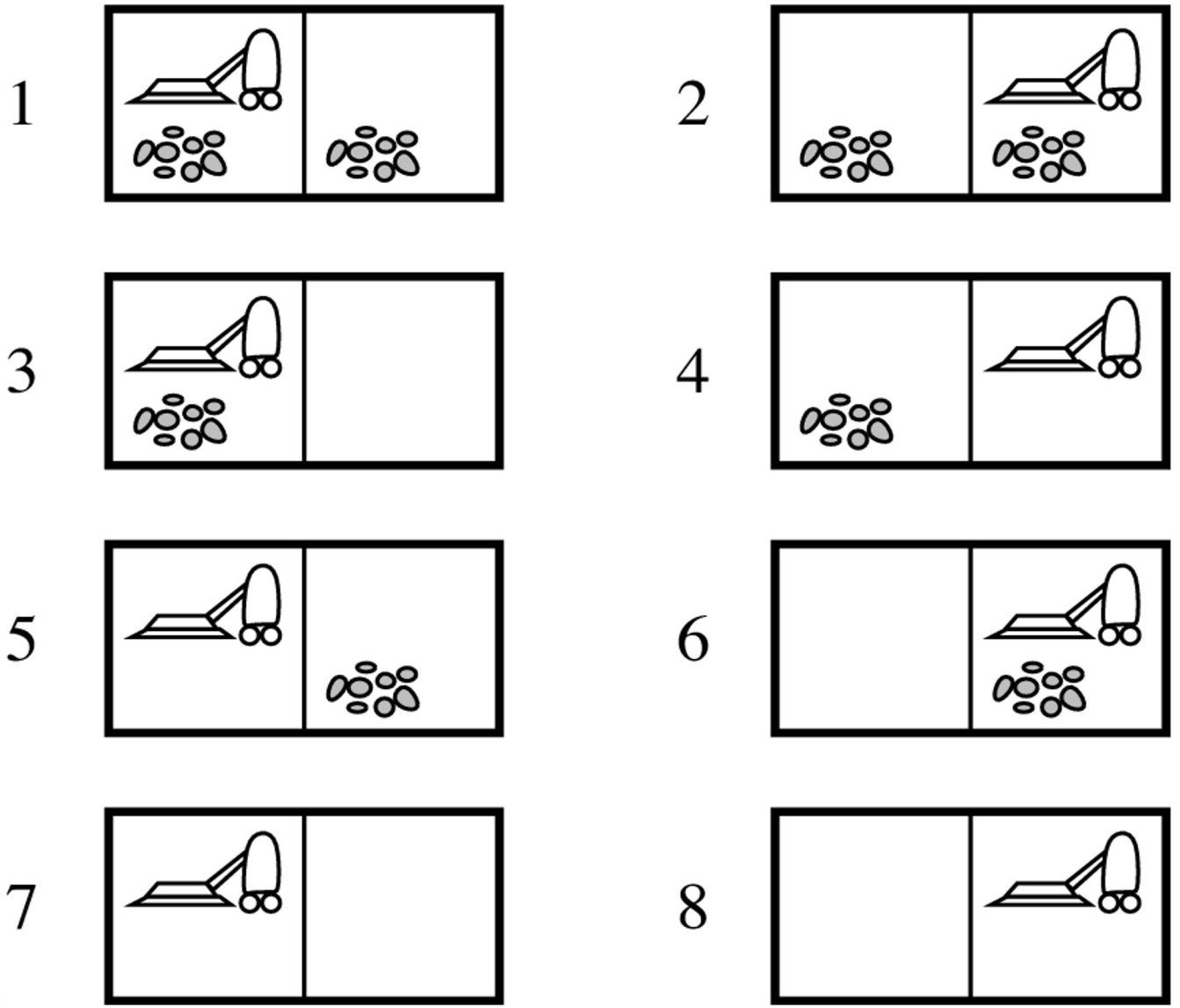
Searching with nondeterministic actions

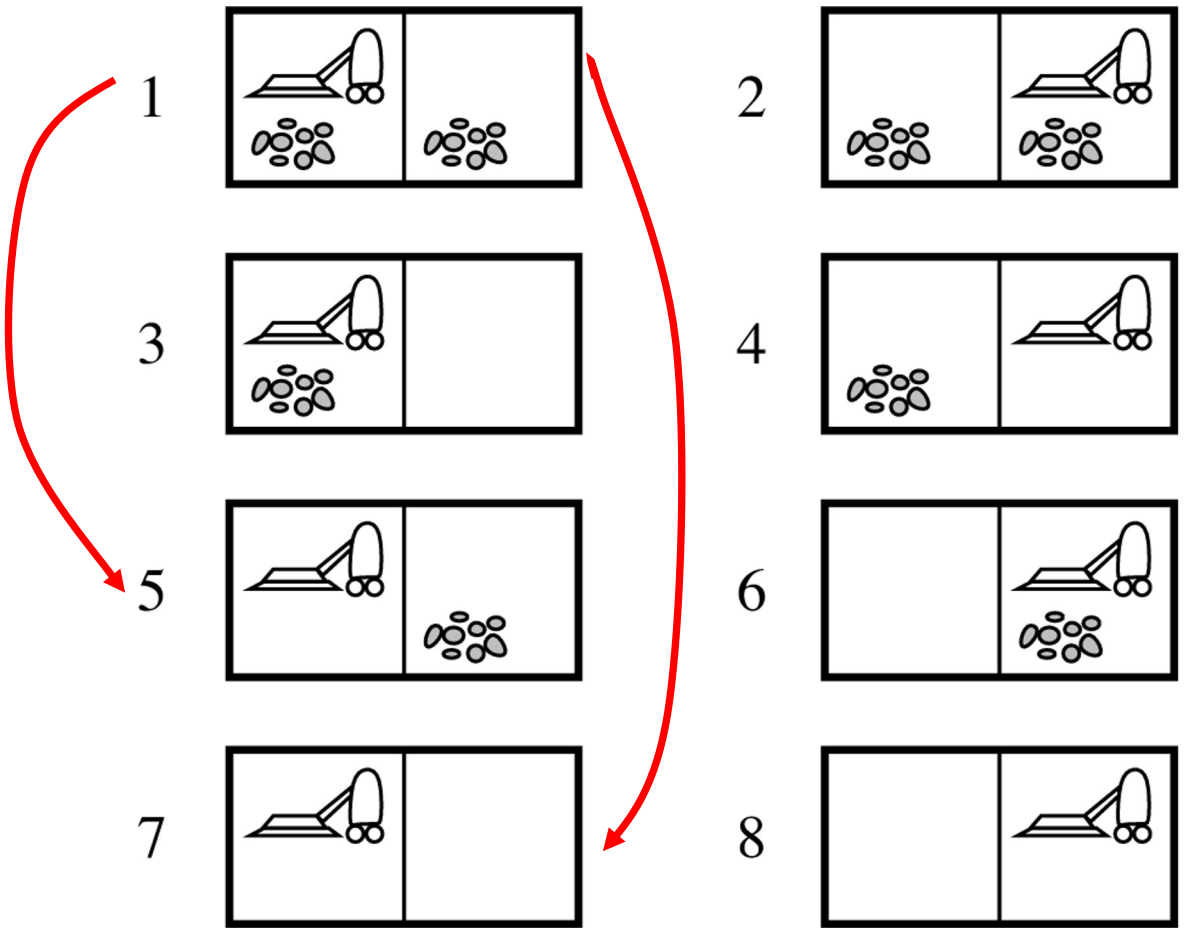


Searching with nondeterministic action: erratic vacuum world

The *Suck* action works as follows:

- When applied to a dirty square the action cleans the square and sometimes cleans up dirt in an adjacent square, too
- When applied to a clean square the action sometimes deposit dirt on the carpet

Contingency plan 1/2



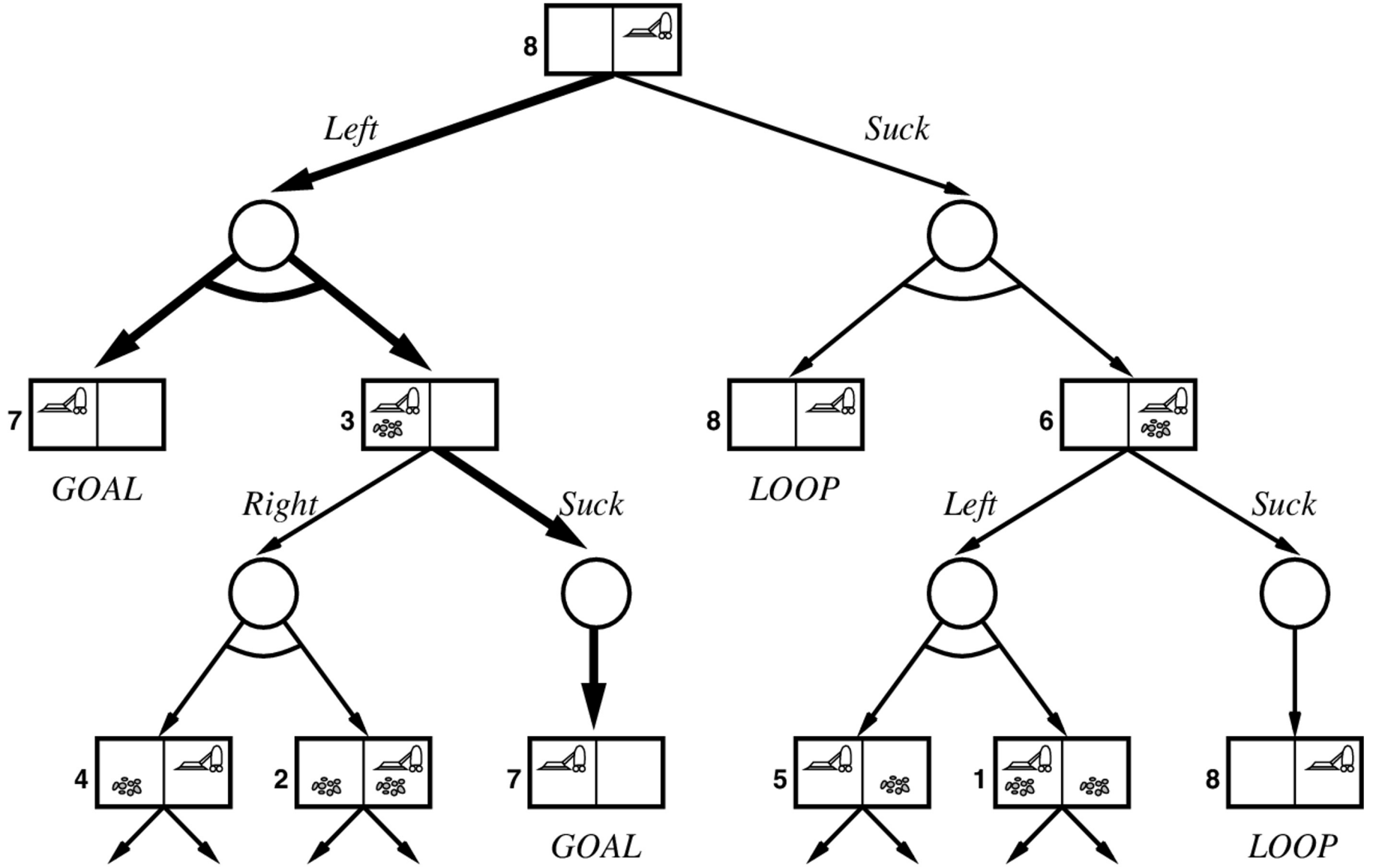
Contingency plan 2/2

Interleaving between search and execution

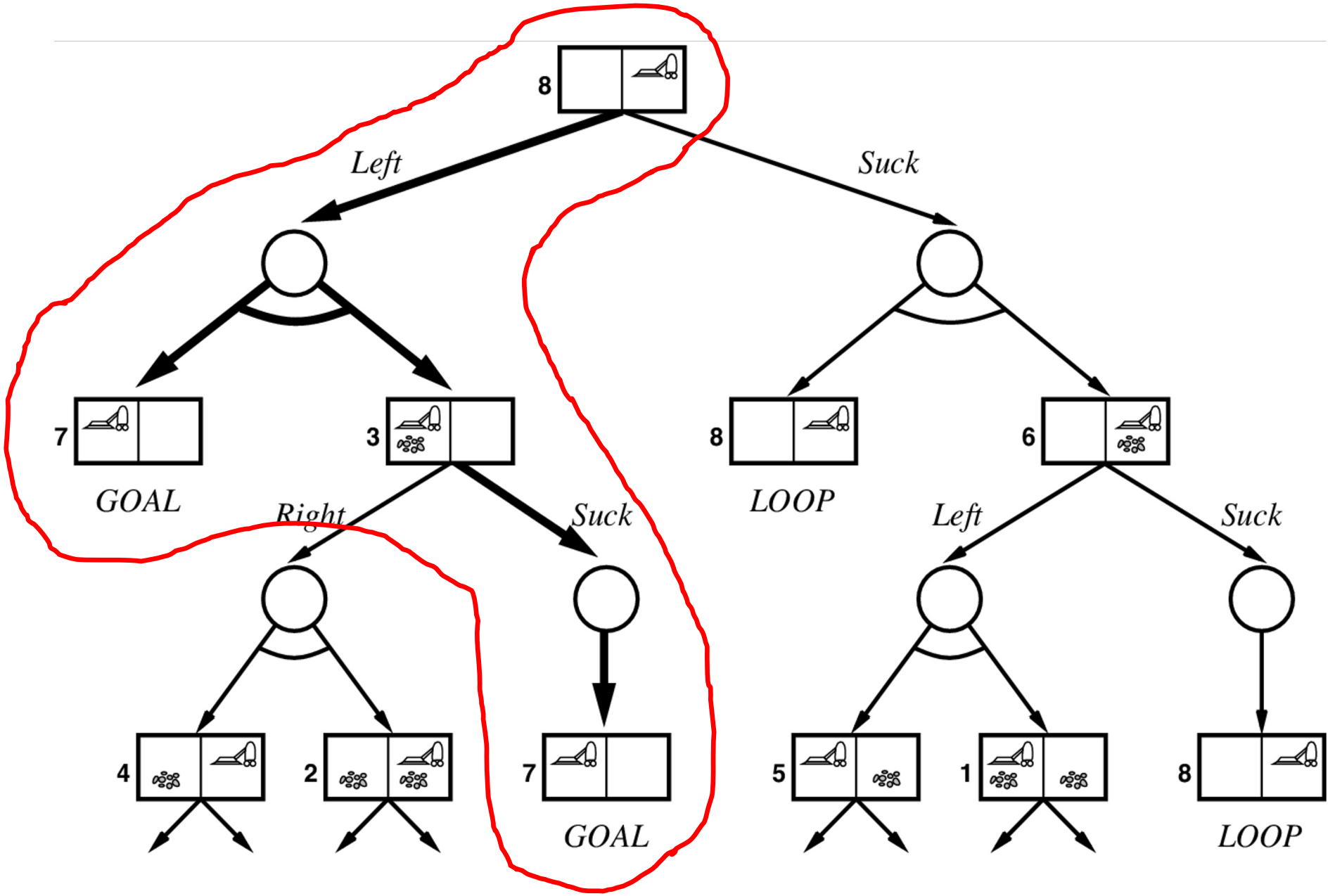
Given the vacuum cleaner in state = 7

[*Suck*, **if** state = 5 **then** [*Right*, *Suck*] **else** []]

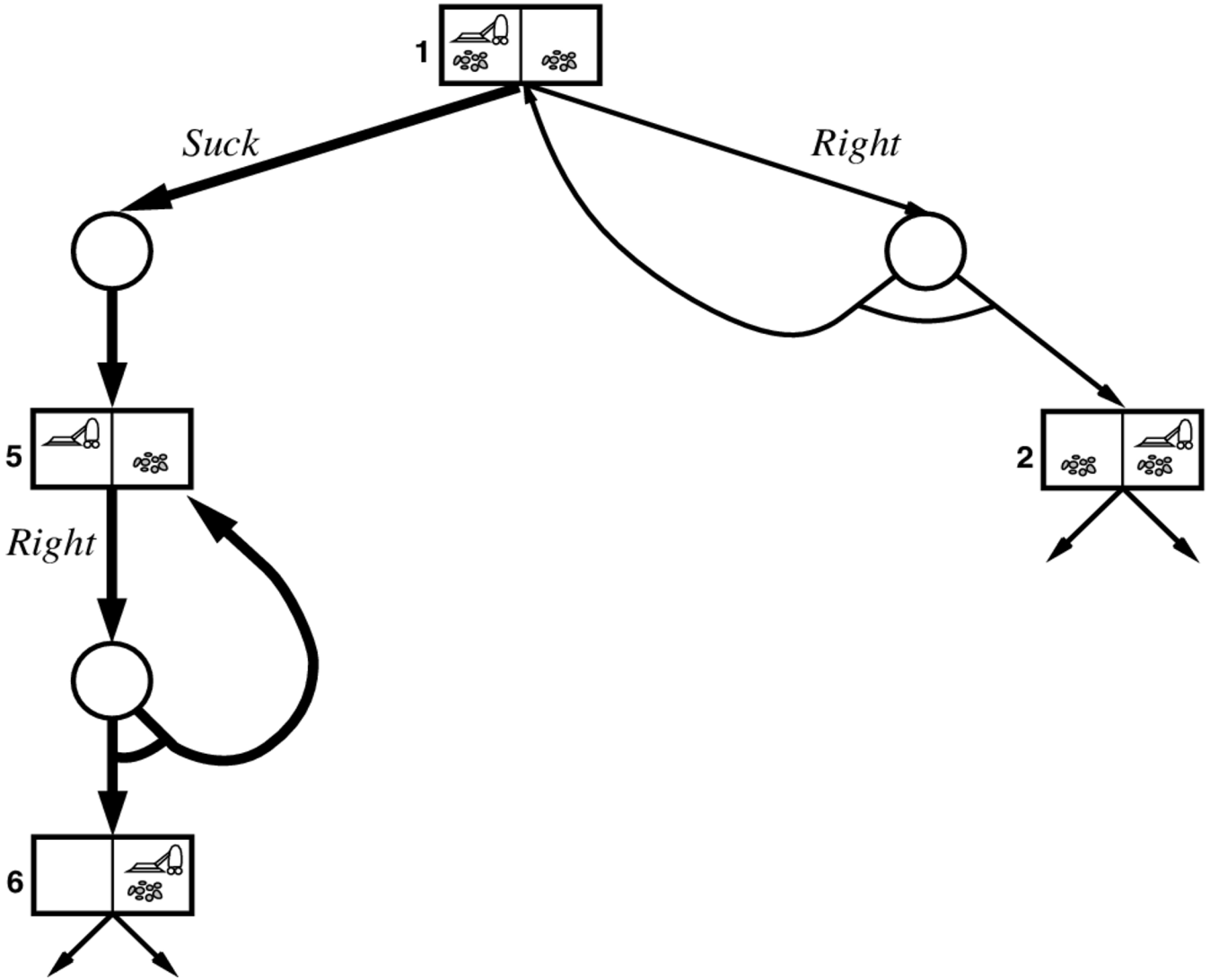
AND-OR search trees



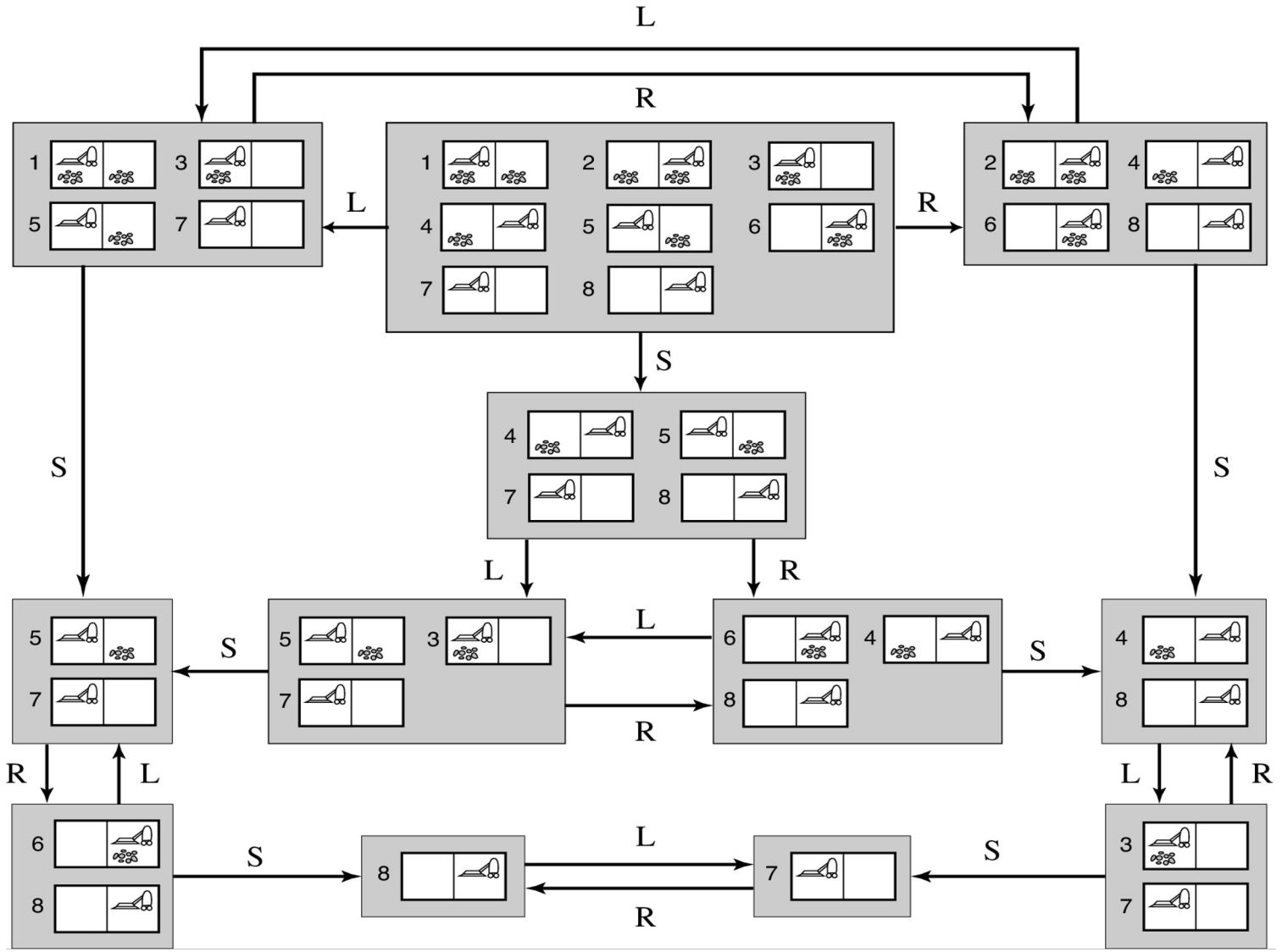
AND-OR trees


8
Left
Suck
7
3
8
6
GOAL
Right
Suck
LOOP
Left
Suck
4
2
7
5
1
8
GOAL
LOOP

Slippery vacuum world



Slippery vacuum world

[*Suck*, **while** state = 5 **do** *Right* , Suck]

Searching with no observations