## 1 Auxiliaries

External ordering:
(1) Adjectives: value $>$ Size $>$ Temperature $>$ Age $>$ Shape $>$ Color $>$ origin $>$ Material
(2) $\mathrm{CP}>$ TP $>$ negation $>$ modal/to $>$ perfective $>$ progressive $>$ passive $>$ verb
(3) $\mathrm{DP}>\mathrm{NP}$
"Affix hopping"
(4) be+ING, V, [AUX, PROG], [+ _ VP]
(5) have+EN, V, [AUX, PERF], [+ _ VP]
(6) I PAST have-en be-ing eat lunch
(7) I had been eating lunch


## 2 Negation



(8) I never eat lunch.
(9) I do not eat lunch.


Generalization? T is "stranded" if its sister is not headed by V. (That is, not a VP.) NegP is not a VP. Adverbs attach to VPs and leave them VPs.
Auxiliaries (modals, have, be) move to T (even over Neg) so T is not stranded in that case.
Neg is not an auxiliary, it does not move. Main verbs (like eat) are not auxiliaries, they do not move.

## 3 Yes-no questions

Having motivated movement to T for auxiliaries, we now have a straightfoward way to understand inversion in yes-no questions.

Same thing, but instead of saying that [+AUX] V moves to T, we can say that T moves to [+Q] C.


## 4 Wh-questions

(11) Lisa thinks that Bart will hug Maggie.
(12) Lisa wonders whether Bart will hug Maggie.
(13) * Lisa wonders that Bart will hug Maggie.
(14) * Lisa thinks whether Bart will hug Maggie.
(15) * Lisa thinks that Bart will hug.
(19) whether, C, $[+\mathrm{Q}]$

$$
\begin{equation*}
\text { that, } \mathrm{C},[+\mathrm{Decl}],\left[+\ldots \mathrm{TP}_{[+ \text {Tense }]}\right] \tag{20}
\end{equation*}
$$

(21) Lisa wonders who Bart will hug.
(22) * Lisa thinks who Bart will hug Maggie.
(23) Lisa asked who Bart will hug at noon at school.
(24) Lisa asked who will hug Maggie at noon at school.
(25) Lisa asked when Bart will hug Maggie at school.
(26) Lisa asked where Bart will hug Maggie at noon.
(27) Bart will hug Maggie at noon at school.
(28) Bart will hug Maggie at noon at school.
(29) Bart will hug Maggie at noon at school.
(30) Bart will hug Maggie at noon at school.
(31) Lisa asked who Bart will hug at noon at school.
(32) Lisa asked who will hug Maggie at noon at school.
(33) Lisa asked when Bart will hug Maggie at school.
(34) Lisa asked where Bart will hug Maggie at noon.
(35) Lisa wonders which child Bart will hug.
(36) Lisa wonders which child will hug Maggie.

| where | there |
| ---: | :--- |
| when | then |
| what | that |
| why | hmm |
| who | ok |
| how | well |

So: wh-words are not category C , they can be various categories.
They seem to be doing two jobs: a) the one the pro-form does, $b$ ) marking a question.
Question marking is something C is involved with; CP is $[+\mathrm{Q}]$ and wonder cares.
Being an argument is something V is involved with. V might be [ $+\ldots \mathrm{DP}$ ].
Another case where we have one thing apparently doing two jobs:
(37) Bart wants Lisa to hug Maggie.
(38) Bart wants to hug Maggie.
(39) Bart persuaded Lisa to hug Maggie.

So maybe something similar is happening here.
(40) Lisa asked who Bart will hug [who] at noon at school.
(41) Lisa asked who [who] will hug Maggie at noon at school.
(42) Lisa asked when Bart will hug Maggie [when] at school.
(43) Lisa asked where Bart will hug Maggie at noon [where].

The loud $w h$-word goes with the $[+\mathrm{Q}] \mathrm{CP}$, and the quiet one is down in the VP .
(44) She expects [Lisa to embarrass herself].
(45) Who does she expect [ [who] to embarrass herself]?
(46) Lisa/Homer think that Bart will prefer this picture of himself.
(47) Which picture of himself does Lisa think that Bart will prefer?
(48) Which picture of himself does Lisa think that Bart will prefer [wh px of self]?

