

Sluicing, Pseudosluicing, and Question Formation in Moroccan Arabic Dialect (*Sluicing, Pseudosluicing, dan Pembentukan Ayat Tanya dalam Dialek Bahasa Arab Maghribi*)

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ABSTRACT

This paper investigates sluicing as a form of ellipsis in the formation of wh-elements. The analysis is based on native speaker judgments and introspective data from Moroccan Arabic Dialect (MAD). The study demonstrates that all wh-elements in MAD, including subjects, objects, adverbials, and complex forms, can undergo sluicing, sometimes accompanied by a copular pronoun. The analysis distinguishes between different types of sluicing present in MAD: merger (isomorphic), sprouting (non-isomorphic), and contrast sluices, each with unique syntactic, semantic, and pragmatic licensing requirements. The paper also explores key properties of sluicing in MAD, such as connectivity effects, island insensitivity, and the Preposition Stranding Generalization (PSG). It is found that whereas connectivity and gender sensitivity show form-identity between the sluice and its antecedent, only the restriction on wh-adverbials with copular pronouns provides strong evidence for gap wh-movement in sluicing. The paper critically evaluates two main analytical approaches: LF-copying and TP-deletion. The latter is more superior due to its compatibility with MAD data and theoretical principles in the numeration and the Inclusiveness Condition. The study also highlights the nuanced distinction between sluicing and pseudosluicing in terms of their syntactic behavior, licensing conditions, and pragmatic effects (i.e., epistemic bias and presupposition). Two of the most important findings in this paper are that MAD's pseudosluicing is a result of movement (and not base generation) and the pragmatics-syntax interface in the understanding of question formation. These findings contribute to the distinctive characteristics of Arabic dialects, as they have mechanisms that differ from those of Standard Arabic. The findings also reveal the importance of including pragmatics in formal analyses to achieve a better understanding of sentences in natural languages.

Keywords: *Sluicing; Pseudosluicing; Wh-Movement; Moroccan Arabic Dialect; TP-Deletion*

ABSTRAK

Kajian ini meneliti sluicing (pengguguran klausa dalam ayat tanya) sebagai suatu bentuk elipsis dalam pembentukan soalan berunsur-wh (wh-elements). Analisis kajian ini berasaskan penilaian penutur jati dan data introspektif daripada Dialek Arab Maghribi (Moroccan Arabic Dialect – MAD). Hasil kajian menunjukkan bahawa semua unsur wh dalam MAD, termasuk subjek, objek, adverba, dan bentuk kompleks, boleh mengalami sluicing, yang dalam sesetengah keadaan disertai oleh kata ganti kopula. Kajian ini membahagikan sluicing dalam MAD kepada tiga kategori utama: sluicing cantuman (isomorphic merger), sluicing percambahan (non-isomorphic sprouting), dan sluicing kontras (contrast sluices). Setiap kategori mempunyai syarat sintaksis, semantik, dan pragmatik tersendiri yang mengawal pembentukannya. Kajian ini turut meneroka ciri-ciri utama sluicing dalam MAD, termasuk kesan keterhubungan (connectivity effects), ketidakpekaan terhadap island constraints (island insensitivity), dan Generalisasi Pemencilan Kata Sendi (Preposition Stranding Generalization – PSG). Dapatan kajian menunjukkan bahawa walaupun kesan keterhubungan dan kepekaan gender memperlihatkan kesepadanan bentuk antara sluice dengan antesedennya, hanya kekangan terhadap adverba wh yang disertai kata ganti kopula memberikan bukti kukuh tentang kewujudan pergerakan wh berluang (gap wh-movement). Selain itu, kajian ini menilai secara kritis dua pendekatan analisis utama, iaitu penyalinan LF (LF-copying) dan pemadaman TP (TP-deletion). Pendekatan pemadaman TP didapati lebih unggul kerana lebih selaras dengan data MAD serta prinsip

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teori yang melibatkan numerasi (numeration) dan Syarat Keterangkuman (Inclusiveness Condition). Kajian ini juga memperincikan perbezaan antara sluicing dengan pseudosluicing dari segi tingkah laku sintaksis, syarat pembentukan, dan kesan pragmatik, khususnya kecenderungan epistemik (epistemic bias) dan presuposisi (presupposition). Dua dapatan utama kajian ini membuktikan bahawa pseudosluicing dalam MAD terhasil melalui operasi pergerakan, bukannya penjanaan asas (base generation), dan bahawa interaksi antara aspek pragmatik dengan sintaksis memainkan peranan penting dalam menjelaskan pembentukan ayat tanya. Secara keseluruhannya, dapatan ini menyumbang kepada pemahaman tentang ciri tersendiri dialek Arab yang mempunyai mekanisme berbeza daripada bahasa Arab Standard, di samping menegaskan kepentingan menyepadukan aspek pragmatik ke dalam analisis formal bagi memahami struktur ayat dalam bahasa semula jadi secara lebih tuntas.

Kata Kunci: Sluicing, pseudosluicing; Dialek Arab Maghribi (MAD); elipsis, kata tanya, unsur wh; sintaksis formal

INTRODUCTION

The present section considers one type of ellipsis in Moroccan Arabic Dialect (MAD). Before discussing this type in detail, the meaning of ellipsis is clarified. Generally speaking, ellipsis is the “omission of a syntactic constituent under identity with an antecedent in the preceding discourse” (Lobeck, 1995, p. 20). Several types of ellipsis can be illustrated as follows:

- (1) Sluicing
Jane met someone, but I can’t remember who.
(Algryani, 2012, p. 34)
- (2) VP ellipsis
Yasin bought a new house, and Ali did too.
(Algryani, 2012, p. 34)
- (3) Pseudogapping
Robin will eat rutabagas, but she won’t eat ice cream.
(Agbayani & Zoerner 2004, p. 186)
- (4) Gapping
John read a novel and Mary a magazine.
(Algryani, 2012, p. 34)
- (5) Stripping
Jane likes watching TV, and Mary too.
(Algryani, 2012, p. 34)
- (6) NP ellipsis
The fact that [John’s [e]] was poorly presented made the committee adopt Mary’s analysis instead.
(Lobeck, 1995, p. 42)

What is relevant to the current discussion is the example of number (1). In the literature, by comparing gap questions with *wh*-clefts, an interesting case called sluicing is found (Ross, 1969, Leung, 2014a, 2014b). There are many linguists sought to discover the properties of sluicing in many Arabic dialects such as Hijazi Arabic (Alaowffi & Alharbi, 2021), Iraqi Arabic (Albuarabi, 2019 and Saleh, 2021), Jordanian Arabic (Al Bukhari, 2016), Oman Arabic (Algryani, 2019, 2020), Saudi Arabic (Alshaalan & Abels, 2020), and Standard Arabic (Kanakri, 2018). Recent studies have addressed Arabic sluicing, particularly with respect to preposition stranding,

pseudosluicing, and the structure of the ellipsis site, namely Alaowffi (2023), Al-humari (2025), and Al Khalaf (2026). However, little work has been done on MAD.

Existing work on sluicing did not directly account for two main matters: First, it is not always the case that clefts/pseudosluicing are subject to base-generation, and, second, it is important to include pragmatics to explain the distinction between sluicing and pseudosluicing (that is, pragmatics is essential to understand the unacceptability/ungrammaticality of certain sentences in relation to sluicing).

In light of these considerations, the objectives of the study are to examine the key properties of sluicing: connectivity, island insensitivity, and Preposition Stranding Generalization (henceforth, PSG), to argue for the movement of both sluicing and pseudosluicing by using TP-deletion instead of LF-copying, and to distinguish between sluicing and pseudosluicing at syntactic and pragmatic levels.

The main research questions for this paper are as follows:

1. What are the main properties of sluicing in Moroccan Arabic Dialect?
2. Which analytical approach is best suited for Moroccan Arabic Dialect data?
3. Is pseudosluicing subject to base generation or movement?
4. What is the distinction between sluicing and pseudosluicing at the syntactic and pragmatic levels?

The following sections examine whether sluicing exists in MA, its general properties, its relationship with *wh*-elements in general (including *wh*-clefts), and how it is analyzed.

METHODOLOGY

Three of the standard practices in theoretical syntax used in this paper are introspection, observation, and elicitation. First, under introspection, the grammaticality of sentences is judged by the syntactician, who is a native speaker of the language. This method “makes it possible to consider very rare constructions, it is an efficient mode of data collection, [and] it provides an efficient way of examining alternatives” (Bauer, 2007, p. 88). Second, when sentences are complex, the author consults other Moroccan native speakers in Kenitra to ensure the conclusions are correct via the method of direct elicitation in order “to access speakers’ intuitions” (Bauer, 2007, p. 90). Elicitation was used as native-speaker verification of complex or uncertain judgments, rather than as a quantitative reliability procedure. Third, observation is also used whereby the data is extracted spontaneously in naturally occurring speech. The number of consultants is not fixed because elicitation was not conducted as a systematic participant-based judgment experiment; rather, native speakers were consulted selectively when particular or complex judgments required additional verification.

The methodology adopted in this study is appropriate for the theoretical framework and research objectives, as the analysis focuses on the description and interpretation of grammatical patterns and the theoretical principles underlying sluicing in MAD. The objective of this paper is to theorize the principles and parameters shared by the languages under discussion.

The language analyzed in this study is Moroccan Arabic Dialect, a dialect or variety of Arabic that belongs to the Afro-Asiatic language family. In this study, MAD is used to refer to the dialect used in the region of Rabat-Sale-Kenitra. MAD is used instead of Kenitri Arabic, for

example, because the mechanisms of sluicing are not expected to differ, except for some phonological/lexical variation of *wh*-questions.

THEORETICAL FRAMEWORK

This study is conducted within the Minimalist Program (MP). The term ‘Minimalist’ refers to one of the goals of MP, which is to minimize the language acquisition burden on the child and, therefore, maximize the learnability of grammar (Chomsky, 1995). In other words, the internal properties of the language faculty are assumed to satisfy the external conditions, which places a heavy burden on the theory; this means that the faculty has to provide instructions for the articulatory and perceptual systems (Chomsky, 1995). In this paper, MP is essential since it provides an explanation of why we need multiple spell-outs or phases instead of one. The phase-based approach within minimalism clearly explains why only the *wh*-element remains and the rest of the sluice is not spelled out.

The analysis compares Merchant’s (1999, 2001) PF-deletion approach and Chung et al.’s (1995, 2005) LF-copying approach. The evaluation also relies on principles such as Full Interpretation, the Inclusiveness Condition, and compatibility with the numeration of the antecedent and sluice clauses, which are discussed in the analysis section.

PARAMETRIC PRESENCE OF SLUICING IN MOROCCAN ARABIC DIALECT

The following MAD data are examined:

- (7) *Wh*-Subjects

ʃi	ħəd	ʃrəb	l-ʕaʃir	walakin	ma-ʕrəft-ʃ	[ʃkun]
some	one	drank.3.S.M	the-juice	but	Neg-know.1.S-Neg	who ¹

‘Someone drank juice, but I do not know who.’
- (8) *Wh*-Objects

ħməd	ʃrəb	ʃiħəza	walakin	ma-ʕrəft-ʃ	[ʃnu]
Ahmed	drank.3.S.M	something	but	Neg-know.1.S-Neg	what

‘Ahmed drank something, but I do not know what.’
- (9) *Wh*-Adverbials

ħməd	ʃrəb	l-ʕaʃir	walakin	ma-ʕrəft-ʃ	[fin]
Ahmed	drank.3.S.M	the-juice	but	Neg-know.1.S-Neg	where

‘Ahmed drank juice, but I do not know where.’
- (10) Complex *Wh*-Elements

ħməd	ʃrəb	ʃiħəza	walakin	ma-ʕrəft-ʃ	[ina nuʕ]
Ahmed	drank.3.S.M	something	but	Neg-know.1.S-Neg	what kind

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

¹ The numbers stand for first, second, and third person; Neg stands for Negation; and M and F mean masculine and feminine, respectively.

Sluicing is a term that was coined by Ross (1969) and developed by Merchant (1999). In the examples above, sluicing is a kind of ellipsis, which results in the *wh*-element appearing on its own in the second clause (i.e., a surface remnant). In reality, example (16) is ‘*Ahmed drank something, but I don’t know what [Ahmed drank]*’ instead of ‘*Ahmed drank something, but I don’t know what.*’ This process is called sluicing. Based on the examples above, it can be concluded that sluicing occurs with different types of *wh*-elements (i.e., arguments and adverbials) in both simple and complex structures. Second, MAD seems to accept both types of sluicing (merger and sprouting) whereas the correlate (i.e., ‘*something*’) can either be overt or covert (Chung et al., 1995):

(11) Merger

ħməd kla ʃihaza walakin ma-ʃrəft-ʃ [ʃnu]
Ahmed ate.3.S.M something but Neg-know.1.S-Neg what
‘*Ahmed drank something, but I do not know what.*’

(12) Sprouting

ħməd kla walakin ma-ʃrəft-ʃ [ʃnu]
Ahmed ate.3.S.M but Neg-know.1.S-Neg what
‘*Ahmed ate something, but I do not know what.*’

According to Merchant (2001), since the *wh*-element does not have to have its match in the antecedent clause (i.e., ‘*something*’), semantic requirements can be used. This is what is often referred in the literature as non-isomorphic sluicing. In other words, it is noted that even if the correlate is not phonologically realized, there is still an implicit argument or a direct object that is semantically necessary to satisfy requirements, most notably the verb selectional requirement and the Full Interpretation principle (Chomsky, 1986a). As for merger, it is a case of isomorphic sluicing since the sluice clause matches the antecedent one.

Third, another parametric type present in MAD is the so-called contrast sluices: The descriptive content of the remnant *wh*-element does not correspond to its correlate in the antecedent clause (Algryani, 2019, p. 399). Consider this example in MAD, which confirms this type of construction:

(13) ħmed ʕənd-u wəld walakin ma-ʃrəft-ʃ ʃħal mən bənt
Ahmed has-3.S.M son but Neg-know.1.S-NEG how many daughter
‘*Ahmed has a son, but I do not know how many daughters.*’

As seen in the example above, the *wh*-item /ʃħal mən bənt/ ‘*how many daughters*’ does not agree in descriptive content with the correlate /wəld/ ‘*son*’. Just like the previous examples (11) and (12), which rely on semantic-syntax interface, to understand sluicing, the syntax-pragmatic interface to grasp contrast sluices is also needed: Even if the remnant does not have an overt syntactic or semantic link to its antecedent, there is still a pragmatic link between the two. That is, they are still related under the general topic of children or offspring; it is pragmatically odd to produce the following sentence:

(14) # ħmed ʕənd-u wəld walakin ma-ʃrəft-ʃ ʃħal mən tumubila
Ahmed has-3.S.M son but Neg-know.1.S-NEG how many car
‘*Ahmed has a son, but I do not know how many cars.*’

There is no pragmatic link between children and cars; therefore, the ellipsis cannot be licensed in (14). Fourth, observe that the correlate can either be an indefinite pronoun or a noun (Algryani, 2011, p. 44). This has pragmatic implications since there is no presupposition on who ate, then the correlate cannot be definite (i.e., a known entity). As there is no presupposition, this means that sluicing is pragmatically defined by epistemic bias, which is defined as follows:

(15) Epistemic bias

A speaker's belief, not necessarily shared by the hearer, that the probability that a proposition is true is greater than the probability that it is false.

(Soltan, 2011b, p. 214)

In other words, the sluicing structure creates bias towards ignorance. Finally, copular pronouns can appear after the *wh*-sluice, as observed by Leung (2014b) in Emirati Arabic (EmA) and is also detected in MAD:

- (16) ħməd ʃrəb ʃiħaza walakin ma-ʃrəft-ʃ [ʃnu hijja]
Ahmed drank.3.S.M something but Neg-know.1.S-Neg what it is
'Ahmed drank something, but I do not know what it is.'

The major distinction between remnant *wh*-elements and remnant *wh*-elements with copular pronouns will be uncovered later in the paper.

To summarize, sluicing is parametrically present in all types of *wh*-elements (*wh*-subjects, *wh*-objects, *wh*-adverbials, and complex *wh*-elements) whereby the *wh*-sluice can be accompanied with a copular pronoun. It is also noted that there are many types of sluices present in MAD. These are merger, sprouting, and contrast sluices. Whereas merger is licensed syntactically, sprouting and contrast sluices need additional semantic and pragmatic licensing, respectively. Finally, the correlate is either indefinite pronoun or a noun because of lack of presupposition or the presence of epistemic bias.

PROPERTIES OF SLUICING IN MOROCCAN ARABIC DIALECT

In this section, properties of sluicing in MAD will be examined. In addition, these properties can be used as evidence that sluicing is derived from regular *wh*-movement: MAD sluicing follows the same process as regular *wh*-movement.

Properties of sluicing include connectivity effects, island insensitivity, and Preposition Stranding Generalization. As for connectivity effects, the *wh*-sluice keeps the syntactic and semantic properties of its antecedent correlate (Leung, 2014b). Examples brought by Leung (2014b) for Emirati Arabic include binding reconstruction, scope reconstruction, and idiom chunk reconstruction. Consider the example of binding reconstruction:

- (17) kul luyawi ntaqəd baʃd aʃmal-u walakin ma-mtʔəkkəd-ʃ [ʃħal]
every linguist criticized.3.S.M some work-his but not sure how much
'Every linguist_i criticized some of his_i work but I'm not sure how much (of his_i work).'

This property shows that there is a link between the sluice and its antecedent, and it is evidence for regular *wh*-movement. The second property, according to Leung (2014b), is island insensitivity, as shown from the MAD data below:

- (18) sməʃt [l-ifaʃa [anna Meriem tlaq-at ʃi həd]] walakin maʃrəftʃ [ʃkun]
heard.1.S the-rumor that Meriem met-3.S.F some one but not know.1.S who
'I heard the rumor that Mary met someone, but I don't know [who].'

According to Leung (2014b), even though the antecedent correlate /ʃi həd/ 'someone' is within the Coordinate Structure Constraint, the *wh*-sluice ignores it. This means that island sensitivity cannot be taken as evidence that sluicing derived from regular *wh*-movement. The final property, Preposition Stranding Generalization, entails the following idea:

- (19) Preposition Stranding Generalization (Merchant, 1999, p. 126)
A language *L* will allow preposition stranding under sluicing iff *L* allows preposition stranding under regular *wh*-movement.

This indicates that if a language does not allow preposition stranding in regular *wh*-movement, it will also not enable preposition stranding in sluicing. Preposition stranding of regular *wh*-movement is exemplified as follows:

- (20) [f ina blaʃa] tlaqi-ti Leyla
in what place met-2.S Leyla
'In what place did you meet Leyla?'
(21) *[ina blaʃa] tlaqi-ti Leyla f
what place met-2.S Leyla in

As can be seen, MAD does not allow P-stranding in regular *wh*-movement (see, e.g., (21)) whereby the preposition /f/ 'in' is left behind. Looking at whether PSG is applicable in MAD, the following example is shown:

- (22) həməd ʃrəb l-ʃaʃir [mʃa ʃi həd] walakin maʃrəftʃ *(mʃa) mən
Ahmed drank.3.S.M the-juice with some one but not know.1.S with who
'Ahmed drank juice with someone, but I do not know who.'

Merchant (1999) applied PSG to more than twenty languages. According to him, MAD is one of them, which does not violate PSG. That is, just like P-stranding is not allowed in regular *wh*-questions, it is not permitted in sluicing. This might be against Albuarabi's (2019, pp. 14-15) observation that MAD violates the generalization. Further data is needed to see whether MAD violates PSG or not:

- (23) həməd ʃrəb l-ʃaʃir [mʃa ʃi həd] walakin maʃrəftʃ ʃkun
Ahmed drank.3.S.M the-juice with some one but not know.1.S who
'Ahmed drank juice with someone, but I do not know who.'
(24) Leyla xəzət [mʃa xətha] walakin maʃrəftʃ ina uxt
Lela went with sister but not know which sister
'Leyla went out with her sister, but I don't know which sister.'

- (25) Leyla şafraṭ [l-wahəd l-blasa] walakin maʃrəft̪ fin
Leyla traveled to-some the-place but not know where
'Leyla traveled to some place, but I don't know where.'

All of the examples (23), (24), and (25) are apparent violations of PSG. It is important to question why (22) is available. The answer is that, in MAD (unlike other Arabic dialects), /mən/ is not used as an independent *wh*-element but has to be part of a complex prepositional *wh*-phrase:

TABLE 1. *Wh*-elements in Moroccan Arabic Dialect

	<i>Wh</i> -Arguments		<i>Wh</i> -Adverbials	
	<i>Wh</i> -Subjects	<i>Wh</i> -Objects	Non-prepositional <i>Wh</i> -elements	Prepositional <i>Wh</i> -Elements
Person	/ʃkun/ 'who' /ina-NP/ 'which' DP	/ʃkun/ 'whom' /ina-NP/ 'which' DP		/mʃa mən/ 'with whom' /l-mmən/ 'to whom' /ʃla mən/ 'about whom'
Thing		/ʃnu/ 'what' /aʃ/ 'what' /aʃnu/ 'what'		/mənnaʃ/ 'from what' /ʃlajaʃ/ 'on what'
Place	/ina-NP/ 'which' NP	/ina-NP/ 'which' NP	/fin/ 'where' /mnin/ 'where'	
Time	/ina-NP/ 'which' NP	/ina-NP/ 'which' NP	/imta/ 'when' /jəmta/ 'when' /wəqtaʃ/ 'what time' /qtaʃ/ 'what time' /fuqaʃ/ 'when'	
Quantity		/ʃhal/ 'how much' /qddaʃ/ 'how many/much'	/ʃhal/ 'how much'	/b-ʃhal/ 'how much'
Manner			/kif/ 'how' /kifaʃ/ 'how'	/baʃ/ 'in what way'
Reason			/ʃlaʃ/ 'why'	/laʃ/ 'for what' /lajaʃ/ 'for what'

Therefore, (22) is ill-formed because /mən/ cannot appear on its own, and not because of PSG. According to Algryani (2010), the violation of PSG is because sentences (22), (23), and (24) are actually cases of pseudosluicing that is derived from a copular construction and not true sluicing that is derived from regular *wh*-movement. This solution seems to be ad-hoc and complicates theoretically the analysis since now the elided TP will have a different structure than the antecedent TP. This conclusion is also reached by Alaowffi and Alharbi (2021) who consider the analysis to be "conceptually undesirable" (p. 953). With regard to merger and sprouting, preposition stranding is disallowed if the correlate is not exhibited (i.e., in the case of sprouting):

- (26) A. kan xajəf bzzaf l-barəḥ walakin maqdərʃ igul li-na mn-aʃ
was scared a lot the-yesterday but not able tell to-us from-what
'He was really scared yesterday, but he could not tell us from what.'
B. *kan xajəf bzzaf barəḥ walakin maqdərʃ igul li-na aʃ
was scared a lot the-yesterday but not able tell to-us what

This shows that in natural languages, it seems that the less resemblance between the elided TP and the antecedent TP, the more restricted the structure is, and this is intuitive since there must be a clear link between the two TPs, hence why in sluicing, languages tend to have Form-Identity effects (e.g., the Case in the first TP is similar in the elided TP). In conclusion, PSG cannot be taken as evidence that sluicing is derived from regular *wh*-movement. Another piece of evidence discussed in the literature is *wh* at Leung (2014b) calls gender sensitivity. Consider the following example:

- (27) *ħməd tlaqa bənt walakin ma-ħrəft-ʃ ʃkun hijja /*ħuwwa*
Ahmed met.3.S.M girl but Neg-know.1.S-Neg who she is he is
'Ahmed met a girl, but I do not know who she is/ *he is.'

However, this only proves that both the sluice clause and the antecedent clause share Form-Identity (Saleh, 2021, p. 406). This does not mean that the *wh*-element in the sluice clause is derived via regular *wh*-movement. So far, all these four properties are not strong evidence for regular *wh*-movement. The final property of sluicing in MAD is as follows:

- (28) **ħməd ʃrəb l-ħaʃir walakin ma-ħrəft-ʃ [fin hijja]*
Ahmed drank.3.S.M the-juice but Neg-know.1.S-Neg where it is

As noted by Leung (2014b), one piece of evidence that sluicing follows the same restrictions as regular *wh*-questions comes from *wh*-adverbials not accepting copular pronouns after them, and the same thing occurs to *wh*-sluices. In other words, the restriction of *wh*-adverbials in regular *wh*-movement not appearing with copular pronouns is similar to also *wh*-adverbials in sluice clause. This means that also the latter undergoes regular *wh*-movement. Both (27) and (28) above show that the *wh*-sluice that occurs with a copular noun is the product of an ellipsis from a full *wh*-construction (i.e., *wh*-clefts).²

In this section, properties of sluicing in MAD were explored. There is only one strong evidence for the existence of regular *wh*-movement in sluice clauses: *wh*-adverbials in sluice clauses not appearing with copular pronouns. The other properties, connectivity effects and gender sensitivity, only show that the sluice clause and antecedent clause match in Form-Identity, and are thus not direct evidence for regular *wh*-movement in sluice clauses. It was also shown that island insensitivity is a property detected in MAD whereas Preposition Stranding Generalization is not, unlike Merchant's (1999) initial observation. The next section will deal with the analysis of sluicing in MAD.

ANALYSIS OF SLUICING IN MOROCCAN ARABIC DIALECT: LF-COPYING AND TP-DELETION

In this section, the following points will be addressed: Which analysis is the more superior for sluicing? Is there a difference between canonical *wh*-elements and *wh*-clefts in sluicing?

² There is another evidence that cannot apply to MAD, but it does show a deep relationship between the *wh*-sluice clause and the antecedent since they both share 'Form-Identity' (Saleh, 2021, p. 406). In SA-type languages, the Case in the *wh*-clause should 'match' the Case in the antecedent clause.

There are two major analyses. The first one is non-structural and the second is structural. In the non-structural approach, it is believed that there is no ellipsis and that the sentence only contains the *wh*-element. The non-structural approach is not possible once it is seen how there is a restriction inside the elliptical site (e.g., *wh*-adverbials not appearing with copular pronouns; see also Al Bukhari, 2016). As for the structural approach, there is an ellipsis happening there. Within the structural approach, there are two main approaches: LF-copying (non-movement approach) and PF-deletion (movement approach).

The PF-deletion (Ross, 1969; Merchant, 1999) is the process whereby the *wh*-sluice moves to the left periphery, and then TP is deleted at PF; therefore, sluicing is the product of an ellipsis at the PF level. As for the semantic interpretation of the *wh*-sluice, it is realized as soon as Spell-Out occurs:

- (29) someone called, but I don't know [_{CP} who [_{TP} t_i called]] (spell-out) →
 someone called, but I don't know [_{CP} who [_{TP} t_i ~~called~~]] (PF)
 (Leung, 2014b, p. 217)

LF-copying (Chung et al. 1995, 2006; Chung, 2005) rejects the ellipsis at the level of PF. It agrees with the non-structural approach that there is only a bare *wh*-sluice; however, it states that, at the level of LF, a copying procedure occurs which transfers part of the clause from the antecedent clause to the sluicing clause:

- (30) Someone called, but I don't know [_{CP} who [_{TP} *e*]] (spell-out) →
 Someone called, but I don't know [_{CP} who [_{TP} someone called]] (by LF-copying) →
 ... [_{CP} who^x [_{TP} someone^x called]] (LF-interpretation)

Leung (2014b) states that both approaches are 'descriptively adequate' regarding the properties mentioned before. When it comes to LF-copying, it faces several problems. For example, *wh*-clefts that can appear as an option for sluicing is problematic. How will this appear in the numeration of the antecedent clause? (Leung, 2014b). This goes against Chung's (2005) conception that states that "every lexical item in the numeration of the sluice that ends up (only) in the elided [TP] must be identical to an item in the numeration of the antecedent CP" (p. 83). In other words, a copy cannot occur from the antecedent clause because it does not contain the complementizer or the resumptive pronoun; consequently, it is not possible to establish a formal link between the antecedent clause and the sluice clause when it comes to *wh*-clefts (Leung, 2014b). An advantage of the PF-deletion approach is that both clauses beforementioned do not have to be identical in numeration (Leung, 2014b). Kanakri (2018) adopts LF-copying in Standard Arabic by using the lack of *wh*-island effects on sluicing, hence no movement. However, one explanation for the absence of island effects is that island insensitivity is a property of ellipsis. In order to distinguish between canonical *wh*-questions and *wh*-questions that exist in the sluice, the latter can violate insensitivity. Island sensitivity alone is not a strong diagnosis for movement. In order to verify movement, one needs to take into consideration many tests such as intervention effects, parasitic gaps, weak crossover, tense locality restrictions, semantics tests, and many others in order to reach conclusive results ("Author", 2023). Since LF-copying cannot explain the key issues presented regarding compatibility in the numeration, the TP-approach remains the preferable means of derivation.

An important question concerns how proponents of LF-copying explain sprouting cases (e.g., 12). According to the proponents, “the ellipsis is assumed to be a null form whose antecedent is copied at LF level for the purpose of the Full Interpretation Principle” (Kanakri, 2018, p. 262). It seems that by adhering by the principle of Full Interpretation, another principle was violated: The Inclusiveness Condition, which clearly states that “no new objects are added in the course of computation apart from rearrangements of lexical properties” (Chomsky, 1995, p. 228). To sum up, the TP-approach is superior to LF-copying approach because it does not violate compatibility issues in the numeration and the Inclusiveness Condition.

The relationship between gap *wh*-elements and *wh*-clefts is discussed next. In sluicing, both cases are possible (Leung, 2014b). That is, a sentence like (7) above can have both canonical *wh*-element or *wh*-cleft interpretation in MAD as well:

- (31) ... walakin maʕrəftj [ʃkun [ti frəb — l-ʕaʕir] *Wh-Fronting*
but Neg-know.1.S-Neg who drank the-juice
- (32) ... walakin maʕrəftj [ʃkun [ti lli — frəb — l-ʕaʕir] *Wh-Clefts*
but Neg-know.1.S-Neg who that drank the-juice

Leung (2014b), who uses the PF-deletion approach when studying Emirati Arabic, assumes that the ellipsis can optionally have *wh*-fronting or *wh*-clefts. However, sometimes only *wh*-fronting is allowed, especially if dealing with adverbials, which do not occur as *wh*-clefts. This means that in default cases, both gap *wh*-questions and *wh*-clefts are possible; however, there are cases where only one of them is allowed. That is, when dealing with *wh*-adverbials, then sluicing has the gap strategy and not *wh*-clefting. The primary conclusion of all of this is that just like Emirati Arabic, MAD allows two sluicing sources that mirror two types of *wh*-constructions (i.e., gap *wh*-questions and *wh*-clefts). Leung (2014a) calls the elliptical construction formed by gap *wh*-questions ‘sluicing’ and the elliptical construction formed by *wh*-clefts ‘pseudosluicing’. In MAD, both are possible.

The present analysis only departs from his conclusion that pseudosluicing results from base generation. This is one major difference between MAD and many other languages whose *wh*-clefts are base-generated. The reason why *wh*-clefts are island insensitive in a lot of Arabic dialects is that, usually, complementizers and resumption facilitate *wh*-extraction and a convergent derivation (Gad, 2011, p. 131); in other words, they are used as a Last Resort to save the structure from becoming ungrammatical when movement does not work. Consider the Palestinian Arabic data from Shlonsky (2002, p. 140):

- (33) [ʔanni binət]i ʔilli ʃuft-i l-ʔasad ʔilli ʔakal-ha;
which girl that saw-2.S the-lion that ate.3.S.M-her
‘Which girl did you see the lion that ate?’

Questioning out of the island without causing grammaticality shows that Palestinian Arabic *wh*-clefts are base generated. However, if the same process is applied to MA, the sentence is deemed ill-formed:

- (34) *[ina bənt]i lli ʃəft-i l-sbəʕ lli kla-ha;
which girl that saw-2.S the-lion that ate.3.S.M-her
‘Which girl did you see the lion that ate?’

Since the sentence is ill-formed, this is a piece of evidence that MAD *wh*-clefts are subject to movement, just like the gap *wh*-elements. According to Osman (1990, as cited in Gad, 2011, p. 15), since relativized *wh*-questions (i.e., *wh*-clefts) and relative clauses share similarities, a movement rule will not derive both. However, just because both are similar in certain properties, it does not mean that both are base generated, especially when applying island tests, which show that there is actually a movement of *wh*-elements even as clefts. Osman (1990, as cited in Gad, 2011) backs his claim of base generation based on the Complex Noun Phrase Constraint (Complex NP Constraint) (Osman, 1990, p. 148 as cited in Gad, 2011, p. 16):

- (35) mi:n illi Ali sadda? ħika:jit inn Mona t-gawiz-it-uh
who that Ali believed.3.S.M story that Mona married-3.S.F-him
'Who is the person that Ali believed the story that Mona had married him?'

This test further proves that MAD *wh*-clefts are subject movement since the Complex NP Island cannot be violated:

- (36) Complex NP Island
*ʃkun lli ħməd tjjəq l-qışsa anna Mona tzəwʒ-at-u
who that Ahmed believed.3.S.M the-story that Mona married-3.S.F-him

Since the Complex NP Island is not violated, then *wh*-clefts are derived via movement, unlike in Egyptian Arabic. Further island tests, inspired by Gad (2011, pp. 187-188), who found that EA *wh*-clefts are base generated, strengthen our idea that MAD *wh*-clefts are subject to movement:

- (37) Adjunct Island Constraint
*ʃkun lli Mona fərħat hit Ali tlaqa-h
who that Mona became happy because Ali met.3.S.M-him
Lit. meaning 'Who was Mona happy because Ali met?'
- (38) Co-ordinate Structure Island
*ʃkun lli Mona ʕərɖa-t ʕliha hijja w Ali l-ħəfla
who that Mona invited-3.S.F her and Ali to-party
Lit. meaning 'Who did Mona invite her and Ali to the party?'
- (39) *Wh*-Island
*ʃkun lli ħməd tajʕrəf fin mʃa
who that Ahmed knows.3.S.M where went.3.S.M
Lit. meaning 'Who does Ahmed know where he went?'

An interesting conclusion from this is that islands in MAD are strong. For example, in Egyptian Arabic, the Adjunct Island Constraint is weak because it does not block the extraction of *wh*-elements out of their islands (Gad, 2011). Another piece of evidence comes from the following example:

- (40) ʃkun lli (*ħuwwa) drəb ħməd
who that he hit Ahmed

The fact that there should be no resumptive pronoun means there is a gap. The reason is that the resumptive pronoun /huwwa/ ‘he’ is in the place of a gap. This is also a piece of evidence that the *wh*-element is not base generated but subject to movement. If it were base generated, it would have easily allowed the resumptive pronoun to occur there. *Wh*-clefts being subject to movement is an interesting property of MAD. In other Arabic dialects (e.g., Palestinian Arabic, see Shlonsky, 2002), the typical result is that *wh*-clefts are base generated due to island insensitivity and the obligatoriness of resumptive pronouns. In MAD, *wh*-clefts are island sensitive; they can also appear with or without the resumptive pronoun. Moreover, it is found that, in MA, having a resumptive pronoun does not mean there is no movement. Other pieces of evidence are that quantifiers (41), ‘only’ (42), and ‘also’ (43) serve as blocking effects to *wh*-extraction:

- (41) *ʃnu lli kul wəld ʃra-h
what that every boy bought.3.S.M-him
Lit. meaning ‘What is it that every boy bought?’
- (42) *ʃkun lli ʰməd yir ʔaj-tlaqa-h
who that Ahmed only FUT-meet.3.S.M-him
Lit. meaning ‘Who is it that only Ahmed will meet?’
- (43) *ʃkun lli ʰməd ʰta huwwa ʔaj-tlaqa-h
who that Ahmed also FUT-meet.3.S.M-him
Lit. meaning: ‘Who is it that only Ahmed will meet?’

Therefore, Complex Island Constraint, Adjunct Island Constraint, the Co-ordinate Structure Island, the *Wh*-island, and blocking effects all indicate that *wh*-clefts are subject to movement, which is a special characteristic in MAD.

Because *wh*-clefts are subject to movement (Announi, 2023), so will pseudosluicing. This is what makes the sluicing case in MAD interesting. The fact that MAD *wh*-clefts are subject to *wh*-movement shows more similarity with sluicing and pseudosluicing. This conclusion is also reached by Algryani (2010) who states that both sluicing and pseudosluicing are derived by *wh*-movement and TP deletion. Moreover, the reason why example (28) is ungrammatical is that pseudosluicing is produced by *wh*-clefts, and the appearance of the copular pronoun signifies that this is a case of *wh*-clefts/pseudosluicing. Note also that pseudosluicing is different from sluicing in the sense that it does not allow *wh*-adverbials with copular pronouns, just like *wh*-clefts.

Another significant conclusion is that this shows a distinction between gap *wh*-questions and *wh*-clefts; the former is freer in a sense since sluicing is more common than pseudosluicing (e.g., *wh*-adverbials are not allowed as *wh*-clefts). The same conclusion is reached by Leung (2014a), who says that *wh*-fronting is more productive than *wh*-clefts because it can occur with any type of *wh*-expression. Moreover, regarding the issue of sprouting, the phenomenon is driven by sluicing and not pseudosluicing since the copular cannot be used when the antecedent correlate is absent (see Leung, 2014a for equivalent results):

- (44) *ʰməd kla walakin ma-ʃrəft-ʃ [ʃnu huwwa]
Ahmed ate.3.S.M but Neg-know.1.S-Neg what it is
‘Ahmed ate something, but I do not know what.’

Another difference between sluicing and pseudosluicing is that only the latter produce the so-called aggressively non-D-linked *wh*-elements. Consider the following examples from Merchant (2001, p. 122):

- (45) Someone dented my car last night.
A. I wish I knew who.
B. I wish I knew who the hell it was!
C. *I wish I knew who the hell.

Expressions such as “who the hell” cannot be accepted in gap question formation (e.g., 45C) but they can be accepted in cleft structures (e.g., 45B). If the same examples are to MAD data, the following results occur:

- (46) A. *ʃkʊn huwwa ʃ-ʃitan li drəb l-bənt*
who he the-devil who hit.3.S.M the-girl
‘Who is the devil who hit the girl?’
B. **ʃi həd drəb l-bənt walakin maʃrəftʃ ʃkʊn ʃ-ʃitan*
some one hit.3.S.M the-girl but not know.1.S who the-devil
C. **ʃkʊn ʃ-ʃitan drəb l-bənt*
who the-devil hit.3.S.M the-girl

In (46C), the sentence resists gap question formation, and the only way to make it well-formed is by making it a cleft structure. This means that aggressively non-D-linked *wh*-elements are produced by pseudosluicing and not sluicing.

Another structure that is produced only by pseudosluicing and not sluicing is Mention-Some modification (Merchant, 1999, pp. 163-164). This is also attested in MAD:

- (47) A. *xassək təhdər mʃa ʃi7əd fl qism djal qanun baʃ i-ʃawn-ək*
should-2.S talk.2.S with someone in class of law so M-help-3.S
‘You should talk to someone from the law program to help you.’
B. *waf təqdər tgul-l-i ʃkʊn (*huwwa), matalan*
Q can.2.S.M tell-to-me who he for example
‘Can you tell me who, for example?’
C. *ʃkʊn (*huwwa), matalan*
who he for example

In (47), mention-some interpretation of the sentence only works if regular question formation is present and not a cleft structure. This means that sluicing aligns with mention-some interpretation, hence why ‘for example’ reflects one possible answer (i.e., mention-some). This observation is compatible with Merchant’s (1999) analysis of English structure. However, this is not always the case in all languages. For example, Algryani (2011, p. 50) finds that mention-some reading can be derived by both sluicing and pseudosluicing. This shows that sluicing/pseudosluicing is not governed by universal principles but is parametrically variant. Another structure to be discussed is the mention-else structure:

(48) A. *Harry was there, but I don't know who else it was.

B. Harry was there, but I don't know who else.

(Merchant, 2001, p. 122)

C. *Ahmed kan tamma walakin maʕrəftʃ ʃkun huwwa tani
Ahmed was there but not know.1.S who he else

D. Ahmed kan tamma, walakin maʕrəftʃ ʃkun tani
Ahmed was there but not know.1.S who else
'Ahmed was there, but I don't know who else.'

In the English examples, (35A) and (35B), 'else' can only modify *wh*-elements that are produced via sluicing and not pseudosluicing. The same observation is also reached in MAD data in (35C) and (35D).

As for the syntax-pragmatics interface, there is a slight difference between sluicing and pseudosluicing when it comes to epistemic bias (see the definition of epistemic bias in (15) above). It is said that sluicing is pragmatically defined by epistemic bias. The issue is trickier with pseudosluicing because the scale of epistemic bias will not be the same. Indeed, because pseudosluicing produces *wh*-clefts, these clefts provide more presupposition in comparison to gap questions (Announi, in press). However, unlike *wh*-clefts, pseudosluicing is still in the range of epistemic bias leaning towards presupposition. Therefore, the scale of sluicing and pseudosluicing will be as follows:

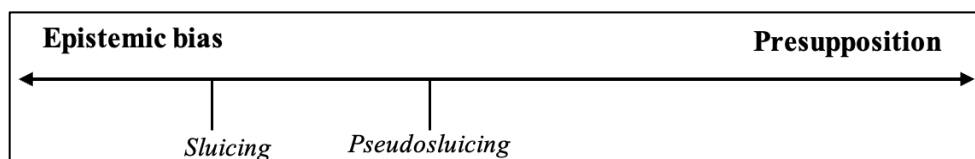


FIGURE 1. Epistemic Bias and Presupposition

Another conclusion that can be reached is that *wh*-subjects must move from [Spec, TP] to [Spec, FocP] (Announi, 2023), whether there is a complementizer or not. If *wh*-subjects do not proceed to [Spec, FocP] before the Spell-Out, they will be deleted at the PF, and a sluicing case will not appear:

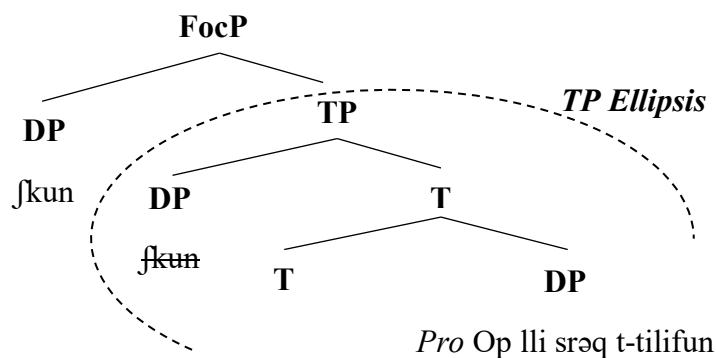


FIGURE 2. TP-Ellipsis

That is, in the case of *wh*-subjects, they must move to the left periphery (i.e., [Spec, FocP]) even if there is no /Ili/ ‘that’, and that is because the whole TP will be deleted at PF. In Figure 2, the *wh*-subject /Jkun/ ‘who’ must move to the specifier of the Focus Phrase. If the *wh*-subject stays in [Spec, TP] (like in regular *wh*-movement), the derivation crashes, and the *wh*-sluice is not spelled out. It is stressed that economy is always encouraged; however, when it risks ungrammaticality, the *wh*-subject will then move.

In this section, it was established that the TP-approach is superior to LF-copying approach because it does not violate compatibility issues in the numeration and the Inclusiveness Condition. Also, both sluicing and pseudosluicing are possible in MAD. Unlike many languages, both sluicing and pseudosluicing are derived by movement. They differ in other aspects: sprouting, gap *wh*-movement, and mention-else modification are derived via sluicing, whereas *wh*-cleft movement, aggressively non-D-linked questions, and Mention-Some modifications are derived via pseudosluicing.

CONCLUSION

Moroccan Arabic Dialect (MAD) has both sluicing and pseudosluicing. While the former is derived by gap *wh*-movement, the latter is formed via *wh*-clefting. In default cases, a sluice clause can either be interpreted as sluicing or pseudosluicing. However, there are cases whereby a sluice clause can only be a sluicing case or only a pseudosluicing case. Other major findings are as follows: The TP-deletion approach is superior to LF-copying, and pseudosluicing is subject to movement rather than base-generation. The study also opens a discussion around the use of pragmatics in formal syntax.

What remains to be investigated is a crosslinguistic analysis of sluicing to see whether there is a parametric variation or whether Moroccan Arabic Dialect provides a novel analysis which changes how cleft structures should be examined in general: these structures are not always base-generated. These findings have implications for the importance of studying dialects and the crucial need for the analysis of ellipsis in different languages. Prospects include an exhaustive analysis of sluicing in Arabic dialects to reach a general picture of their behavior and other intricacies.

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