## Note on Match-seeking and Match-repelling particles

## D. Gueorguiev 11/7/2021

## Between two primitive particles

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

$$ssig(V') = \begin{bmatrix} \mathbf{p}'_0 & \mathbf{a}'_{0,1} & \mathbf{p}'_1 & \mathbf{p}'_0 & \mathbf{a}'_{0,2} & \mathbf{p}'_2 & \mathbf{p}'_0 & \mathbf{a}'_{0,3} & \mathbf{p}'_3 & \dots & \mathbf{p}'_l & \mathbf{a}'_{l,n} & \mathbf{p}'_n \end{bmatrix}$$

$$ssig(V'') = \begin{bmatrix} \mathbf{p}''_0 & \mathbf{a}''_{0,1} & \mathbf{p}''_1 & \mathbf{p}''_0 & \mathbf{a}''_{0,2} & \mathbf{p}''_2 & \mathbf{p}''_0 & \mathbf{a}''_{0,3} & \mathbf{p}''_3 & \dots & \mathbf{p}''_i & \mathbf{a}''_{l,n} & \mathbf{p}''_n \end{bmatrix}$$

## Between two semantic structures

Let us have two semantic structures  $S_1$  and  $S_2$ .



 $S_1$ 



Let the semantic signature of  $S_1$  is given with:

$$ssig(S_1) = [\mathbf{V}_1 \ \mathbf{A}_{1,2} \ \mathbf{V}_2 \ \mathbf{A}_{1,3} \ \mathbf{V}_3 \ \dots \ \mathbf{A}_{r,p} \ \mathbf{V}_p]$$

and the semantic signature of  $\mathcal{S}_2$  is given with: