Grammar 5

Gert Webelhuth

University of Frankfurt

What's wrong with Grammar 4

- Grammar 4 makes a distinction between transitive and intransitive verbs, both in lexical entries and in phrase structure rules.
- Intransitive verbs (*smoke*) need nothing to their right.
- Transitive verbs (*like*) need a noun to their right.
- But, there are verbs that need categories other than noun to their right:
 - Kim <u>is sad</u>. (*adjective*)
 - Kim lives there. (preposition)

Conclusion: the distinction between transitive and intransitive verbs is not enough. We need to be able to distinguish between more types of verbs!

Question: what do we replace the transitive-intransitive distinction with?

Let us begin by asking what transitive verb means?

$$\begin{bmatrix} phrase \\ syntax & verb \end{bmatrix} \rightarrow \begin{bmatrix} word \\ syntax & \begin{bmatrix} verb \\ TRANSITIVE + \end{bmatrix} \begin{bmatrix} word \\ syntax & noun \end{bmatrix}$$

Answer: Transitive verb means Verb that needs a noun to its right.

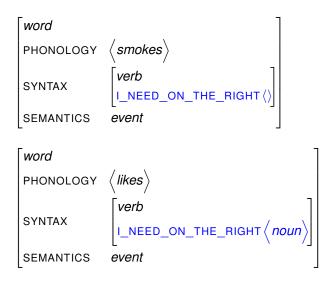
The new system should be able to cover all of the following verbs

Verb	needs to its right
smoke	_
like	noun
is	adjective
lives	preposition

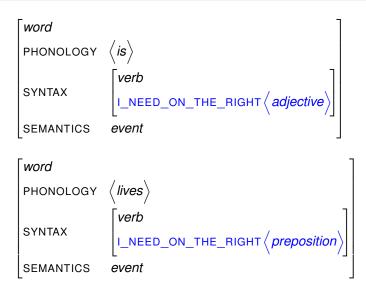
In order to realize this, we change the grammar as follows:

- We replace the feature TRANSITIVE by a new feature: I_NEED_ON_THE_RIGHT.
- The value of this feature is a list that is either empty (for intransitive verbs) or a list that contains exactly one part of speech (*noun, adjective, preposition*).

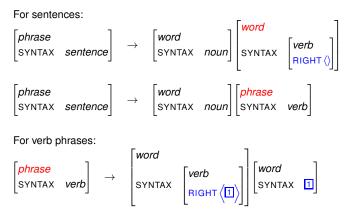
The new lexicon, 1



The new lexicon, 2



Of course, the phrase structure rules need to be changed along with the lexical entries



The last rule says: a verb phrase consists of a verb word that wants the category C after it + a word of that same category C.



- Parse test items (10)-(19) of Grammar 5!
- Explain how Grammar 5 ensures that every verb word has exactly the right kind of element on its right.