A General Theory of Wh-Questions
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A widely held view about wh-questions in general is that movement of a wh-phrase to SpecCP is driven by the need to create an operator-variable construction between the moved wh-operator and its trace. Consider the derivation of an embedded question which book you bought in the system proposed by Fox (2002) for concreteness.

\[(1)\]
\[\begin{array}{l}
\text{a. } [\text{CP } C [\text{TP you bought which book}]] \rightarrow \text{Wh-Movement} \\
\text{b. } [\text{CP which book } C [\text{TP you bought which book}]] \\
\text{d. } [\text{CP which book } x C [\text{TP you bought the book } x]]
\end{array}\]

Wh-Movement creates (1b) with two copies of which book, one of which is turned into a variable as in (1c), by replacing which by the and addition of the variable \(x\). Under this view all wh-elements have to undergo Wh-Movement in all languages. This has resulted in proliferation of LF Wh-Movement in languages that don't seem to show Wh-Movement and in-situ wh-phrases in multiple wh-questions.

As an alternative, I propose that every wh-question involves movement of disjunction function \(\lor\). \(\lor\) takes a set as its argument and returns one of its members as its value. In this alternative, which book you bought has the underlying structure in (2a).

\[(2)\]
\[\begin{array}{l}
\text{a. } [\text{CP } C [\text{TP you bought } [\lor \text{which the book}]]] \rightarrow \text{Wh-Movement} \\
\text{b. } [\text{CP } [\lor \text{which the book/ }] C [\text{TP you bought } \{\text{which the book}\}]] \\
\text{c. } \text{LF: } [\text{CP } \lor C [\text{TP you bought which the book}]]
\end{array}\]

Wh-Movement carries \(\lor\), pied-piping the phonetic shape of which book represented as /which the book/ and leaving behind its meaning represented as {which the book}. (The definite determiner is not pronounced when preceded by a quantifier, a
few exceptions being all/both the books.) When the phonetic shape of (2b) is peeled off we get the LF representation in (2c). The WH-operator-variable construction holds between the wh-operator (O) which and the variable (V) the, with book as the restriction (R). TP in (2c) denotes a set of propositions due to the fact that which the book denotes a set of discoursally determined books. The disjunction takes this set of propositions as its argument and returns one of them as its value. The core meaning of a wh-question is now captured as this disjunction function.

Wh-Movement in this view is driven by the need for the disjunction function to take the set of propositions denoted by TP as its argument, not by need to create an operator-variable construction. The fact that movement of the disjunction function must pied-pipe which book falls out automatically if we assume that movement (i.e., Internal Merge) requires a phonetic vehicle, the disjunction function ∨ being phonetically empty in English (Overt Syntax Hypothesis). From this it also falls out that in languages where the disjunction function has a phonetic shape, like the particle ka in Japanese, the particle alone will undergo Wh-Movement, resulting in the appearance of absence of Wh-Movement.

It will be demonstrated that this system, supplemented by the use of focus feature and a way to associate one disjunction function with multiple wh-phrases, can handle cross-linguistic variation in multiple wh-questions in languages like English, Japanese and Bulgarian, without involving LF wh-movement or unselective binding as is widely assumed.