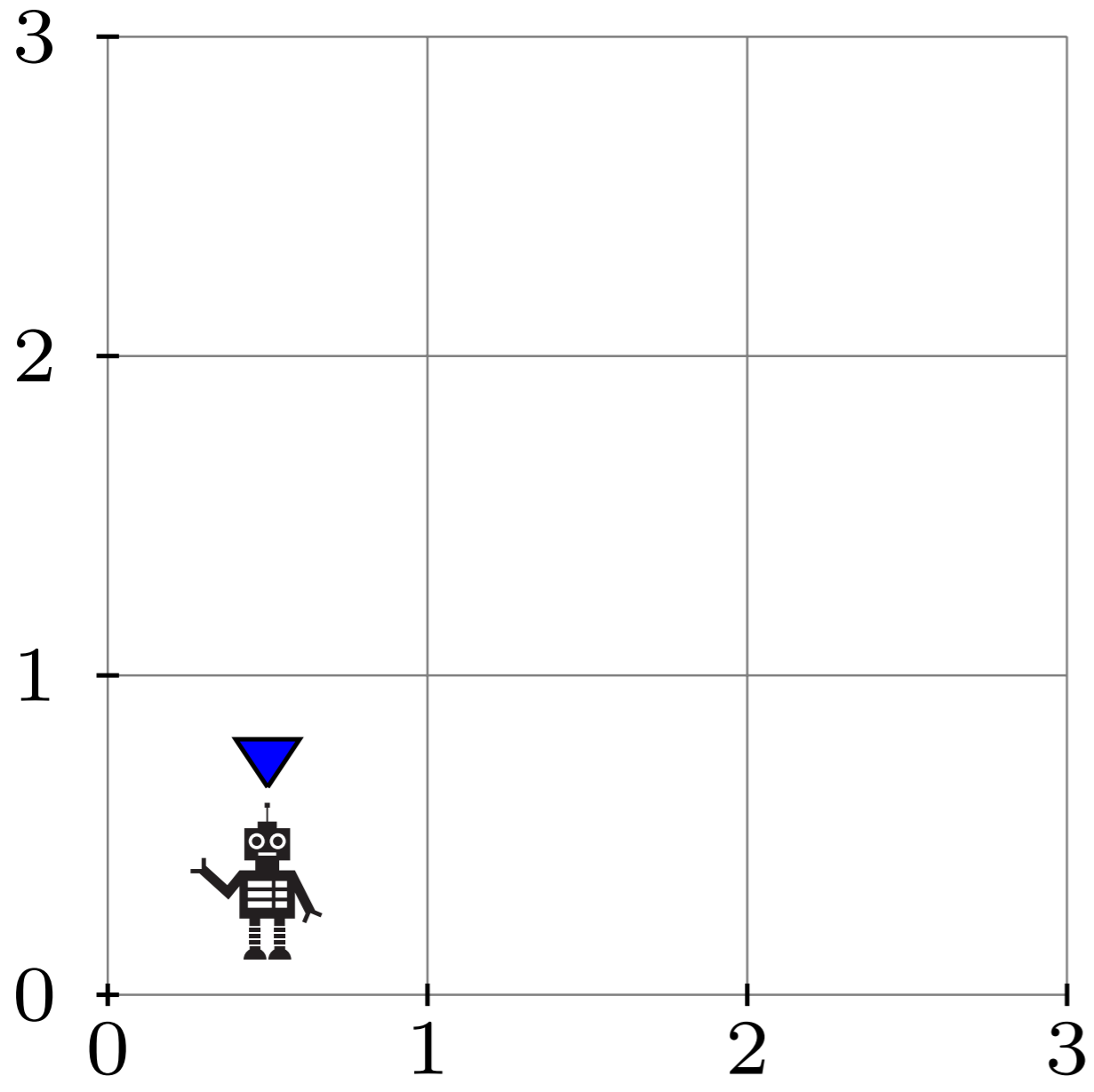


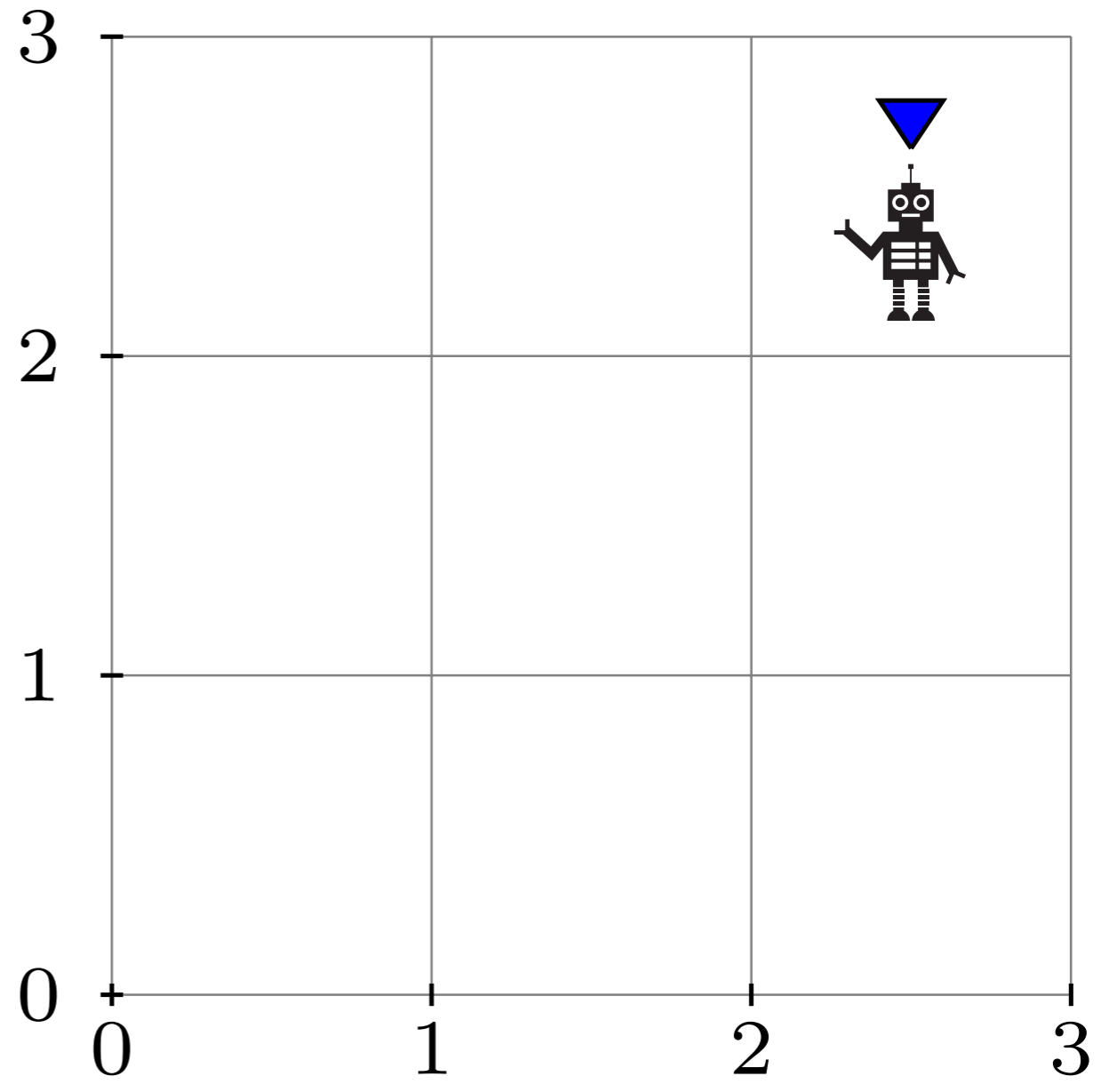
# Learning efficient logic programs

Andrew Cropper and Stephen H. Muggleton

Imperial College London



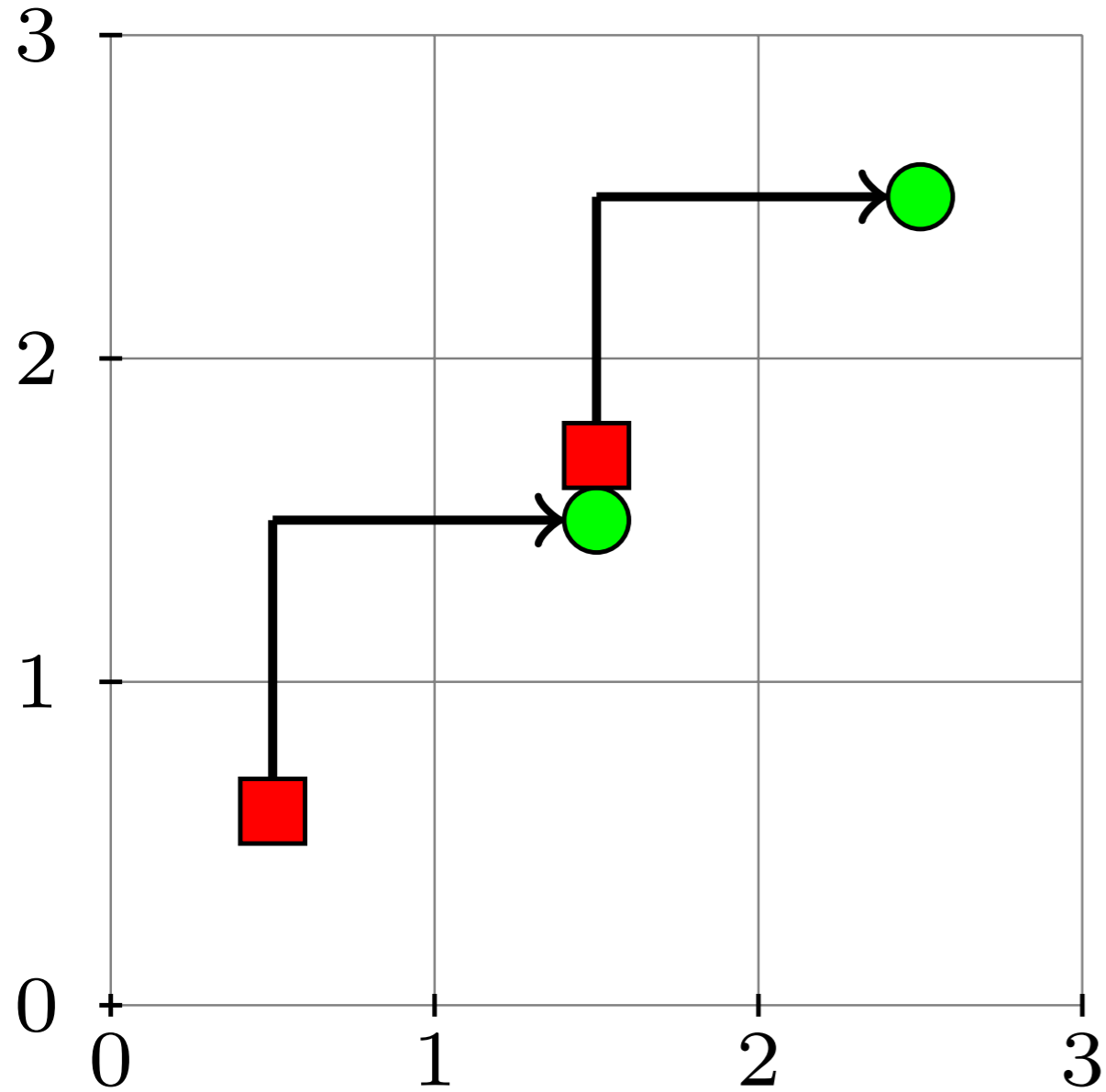
initial state



final state

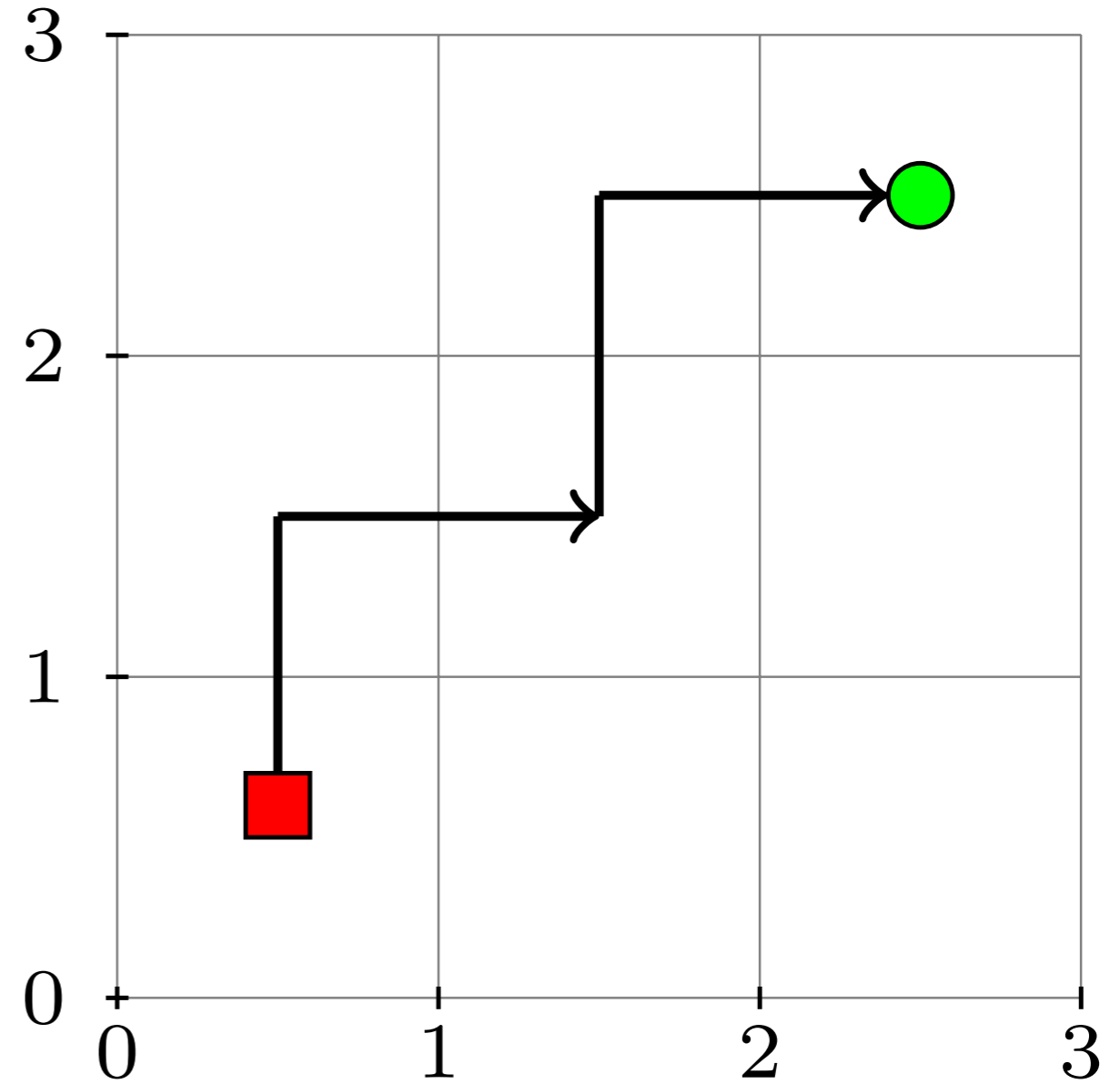
■ grab ● drop

### inefficient solution



```
move(X,Y):- p3(X,Z),p3(Z,Y).  
p3(X,Y):- p2(X,Z), drop(Z,Y).  
p2(X,Y):- grab(X,Z), p1(Z,Y).  
p1(X,Y):- north(X,Z), east(Z,Y).
```

### efficient solution



```
move(X,Y):- p3(X,Z),drop(Z,Y).  
p3(X,Y):- grab(X,Z), p2(Z,Y).  
p2(X,Y):- p1(X,Z), p1(Z,Y).  
p1(X,Y):- north(X,Z), east(Z,Y).
```