1 Modifier diagnosis

Classify the modifier faulty, as in faulty keyboard, as intersective, subsective, nonsubsective, or privative, according to the typology developed by Partee 1995, and provide justification for your classification. Provide the most restrictive classification you can. Our evaluation will not focus on your linguistic judgments, which are entirely your own in the Jackendoff sense. Rather, we will focus on how you reason in terms of your reported intuitions and the Partee adjective classes. (1–3 sentences.)

Model answer

The adjective faulty is subsective: for any noun $N$, faulty $N$ entails $N$, and the meaning of the modified form varies based on the $N$, so we can't define a set of faulty things (e.g., a faulty argument may be a perfectly good comedy sketch), which rules out the ‘intersective’ classification.

Model answer

The adjective faulty is non-subsective: while a faulty keyboard is a keyboard, we also have faulty signal, which may indicate the failure of a signal at all. The first case shows that a faulty $N$ can be a $N$, and the second shows that a faulty $N$ is not always an $N$. The only category compatible with this is non-subsective.

2 Novel compounds

In Levin et al.’s free-response comprehension experiment, 19/20 responses for salad glove were coded as ‘Purpose’. (The one other response was ‘Color’.) Is this expected under their account? Say why or why not. In writing your answer, make sure to (1) classify the modifier, the head, and the compound itself as artifact or natural kind, and (2) make meaningful use of the relevant core hypothesis from their paper. (3–4 sentences should suffice.)
In the compound *salad glove*, both the head and the modifier are artifacts, and the entire compound likely refers to an artifact as well – it seems like some kind of wearable cooking item. The 19 responses that classified the head–modifier relation as ‘Purpose’ are in-line with Levin et al’s hypotheses. In particular, ‘Purpose’ is an event-related modifier designation, just as the event-related modifier hypothesis predicts for artifacts. By contrast, the one ‘Color’ case is not aligned with their hypotheses, since this is one of the Perceptual categories, a subtype of relations we expect for compounds referring to natural kinds. Overall, though, the response distribution seems consistent with Levin et al’s proposal. After all, they are not claiming that compound head–modifiers relations are fully predictable or determined by their parts.

3 Functional application

Reduce the following expressions by applying the necessary application and substitution steps. You should reduce the expressions as far as is possible, including subexpressions.

i. \((\lambda x(4))(5)\)

Model answer

\(4\)

ii. \((\lambda y(\lambda x(x > y)))(4)\)

Model answer

\(\lambda x(x > 4)\)

iii. \((\lambda f(\lambda x(x < f(4)))(\lambda y(1 + y)))(2)\)

Model answer

Optionally showing intermediate steps. Only the last line is required, and the lines before it would not earn full credit on their own due to lingering unconverted lambdas:

\[
\Rightarrow (\lambda x(x < (\lambda y(1 + y))(4))(2)
\Rightarrow (\lambda x(x < (1 + 4))(2)
\Rightarrow 2 < (1 + 4)
\]
4 Compositional analysis

For each of the top (root) nodes in the following trees, provide (i) the name of the rule you used to derive that meaning from its constituent parts, according to the handout ‘Semantic composition’, and (ii) the meaning itself after all the allowable substitutions from function applications. Thus, for example, given the tree on the left, either answer at right would be complete and accurate:

Rule (TV) derives \{ , \}

4.1

Model answer

Rule N derives \( U - [studies] = \{[Bart], [Homer], [Maggie]\} \)

4.2

Model answer

Rule Q1 derives \( \lambda Y(T \text{ if } [child] \notin Y, \text{ else } F) \)
5 Where *ever* can appear

The English adverbial particle *ever* has a highly restricted distribution. On the basis of the following examples (where * marks ungrammatical cases, as usual), formulate a generalization in terms of the monotonicity properties of determiners about where *ever* can appear:

(7) a. No \([_{NP} \text{students who have ever taken semantics }]_{VP} \text{have been to Peru}\]
b. No \([_{NP} \text{students}]_{VP} \text{have ever been to Peru}\]
c. *Some \([_{NP} \text{students who have ever taken semantics}]_{VP} \text{have been to Peru}\]
d. *Some \([_{NP} \text{students}]_{VP} \text{have ever been to Peru}\]
e. At most three \([_{NP} \text{students who have ever taken semantics}]_{VP} \text{have been to Peru}\]
f. At most three \([_{NP} \text{students}]_{VP} \text{have ever been to Peru}\]
g. Exactly three \([_{NP} \text{students who have ever taken semantics}]_{VP} \text{have been to Peru}\]
h. Exactly three \([_{NP} \text{students}]_{VP} \text{have ever been to Peru}\]
i. Every \([_{NP} \text{student who has ever taken semantics}]_{VP} \text{has been to Peru}\]
j. *Every \([_{NP} \text{student}]_{VP} \text{has ever been to Peru}\]

Please restrict your attention to this set of examples when formulating your generalization, and accept the grammaticality judgments as given (even if you disagree with them).

Note: I’ve used square bracketing to indicate the basic syntactic structure of these cases. In all cases, the string inside \([_{NP} \ldots]\) corresponds to the restriction of the determiner semantically, and the string inside \([_{VP} \ldots]\) corresponds to the scope of the determiner semantically.

---

Model answer

The correct generalization is that *ever* can appear only in environments that are **not upward monotone**.

The *no* and *at most three* cases both involve downward monotone environments, and they are good. The *some* cases involve upward monotone environments, and they are bad. The *exactly three* cases are neither upward nor downward, i.e., non-monotone, and they are good. Finally, *every*'s restriction is downward and licenses *ever*, whereas its scope is upward and does not license *ever*. Thus, **not upward monotone** seems to be the correct generalization for this dataset.