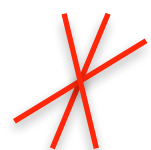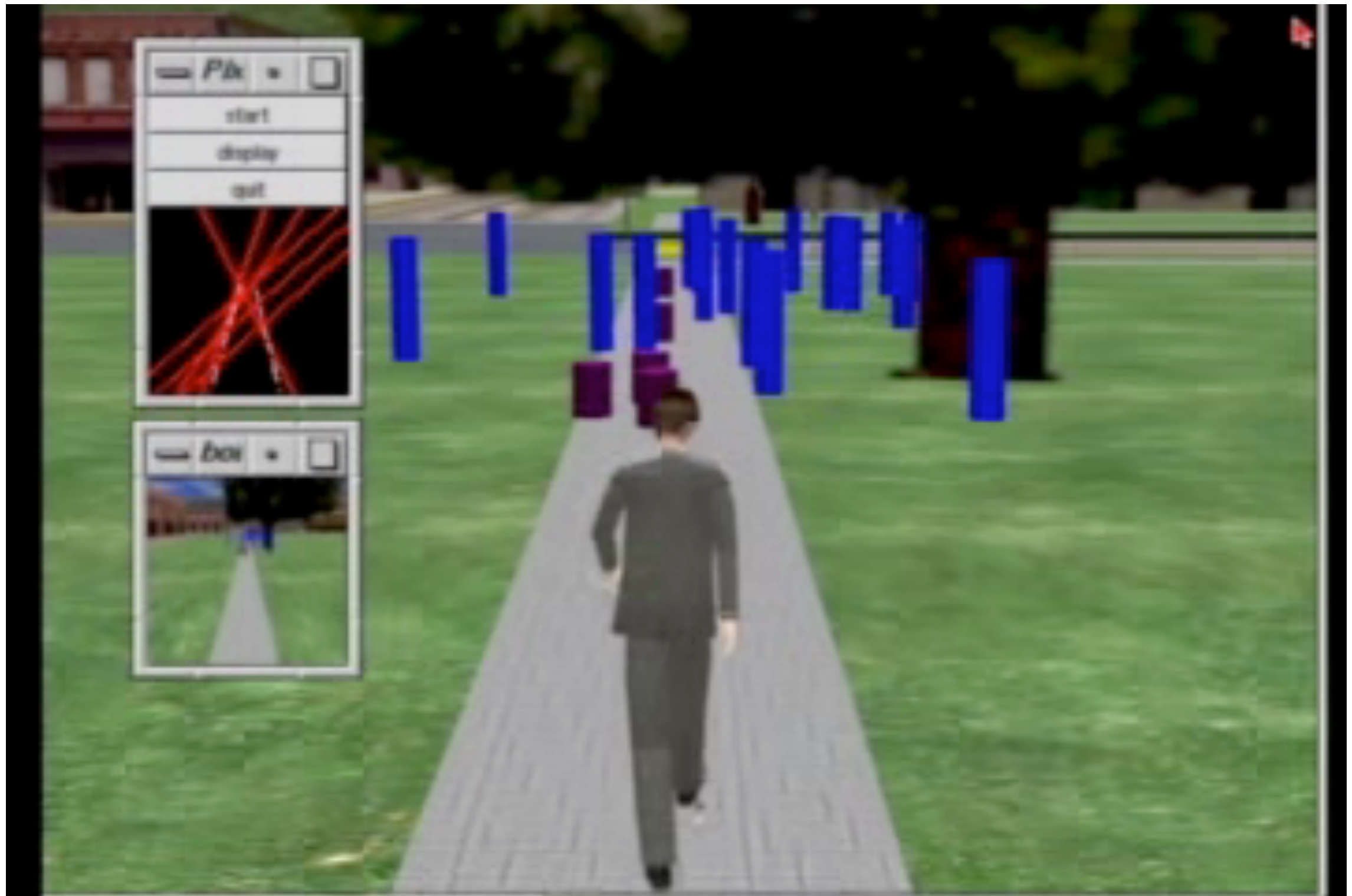# Summary

Modules that compete for action choices
have the promise of good scaling behavior

Agent "Walter" walks down a sidewalk, avoiding blue obstacles and picking up purple litter
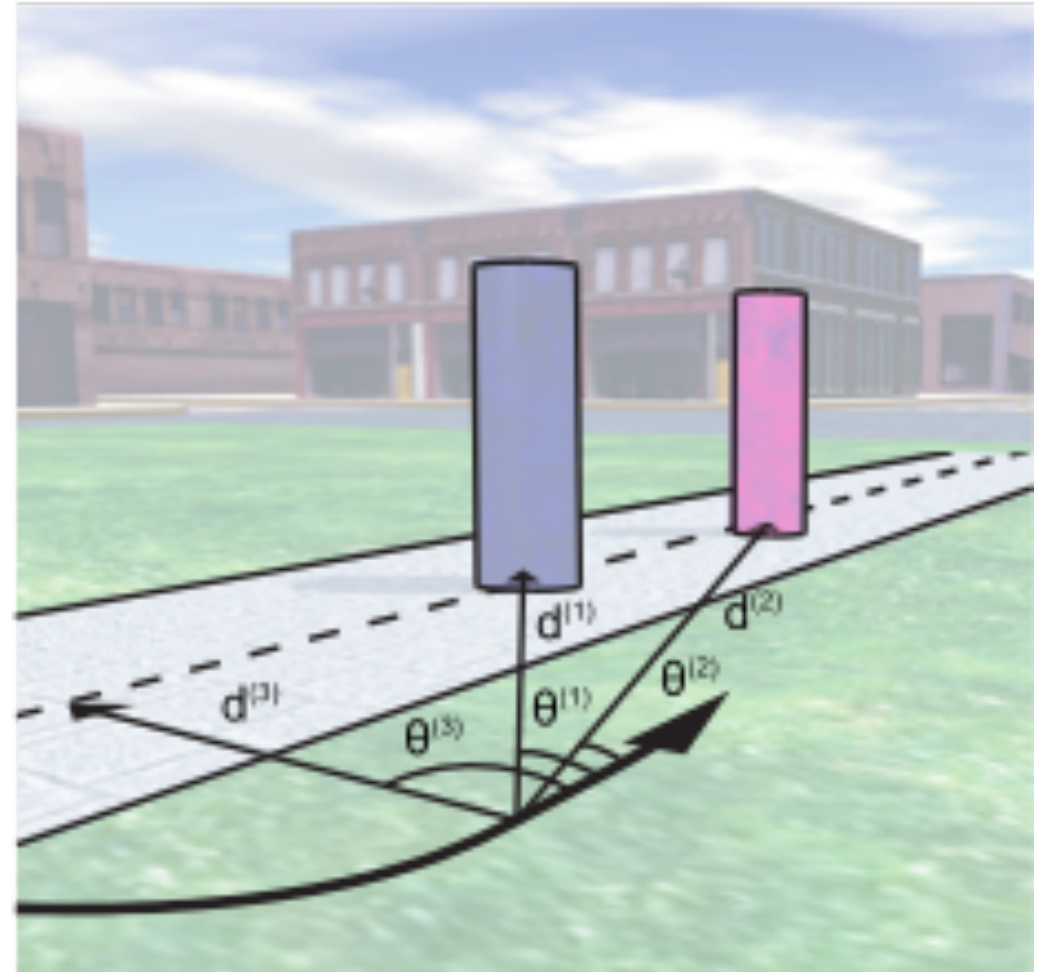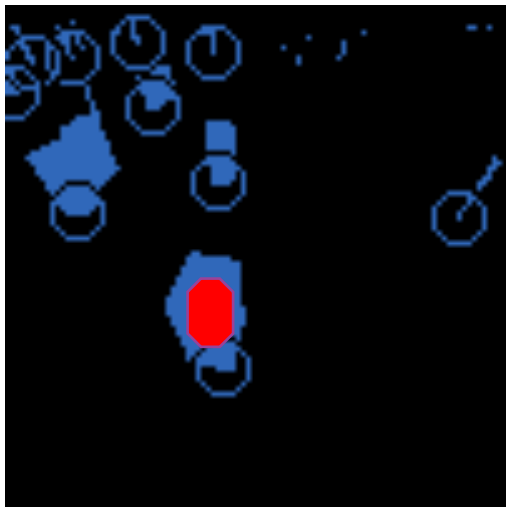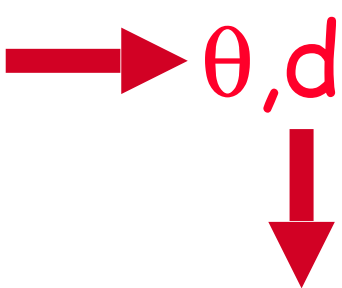

Sidewalk

Obstacle

Litter

State Spaces definitions

Obstacle & Litter: heading and distance to target

Sidewalk: shortest distance to sidewalk center

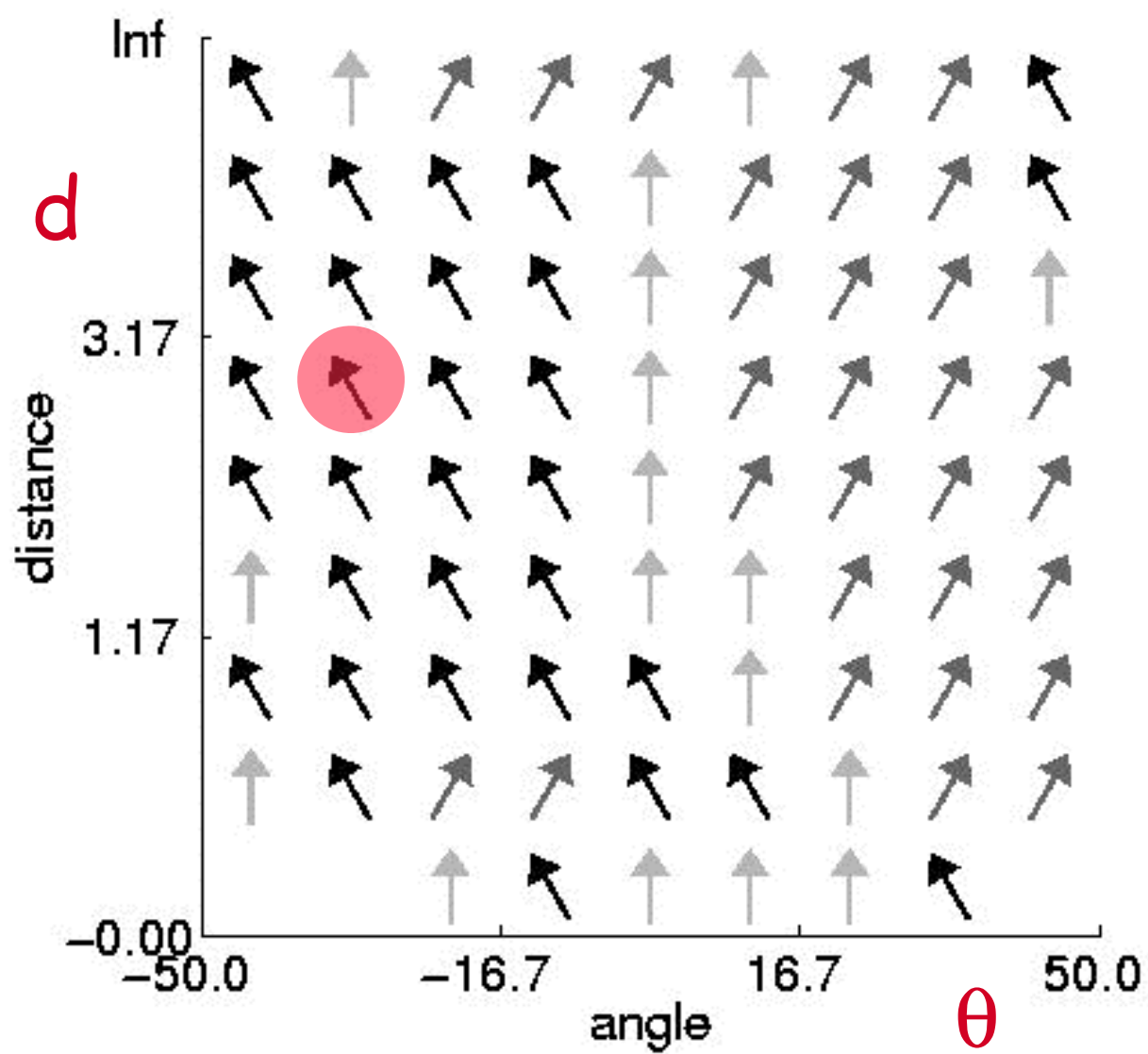State defined by nearest target

θ, d
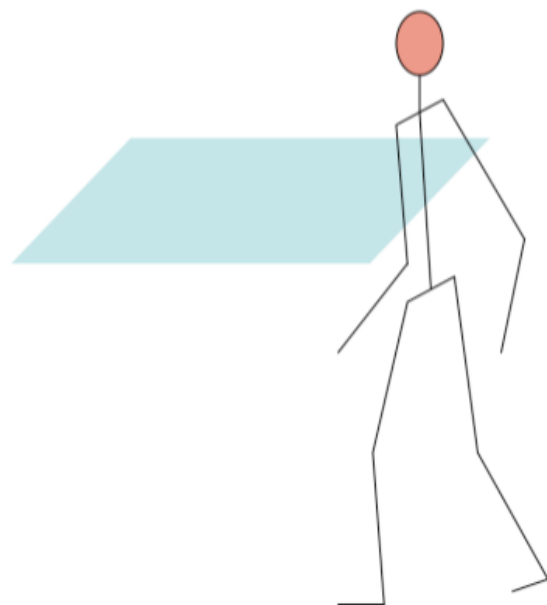
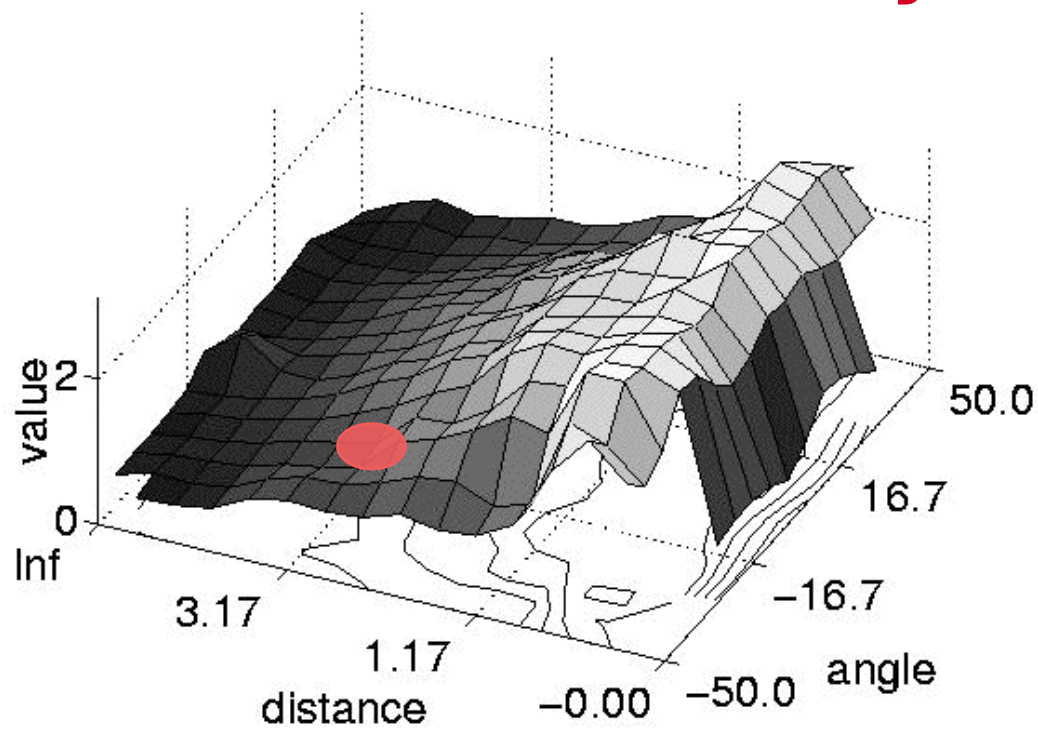Policy

Module for Litter Cleanup

V is value of Policy

d

distance

Inf

3.17

1.17

−0.00

−50.0   −16.7   16.7   50.0
angle θ

Heading from agent's perspective

value
2
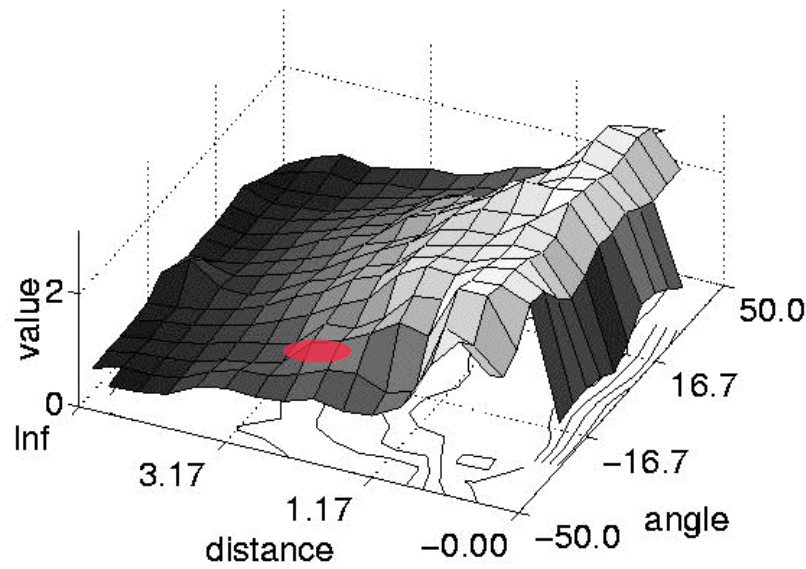0
Inf
3.17
1.17
−0.00
distance
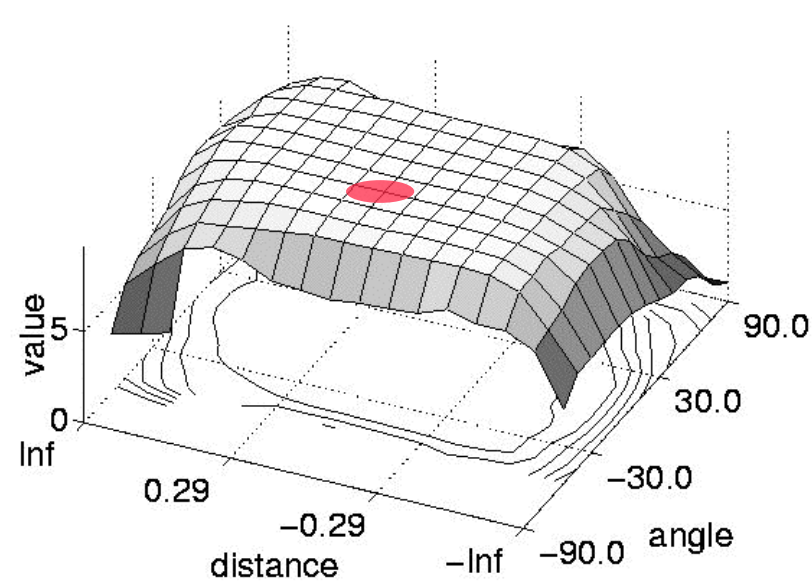
50.0
16.7
−16.7
−50.0   angle

V(s) =max$_a$ Q(s,a)

Learned Module Behaviors

Red dot indicates each module's state

Overhead view of trajectories showing stages in learning
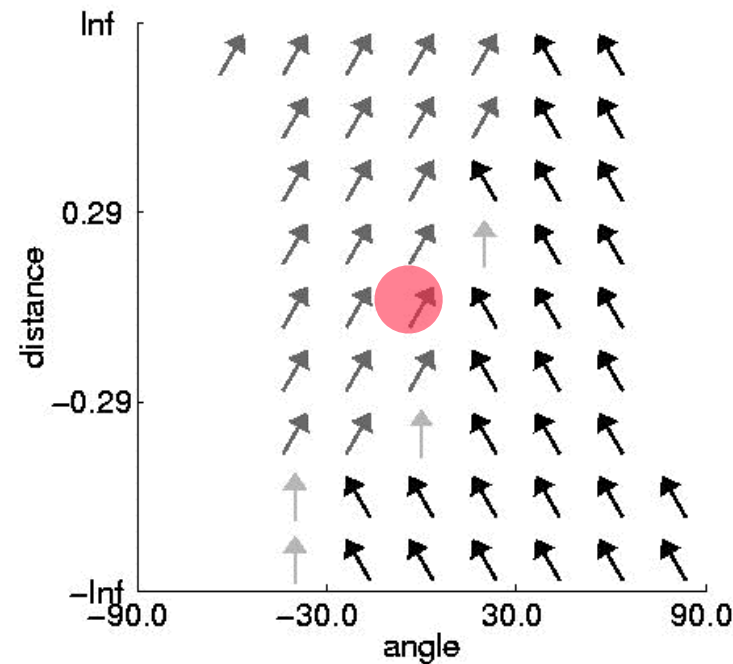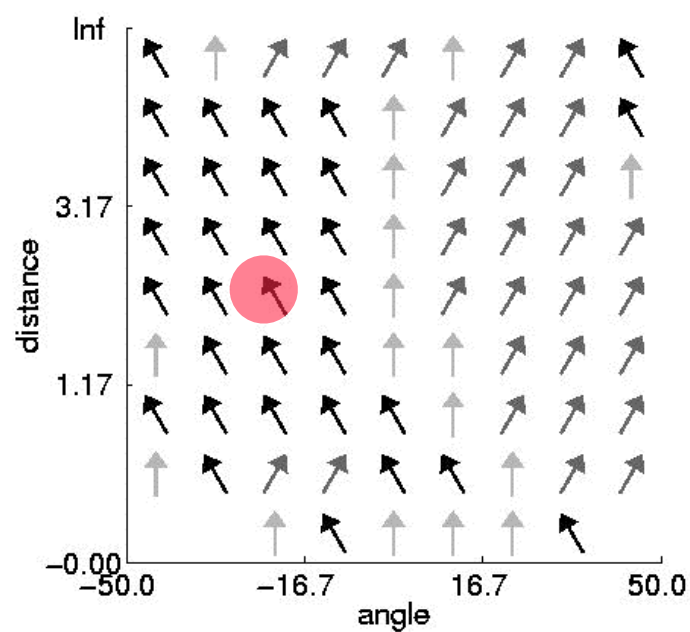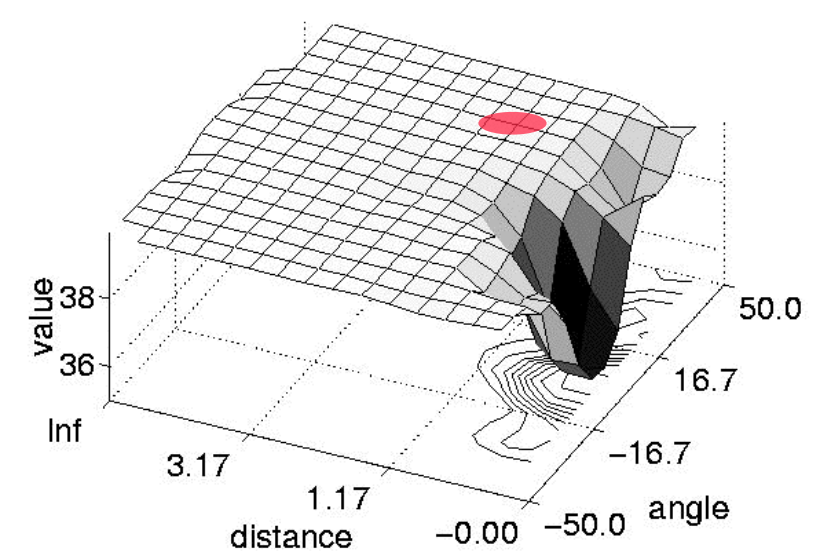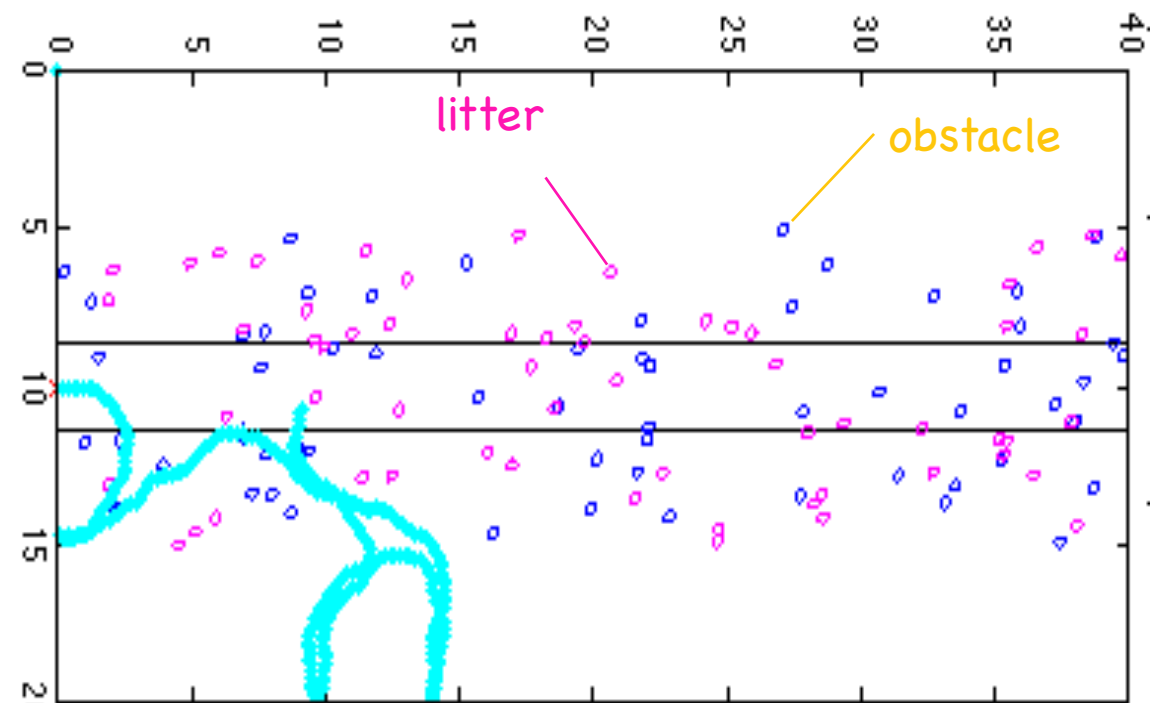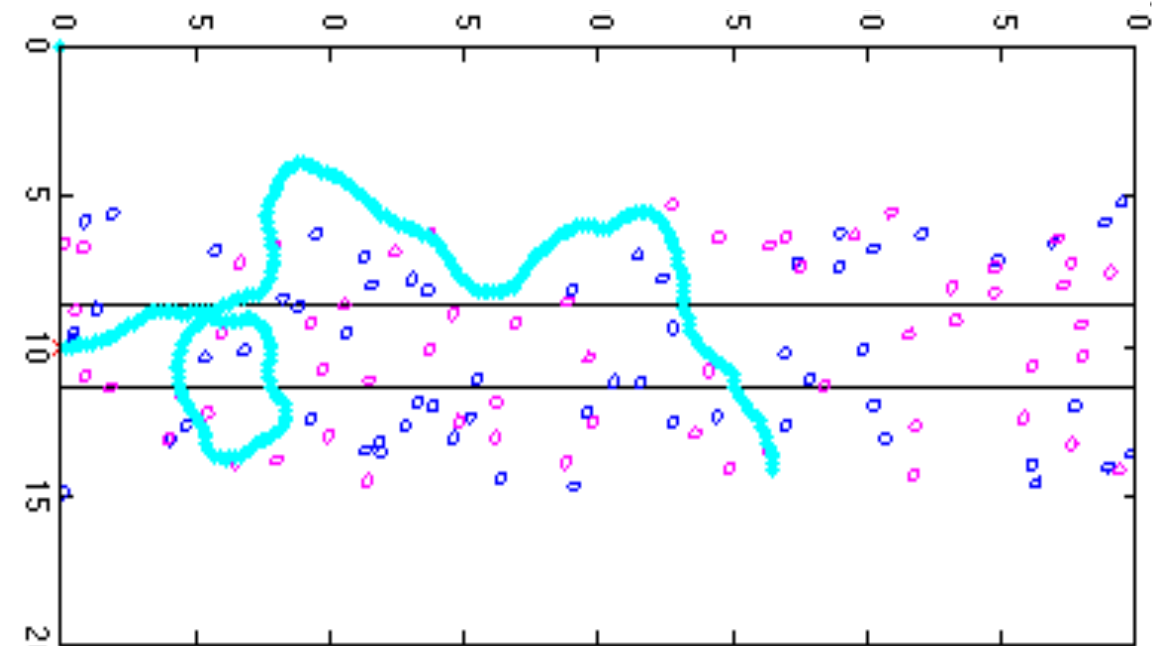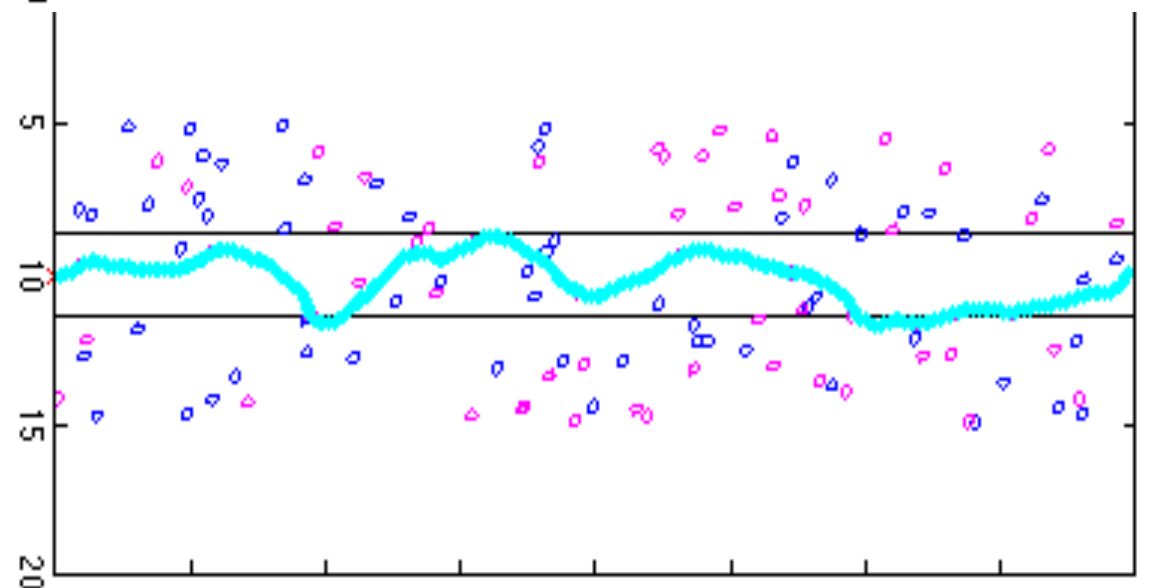

litter

obstacle

Initial performance

After 100 episodes

After 150 episodes