

Note on Match-seeking and Match-repelling particles

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Between two primitive particles

Let us consider two V -particles which are not composite – they are given with their semantic signatures respectively:

$$ssig(V') = [p'_0 \ a'_{0,1} \ p'_1 \ p'_0 \ a'_{0,2} \ p'_2 \ p'_0 \ a'_{0,3} \ p'_3 \ \dots \ p'_l \ a'_{l,n} \ p'_n]$$

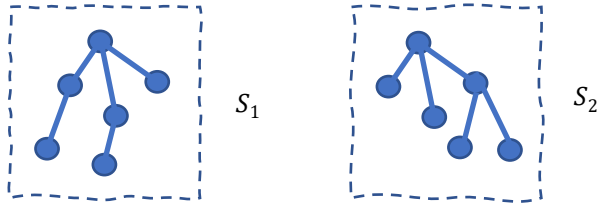
$$ssig(V'') = [p''_0 \ a''_{0,1} \ p''_1 \ p''_0 \ a''_{0,2} \ p''_2 \ p''_0 \ a''_{0,3} \ p''_3 \ \dots \ p''_i \ a''_{i,n} \ p''_n]$$

Here each of the quantities p denotes the property signature vector of the corresponding property P of the V particle. The vector $a_{r,s}$ denotes the signature of the property association particle $A_{r,s}$ which binds to a pair of properties P_r and P_s in the property graph \mathcal{P} of the V particle.

Match-seeking particle MA binds to a subgraph \mathcal{S} of the property graph \mathcal{P} of the V particle.

Between two semantic structures

Let us have two semantic structures S_1 and S_2 .



Let the semantic signature of S_1 is given with:

$$ssig(S_1) = [V_1 \ A_{1,2} \ V_2 \ A_{1,3} \ V_3 \ \dots \ A_{r,p} \ V_p]$$

and the semantic signature of S_2 is given with:

Between a primitive V particle and a semantic structure S