

1. **Lexicon**

	<b>Morpheme</b>	<b>Category</b>	<b>Type</b>
(1)	[+ 1]	nominative-case marker	$D \rightarrow D_1$
(2)	[+ 2]	accusative-case marker	$D \rightarrow D_2$
(3)	to	dative-case marker	$D \rightarrow D_3$
(4)	from	ablative-case marker	$D \rightarrow D_4$
(5)	by	bylative-case marker	$D \rightarrow D_5$
(6)	's, of	genitive-case marker	$D \rightarrow D_6$
		possessive postposition, preposition	$D \rightarrow (C \rightarrow C)$
(7)	[mod]	bare-adjective/CNP $\rightarrow$ mod-adjective	$C \rightarrow (C \rightarrow C)$
(8)	not	1-place connective	$S \rightarrow S$
(9)	and, but	2-place connective	$S^2 \rightarrow S$ [=af $(S \times S) \rightarrow S$ ]
(10)	every, some, no	quantifier	$C \rightarrow [(D \rightarrow S) \rightarrow S]$
(11)	the	definite-determiner	$C \rightarrow D$
(12)	[def]	unpronounced definite-determiner	$C \rightarrow D$
(13)	a	indefinite-determiner	$C \rightarrow C$
(15)	be	copula	$C \rightarrow (D_1 \rightarrow S)$
(18)		quasi-transitive verb	$D_1 \rightarrow (D_1 \rightarrow S)$
(19)	who	(uninflected) relative-clause functor	$(D \rightarrow S) \rightarrow (C \rightarrow C)$
(20)	ed	passive-suffix	$[D_2 \rightarrow (D_1 \rightarrow S)] \rightarrow [D_5 \rightarrow C]$
(21)	woman, man, dog, one	common-noun	$C$ [=af $D_0 \rightarrow S$ ]
(22)	mother, father, friend, brother	genitive-noun	$D_6 \rightarrow C$
(23)	virtuous, happy	bare-adjective	$C$ [=af $D_0 \rightarrow S$ ]
(24)	respect, admire	transitive verb	$D_2 \rightarrow (D_1 \rightarrow S)$
(25)	introduce	di-transitive verb	$D_2 \rightarrow [D_3 \rightarrow (D_1 \rightarrow S)]$
(26)	Jay, Kay, Elle, Ray	(uninflected) proper-noun	$D$

Note: case-marking prepositions are somewhat variable in how their arguments are *further* inflected. For purposes of this exercise, include whatever inflection the argument undergoes as part of the case-marker. So for example,

'to him' = 'to' + 'he'  
'of his' = 'of' + 'he'

2. **Rules of Composition**

1. An items of types  $\mathfrak{I}_1, \dots, \mathfrak{I}_k$  combine to form an item of type  $\mathfrak{I}_0$  precisely if

$$\mathfrak{I}_1 ; \dots ; \mathfrak{I}_k \vdash \mathfrak{I}_0$$

according to CGL.

### 3. Exercises - Directions

For each of the following, provide a syntactic analysis.

Write down the *most natural* tree-structure, and assign to each node a type in accordance with the lexicon and rules above.

Make sure that each composition follows the rules of CGL.

Produce the exact sentence in question, not one you (merely) stipulate to be "equivalent".

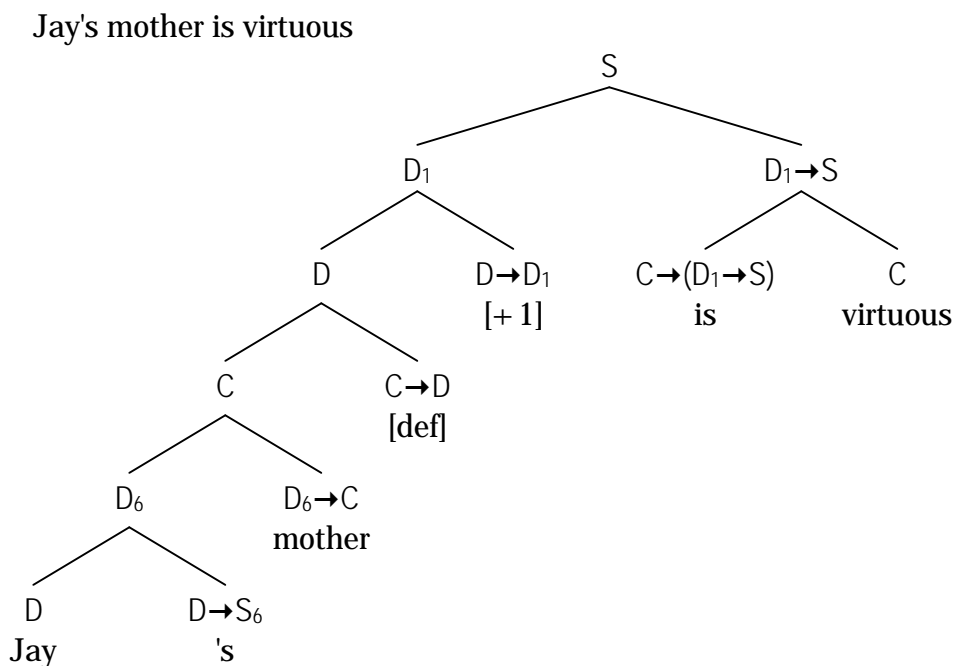
You can, however, take for granted *morphological variations (idiosyncrasies)*, including irregular forms – e.g., the various irregular forms of ‘be’.

If a construction does not comply with the categorial rules as laid out above, explain this.

### 4. Exercises

1. Jay respects every virtuous woman.
2. No virtuous woman respects the man whom Kay admires.
3. Kay's father introduces every brother of Kay to everyone's mother.
4. Every woman who is admired by Kay is someone's mother.
5. Every man whose mother respects Kay is someone's brother.
6. Jay and Kay respect Elle.
7. Elle is Jay's dog but not Kay's dog.
8. Jay's dog is happy.

### 5. Example



**Note carefully:** *Our system* parses phrases *mereologically*. Accordingly, every node except the top node has at least one sister. Also, every node consists of two items – a phrase, and its type. However, to avoid clutter, the phrase is generally omitted when it is understood simply to be the concatenation of its daughter phrases. So, for example, in the above tree, D does not decompose into ‘Jay’, since this makes no sense. Rather, they are the *same node*.