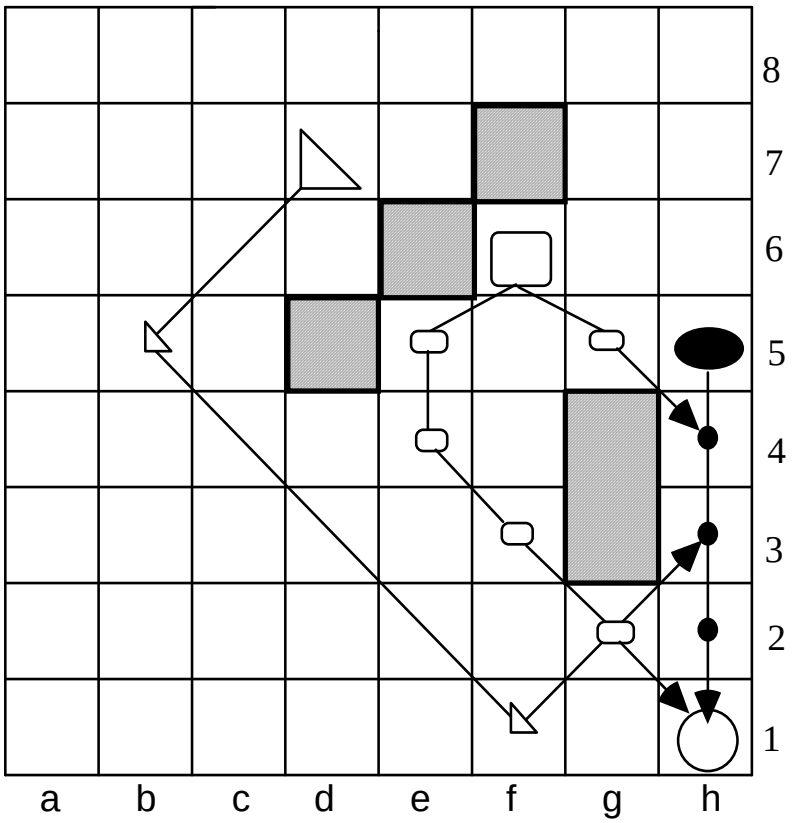
Lecture 10.

Please read previous handouts and the book on LG. You should have clear understanding of the Grammar of Zones. Try yourself to apply this grammar for generating more complex Zones.

$$\boldsymbol{t}(\text{BOMBER}, t_B,5)\boldsymbol{t}(\text{FIGHTER}, t_F,5)\boldsymbol{t}(\text{MISSILE}, t_M,5)\boldsymbol{t}(\text{MISSILE}, t_M^1, 3)\ \boldsymbol{t}(\text{FIGHTER}, t_F^1, 2),$$

where

$$t_B=\boldsymbol{a}(\text{h5})\boldsymbol{a}(\text{h4})\boldsymbol{a}(\text{h3})\boldsymbol{a}(\text{h2})\boldsymbol{a}(\text{h1}),$$
$$t_F=\boldsymbol{a}(\text{f6})\boldsymbol{a}(\text{e5})\boldsymbol{a}(\text{e4})\boldsymbol{a}(\text{f3})\boldsymbol{a}(\text{g2})\boldsymbol{a}(\text{h1}),$$
$$t_M=\boldsymbol{a}(\text{d7})\boldsymbol{a}(\text{b5})\boldsymbol{a}(\text{f1})\boldsymbol{a}(\text{g2})\boldsymbol{a}(\text{h1}),$$
$$t_M^1=\boldsymbol{a}(\text{d7})\boldsymbol{a}(\text{b5})\boldsymbol{a}(\text{f1})\boldsymbol{a}(\text{h3}),$$
$$t_F^1=\boldsymbol{a}(\text{f6})\boldsymbol{a}(\text{g5})\boldsymbol{a}(\text{h4})$$



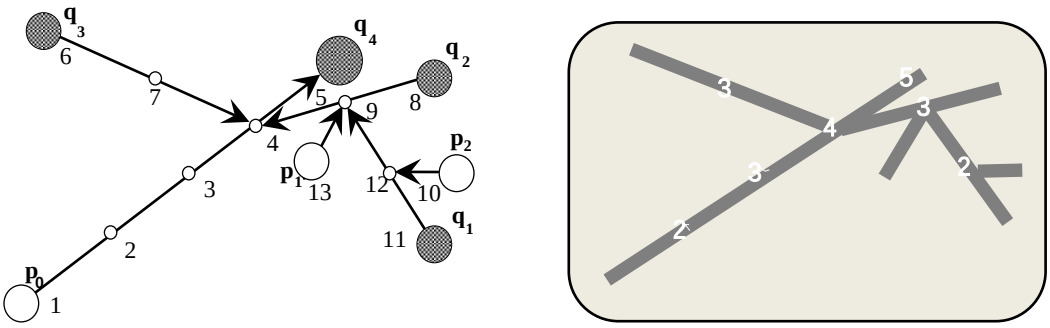


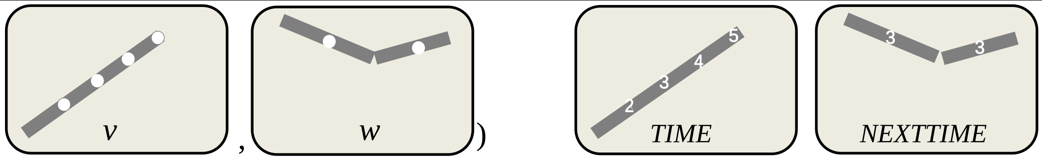
Figure 1 Construction stream sketching the time distribution for a zone generation grammar

Table 1 Construction stream sketching zone generation including the trajectories generation and the time distribution

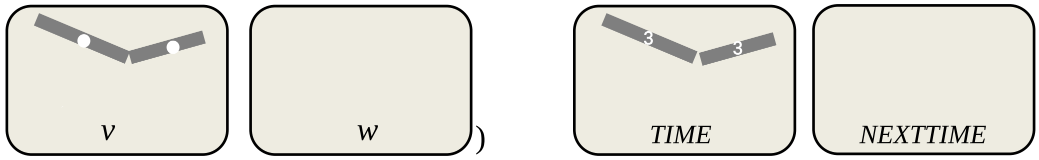
$\boldsymbol{S}(u,$	*v*	*w*	*TIME*	*NEXTTIME*
$\rightarrow \boldsymbol{t}(p_0, \boldsymbol{a}(1)\boldsymbol{a}(2)\boldsymbol{a}(3)\boldsymbol{a}(4)\boldsymbol{a}(5), 5)$				
$\boldsymbol{A}(u,$	*v*	*w*	*TIME*	*NEXTTIME*
$\rightarrow \boldsymbol{t}(p_0, \boldsymbol{a}(1)\boldsymbol{a}(2)\boldsymbol{a}(3)\boldsymbol{a}(4)\boldsymbol{a}(5), 5)\ \boldsymbol{t}(q_2, \boldsymbol{a}(8)\boldsymbol{a}(9)\boldsymbol{a}(4), 4)$				

Table 5 (continued)

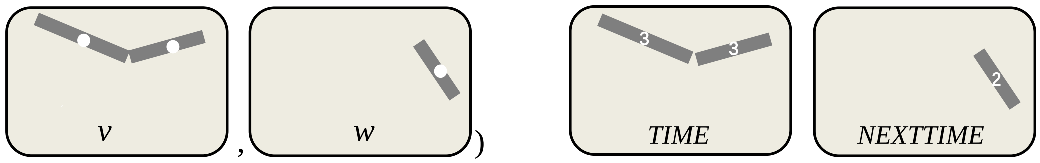
$\boldsymbol{A}(u,$	*v*	*w*	*TIME*	*NEXTTIME*
$\rightarrow \boldsymbol{t}(p_0, \boldsymbol{a}(1)\boldsymbol{a}(2)\boldsymbol{a}(3)\boldsymbol{a}(4)\boldsymbol{a}(5), 5)\ \boldsymbol{t}(q_2, \boldsymbol{a}(8)\boldsymbol{a}(9)\boldsymbol{a}(4), 4)\ \boldsymbol{t}(q_3, \boldsymbol{a}(6)\boldsymbol{a}(7)\boldsymbol{a}(4), 4)$				

$\boldsymbol{A}(u,$ 

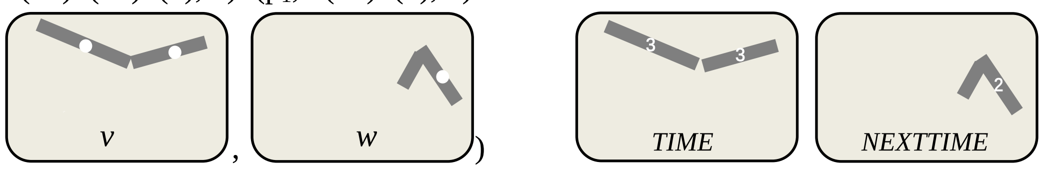
$\rightarrow \boldsymbol{t}(\mathrm{p}_0, \boldsymbol{a}(1)\boldsymbol{a}(2)\boldsymbol{a}(3)\boldsymbol{a}(4)\boldsymbol{a}(5), 5)\ \boldsymbol{t}(\mathrm{q}_2, \boldsymbol{a}(8)\boldsymbol{a}(9)\boldsymbol{a}(4), 4)\ \boldsymbol{t}(\mathrm{q}_3, \boldsymbol{a}(6)\boldsymbol{a}(7)\boldsymbol{a}(4), 4)$

$\boldsymbol{A}(u,$ 

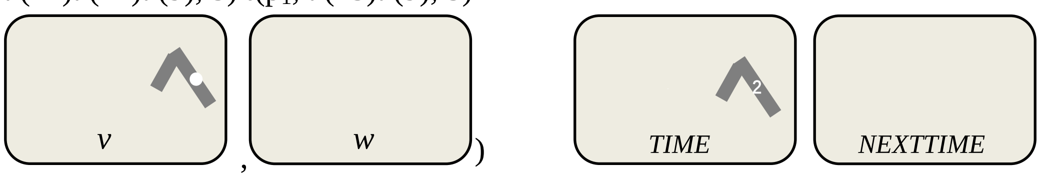
$\rightarrow \boldsymbol{t}(\mathrm{p}_0, \boldsymbol{a}(1)\boldsymbol{a}(2)\boldsymbol{a}(3)\boldsymbol{a}(4)\boldsymbol{a}(5), 5)\ \boldsymbol{t}(\mathrm{q}_2, \boldsymbol{a}(8)\boldsymbol{a}(9)\boldsymbol{a}(4), 4)\ \boldsymbol{t}(\mathrm{q}_3, \boldsymbol{a}(6)\boldsymbol{a}(7)\boldsymbol{a}(4), 4)$
$\boldsymbol{t}(\mathrm{q}_1, \boldsymbol{a}(11)\boldsymbol{a}(12)\boldsymbol{a}(9), 3)$

$\boldsymbol{A}(u,$ 

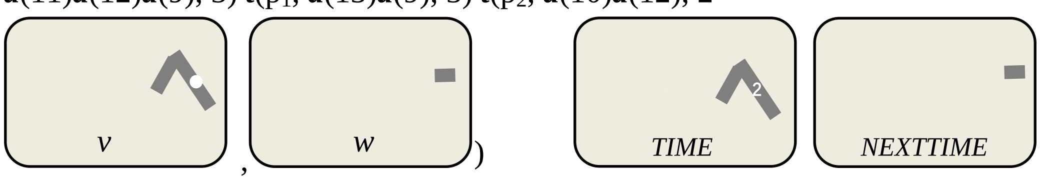
$\rightarrow \boldsymbol{t}(\mathrm{p}_0, \boldsymbol{a}(1)\boldsymbol{a}(2)\boldsymbol{a}(3)\boldsymbol{a}(4)\boldsymbol{a}(5), 5)\ \boldsymbol{t}(\mathrm{q}_2, \boldsymbol{a}(8)\boldsymbol{a}(9)\boldsymbol{a}(4), 4)\ \boldsymbol{t}(\mathrm{q}_3, \boldsymbol{a}(6)\boldsymbol{a}(7)\boldsymbol{a}(4), 4)$
$\boldsymbol{t}(\mathrm{q}_1, \boldsymbol{a}(11)\boldsymbol{a}(12)\boldsymbol{a}(9), 3)\ \boldsymbol{t}(\mathrm{p}_1, \boldsymbol{a}(13)\boldsymbol{a}(9), 3)$

$\boldsymbol{A}(u,$ 

$\rightarrow \boldsymbol{t}(\mathrm{p}_0, \boldsymbol{a}(1)\boldsymbol{a}(2)\boldsymbol{a}(3)\boldsymbol{a}(4)\boldsymbol{a}(5), 5)\ \boldsymbol{t}(\mathrm{q}_2, \boldsymbol{a}(8)\boldsymbol{a}(9)\boldsymbol{a}(4), 4)\ \boldsymbol{t}(\mathrm{q}_3, \boldsymbol{a}(6)\boldsymbol{a}(7)\boldsymbol{a}(4), 4)$
$\boldsymbol{t}(\mathrm{q}_1, \boldsymbol{a}(11)\boldsymbol{a}(12)\boldsymbol{a}(9), 3)\ \boldsymbol{t}(\mathrm{p}_1, \boldsymbol{a}(13)\boldsymbol{a}(9), 3)$

$\boldsymbol{A}(u,$ 

$\rightarrow \boldsymbol{t}(\mathrm{p}_0, \boldsymbol{a}(1)\boldsymbol{a}(2)\boldsymbol{a}(3)\boldsymbol{a}(4)\boldsymbol{a}(5), 5)\ \boldsymbol{t}(\mathrm{q}_2, \boldsymbol{a}(8)\boldsymbol{a}(9)\boldsymbol{a}(4), 4)\ \boldsymbol{t}(\mathrm{q}_3, \boldsymbol{a}(6)\boldsymbol{a}(7)\boldsymbol{a}(4), 4)$
$\boldsymbol{t}(\mathrm{q}_1, \boldsymbol{a}(11)\boldsymbol{a}(12)\boldsymbol{a}(9), 3)\ \boldsymbol{t}(\mathrm{p}_1, \boldsymbol{a}(13)\boldsymbol{a}(9), 3)\ \boldsymbol{t}(\mathrm{p}_2, \boldsymbol{a}(10)\boldsymbol{a}(12), 2$

$\boldsymbol{A}(u,$ 

$\rightarrow \boldsymbol{t}(\mathrm{p}_0, \boldsymbol{a}(1)\boldsymbol{a}(2)\boldsymbol{a}(3)\boldsymbol{a}(4)\boldsymbol{a}(5), 5)\ \boldsymbol{t}(\mathrm{q}_2, \boldsymbol{a}(8)\boldsymbol{a}(9)\boldsymbol{a}(4), 4)\ \boldsymbol{t}(\mathrm{q}_3, \boldsymbol{a}(6)\boldsymbol{a}(7)\boldsymbol{a}(4), 4)$
$\boldsymbol{t}(\mathrm{q}_1, \boldsymbol{a}(11)\boldsymbol{a}(12)\boldsymbol{a}(9), 3)\ \boldsymbol{t}(\mathrm{p}_1, \boldsymbol{a}(13)\boldsymbol{a}(9), 3)\ \boldsymbol{t}(\mathrm{p}_2, \boldsymbol{a}(10)\boldsymbol{a}(12), 2)$