Questions in context: the case of French wh-in-situ
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7 Conclusion

This dissertation investigated the properties of French *wh*-in-situ questions from two perspectives, both of which relate to context. These are the information structure of the sentence (i.e. focus and givenness) and the distinction between echo and information seeking questions. In this final chapter, I discuss the insights yielded by the research. I begin with the results regarding the properties of French *wh*-in-situ questions (Section 1). Then I consider the other outcomes of the dissertation, which concern echo questions (Section 2), focus and givenness (Section 3), methodological considerations (Section 4) and the cross-linguistic picture (Section 5).

1 Properties of French *wh*-in-situ questions

In Chapter 2, I laid out six (alleged) properties of French *wh*-in-situ questions that were the subject of debate (1).

(1) a. occurrence of intervention effects
    b. extra-strong presupposition
    c. prosody, e.g. sentence-final rise
    d. infelicity as indirect questions
    e. (in)felicity inside a strong island
    f. (in)felicity as long-distance questions

In Chapters 5 and 6, I proposed that French has two different mechanisms to interpret *wh*-in-situ, covert movement (2) and a choice function (3), which yield questions with different properties.

(2) *Covert movement* wh-*in-situ*
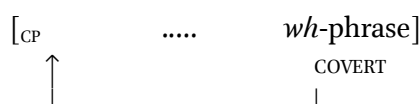
[_{CP}   .....   *wh*-phrase]
                                    COVERT

(3) *Choice function* wh-*in-situ*

⟦tous les témoins ont reconnu qui ⟧ =
{p | p = all the witnesses have recognized CH(person)}

In (3), *CH(person)* represents the *wh*-phrase *qui* 'who'. The choice function ranges over the set of all relevant persons and selects one person from the set. What I propose is a contextually supplied choice function, cf. Kratzer (1998) for specific indefinites: the choice function variable is free and the context determines its value. In order to make a question interpretable, the choice function needs to be recoverable for the interlocutor and for this, a special type of context is necessary. More specifically, I suggested that choice function *wh*-in-situ is felicitous in a context that makes the entire question given in the sense of Büring (2016), which I called 'Maximally Given'. A question is Maximally Given when a Contextually Salient Meaning (CSM) entails the answer to the question. When this is the case, the question can be paraphrased using a definite description corresponding to a contextually given referent, as in the examples in Chapters 5 and 6.

A *wh*-in-situ question interpreted via a choice function displays a non-standard meaning. Rather than asking which referent constitutes the answer to the question, it merely requires further specification of the identity of a referent that is already given. I suggested that in contrast to covert movement, choice functions do not yield alternatives. In *wh*-questions, a question operator turns the sentence from a proposition into a set of propositions. When (covert) movement is absent, the resulting sentence does not denote a set of alternative propositions (which arise from movement), but a singleton-set of propositions as in (3), i.e. a set consisting of a single proposition. This is in accordance with the non-

standard interpretation and the contexts in which choice function *wh*-in-situ can be used.

Under this proposal, a choice function is only available if a French *wh*-in-situ question is Maximally Given; otherwise, covert movement is needed. Covert movement *wh*-in-situ and choice function *wh*-in-situ display different properties. In addition, I hypothesised in Chapter 6 that not all speakers have both these mechanisms to interpret a *wh*-in-situ question. In particular, certain speakers, which I referred to as Type A speakers, only have the choice function option, while to other speakers, which I called Type B speakers, covert movement *wh*-in-situ is also available. The proposal of two different interpretation mechanisms, one of which is available to only part of the speakers, explains much of the observed data variation. In what follows, I summarise the results concerning the occurrence of intervention effects (Section 1.1), the extra-strong-presupposition (Section 1.2), prosody, including the sentence-final rise (Section 1.3) and finally indirect questions, adjunct islands and long-distance questions (Section 1.4).

1.1   Occurrence of intervention effects

Some authors state that French *wh*-in-situ questions exhibit intervention effects, other authors contradict this and yet other authors state that intervention effects are present in part of the data. In addition, there is variation of judgments within the literature that acknowledges the existence of intervention effects. This concerns variation among sentences with different interveners as well as among sentences with the same intervener, including identical sentences.

Chapter 5 of the dissertation builds on an observation by Starke (2001) and Baunaz (2005; 2011; 2016), who note that a particular type of context voids intervention effects. I proposed that this type of context is characterized by the fact that it makes the question Maximally Given, which licenses the use of a choice function. The questions that are Maximally Given include both information seeking choice function *wh*-in-situ and echo questions. I assumed that intervention effects arise when an intervener blocks the *wh*-phrase from moving covertly to the left

periphery. So when Maximal Givenness licenses the use of a choice function, there is an alternative for the intervention effects configuration. I suggested that the effect of context also plays a role in judgments of sentences in isolation, as speakers are then free to envisage their own contexts.

The analysis accounts for variation among different interveners, but unlike Baunaz's (2011) proposal, without assuming the existence of three types of interveners with different feature compositions. Instead, I suggest that it is harder to envisage the necessary context for some interveners than for others. In addition, the analysis accounts for variation among sentences with the same intervener (unlike Baunaz's proposal), as subtle differences among sentences can affect how easy or difficult it is to construe the necessary context. In other words, the acceptability of a *wh*-in-situ question with an intervener depends on whether a speaker (of either Type A or Type B) is able to envisage the necessary context. As some speakers will be better at this than others, the proposal predicts speaker variation. I suggested that it is more difficult to construe the context that is needed for a question with an intervener than for the same question without the intervener. As a result, a Type A speaker (who only has choice function *wh*-in-situ) may accept a particular *wh*-in-situ question, but reject it when an intervener is added.

Givenness, and thus also Maximal Givenness, relies on the notion of contextual salience (more in particular, on my adaptation of Büring's (2016) conception of contextual salience). As I discussed in Chapter 3, contextual salience is somewhat of a slippery notion. This is even more so following my adaptation of it, according to which a speaker's associations may influence what a context makes salient for him/her. As a result, a context may make something salient for one speaker, but not for another, or even at one moment in time but not at another. This vagueness of the notion is difficult. The boundaries of contextual salience are fluid, which is in principle undesirable. Yet, this is exactly in line with the observed data variation regarding intervention effects, which I suggest reflect this vagueness. Under my proposal, the fluid boundaries of contextual salience partly account for the observed data variation.

1.2   Extra-strong presupposition

According to some authors, a French *wh*-in-situ question like (4) 'strongly presupposes' the existence of a value to fill the *wh*-phrase, i.e. an item that Marie bought.

(4) Marie a   acheté quoi ?
    Marie has bought what
    'What is it that Marie bought?'

These authors state that as the speaker of (4) presupposes that Marie bought something and merely requests more detail about the purchase, a negative reply like *rien* 'nothing' is odd.

This issue was controversial: while some authors observe an extra-strong presupposition, other authors state that French *wh*-in-situ questions are not presuppositionally different from *wh*-fronted questions and yet others suggest that a stronger presupposition is present in a subset of the data. Moreover, it was not clear what the conceptual status of the presupposition was or where it might come from.

I proposed in Chapter 6 that the appearance of an extra-strong presupposition is caused by Maximal Givenness. Maximal Givenness is what gives the impression of a strongly presupposed value to fill the *wh*-phrase. Furthermore, I suggested that the apparent contradiction in the literature can be explained by the hypothesis of two types of speakers. In particular, a Type A speaker would observe that French *wh*-in-situ questions are always Maximally Given, giving the impression of an extra-strong presupposition (e.g. Chang 1997; Cheng & Rooryck 2000). Yet a Type B speaker would note that French *wh*-in-situ questions can be used out of the blue (Adli 2006; Hamlaoui 2011) or that only a subset of these questions impose a strong restriction on the context (Baunaz 2011; Starke 2001). This explains the seemingly contradictory data regarding the extra-strong presupposition.

1.3   Prosody, including the sentence-final rise

With respect to prosody, the properties of French *wh*-in-situ questions remained unclear. As I laid out in Chapter 2, much of the debate had focused on the sentence-final pitch movement. Some authors claim that French *wh*-in-situ questions display a large sentence-final rise, other authors contradict this and yet others state that the rise is present in a subset of the data. In addition, a large sentence-final rise has also been claimed to be a feature of echo questions. It was therefore unclear whether echo and information seeking questions are prosodically distinct, and if so, how.

Chapter 4 of the dissertation provided prosodic descriptions of French *wh*-in-situ echo and information seeking questions elicited in a production experiment. The chapter shows that information seeking *wh*-in-situ questions display the following features. There is a high point at the end of the *wh*-phrase, followed by a fall, which I interpreted as a prosodic boundary between the *wh*-phrase and the subsequent PP, cf. Mathieu (2016). Mathieu interpreted the presence of a boundary as a correlate of focus marking, yet the experiment shows that there is also a prosodic boundary between the *wh*-phrase and the subsequent PP in broad focus questions. There was also a high point associated with the *wh*-word (cf. Wunderli (1983) and Gryllia et al. (2016)), although this point was much lower or absent in narrow focus questions; I suggested that this was due to the contrastive topic that preceded the questions in the narrow focus condition. The *wh*-in-situ questions elicited in the experiment displayed at least a (very) small sentence-final rise.

Echo questions display similar tonal movements to information seeking questions, but their pitch is elevated from the final syllable of the *wh*-phrase onwards. Since the area preceding the *wh*-phrase has low pitch, the pitch range within echo questions is extremely large: on average 8.2 semitones. Also, the *wh*-word has a longer duration. Echo questions are not marked by a higher intensity, nor by a sentence-final rise with a larger pitch excursion than in information seeking questions with the same information structure. The experiment shows that French *wh*-in-situ questions are prosodically distinct from echo questions. As I investigated

echo questions of the type expressing auditory failure, this result is unrelated to the emotion of surprise.

In addition, the experiment demonstrates that the sentence-final rise is large in a subset of the French *wh*-in-situ questions (cf. Adli 2004; 2006; Reinhardt 2019; Wunderli 1978; 1982; 1983; Wunderli & Braselmann 1980). Moreover, it shows that the presence of a large final rise is correlated with the presence of a narrow focus. Broad focus questions only display a (very) small sentence-final rise. Yet in narrow focus questions, the high tone on the final syllable of the focus is copied to the final syllable of the utterance; this is a known correlate of focus marking in French. The copied tone raises the pitch on the final syllable of the utterance. Hence, I consider the large sentence-final rise to be a correlate of narrow focus marking.

As a result of the type of context that licenses the use of a choice function, choice function *wh*-in-situ questions always have a narrow focus on the *wh*-word. These questions are therefore expected to display a large sentence-final rise. Consequently, Type A speakers, who only have the choice function option, would observe that French *wh*-in-situ questions standardly display such a rise.

In contrast, covert movement *wh*-in-situ questions may display different focus structures, depending on the context in which they occur. If they have a narrow focus on the *wh*-word, they are expected to display a large sentence-final rise. Yet, if they have broad focus, they are marked by a mostly falling contour; the sentence-final rise in such questions may be extremely small. Speakers with covert movement as well as choice function *wh*-in-situ (Type B speakers) would therefore not observe that all French *wh*-in-situ questions display a large sentence-final rise. Rather, they may note that a large sentence-final rise is optional (Adli 2004; 2006). They may even maintain that French *wh*-in-situ questions display a mostly falling contour (e.g. Mathieu 2002). Under the current analysis, this would suggest that they only investigated questions with broad focus.

1.4   Indirect questions, adjunct islands and long-distance questions

The other three issues mentioned at the beginning of this section, the acceptability of *wh*-in-situ in indirect questions, strong islands and long-distance questions, were investigated in a rating study reported in Chapter 6. The study specifically targeted *wh*-in-situ in an out of the blue context, which I suggested is interpreted via covert movement. It focused on one type of strong island, the adjunct island. Chapter 2 observed that the literature on French *wh*-in-situ questions is fairly consistent in rejecting *wh*-in-situ in indirect questions, while the data regarding *wh*-in-situ inside a strong (adjunct) island and in long-distance questions are not yet clear. The rating study investigated these issues in a population sample of age 20 to 35.

Although the ratings were higher than expected based on the literature, the results confirmed that *wh*-in-situ in an out of the blue context is not acceptable in indirect questions; it is a matter for future research why this is so (see also below). Questions with an argument *wh*-phrase inside an adjunct island received intermediate ratings. While they were not judged to be maximally natural, they are not unnatural either. This was the first experimental study to investigate *wh*-in-situ inside a strong island; future research might investigate the acceptability of questions with other strong islands and an adjunct *wh*-phrase. Long-distance *wh*-in-situ questions were found to be quite natural, cf. Tual (2017a). It is unclear to me why some other studies have come to a different conclusion. There may be an effect of age, since both this study and Tual (2017a) targeted younger speakers. This is however not the whole story, as some older studies also accept *wh*-in-situ in long-distance questions. Chapter 2 mentions several factors that have been claimed to affect the acceptability of *wh*-in-situ in long-distance questions, which may be investigated by future research. However, the study in Chapter 6 shows that for younger speakers, indicative mood, finite tense or an out of the blue context do *not* serve to preclude long-distance *wh*-in-situ. Finally, as the rating study was designed to exclude Maximal Givenness, the acceptability of the long-distance questions confirms that not all

French *wh*-in-situ questions involve a contextual restriction (again for this age group).

In conclusion, for speakers aged 20 to 35, the properties of French *wh*-in-situ questions that were discussed in Chapter 2 can be summarised as in Table 11. In this table, *ok* means 'acceptable' and ^ means 'acceptable in *wh*-in-situ in English and German'.

Table 11. Properties of French *wh*-in-situ questions interpreted via the two mechanisms

PROPERTY	CHOICE FUNCTION *WH*-IN-SITU	COVERT MOVEMENT *WH*-IN-SITU
Intervention effects	no	yes
Maximal Givenness	yes	no
Sentence-final rise	yes	depends on focus
Ok in indirect question	no	no
Ok inside adjunct island	?^	intermediate
Ok in long-distance question	?^	yes

This confirms that the properties of French *wh*-in-situ questions differ from those in typical *wh*-in-situ languages like Mandarin Chinese, Japanese or Korean. Specifically, in contrast to French, true *wh*-in-situ languages also employ *wh*-in-situ in indirect questions, as this is the default option in such languages. The difference between French and true *wh*-in-situ languages regarding adjunct islands is less clear. Such questions are felicitous in Mandarin Chinese, yet received intermediate judgments in French. French *wh*-in-situ in an out of the blue context is not set apart by the occurrence of intervention effects, since true *wh*-in-situ languages like Japanese and Korean also display intervention effects.

2   Echo questions

In the remainder of this chapter, I discuss the insights yielded by the research regarding issues other than the properties of French *wh*-in-situ questions. To begin with, the dissertation made some new observations concerning echo questions.

The production experiment in Chapter 4 is the first study (to my knowledge) that explicitly compared echo questions to information seeking questions with the same information structure, which excludes this as a potential confound. Like echo questions, the information seeking counterparts to which I compared them had a narrow focus on the *wh*-word and were Maximally Given (or allowed for this interpretation, cf. 'semi-salient' in Chapter 5). The type of context that elicited these information seeking questions was modelled on an example by Engdahl (2006: 100, ex. 23), which according to Engdahl voids intervention effects.[73] Yet without the presence of an intervener, it is not possible to determine whether the narrow focus questions in the experiment were interpreted via covert movement or a choice function. Importantly, the experiment demonstrates that French echo questions are even prosodically distinct from information seeking questions with these information structural properties. This supports the idea that echo questions are a separate question type, as also indicated by other properties of echo questions described in Chapters 3 and 6. For instance, Chapter 6 showed that French echo questions are completely acceptable with a non-standard form containing *des quoi* 'DES what', where *des* is the plural indefinite article and the *wh*-phrase therefore replaces an NP rather than a DP.

Following Beck & Reis (2018), Chapter 6 also showed that echo questions can have different clause type characteristics than the

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[73] In Chapter 5, I described the CSM that would make Engdahl's question Maximally Given also as 'semi-salient' (example (43) in Chapter 5), meaning that the context allows for an interpretation that makes the question Maximally Given and also for another interpretation.

preceding utterance, contra Sobin (2010). Moreover, it demonstrated that echo questions must be Maximally Given and display a non-standard interpretation that is consistent with the denotation of a singleton-set of propositions. I therefore proposed that echo questions are interpreted via a contextually supplied choice function, like French choice function *wh*-in-situ. Yet as I just mentioned, echo questions also exhibit properties that are unique to echo questions, indicating that they are a separate question type. I therefore suggested that while they contain a choice function, they are still structurally distinct from French choice function *wh*-in-situ in ways that need to be clarified by future research.

Finally, chapter 3 presented a tentative generalisation regarding the prosody of echo questions as compared to their information seeking counterparts, based on the small sample of languages available. I suggested that in languages with a falling sentence-final intonation in *wh*-in-situ information seeking questions, echo questions seem to display a sentence-final rise, while in languages with a sentence-final rise in information seeking questions, echo questions also display an expanded pitch range. Chapter 4 showed that this generalisation also holds for French, which falls in the second category.

3   Focus and givenness

As I discussed in Chapter 3 of the dissertation, it is often assumed that the focus in *wh*-questions equals the *wh*-phrase, irrespective of the preceding context (e.g. Culicover & Rochemont 1983; Lambrecht & Michaelis 1998). In Chapter 3, I re-examined the (theoretical) arguments given in the literature to support this view and concluded that they are not conclusive. Following Jacobs (1984; 1991), Beyssade (2006), Eckardt (2007) and others, I argued that in some languages, what is focused in *wh*-questions depends on the preceding context, like in declaratives. I suggested that French is one of these languages, which was based on the behaviour of *wh*-fronted questions (Beyssade 2006; Beyssade et al. 2007). The approach was supported by the production experiment in Chapter 4, which demonstrates using different contexts that focus structure may be marked prosodically in *wh*-questions. This confirms the observation by Ladd

(2009) that languages fall into one of two groups in this respect, only one of which marks the *wh*-phrase as the focus irrespective of the context. Ladd also mentions that true *wh*-in-situ languages tend to fall in the group that marks the *wh*-phrase as the focus. So the results of Chapter 4 show that French *wh*-in-situ questions do not behave like questions in true *wh*-in-situ languages in this respect, but rather pattern with the *wh*-fronted questions of the language.

The production experiment also confirms and adds to claims in the literature regarding focus marking in French. A known correlate of focus marking in French declaratives and yes/no questions is 'tone copying', the copying of the high tone (in interrogatives) or low tone (in declaratives) at the final syllable of the focus to the final syllable of the utterance. The production experiment shows that (at least in *wh*-in-situ questions) tone copying is accompanied by a shortening of the final syllable of the utterance. The study also confirms that what is copied is not an abstract tone but an absolute F0 value (defying declination), as originally suggested by Martin (1981). In addition, the results showed that given material preceding the focus is compressed, confirming Touati (1987) and Dohen and Lœvenbruck (2004). Yet, given material following the focus showed no pitch compression, in line with the observation that post-focal givenness compression is not always present in French (Féry 2014).

Finally, I proposed a refinement of the concept of contextual salience, on which focus and in particular givenness are based. I suggested in Chapter 3 that contextual salience should be viewed as a subjective notion, as in the definition of a CSM in (5).

(5) Contextually Salient Meaning (CSM) – my definition
     A meaning is a CSM if it is perceived by the speaker as contextually salient and the speaker has no reason to believe that it is not salient for the interlocutor.

The subjectivity of contextual salience explains why world knowledge and beliefs may play an additional role in focus and givenness, which was not clear before (Büring 2016).

4 Methodological considerations

The dissertation also raised some methodological issues, both regarding the study of intervention effects (Section 4.1) and the investigation of certain topics in prosody research (Section 4.2).

4.1   Intervention effects

In light of the findings of Chapter 5, future research on intervention effects may take context into account in the following ways. To prevent speakers from envisaging their own context, which may result in data variation, judgments of sentences should be obtained in elaborate contexts, which are reported in subsequent publications. In addition, it should be kept in mind that some contexts leave room for multiple interpretations ('semi-salience') and that a speaker can always construe more context than is offered by the researcher. Section 2 of Chapter 6 displays one way of constructing a context that makes the target sentence Maximally Given without leaving much room for other interpretations. Finally, as Chapter 5 showed that subtleties regarding the meaning of the sentence may affect Maximal Givenness, the target sentences should be kept constant when comparing different interveners.

4.2   Prosody: Scripted Simulated Dialogue

For the production experiment in Chapter 4, I designed an elicitation paradigm that I referred to as 'Scripted Simulated Dialogue'. This paradigm might benefit other researchers and I would gladly make the E-Prime Script available. In what follows, I lay out for what kind of studies this paradigm may be used.

Two methods are commonly used to elicit production data for prosody research. In the first, the experimenter presents participants with a series of written (i.e. pre-scripted) sentences to read out loud. The sentences are presented in isolation (e.g. Gryllia et al. 2016) or after a short fragment of context (e.g. Dohen & Lœvenbruck 2004). This method gives very good control over what data are elicited. To compare the prosody of

(parts of) utterances across conditions, the utterances must have the same segmental composition, as segments themselves have different prosodic properties. (For instance, [z] differs from [b].) This is most easily achieved by scripting the target sentences.

The other commonly used elicitation method is the Referential communication task (Yule 1997; e.g. Brown et al.'s 1984 map task). This involves two people performing some task together, which is designed to elicit a conversation that contains the speech of interest. For instance, Ito & Speer's (2006) tree decoration task has a participant instructing another person about how to decorate a Christmas tree. The participant points out objects to hang in the tree, like a small orange drum, which elicits the target utterance *orange drum*. The strength of this method is that it elicits an actual dialogue in the laboratory. Participants are assumed to focus on the task at hand rather than on the form of their speech. Moreover, this method allows for the study of speech in context.

However, I found that an elicitation paradigm was lacking that gives both good control over the elicited data and is suitable for studying speech in context (see also Marandin (2011)). I therefore combined elements of both these methods to set up Scripted Simulated Dialogue. The paradigm uses scripting, but also simulates (to some extent) a conversation. This makes it suitable for research topics (like the one in Chapter 4) that require both control over the elicited data and the presence of a discourse context. In addition, it allows for control or manipulation of the preceding discourse, in contrast to a Referential communication task, which provides uncontrolled discourse that may be analysed afterwards.

5   The cross-linguistic picture

Finally, I discuss what the results of the research reported here imply for the cross-linguistic picture.

The dissertation raises many questions regarding the extent to which choice function *wh*-in-situ is available in *wh*-fronting languages. In Chapter 6, I argued that the choice function account proposed for French is also a promising direction of research for contextually restricted *wh*-in-situ in English and German. Apart from in English and German, contextually restricted *wh*-in-situ is attested in several other *wh*-fronting languages, at least in Spanish (Biezma 2018; Jiménez 1997), Modern Greek (Roussou et al. 2014) and (Brazilian) Portuguese (Pires & Taylor 2009). This raises the question how many *wh*-fronting languages allow for non-echoic *wh*-in-situ. A second question is to what extent contextually restricted *wh*-in-situ in different languages exhibits the same properties. They seem to be infelicitous as indirect questions (cf. Bobaljik & Wurmbrand 2015), but it is not clear why this is so. Furthermore, not all *wh*-fronting languages seem to allow for non-echoic *wh*-in-situ. For instance, Dutch certainly does not have *wh*-in-situ to the same extent as English and German. Yet, many, if not all *wh*-fronting languages have echo questions. If echo questions are interpreted via a choice function as I suggested, it means that a choice function is part of the repertoire of these languages. Then why do not all *wh*-fronting languages allow for non-echoic *wh*-in-situ like English and German?

The dissertation mentioned several diagnostics that can be used to investigate the presence of choice function *wh*-in-situ in a language. Choice function *wh*-in-situ questions only occur in contexts that make them Maximally Given. They exhibit a non-standard interpretation consistent with a denotation as a singleton-set of propositions, i.e. a set with only one proposition, which I related to the absence of *wh*-movement. This meaning can be brought out by a paraphrase using a definite description that corresponds to a contextually given referent, consistent with the type of context in which this kind of question can be used (see Chapters 5 and 6 for examples). As a result of this, a negative

reply like *nothing* or *nobody* is perceived as odd. In addition, choice function *wh*-in-situ questions are infelicitous as indirect questions and do not display intervention effects. (At least in French, they are more acceptable than other *wh*-questions with a determiner preceding the *wh*-phrase, like [...] *des quoi* '[...] DES what', but as these questions are still not very good, this is less suitable as a diagnostic.) Finally, in languages that consistently mark givenness prosodically, they are expected to display givenness marking of the whole utterance except the *wh*-word, including the restriction of the *wh*-phrase.

In Chapter 1, I observed that French *wh*-in-situ questions take an interesting place in the cross-linguistic spectrum. French is relatively unusual in that it has both the *wh*-fronting and the *wh*-in-situ option. In addition, as mentioned above, French *wh*-in-situ is infelicitous in indirect questions, unlike in true *wh*-in-situ languages like Mandarin Chinese. The infelicity in indirect questions and the availability of both *wh*-in-situ and *wh*-fronting are the two properties that clearly distinguish French *wh*-in-situ from questions in true *wh*-in-situ languages.

I speculated in Chapter 6 that French may be undergoing a language change with respect to *wh*-in-situ. I hypothesised that an earlier variety of the language only involved choice function *wh*-in-situ, cf. Type A speakers. This variety would have been a *wh*-fronting language with contextually licensed *wh*-in-situ, i.e. more similar to languages like English and German. Re-analysis of choice function *wh*-in-situ, for instance in contexts that made the relevant meaning 'semi-salient', may have led to the use of covert movement (which was already available for multiple *wh*-questions) to interpret *wh*-in-situ. This would have led to Type B speakers, like the population of age 20 to 35 who accepted *wh*-in-situ in out of the blue contexts.

The infelicity of *wh*-in-situ in indirect questions, in which French differs from true *wh*-in-situ languages like Mandarin Chinese, is a matter for future research. I hypothesised in Chapter 6 that the contrast between these languages may be related to the fact that unlike in French, the *wh*-words in languages like Mandarin Chinese are *wh*-indefinites (Cheng 1991). They do not have inherent quantificational force, but rather behave like variables, which can have interrogative as well as non-interrogative

interpretations. These true *wh*-in-situ languages have a *wh*-operator/marker base-generated in the left periphery, including in the case of an indirect question (Cheng 1991; Tsai 1994a). In contrast, *wh*-in-situ in French behaves like *wh*-fronting in that it involves *wh*-words with inherent interrogative force. Future research might investigate why covert movement of *wh*-phrases, or the presence of a choice function, cannot satisfy the selection restrictions imposed by indirect questions in French.

Leaving matters not discussed in this dissertation aside, the research reported here leads to the following cross-linguistic picture. There are true *wh*-in-situ languages, for which *wh*-in-situ is the default strategy, also in indirect questions. There are echo questions, which may be available in all *wh*-fronting languages. I suggested that these are interpreted via a contextually supplied choice function, while still displaying a structure that is in other respects unique to echo questions, including an echo question operator. A subset of the *wh*-fronting languages allows for a contextually restricted variety of *wh*-in-situ that is non-echoic. Pending further research, this *wh*-in-situ may be interpreted via a contextually supplied choice function in combination with a regular question operator. Finally, French has covert movement *wh*-in-situ in addition to choice function *wh*-in-situ.

Are there more languages like French, i.e. *wh*-fronting languages with both a choice function and a second mechanism to interpret *wh*-in-situ? A candidate might be Brazilian Portuguese. Pires & Taylor (2009: 8) observe in two footnotes that "there seem to be two distinct sets of in-situ cases" in this language (fn 6) and that "certain speakers allow *wh*-in-situ more freely" (fn 7) than the contextually restricted *wh*-in-situ they discuss in the paper. This is a topic I leave for future research.