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Remarks and Replies

Wh-in-Situ Does Not Correlate with *Wh*-Indefinites or Question Particles

Benjamin Bruening

Two theories, the Clausal Typing Hypothesis (Cheng 1991) and the unselective binding theory of *wh*-in-situ, have linked *wh*-in-situ to two other phenomena typologically: the use of a question particle, and the use of *wh*-words as indefinites. This article shows, through a typological survey and a detailed comparison of Passamaquoddy and Mandarin Chinese, that there is no connection between *wh*-in-situ and either property. Passamaquoddy uses *wh*-words as indefinites in all the contexts Chinese does, but it is a robust *wh*-movement language. Crosslinguistically, languages of all possible types are attested: most crucially, *wh*-in-situ languages without question particles exist, and *wh*-in-situ languages that do not use *wh*-words as indefinites also exist. In fact, most languages, regardless of whether they are *wh*-movement or *wh*-in-situ languages, have question particles, and most languages use *wh*-words as indefinites.

Keywords: *wh*-in-situ, *wh*-movement, indeterminate pronouns, unselective binding, question particles

1 *Wh*-in-Situ: Mandarin Chinese

The paradigm example of a *wh*-in-situ language is (Mandarin) Chinese. An example of a *wh*-question in this language appears in (1). The *wh*-word appears in the same position as a non-*wh* object, and it is not fronted as in English.

(1) Hufei chi-le *shenme* ne?
Hufei eat-Asp what Q
'What did Hufei eat?' (Cheng 1991:112)

An important question since at least Chomsky 1976 and Huang 1982 has been the proper analysis of *wh*-in-situ languages. Part of the quest for the proper analysis has been the search for

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properties that correlate with the *wh*-in-situ versus *wh*-movement divide. Two properties of Chinese have been claimed to correlate with *wh*-in-situ crosslinguistically. First, Chinese, unlike the *wh*-movement language English, has a question particle. This is the particle *ne* in *wh*-questions, as in (1), or *ma* in yes/no questions. Cheng (1991) has argued that question particles correlate with *wh*-in-situ crosslinguistically. The second property is the fact that *wh*-words in Chinese are used as indefinites, as in the following example:

(2) Ta yiwei wo xihuan *shenme*.
he think I like what
'He thinks that I like something.' (Li 1992:125)

In the rest of this article, I will refer to *wh*-words used as indefinites as *wh-indefinites*. Cole and Hermon (1998), among others, have claimed that *wh*-indefinites correlate with *wh*-in-situ.

This article shows that neither of these two phenomena correlates with *wh*-in-situ. An examination of the typological relation between question particles and *wh*-in-situ, and between *wh*-indefinites and *wh*-in-situ, reveals that there is no relation in any direction. Most languages use yes/no question particles, whether they are *wh*-in-situ or *wh*-movement languages (Ultan 1978, Dryer 2004), and most languages use *wh*-words as indefinites as well, whether they are *wh*-in-situ or *wh*-movement languages (Haspelmath 1997). Languages of all possible types are attested; most crucially, *wh*-in-situ languages without question particles, and *wh*-in-situ languages that do not use *wh*-words as indefinites, do exist. It follows that there can be no necessary connection between *wh*-in-situ and either of these properties. In addition, a detailed comparison between Chinese and Passamaquoddy (Algonquian) shows that their *wh*-indefinites are alike in all relevant respects, yet Passamaquoddy is a robust *wh*-movement language and in fact forbids *wh*-in-situ (multiple questions appear not to exist). This detailed comparison shows that there are not subtle differences between Passamaquoddy and Chinese that could account for their difference in *wh*-movement.

Given these typological findings, theoretical proposals that link *wh*-in-situ to either question particles or *wh*-indefinites, or both, are on the wrong track. Instead, linguistic theory must account for the fact that most languages build indefinites out of *wh*-words, and the fact that most languages use question particles, regardless of their *wh*-movement/*wh*-in-situ status.

I first examine the claim that *wh*-in-situ correlates with question particles and show that there is no correlation across languages (section 2). I then turn to the claim that *wh*-in-situ correlates with *wh*-indefinites. In section 3, I compare *wh*-indefinites in Chinese and Passamaquoddy, showing that they behave alike, though Passamaquoddy is a *wh*-movement language. In section 4, I examine the crosslinguistic typology of *wh*-indefinites, showing that they do not correlate with *wh*-in-situ in any way.

2 Claim 1: Question Particles

The Clausal Typing Hypothesis proposed by Cheng (1991) states that clauses need to be ''typed'' as either declarative or interrogative. Typing a clause as interrogative is accomplished either by *wh*-movement or by a question particle. In this theory, then, a language will have either *wh*-

movement or a question particle; no language will have both or neither. This predicts that all *wh*-movement languages will lack particles, and all *wh*-in-situ languages will have particles.

This strong prediction is not borne out even by the data presented in Cheng 1991. Cheng accordingly reexamines apparent counterexamples and attempts to fine-tune the hypothesis. The details are not so important here; what I am interested in is whether there is a crosslinguistic correlation between question particles and *wh*-in-situ. The data presented below show that there is not.

One point is important, however. In Cheng's data, there are actually fewer *wh*-in-situ languages with *wh*-question particles than there are without. The actual correlation in Cheng's data is between *wh*-in-situ and yes/no question particles. Cheng hypothesizes that languages with a yes/no question particle often have a null *wh*-question particle.[1] Thus, she ends up predicting the correlation to be between *wh*-in-situ and overt yes/no question particles. This is the correlation I will test, leaving aside the question of why *wh*-question particles would usually be null.

2.1 Typological Survey

The correlation between *wh*-in-situ and yes/no question particles is not real. Looking at a wider range of languages than those presented in Cheng 1991 reveals that there is no correlation between *wh*-in-situ and yes/no particles (henceforth, Q-particles). The first typological survey that includes this information is Ultan 1978. I have listed the languages from Ultan's appendix in table 1, leaving out languages whose classification is unclear in his data.[2]

The most striking fact that emerges from this table is that most languages have question particles, whether they are *wh*-in-situ or *wh*-movement languages. Roughly 26% of *wh*-in-situ languages lack particles, and roughly 30% of *wh*-movement languages lack particles. If we correct some obvious mistakes in this classification, putting Quechua in the "*wh*-in-situ, no particle" category and Malay in the "*wh*-in-situ, particle" category (both allow both movement and *wh*-in-situ; see Cole and Hermon 1994, 1998), the figures become even at 29%. I therefore conclude that there is no difference between the likelihood of a *wh*-in-situ language having a particle and the likelihood of a *wh*-movement language having a particle.

To see whether these numbers hold up in a much larger sample of languages, I contacted Matthew Dryer, who maintains a typological database of more than 500 languages (Dryer 2004). He kindly provided numbers regarding question particles and *wh*-movement, shown in table 2. *Wh*-movement languages are languages in which *wh*-words are obligatorily initial. A question

[1] Even the languages with a *wh*-question particle, like Chinese, often only use it in certain circumstances. Chinese *ne* is often described as optional, but in fact its use conveys a slightly different meaning. In Vietnamese, the *wh*-question particle adds a presupposition that the event described by the question has happened and that the addressee knows the answer to the question (Bruening and Tran, to appear).

[2] A question mark after a language name indicates that the classification in Ultan 1978 is not entirely clear. I did not check Ultan's sources, since the numbers are borne out in the larger sample reported below.

The notation (*m*/*i*) means that *wh*-movement and *wh*-in-situ are both allowed. I follow Cole and Hermon (1998) in treating these as *wh*-in-situ languages.

Table 1
The relation between *wh*-movement and Q-particles, from Ultan 1978

Wh-in-situ, particle	*Wh*-in-situ, no particle	*Wh*-movement, particle	*Wh*-movement, no particle
Asmat	Amharic	Agta	English
Bashkir	Neo-Aramaic (m/i)	Albanian	Fula
Buriat	Gujarati	Syrian Arabic	Hausa
Chinese	Kurku (m/i)	Basque	Huichol
Diola	Tongan (m/i)	Burmese (?)	Jamaican Creole
Japanese		Chontal	Konkow
Khalkha Mongolian		Fanti	Nyangumata (?)
Rotuman		Finnish	Ossetic
Samoan		French	Persian (?)
Sango		French, Louisiana	Quechua
Telugu		Scottish Gaelic	Romanian
Thai		Gbeya	Tetelcingo
Vietnamese		Grebo	Wolio
Western Desert		Guarani	
		Gunwinggu	
		Hebrew	
		Hungarian	
		Irish	
		Jaqaru	
		Klamath	
		Lithuanian	
		Malagasy	
		Malay	
		Ojibwa	
		Piro	
		Russian	
		Squamish	
		Tagalog	
		Twi	
		Zapotec	
14	5	30	13

Table 2
The relation between *wh*-movement and Q-particles, from Dryer 2004

	Wh-in-situ	*Wh*-movement
Q-particle	258	123
No Q-particle	143	53
Total	401	176
Percentage Q-particle	64	70

particle is a sentence-peripheral word or clitic. In Dryer's database, languages considered to *lack* question particles are (a) languages with interrogative morphology, (b) languages that use a different word for questions, (c) languages that only mark polar questions intonationally, and (d) languages that do not distinguish polar questions even intonationally. It is clear that the numbers hold up in this much larger database. Basically, between 60% and 70% of all languages, *wh*-in-situ or *wh*-movement, have question particles. (In fact, *wh*-movement languages are more likely to have question particles, but this difference is not significant.)

Most importantly, there are indeed *wh*-in-situ languages that lack question particles and, also inconsistent with Cheng's (1991) Clausal Typing Hypothesis, there are numerous *wh*-movement languages—in fact, a majority—that have question particles.[3] I therefore conclude that the cross-linguistic correlation that the Clausal Typing Hypothesis predicts is absent. It certainly is not true that *wh*-movement languages lack particles, and it is also not true that having a particle is a necessary condition for *wh*-in-situ. The fact is that most languages have question particles, whether they are *wh*-in-situ or *wh*-movement languages. It follows that the Clausal Typing Hypothesis, and any theory that links *wh*-in-situ to question particles, is incorrect.

One final point is in order before we move on to *wh*-indefinites. This is that even languages that do not appear to have a question particle have at one time or another been argued to possess one. For instance, Baker (1970) argued that elements like *whether* and *if* in English are spell-outs of an abstract question particle. One might think the same thing about subject-auxiliary inversion (e.g., that it is triggered by a feature on C, which is spelled out as a particle in other languages), or even claim that Canadian *eh?* is a yes/no question particle, or that question intonation is associated with an abstract final particle. In other words, it would not be surprising to find that *every* language has a question particle of some sort (an abstract one, which can be spelled out in various ways). Passamaquoddy, below, though it lacks question particles, has a particular ablaut process that affects the first vowel of the verb in some *wh*-questions; this ablaut has been localized to C by some theorists, like Blain (1997) and Brittain (1997). It is possible to analyze this ablaut as an abstract question particle. From the data above, it appears that far more languages have question particles than lack them, lending some support to speculations of this sort.

[3] In fact, numerous authors—for instance, Baker (1970)—have noted a correlation between *wh*-movement and the position of the question particle in the data in Greenberg 1963: only languages with an initial particle and not a final one are *wh*-movement languages. Cheng (1991) notes this correlation, but it is quite unexpected in her theory (her Clausal Typing Hypothesis predicts that *wh*-movement and question particles should be in complementary distribution). Additionally, there appear to be some word order correlations in the data in Greenberg 1963 and Dryer 1992: SOV languages tend to be *wh*-in-situ and tend to have final particles; VSO languages tend to have *wh*-movement and clause-initial particles, if they have them; SVO languages have either initial or final question particles. The word order correlations would be completely unexplained by the simple proposal that a question particle is necessary for *wh*-in-situ. (None of these word order correlations are absolute. Ultan (1978) lists several languages with particles whose position does not correlate with basic word order, and there are numerous counterexamples in both directions to the correlation between *wh*-in-situ and SOV order; Pickett (1983) cites Yaqui, Huichol, Isthmus Mixe, and Chimalapa Zoque as SOV languages with *wh*-movement.)

3 Claim 2: Unselective Binding

3.1 Wh-*Words as Indefinites*

The example in (2) showed that Chinese uses *wh*-words as indefinites. In Chinese, these *wh*-indefinites are like negative polarity items and require some kind of licenser. In (2), the licenser is a nonfactive verb. In addition, negation in (3a), yes/no questions in (3b), modals (not shown), and conditionals (see (4)) also license *wh*-indefinites.

(3) a. Ta **bu** xihuan *shenme*.
he not like what
'He doesn't like anything.' (Li 1992:127)
b. Ta xihuan *shenme* **ma**?
he like what Q
'Does he like anything?' (Li 1992:128)

On the licensing conditions in Chinese, see Li 1992, Lin 1998.

These *wh*-phrases can be indefinites (basically existentials), as above, or they can acquire some other quantificational force via association with another operator.[4]

(4) a. Ruguo Xiaoming yao mai *shenme* ta baba **tongchang** jiu hui dinggou [e]
if Xiaoming want buy what he father usually then will order [e]
gei ta.
for he
'If Xiaoming wants to buy something, his father usually orders it for him.'
b. MOSTx [Xiaoming wants to buy x] [his father orders x for him]

(5) a. Ni jiao *shei* jinlai, wo **dou** jian ta.
you ask who come.in I all see him/her
'Whoever you ask to come in, I will see.' (Cheng and Huang 1996:130)
b. ∀x [you ask x to come in] [I will see x]

For instance, one way of reading (4a) is as quantification over things, as depicted in (4b); the adverb 'usually' can be considered a quantifier like *most*, quantifying over *things(x)*. In (5), with the adverb *dou*, quantification is universal.

This different quantificational force depending on the context is the familiar *quantificational variability* property of indefinites (Kamp 1981, Heim 1982). In a Kamp/Heim analysis of this variability, indefinites are simply open predicates.

(6) *Chinese*
a. shenme = thing(x)
b. shei = person(x)

[4] Chinese examples without a citation come from informants consulted in the writing of this article: Yaping Tsai, Perng Wang Adams, Chun-chieh Hsu, and Elanna Tseng, all from Taiwan.

The variable then can be bound by some other operator in the sentence. Available operators are those that are *unselective* in their binding, like the adverb *dou* in (5a). If there is no other operator to bind the variable, it is bound by default insertion of an existential quantifier (*existential closure*).

(7) a. Ta yiwei wo xihuan *shenme*.
he think I like what
'He thinks that I like something.' (Li 1992:125)
b. He thinks that $\exists x$ I like thing(x) *existential closure*

See Cheng 1991, 1994 for an analysis like this of Mandarin Chinese.

In the interests of a uniform analysis, it is natural to think that in questions, *wh*-words in Chinese are still open predicates, and they get their quantificational force from some kind of question operator. This question operator is also unselective, for it can freely bind more than one *wh*-word.

(8) Ta yiwei *shei* xihuan *shenme* ne?
he think who like what Q
'Who(x), what(y), he thought x liked y?' (Li 1992:138)

Assuming that the question operator is basically an existential quantifier (see the works cited) and that questions are sets of propositions (e.g., Karttunen 1977), the example in (1) might have something like the interpretation in (9b).

(9) a. Hufei chi-le *shenme* **ne**?
Hufei eat-Asp what Q
'What did Hufei eat?' (Cheng 1991:112)
b. λp [$\exists x$. p = Hufei ate thing(x)]

The existential quantifier must take scope over the proposition (above IP, perhaps in C). The question ends up denoting the set of propositions of the form *Hufei ate thing(x)*. (For more details, see Engdahl 1986, Reinhart 1998.)

I will call an approach like this to *wh*-in-situ the *unselective binding* theory of *wh*-in-situ (Baker 1970, Pesetsky 1987, Nishigauchi 1990, Tsai 1994a; cf. Reinhart 1998). It requires two components: an existential quantifier high in the clause, above IP, and *wh*-words with unbound variables that can be bound long-distance by the existential quantifier.

Support for the unselective binding theory comes from its ability to explain the lack of island effects in *wh*-in-situ languages like Chinese (see, for example, Cole and Hermon 1994). It is well known that *wh*-in-situ occurs freely inside islands (Huang 1982), as illustrated in (10).[5]

[5] I am ignoring the argument/adjunct distinction shown by Huang (1982) and Tsai (1994b). See Tsai 1994b and Reinhart 1998 for a reason why adjunct *wh*-phrases might not be able to be unselectively bound, meaning that they have to move at LF even in the unselective binding theory.

(10) a. Ni bijiao xihuan [$_{NP}$ *shei* zhu de cai]?
you more like who cook DE dish
'Who do you like [dishes which *t* cooks] better?' (Tsai 1994b:123)

b. [$_{NP}$ Tamen *zenmeyang* chuli zhe bi qian de shuofa] bijiao kexin?
they how handle this CL money DE story more believable
'How is [the story that they handled the money *t*] more believable?' (Tsai 1994b: 122)

LF movement, as a movement operation, should be sensitive to island boundaries, but binding is not.

The unselective binding theory provides a natural and uniform account of *wh*-words as open predicates subject to unselective binding, explaining their behavior as indefinites in declarative clauses (including *wh*-conditionals, below) and their behavior in *wh*-questions. Moreover, the possible existence of a typological correlation between using *wh*-phrases as bindable indefinites and *wh*-in-situ looks promising from the theoretical literature. Chinese (references above), Japanese (Kuroda 1965, Baker 1970, Nishigauchi 1990), and Korean (e.g., Suh 1989) are well-known examples of *wh*-in-situ languages where *wh*-phrases are used as indefinites; in addition, Malay (Cole and Hermon 1998, 2000), Malayalam (Jayaseelan 2001), Indonesian, and numerous others fall into this pattern.

This apparent correlation has been seized upon in the theoretical literature.[6] The most explicit claim of a connection that I am aware of is that made by Cole and Hermon (1998). These authors suggest, following the works cited above, that *wh*-questions universally consist of a question operator (Op) and a variable. Languages then differ on whether these two are combined as a single lexical item or constitute separate lexical items. English is one language that combines the two into a single item, while Chinese separates them.

(11) a. Single item: English (*who* = person(x) + Op)
b. Two items: Chinese (*shei* = person(x); *ne*/Ø = Op)

In English, then, *wh*-phrases are quantificational; that is, *who* is something like $\lambda P.\exists x$ [person(x) & P(x)]. As a quantifier, it must move to take scope over IP. Given this, Cole and Hermon derive the fact that movement of *who* must take place in English. In Chinese, on the other hand, the existential quantifier (Op) already occurs where it takes scope: as a particle in CP. From there, it can unselectively bind the *wh*-phrase as a variable. There is no need for movement, and, by economy, perhaps, movement will then be disallowed. This predicts that Chinese-type languages will not show any evidence of *wh*-movement (overt or covert), which seems to be correct.[7]

[6] Cheng (1991) lists several languages that do not fit the correlation and dismisses it. Despite this, it has resurfaced in the later works cited. I hope to put it to rest here.

[7] However, a language might have several lexical items, like a *wh*-variable and a—homophonous—*wh*-variable + Op; this is the case in Malay. When the latter is chosen, movement is forced; when the former, no evidence of movement can be found. See Cole and Hermon 1998.

Cole and Hermon make several typological predictions. First, they predict that English-type languages will not permit the use of *wh*-phrases as indefinites (unless additional morphology is present, as in *somewhere*, *wherever*), while Chinese-type languages will. Most importantly, Cole and Hermon predict a tight correlation between the use of *wh*-words as indefinites and *wh*-movement or its lack.

(12) a. There will be no language that uses *wh*-words as indefinites and has obligatory *wh*-movement.
b. There will be no language that has *wh*-in-situ but does not have *wh*-indefinites.

The latter prediction may be too strong, as Cole and Hermon themselves note: Turkish is a *wh*-in-situ language but does not use *wh*-words as indefinites (Cole and Hermon 1998:n. 26, citing Jaklin Kornfilt, pers. comm.; see also Cheng 1991:136–137); Hindi is possibly similar (see below). Cole and Hermon suggest that there may be other ways of allowing *wh*-in-situ besides unselective binding, or other factors forcing it (see below). But they do claim that a strong one-way implication exists: if a language uses *wh*-words as indefinites, then it will be a *wh*-in-situ language.

German (colloquial varieties at least) and Passamaquoddy are both counterexamples to this claim, however. Both of them use *wh*-words as indefinites in the same types of contexts as Chinese, although neither imposes any licensing requirements. A German example is the following:

(13) Es hat *wer* geklingelt.
it has who rung
'Somebody has rung the bell.' (Postma 1994:188)

For the most part, I will not talk about German; in what follows, I will illustrate the use of *wh*-words as indefinites in a *wh*-movement language using Passamaquoddy, since it uses *wh*-words as variables in all of the contexts that Chinese does (German does not have the *wh*-conditional construction described below). Both Passamaquoddy and German, however, have obligatory *wh*-movement. Passamaquoddy, in fact, disallows *wh*-in-situ completely: multiple *wh*-questions appear not to exist. Therefore, the claimed necessary connection between *wh*-indefinites and *wh*-in-situ is false. In section 4, I will show with more far-ranging typological data that there is no connection at all between *wh*-in-situ and *wh*-indefinites.

3.2 Properties of Wh-*Indefinites in Chinese*

It is important to show that the *wh*-indefinites of Chinese and the *wh*-indefinites of Passamaquoddy are alike in all possibly relevant ways. Before turning to Passamaquoddy, therefore, I will enumerate all of the ways *wh*-words are used as bindable indefinites in Chinese.

First, *wh*-words are used as existentials in Chinese, as was illustrated above. Second, they are subject to quantificational variability when they cooccur with adverbs of quantification, as was also illustrated above. This fact in particular suggests that they are not quantificational, but open predicates.

Third, *wh*-indefinites combine with other elements to create quantifiers other than existentials. The adverb *dou* seen above also cooccurs directly with *wh*-words to give the meaning of a universal quantifier.

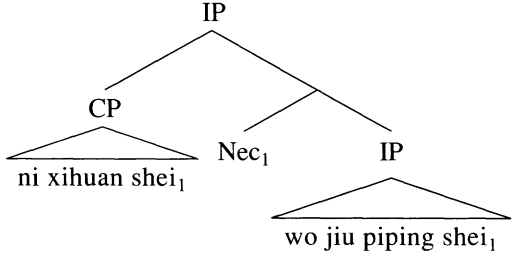
(14) Women *shenme* **dou** chi.
we what all eat
'We eat everything.' (Cheng 1991:163)

(Because *wh*-indefinites change their quantificational force in combination with other elements, they are often referred to as *indeterminate pronouns* (Kuroda 1965).)

Fourth, *wh*-indefinites occur in a final context in Chinese that has been argued by Cheng and Huang (1996) to show definitively that they are open predicates subject to unselective binding. This context is a type of conditional that requires matching *wh*-phrases, one in each clause of the conditional. Cheng and Huang (1996) refer to these as *bare conditionals* because they lack the word 'if' (although they need not, as has been pointed out by, for instance, Lin (1996)); I will refer to them as *wh-conditionals*. Two examples from Cheng and Huang are given in (15) and (16), as well as the analysis they end up providing for these. The fascinating property of *wh*-conditionals is that they must contain matched *pairs* of *wh*-indefinites, one in the antecedent clause and one in the consequent clause. Cheng and Huang make use of Kratzer's analysis of conditionals (Kratzer 1979, 1986), where a null operator—here, a Necessity (Nec) operator—takes the two clauses of a conditional as its restrictive clause and nuclear scope. This is illustrated in (16b). Cheng and Huang propose that this null conditional operator unselectively binds both occurrences of the *wh*-indefinite (16c).

(15) a. *Shei* xian lai, *shei* jiu xian chi.
who first come who then first eat
'If X comes first, X eats first.' (Cheng and Huang 1996:127)
b. ∀x [x comes first] [x eats first]

(16) a. Ni xihuan *shei*, wo jiu piping *shei*.
you like who I then criticize who
'If you like X, then I criticize X.' (Cheng and Huang 1996:128)
b.



c. ∀x [you like x] [I criticize x]

Cheng and Huang explicitly argue that *wh*-conditionals must involve unselective binding and not, for instance, an E-type pronoun strategy (see also Chierchia 2000). In their analysis, the conditional

operator binds both *wh*-indefinites as variables, as shown above. This binding is truly unselective, for it is even possible to have multiple pairs of *wh*-words.

(17) *Shei* yan *shei*, *shei* jiu xiang *shei*.
who play who who then resemble who
'If X plays the role of Y, then X will resemble Y.' (Cheng and Huang 1996:129)

If Cheng and Huang are correct that *wh*-conditionals can *only* be analyzed as unselective binding, this context in particular, like the others illustrated above, indicates that *wh*-words in languages like Chinese are subject to unselective binding and that under this binding they act like variables and not like elements with their own quantificational force. It is therefore natural to view them as simple open predicates, as described above.

Turning now to Passamaquoddy, I will show that it uses *wh*-words as indefinites in all four of the contexts enumerated above. This can only be taken to mean that its *wh*-words are also open predicates that are subject to unselective binding. Nevertheless, it is a *wh*-movement language.

3.3 Wh-*Indefinites in Passamaquoddy*

Passamaquoddy is an Eastern Algonquian language, closely related to Delaware, Micmac, and Western Abenaki, and more distantly to Fox, Cree, Ojibwa, and Blackfoot. It is spoken in two communities in Maine, Sipayik (Pleasant Point) and Indian Township. A mutually intelligible dialect known as Maliseet is spoken in Maine and in New Brunswick, Canada. All data without a citation come from my own fieldwork carried out in Sipayik and (primarily) Indian Township in 2000–2002. (Examples with a citation come from published texts.)

Passamaquoddy is a head-marking language (Nichols 1986) with very free word order. Verbs (and nouns) can be quite complex morphologically, and they index all of their arguments in agreement morphology (though not in all syntactic contexts).[8] Typologically, then, it is the polar opposite of Chinese. Yet, like Chinese, it uses *wh*-words as indefinites. There are three *wh*-words in Passamaquoddy that have this use: *keq* or its longer form *keqsey* 'what' (more precisely, [−animate]), *wen* 'who' ([+animate]), and *tama* 'where'. These are illustrated in their interrogative use in (18).[9]

[8] For more information on the morphology of Passamaquoddy, see Sherwood 1986, LeSourd 1993, Leavitt 1996, and Bruening 2001.

[9] Examples are given in the practical orthography in use in the Passamaquoddy community. Letters have their usual values except that *o* = schwa, *q* = [k^{w}], *c* = alveopalatal affricate, ' = initial *h* (phonetic effect initially is aspiration of the following stop or tensing of *s*). Obstruents are voiced in many environments. Pitch accent is not marked.

Abbreviations: *3* = proximate third person; *3P* = proximate third person plural; *AN* = animate; *C* = complementizer; *CONJ* = conjunct inflection (subordinate clauses, *wh*-questions); *DIM* = diminutive; *DIR* = direct voice; *DITR* = ditransitivizing morpheme; *DUB* = dubitative; *EMPH* = emphatic particle; *FUT* = future; *HES* = hesitation pronoun; *IC* = initial change (ablaut); *II* = inanimate intransitive; *INAN* = inanimate; *INTR* = detransitivizing morpheme; *INV* = inverse voice; *LOC* = locative; *N* = morpheme with several distinct functions; *NEG* = negative; *OBV* = obviative third person; *OBVP* = obviative third person plural; *OBVS* = obviative subject marker; *P* = plural; *PART* = participle agreement (head of relative clause or *wh*-phrase); *PERF* = preverb that usually has perfective or past tense interpretation; *PLURAL* = stem marker of plural subject; *PRET* = preterite; *QUOT* = quotative particle; *RECIP* = reciprocal; *REFL* = reflexive.

(18) a. Ali yaq nit wiwn-uhse-t, ma yaq ote [']-kosicihtu-w-on *keq*
around QUOT there circle-walk-3CONJ NEG QUOT EMPH 3-know-NEG-N what
oc ol-luhke.
FUT thus-do.3
'As he walked around in circles he didn't know *what* to do.' (Newell 1974:2)

b. *Wen* kilun keti-piluwapiqehl-ukot?
who 12 IC.FUT-play.tricks.on-12CONJ
'*Who* are we (incl.) going to play tricks on?'

c. Itom yaq, ''*Tama* nil nt-i?''
say.3 QUOT where 1 1-be
'He said, ''*Where* am I?''' (Newell 1974:2)

The same three words are also used as indefinites. Passamaquoddy, in contrast with Chinese, imposes no licensing conditions on these *wh*-indefinites, meaning that they can be used in simple declaratives with an existential interpretation.[10]

(19) a. Kesq yaq pemacqim-a-htit otuhk-ol, on *keq* (')-nutom-oni-ya.
while QUOT drag-DIR-3PCONJ deer-OBV then what 3-hear-N-3P
'While they were dragging the deer they heard *something*.' (Newell 1974:5)

b. On yaka wesuwiy-apasi-htit, wot yaq *wen* pemi
then then.FUT going.back-walk.away-3PCONJ this.AN QUOT who IC.along
sakhiya-t.
come.into.view-3CONJ
'Then, on their way back, *something* [animate] came into sight.' (Newell 1979:25)

c. Keq (')-nomihtu-ni-ya etoli-macetutomuwi-k kci ponapsku-k *tama* al
what 3-see-N-3P IC.there-move-IICONJ big rock-LOC where UNCERTAIN
tekkapimok.
as.far.as.one.can.see
'They see something moving on a big rock [*somewhere*] near the horizon.' (Mitchell 1976c:22)

Wh-words can occur with negation, giving the meaning of a negated existential, a negative polarity item, or a negative quantifier. The following example nicely illustrates multiple occurrences of *wh*-indefinites under negation.[11]

(20) **Ma = te** *keq* *wen* ol-luhke-w.
NEG = EMPH what who thus-do.3-NEG
'No one did anything.'

Like Chinese *wh*-indefinites, *wh*-indefinites in Passamaquoddy are subject to quantificational variability. They can be bound by adverbs of quantification, for instance.

[10] Text examples have been altered as little as possible. I have added morpheme boundaries and the morpheme-by-morpheme gloss, but left the English translation as it was given in the text. Any changes are enclosed in square brackets.

[11] *Wh*-indefinites tend to appear immediately before the verb in Passamaquoddy. When there is more than one, the preferred order is that shown in (20).

(21) a. **Mecimi = te** *wen* '-kis-apem-a-l Bobby-wol.
always = EMPH who 3-PERF-rely.on-DIR-OBV Bobby-OBV
'Everyone relies on Bobby.' or 'People always rely on Bobby.'
b. ∀x [animate(x)] [x relies on Bobby]

Wh-indefinites also occur with the quantifier/*wh*-morpheme *tan*—basically a universal quantifier—to mean something like 'whoever' or 'anyone who . . . ' (with *wen*).

(22) **Tan** kahk *wen* piluwitposi-t, (')-nokomasi-tahatom-on tahalu eli
TAN EMPH who have.power-3CONJ 3-easy-think-N like C
acehtasi-k loqtewakon-ol.
change-IICONJ clothing-INANP
'He who possesses supernatural powers thinks it an easy task to change mere clothing.' (Mitchell 1976c:7)

(23) **Tan** te *keq wen-il* yah-a-htit, nit te = hc eley-ik.
TAN EMPH what who-OBV say.to-DIR-3PCONJ then EMPH = FUT IC.happen-IICONJ
'Whenever they told someone that something was going to happen, it would.' (Newell 1979:3)

The quantifier *tan* has many interesting uses; see LeSourd 2001 for some of these, and Bruening 2001:chap. 4, 2004 for some of its uses in questions. Note that in (23) binding is unselective: *tan* apparently binds two *wh*-variables, *keq* and *wenil*.

In addition, universal quantifiers in Passamaquoddy are formed by combining a *wh*-indefinite with the quantifier *psi(= te)* 'all'; it appears to form a constituent with this quantifier.[12]

(24) a. **Msi = te** = hc *wen* nuto-k, wolsotom-on.
all = EMPH = FUT who hear-3CONJ (3)-like.sound-N
'Everyone that hears it will like its sound.' (Mitchell 1976b:14)
b. Tokec olu **msi = te** *keq* '-kiwacehtu-n.
now EMPH all = EMPH what 3-make.lonely-3
'But now, he makes everything feel lonely.' (Mitchell 1976b:7)
c. Kehtaqs kahk **psi = te** *tama* kisi yali-ye, peci te lampeq.
ghost FOC all = EMPH where able around-go.3 even EMPH underwater
'A ghost can go anywhere—even under water.' (Newell 1979:21)

The animate *wh*-word *wen* 'who' can also combine with *yatte* to form a distributive quantifier 'each' (morphologically, this is remote demonstrative *yat* plus emphatic clitic *te*).

(25) On **yatte** *wen* 't-oloqi-ya-n 't-utene-k.
then each who 3-that.direction-go-N 3-village-LOC
'Then each one goes toward his own village.' (Mitchell 1976b:18)

Passamaquoddy *wh*-words, then, are exactly like those in Chinese. They are used as existen-

[12] The sequence *ms* in older texts (24a–b) is currently pronounced *ps* (24c).

tials, they are subject to quantificational variability, and they combine with other elements to create universal quantifiers. These are the first three properties of Chinese enumerated above.

The fourth was the existence of *wh*-conditionals. Recall that in this construction, *wh*-words appear in matching pairs.

(26) *Shei* yan *shei*, *shei* jiu xiang *shei*.
who play who who then resemble who
'If X plays the role of Y, then X will resemble Y.' (Cheng and Huang 1996:129)

Passamaquoddy also has *wh*-conditionals. They occur quite frequently in texts.

(27) a. Ma=te nit *wen* '-kisi tuciya-w-on nipayiw, kosona *wen-il*
NEG=EMPH there who 3-able go-NEG-N be.night or who-OBV
'-kosomahka-n-ol kehtaqs.
3-push-N-OBV ghost
'You can't go there at night or that ghost will push you.' [lit. 'Who can't go by there or that ghost will push who.'] (Newell 1979:10)

b. Naka *wen* mahqalsi-t wapahkuhs-is-ol *wen* '-kotuw-akomitehtu-n micuwakon.
and who borrow-3CONJ bucket-DIM-OBV who 3-will-boil-N food
'And—whoever borrows a cooking-pot will be boiling food.' [lit. 'Who borrows a cooking-pot, who will be boiling food.'] (Francis and Leavitt 1995)

Some elicited examples appear in (28), showing that this use is alive and well, and not restricted to older texts.

(28) a. *Wen* tama etoli-nomiy-a-t mahtoqehsuw-ol cu *wen* wolelomoqe.
who where IC.there-see-DIR-3CONJ rabbit-OBV surely who have.good.luck.3
'If X sees a rabbit somewhere, X will have good luck.'

b. Eci *wen* peci-wikuwamkom-it nit=te *wen* nt-ol-aqosomuw-a-n
when who come-visit-1CONJINV then=EMPH who 1-thus-cook.for-DIR-N
kiwhosuw-ey.
muskrat-meat
'Whenever X comes to visit me, I cook X muskrat.'

If Cheng and Huang (1996) are correct that *wh*-conditionals *must* be analyzed as unselective binding, then *wh*-words in Passamaquoddy must be open predicates with a variable that can be bound by other operators, just as in Chinese. There is no way to claim that *wh*-words in Passamaquoddy actually differ from those in Chinese by being quantificational. Thus, just as various people have hypothesized for Chinese, *wh*-words in Passamaquoddy must be open predicates.

(29) *Passamaquoddy*
a. keq(sey) = inanimate(x)
b. wen = animate(x)

Now, recall the typological claim from above: *There will be no language that uses* wh-*words as indefinites and has obligatory* wh-*movement*. Since Passamaquoddy *wh*-words are variables

(open predicates containing a variable), we should expect Passamaquoddy to be a *wh*-in-situ language.

3.4 Wh-*Movement in Passamaquoddy*

This is not correct at all. In all *wh*-questions, the *wh*-word must be initial in the clause in which it takes scope, as in the following examples:

(30) a. *Keq* olu etoli-ntuwato-k ess?
what EMPH IC.PROG-sing-3CONJ clam
'What is the clam singing?' (Mitchell 1976a:11)
b. Itom yaq, ''*Tama* nil nt-i?''
say.3 QUOT where 1 1-be
'He said, ''Where am I?''' (Newell 1974:2)

Wh-movement is *obligatory*; if it does not take place, the *wh*-word can only be interpreted as an indefinite.

(31) a. *Wen-il* itom nemiy-a-t?
who-OBV say.3 IC.see-DIR-3CONJ
'Who did he say he saw?'
b. Itom *wen-il* nemiy-a-t?
say.3 who-OBV IC.see-DIR-3CONJ
'Did he say he saw someone?' (*'Who did he say he saw?')

The same holds in indirect questions: if the *wh*-word is not initial in the clause it takes scope over, it can only be interpreted as an indefinite.

(32) a. Ma=te n-kosiciy-a-w [$_{CP}$ *wen*$_1$ t_1 kisi-komutonatomuw-a-t
NEG=EMPH 1-know-DIR-NEG who PERF-steal.from-DIR-3CONJ
n-kci-coqolsu-m-ol].
1-big-frog-POSS-OBV
'I don't know who stole my big frog.'
b. N-kosiciy-a [$_{CP}$ nucitqonket ma=te *wen-il*
1-know-DIR policeman NEG=EMPH someone-OBV
'-kisi-tqon-a-wiy-il].
3-PERF-arrest-DIR-NEG-OBV
'I know the police didn't arrest anyone.' (*'I know who the police didn't arrest.')

Wh-movement in Passamaquoddy is just like its counterpart in English. For instance, it obeys all syntactic islands, as (33) shows.

(33) a. *Adjunct island*
*Wen kisi-wisukilwaha-yin ['sami ma=te k-ciksota-ku-wi-n]?
who PERF-get.angry-2CONJ because NEG=EMPH 2-listen.to-INV-NEG-1P
'Who did you get mad because didn't listen to us (incl.)?'

b. *Complex NP*
*Wen kis-uwikh-ot [muwin kisi-siktehpawl-a-t]?
who PERF-photograph-2CONJ bear PERF-scare-DIR-3CONJ
'Who did you take a picture of the bear that scared?'

Since the *wh*-word is also always initial, *wh*-movement then appears to be exactly the same syntactic phenomenon as in English and other *wh*-movement languages.

3.5 Wh-*Movement Is Not Focus*

Moreover, *wh*-movement is not forced by something else, like focus, as various researchers have tried to argue for some other languages (see, e.g., Cheng 1991). Focused NPs are not required to move, and when they do, they target a different position from the initial one that *wh*-words occupy. The following examples use a particle *tehpu*, meaning 'only', that associates with focus; this particle appears preverbally, and the focused NP may but need not appear adjacent to it:

(34) a. Mali *tehpu* kesi-iyw-a-c-il *Piyel-ol* ma=te
Mali only IC.like-have-DIR-3CONJ-PARTOBV Piyel-OBV NEG=EMPH
apc wen-il.
again who-OBV
'Mali only likes PIYEL, no one else.'
b. Wen-il *tehpu skitapiy-ik* musal-a-htic-il?
who-OBV only man-3P like-DIR-3PCONJ-PARTOBV
'Who do only MEN like?'

In (34b), a *wh*-word and a focused NP associated with the particle *tehpu* 'only' cooccur. It is clear that the *wh*-word is in a position different from that of the focused NP. The difference in position can be seen even more clearly in an example like the following, where the subject and a speaker-oriented particle precede a fronted focus (here the possessor of the object):

(35) Nopal Piyel tehpu *nekom=te* al-k-ok utapakon-ol.
if.only Piyel only 3=EMPH around-drive-3CONJ 3.car-INANP
'I wish Piyel would drive just his own cars.'

Wh-phrases, in contrast, are always initial. Hence, *wh*-movement is not driven by focus; rather, it is driven by whatever forces *wh*-movement in languages like English (on focus in Passamaquoddy, see Bruening 2004).[13]

[13] An anonymous *LI* reviewer suggests that Passamaquoddy questions are all actually clefts, and therefore Passamaquoddy does not have real *wh*-movement. This suggestion is based mostly on the fact that many *wh*-questions use the same verbal morphology as relative clauses. However, as I have argued extensively elsewhere (Bruening 2001, 2004), *wh*-questions are not clefts in Passamaquoddy. For one thing, not all questions use the conjunct morphology of relative clauses; questions with *tama* 'where' do not, for instance (see (30b)), but they have all of the same properties as questions with *keq* and *wen*. In addition, certain embedding verbs, like *itom* 'say', do not appear in the conjunct inflection when *wh*-extraction crosses them (see (31a)), but they do use the conjunct inflection in relative clauses. Even if Passamaquoddy questions were clefts, it would not falsify the claim that they involve *wh*-movement; cleft questions in English do (*Who*

Passamaquoddy, then, falsifies the prediction that any language that uses *wh*-words as variables should be *wh*-in-situ.

3.6 Wh-*in-Situ?*

Not only that, *wh*-in-situ seems to be banned completely in Passamaquoddy. Multiple questions appear not to exist. In (36), the noninitial *wh*-word can only be interpreted as an indefinite.[14]

(36) *Keq wen* nemiht-aq?
what who IC.see-3CONJ
'What did someone see?' (*multiple Q)

No amount of context seems to help elicit a multiple question. Given the context in (37a), (37b) is an attempt to ask which person thinks which thing, but it cannot be interpreted as a multiple question, even as an echo question.

(37) a. Litahasu nucitqonket '-kisi-komutonatom-on Piyel atomupil kenoq kukec
think.3 policeman 3-PERF-steal-N Piyel car however warden
litahasu Mali not.
think.3 Mali that.AN
'The policeman thinks that Piyel stole the car but the warden thinks it was Mali.'

b. *Wen* elitahasi-t *wen* kisi-komutonato-k atomupil?
who IC.think-3CONJ who PERF-steal-3CONJ car
'Who thinks someone stole the car?' (*'Who thinks who stole the car?', even as echo)

c. Kukec litahasu *wen* kisi-komutonato-k atomupil.
warden think.3 who PERF-steal-3CONJ car
'The warden thinks someone stole the car.'

Instead, the *wh*-in-situ is only an indefinite, and it must appear in the answer in (37c).

So, although *wh*-movement in Passamaquoddy is like that in English, Passamaquoddy is unlike English in forbidding *wh*-in-situ. This is rather unexpected, given that Passamaquoddy *wh*-words are used as variables generally. If Reinhart (1998) is correct that *wh*-in-situ in English involves unselective binding, one would expect unselective binding to be possible in a multiple question in Passamaquoddy as well, given that *wh*-words in general are quite open to unselective binding, as shown above. At present, I have no idea why Passamaquoddy would forbid multiple *wh*-questions; as far as I am aware, no one has a good theory about the same ban in Irish and Italian (for one approach to Italian, see Calabrese 1984).

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is it that you saw?), and the *wh*-words still have to be initial, in contrast with copular sentences where the predicate can and frequently does come first.

[14] A reviewer questions whether the problem with this example is that it is a Superiority violation. As stated above, however, the preferred order of *keq* and *wen* together is *keq* first. Moreover, there is no problem of Superiority in other examples, such as those in (37).

At any rate, Passamaquoddy bans *wh*-in-situ even though its *wh*-words are open predicates. This falsifies the claimed correlation between *wh*-indefinites and *wh*-in-situ. Using *wh*-words as indefinites is not a sufficient condition for *wh*-in-situ. In the next section, I present a broader typological survey showing that *wh*-indefinites do not correlate with *wh*-in-situ in any way.

4 Typology

As just shown, using *wh*-words as variables cannot be a sufficient condition for *wh*-in-situ. Both Passamaquoddy and German use *wh*-words as indefinites, but they are *wh*-movement languages (Cheng (1991) lists several other languages that have this character, including various Australian languages). Before turning to some other potential correlations, I would like to comment on the issue of what counts as a *wh*-word used as an indefinite.

4.1 What Counts as a Wh-*Indefinite?*

The *wh*-words used as indefinites illustrated above in Chinese and Passamaquoddy did not involve any extra morphology, but were simply bare *wh*-words. I think everyone would agree that this is the paradigmatic case of an "indeterminate pronoun" (Kuroda 1965), or what I have been calling a *wh*-indefinite. Most researchers (see, e.g., Cole and Hermon 1998) would *not* consider an indefinite like English *somewhere* to be a *wh*-indefinite, even though it contains a *wh*-word. The fact that it includes additional morphology is usually taken to exclude it from the category of "indeterminate pronoun." However, there is a continuum between these types of *wh*-word-based indefinites, with no clear dividing line. For instance, consider Japanese.

In Japanese, *wh*-words, illustrated in (38a), can be turned into universal quantifiers by adding *-mo* or into indefinites by adding *-ka*, as illustrated in (38b).

(38) a. *Dare*-ga kimasu-ka?
who-NOM come-Q
'Who's coming?' (Nishigauchi 1990:18)
b. *Dare-mo*-ga *nani-ka*-o tabe-te-iru.
who-MO-NOM what-KA-ACC eating-be
'Everyone is eating something.' (Nishigauchi 1990:117)

Although additional morphology is required to use a *wh*-word as something other than an interrogative, Japanese *wh*-words are still considered to be paradigmatic *wh*-indefinites (in fact, the term *indeterminate pronoun* was coined for Japanese, by Kuroda (1965)). Presumably this is because the *wh*-word itself can be clearly identified as the variable, and the additional morphology as the unselective binder that gives it its quantificational force (note that in Japanese the question particle, presumably what is providing existential quantification in a question, is the same as the indefinite marker).

But why would this same analysis not extend to English? One could easily identify *some* as an existential quantifier, providing quantificational force in expressions like *someone*, *something*, *somewhere*, *somehow*, and so on. There is also a universal quantifier *every* in *everywhere*, *every-*

one, *everything*. Why should we not consider *some* the equivalent of Japanese *-ka*, and *every* the equivalent of Japanese *-mo*? Then English uses *wh*-words as indefinites too, at least *where* and *how* (and all the others when suffixed with *ever*).

In other words, if we take Japanese to be a *wh*-indefinite language, we should take English to be one as well. But then the correlation between *wh*-indefinites and *wh*-in-situ breaks down completely: numerous languages in Haspelmath 1997—63 out of the 100-language sample—have indefinites based on interrogatives, including numerous *wh*-movement languages (most European languages, for instance). It appears to be very common for *wh*-words to be used as indefinites, and in no way is this limited to *wh*-in-situ languages.[15]

If we do not take languages like English and Japanese to be *wh*-indefinite languages, and only consider languages like Chinese and Passamaquoddy to be *wh*-indefinite languages, then we run the risk of missing a significant fact about human language: as just stated, most languages—over 60%—build indefinites from *wh*-words. I conclude, then, that there is really no connection between *wh*-words used as indefinites and *wh*-in-situ; it is simply the case that most languages of the world use *wh*-words as indefinites. This is an important fact that any analysis of *wh*-words and quantification will have to capture, but it is not related to *wh*-in-situ as opposed to *wh*-movement.

4.2 Wh-*Indefinites as a Necessary Condition*

Passamaquoddy and German show that there is no implication of the form *wh-indefinites* → *wh-in-situ*, meaning that using *wh*-words as variables is not a sufficient condition for *wh*-in-situ. Could it be that it is a necessary condition? That is, are all *wh*-in-situ languages *wh*-indefinite languages?

The answer is no, as was stated more briefly above. There are certainly *wh*-in-situ languages that do not use *wh*-words as indefinites. Looking up the *wh*-in-situ languages from Ultan 1978 that are also in Haspelmath's (1997) database on indefinites, we find five *wh*-in-situ languages that have *wh*-based indefinites (Amharic, Bashkir, Chinese, Telugu, Thai) and two that have generic-noun-based indefinites, like ***something*** (Khalkha Mongolian, Samoan). Khalkha Mongolian actually has *wh*-indefinites (see footnote 15), so we have just Samoan as a counterexample so far. To Samoan we can add Slave, Harar Oromo, and Turkish as *wh*-in-situ languages that have generic-noun-based indefinites (see below on Harar Oromo and Slave). Hindi and other South Asian languages may or may not count as counterexamples as well: according to Haspelmath, their indefinites are similar to but not derived from *wh*-words. Therefore, there is no necessary connection between *wh*-in-situ and *wh*-based indefinites, either. Put another way, Passamaquoddy and German show that the implication *wh-indefinites* → *wh-in-situ* is false, while Samoan, Harar

[15] The numbers in Haspelmath 1997 should probably be even higher; for instance, Haspelmath cites Khalkha Mongolian as not having *wh*-based indefinites, but according to his source, Street 1963:237, *wh*-words are used as indefinites when a particle attaches to them. Examples also appear on pages 194 and 224 of Street 1963.

Oromo, Slave, Turkish, and possibly Hindi show that the implication *wh-in-situ* → *wh-indefinites* is also false. Thus, the biconditional *wh-in-situ* ↔ *wh-indefinites* hypothesized by Cole and Hermon (1998) is false in both directions.

4.3 Island Sensitivity

Peter Cole (pers. comm.) suggests a more sophisticated necessary connection, based on the observation that *wh*-in-situ languages seem to divide into two types (cf. Nakamura 2002). There are those that are island-sensitive, like Iraqi Arabic (Wahba 1991) and Hindi (Srivastav 1991). Then there are those that show no sensitivity to islands, like Malay (Cole and Hermon 1998), Quechua (Cole and Hermon 1994), Chinese (references above), and so on. Cole therefore suggests a one-way implication: if *wh*-in-situ is well formed inside islands, then *wh*-words must be used as indefinites. That is, island insensitivity is made possible by unselective binding of the *wh*-word by a question operator, as described above. Any language that used unselective binding, then, would have to have *wh*-words that could be unselectively bound. *Wh*-in-situ languages that showed no sensitivity to islands, it follows, would necessarily use *wh*-words as indefinites.

This more sophisticated version of the correlation between *wh*-in-situ and *wh*-indefinites could a priori be correct. However, I was able to locate several counterexamples using some of the few grammars that give data on syntactic islands. One clear counterexample is Harar Oromo (Cushitic, Ethiopia), as presented in Owens 1985. Relativization obeys the Complex NP Constraint and the Coordinate Structure Constraint in this language, but *wh*-in-situ does not.

(39) *Relativization*

a. *Nyaan-níi xan namiccá xa nyáacc-úu jir-ú beexan barédaa.
food-NOM as man as eat-VN exist-DEP know.PL nice
'The food that they know the man who is eating is nice.' (Owens 1985:137)

b. *Gurbáa-n xani-f intalá arke gáarii.
boy-NOM as-and girl saw nice
'The boy who he saw and the girl is nice.' (Owens 1985:137)

(40) Wh-*in-situ*

a. Sun magalaa én yúu itt déme?
that market who to-it went
'That is the market who went to?' (Owens 1985:206)

b. Eeruu-f bakká xám beet-t-a?
field-and place which know-2-IMP
'You know the field and which place?' (Owens 1985:206)

But Harar Oromo uses generic nouns as indefinites, like *namá* 'person', *wahi* 'thing' (Owens 1985:192).

(41) Nama takká-llé hin-árkine.
person one-even NEG-saw
'We didn't see anyone.' (Owens 1985:193)

It is clear, therefore, that using *wh*-words as indefinites is not a necessary condition for island insensitivity in *wh*-in-situ.

Kobon (New Guinea) appears to be a counterexample as well. Davies (1981) gives numerous examples of *wh*-in-situ that appear to violate various island constraints, such as the Adjunct Island Condition (see, e.g., p. 13). (However, I do not see any data indicating that these constraints are operative elsewhere in the grammar—for instance, in relativization. Data on islands are missing from these sections.) Nevertheless, Kobon also uses generic nouns rather than *wh*-words as indefinites (p. 156).

Another potential counterexample is Slave, if we follow Basilico (1998) in treating indirect speech complements as islands in this language. *Wh*-movement of adjuncts out of this type of complement is disallowed, but *wh*-in-situ is fine (Slave allows both moved and in-situ *wh*-phrases, just like Malay and Quechua). But again, Slave does not use *wh*-words as indefinites; instead, it uses generic nouns (Rice 1989:259).

Also instructive in this regard are the South Asian languages. Like Hindi, most of them are *wh*-in-situ, but they appear to be sensitive to islands. Kashmiri (Wali and Koul 1997) and Punjabi (Bhatia 1993), for instance, match this description (see also Bayer 1996 on Bengali). They also have indefinite pronouns that resemble but are not identical to *wh*-words, meaning that *wh*-words themselves are not used as indefinites. This would appear to match the suggested correlation: since the *wh*-words are not used as indefinites, *wh*-in-situ may not involve unselective binding and may not occur inside syntactic islands. However, Marathi is just like Kashmiri, Punjabi, and Hindi in the islands that it is sensitive to (Pandharipande 1997), but it *does* use *wh*-words as indefinites (Pandharipande 1997:384–385). Hence, *wh*-words being used as variables is not a sufficient condition for island-insensitive *wh*-in-situ either, just as it is not a sufficient condition for *wh*-in-situ more generally.

4.4 Bare Wh-*Indefinites and Scope*

Finally, a small sample of languages shows that the *wh*-in-situ/*wh*-movement distinction is completely irrelevant to understanding *wh*-based indefinites. The scopal properties of these elements cut across that divide, grouping English (*wh*-movement) and Japanese (*wh*-in-situ) against Passamaquoddy (*wh*-movement) and Chinese (*wh*-in-situ).

From the data that I have examined so far, it appears that *wh*-indefinites that do not include additional morphology are precluded from taking wide scope (and in fact usually take only narrowest scope), but *wh*-indefinites that do include additional morphology may take wide scope and may even be interpreted referentially (as specific indefinites).[16]

In Japanese, for instance, a *wh*-word that appears with the particle *-ka* is interpreted as an existential. The following example is from Nishigauchi (1990), who states that the indefinite

[16] In earlier versions of this article, I claimed that there was another correlation regarding scope: namely, that *wh*-in-situ languages permit *wh*-indefinites to take scope wider than their surface position, but *wh*-movement languages restrict *wh*-indefinites to narrowest scope. It now appears that this is incorrect: Indonesian is a *wh*-in-situ language, but it does not permit higher scope for *wh*-indefinites.

''may or may not be interpreted as having a specific reference in the mind of the speaker'' (p. 121):

(42) *Dare-ka*-kara henna tegami-ga todoi-ta.
who-KA-from strange letter-NOM arrived
'A strange letter arrived from somebody.'

In the following example, from Satoshi Tomioka (pers. comm.), a *wh*-indefinite may be interpreted as taking widest scope, even outside a syntactic island:

(43) Koro syorui-o kyoozyuu-ni *dare-ka*-ni teisyutu-si-nake-reba, woo-itido
this document-ACC today-within who-KA-DAT submit-do-NEG-if more-once
yarinao-s-anakereba narai (ga, dare-ni-ka-ga wakar-anai-node, komette-iru).
redo-must (but who-DAT-Q-NOM know-NEG-because be.in.trouble-PROG)
'If we don't submit this document to someone by the end of today, we must redo it (but the problem is that we don't know who to).'

Here the wide scope reading is brought out by sluicing in the continuation in parentheses: there is a particular person that the documents must be submitted to. In this reading, *dare-ka* takes scope outside the *if*-clause.

These wide scope indefinites, which are often referred to as *specific indefinites* or *referential indefinites*, have been the subject of much recent research. The property of these indefinites that is significant here is that they may take scope outside all other operators in the sentence, even if that means taking scope outside a syntactic island, like the conditional clause above. For recent choice function approaches to these indefinites, see Reinhart 1997, Kratzer 1998, Matthewson 1998, and the references there.

English behaves like Japanese, as is well known. A *wh*-based indefinite with *some-* can freely take wide scope and can even have a referential or specific reading. In (46), the indefinite *somewhere* can take scope outside negation, or even outside a conditional in (46b).

(44) a. It appears that he **doesn't** want to go *somewhere*. (widest scope possible)
b. **If** you **don't** want to go *somewhere*, please tell me. (widest scope possible)

Wh-based indefinites that include additional morphology, then, may take widest scope, whether the language is a *wh*-in-situ language or a *wh*-movement language.[17]

In contrast, bare *wh*-words that are used as indefinites may never take widest scope. They are restricted to narrowest scope (Passamaquoddy) or scope within the scope of their licenser (Chinese). In Passamaquoddy, for instance, *wh*-indefinites may not take scope over negation.

[17] Of course, there is morphology in many languages that requires narrow scope, like the *any* series in English (excepting its use in free choice contexts) or the *-pun* series in Indonesian (see Haspelmath 1997 on the various functions of indefinites and series of indefinites). In other words, additional morphology is a necessary but not a sufficient condition for higher scope.

(45) **Ma=te** *wen* '-kisi-tomh-a-wiy-il Piyel-ol.
NEG=EMPH who 3-PERF-beat-DIR-NEG-OBV Piyel-OBV
'No one beat Piyel.' (*'There is someone who didn't beat Piyel.')

In addition, *wh*-indefinites may only take narrow scope in a conditional in Passamaquoddy.

(46) Komac op n-ulitahas *wen* peciya-t etolimawiyayek.
very would 1-be.happy who come-3CONJ gathering
'I'll be happy if anyone comes to the party.' (nonspecific only)

Generally, then, *wh*-indefinites in Passamaquoddy seem to be limited to the narrowest possible scope.

German and Dutch, *wh*-movement languages that are like Passamaquoddy in using bare *wh*-words as indefinites, also only permit narrow scope, as was shown by Postma (1994). The following example is Dutch:

(47) Heb je echt niet *wat* gedaan?
have you really not what done
'Have you really not done anything?' (narrow scope only)

Turning to *wh*-in-situ languages, we find that in Chinese as well, *wh*-indefinites are limited to narrow scope. In all cases, this will be scope below the *wh*-indefinite's formal licenser; most such licensers are quantificational in Chinese. With negation, for instance, the *wh*-indefinite can only take scope within the scope of negation.

(48) a. Ta **bu** xihuan *shenme*.
he not like what
'He doesn't like anything.' (Li 1992:127)
b. $\neg\ \exists x$ [he likes thing(x)]
c. *$\exists x$ [$\neg$ he likes thing(x)]

In a conditional, the *wh*-indefinite cannot take scope outside the conditional (Cheng and Huang (1996) treat *ruguo* as the conditional operator that licenses the *wh*-indefinite).

(49) a. **Ruguo** ni kandao *shei*, qing jiao ta lai jian wo.
if you see who please tell him come see me
'If you see someone, please ask him/her to come see me.' (Cheng and Huang 1996: 131)
b. $\forall s_1$ [$\exists x$ (you see person(x) in s_1)] . . .
c. *$\exists x.\forall s_1$ [you see person(x) in s_1] . . .

Indonesian is another *wh*-in-situ language that permits *wh*-indefinites to take only narrowest scope (Yassir Tjung, pers. comm.). (*Wh*-indefinites are reduplicated *wh*-words in Indonesian.)

(50) Apa kamu benar-benar **tidak** melakukan *apa-apa*?
Q you really not MEN-do-KAN what-what
'Have you really not done anything?' (narrowest scope only)

Vietnamese, another *wh*-in-situ language, also permits only narrow scope (Thuan Tran, pers. comm.).

(51) Anh thuc su **khong** lam *gi* a?
you really not do what Q
'Have you really not done anything?' (narrow scope only)

Thus, bare *wh*-indefinites, in both *wh*-movement and *wh*-in-situ languages, take only narrow scope, unlike *wh*-indefinites with additional morphology in Japanese (*wh*-in-situ) and English (*wh*-movement).

In Chinese, *wh*-indefinites are restricted to scope within the scope of their licenser. If there is a higher licenser, the scope of the *wh*-indefinite can be outside the scope of the lower licenser but inside the scope of the higher. Lin (2002), for instance, reports that the following sentence naturally has a higher scope reading, as indicated:

(52) Ta **haoxiang mei/bu**(neng) chi *shenme* de-yangzi.
he seem not/not eat what seem
'It seems he did not (want to) eat anything.' or 'It seems there is something he did not (want to) eat.'

In (52), both negation and 'seem' are potential licensers for *wh*-indefinites, and 'who' can take scope within the scope of either one, giving ambiguity.

Wh-indefinites in Chinese, then, are not confined to the narrowest possible scope, but only to taking scope within the scope of a licenser. Nevertheless, they must take scope within the scope of *something*, and they can never be wide scope or specific indefinites.

The same intermediate scope is possible in Vietnamese. In (53), the *wh*-indefinite most naturally has a narrow scope interpretation, but the sentence also permits a reading where the indefinite takes scope between the two potential licensers, the conditional operator and negation (Thuan Tran, pers. comm.).

(53) **Neu** anh **khong** muon moi *ai*, xin noi cho toi biet.
if you not want invite who beg tell give I know
'If you don't want to invite anyone, please tell me.' (narrow scope or intermediate scope)

Thus, the correct generalization is not that bare *wh*-indefinites always take narrowest scope; rather, it is that they are never wide scope or specific indefinites.

There is another wrinkle in Vietnamese, moreover, which points to the correctness of the generalization that it is additional morphology that enables a *wh*-indefinite to be interpreted with wide scope. Whereas the *wh*-indefinite in (53) cannot take wide scope, adding a particle to it as in (54) permits it to take widest scope.

(54) **Neu** anh **khong** muon moi *ai* *do*, xin noi cho toi biet.
if you not want invite who PART beg tell give I know
'If you don't want to invite someone, please tell me.' (specific indefinite)

As shown above for whole languages, there appears to be a crucial relation between additional morphology or particles and the ability to take wide scope. This can be replicated within a language as well, in the case of Vietnamese, where bare *wh*-indefinites take only narrow or intermediate scope, but *wh*-indefinites in combination with particles may take widest scope.

The conclusion from this admittedly small sample of languages is that there is a significant relation between morphology and semantics that must be accounted for by an adequate theory of quantification and the nature of *wh*-words. This generalization cuts across the *wh*-in-situ/*wh*-movement divide and appears to be unrelated to that difference.[18]

5 Conclusion

The data presented here from Passamaquoddy have shown that there is no correlation between using *wh*-words as indefinites and a *wh*-movement parameter. Passamaquoddy has the full range of binding of *wh*-indefinites, but *wh*-movement is obligatory and *wh*-in-situ disallowed. Moreover, the typological survey reported here reveals that there is no connection of any kind between *wh*-in-situ and *wh*-indefinites. There is also no connection between *wh*-in-situ and question particles. The fact is that most languages use *wh*-words as indefinites, and most languages use question particles. An adequate theory of grammar will account for these two facts, but will not relate them to *wh*-in-situ.

Moreover, there may be a significant correlation between the scope of *wh*-indefinites and additional morphology: bare *wh*-indefinites take only narrowest (or intermediate) scope, but *wh*-indefinites with additional morphology may take widest scope and be interpreted as specific indefinites. This way of looking at the data groups Japanese, for example, with English, and not with other *wh*-in-situ languages like Chinese. An adequate theory of *wh*-words and quantification will have to account for this correlation, and for the relation between *wh*-words in questions and their use as indefinites with or without additional morphology, but it will not relate *wh*-indefinites to *wh*-in-situ.

Finally, it is important to note that, although I presented typological predictions as part of the unselective binding theory of *wh*-in-situ, they are not a necessary part of that theory. It is possible to have an unselective binding theory of *wh*-in-situ without making any typological predictions about the use of *wh*-indefinites. For instance, Baker (1970), Pesetsky (1987), and

[18] There is one other wrinkle in Passamaquoddy that must be mentioned for completeness. This is that, although *wh*-indefinites are confined to narrowest scope, they may take higher scope on occasion by appearing in a higher position, as in the following example:

(i) a. Ma=te apc *wen*$_1$ k-wewitaham-ol-u eli poseqossomi-hin t_1.
NEG=EMPH again who 2-remember-1/2-NEG C lose.when.drunk-2CONJ
'I don't remember (about you) that you lost anyone else when you were drunk.'
b. $\neg$ $\exists$x [I remember (about you) that you lost x when you were drunk]

Here, the existential quantifier takes scope above the verb 'remember', but below matrix negation. (A rough paraphrase would be 'There is no one else such that I remember about you that you lost that person while you were drunk'). And this is exactly where *wen* appears. It appears, then, that higher scope can be attained through movement. This will never result in widest scope, however, since *wh*-indefinites seem to be precluded from crossing negation or—of course—island boundaries like conditionals, so the generalization stands as stated.

Reinhart (1998) treat *wh*-in-situ in English multiple questions as unselectively bound, but do not claim that English uses *wh*-words as indefinites. The unselective binding theory is therefore not falsified by the data presented here; it just needs to be refined so as not to include any typological predictions of this sort. (The Clausal Typing Hypothesis *is* falsified by the data here and should be abandoned.)

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