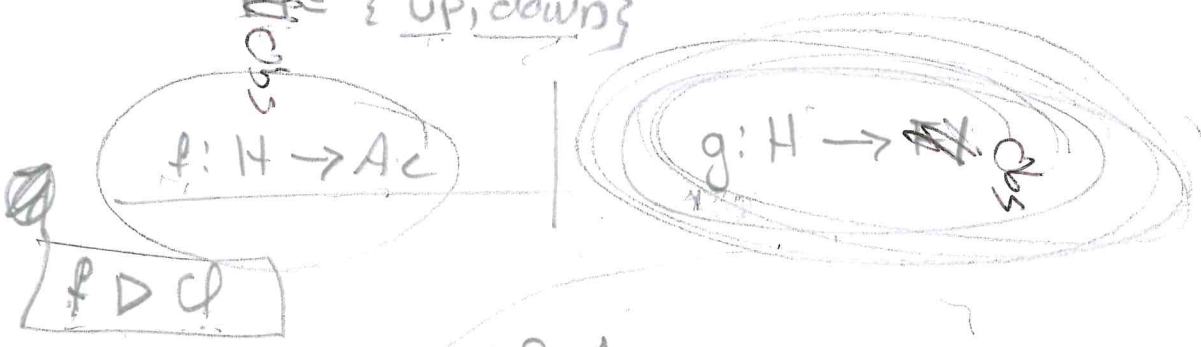
LTL

$Ac = \{ chop, \text{[illegible]}, idle \}$.

$\Pi = \{ up, down \}$



$f \triangleright \varphi$

UP 1

$\varphi = \Box \bigwedge_{a \in Ac} [a \rightarrow \bigwedge_{b \neq a \in A} \neg b]$

$\wedge$

$\Box (\quad \rightarrow \quad F1)$

$\wedge$

$\Box (\bigwedge_{f \in F1} f \wedge idle \rightarrow \bigcirc f)$

$\wedge$

$\Box (down \wedge chop \rightarrow \bigcirc down)$

$\wedge$

$\Box (up \wedge chop \rightarrow \bigcirc (up \vee down))$

projection of observations

$\wedge$

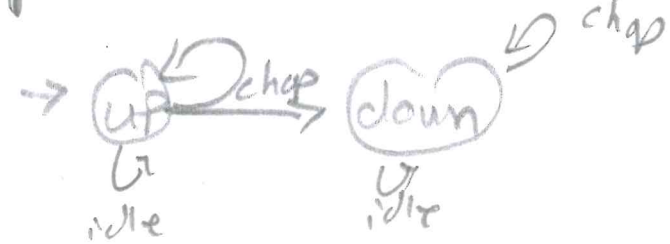
$\Box \Diamond chop \rightarrow \Diamond down$

g_i = "freight i"

steel tree X

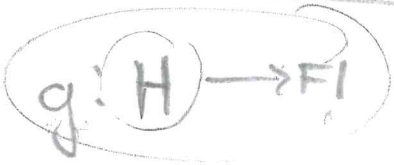
imp

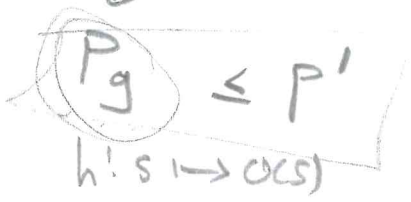
P'

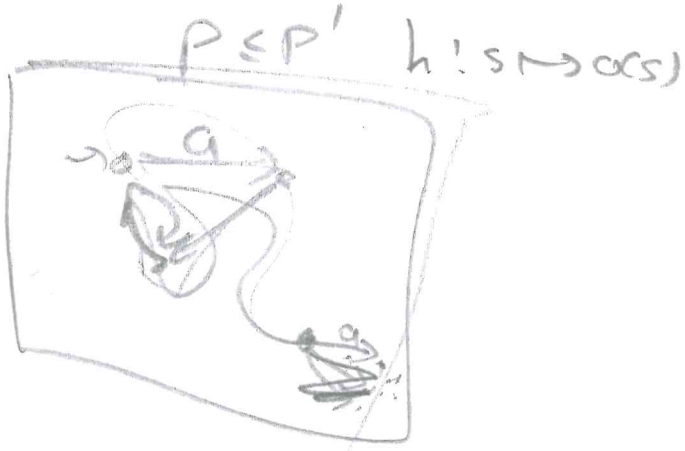


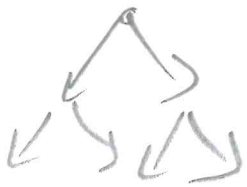
P'

"$\Box \Diamond chop \rightarrow \Diamond down$"

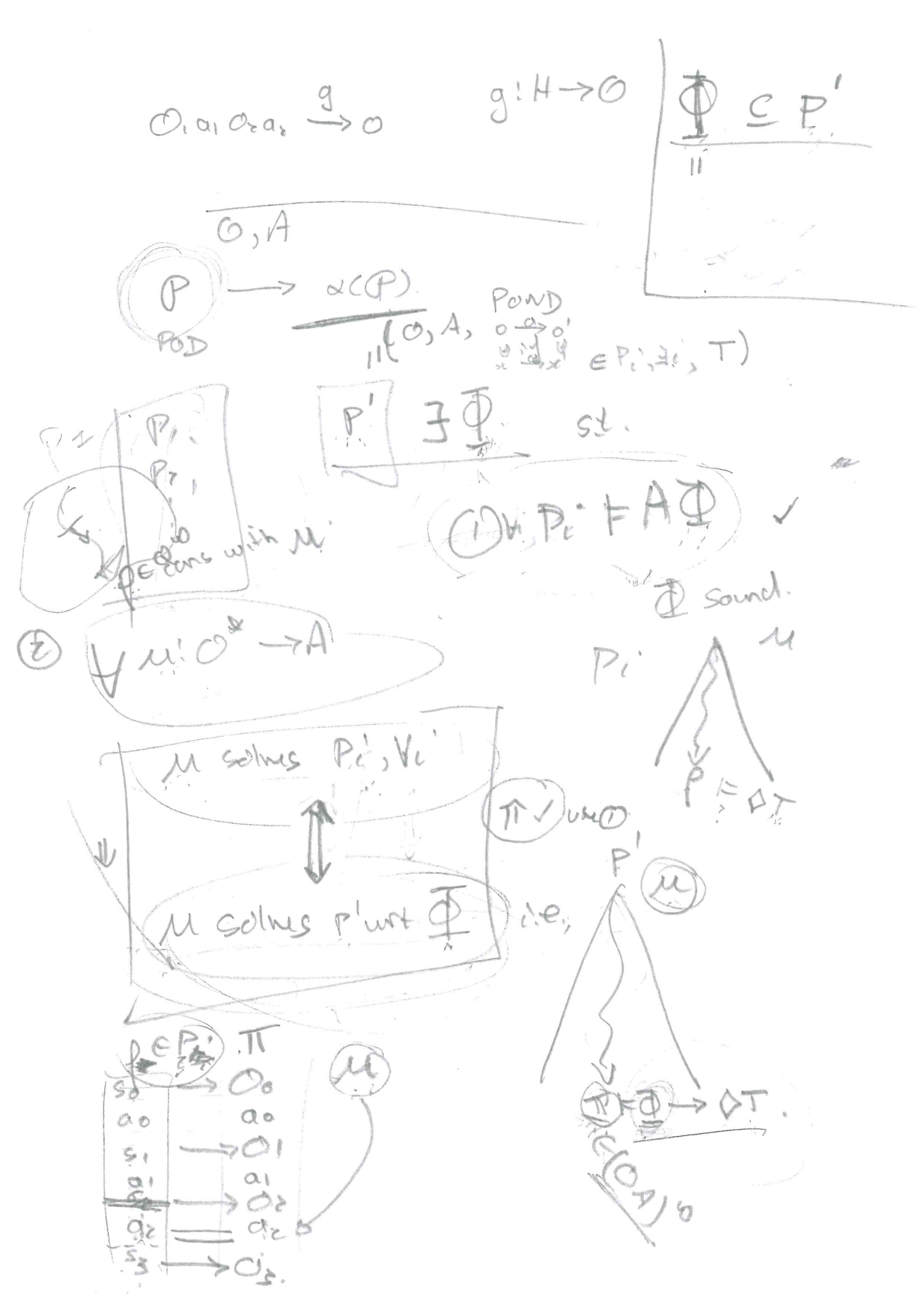








↳



$O_1 a_1 O_2 a_2 \xrightarrow{g} O$ $\quad g : H \to O$

$\Phi \subseteq P'$

$\parallel$

O, A

$P \longrightarrow \alpha(P)$

POD

$\parallel (O, A, \text{POND}\ o \xrightarrow{a} o' \ \forall x \in P_i, \exists i, T)$

P' $\exists \Phi$ s.t.

P_1

P_2

$\vdots$

$\rho \in$ cons with μ

(1) $\forall P_i \models A\Phi$ ✓

Φ sound.

(2) $\forall \mu : O^* \to A$

P_i $\quad \mu$

$\rho \models \Delta T$

μ solves $P_i', \forall i$

$\Updownarrow$

μ solves P' wrt Φ i.e.,

Π ✓ use (1)

P' $\quad \mu$

$\Pi \models \Phi \to \Delta T$.

$\in (OA)^\omega$

$\rho \in P_i'$ $\quad \Pi$

s_0	$\to O_0$
a_0	a_0
s_1	$\to O_1$
a_1	a_1
s_2	$\to O_2$
a_2	$= a_2$
s_3	$\to O_3$.

μ