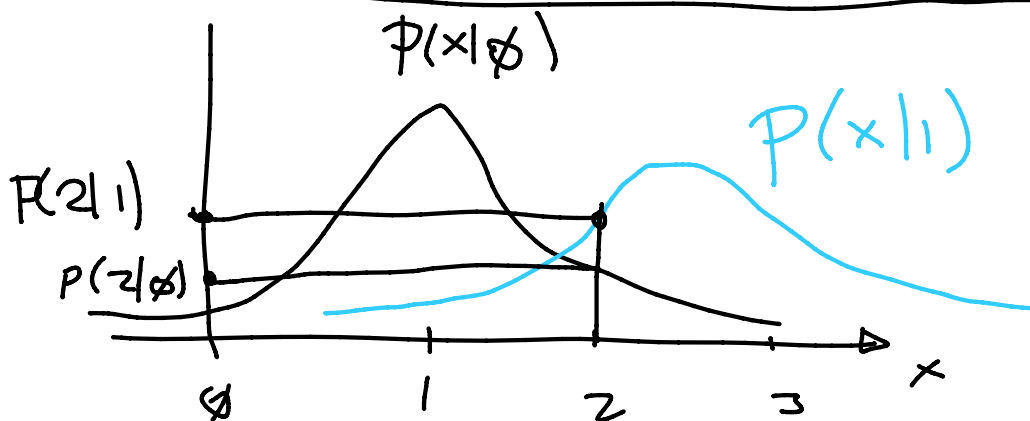


$$\lambda = (\underbrace{\Pi, A, B}) \quad B = \left(\begin{array}{cc} P(x|\phi) & P(x|1) \end{array} \right)$$

$$\Pi = \begin{pmatrix} 1 \\ \phi \end{pmatrix} \quad A = \begin{pmatrix} \phi & 1 \\ 0.8 & 0.2 \\ 0.2 & 0.8 \end{pmatrix}$$

$$B = \left(\begin{array}{cc} P(x|\phi) & P(x|1) \end{array} \right)$$



$$P(x_t | \alpha_t = q_i) = \sum_j P(\alpha_t = q_j | \alpha_{t-1} = q_i) P(\beta_1, \dots, \beta_{t-1}, \alpha_{t-1} = q_j) =$$

$$\underbrace{P(\beta_1, \dots, \beta_{t-1}, \alpha_{t-1} = 1 | \mathcal{I}_t)}_{\emptyset} = \dots = P(\beta_1, \dots, \beta_{t-1}, \alpha_{t-1} = 1 | \mathcal{I}_t) =$$

$\boxed{2, 1.85, 3.1} \rightarrow \text{VITERBI} \rightarrow T, \text{ESTATE}$
 $\circ \Delta \text{OP} \text{Y} \text{O}.$

$\rightarrow \Delta_x \cdot P(2, 1.85, 3.1) = \emptyset$

	2	1.85	3.1
0	$P(2 \emptyset) \frac{1}{2}$		
1	$P(2 1) \cdot \eta(1)$ \emptyset		\emptyset

2	1.4	3	0.5	2
0	1	1	0	1

$$\Pi = \begin{pmatrix} 2/2 \\ \emptyset/2 \end{pmatrix} = \begin{pmatrix} 1 \\ \emptyset \end{pmatrix}$$

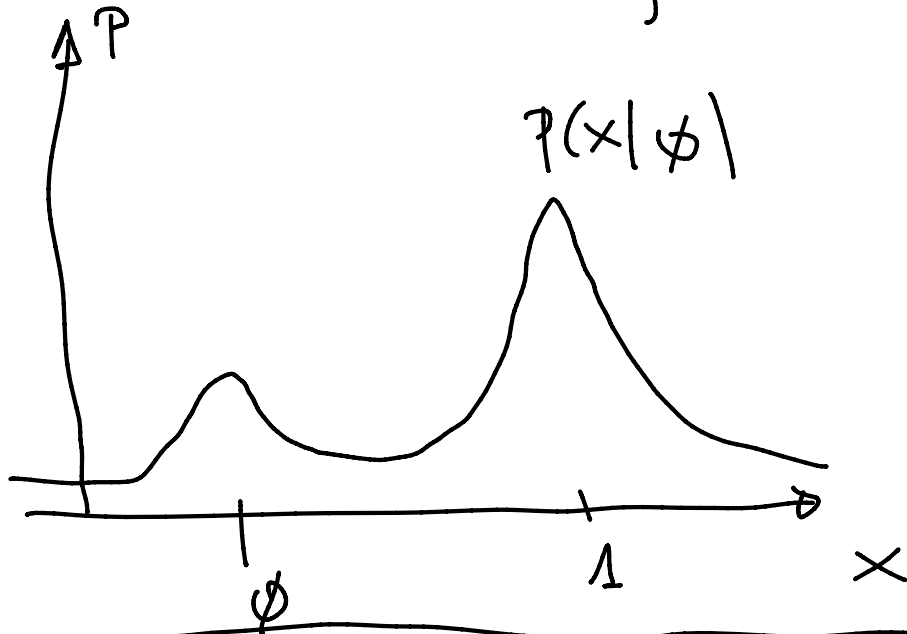
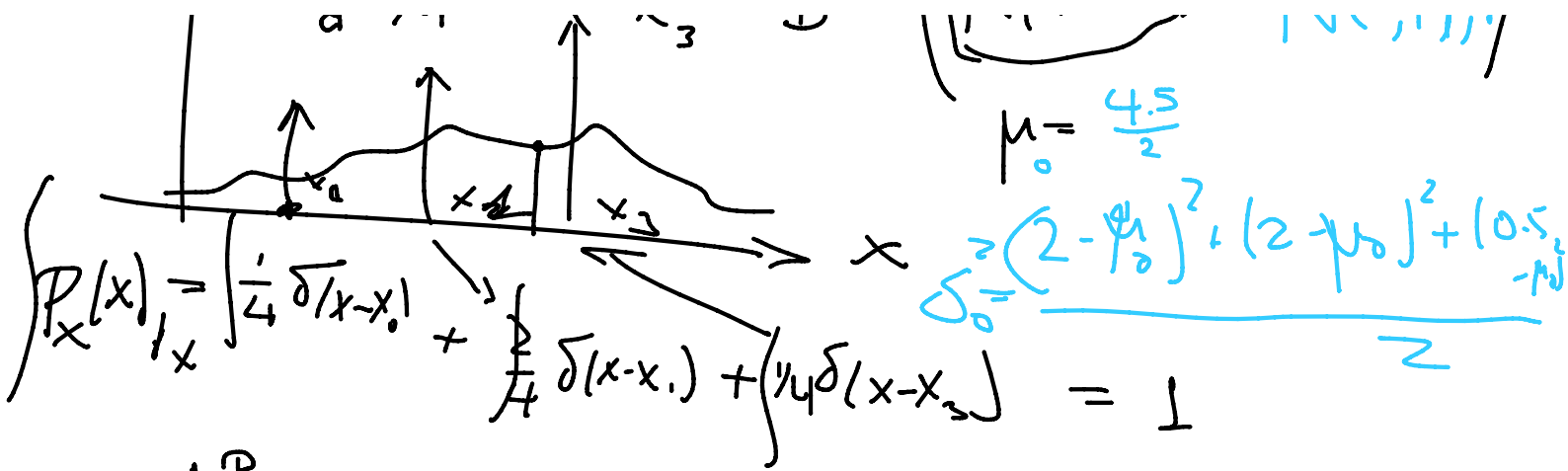
2	1.1	2.2
\emptyset	1	1

$$A = \begin{pmatrix} \emptyset/3 & 3/3 \\ 1/3 & 2/3 \end{pmatrix} = \begin{pmatrix} \emptyset & 1 \\ 1/3 & 2/3 \end{pmatrix}$$

\uparrow x_0 x_1 \uparrow x_3

$$B = \begin{pmatrix} P(x|\emptyset) \\ N(x, \mu, \sigma) \end{pmatrix} \quad N(x, \mu, \sigma)$$

45



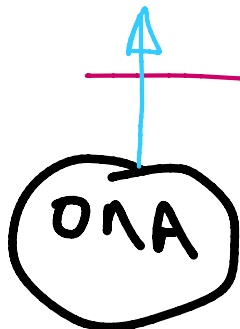
$$P(x|\phi) = \sum_{i=1}^N \alpha_i N(x, \mu_i, \sigma_i)$$

$$\sum_{i=1}^N \alpha_i = 1 \quad \forall \alpha_i > 0, \quad i=1, N$$

$$\textcircled{x_i} \quad i=1, N$$

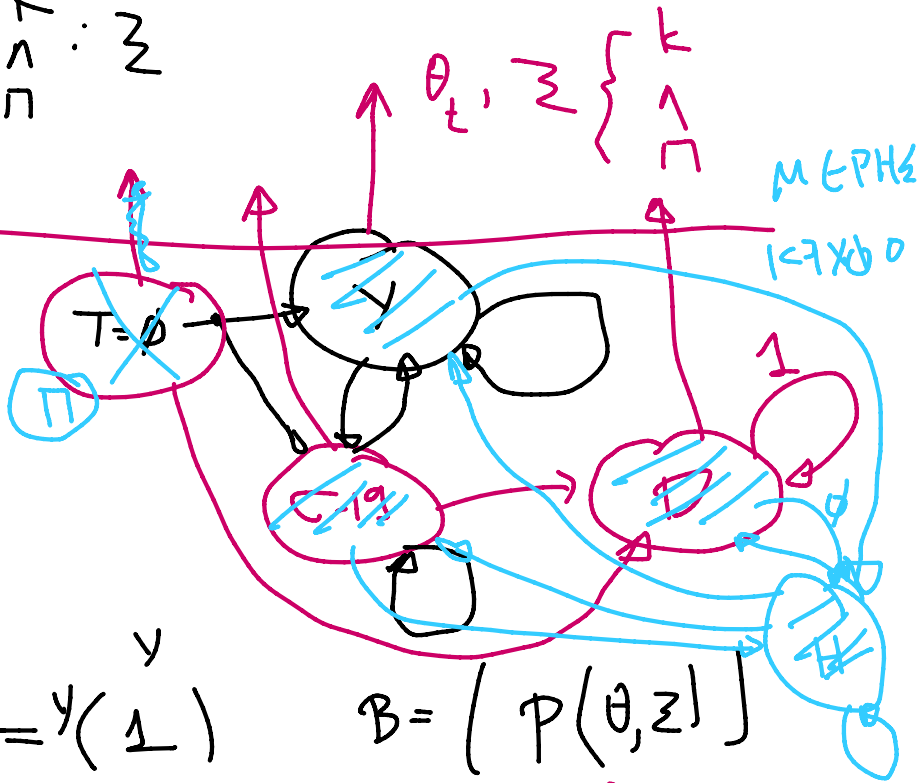
$M_1: \text{ΟΕΡΜΟΚΡΑΣΙΑ } \Theta \in \mathbb{R}$ |-----|
34 43

$M_2: \text{ΒΗΣΙΜΟ } \begin{cases} K \\ \wedge \\ \Pi \end{cases} : \mathbb{Z}$



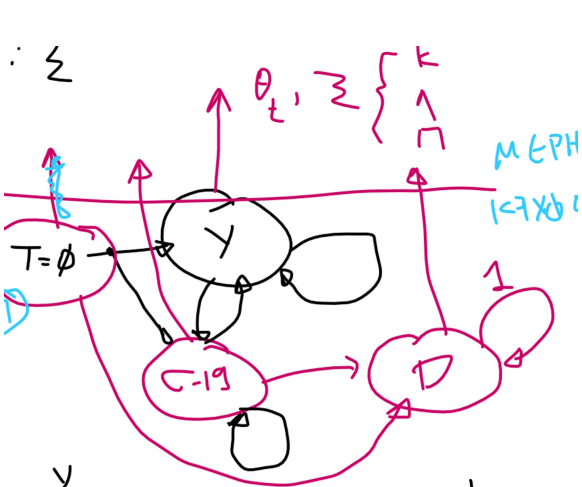
$\Lambda = (\Pi, A, B)$

$\Pi = (\perp) \quad A = \begin{matrix} y \\ \perp \end{matrix} \quad B = (P(\theta, z))$



P	$(36.2, K)$	$(37, \Lambda)$	$(35.4, \Lambda)$
y	$P(36.2, K) \perp$		

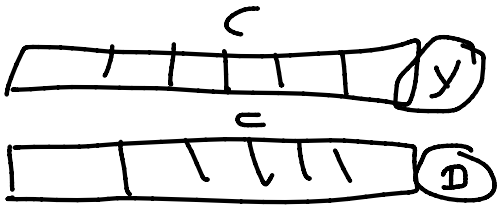
- $P(\theta, z=K)$
- $P(\theta, z=\Lambda)$
- $P(\theta, z=\Pi)$



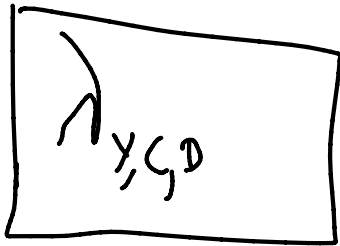
$\Pi = \begin{matrix} y \\ C \\ D \end{matrix} \begin{pmatrix} 1 \\ \emptyset \\ \emptyset \end{pmatrix} \begin{pmatrix} 0.99 \\ 0.00 \\ \emptyset \end{pmatrix}$

	y	C	D	y
y	~ 1		10^{-6}	

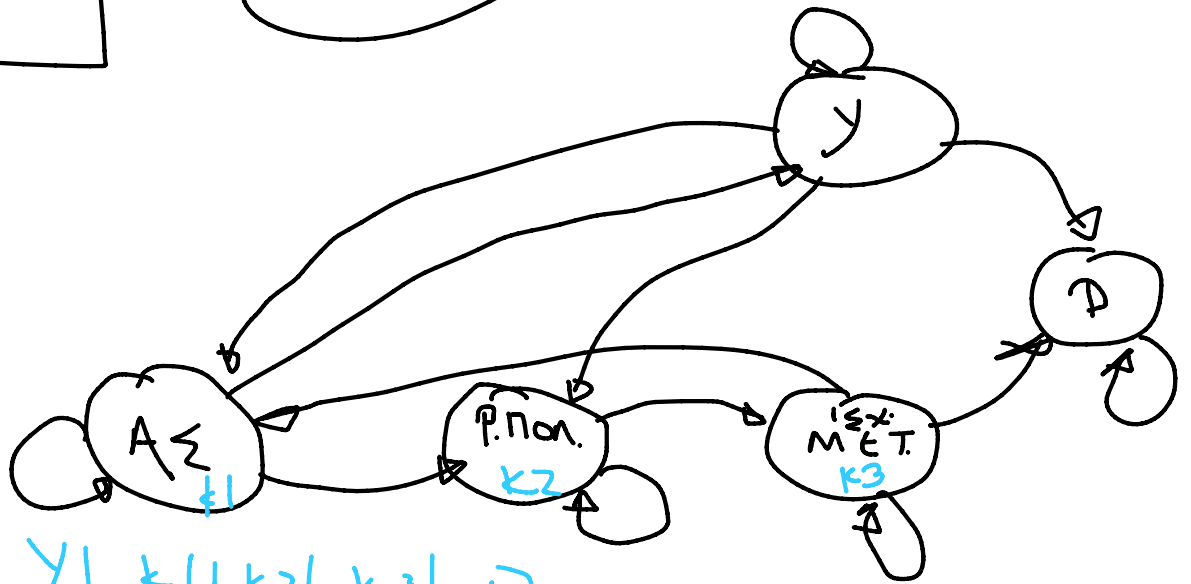


$$A = \begin{matrix} & y & \sim 1 & & \phi 0 \\ \begin{matrix} c \\ D \end{matrix} & & & & \\ y & & \phi & \phi & 1 \end{matrix}$$


$$B = \begin{matrix} y \\ c \\ D \end{matrix} \left(\begin{array}{l} P(\theta, z | y) \\ P(\theta, z | c) \\ P(\theta, z | D) \end{array} \right)$$



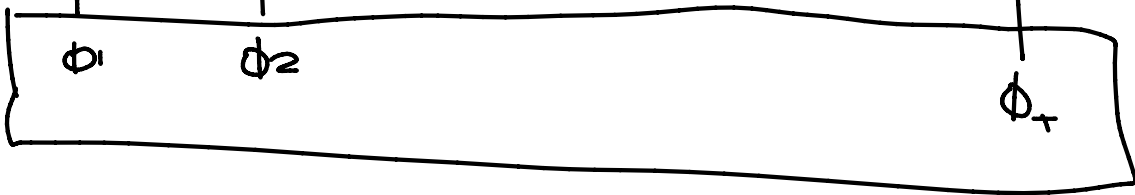
ΗΛΙΑΣΗ



$$A = \begin{matrix} & y & k1 & k2 & k3 & D \\ \begin{matrix} y \\ k1 \\ k2 \\ k3 \end{matrix} & & & & & \\ y & & 1/4 & 1/4 & 1/4 & \phi & 1/4 \\ k1 & & 1/3 & 1/3 & 1/3 & \phi & \phi \\ k2 & & \phi & \phi & 1/2 & 1/2 & \phi \\ k3 & & \phi & 1/2 & \phi & 1/2 & 1/2 \end{matrix} \quad D = 1$$

$$A = \begin{pmatrix} \frac{1}{3} & \emptyset & \frac{1}{3} & \frac{1}{3} & \frac{1}{3} & \emptyset \\ \emptyset & \emptyset & \emptyset & \emptyset & \emptyset & 1 \end{pmatrix} \quad B = \begin{pmatrix} \end{pmatrix}$$

$$\Pi = \begin{pmatrix} \frac{1}{4} \\ \frac{1}{4} \\ \frac{1}{4} \\ \frac{1}{4} \\ \emptyset \end{pmatrix} \begin{matrix} y \\ K_1 \\ K_2 \\ K_3 \\ D \end{matrix}$$



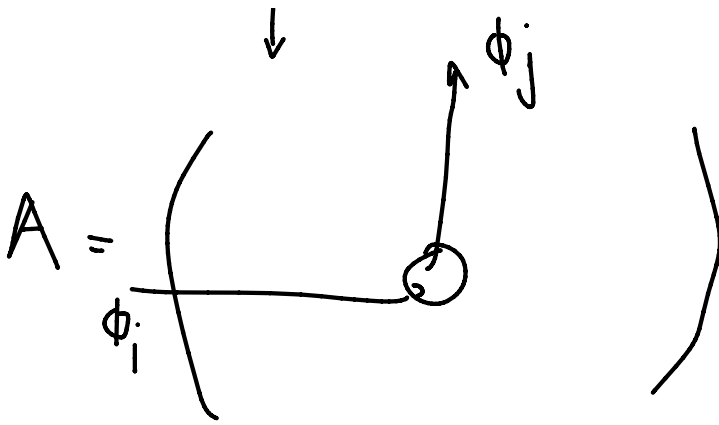
$\phi_i \in \Phi \text{ Π Η Μ Α Τ Α}$



$$\lambda = \left(\begin{matrix} \uparrow \\ \downarrow \end{matrix} \right) (A, B)$$

$\uparrow \phi_j$

$$P(\phi_i | \phi_i)$$



$$P(\phi_i | \psi_i)$$

$$P(\psi | \psi)$$