
| RESEARCH ARTICLE

The Typology and Classification of Wh-Questions in Moroccan Arabic

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| ABSTRACT

This paper explores the typology and classification of wh-questions in natural languages like Moroccan Arabic. It aims at uncovering the principles and parameters that is only set by Moroccan Arabic. In other words, we seek to discover what are the common features and special characteristics that is only set in Moroccan Arabic, in hopes to find patterns that unify different languages in the world (especially Arabic dialects) and some differences between Moroccan Arabic and other languages. Our findings are as follows: wh-questions in natural languages, such as Moroccan Arabic, can be classified in different perspectives. These are positional, morphological, semantic, and historical classifications, among others. We also end the paper by looking at four strategies used in question formation. This paper essentially celebrates multilingualism, and that even dialects of an official language can possess linguistic characteristics that are peculiar to the official language itself.

| KEYWORDS

Language Typology, Wh-Questions, Moroccan Arabic, Wh-clefts, In-situ, Resumption, Gap strategy

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1. Introduction

This article gives general classifications of wh-elements in Moroccan Arabic (henceforth, MA). The objective is to uncover the common features and parameters that are only set by MA. We will classify these wh-elements according to different criteria. The first classification is positional or categorical by nature. It deals with the position of wh-elements in the sentence. The second classification distinguishes wh-elements in terms of morphological complexity and D-linking. The third classification touches upon relativization and wh-elements. The fourth classification concerns matrix or direct and embedded or indirect wh-elements. The other classifications are related to semantics, pragmatics, and other minor distinctions.

2. Wh-Subjects, Wh-Objects, and Wh-Adverbials: A Positional Classification

In this section, we will look at the classification of wh-elements in terms of their positions, as noted by Announi (2019), which gives us hints about the principles and parameters set by languages in the topic of positional classification of wh-elements. Let us first look at wh-elements in MA in the following examples:

- (1) Karim qra l-ktab l-barəḥ f-l-zamiṣa
Karim read.3.S.M the-book the-yesterday in-the-university
'Karim read the book yesterday in the university.'
- (2) ʃkun qra l-ktab
who read.3.S.M the-book
'Who read the book?'
- (3) ʃnu qra Karim
what read.3.S.M Karim
'What did Karim read?'

Both (2) and (3) question arguments. In (2), the *wh*-element /ʃkun/ 'who' questions the subject, 'Karim'. In (3), the *wh*-element /ʃnu/ 'what' questions the direct object /l-ktab/ 'the book'. In the literature, we often see (2) and (3) unified under *wh*-arguments. However, we also follow Announi's (2019) classification since, although both have similarities, they also differ in other aspects. For example, Gad (2011, p. 81) shows the difference between *wh*-subjects and *wh*-objects in hosting indefinite DPs and denoting the [+human] features. Therefore, the first observation is that a principle that is shared by languages is the classification of *wh*-elements according to *wh*-subjects, *wh*-objects, and *wh*-adverbials. The second observation is that all languages also have the [±human] feature, which distinguishes between *wh*-subjects and *wh*-objects. Gad (2011) observes that EA *wh*-subjects can host both definite and indefinite NPs while EA *wh*-objects can only host definite NPs. Let us apply this to MA:

- (4) ʃkun l-ʔustad f-l-ʒamiʕa
 who the-professor in-the-university
 'Who is the professor in the university?'
 (5) *ʃkun ʔustad f-l-ʒamiʕa
 who professor in-the-university

In the case of MA, it is ill-formed for *wh*-subjects to host indefinite NPs. This is not evidence for the difference between *wh*-subjects and *wh*-objects. Let us now turn to the [+human] argument. Gad (2011, p. 82) states that *wh*-objects cannot be [+human] entities. Let us look at the MA data:

- (6) ʃkun raʔis l-ʒamiʕa
 who president the-university
 'Who is the university's president?'
 (7) *ʃnu raʔis l-ʒamiʕa
 what president the-university

This is an intuitive semantic difference between *wh*-subjects and *wh*-objects that is shared by all languages. While *wh*-subjects refer to [+human] entities, *wh*-objects do not (Announi, 2019). Let us now turn to these examples:

- (8) fin qra Karim l-ktab
 where read.3.S.M Karim the-book
 'Where did Karim read the book?'
 (9) imta qra Karim l-ktab
 when read.3.S.M Karim the-book
 'When did Karim read the book?'

As for (8) and (9), they both question adjuncts. In (8), the *wh*-element /fin/ 'where' questions the adverbial of place /l-ʒamiʕa/ 'the university'. In (9), the *wh*-element /imta/ 'when' questions the adverbial of time /l-bareʕ/ 'yesterday'.

Wh-elements, therefore, can be classified according to what items they question in the discourse, a characteristic that is shared by all languages. In our case, these will be *wh*-subjects (see, e.g., (2)), *wh*-objects (see, e.g., (3)), and *wh*-adverbials (see, e.g., (8)) (Announi, 2019). Hiz (1978) calls these *wh*-elements positional questions. They are composed of three juxtaposed parts: (a) the 'questioner' (e.g., /ʃkun/ 'who'), (b) the 'auxiliary' (i.e., 'leader of augmentation'), and (c) the declarative sentence (i.e., the answer of the argument of the question). Note that the second part (b) is missing in MA since it does not use auxiliary-verb inversion when forming questions (or T-to-C movement). Instead of dividing positional *wh*-elements into *wh*-subjects, *wh*-objects, and *wh*-adverbials, Alsager (2017, p. 3) divides them into nominal and adverbial *wh*-questions. The only difference is that he juxtaposed *wh*-subjects and *wh*-objects into one category, which he calls nominal *wh*-questions. In this article, we will refer to them as *wh*-arguments.

In other languages, the asymmetry between *wh*-subjects and *wh*-objects (i.e., *wh*-arguments) is more visible. For example, there is a difference between *wh*-subjects and *wh*-objects in LA regarding where they can be positioned. Let us look at these examples taken from Abdel-Razaq, 2011, pp. 3-4:

- | | |
|---|--|
| (10) ʃeft mi:n mbeerih
saw.2.S.M what yesterday
'Who did you see yesterday?'
(11) mi:n ʃeft mbeerih
who saw.2.S.M yesterday
'Who did you see yesterday?'
(12) *ʃtarajte ʃu mbeerih
bought.2.S what yesterday
(13) ʃu ʃtarajte mbeerih | In-situ <i>wh</i>-subject

Fronted <i>Wh</i>-Subject

In-Situ <i>Wh</i>-Object

Fronted <i>Wh</i>-Object |
|---|--|

what bought.2.S yesterday
'What did you buy yesterday?'

(14) mi:n jeft-o b-l-maṭṭam **Resumptive wh-subject**
who saw.1.S-RP in-the-restaurant

'Who did you see in the restaurant?'

(15) *fu jtarajt-i mn l-maktab **Resumptive wh-object**
what bought.2.S-F-RP from the-bookstore

In LA, *wh*-subjects can be in-situ, fronted, and host resumptive pronouns (see, e.g., (10), (11), and (14)). However, although *wh*-objects can be fronted (see, e.g., (13)), they cannot be in-situ or host resumptive pronouns (see, e.g., (12) and (15)).

According to Jespersen (1940, as cited in Fasih, 2012), *wh*-arguments and *wh*-adverbials are considered *x*-questions (i.e., an unknown item *x* is used for an interrogative pronoun or pronominal adverb). The other type of *wh*-elements is called *nexus*-questions. They are the outcome of a subject and a predicate. This includes (a) yes-no questions, (b) alternative questions, and (c) tag questions:

(16) waf mja ḥmād l-barəḥ **Yes-no Question with /waf/**
Q left.3.S.M Ahmed the-yesterday
'Did Ahmed leave yesterday?'

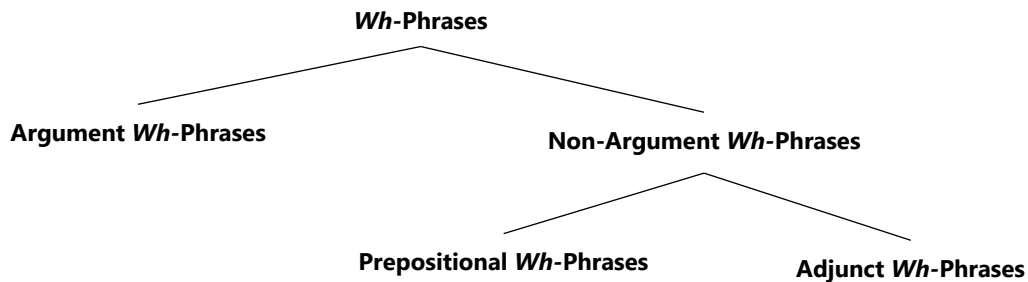
(17) mja ḥmād l-barəḥ **Yes-no Question with no /waf/**
left.3.S.M Ahmed the-yesterday
'Did Ahmed leave yesterday?'

(18) waf mja ḥmād l-barəḥ ula l-juma **Alternative question**
Q left.3.S.M Ahmed the-yesterday or the-today
'Did Ahmed leave yesterday or today?'

(19) l-ṣaw zwin jak-a **Tag question**
the-weather nice right-1.S.M
'The weather is nice, right?'

MA makes use of yes-no questions with or without the yes-no particle (see, e.g., (16) and (17)), which is another special characteristic of MA. Examples (18) and (19) illustrate alternative and tag questions. Gad (2011) classifies *wh*-elements in the following way:

(20)



Gad (2011) divides the *wh*-phrases into argument and non-argument *wh*-phrases, and this is similar to Announi's (2019) classification, except for naming adverbial *wh*-phrases 'adjunct *wh*-phrases' and adding another category, which is the prepositional phrase. Gad (2011) mentions three *wh*-elements under the category of argument *wh*-phrases. These are /mi:n/ 'who' (/ʃkun/ in MA), /i:h/ 'what' (/ʃnu/ 'what' in MA), and /anni/+NP 'what' NP (/ina/+NP in MA). Gad (2011) identifies four adjunct *wh*-phrases. These are /izzaj/ 'how' (/kifaʃ/ in MA), /li:h/ 'why' (/ʃlaʃ/ in MA), /imta/ 'when', and /fi:n/ 'where'. As for prepositional *wh*-phrases, she mentions /maʃa mi:n/ 'with whom' (/mʃa mən/ in MA), /b-kam/ 'how much' (/b-ʃhal/ in MA), /l-mi:n/ 'to whom' (/l-mmən/ in MA), and /ʃala mi:n/ 'about whom' (/ʃla mən/ in MA). An important note is that *wh*-elements such as /b-ʃhal/ 'how much' are categorically prepositional *wh*-elements but morphologically complex *wh*-elements, as will be discussed in the following section. The following table shows the common features and parameters that are set by MA when it comes to the positional classification of *wh*-elements:

Table 1

Positional Classification of Wh-Elements: Common Features and Parameters

Common Features	Parameters
<i>Wh</i> -subjects, <i>wh</i> -objects, and <i>wh</i> -adverbials is a universally attested classification.	Unlike EA, MA <i>wh</i> -objects cannot host indefinite NPs.
<i>Wh</i> -subjects differ from <i>wh</i> -objects via the [\pm human] feature.	Yes-no question formation occurs via a yes-no particle or intonation.

3. Simple and Complex Wh-Elements: A Morphological Classification

In this article, we aim at synthesizing the common features and parameters set by MA when it comes to the morphological classification of *wh*-elements. *Wh*-elements can also be divided into simple and complex *wh*-elements (Announi, 2019). We use these concepts to mean if the *wh*-element has an internal morphological complexity. For example, *wh*-elements such as /fin/ 'where' (see, e.g., (8)) contain one morpheme and are, thus, considered simple *wh*-elements. Let us present complex *wh*-elements:

- (21) ina dərri qra l-ktab l-barəḥ
 which boy read.3.S.M the-book the-yesterday
 'Which boy read the book yesterday?'
 (22) ina ktab qra Karim l-barəḥ
 which book read.3.S.M Karim the-yesterday
 'Which book did Karim read yesterday?'
 (23) ina nhar qra Karim l-ktab
 which day read.3.S.M Karim the-book
 'Which day did Karim read the book?'

Examples (21), (22), and (23) represent the complex *wh*-elements /ina dərri/ 'which boy', /ina ktab/ 'which book', and /ina nhar/ 'which day'. These examples are *wh*-subjects, *wh*-objects, and *wh*-adverbials, respectively. This is essentially a characteristic that is shared by languages such as English and Arabic. The difference between examples ((21), (22), (23)) and ((2), (3), (8)) is both pragmatic and structural. The pragmatic difference is that the complex *wh*-elements are considered D-linked. In contrast, the simple *wh*-elements are considered non-d-linked, a distinction posited by Pesetsky (1987). A simple explanation is presented by Frazier and Clifton (2002) in the following lines:

Linguists draw a distinction between two types of interrogatives: d-linked (discourse linked) phrases such as which man, which implies the existence of a set of contextually- determined entities (men) from which the speaker is asking for a choice, and non-d-linked interrogatives such as who, which carry no such implication. (p. 2)

A *wh*-element such as /ina dərri/ 'which boy' is a D-linked element because it asks for a choice; that is, which boy is in the contextually familiar set. A structural difference between simple and complex *wh*-forms has to do with superiority effects, a topic that was explored in detail by Announi (2019). In relation to answering our research problem, we find that morphological complexity is attested in many languages including MA, SA, English, and Arabic dialects.

4. Relativized and Non-Relativized Wh-Elements

Relativization is a universal property that many languages possess; however, there are specific syntactic behaviors that can be seen in a few languages like MA. *Wh*-elements can either be relativized or non-relativized (Osman, 1990, as cited in Jarrah, 2017a, p. 24). Consider the following examples:

- (24) ʃkun **lli** qra l-ktab
 who **that** read.3.S.M the-book
 'Who read the book?'
 (25) ʃnu **lli** qra Karim
 what **that** read.3.S.M Karim
 'What did Karim read?'
 (26) *fin **lli** qra Karim l-ktab
 where **that** read.3.S.M Karim the-book

Unlike English, *wh*-elements can be relativized in MA, as seen in (24) and (25). That is, /lli/ 'that' can accompany *wh*-elements. Notice how only nominal *wh*-elements can be relativized, but adverbial *wh*-elements cannot occur with /lli/ 'that'. Shlonsky (2002)

also notes that, in PA, PPs and *wh*-adverbials cannot be clefted, and only *wh*-arguments can. Moreover, in English, ‘relative pronouns’ can follow a definite or an indefinite antecedent (Hamdallah & Tushyeh, 1998, p. 141). However, one characteristic of relativized *wh*-elements that is observed in MA and other Arabic dialects is that /lli/ ‘that’ has to be preceded by a definite antecedent (see (27)) and never an indefinite one (see (28)):

- (27) ʃkun l-mra lli qra-t l-ktab
 who **the**-woman that read-3.S.F the-book
 ‘Who is the woman that read the book?’
 (28) *ʃkun mra lli qra-t l-ktab
 who woman that read-3.S.F the-book

This classification is syntactically relevant since the two types (i.e., relativized and non-relativized *wh*-elements) will derive different strategies and structures. Regarding our research problem, we find the following results:

Table 2

Relativized Wh-Elements: Common Features and Parameters

Common Features	Parameters
<i>Wh</i> -cleft is a common feature that is shared by Arabic dialects.	Unlike English, it is possible for <i>wh</i> -elements to appear with the complementizer (i.e., <i>wh</i> -clefts).
<i>Wh</i> -adverbials can never be clefted.	In MA and Arabic dialects, /lli/ ‘that’ must be preceded by a definite antecedent.

4. Matrix and Embedded Wh-Elements: A Clausal Classification

Wh-elements can also be in matrix or embedded clauses, a characteristic that is universally attested. Consider the examples below. The *wh*-element in (29) occurs in the matrix clause. Gad (2011) calls this type of question simple *wh*-elements. However, in our paper, we reserve the ‘simple’ meaning to the morphological simplicity of *wh*-elements instead of complex *wh*-elements. (30) is an example of *wh*-elements occurring in the embedded clause. Therefore, this type of *wh*-element can also be called embedded *wh*-elements.

- (29) ʃkun ɖrəb d-dərri
 who hit.3.S.M the-boy
 ‘Who hit the boy?’
 (30) ma-ʃrəft-ʃ ʃkun ɖrəb d-dərri
 Neg-know-Neg who hit.3.S.M the-boy
 ‘I do not know who hit the boy.’

Semantically speaking, (29) and (30) can also be referred to as direct and indirect *wh*-elements. According to Btoosh (2010, p. 23), “the phonological manifestation of the relative pronoun in indirect questions is a must as long as the relative clause head is present.” Let us look at the following example:

- (31) ana ʃarf-a ʃkun l-bənt lli ɖrəb-ha d-dərri
 I know-1.S.F who the-girl that hit.3.S.M-RP the-boy
 ‘I know the girl whom the boy hit.’
 (32) *ana ʃarf-a ʃkun l-bənt ɖrəb-ha d-dərri
 I know-1.S.F who the-girl hit.3.S.M-RP the-boy

Notice how (32) is ungrammatical due to the obligatoriness of /lli/ ‘that’. To sum up, a clausal classification to matrix/direct-embedded/indirect is universally attested.

5. Semantic-Pragmatic Classification of Wh-Elements

Interrogatives can also be divided according to their meanings. Let us extract what makes MA similar or different from other languages. Ibn Hisham (1211, as cited in Fakih, 2012) gives the different meanings the Q-particle /ʔa/ has. Let us look at the following table (detailed transcription and literal translation are ignored):

Table 3

Ibn Hisham's (1211/1979) Semantic Classification of the Q-particle

Category	Meaning	Example
1] Interrogative of Equalization	The first part of the question is equal to the second one.	ma ʔubali ʔa-qumta ʔam qaʔadta Neg. care Q-stand or stand 'I do not care whether you stand up or sit down.'
2] Interrogative of Untrue Denial	A speaker inquires about an unlikely situation and falsifies the person.	ʔa-ʔahidu xalqahum Q-witness creation 'Did they witness their creation?' (Quran 43:19)
3] Interrogative of Reprimanding and Denial	What follows the <i>wh</i> -element is a reality/truth, and its perpetrator is to blame.	ʔa-ʔajra llahi tadʔuna Q-other than Allah call.you 'Are you calling a different god other than Allah?' (Quran 6:40)
4] Interrogative of Affirmative Confession	The addressee admits or confesses something affirmative or negative.	Questioning the verb: ʔa-ʔarabta zajdan Q-hit.you Zayd 'Did you hit Zayd?' Questioning the subject: ʔa-ʔanta ʔarabta-hu Q-you hit-him 'Did you hit him?' Questioning the object: ʔa-ʔaʔaman ʔakal-ta Q-food eat-you 'Did you eat food?'
5] Interrogative of Irony	The Q-element expresses irony and sarcasm.	ʔa-dinuka jaʔmuruka ʔan taʔʕi walidajka Q-religion command that disobey parents 'Does your religion command you to disobey your parents?' (Fakih, 2012, p. 10, e.g., 22)
6] Interrogative of Command	The interrogation entails an implied command.	ʔa-ʔaslamt-um Q-convert-you 'Did you convert to Islam?' (Quran 57:16)
7] Interrogative of Wonder	Expression of wonder	ʔa-lam tara ila rabika kajfa madda aʔella Q-Neg see if God how stretch shade 'Did you not consider how God stretched the shade?'
8] Interrogative of Tardiness	Expression of tardiness	ʔa-lam jaʔini li-llaʔdina ʔama-nu ... Q-Neg come near for-those believe-they 'Is it not the time for the believers ...?' (Quran 57: 16)

The same classification can be applied to MA except for /waf/ instead of /ʔa/. For example, in the interrogative of affirmative confession, MA also exhibits the same structure:

- (33) waf ʔrəbt-i zajd
Q hit-2.S.M Zayd
'Did you hit Zayd?'
- (34) waf nta lli dərt-i hadʔi
Q you that did-2.S.M this
'Is it you who did this?'
- (35) waf zəjd lli ʔrəb-ti
Q Zayd that hit-2.S.M
'Is it Zaid whom you hit?'

The three examples above illustrate confessions focusing on a verb, subject, and object, respectively. Al-Rajab (1959/1965, as cited in Fakh, 2012) also classified *wh*-elements into four groups: (a) inquiry about the self, (b) inquiry about time, (c) display of one's circumstantial condition, (d) an indicator of an event, and (e) an indicator of number. Other researchers, such as Al-Ghalyini (1912/1994, as cited in Fakh, 2012) and Qabbish (1974, as cited in Fakh, 2012), view noun interrogatives as ambiguous nouns which elicit certain information about a particular entity.

Although these semantic classifications give us interesting insights into the meanings of *wh*-elements, they are usually not explored further in syntactic research compared to the other classifications since they do not have direct syntactic implications. Nevertheless, it is interesting to note that MA is also similar to other languages like CA in terms of the meaning of *wh*-elements.

6. A Historical Classification of Wh-Elements

By looking at the historical classification of *wh*-elements, we try to answer our research questions regarding comparing MA with other languages in hopes to find commonalities and differences.

Some linguists classify *wh*-elements, whether directly or indirectly, from a historical perspective. For example, Jassem (2014) investigates the Arabic origins of question words in English, German, French, Latin, Greek, Russian, and Sanskrit. He observes that while it is possible to find related *wh*-elements with a common form in English, German, French, Latin, Greek, and Sanskrit, it is not possible in Arabic. Jassem (2014, p. 21) divides *wh*-elements in Arabic into sixteen unrelated *wh*-elements without a common form. Examples (47)-(51) are taken from Spoken Arabic while the rest are from SA/CA. The table below displays the classification:

Table 4

Jassem's (2014) Classification of Wh-Elements

Wh-Element	Comments
(36) /man:(ða)/ 'Who (this)'	It asks about a person. In spoken Arabic, we have /mi:n/ or /min/. Prepositions can be prefixed to it: /liman/ 'to whom', /biman/ 'in whom', and /mimman/ (=min +man) 'from whom'.
(37) /ma:(ða)/ 'What (this)'	It asks about things. It is used in CA and Educated Arabic. Prepositions can be prefixed to it: /lima:(ða)/ 'for what (this)', /ʕala:ma/ 'on what, why', /bima:(ða)/ 'in what', and /mimma/ (=min ma) 'from what'. For example, /lima:(ða)/ 'for what (this)' is a combination of (a) /li/ 'to, for', (b) /ma:/ 'what', and (c) /ða/ 'this'.
(38) /kajfa/ 'How'	It asks about manner. It is common in all varieties of Arabic. Some pronounce it as /chef/ or /tsef/ (e.g., Qasemi Arabic). Only dependent pronouns can be affixed to it: /kajfak/ (= how-you) 'how are you'.
(39) /kam/ 'How many/ much'	It asks about quantity (viz., age, time, and measurements). It may be pronounced as /cham/ or /tsam/ (e.g., Qasemi Arabic). Prepositions can be prefixed to it: /bikam/ 'how much'.
(40) /mata/ 'When'	It asks about time. It may be pronounced as /emat/ or /emta/ in Spoken Arabic. It is unaffixable.
(41) /ʕajna/ 'Where'	It asks about the place. It may be pronounced as /wain/, /ween/, /hwain/, or even /fain/ in EA. Dependent pronouns can be affixed to it: /ʕajnak/, /wainak/ (= where-you) 'where're you'.
(42) /ʕja:na/ 'Where'	It asks about the place in CA. /ʕajna/ 'where' is a shortened variation of this <i>wh</i> -element.
(43) /ʕanna/ 'When, where, how'	It asks about manner. It is limited to CA.
(44) /ʕajj/ 'What, which'	It asks about choice. It may be pronounced as /wai/ in Spoken Arabic. Dependent pronouns can be suffixed to it: /ʕaju-hum/ (= which-them) 'which one of them'.

(45) /ʔaih/ 'What'	It is an exclamatory element.
(46) /kaʔajin/ 'How many/much'	It asks about quantity. It has other variations (e.g., /kaʔaj/).
(47) /ʔij/ 'What'	It asks about things and choice. It has many pronunciations in Spoken Arabic, most notably /ʃ(u)nu/ in SyA and IA. Prepositions may be affixed to it: /laif/ 'for what' used for cause; /baiʃ/ 'in/by what' asks for cost, and /ʃalaj/ 'on what' asks about cause.
(48) /ʃlun/, /iʃlun/ 'How'	It asks about manner. It is spoken in Gulf Arabic, SyA, and IA.
(49) /qaddij/ 'How many/much'	It asks about quantity.
(50) /izzaj/ 'What style, how'	It asks about manner. It is used in EA.
(51) /wara/ 'Why'	It asks about cause in Qassemi Arabic.

Let us compare the table above with MA and start with the *wh*-subjects. For (36), MA possesses /ʃkun/ 'who'. The difference between MA and SA is that the latter can have a demonstrative /ðə/ attached to *wh*-subjects. In MA, we cannot say */ʃkunðə/ *who that*. This detail will be used later to account for the differences between 'who' and 'which' in MA.

In (37), MA has /ʃnu/ 'what'. Although SA *wh*-objects can host prepositions, it is not possible in MA. We observe that we can find all those prepositions hosted on another *wh*-item /mən/, which is similar to /ma/. The only difference we can speculate is that while the latter can be an independent unit, the former might be attached to another element. Other examples are (a) /læmmən/ 'for whom', (b) /ʃlamən/ 'about whom', and (c) /bimən/ 'in what', among others.

For the *wh*-adverbial of manner, MA has the element /kif(a)/ 'how'. Notice how it is similar to SA, except that MA can add /a/. This is similar to all North African dialects' interrogative of manner, whose origin goes back to /kajfa/ 'how' and is often combined with /ʔaʃ/ 'what' (Marçais, 1977, p. 203). One difference between MA and SA is that while the latter can host pronominal suffixes, it is not possible in MA (e.g., */kif-ək/), although this is possible in other Arabic dialects. The question remains: What is the exact status of /kif/ 'how'? Let us look at these examples:

- (52) kif dajər ħməð
how is.3.S.M Ahmed
'How is Ahmed?'

According to Sibawayh (768/1973, as cited in Fakhri, 2012), in his analysis of CA, /kif/ 'how' questions a person's circumstantial status or condition; consequently, he considers the *wh*-element a metaphorical adverb and not a syntactic one even if it does not have temporal or locational dimensions.

In (39), we use /ʃħal/ 'how much' to question quantity. A similarity between MA and SA is that the former also allows for the prefixation of the *wh*-element: /b-ʃħal/ 'how much'. One difference is that when a preposition precedes the *wh*-element /bi-kam/ 'how much', the noun is assigned the genitive Case (Fakhri, 2012, p. 19):

- (53) bi-kam dirham-in ʔiʃtaraj-ta qamis-a-ka
for-how much Dirham-GEN bought-2.S.M.NOM shirt-ACC-your
'For how much did you buy your shirt?'

The *wh*-element of time /mata/ 'when' is an example of a *wh*-element still present in many Arabic dialects, including MA. According to Versteegh (2004, p. 246), Arabic dialects use a combination of /ʔajj/ + /mata/. In the case of MA, we have /imta/ and /jəmta/. We assume that the /j/ in MA might come from the CA's /ʔajj/. MA also uses the form /wəqtaʃ/ 'what time' as another *wh*-element of time. Versteegh (2004, p. 247) notes that this form only occurs in Morocco and Algeria.

MA uses the *wh*-element of place /fin/ 'where' (see (40)). Just like SA, this *wh*-element is unaffixable. Although SA has three other variants for the *wh*-element of time (see (40) (41), (42)), MA has two: /fin/ and /mnin/. Moreover, just like SA *wh*-elements host pronominal suffixes, MA allows the same: /fin-ək/ 'where are you'. Versteegh (2004, p. 247) notes that most Arabic dialects take their form for interrogatives of place from CA's /ʔajna/ 'where' with *wa-* or *fi-*. In the case of MA, it uses the combination of *fi-* and

/ʔajna/. North African dialects generally derive the interrogative of place from a combination of /ʔajna/ 'where' with /fajn/, /wen/, /lajn/, and /mnin/, to name but a few (Marçais, 1977, p. 248). In the case of MA, it uses both /fin/ and /mnin/.

In (44), MA uses the *wh*-element /ina/ 'which'. The difference between MA and SA 'which' is that the former cannot have dependent pronouns suffixed on it. As for examples (45) and (46), they simply do not have counterparts in MA although (45) uses the *wh*-element /ɲnu/ 'what' as an exclamatory interjection. As for the Spoken Arabic examples, the only counterpart used in MA is (49): /qəddaʃ/ 'how many/much'.

Example (47) is a very interesting case in MA, which will serve as a gradual transition to giving a historical classification of MA *wh*-elements. First, let us discuss /ʔiʃ/ or, in the case of MA, /ʔaʃ/, which asks about things. MA has many variants of this item, which is a very interesting characteristic. We can say a full variant /ʔafnu/, /ʔaʃ/, /ɲnu/, or even /ʃ-/. Jassem (2014) notes that /ʔiʃ/ is a reduced form /ʔajj/ 'what' and /ʃajʔ/ 'thing'. This means that the MA /ʔaʃ/ is composed of /ʔa/ and /ʃ/, which mean 'what' and 'thing', respectively. Versteegh (2004) states that, in MA, "we find – ʃnu (what) or an even shorter form, ʃ < ʔajju ʃajjʔin huwa, in which the 'ajju' element is not visible anymore" (p. 243). Obler (1975, as cited in Abdel-Razaq, 2011, p. 165) is the first person to discover this. We provide evidence that /ajju/ is still present in the MA data. One question we might ask is, what does /nu/ stand for in the examples /ʔafnu/, /ʔafnu/, or /ʃnu/? Versteegh (2004) indirectly answers this question and states that /ʃkun/ 'who' originates from CA's /ajju ʃajʔ jaku:nu/ 'which thing is' (p. 245). One might speculate that the /nu/ might come from /jaku:nu/. We leave this issue aside as it is a matter for historical linguists. Going back to /ʔaʃ/, prepositions can be affixed to it in MA: /laʃ/ (or /lajaʃ/) 'for what', /baʃ/ 'in/by what', and /ʔlaʃ/ (or /ʔlajaʃ/) 'on what'.

Let us now see if MA, just like SA, has unrelated *wh*-elements. We speculate that, unlike SA, MA can be classified into related and non-related *wh*-elements. In MA, some *wh*-elements can host the element /ʃ/ while other elements are unrelated, just like SA. The related *wh*-elements are as follows: /aʃ/ (and its variants), /ɲnu/ 'what' (with its variants), /ʃkun/ 'who', /fuqaf/ 'when', /ʔlaʃ/ 'why', /mnnaʃ/ 'from what', and /qddaʃ/ 'how much', among others. The non-related *wh*-elements are /fin/ 'where' and /imta/ 'when', among others. Indeed, some interrogatives can be built with one common item, which is not new. Versteegh (2004, p. 239) reports that Germanic languages are often built with the prefix *w-* or *wh-*, most Greek's interrogatives contain *p-*, and Latin interrogatives have the common element *qu-* (see also Jassem, 2014 for more on the origin of *wh*-elements). However, he reports, just as we assumed, that there are other unrelated interrogatives that the child needs to acquire; for example, English has the unrelated *wh*-element 'how', and Latin contains the unrelated interrogatives 'ubi' and 'cur'. Some *wh*-elements in MA sharing the element /ʃ/ may have a historical explanation. We leave this issue aside for future researchers to investigate. Note that this historical classification that results in one common item can syntactically help us to argue for the [+Q] feature through Cable's (2007) Q/*wh* agreement hypothesis. To sum up, we summarize the common and uncommon features that MA possesses regarding the historical classification of MA *wh*-elements through the following table:

Table 5

Historical Classification of Wh-Elements: Common Features and Parameters

Common Features	Parameters
In many languages, <i>wh</i> -elements can host prepositions.	Unlike SA, MA does not allow demonstratives to be attached to <i>wh</i> -elements.
The <i>wh</i> -adverbial of manner in Arabic dialects originates from CA's /kajfa/ 'how' and /ʔaʃ/ 'what' combination.	Unlike SA and Arabic dialects, it is not possible for MA <i>wh</i> -adverbial of manner to host pronominal suffixes.
The <i>wh</i> -adverbial of time in Arabic dialects originates from CA's /ʔajj/ 'which' and /mata/ 'when' combination.	Unlike SA, MA does not overtly display a genitive Case when the <i>wh</i> -adverbial of quantity is used.
The <i>wh</i> -adverbial of place in Arabic dialects originates from CA's /ʔajna/ 'where' with /wa-/ or /fi-/.	The <i>wh</i> -element /wəqtaʃ/ 'what time' only occurs in MA and Algerian Arabic.
In SA and MA, the <i>wh</i> -adverbial of place is unaffixable.	Unlike SA, MA does not allow any dependent pronouns to be attached to the <i>wh</i> -element 'which'.

¹ Interestingly enough, the yes-no particle in MA also contains the element /ʃ/. /waʃ/ originates from the form /huwaʃ/; this shows that "Moroccan (Arabic) – lost the hu [and] has also lost most of its copular function" (Wilmsen, 2014, p. 18). This also explains how EA has /huwa/ as a yes-no particle. Indeed, while MA kept /waʃ/ and discarded with /huwa/, EA did the opposite.

<p>In SA and MA, the <i>wh</i>-element of place can host pronominal suffixes.</p> <p>From a historical perspective, MA can be classified into related and non-related <i>wh</i>-elements, a characteristic that is displayed in many languages.</p>	<p>MA has five variations of the <i>wh</i>-object: /ʔafnu/, /ʔaf/, /ʔnu/, /ʃ-/ and /mən/.</p>
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7. Other Classifications of Wh-Elements

In this subsection, we look at other classifications of *wh*-elements, which apply to other languages but not MA. *Wh*-elements can be divided into three types: (a) interrogative pronouns, information questions, or *wh*-words; (b) relative pronouns; and (c) interrogative adjectives (Jassem, 2014, p. 20). In MA, both (a) and (c) are possible (e.g., /fin/ ‘where’ for (a) and /ina/ ‘which’ for (c)); however, (b) is not possible. While languages like English use *wh*-words to indicate both interrogativity and relativity, MA has a different word for relative pronouns. Therefore, this classification does not apply to MA. Moreover, the classification does not contribute to any significant structural difference compared to what we have seen in other sections. In addition, *wh*-elements can also be classified according to the Case marking. Let us look at the following table (Pyles & Algeo, 1993, p. 118):

Table 6
The Classification of Wh-Elements according to their Case Marking

Case	Masculine	Neuter
Nominative	hwa ‘who’	hwæt ‘what’
Accusative	Hwone	hwæt ‘what’
Genitive	Hwæs	hwæs ‘whose’
Dative	hw(æ:/ā)m	hw(æ:/ā)m ‘whom’
Instrumental	hw(æ:/ā)m	hwy ‘why’

The table above shows a classification of *wh*-elements depending on Case marking. For example, /t/ is used to indicate nominative and accusative markings, /s/ is used to indicate genitive marking, /m/ is used to entail the dative marking, and /y/ is added to indicate instrumentality. Poutsma (1916, p. 944) adds that only ‘who’ is declinable in English; that is, it has ‘who’ in the nominative, ‘whose’ in the genitive, and ‘whom’ in the accusative. In MA, *wh*-elements do not have inflectional endings, which encode Case markings (i.e., they are indeclinable). Therefore, this classification cannot work in our data. Note that SA has one *wh*-element that can bear Case. It is /ʔajj/ ‘which’ where /ʔajj-u(n)/ inflects for the nominative Case, /ʔajj-a(n)/ inflects for the accusative Case, and /ʔajj-i(n)/ inflects for the genitive Case (Fakih, 2012, p. 16).

Wh-elements can also be classified according to if and what affixations they might take. Jassem (2014, p. 21) provides the following categorization of *wh*-elements in relation to affixation for SA:

Table 7
The Classification of SA Wh-Elements in terms of Affixation

Demonstratives	Prepositional affixes	Pronominal suffixes	‘ma(a)’ suffixation	No affixes
/ma:(ða)/ ‘what’	/ila:-ma/ ‘to/for what = why’	/ʕala:m-ak/ ‘what’s wrong with you’	/kajfa-ma/ ‘however, anyhow’	/mata/ ‘when’
	/li-ma/ ‘to/for what = why’	/kajf-ak/ ‘how are you’	/ʔajna-ma/ ‘wherever’	
	/ʕala:ma/ ‘on what = why’	/ʔajn-ak/ ‘where are you’	/mah-ma/ ‘however’	
	/bi-ma/ ‘by what = why’			
	/mi-mma/ ‘from what’			
	/fi:-ma/ ‘in what = why’			

Table 7 shows that *wh*-elements can host demonstratives, prepositional affixes, pronominal suffixes, ‘ma(a)’ suffixes, and no affixes. In the case of MA, it does not have *wh*-elements that host demonstratives. However, MA can host prepositional affixes (e.g., /ʕla-

mən/ 'about whom'), pronominal suffixes (e.g., /fin-ək/ 'where are you'), and 'ma(a)' suffixes (e.g., /finma/ 'wherever'). MA can also have *wh*-elements with no affixes (e.g., /fin/ 'where'). To sum up, this section extracted two parameters that are set by MA. These are summarized in the following points:

- (a) Unlike SA, MA *wh*-elements do not have inflectional endings, which encode Case markings.
- (b) Unlike English, MA does not use *wh*-elements to indicate both interrogativity and relativity.

7. Strategies for Question Formation in Moroccan Arabic

According to Soltan (2011a, pp. 267-268), four strategies are used in LA, particularly in Arabic dialects. Let us look at the following examples and see if MA exhibits these strategies.

7.1 The Gap Strategy

The gap strategy is attested in MA. In general, gapping is a grammatical operation whereby the element is given a null spell-out; the element's phonetic features get deleted when the same element occurs in another position in the sentence (Radford, 2004, p. 94). According to Sulaiman (2016, p. 44), the gap strategy is the default strategy in SA and most Arabic dialects. Let us look at the following sentence:

- (54) ina dərri fəft-i f-l-zamiŋa
which boy saw-2.S in-the-university
'Which boy did you see in the university?'

The gap strategy (54) is arguably the most frequently used in MA. This strategy entails a *wh*-element in the left periphery is linked to a gap. According to the gap strategy, the *wh*-phrase /ina dərri/ 'which boy' is situated at the left periphery and creates a gap in the object position. Not all Arabic dialects allow the gap strategy. For example, EA prohibits fronting *wh*-arguments, leaving a gap at the end:

- (55) *mi:n inta fuf-t imba:riħ
who you saw-2.S.M yesterday
'Who did you see yesterday?'
(Soltan, 2011a, p. 268)

Note also that we did not discuss the exact location of *wh*-elements and the nature of the link between *wh*-elements and gaps. Two consequences should occur with the gap strategy: (a) *wh*-elements are base generated and are simply linked with gaps, or (b) *wh*-elements move and leave behind a gap, and this is where languages differ. Example (54) is a direct question. The gap strategy can also be used in indirect questions, as seen below:

- (56) ma-ŋrəft-f ina dərri fəft-i(h) f-l-zamiŋa
Neg-knew.1.S-Neg which boy saw-2.S-(him) in-the-university
'I don't know which boy you saw in the university.'

In MSA, indirect questions can be used in both the gap and resumptive strategies (Gad, 2011, p. 31). The same applies to MA, as demonstrated in the optionality of /-h/ in MA above although the gap strategy is more natural for MA native speakers. Another characteristic of the gap strategy is that it is unbounded:

- (57) **I-mmən** Mona galət anna Meriem ɟannat Fatima siŋtat r-risala e; l-barəħ
to-whom Mona said that Meriem thought Fatima sent the-letter the-yesterday
'To whom did Mona say that Mary thought that Fatima sent the letter yesterday?'

According to Shlonsky (2002, p. 139), *wh*-elements "can bind a variable located [in] an unlimited number of clauses down," which also extends to MA. These are some general ideas on the gap strategy. In the next chapters, starting from Chapter 3, we will see how *wh*-elements in the gap strategy are derived. To sum up, the gap strategy is the default strategy in MA, English, and most Arabic dialects. Let us now move to the (conventional) resumptive strategy.

7.2 The Conventional Resumptive Strategy

This subsection will look at the interaction between *wh*-elements and the resumptive strategy, an attested strategy in MA. Consider this example:

- (58) ina dərri fəft-i-h f-l-zamiŋa
which boy saw-2.S-him in-the-university
'Which boy did you see in the university?'

The second strategy, the conventional resumptive strategy, differs from the previous strategy because the *wh*-phrase does not leave a gap behind but a resumptive pronoun. In our case, the *wh*-phrase /ina dərri/ 'which boy' is situated at the left periphery and is linked to the resumptive pronoun /-ih/. In EA, the conventional resumptive strategy occurs only with the D-linked *wh*-phrase /ʔanni/ 'which'. Consider these examples (Soltan, 2011a, p. 268):

- (59) ʔanni mumassil ʔinta fuft-u-h ʔimba:riħ
 which actor you saw-2.S-him yesterday
 'Which actor did you see yesterday?'
 (60) *mi:n ʔinta fuft-u-h ʔimba:riħ
 who you saw-2.S-him yesterday

In the case of MA, it is possible to use both D-linked and non-D-linked *wh*-phrases in the conventional resumptive strategy. That is, both /ʃkun/ 'who' and /ina mummatil/ 'which actor' are well-formed in MA:

- (61) ʃkun / ina mummatil fuft-i-h l-barəħ
 who / which actor saw-2.S-him yesterday
 'Who/ which actor did you see yesterday?'

We saw that the conventional resumptive strategy occurs with *wh*-subjects and the D-linked *wh*-element 'which' NP (i.e., both in subject and object positions). Let us now look at *wh*-objects in MA with this strategy:

- (62) *ʃnu fuft-i-h
 what saw-2.S-him
 'What did you buy?'

In (62), the resumptive pronouns cannot occur with *wh*-objects. Abdel-Razaq (2011, p. 144) and Sulaiman (2016, p. 52) report the same for LA and SyA. Soltan (2011a, p. 267) confirms the fact as well and states that all *wh*-elements appear in the gap strategy in LA; however, only the *wh*-subject /mi:n/ 'who' and /ʔajj/+NP 'which' NP occur in resumptive interrogatives. We extend the same observation to MA.

Abdel-Razaq (2011, p. 144) explains that the *wh*-objects are "unable to provide a reference for the resumed element." On the contrary, *wh*-subjects and D-linked 'which' NPs can provide a reference to the resumptive pronoun. It is important to note that the difference between the resumptive and gap strategies is not merely descriptive but structural. In most Arabic dialects, both react differently to island effects (Ross, 1967). However, in MA, we see a different case. To summarize, we extract the following common and uncommon features that MA possesses when it comes to the resumptive strategy:

Table 8

The Conventional Resumptive Strategy: A Common Feature and Parameter

Common Feature	Parameter
Arabic dialects prohibit the presence of resumptive pronouns with <i>wh</i> -objects.	Unlike EA, both D-linked and non D-linked <i>wh</i> -elements are allowed in the conventional resumptive strategy.

7.3 Class II Resumptive Strategy or Reduced Wh-Clefts

The Class II resumptive strategy is another question formation strategy attested in MA. Choueiri (2019, p. 195) defines resumption as "a mechanism –, which can serve to establish a dependency between a nominal antecedent that appears in a position at the left periphery –, and a pronominal element inside the sentence, which depends on the antecedent for its interpretation." In this subsection, we will look at the combination of /lli/ 'that', *wh*-elements, and, optionally, resumptive pronouns:

- (63) ʃkun lli ʃəft-i-h f-l-zamiħa
 which boy saw.2.S-him in-the-university
 'Who is it that you saw in the university?'

In (63), the class II resumptive strategy differs from (61) in adding /lli/ 'that'. In the literature, this strategy is either referred to as Class II interrogatives (Abdel-Razaq, 2011; Cheng, 1991; Ouhalla, 1996) or reduced cleft *wh*-questions (Aoun et al., 2010; Shlonsky, 2002). According to Shlonsky (2002), Class II interrogatives have five main characteristics. First, they appear with a complementizer. Second, Shlonsky (2002, p. 139-140) states that class II interrogatives are associated with resumptive pronouns and never gaps.

This is incorrect in the case of MA. One interesting phenomenon in MA is the clear occasional optionality of resumptive clitics. Indeed, as Class II interrogatives can appear with resumptive pronouns, as seen in (61), they can also appear with gaps:

- (64) *ʃkun lli ʃəft-i f-l-zamiʃa*
 who that saw-2.S in-the-university
 'Who is it that you saw in the university?'

As we see in (64), it is grammatical to omit the resumptive pronoun. Shlonsky (2002, p. 157) does admit that MA is not similar to PA. In the case of PA, the sentence is deemed ungrammatical if the class II interrogative is linked to a gap (Shlonsky, 2002). Choueiri (2019, p. 196) states that MA and LA can alternate between resumptive pronouns and gaps in the following restrictive relatives:

- (65) *ʒbart l-ktab lli nsit-i e f-l-qism*
 found.1.S the-book that forgot-2.S in-the-classroom
 'I found the book that you forgot in the classroom.'

However, concerning the appearance of resumptive pronouns with *wh*-questions, Choueiri (2019, p.196) states that it is not possible in both EA and MA; in other words, in MA, the gap strategy is possible in both restrictive relatives and *wh*-questions, but the resumptive strategy is only allowed in restrictive relative sentences. Our data (see, e.g., (64)) contradicts this assumption: MA supports both gaps and resumptive pronouns in class II interrogatives. This means that the gap and resumptive strategies occur in restrictive relatives and *wh*-questions.

The third characteristic is that Class II interrogatives do not observe island effects. We will not go further but once we test the movement of *wh*-elements in general, we will see that Class II interrogatives do observe island effects with the resumptive pronouns. Consider the following example:

- (66) **l-mmən lli nti sift-i r-risala*
 to-whom that that sent-2.S the-letter

(66) shows that the class II resumptive strategy does not tolerate *wh*-elements as PPs. Indeed, the fourth characteristic of class II interrogatives is that they can never be adverbial phrases or PPs (Shlonsky, 2002, p. 158). The latter two can only appear with Class I interrogatives (i.e., the gap strategy) (Shlonsky, 2002, p. 140). Overall, the behavior of not allowing the clefting of *wh*-adverbials is prohibited.

A final characteristic of Class II interrogatives is that they can appear as embedded *wh*-elements (see (67)) and can express an unbounded dependency (see (68)) (Shlonsky, 2002, p. 141):

- (67) *ma-ʃrəft-ʃ ina risala lli Mona siftat-ha l-Meriem*
 Neg-know-Neg which letter that Mona sent-it to-Meriem
 'I didn't know which letter Mona sent to Meriem.'
 (68) *ina risala lli Mona galət anna Meriem ɖannat anna Fatima siftat-ha l-ħmed*
 which letter that Mona said that Meriem thought that Fatima sent-it to Ahmed
 'Which letter did Mona say that Meriem thought that Fatima sent to Ahmed?'

Shlonsky (2002, p. 141) summarizes the differences between Class I (i.e., gap strategy) and Class II interrogatives.² We offer the same thing for MA in the following table:

Table 9

The Distinction between Class I and Class II Interrogatives in MA

	Class I/ Gap Strategy	Class II Interrogatives
Unbounded Dependency	Yes	Yes
Used in matrix questions	Yes	Yes
Used in indirect/embedded Q	Yes	Yes
Type of variable	Gap	Gap and RPs
Constrained by Subjacency	Yes (see Chapter 3)	Yes (see Chapter 5)

² There are different terminologies for Class I and Class II interrogatives. In our paper, we refer to them as the gap strategy and Class II resumptive strategy. Some also call them *wh*-fronting and *wh*-clefts (Leung & El-Eisaei, 2011, as cited in Leung, 2014a, p. 333). Both terms class II and *wh*-clefts can be used indistinguishably.

Compatible with all types of <i>wh</i> -elements	Yes	No (only nominal <i>wh</i> -elements).
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Generally, one important result we found when it comes to the parameter that is set by MA is the fact that class II interrogatives can appear with gaps, a fact that proves the special characteristics that MA displays when it comes to the topic of question formation.

7.4 The In-Situ Strategy

Some languages use the in-situ strategy as a default operation for question formation, but what about MA? Let us first look at the following data from Lassadi (2003, p. 67):

- (69) John-wa dare-ni nani-o ageta ka
 John-top who-dat what gave Q
 'Who did John give what?'

Example (69) illustrates the in-situ strategy in Japanese where both the *wh*-subject /dare/ 'who' and /nani/ 'what' are in the in-situ position. Let us now look at the MA data and see if it is also a default strategy.

- (70) ʃəft-i ina dərrɪ f-l-ʒamiʃa
 saw-2.S which boy in-the-university
 'Which boy did you see in the university?'

As for the last strategy, it is the least frequent in MA. In fact, throughout our observations of natural data, we discover that this strategy is extremely limited in MA. This property of MA differs from other dialects that use this strategy as the primary procedure (e.g., EA; Gad, 2011). This is against the view of Nouhi (1996, p. 86), who states that the *wh*-in-situ strategy is completely ungrammatical in MA. He brings the following examples (Nouhi, 1996, p. 86):

- (71) *Brahim ʃra aʃ
 Brahim bought.3.S.M what
 (72) *ka-tʃrəf Fatima ʃra Brahim q-dar fin
 CONT-know.3.S.F Fatima bought.3.S.M Brahim the-house where

According to Nouhi (1996), example (71) is ungrammatical. This position is also taken by Ouhalla and Shlonsky (2002, p. 19). We disagree with this observation as it does not consider all contexts. Although the in-situ strategy is limited, it can be used in MA as a means of echo questions. As for (72), the in-situ strategy is still possible in embedded structures but ungrammatical in the case of *wh*-adjuncts such as /fin/ 'where'. Let us look at the case of the *wh*-arguments:

- (73) ka-ɖɖən Fatima ʃra Brahim ʃnu
 CONT-know.3.S.F Fatima bought.3.S.M Brahim what
 'Fatima thinks Brahim bought what?'

As we see from (73), *wh*-arguments can appear in-situ in embedded structures as echo questions. In conclusion, the in-situ strategy can arise with all *wh*-elements in the matrix structures but only as an echo question. Moreover, the in-situ strategy is even more restricted in embedded clauses. Only *wh*-arguments can appear in embedded structures as an echo question. Furthermore, the tone of the sentence must be interrogative (i.e., a form of a question). The structure will be ungrammatical if it is in the declarative form, such as (73). We should note that echo questions are not always produced as an in-situ strategy. For example, in Turaif Arabic, echo *wh*-elements are produced in the left periphery:

- (74) wiʃ min ʃara-ha
 WHAT who bought.3.S.M-it
 'Who bought WHAT?'
 (Alshammiry, 2014, p. 2)

Gad (2011) distinguished between embedded *wh*-in-situ and embedded *wh*-fronted questions where both are grammatical in EA; let us check for the case of MA:

- (75) *kulʃi ʃarəf l-ksida ʃrat fin
 everyone knows.3.P the-accident happened.3.S.F when
 (76) kulʃi ʃarəf ʃlaʃ ʃrat l-ksida
 everyone knows.3.P why happened.3.S.F the-accident

'All knew why the accident took place.'

As mentioned before, it is ungrammatical for *wh*-elements (i.e., adverbials) to be in-situ in embedded structures. As for (76), it is well-formed for *wh*-elements to occur in embedded structures as long as they are fronted. Sulaiman (2016, p. 57-58) also observes that the *wh*-in-situ is more restricted with *wh*-adjuncts and becomes ungrammatical with the *wh*-elements /kif/ *how* and /leʃ/ *why*. The same thing can be observed for MA, which will be clarified further in later chapters:

- (77) *rʒəʃ ħməd kifəʃ
 returned.3.S.M Ahmed how
- (78) *ʒat Mona ʃləʃ
 came.3.S.F Mona why

Ouhalla and Shlonsky (2002) divide Arabic varieties into two groups. The first group claims that MA uses the overt movement strategy and disallows *wh*-in-situ questions. The second group uses both strategies (e.g., EA, IA, and LA). They add that MA uses overt movement par excellence and marginally uses multiple in-situ *wh*-questions. We ask, from the data collected, is MA an overt movement, in-situ, or optional *wh*-movement language? We can quickly disqualify in-situ since there are instances of *wh*-elements fronted to the left periphery. We are left with whether MA is a movement or an optional movement language. We will see that although MA allows in-situ echo questions and multiple *wh*-questions, it is still an overt movement language because those strategies are marginal and limited. Because the *wh*-elements become ungrammatical or deteriorate in grammaticality in embedded questions in the case of in-situ/non-echo structures, it shows it is an overt movement language.

Note also that MA limiting the in-situ strategy is not an idiosyncratic property. For example, Syrian Arabic marginally allows in-situ *wh*-elements /mi:n/ '*who*', /ʔajja/ '*which*', /kam/ but not /ʃu/ '*what*' (Sulaiman, 2016, p. 56). The same applies to MA:

- (79) *ʃrit-i ʃnu mən l-maħal
 bought-2.S what from the-shop

Even a language like Iraqi Arabic, which allows a non-echo in-situ strategy has a morphological limitation on the nature of in-situ *wh*-elements. Consider the following examples (Abdel-Razaq, 2011, p. 3):

- (80) Mona iʃtara-t ʃen-o
 Mona bought-3.S.F what
 '*Mona bought what?*'
- (81) *Mona iʃtara-t ʃen
 Mona bought-3.S.F what

In IA, *wh*-arguments can appear optionally with the morpheme /-o/. However, Abdel-Razaq (2011) states that *wh*-arguments in the in-situ strategy force the sentences to be ungrammatical if the morpheme /-o/ does not appear. For this reason, he proposes nano-syntax or a morphosyntactic analysis of *wh*-arguments to solve this issue. We extract the following common features and parameters that are set by MA when it comes to the in-situ strategy.

Table 10

The In-situ Strategy: Common Features and Parameters

Common Features	Parameters
In MA and JA, the <i>wh</i> -in-situ strategy is degraded with the use of <i>wh</i> -adverbials and even ungrammatical with the use of <i>wh</i> -adverbials of manner and reason.	Unlike EA, it is disallowed for <i>wh</i> -adverbials to appear in-situ in embedded clauses.
MA is not the only language that limits the use of the in-situ strategy.	Based on preliminary data, MA seems to be an overt <i>wh</i> -movement language.

Conclusion

In this article, we classified *wh*-elements from structural, semantic, pragmatic, and historical perspectives, among others. The final subsection gave a descriptive account of the four strategies used in MA for question formation. These are the gap strategy, the conventional resumptive strategy, the class II resumptive strategy, and the in-situ strategy. In terms of our research problem, we uncovered some interesting facts about MA by comparing it with different languages. This opens doors for researchers to dive into the characteristics of dialects which will help shape our understanding of natural languages as a whole. Another important

added value for this research is it is important to survey the syntax of MA before analyzing the behavior of wh-elements, henceforth the exploratory nature of the paper as the basis for future explanatory analyses.

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