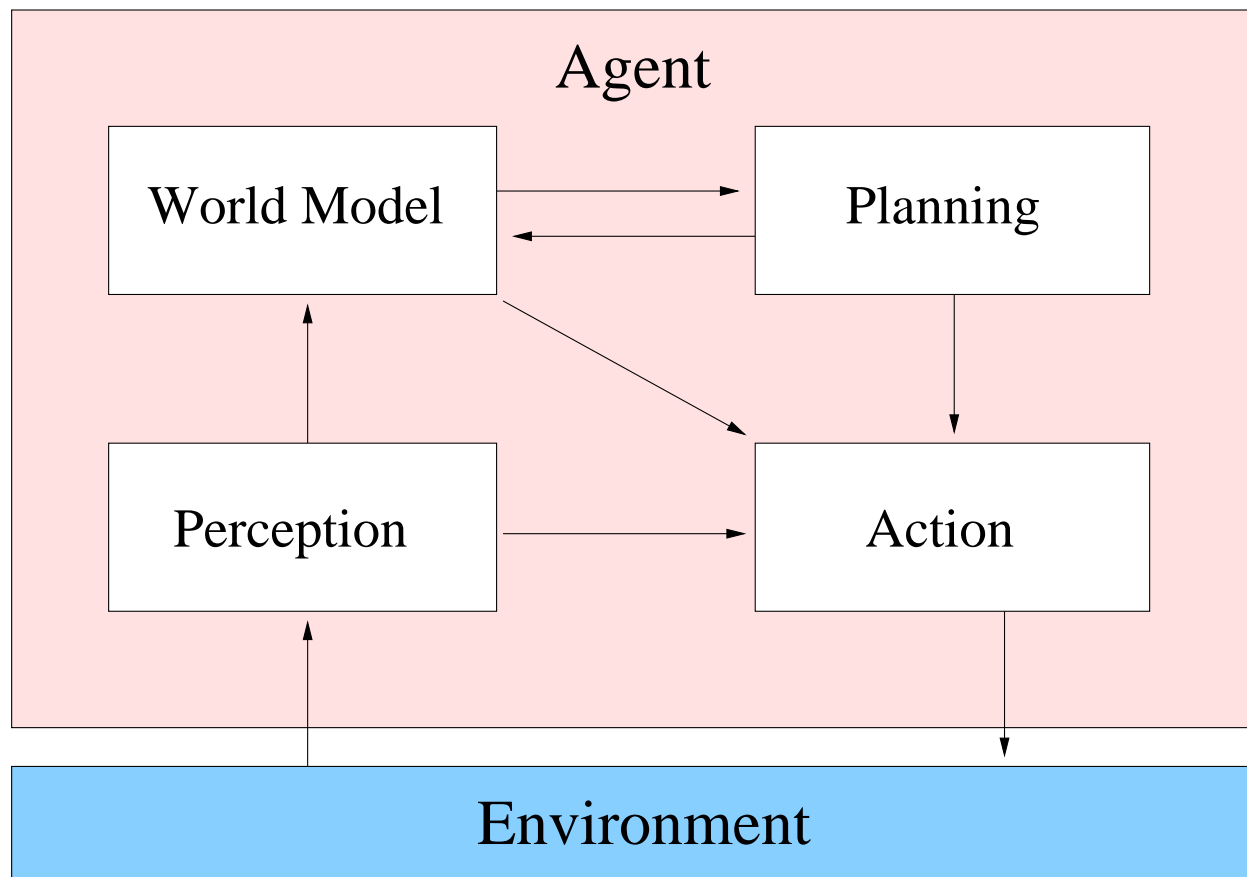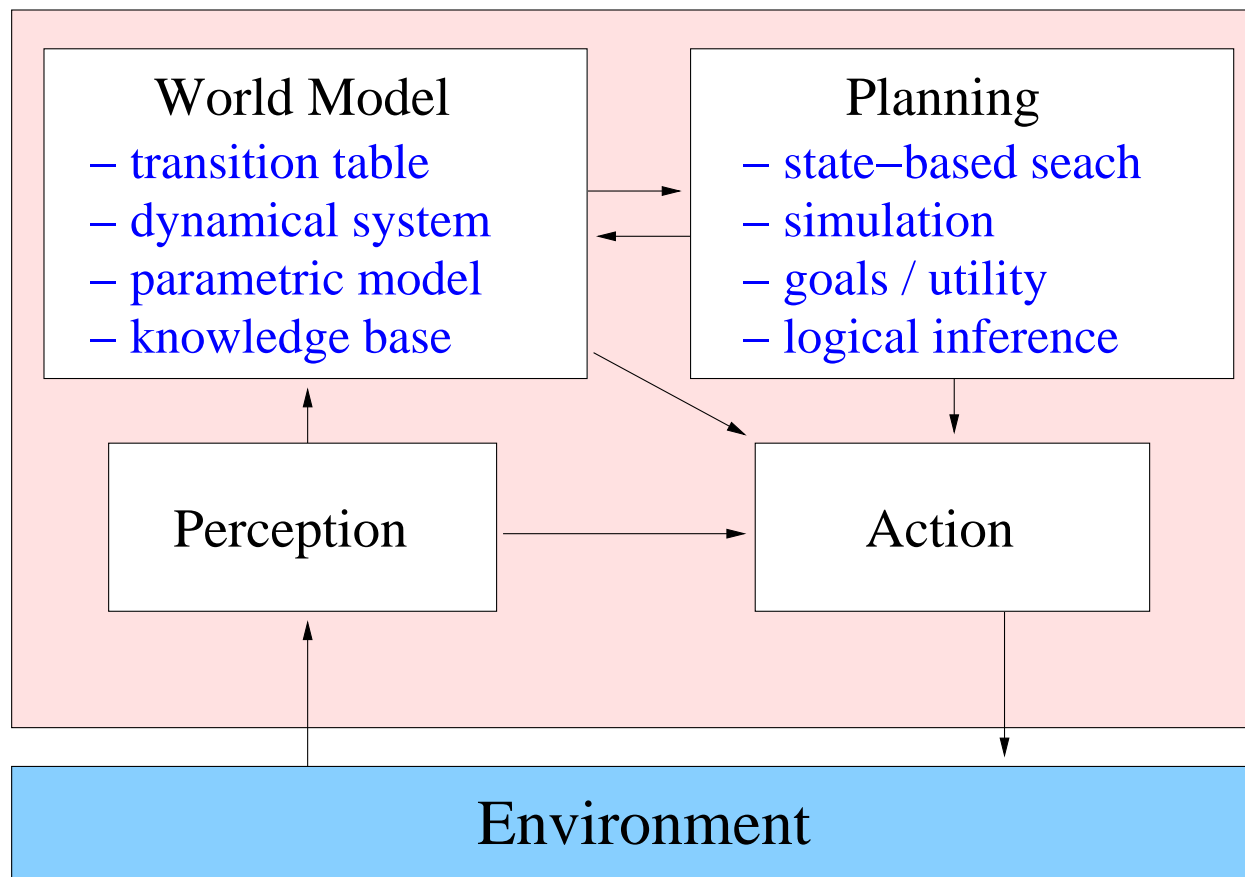# COMP9414/9814: Artificial Intelligence

12a. BDI Agents
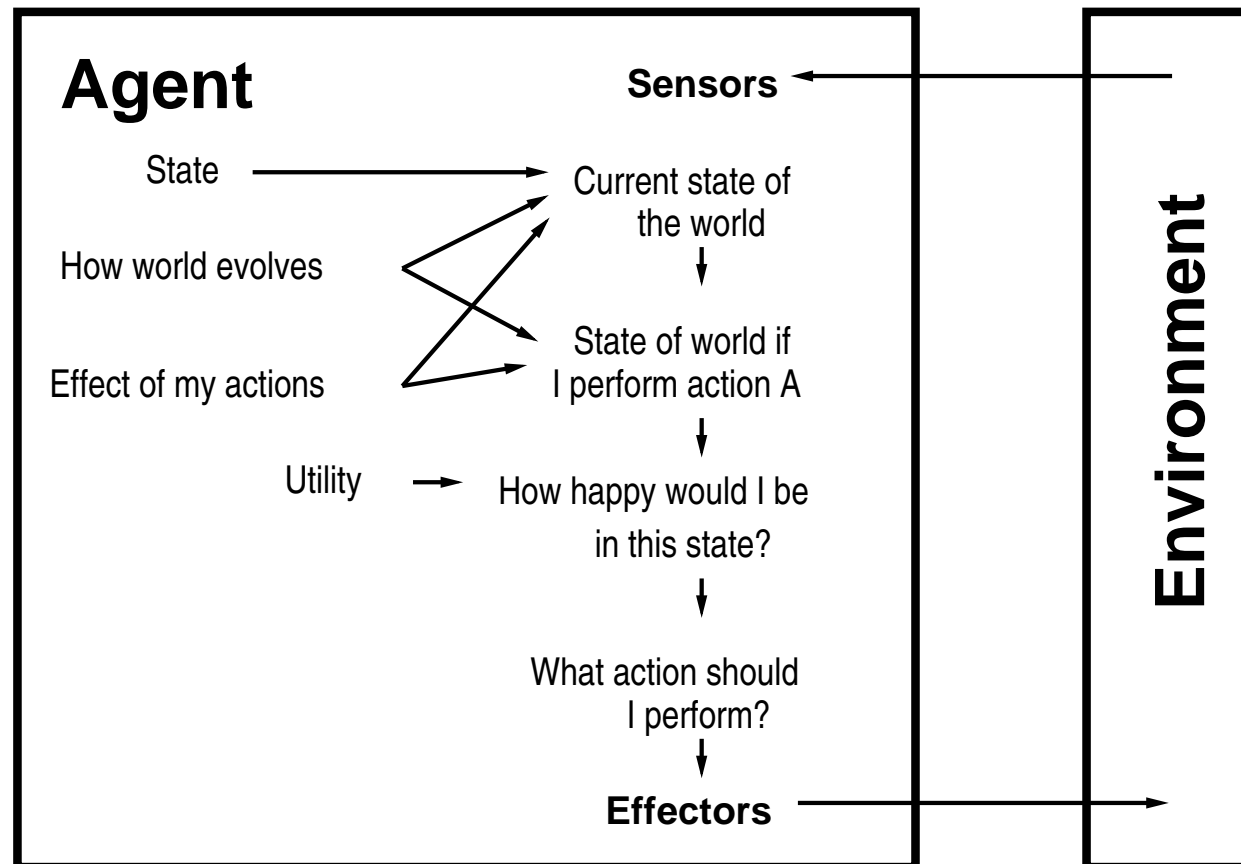
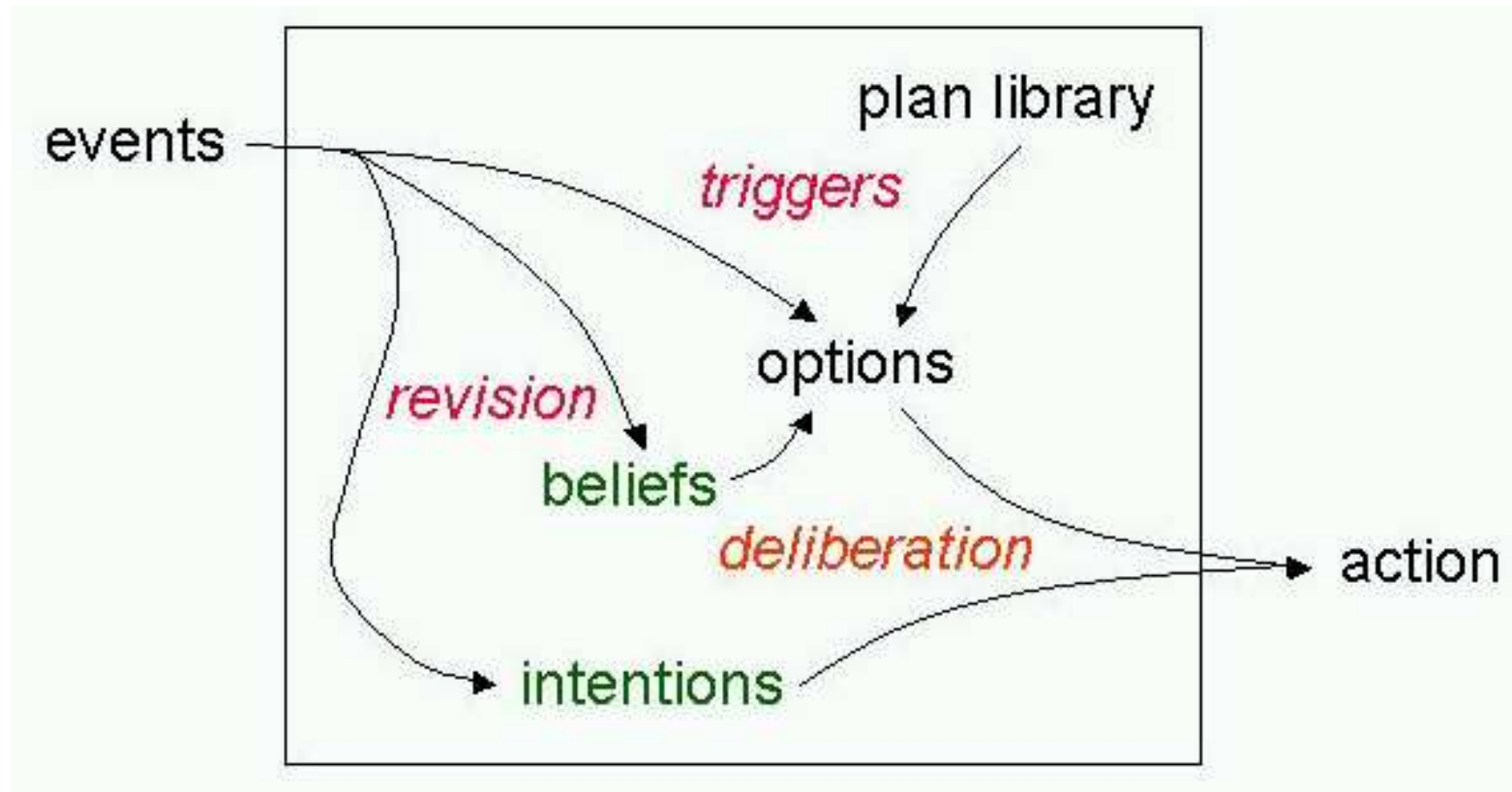# Planning Agent

Models and Planning

Planning Agent with Goals and Utility

BDI Agents

■ Beliefs: Explicit representation of the world

■ Desires: Preferred states of the environment

■ Goals: Desires the agent has chosen to pursue (must be consistent)

■ Intentions: Actions the agent has chosen and committed to

▶ Pose problems for deliberation (how to fulfil them)

▶ Constrain further choices (must be compatible)

▶ Control conduct (lead to future action)

BDI Agent Interpreter

BDI Agent Interpreter

Abstract BDI Interpreter:

initialize-state();

do

get-new-external-event(events);

G := trigger(events);

incorporate-goals(G, I);

action := select-action(B, I);

execute(action);

observe(action, facts);

update-beliefs(facts, B);

update-intentions(facts, I);

until quit