

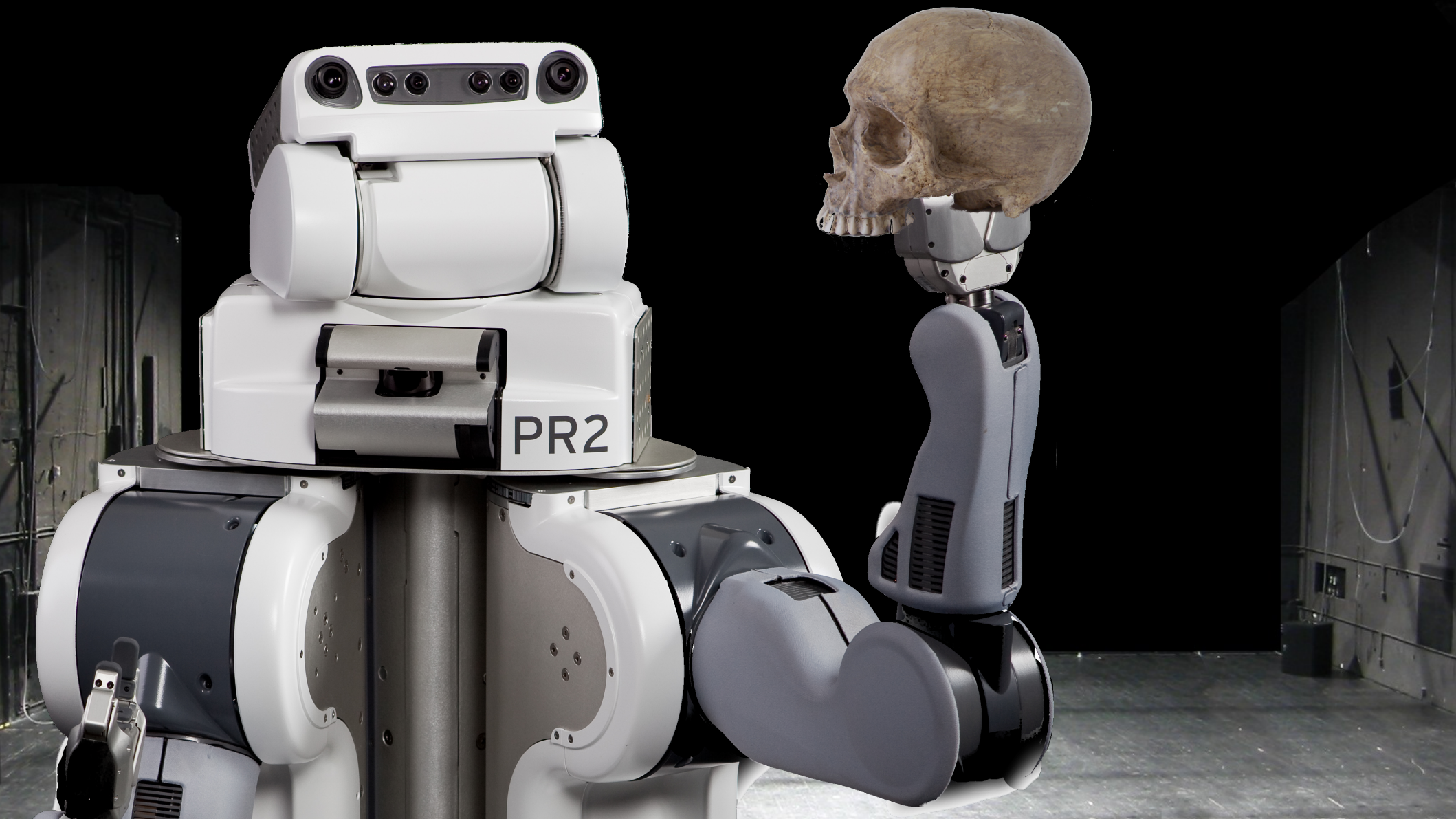
Ontology of Robot Theatre

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Washington University
in St. Louis

Robots and Performing Arts
May 14, 2012

What is robot acting?



Actor

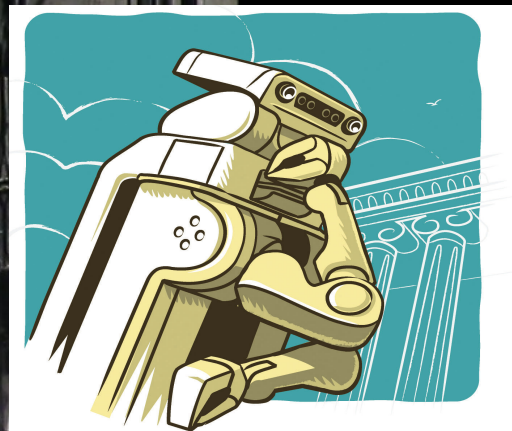


Actor as
a Character

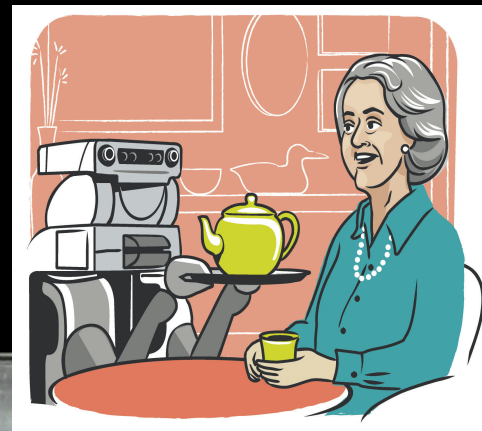


Human Robot Interaction as Theatre

Robot



Robot as
Social Actor



David V. Lu and William D.
Smart, "Human Robot
Interaction as Theatre"
ROMAN 2011.

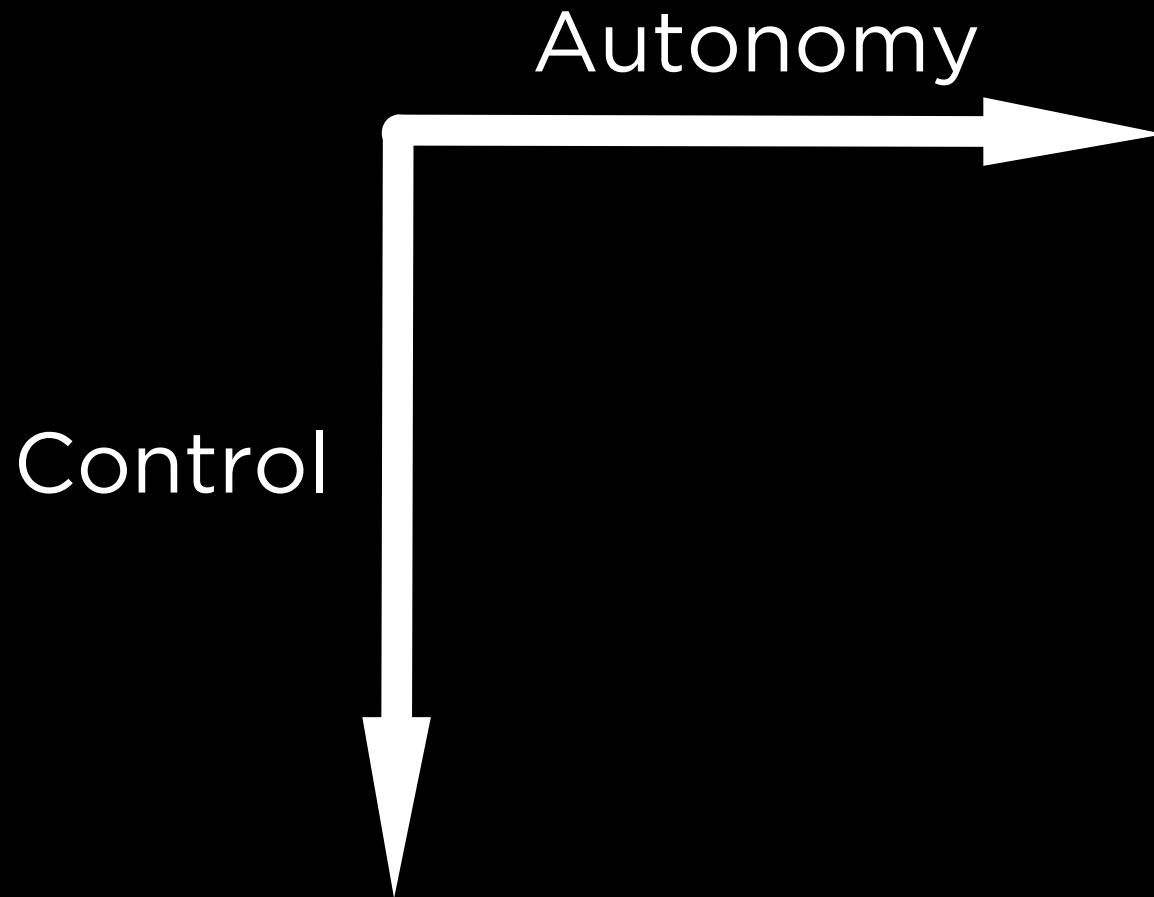
How'd they do that?

What was the process used to
create the performance?

Who is responsible
for the performance?



The Ontology of Robot Theatre



Autonomy



Human



Robot

Hybrid

Who generated/controlled the
actions that made up the
performance?

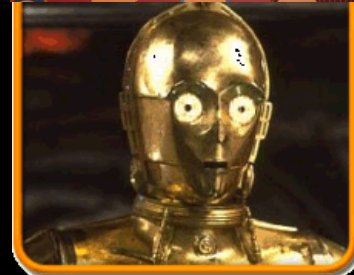
Control



Open
Loop



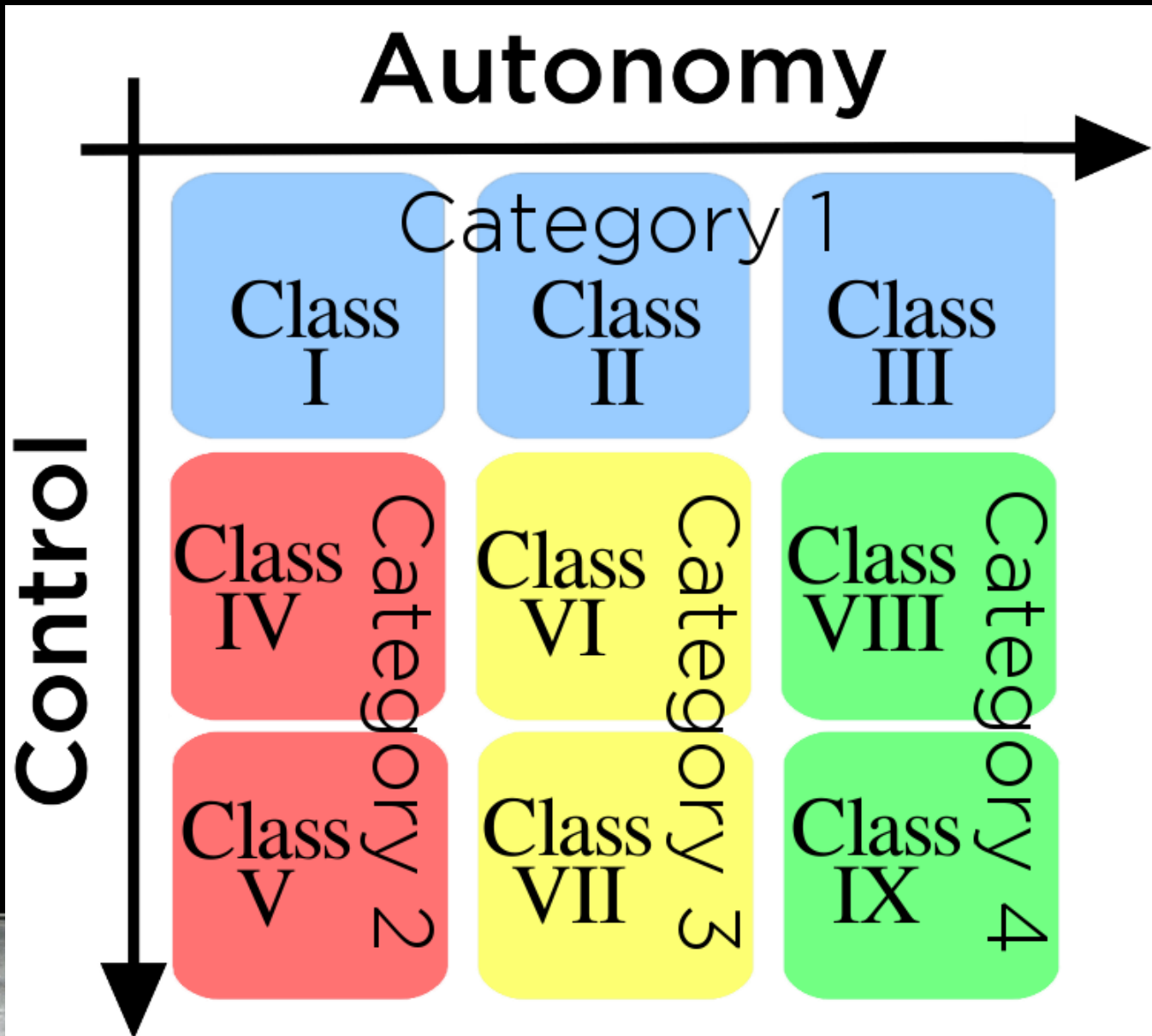
Closed
Loop



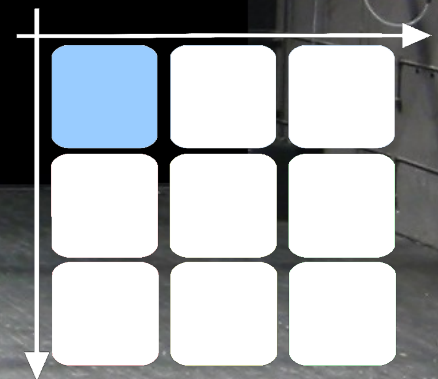
Free

How reactive was the performance?
What level of control is possible?

Classes and Categories



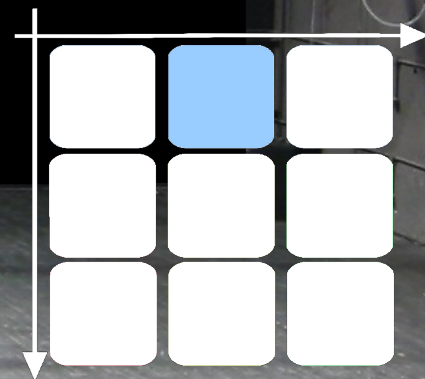
Category 1: Class I



Category 1: Class II

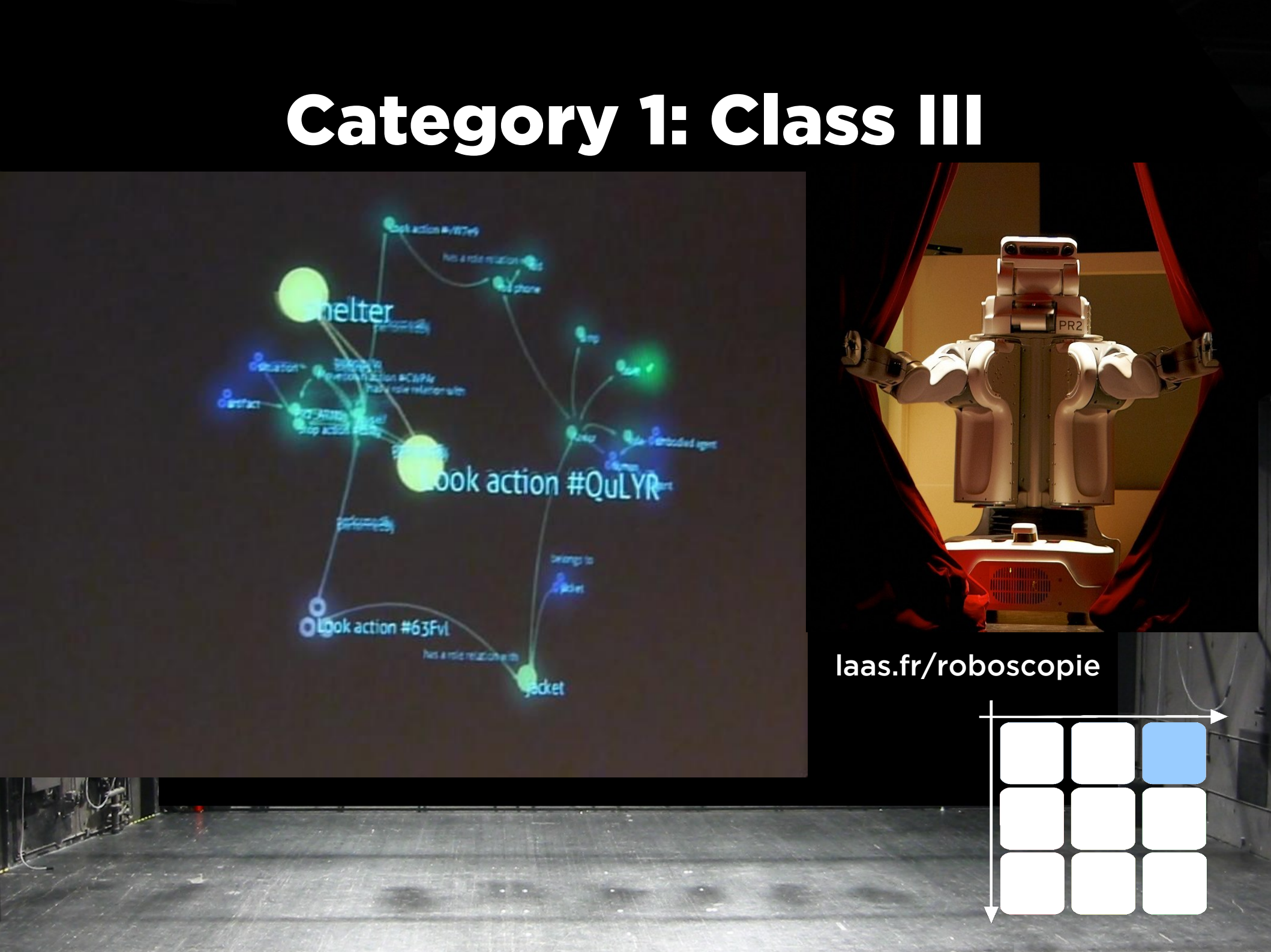
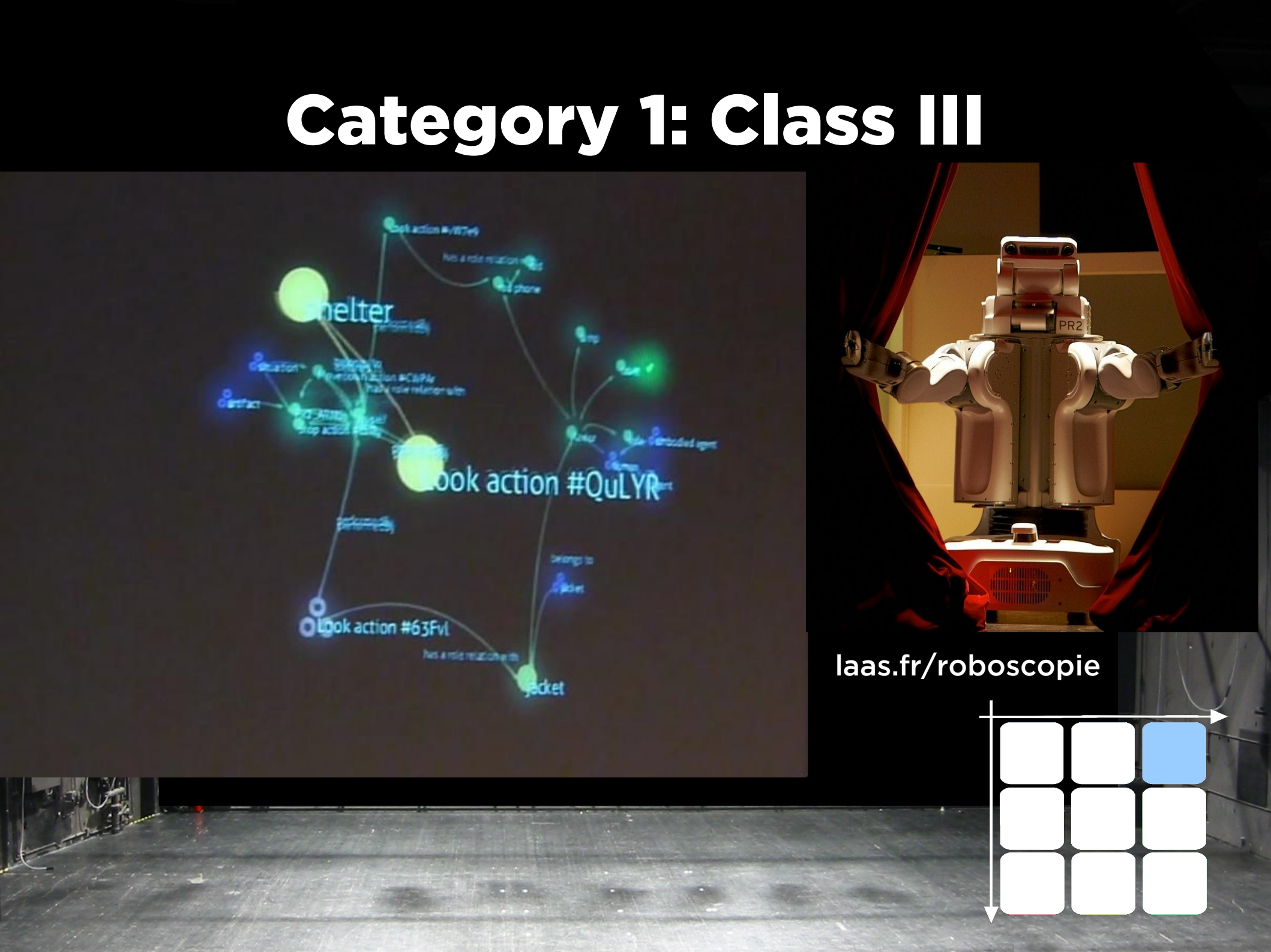
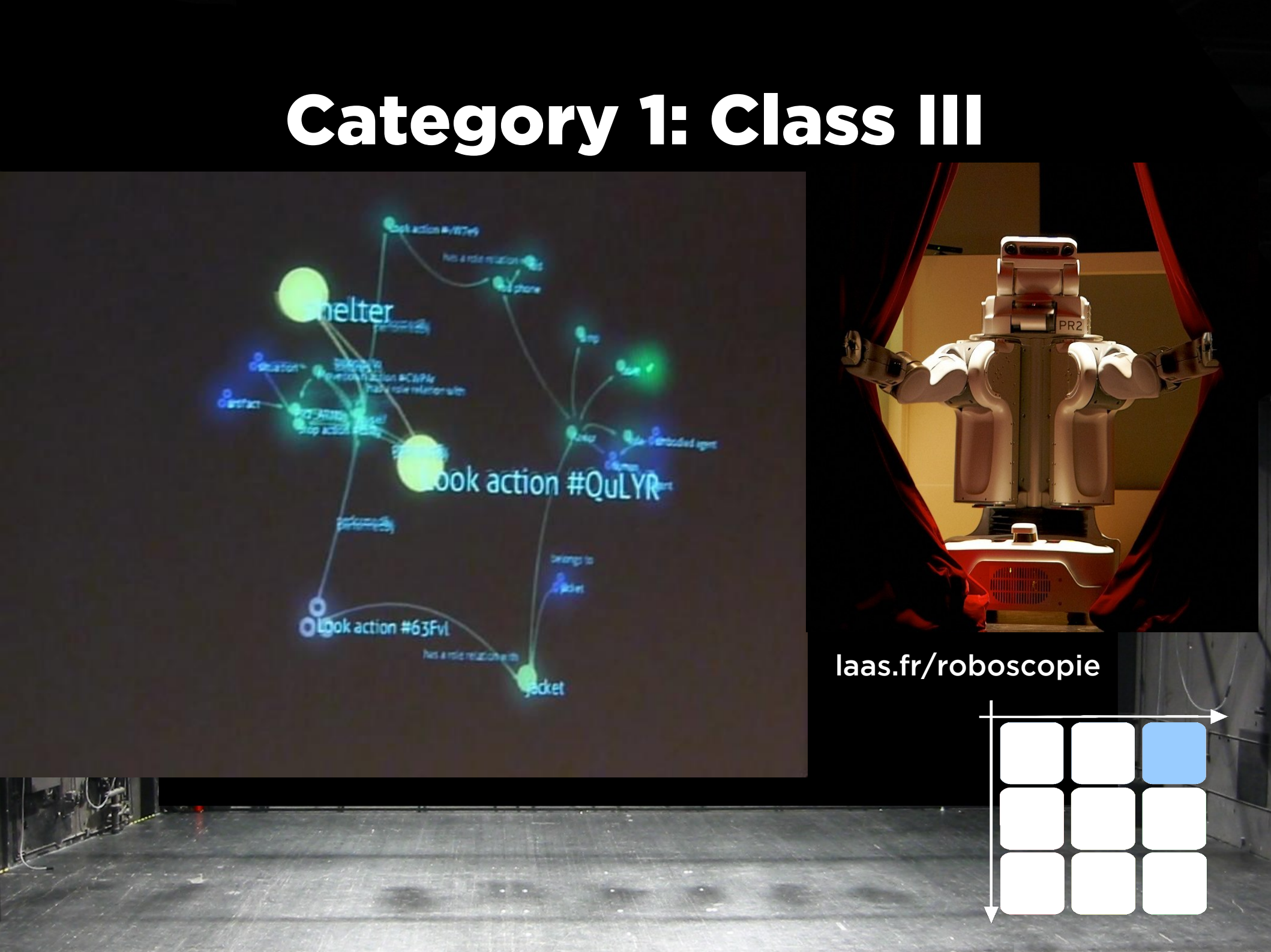


HRP from AIST

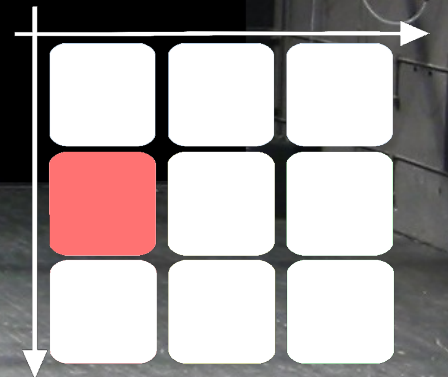


Category 1: Class III

laas.fr/roboscopie

[illegible]

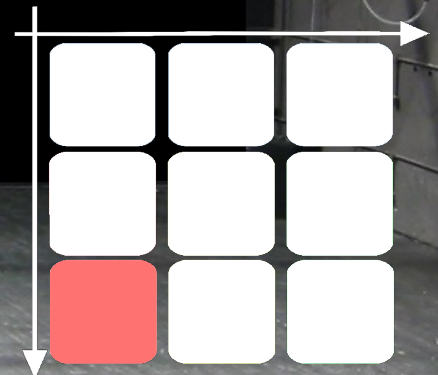
Category 2: Class IV



Category 2: Class V

Heddatron (Chicago)

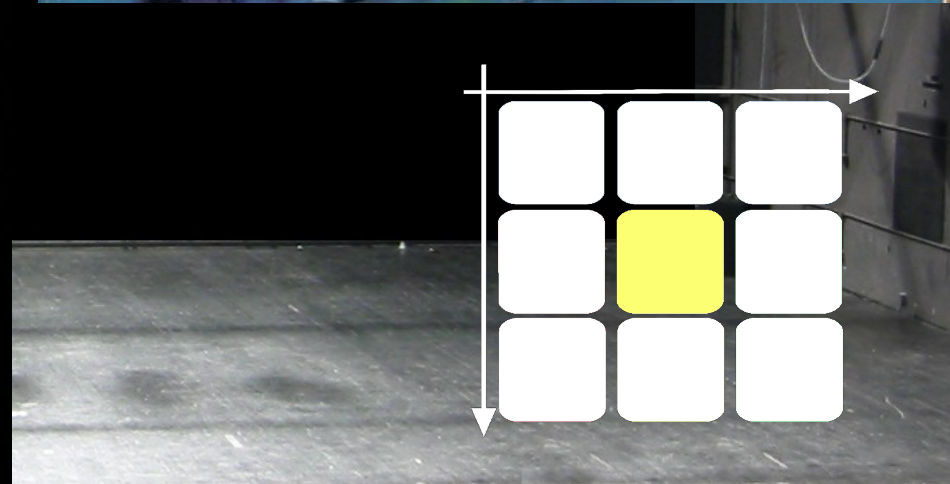
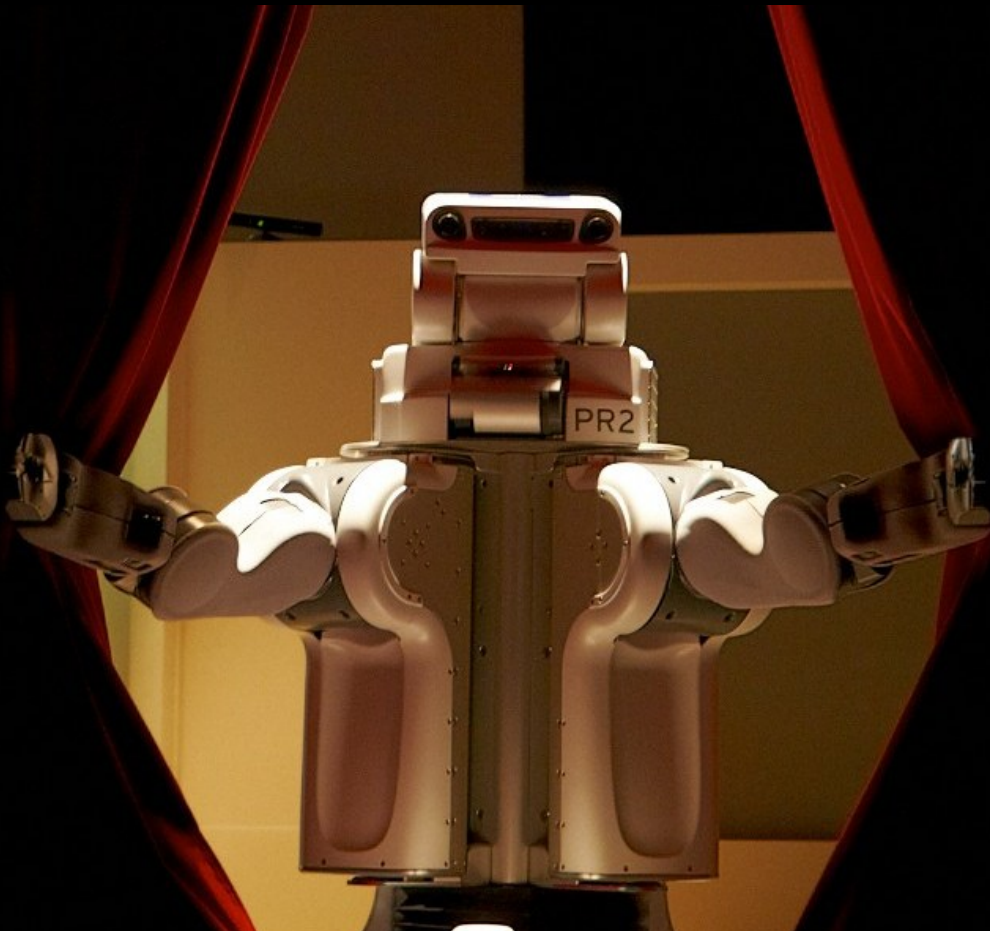
Midsummer Night's
Dream (Texas A&M)



Category 3: Class VI

The Darfsteller, Walter Miller Jr.

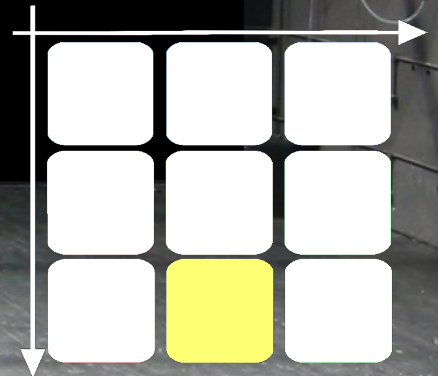
laas.fr/roboscopie



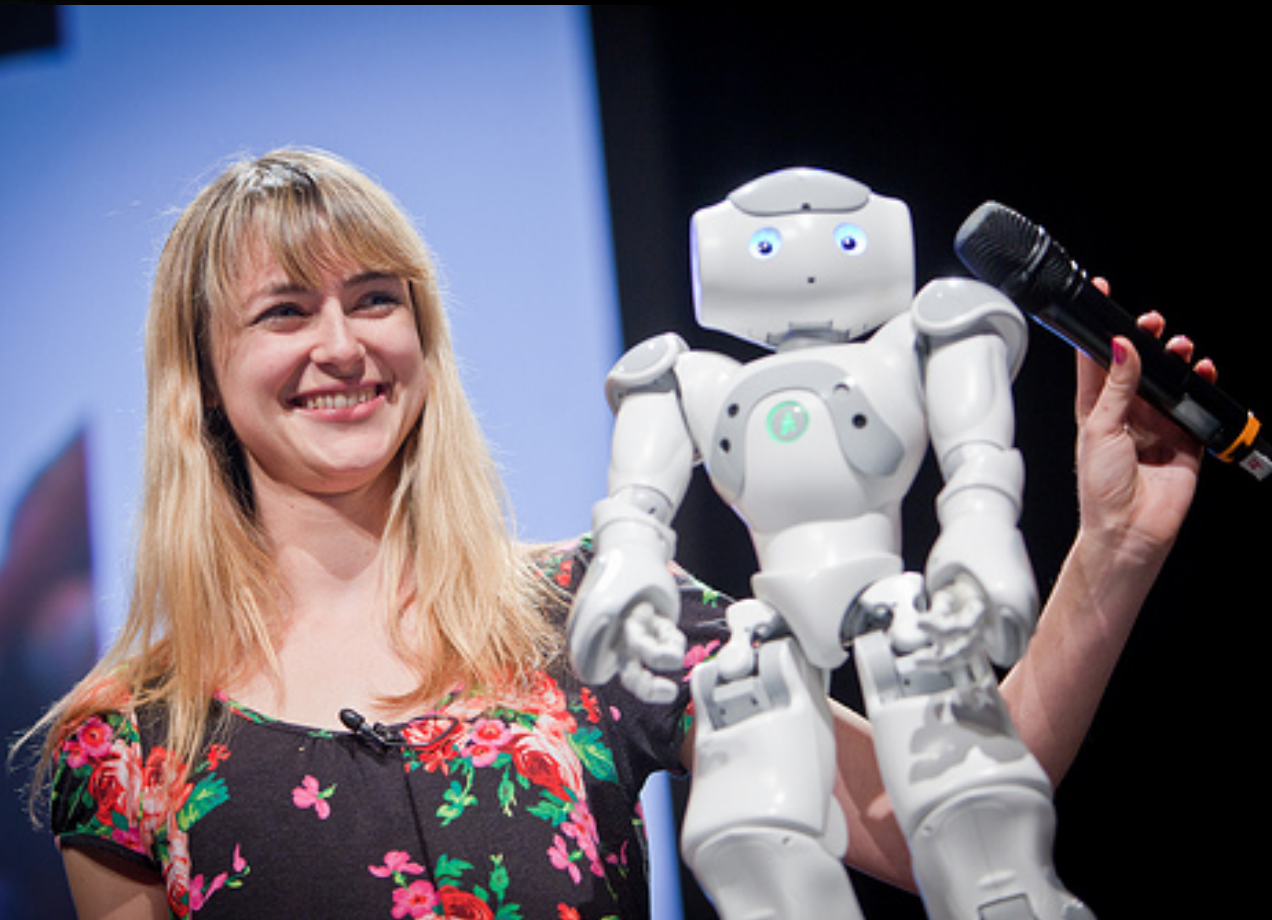
Category 3: Class VII



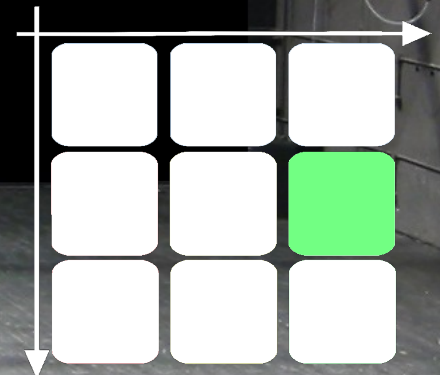
Death and the
Powers,
MIT Robot
Opera



Category 4: Class VIII

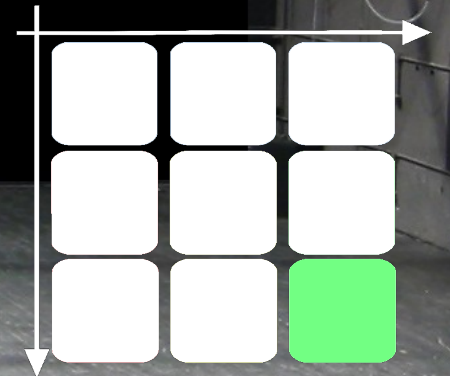


Heather Knight,
Silicon-based
Comedy



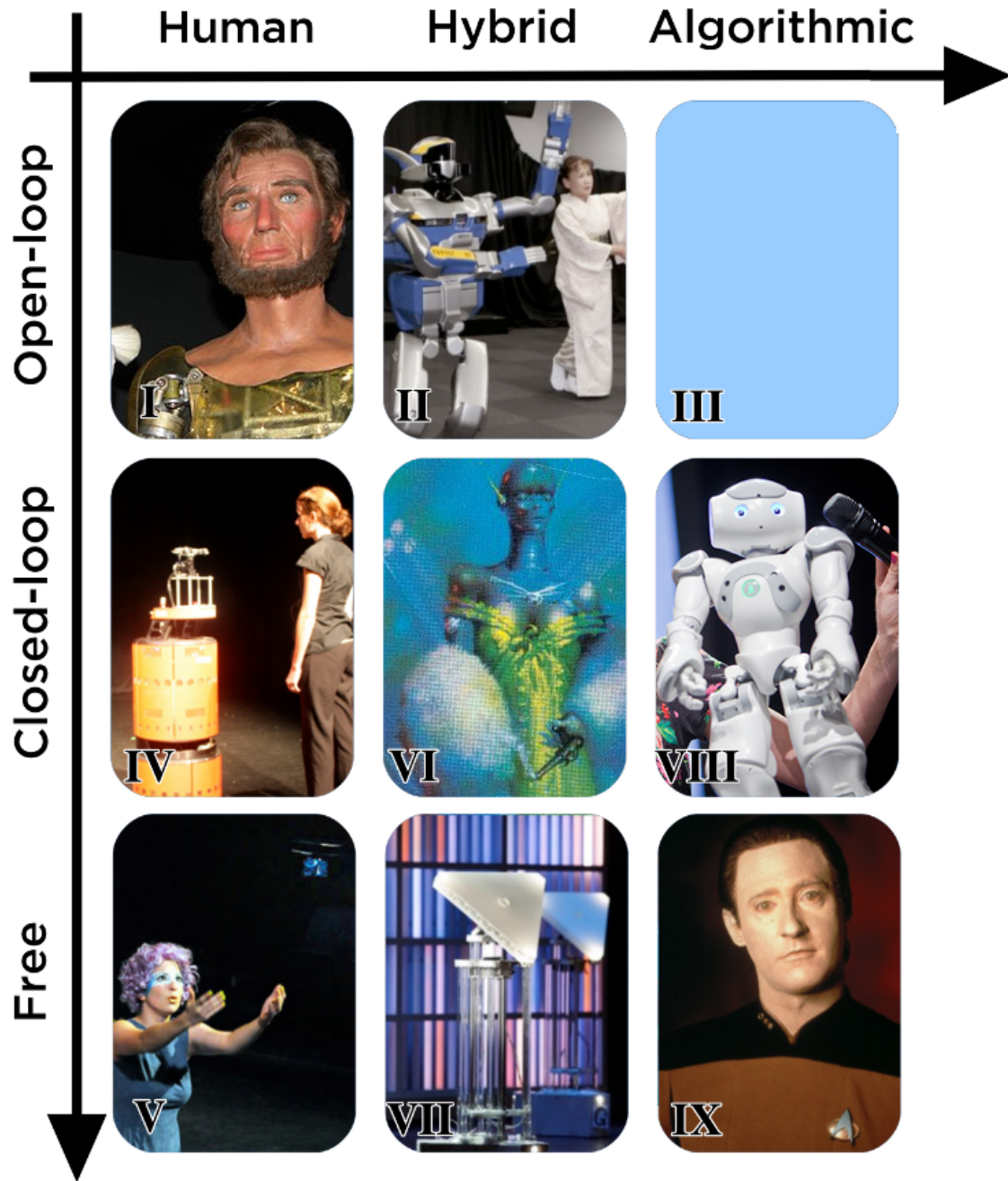
Category 4: Class IX

Lt. Data – Star Trek the Next Generation



Autonomy

Control



Ontology of Robot Theatre

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<http://www.cse.wustl.edu/~dvl1>