Assignment 2: D-Operator, *-Operator and Numerals

(1) **An Argument that the *-Operator (on VPs) Exists**

Consider the sentence in (a) below, and the fact that it can be interpreted as true in a situation like that described in (b).

a. Sentence:
Dave and Frank built a raft, and so did Sue and Mary.

b. Situation:
Dave (alone) built a raft, Frank (alone) built a raft, and Sue and Mary together built a raft ('as a team').

The fact that (a) can be read as true in situation (b) can be crafted into an argument that a theory admitting only of the 'D'-operator is not sufficient. In this exercise, you will be asked to spell out that argument.

c. Part 1 of the Argument
Show that LF below would not be interpreted as T in situation (b).

[Dave and Frank [built a raft]], and so did [Mary and Sue ~~[build a raft]~~]

d. Part 2 of the Argument
Show that the LF below would not be interpreted as T in situation (b)

[Dave and Frank [D [built a raft]]], and so did [Mary and Sue ~~[D [build a raft]]]~~

e. Part 3 of the Argument
Show that the LF below *would* be interpreted as T in situation (b)

[Dave and Frank [* [built a raft]]], and so did [Mary and Sue ~~[* [build a raft]]]~~

f. Part 4 of the Argument
Put together the facts in (c)-(e) into an argument that one source for 'distributive readings' of VPs is the '*-operator'.

g. Extra Credit:
Point out a possible lacuna in this argument, relating to the fact that the D-operator is assumed to be a VP-modifier.

(2) **Another Argument that the *-Operator (on VPs) Exists (Schwarzchild 1994)**

Consider the sentence in (a) below, and the fact in (b).

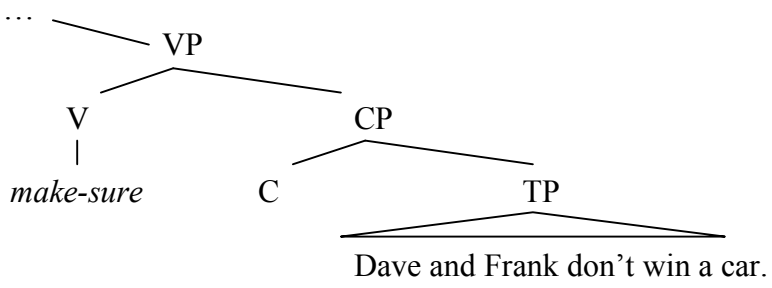
a. <u>The Command Given Out by the Mob Boss</u>
Make sure Dave and Frank don't win a car!

b. <u>The Interesting Fact:</u>
The mob boss's command in (a) is *not successfully executed* if *either* of the following situations hold:

(i) Dave (alone) wins a car, and Frank (alone) wins a car.
(ii) Dave and Frank (together) win a car (by sharing a single lottery ticket).

The fact that the imperative in (a) is intuitively *not* followed if *either* of the situations in (b) hold can be crafted into an argument that a theory admitting only of the 'D'-operator is not sufficient. In this exercise, you will be asked to spell out that argument.

c. <u>Key Semantic Assumption:</u>
If we assume that the structure of the imperative sentence in (a) is something like the following…



… then the imperative is successfully executed *iff* [[TP]] = F

d. <u>Part 1 of the Argument</u>
Show that the LF for TP in (i) below is F in a situation like (ii)

(i) [Dave and Frank [win a car]]
(ii) Dave (alone) wins a car, and Frank (alone) wins a car.

e. <u>Part 2 of the Argument</u>
Show that the LF for TP in (i) below is F in a situation like (ii)

(i) [Dave and Frank [D [win a car]]
(ii) Dave and Frank (together) win a car (by sharing a single lottery ticket).

f. Part 3 of the Argument
Explain how the facts in (d) and (e), together with the assumption in (c), show that TP can have *neither* the structure in (di) nor (ei).

g. Part 4 of the Argument
Show that the LF for TP in (i) below is T in a situation like (ii) *and* T in a situation like (iii).

(i) [Dave and Frank [* [win a car]]
(ii) Dave (alone) wins a car, and Frank (alone) wins a car.
(iii) Dave and Frank (together) win a car (by sharing a single lottery ticket).

h. Part 5 of the Argument
Put the facts in (f) and (g) together into an argument that the LF in (g) is necessary to predict the observed fact in (b).

(3) **Quick Side Question**

The arguments in (1) and (2) purportedly provide evidence *for* the existence of the *-operator (on VPs). Do either of these arguments provide evidence *against* the existence of the D-operator (on VPs)?

(4) **Quick Question on Numerals**

A classic GQ semantics for *at most five* would be as in (a) below.

a. $[\lambda P : \lambda Q : \mid P \cap Q \mid \leq 5]$
'the intersection of P and Q contains less than five entities'

Please explain why the following, based upon our new semantics for *five*, would not work for *at most five*.

b. $[\lambda P : \lambda Q : \exists x . P(x) = T \text{ and } \mid \{ y : y \leq x \ \& \ AT(y) \} \mid \leq 5 \ \& \ Q(x) = T.$