Asp-1s-know.IMP which kind  
 COP that buy.3ms.PER-it  
 ‘Hasan bought a car, but I do not know what/which brand that he bought.’

Consequently, there are three possible derivations for which-NP in (55) are wh-fronting, non-copular wh-cleft and copular wh-cleft (pseudosluicing) in (58a, b, and c).

- 58) a. *ħasan ftara sajja:ra, bas ma b-a-ħraf ʔaj no:ħ ftara*  
 Hasan buy.3ms.PER car , but not Asp-1s-know.IMP which kind buy.3ms.PER  
 ‘Hasan bought a car, but I do not know what/which brand that he bought.’  
 b. *ħasan ftara sajja:ra, bas ma b-a-ħraf ʔaj no:ħ*  
 illi *ftara-a*  
 Hasan buy.3ms. PER car , but not Asp-1s-know.IMP which kind  
 that buy.3ms.PER-it  
 ‘Hasan bought a car, but I do not know what/which brand that he bought.’  
 c. *ħasan ftara sajja:ra, bas ma b-a-ħraf ʔaj no:ħ*  
 hijje illi *ftara-ha*  
 Hasan buy.3ms.PER car , but not Asp-1s-know.IMP which kind  
 COP that buy.3ms.PER-it  
 ‘Hasan bought a car, but I do not know what/which brand that he bought.’

So far I demonstrated that JA exhibits sluicing and pseudosluicing based on the underlying source of the target: the wh-fronting (wh-sluice)/ wh-cleft (wh-pseudosluicing) for the JA data from (6) to (9). A piece of evidence is the ungrammaticality use of wh-pseudosluice in expressions, such as *\*ʔemta huwe* ‘how COP’, *\*ki:f huwe* ‘how COP’ or *\*lə:f huwe* ‘why COP’. Therefore, the three wh-adjuncts can only appear in wh-fronting, which means they are sluicing cases only. On the other hand, the wh-expression *fu:* ‘what’ or *mi:n* ‘who’ can either be wh-sluice type or wh-pseudosluice type as the copular pronoun’s presence or absence respectively is grammatical in both cases. Furthermore, when the remnant includes the wh-word and the copula pronoun as in examples: *fu: huwe* ‘what COP’ as in (49b), *mi:n hijje* ‘who COP’ as in (51b), and *ʔaj no:ħ hijje* ‘which-NP COP’ as in (55b), the possible derivation is a wh-cleft, and thus it is plausibly analyzable as pseudosluicing. However, when only the wh-expression *fu:* ‘what’, *mi:n* ‘who’, or *ʔaj-NP* ‘which-

NP' is left as a remnant, there are three possible derivations including sluicing and pseudosluicing, which confirms the possibility of both in JA.

Accordingly, given that bare wh-expressions *fu* 'what' and *mi:n* 'who', *ʔaj-NP* 'which-NP', and wh-adjuncts, wh-PPs, and which-NPS can be used with wh-fronting, then the underlying source of those wh-expressions in elliptical constructions (wh-fronting) is sluicing. When the wh-expressions can be used with wh-cleft, the underlying source of those wh-expressions in elliptical constructions (wh-cleft) is pseudosluicing.

Another piece of evidence that JA with the copular in the ellipsis site is a pseudosluice, not sluicing is the sluicing-COMP generalization, stated in (59);

59) In sluicing, no non-operator material may appear in COMP. (Merchant, 2001, p.62)

In sluicing, there is a wh-remnant in Spec, CP and an unpronounced sentential constituent (TP). By operator, Merchant (2001) means a syntactic wh-XP, and by non-operator material, he meant elements like complementizers, auxiliaries, clitics, verbs, or agreement morphemes. Also, COMP is the domain that is dominated by CP and not a TP. Therefore; he proposes no auxiliary or copular pronoun in COMP domain in sluicing constructions. Accordingly, although those constructions look similar to sluicing, they are not sluicing constructions because they consist of an operator in COMP.

Now examining examples like those in (6b) again repeated here in (60) for convenience, there is a copular pronoun or a non-operator under the wh-phrase remnant in Spec, CP, which is in COMP domain. Thus, it is not a sluicing case, but rather some construction similar to sluicing, namely pseudosluicing. Therefore, this generalization supports the fact that such constructions are pseudosluicing.

60) *ħasan ftara ʔifi:ᵢ bas ma b-a-ħraf fu huweᵢ*  
 Hasan buy.3ms.PER something, but not Asp-1s-know.IMP what it.COP  
 'Hasan bought something, but I do not know what (it is).'

In Japanese non-elliptical cleft questions, the construction is not the genuine sluicing, but rather pseudosluicing in which the cleft subject and copula are dropped; the result is a case similar to sluice, which Merchant coined as pseudosluicing. For instance, in (61), the copula may optionally be overt. Similarly, JA exhibits pseudosluicing in which there is a copular pronoun as in (49), (51), and (55) in addition to the role of the complementizer *illi* and the resumptive pronominal item as I have previously shown.

- 61) *Dareka-ga sono hon-o yon-da ga, watashi-wa dare data ka wakaranai.*  
 someone-NOM that book-ACC read-past but, I-top who was Q know.not  
 ‘Someone read that book, but I don’t know who it was.’

There are grammatical structures that contribute to the analysis of sluicing where there is no *illi* ‘that’ or resumptive pronoun at all as in (62) with *mi:n* ‘who’, *fu:* ‘what’, and *?aj-NP* ‘which-NP’ in a, b, and c respectively.

- 62) a. *hasan fa:f wa:hade<sub>i</sub> bas ma b-a-ʕraf mi:n fa:f*  
 Hasan see.3ms.PER someone.f, but not Asp-1s-know.IMP who see.3ms.PER  
 ‘Hasan saw someone, but I do not know who he saw.’  
 b. *hasan ftara ?iʔi:<sub>i</sub> bas ma b-a-ʕraf fu: ftara*  
 Hasan buy.3ms.PER something.ms, but not Asp-1s-know.IMP what buy.3ms.PER  
 ‘Hasan bought something, but I do not know what.’  
 c. *hasan ftara sajja:ra, bas ma b-a-ʕraf ?aj no:ʕ ftara*  
 Hasan buy.3ms.PER car, but not Asp-1s-know.IMP which kind buy.3ms.PER  
 ‘Hasan bought a car, but I do not know what/which brand/kind he bought.’

Since these structures are grammatical, they are also plausible sources for sluicing. This indicates that the underlying source of sluicing does not necessarily contain *illi* ‘that’ and a resumptive.

However, sluicing cases that always contain *illi* ‘that’ and a resumptive are those cases where wh-movement without resumption is independently unavailable, i.e cases with preposition stranding as in (63).

- 63) a. *hasan haka maʕ waħad, bas ma b-a-tzakkar mi:n<sub>i</sub>*  
*illi haka maʕ-(o<sub>i</sub>)*  
 Hasan talk-2ms.PER with someone but not Asp-1s-remember.IMP who  
 that talk-2ms.PER with-him

‘Hasan talked with someone, but I do not remember who that he talked with.’  
 #b. *hasan haka maʕ waḥad, bas ma b-a-tzakkar mi:nj*  
*haka maʕ-(o<sub>i</sub>)*  
 Hasan talk-2ms.PER with someone but not Asp-1s-remember.IMP who  
 talk-2ms.PER with-him  
 ‘Hasan talked with someone, but I do not remember who that he talked with.’

It is the case that (63b) is not grammatical as a (pseudo)-sluicing structure because it violates the basic licensing condition for sluicing when the resumptive pronoun and the wh-word are not co-indexed, i.e. *hasan* ‘Hasan’ is the subject in the antecedent but the object in the elided clause. It is the case that the absence of *illi* ‘that’ affects the meaning of the sentence and salvages the basic licensing condition. In the next subsection, I will discuss the rest of the JA (pseudo)-sluicing data in (10) – (12) where there is a preposition and illustrate that an example like (63) shows that with the complementizer *illi*, sluicing condition is licensed and asserts the mutual entailment (Merchant 2001) which I will discuss in the next subsection as well.

#### 5.4.2 Preposition Stranding in sluicing

Such elliptical constructions behave differently with a stranded preposition hence I will discuss it under this subsection in order to answer the question of whether JA violates PSG or not which is the third research question of this chapter.

Preposition stranding is a phenomenon in which the preposition with an object is left in-situ in the construction while its object moves. For instance, the object of the preposition in constituent questions is a wh-word that is fronted due to wh-movement, while the preposition is stranded in-situ as in (64). The wh-word *what* moves higher leaving the preposition stranded.

64) What<sub>i</sub> are you talking about t<sub>i</sub>?

The behavior of prepositions plays a role in determining whether there is PSG violation or not. Sluicing constructions involve a wh-word, and in some cases it involves a preposition that is either stranded or pied-piped. For instance, the sluice site in (65a) is interpreted as in (65b), which

is the underlying source of the sluice or the target. In (65c), the preposition is pied-piped with the wh-word.

- 65) a. John talked with someone, but I do not know who.  
 b. John talked with someone, but I do not know who [ ~~John talked with~~ ].  
 c. John talked with someone, but I do not know with who.

Conversely, there is preposition stranding in the sluice site in (65b), which contributes to the analysis of such constructions. In (66), the PSG of Merchant (2001) which he also calls Form-Identity Generalization II (Merchant, 2001, p.107), took the attention of several linguists who worked on sluicing, because his claim predicts the behavior of prepositions in a wide number of languages, yet he claims that the plausibility of variation under sluicing is entirely derivative of variation in the availability of p-stranding.

#### 66) Preposition Stranding Generalization

A Language *L* will allow preposition stranding under sluicing iff *L* allows preposition stranding under regular wh-movement. (Merchant, 2001, p. 92, 117)

Merchant (2001) surveyed twenty languages that confirm PSG, which include English (67), when French (68) falsifies PSG among other languages.

#### 67) English

- a. Who did Peter talk to?  
 b. To whom did Peter talk?  
 c. Peter talked to someone, but I do not know who [ ~~Peter talked to~~ ]

#### 68) French

- a. \*Qui est-ce qu' elle l'a offert à?  
 who Q she it-has offered to  
 'whom has she offered it to?'  
 b. À qui l'a-t-elle offert?  
 to whom it-has-she offered  
 'To whom has she offered it?'  
 c. Anne l'a offert à quelqu'un mais je ne sais pas \*(à) qui  
 Anne it-has offered to someone but I NEG know NEG to whom  
 'Anne has offered it to someone, but I don't know (to) whom.'

(Merchant, 2001, p. 98)

In other words, the possibility of p-stranding under wh-movement predicts the possibility of the preposition to remain in-situ in sluicing constructions when wh-word moves out of the IP of the target.

The puzzle can be solved after determining the underlying source of such constructions whether it is a regular constituent question or a cleft construction. For example, if the source of the preposition in French (68) is a cleft in the target, this means that there is no violation of PSG. Nevertheless, if the underlying source is a regular wh-fronting, then PSG is violated.

Merchant (2001) illustrated that the underlying syntactic source for the examples in (69) could either be derived from wh-movement and then a TP-deletion (genuine sluicing) as in (69a), or from a cleft construction, which involves TP-deletion (cleft construction)<sup>33</sup> as in (69b).

- 69) a. Peter talked to someone, but I do not know who<sub>i</sub> [<sub>TP</sub> ~~Peter talked to t<sub>i</sub>~~]  
 b. Peter talked to someone, but I do not know who<sub>i</sub> [<sub>TP</sub> ~~it was t<sub>i</sub>~~]

Some languages like Mandarin Chinese sound as if they violate PSG on the surface, but there is a strategy that salvages PSG at some point. Some of these strategies are resumption or P-loss (Stjepanović, 2008). For example, although Mandarin Chinese may look like it violates PSG as shown in (70), Wang (2006) proposed that Mandarin Chinese does not pose a problem to PSG and it can be maintained because preposition deletion under sluicing involves a resumptive pronoun underlyingly that will always rescue PSG following wh-movement out of the sluice site as in (71a).

- 70) a. \*(shi) [na-ge ren]<sub>i</sub> Lisi gen t<sub>i</sub> zai shuohua?  
 FOC.COP which-CL person Lisi with PROG talk  
 ‘which one is Lisi talking with?’  
 b. Lisi gen mou-ge ren quwan dan wo bu zhidao  
 Lisi with certain-CL person go-play but I NEG know  
 shi (gen) shei.  
 FOC/COP with who

<sup>33</sup> Cleft constructions are very similar to pseudosluicing on the surface in which both could have a subject and a copula. Cleft constructions exhibit TP-deletion (i) which is not pseudosluicing., and pseudosluicing involves pro-drop and copula deletion (ii).

i. Peter talked to someone, but I do not know who<sub>i</sub> [<sub>TP</sub> ~~it was t<sub>i</sub>~~]  
 ii. Peter talked to someone, but I do not know who [<sub>CP</sub> who<sub>i</sub> [<sub>TP</sub> t<sub>i</sub> ]]

‘Lisi has a trip with a certain person, but I do not know who.’ (Wang, 2006, pp. 9-10)

- 71) a. [ na-ge ren]<sub>i</sub> Lisi hen zihuan ta-<sub>t<sub>i</sub></sub>?  
 which-CL person Lisi very like him  
 ‘which person does Lisi like (him) very much?’  
 b. Keshi wo bu zahidao na-ge ren<sub>i</sub> <TP Lisi gen ta-<sub>t<sub>i</sub></sub> qu kan dianying>  
 but I NEG know which-CL person Lisi with him go see movies  
 ‘but I don’t know which person (did) Lisi go to the movies with him.’

Stjepanović (2008) on the other hand proposes P-loss at PF as a strategy to rescue PSG violation in Serbo-Croatian as shown in footnote 2 in chapter 2. I will not go into the details of this mechanism for its irrelevance to my analysis.

I will delve into the details of preposition stranding and resumption that salvages PSG in JA, in order to answer question three whether or not JA salvages PSG by some mechanism in the next subsection.

### 5.4.3 PSG in JA

In this subsection, I will discuss PSG and the analysis of these examples with wh-PP. I will look into the underlying derivation of those examples in (10) to (12) where there is wh-PP in the sluice site in order to diagnose their underlying source and determine whether JA violates PSG or not.

The data in (29) above repeated in (72) seems to suggest that JA violates PSG because there is a preposition *maʕ* ‘with’ “stranded” in the target or not pied-piped with the wh-word *mi:n* ‘who’; however, I will show that there is a strategy in JA that salvages PSG which means that the generalization holds for Arabic as well.

- 72) a. *ʕumar ʔaka maʕ ʔada, bas ma b-a-ʕraf mi:n*  
 [ ~~-illi~~ ~~ʔaka~~ ~~maʕ-o~~ ]  
 Omar talk.3ms.PER with someone, but not Asp-1s-know.IMP who  
 [ ~~-that~~ ~~talk.3ms.PER.~~ ~~with him~~ ]  
 ‘Omar talked to someone, but I do not know who [Omar talked with].’  
 b. \**mi:n ʔaka ʕumar maʕ*

who talk.3ms.PER Omar with  
 ‘who did Omar talk with?’

The resumptive pronoun under sluicing rescues PSG in (73) occurring with *ʔaj*-NP ‘which-NP’ that allows wh-cleft in regular questions as shown above whether in (35c) with a preposition or (40) without a preposition. In (73b), the bare wh-remnant in such examples is grammatical with the resumptive item.

- 73) a. *ħasan daras b-l-ʒa:mʕa, bas ma b-a-ʕraf ʔaj*  
*ʒa:mʕa hejje illi daras \*(fi-ha)*  
 Hasan study.3ms.PER in-the-university but not Asp-1s-know.IMP which  
 university it.fs.COP that study.3ms.PER in-it  
 ‘Hasan studied at a university, but I do not know which university he studied at.’  
 b. *ħasan daras b-l-ʒa:mʕa, bas ma b-a-ʕraf ʔaj*  
*ʒa:mʕa daras \*(fi-ha)*  
 Hasan study.3ms.PER in-the-university but not Asp-1s-know.IMP which  
 university study.3ms.PER in-it  
 ‘Hasan studied at a university, but I do not know which university he studied at.’

Although both the complementizer *illi* ‘that’ and the copular pronoun *huwe* are absent in (73b) and it is still grammatical, it is not the case that there is an apparent preposition stranding but rather a resumptive strategy salvaging the expected violation of PSG.

Some wh-PP do not allow the preposition to strand neither in regular question nor in non-elliptical counterexamples of sluicing as in (10) repeated here in (74), such wh-PP are *min we:n* ‘from where’ and *min ʔemta* ‘since when’ as in (74a) and (74b) respectively.

- 74) a. *ʕumar riʒeʕ, bas ma b-a-ʕraf min we:n*  
 Omar return.3ms.PER, but not Asp-1s-know.IMP from where  
 ‘Omar came back but I do not know from where.’  
 b. *ʕumar riʒeʕ ji-ħab b-l-ʒem, bas ma b-a-ʕraf*  
*min ʔemta*  
 Omar return.3ms.PER 3ms-play.IMP in-the-gym but not Asp-1s-know.IMP  
 since when  
 ‘Omar went back to the gym, but I don’t know since when.’

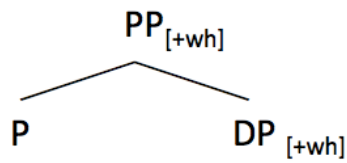
The nature of the wh-PP differs in a way that the two aforementioned wh-PPs cannot leave the preposition in-situ, while the wh-word moves out of the target as a remnant outside the elided clause. Syntactically, this can be explained by the optional percolation feature; the ability of [+wh]



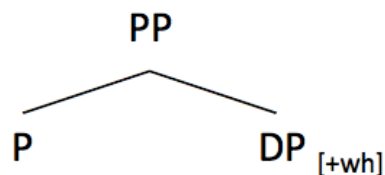
feature of the interrogative element DP, to percolate onto its dominating PP in English (Chomsky, 1972).

Chomsky suggests that the percolation analysis in English works as shown in (75). I assume that when the preposition pied-pipes with the wh-word, as in (75a), the [+wh] feature, which moves the wh-word to the specifier of the matrix CP, percolates to the dominating PP, which requires the preposition to pied-pipe along with the wh-word to the Specifier of the matrix CP. On the other hand, when the preposition strands in-situ as in English, the [+wh] feature does not percolate as in (75b), and thus only the DP has the [+wh] feature, which forces only the wh-word to move to the Specifier of the matrix CP.

75) a. Percolation (pied-piped preposition)



b. No percolation (wh-PP stranded preposition)



As for JA, there is no optionality to whether the verb pied-pipes or remains in-situ, as I have shown so far. JA is a non-stranding language and so it can only be schematized as (75a) in which the [+wh] feature percolates to PP that causes the entire PP to pied-pipe. In JA sluicing, on the other hand, the prepositions can remain in-situ with the presence of a resumptive pronominal item, as I have shown above as a strategy to salvage PSG.

In JA, *min we:n* ‘from where’ and *min ʔemta* ‘since when’ in particular do not have the option of remaining in-situ, not even with a resumptive pronominal item, but rather they work as illustrated in (75a) where the [+wh] feature percolates at all times. In examples (74), the pied-piped preposition is a must and it is illustrated as (75a) as well in which the [+wh] feature percolates to the dominating PP, otherwise the verb in the second conjunct without the ellipsis (in the underlying derivation) will not have the same inference as the verb in the first conjunct and so the result is not a sluicing structure.

The interpretation of (74) is illustrated in (76) respectively, in which the VP in the target is semantically and syntactically identical to the VP in the antecedent. This is what is referred to as verb inference (Chung et al., 2011), which I touch upon in more detail in the following subsection under the semantic isomorphism and verb inference. It is obvious that the two verbs in the target and the antecedent have the same inference in (76).

- 76) a. *ʕumar riʒeʕ, bas ma b-a-ʕraf min we:n riʒeʕ*  
 Omar return.3ms.PER, but not Asp-1s-know.IMP from where  
 ‘Omar came back but I do not know from where he came back’  
 b. *ʕumar riʒeʕ ji-lʕab b-l-ʒem, bas ma b-a-ʕraf*  
*min ʔemta riʒeʕ ji-lʕab b-l-ʒem*  
 Omar return.3ms.PER 3ms-play.IMP in-the-gym but not Asp-1s-know.IMP  
 since when return.3ms.PER 3ms-play.IMP in-the-gym  
 ‘Omar went back to the gym, but I don’t know since when he went back to the gym.’

The underlying derivation and interpretation of example (76b) where there is more material in the antecedent, can clearly show that the underlying derivation in the target is identical to the material in the antecedent; therefore, it satisfies the basic sluicing condition in which the verb in the target is semantically and syntactically identical to the verb in the antecedent (verb inference). This also means that preposition in wh-PP *min ʔemta* “since when” must pied-piped, otherwise the target won’t have the same inference as the antecedent.

As for example (76a), even if the wh-PP has an overt prepositional phrase as a correlate or explicit correlate, the preposition in the sluice site does not remain in-situ, which also confirms the

[+wh] feature percolation ability on the dominated PP that requires the entire PP in the sluice cite to move to the matrix Spec, CP. This also explains the fact that (77) where the preposition is not pied-piped are not sluicing cases; the reason behind the unavailability of diagnosing these examples as sluicing is that the verb in the target does not have the same inference that the verb in the antecedent has.

- 77) a. *ʕumar txarraʒ min ʃi: ʒa:mʕa, bas ma b-a-ʕraf we:n*  
 Omar graduate.3ms.PER from some university, but not Asp-1s-know.IMP where  
 ‘Omar came back but I do not know where.’  
 b. *ʕumar riʒeʕ ji-lʕab b-l-ʒem, bas ma b-a-ʕraf ʔemta*  
 Omar return.3ms.PER 3ms-play.IMP in-the-gym but not Asp-1s-know.IMP when  
 ‘Omar went back to the gym, but I don’t know since when/when.’

The underlying derivation for the data in (77) is interpreted in (78), where it is obvious that the two verbs in the antecedent and target are neither semantically nor syntactically identical. That is to say they do not have the same inference and so the basic condition for sluicing is not satisfied.

- 78) a. *#ʕumar txarraʒ min ʃi: ʒa:mʕa, bas ma b-a-ʕraf we:n*  
*l-ʒa:mʕa/ ha:j l-ʒa:mʕa*  
 Omar graduate.3ms.PER from some university, but not Asp-1s-know.IMP where  
 the-university/ this university  
 ‘Omar came back but I do not know where the university is.’  
 b. *#ʕumar riʒeʕ ji-lʕab b-l-ʒem, bas ma b-a-ʕraf ʔemta*  
*bi-ru:h ʕa-l-ʒem*  
 Omar return.3ms.PER 3ms-play.IMP in-the-gym but not Asp-1s-know.IMP when  
 Asp-go.IMP to-the-gym  
 ‘Omar went back to the gym, but I don’t know when he goes to the gym.’

The interpretation of the target in (78a) cannot be *we:n txarraʒ* ‘where he graduated’, and the target in (78b) cannot be interpreted as *ʔemta riʒeʕ ji-lʕab b-l-ʒem* ‘when he returned to practicing/playing in the gym’. If the target and the antecedent were to have the same inference, the remnant must include the pied-piped preposition. Thus the sluice cite would be *min ʔemta riʒeʕ ji-lʕab b-l-ʒem* ‘since when he returned to play in the gym.’

In other words, the examples are marked with a square sign because they do not show the intended meaning under elliptical constructions since the basic licensing condition on sluicing and

mutual entailment (Merchant, 2001) are not satisfied. Therefore, the underlying derivation is shown in (78) where the complement of *we:n* ‘where’ and *ʔemta* ‘when’ is different from the antecedent.

#### **5.4.4 Semantic isomorphism and inferences**

It is crucial to consider the semantic identity requirement between the elide constituent and its antecedent, and not the syntactic identity or isomorphism of Fiengo and May (1994) which failed to account for the facts of ellipsis constructions. I will look into more details of syntactic isomorphism and the semantic identity later in this chapter. Yet briefly, Merchant (2001) based his requirement on Schwarzschild (1999) and Rooth (1992). Both of which are concerned with the condition under which the ellipsis occur creating a relationship between the elided phrase and the antecedent phrase taking into account focus (adapted from Existential F-Closure of Schwarzschild, 1999), e-GIVENness (revised from GIVENness of Schwarzschild, 1999 to fit into ellipsis), and mutual entailment.

Similar to other types of ellipsis constructions, sluicing shows that an elided constituent must have an antecedent in order to elide. As I have discussed above in section 2.1.3, the syntactic or structure isomorphism fails to account for sluicing, because the IP can elide even when there is no overt correlate to the elided constituent. Accordingly, sluicing shows semantic identity, which includes GIVENness condition and focal parallelism, instead which means that the elided phrase and the antecedent phrase semantically entail each other. This indicates that the non-focused material in the antecedent TP as well as the non-focused material in the elided TP must also entail each other.

The semantic isomorphism could be an evidence of the underlying derivation of elliptical constructions like (pseudo)-sluicing.

Examining (79), *mi:n* ‘who’ occurs with a resumptive and it is grammatical under wh-cleft with and without the copular pronoun, as well as wh-fronting (80) in non-elliptical counter example of a sluicing example. However, there is a difference in interpretation among the examples in (79) on the one hand, and (80) on the other.

- 79) a. *ʕumar<sub>j</sub>* [IP<sub>A</sub> *ħaka* *-maʕ waħad*, *bas ma b-a-ʕraf* *mi:n<sub>i</sub>*  
*huwe illi* [IPE *ħaka maʕ-o<sub>i</sub>*]]  
 Omar talk.3ms.PER with someone but not Asp-1s-know.IMP who  
 he.COP that talk.3ms.PER with-him<sub>i</sub>  
 ‘Omar talked to someone, but I do not know who it is that he talked to.’  
 b. *ʕumar<sub>j</sub>* [IP<sub>A</sub> *ħaka maʕ waħad*, *bas ma b-a-ʕraf* *mi:n<sub>i</sub>*  
*illi* [IPE *ħaka maʕ-o<sub>i</sub>*]]  
 Omar<sub>i</sub> talk.3ms.PER with someone but not Asp-1s-know.IMP who  
 that talk.3ms.PER with-him<sub>i</sub>  
 ‘Omar talked to someone, but I do not know who it is that he talked to.’

For instance, in (79a and b), the resumptive pronominal item refers to the correlate *waħad* ‘someone’ which is common in sluicing examples in which the structure confirms the basic licensing condition for sluicing, i.e., Omar is the subject in the antecedent and the subject in the target or the non-elliptical counterexample of sluicing; *mi:n* ‘who’ and *waħad* ‘someone’ in addition to the resumptive all refer to one individual and *mi:n* ‘who’ is semantically co-indexed with the resumptive in which both refer to *waħad* ‘someone’. Comparably, (80) has a different interpretation from the regular interpretation of non-elliptical counterexample of a sluicing case.

- 80) # [IP<sub>1</sub> *ʕumar<sub>i</sub> ħaka maʕ waħad*, *bas ma b-a-ʕraf* [IP<sub>2</sub> *mi:n<sub>j</sub>*  
*ħaka maʕ-o<sub>i</sub>*  
 Omar<sub>i</sub> talk.3ms.PER with someone but not Asp-1s-know.IMP who  
 talk.3ms.PER with-him<sub>i</sub>  
 ‘Omar talked to someone, but I do not know who talked to him.’

In this case where there is no wh-cleft, but rather wh-fronting, the pronoun *o* ‘him’ refers to the subject of the matrix sentence *ʕumar* ‘Omar’ rather than the correlate *waħad* ‘someone’. This structure violates the basic licensing condition for sluicing: Omar is the subject in the antecedent but the object in the target, unlike (79) where Omar is the subject in both the antecedent and the target. In such structures, there is an additional restriction of mutual entailment (Merchant 2001),

the modulo existential type-shifting; that is the meaning of the target has to match the meaning of the antecedent which is not the case in (80).

The LF in (80) does not meet the S-Focus-condition on IP-ellipsis/TP-ellipsis (Schwarzchildian version derived from Rooth's version), which states that, 'an IP  $\alpha$  can be deleted only if  $\alpha$  is or is contained in a constituent that is GIVEN.' Also, 'an expression E counts as GIVEN iff E has a salient antecedent A, and modulo existential type-shifting, which is the mutual entailment as in (81).

81) e-GIVENness:

An expression E counts as e-GIVEN iff E has a salient antecedent A and, modulo  $\exists$ -type shifting,

i) A entails the f-clo (E), and

ii) E entails the f-clo (A)

(Merchant, 2001, p. 31)

Simply, IP<sub>2</sub> in (80) does not entail the focus closure of IP<sub>1</sub>, and IP<sub>1</sub> does not entail the focus closure of IP<sub>2</sub> which is illustrated in (82).

82) a. IP<sub>1</sub> = [  $\lambda x: x \in \text{De. [ Omar talked to } x]$

b. IP<sub>2</sub> = [  $\lambda y: y \in \text{De. [ } y \text{ talked to Omar]}$

The interpretation of IP<sub>1</sub> does not match the interpretation of IP<sub>2</sub>. Consequently, in order for example (83) to be analyzed as sluicing, it is implausible that is derived from a wh-fronting source underlyingly because it does not satisfy the mutual entailment condition (Merchant, 2001) on sluicing.

83) *ʕumar      ħaka              maʕ waħad,      bas ma      b-a-ʕraf              mi:n*  
Omar      talk.3ms.PER      with someone.m , but not      Asp-1s-know.IMP      who  
'Omar talked to someone, but I do not know who.'

Therefore, the example in (11) where the preposition is "stranded" includes a wh-cleft underlyingly, which means it can plausibly be analyzed, as pseudosluicing since sluicing is not available.

Furthermore, there should be a semantic isomorphism between the elided clause and its antecedent. Therefore, the target must have the source that entails the same meaning of the antecedent. The target or the elided clause in (83) must have the source as in (79a) or (79b), schematized in (84a), but not (80), schematized in (84b).

- 84) a. .... = *bas ma b-a-šraf mi:n<sub>i</sub> (huwe) illi ħaka maš-o<sub>i</sub>*  
       ..... but not Asp-1s-know.IMP who he.COP that talk.3ms.PER with-him<sub>i</sub>  
       b. .... ≠ *bas ma b-a-šraf mi:n<sub>j</sub> ħaka maš-o<sub>i</sub>*  
       ..... but not Asp-1s-know.IMP who talk.3ms.PER with-him<sub>i</sub>

Presumably, an IP  $\alpha$  can be deleted only if  $\alpha$  is e-GIVEN; in this case IPE can be deleted if it entails the antecedent. Therefore, it must be Omar talked to x, and both the antecedent and the elided clause entail each other, which means that the elided clause must be e-given.

In (80), IP<sub>E</sub> cannot elide because it is obvious that the schema of its LF in (85) does not match, and thus e-GIVENness condition is not satisfied.

- 85) a. IP<sub>A</sub> =  $\exists x$ . Omar talked to x  
       b. F-Clo (IP<sub>E</sub>) =  $\exists x$ . x talked to Omar  
       c. IP<sub>E</sub> =  $\exists x$ . x talked to Omar.  
       d. F-Clo (IP<sub>A</sub>) =  $\exists x$ . Omar talked to x

Apparently, IP<sub>A</sub> does not entail the focus closure of IP<sub>E</sub>, and IP<sub>E</sub> does not entail of the focus closure of IP<sub>A</sub>. Therefore, e-GIVENness is not satisfied which means IP<sub>E</sub> cannot delete because it is not e-given. On the other hand, (79a and b) satisfies e-GIVENness and the schema in (86) asserts that the elided clause is able to elide since it shows mutual entailment with the antecedent.

- 86) a. IP<sub>A</sub> =  $\exists x$ . Omar talked to x  
       b. F-Clo (IP<sub>E</sub>) =  $\exists x$ . Omar talked to x  
       c. IP<sub>E</sub> =  $\exists x$ . Omar talked to x  
       d. F-Clo (IP<sub>A</sub>) =  $\exists x$ . Omar talked to x

Another argument in favor of this analysis is that the resumption is only possible in wh-clefts and type II resumption constructions. It's true that there is an available surface linearization of the form *mi:n ħaka maš-o* 'who talked with-him', but the only available indexing is one in

which 'who' and 'him' are contra-indexed: in that case, 'him' is not a resumptive pronoun (80) and sluicing isn't licensed in the first place, hence wh-fronting is totally impossible as a derivation of the example in question.

In addition, the inference of the verb is different and thus there is inequivalence. The reason behind the lack of equivalence is the inference of the verbs in the antecedent and the sluice, and thus Merchant illustrated that different versions of a verb cannot be matched under sluicing.

It is the case that the proposition in the antecedent is different than that in the sluice. Moreover, Chung et al. (2011) consider the so-called inference. The verb *ħaka* 'talked' in the antecedent of (80) differ than the verb *ħaka* 'talked' in the sluice. The former can be interpreted as Omar talked to x, while the latter is interpreted as x talked to Omar. Therefore, they have different inferences (Chung et al., 2011).

Yet the example in (80) requires a deep analysis of the correlates and the interpretation of the presence or absence of the overt correlate, which is beyond the questions of this paper.

This also confirms the fact that JA does not violate PSG and the reason is the undesirability of the wh-fronting option, which means we must consider whether wh-clefting or Class II resumption constructions as plausible underlying derivations for the example in question. It is the case that they are the two plausible options, and hence JA salvages PSG since the two available derivations include a resumptive item, which will always occur to rescue PSG, and there is no preposition stranding.

Another piece of evidence in favor of resumption as an available strategy that salvages PSG violation is embedded statements and questions as I mentioned above in (43) or (87). For instance, constructions with resumption strategy exists instead of P-stranding; whether class II resumption or resumptive strategy (Aoun et al., 2010) in embedded questions in a statement as in (87a), or



embedded questions in another question as in (87c). On the other hand, the counterexamples of (a and c) without the resumption are not grammatical as shown in in (b and d).

- 87) a. ma smiʕe-t mi:n illi ʔaka maʕ-o b-l-za:mʕa  
 not hear-1s.PER who that talk-3ms.PER with-him at-the-university  
 ‘I did not hear who that he talked to at the university.’  
 \*b. ma smiʕe-t mi:n illi ʔaka maʕ b-l-za:mʕa  
 not hear-1s.PER who that talk-3ms.PER with at-the-university  
 ‘I did not hear who that he talked to at the university.’  
 c. b-t-iʕraf mi:n illi ʔaka maʕ-o b-l-za:mʕa?  
 Asp.2s.know.IMP who that talk-3ms.PER with-him at-the-university  
 ‘Do you know who that he talk to at the university?’  
 \*d. b-t-iʕraf mi:n illi ʔaka maʕ b-l-za:mʕa?  
 Asp.2s.know.IMP who that talk-3ms.PER with at-the-university  
 ‘Do you know who that he talk to at the university?’

Yet another piece of evidence against the proposal that JA violates the PSG is those examples that are ungrammatical with resumption, but grammatical with resumption under sluicing. For instance, *ʔu*: ‘what’ and *ʔajja-NP* ‘which-NP’ cannot occur with resumption<sup>34</sup> (Aoun et al., 2010) unless there is an antecedent, such as those contexts under sluicing which by definition have an antecedent. In (88a), the resumption is not allowed with *ʔu*: ‘what’, yet it is allowed in (88b) since there is an antecedent.

- 88) a. #ʔu: illi talab-o ʕumar b-l-matʕam?  
 what that order.3ms-it Omar in-the-restaurant  
 ‘what did Omar order at the restaurant?’  
 b. ʕumar talab ʔiʕi: bas ma b-a-ʕraf ʔu: illi  
 talab-o  
 Omar order.3ms.PER something but not Asp-1s-know.IMP what that  
 order.3ms-it  
 ‘Omar ordered something, but I do not know what is that Omar ordered.’

Likewise, *ʔajj-NP* ‘which-NP’ in (89) cannot occur with resumption, unless there is an antecedent discourse, as an echo question. The nature of wh-NP entails that there is an antecedent.

<sup>34</sup> (88) and (89) are not grammatical as constituent questions in JA without an antecedent, that is in a context where there is no antecedent discourse like sluicing. In other word, this question is not a regular question where one starts a conversation seeking information, but rather as an echo or confirmation question. Therefore, I argue that sluicing explains that unavailability of wh-fronting with *ʔu*: ‘what’, *mi:n* ‘what’ and *ʔajja-NP* ‘which-NP’ when there is an antecedent discourse or context.

It would be grammatical in the context where there is a discourse precedent to the question from which the speaker needs to confirm who Omar saw as in (89b).

- 89) a. \*ʔaj      s<sup>ʕ</sup>aħeb      fa:f-o                      ʕumar      b-l- ʒa:mʕa?  
          which      friend      see.3ms-him.PER      Omar      in-the-university  
          ‘which friend did Omar see in the university?’  
   b. ʔaj              s<sup>ʕ</sup>aħeb illi      fa:f-o                      ʕumar      b-l- ʒa:mʕa  
          which      friend      that      see.3ms-him.PER      Omar      in-the-university  
          ‘which friend did Omar see in the university?’

There will always be a resumptive pronominal item as a clitic on the preposition. Thus, JA does not violate PSG because the resumptive pronominal item salvages PSG. I also show that at all cases where the resumption strategy is used in question, there must be an antecedent discourse, which is also a given condition for sluicing constructions via the antecedent clause.

To conclude, we can appeal to resumption strategy to show that there is no PSG violation in JA observed under sluicing in this language. This means that JA, unlike EA or Polish, does not show PSG violation at PF.

# Chapter Six

## Conclusion

This dissertation proposal deals with elliptical constructions in JA. By JA, I mean the dialect that is exclusively spoken in the capital, Amman. In the Arabic descriptive literature, there is not much to say about ellipsis as very few studies have been done.

### 6.1 Analysis summary

I have investigated JA gapping sentences and attested the properties of gapping in JA. The existence of simple gap examples in JA and not the examples where T is occupied by a modal or auxiliary while only the verb is elided, show that this language does not have pseudogapping cases, yet it has gapping. Since JA exhibits the three properties of gapping which are crucial to distinguish between gapping and pseudogapping, I argue that JA verb gapping constructions are gapping cases, and not pseudogapping. These properties are: 1) JA gapping constructions only occur in coordination cases which is English gapping-like; 2) In JA, antecedent cannot occur within an embedded clause which is a property of gapping, while English pseudogapping can occur within an embedded clause; for that reason, JA resembles English gapping in the embedding structure case; 3) English gapping exhibits scope relation as the subject of the first conjunct binds the pronoun in the second conjunct, which Arabic exhibits as well, whereas Arabic has an asymmetrical scope relations between the first and the second subject. As a result, my data are diagnosed as gapping.

I proposed that gapping in JA arises through ATB movement (Johnson, 2009) to low-coordination construction of two vPs; however, some cases that have a past tense verb utilize ATB movement differently (Johnson, 2009). When the verb is perfective (past), there are two instances of ATB movement analysis. First, the two identical VPs ATB move outside the coordination to a higher position but lower than TP, and then only the head V moves out of vP to T, only when the

verb is in the past tense to fulfill the requirement of the past tense verb in Arabic. This means that I am assuming that extraction out of ATB moved projection is grammatical.

If extracting out of a moved constituent is ungrammatical, the second analysis starts with the head V, ATB moving to T outside the low-coordination in order to satisfy the verb-raising requirement of the past tense verb in Arabic. Then the identical VPs including traces, ATB move to a projection higher than the coordinated vPs, but lower than TP and lower than the head V. In this case, the ATB moved V still c-commands its trace in each conjunct, as long as T is higher than PredP to which the VPs ATB moved.

The second elliptical construction cases that I investigate in my dissertation are (pseudo-) sluicing. However, for the sake of this proposal, I showed the facts of JA (pseudo)-sluicing that would be beneficial to diagnose the data as sluicing vs. pseudosluicing. Question formation, copula droppability, and the distribution of the copular pronoun, the complementizer, and the resumptive pronominal item show effect on the analysis. All of which play an essential role in the analysis along with their distribution and co-occurrence together, yet preposition stranding remains the central issue of the analysis.

In order to argue whether JA data can be diagnosed as the genuine sluicing vs. pseudosluicing, an intense analysis of the underlying derivation of the target has been attested, and independent facts also contributed to the diagnosis of these constructions. The facts of question formation in JA indicate whether wh-fronting strategy or wh-cleft strategy is used underlyingly in the target. For instance, the fact that some wh-words like wh adjuncts and wh-PP (with a pied-piped preposition) do not allow wh-clefting, indicates that their use in the target cannot be wh-clefting either. Thus, wh-fronting is the only available derivation with like wh adjuncts and wh-PP (with a pied-piped preposition), which means that pseudosluicing cannot work for the full range of data.

Nevertheless, I argue that the independent droppability of the copula in some constructions

as in (1), where there is an embedded question, indicates that an example with *fu* ‘what’ or *mi:n* ‘who’, allows wh-clefts.

- 1) *ma b-a-ʕraq fu: (huwe) illi ftara-a*  
 not Asp-1s-know.IMP what 3ms.it.COP that buy.3ms.PER-it  
 ‘I do not know what is it that he bought.’

In other words, since *huwe* ‘3ms.it.COP’ is droppable, it is possible that the copula was present underlyingly in elliptical constructions, which means wh-cleft is possibly one of the underlying derivations. And thus it is plausibly analyzed as pseudosluicing (wh-cleft). That is to say that JA shows pseudosluicing cases.

As for sluicing diagnosis, when the complement of the wh-word is elided, the underlying derivation can be wh-fronting, class II resumption (Aoun et al., 2010) or wh-clefting with *mi:n* ‘who’, *fu*: ‘what’, and *ʔaj-NP* ‘which-NP’ since they can occur in wh-fronting and wh-clefting in regular constituent questions. Therefore, when the complement of the wh-word is elided, the first possible underlying derivation is wh-fronting which means it is sluicing because everything is deleted except the wh-word. The second possible underlying derivation is wh-cleft because the droppability of the copular pronominal item *huwe* indicates that the underlying derivation can include the copula.

Examining JA data with a wh-PP, the preposition can either pied-pipes or remains in-situ (strand). In the second case where the preposition remains in-situ, the question that posit itself is, “does JA violate PSG of Merchant (2001)?” This can be determined by examining the underlying derivation of the target in order to figure out what is left in the target before deletion applies. I argued that there is no stranding preposition but rather a resumptive pronoun that occurs at all time as the object of the preposition to rescue PSG, whether in embedded questions or sluicing examples.

## 6.2 Future Thoughts

Apparently, this study shows the need for additional cross-dialectal research to pinpoint the similarities and have a more profound and comprehensive analysis of ellipsis in SA as well as other Arabic dialects. The studies could be looked at from different angles since the topic is still very primitive, such sociolinguistic research, and pragmatic research as I have found a variety in one example that is related to one context.

Finally, the studies that have been done on Arabic ellipsis are understudied. As discussed in Chapter 3, there are no studies on Arabic gapping at all, while chapter 4 shows that Algryani (2010) and Leung (2014) have looked at sluicing in LA and EA respectively, in addition to one study on VP-ellipsis in LA by Algryani (2011).

## 6.3 Concluding remarks

The conclusion is also in tandem with the cross-linguistically widespread generalization of ellipsis alternation between the two kinds of ellipsis remnants whose correlates are prepositional phrases. Ellipsis alternation is the availability of either stranding a preposition or pied-piping the preposition as illustrated throughout this chapter. It is cross-linguistically known that this alternation occurs only in languages that allow preposition stranding like English. Languages that do not allow preposition stranding under regular questions, does not allow it under sluicing which means there is no ellipsis alternation<sup>35</sup>.

Nykiel (to appear) argues that there is syntactic correlation between the ellipsis alternation and preposition stranding. She shows piece of evidence from English. First, English allows preposition stranding and so it is cross-linguistically widespread that such language shows ellipsis alternation because it allows preposition stranding. Second, I have shown that JA is a non-stranding language and thus it shows no alternation; and Stjepnović (2008) shows that Serbo-Croatian is a

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<sup>35</sup> Ellipsis alternation is the availability of the two options, stranding vs. pied-piping of the preposition in questions.

non-stranding language; therefore, it shows no alternation either. On the surface, Serbo-Croatian and JA seem to allow preposition stranding under sluicing as well as pied-piping, which means there is ellipsis alternation. However, examining the underlying derivation of such constructions, I argue that there will always be a resumptive pronominal item in JA as an object of the unpied-piped or “stranded” preposition in sluicing constructions as in (2).

- 2) *ʕumar<sub>j</sub>* [IP<sub>A</sub> *ħaka* -*maʕ* *waħad<sub>i</sub>*, *bas* *ma* *b-a-ʕraf* *mi:n<sub>i</sub>* *huwe*  
*illi* [IPE *ħaka* *maʕ-o<sub>i</sub>* ]]  
 Omar talk.3ms.PER with someone but not Asp-1s-know.IMP who he.COP  
 that talk.3ms.PER with-him<sub>i</sub>  
 ‘Omar talked to someone, but I do not know who it is that he talked to.’

Stjepanovic (2008) also shows another repair strategy for Serbo-Croatian which she referred to as ‘pro-loss’ at PF and not a preposition stranding phenomenon in Serbo-Croatian, as in (3).

- 3) *Petar je sakrio igračku ispod jedne stolice i pored jednog zida,*  
*ali ne znam (ispod) koje stolice i (pored) kojeg zida*  
*Petar is hidden toy under one chair and beside one wall.GEN*  
*But not I.know under which chair and beside which wall.GEN*  
 ‘Petar hid the toy under a chair and beside a wall, but I do not know which chair and which wall.’

In addition, English shows cases where a preposition cannot be stranded, such as *under what circumstances* in regular questions as in (4b), yet it allows the preposition not to strand in sluicing (4a), therefore, ellipsis alternation exists.

- 4) a. They met under some circumstances, but I do not remember what circumstances.  
 b. ?What circumstances did they meet under?<sup>36</sup>

Sato (2011) suggests that the optionality of percolation is a unique feature to some prepositions and not all of them. However, I argue that it also differs from one speaker to another in American English since example like (4b) grammaticality judgment varies among native speakers of American English.

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<sup>36</sup> American Speakers’ intuition towards the grammaticality of this example varies.

Nykiel (to appear) also shows that it is not clear what the reason behind Spanish to choose wh-cleft to allow some constructions to strand a preposition as in (5).

- 5) *xuan ha hablado kon una tfika, pero no se cual es la tfika kon la ke ha hablado xuan*  
 Juan has talked with a girl but not I-know which is the girl with the that has talked Juan  
 ‘Juan has talked with a girl but I do not know which is the girl that Juan has talked with.’

Nonetheless, it is obvious that JA sluicing chooses wh-cleft which allows resumptive pronominal item, which in return salvages PSG. As for the distribution of the resumptive pronoun, I have shown that the resumptive pronominal item in JA co-occurs with the complementizer *illi* ‘that’ (47) from chapter 5. Thus, it creates wh-cleft as in (79) from chapter 5, repeated here in (2).

If wh-fronting is to be chosen with a pronoun in the target, the pronoun is a regular pronoun corresponding to Omar, the subject of the antecedent in (6), as I have discussed in chapter 5, and not a resumptive pronominal item which rescues PSG.

- 6) *ʕumar ʔaka maʕ waʔad<sub>j</sub>, bas ma b-a-ʕraf mi:n<sub>i</sub>*  
*ʔaka maʕ-o<sub>i</sub>*  
 Omar talk.3ms.PER with someone.m, but not Asp-1s-know.IMP who  
 talk.3ms.PER with-him<sub>i</sub>  
 ‘Omar saw someone, but I do not know who talked with him.’

First, the verb in the target has a different verb inference (Chung et al., 2011) in which Omar is the subject in the antecedent, yet it is the object in the target, which is the basic licensing condition for sluicing. Thus, there is inequivalence because they show syntactic and semantic content mismatch (Nykiel, to appear). Such examples are in tandem with other examples where the sluice is less preferable because of content mismatch, as in (7).

- 7) a. *ʕumar<sub>j</sub> ʔaka maʕ waʔad<sub>i</sub>, bas ma b-a-ʕraf mi:n<sub>i</sub>*  
 Omar talk.3ms.PER with someone but not Asp-1s-know.IMP who  
 ‘Omar talked with someone, but I do not know who.’  
 b. *ʕumar<sub>j</sub> ʔaka maʕ ʃab, bas ma b-a-ʕraf mi:n huwe*  
 Omar talk.3ms.PER with guy but not Asp-1s-know.IMP who he.COP  
 ‘Omar talked to a guy, but I do not know who he.’  
 c. \* *ʕumar<sub>j</sub> ʔaka maʕ ʃab, bas ma b-a-ʕraf ʔaj waʔad*  
 Omar talk.3ms.PER with guy but not Asp-1s-know.IMP which one



‘Omar talked to a guy, but I do not know which one.’  
 d. \**ʕumar<sub>j</sub> ħaka maʕ ʃab, bas ma b-a-ʕraf ʔaj shab*  
 Omar talk.3ms.PER with guy but not Asp-1s-know.IMP which guy  
 ‘Omar talked to a guy, but I do not know which guy.’

Only (7b) with wh-cleft can have the same inference or content which satisfies the basic licensing condition of sluicing and indicates that resumption appears to rescue PSG. Additionally, the underlying derivation for (7a) must be wh-cleft with or without the copula *huwe* (Class II resumption) in order to satisfy the basic licensing condition of sluicing and to have the same verb inference in the antecedent and the target.

As for (7c and d), the two examples are ungrammatical because the verbs do not have the same inference either. In (7c), the underlying derivation in the second conjunct is shown in (8), in which that the interpretation of the target shows that the pronoun cliticized is not a resumptive pronoun but rather it is a regular pronoun that refers back to Omar. Again, Omar is the subject of the first conjunct, but the object of the second conjunct; thus the two verbs do not have the same inference and there is content mismatch. In addition, the use of *ʔaj wahad* ‘which-one’ is not acceptable.

8) *#ʕumar<sub>j</sub> ħaka maʕ ʃab, bas ma b-a-ʕraf ʔaj wahad*  
*ħaka maʕ-o*  
 Omar talk.3ms.PER with guy but not Asp-1s-know.IMP which one  
 talk.3ms.PER with-him  
 ‘Omar talked to a guy, but I do not know which one he talked with him.’

As shown in the previous chapter in example (79) where wh-cleft or class II resumption (Aoun et al. 2010) salvages PSG by the use of the resumptive pronominal item, if wh-cleft were to save this example in (7b), the wh-word remnant must be *ʔaj shab* ‘which guy’ as in (7d). This also means that the underlying derivation of example (7b) must be wh-cleft in order to be plausibly analyzed as pseudo-sluicing, otherwise different content mismatch arise again as in the interpretation of (7c) schematized in (8).

Therefore, these are consistent with PSG, unlike Spanish (Rodrigues, Nevins & Vicente (2009) as in (9).

- 9) a. *xuan ha hablado kon algwen, pero no se qwen*  
 Juan has talked with someone but not I-know who  
 'Juan has talked with someone, but I do not know who.'  
 b. *xuan ha hablado kon una tfika, pero no se qwal*  
 Juan has talked with a girl, but not I-know which  
 'Juan talked with a girl, but I do not know which.'

(Rodrigues, Nevins & Vicente, 2009, p.2)

Rodrigues, Nevins & Vicente (2009) emphasized the fact that the acceptability of (9a) is less than the acceptability of (9b). They argued that the latter example does not derive from a regular question source, but rather from wh-cleft source in (5).

As for ellipsis alternation, the acceptability of a pied-piped preposition under sluicing vs. unpied-piped preposition under sluicing depends on how much explicit the correlate is. The unpied-piped preposition occurs in context where the correlate or antecedent's syntactic and semantic identity matches the syntactic and semantic identity of the sluice.

- 10) a. \* *ʕumar itʕasal, bas ma b-a-ʕraf mi:n*  
 Omar call.3ms.PER, but not Asp-1s-know.IMP who  
 'Omar called, but I do not know who'  
 b. *ʕumar itʕasal maʕ wahad bas ma b-a-ʕraf mi:n*  
 Omar call.3ms.PER, with someone but not Asp-1s-know.IMP who  
 'Omar called someone, but I do not know who.'  
 c. *ʕumar itʕasal, bas ma b-a-ʕraf maʕ mi:n*  
 Omar call.3ms.PER, but not Asp-1s-know.IMP with who  
 'Omar called, but I do not know with who.'

The more the correlate matches the remnant semantically and syntactically, the more acceptable to unpied-pipe the preposition as in (10b) where the correlate of the wh-word is a prepositional phrase. Conversely, (10a) does not allow a remnant without a preposition because the correlate does not share the same semantic and syntactic isomorphism with the remnant due to the fact that there is no overt correlate. In other words, the verb in (10) has a different inference.

To sum up, I am planning to work on more constructions and match the facts of questions with and without an antecedent. I will do so by conducting a study and collect data from native speakers. I will also draw the map for questions, embedded questions and sluicing constructions by considering the distribution of the copular pronoun, the complementizer and the resumptive pronoun in different dialects. In order to make my argument stronger and contribute to the studies of elliptical constructions in Arabic in general, I will provide some similarities and differences between Jordanian Arabic and other varieties of Arabic.

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# CURRICULUM VITAE

Juman Al Bukhari

Place of Birth: Amman, Jordan

## Education

B.A. University of Petra, June 2007  
Major: English-Arabic-English Translation

M.A. West Virginia University, May 2012  
Major: Linguistics

Ph.D. University of Wisconsin-Milwaukee  
Major: Linguistics

Dissertation Title: The Syntax of Elliptical Constructions in Jordanian Arabic

## Research Interest

Syntax: Ellipsis & Motive Light Verbs, second Language Acquisition, Sociolinguistics, Arabic Acquisition, and Teaching Methodology.

## Conference Presentations

2016. Gapping in Jordanian Arabic. Illinois Language and Linguistics Society, University of Illinois at Urbana Champagne, Urbana Champagne, Illinois, April 21.

2016. Sluicing in Jordanian Arabic. 30th Annual Symposium on Arabic Linguistics, Stony Brook University, Stony Brook, New York, March 31.

2015. The Syntax of Gapping in Jordanian Arabic. 29th Annual Symposium on Arabic Linguistics, University of Wisconsin, Milwaukee, Wisconsin, April 11.

2014. (with Hamid Ouali). The Syntax of Motion Light Verbs in Jordanian Arabic and Moroccan Arabic. 28th Annual Symposium on Arabic Linguistics, University of Florida, Gainesville, Florida, March 13.

## Publication

2016. (with Hamid Ouali). The Syntax of Motion Light Verbs in Jordanian Arabic and Moroccan Arabic. To appear in *Perspectives on Arabic Linguistics 28* volume.

### **Colloquia and Invited Talks**

2016. VP-Ellipsis vs. ATB movement in Jordanian Arabic. Department of Linguistics colloquium, University of Wisconsin-Milwaukee, April 8.

2016. Elliptical Sluicing in Arabic and English. Department of Modern and Classical Languages, University of North Georgia, Dahlonega, March 25.

2015. Sluicing in Jordanian Arabic. Department of Linguistics colloquium, University of Wisconsin-Milwaukee, November 6.

2015. Gapping in Jordanian Arabic. Department of Linguistics colloquium, University of Wisconsin-Milwaukee, April 7.

2014. (with Hamid Ouali) Light verbs in Jordanian Arabic and Moroccan Arabic. Department of Linguistics colloquium, University of Wisconsin-Milwaukee, Feb 28.

### **Scholarships/Awards**

2012-2016. Graduate Teaching Assistant Scholarship. University of Wisconsin-Milwaukee, Milwaukee, WI.

2010-2012. Graduate Teaching Assistant Scholarship. West Virginia University, Morgantown, WV.

2008-2009 The USA Department of State's Fulbright Language Teaching Assistant Award. Indiana University-Bloomington, Bloomington, IN.

### **Teaching**

Arabic Language levels 101, 102, 203, 204, Arabic-English Translation, English Language, Arabic Media.

### **Member**

Arabic Linguistics Society

Linguistic Society of America