

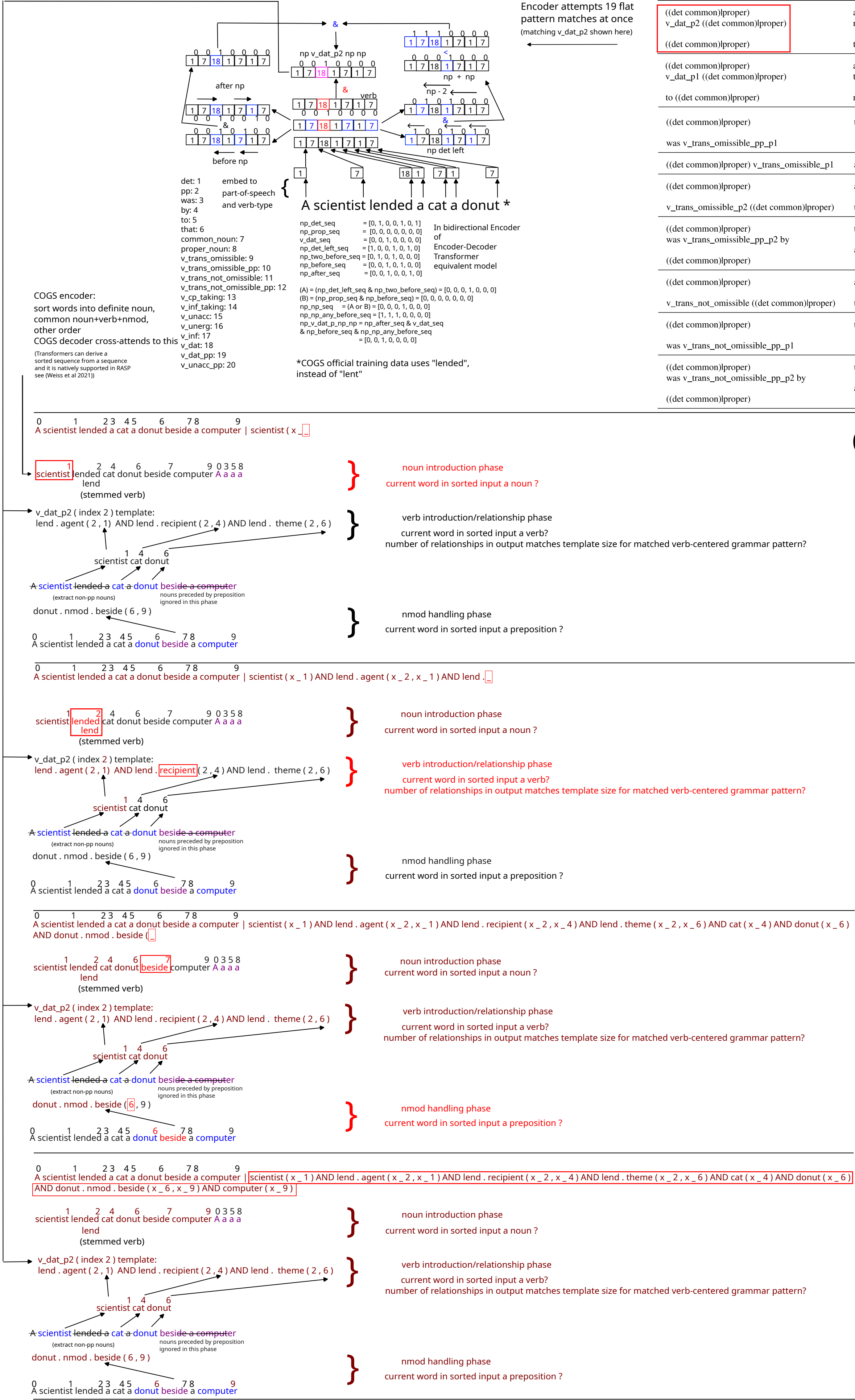
a.

Encoder

Encoder is same as for ReCOGS

b.

Encoder attempts 19 flat pattern matches at once (matching v_dat_p2 shown here)



COGS Decoder loop

c(i).

c(ii).

c(iii).

c(iv).

Figure: RASP-for-COGS model decoding a COGS training example to logical form, for the pattern np v_dat_p2 np np.
(a) The acausal Transformer-Encoder flat matches (fixed Transformer depth indep. of input length) determining the noun-verb relationship template (b) (also Table 1) for the main verb. The Decoder loop (c) autoregressively generates the logical form c(iv) in phases: c(i) noun introductions, c(ii) verb relationships, and c(iii) pp nmods are shown.