SES 213

Robotique sociale, Interaction humain-machine

La vallée mystérieuse

(séance 2)

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Robotique Sociale

In our perspective : studying people's behaviour and attitudes towards robots in relationship to the physical, technological and interactive features of the robots, with the goal to develop robots that facilitate the emergence of human-robot interactions that are at the same time efficient (according to the original requirements of their envisaged area of use), but are also acceptable to people, and meet the social and emotional needs of their individual users as well as respecting human values.

→ **Product-ness, Humanness, Robot-ness, Familiarity**

→ **Acceptability, social state, social process : the uncanny valley**

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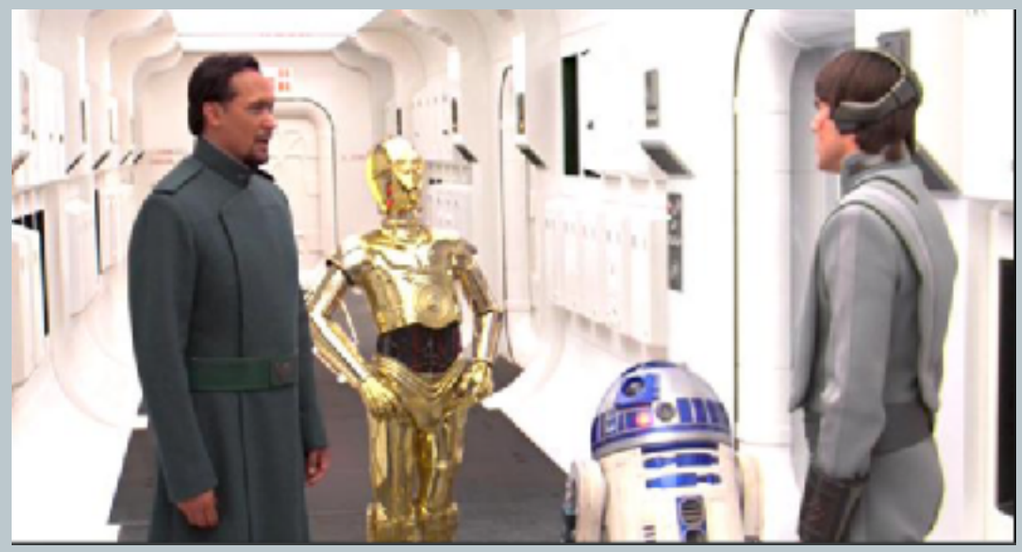
Uncanny valley (Masahiro Mori)



Uncanny valley

Why is there this uncanny Valley ?

- Human likeness ≠ Agent's categorizations
- It's not a human-specific phenomenon
- It's not exclusively bound to Human-Robot interaction :
  - Conspecific Vs heterospecific
  - Conspecific Vs conspecific familiars
  - Conspecific familiars Vs individuals (family members, etc.)

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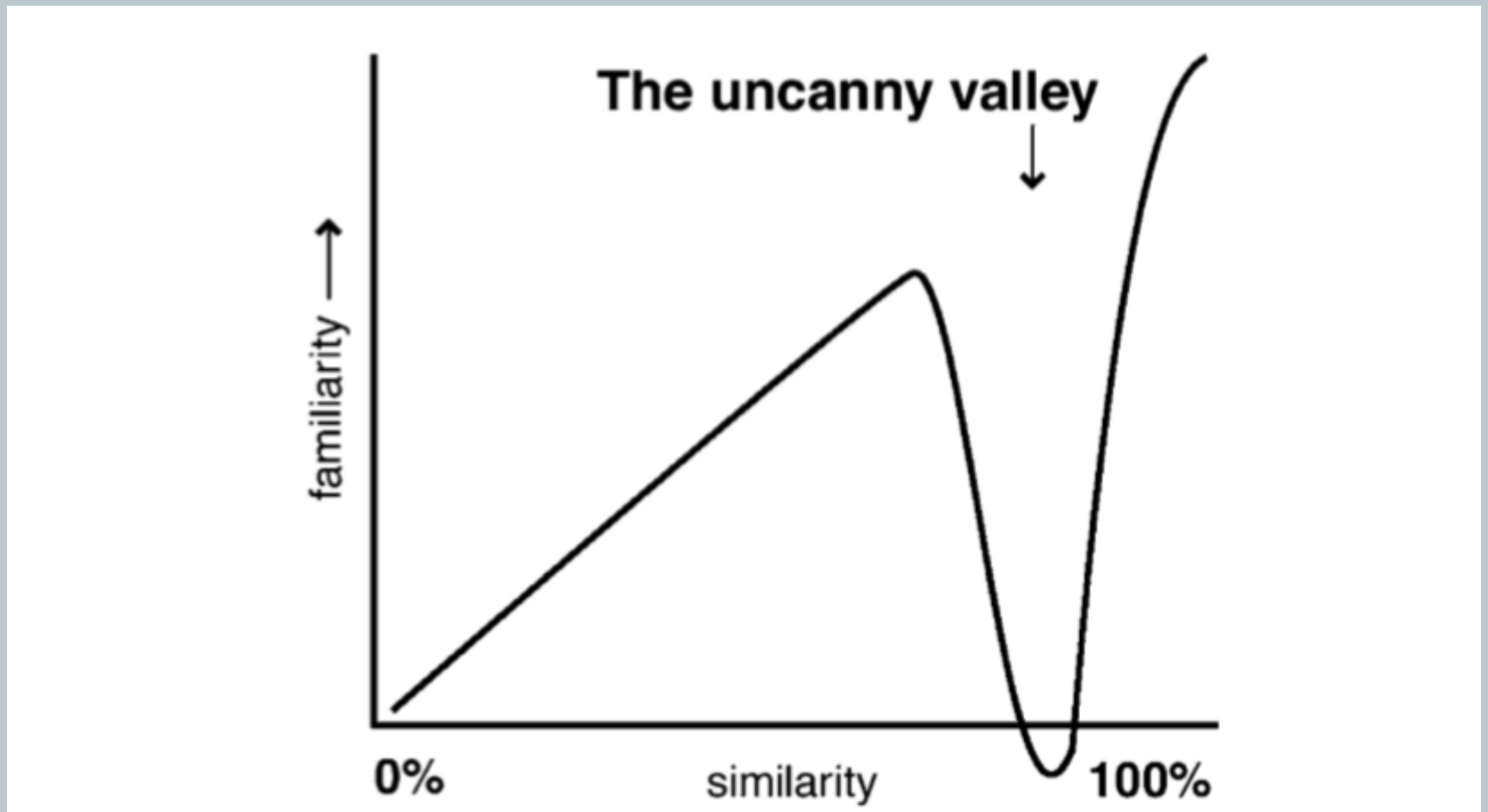
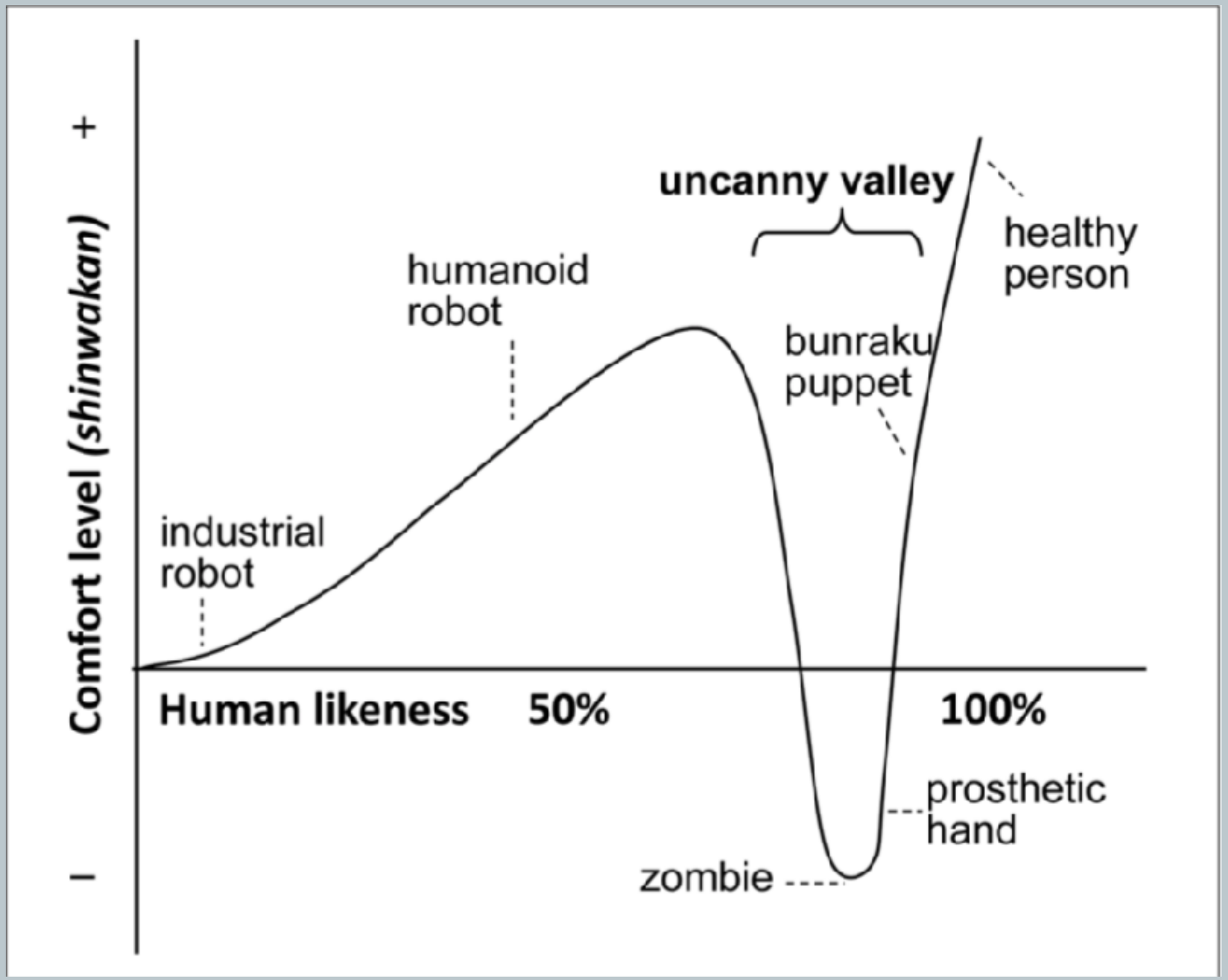
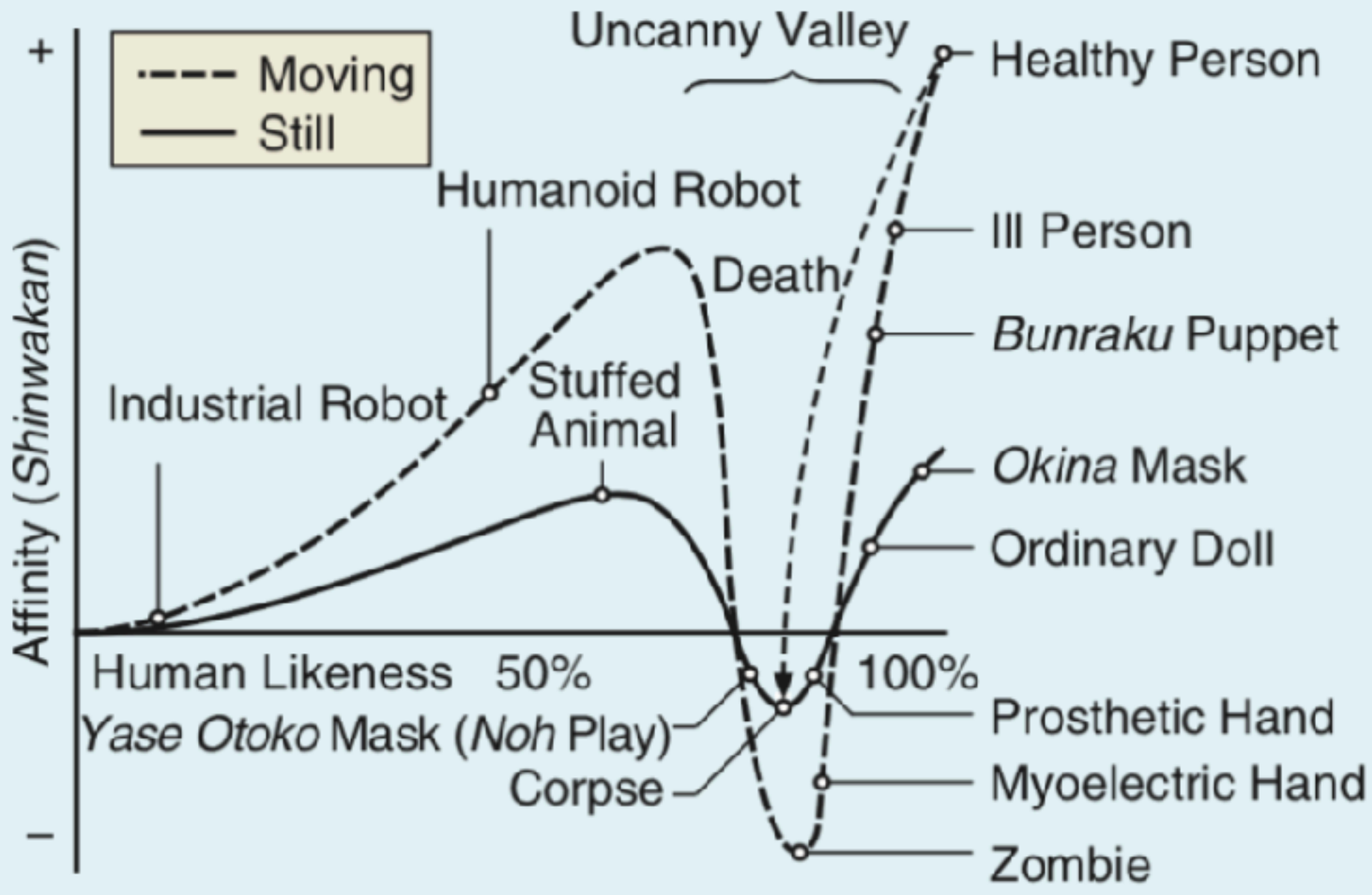
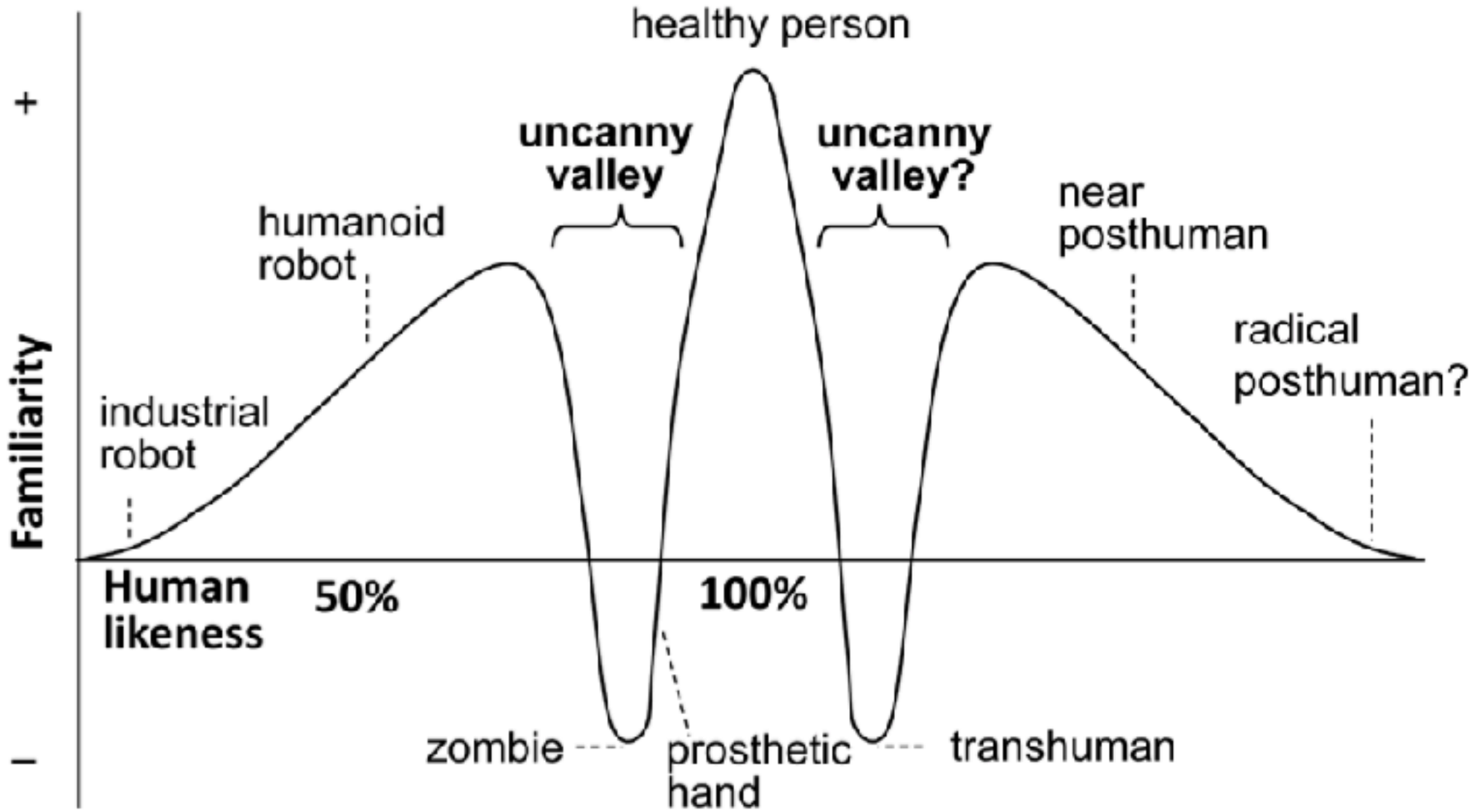


Uncanny valley with moving agents




+
Affinity (Shinwakan)
−
Moving
Still
Uncanny Valley
Healthy Person
Humanoid Robot
Ill Person
Death
Bunraku Puppet
Industrial Robot
Stuffed Animal
Okina Mask
Ordinary Doll
Human Likeness 50%
100%
Yase Otoko Mask (Noh Play)
Prosthetic Hand
Corpse
Myoelectric Hand
Zombie

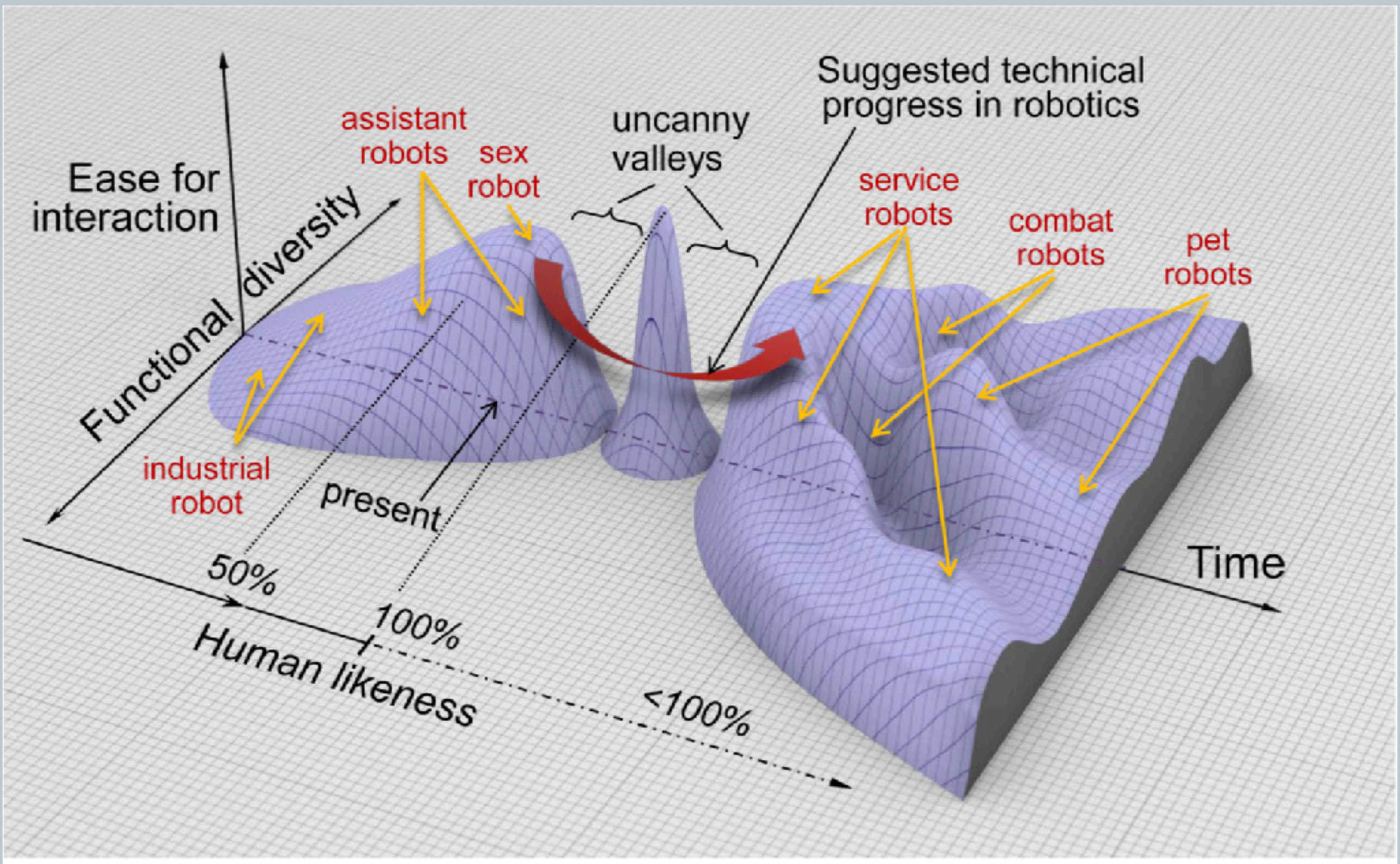
Uncanny valleys ?



→ Solving the paradox of the uncanny valley hypothesis ?

- Why « climbing » the maximum peak ?
- Robots have no continuous evolutionary history
- Humans may not be fit to accomplish certain tasks

Avoid uncanny valleys



(Miklosi, et alii 2017)

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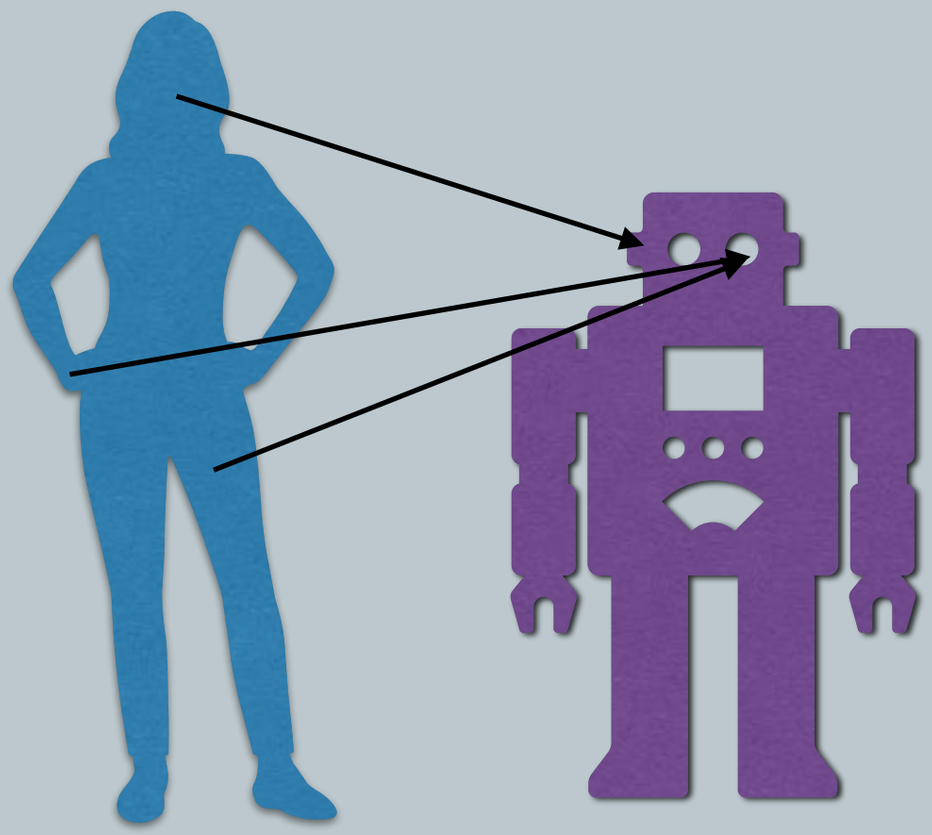
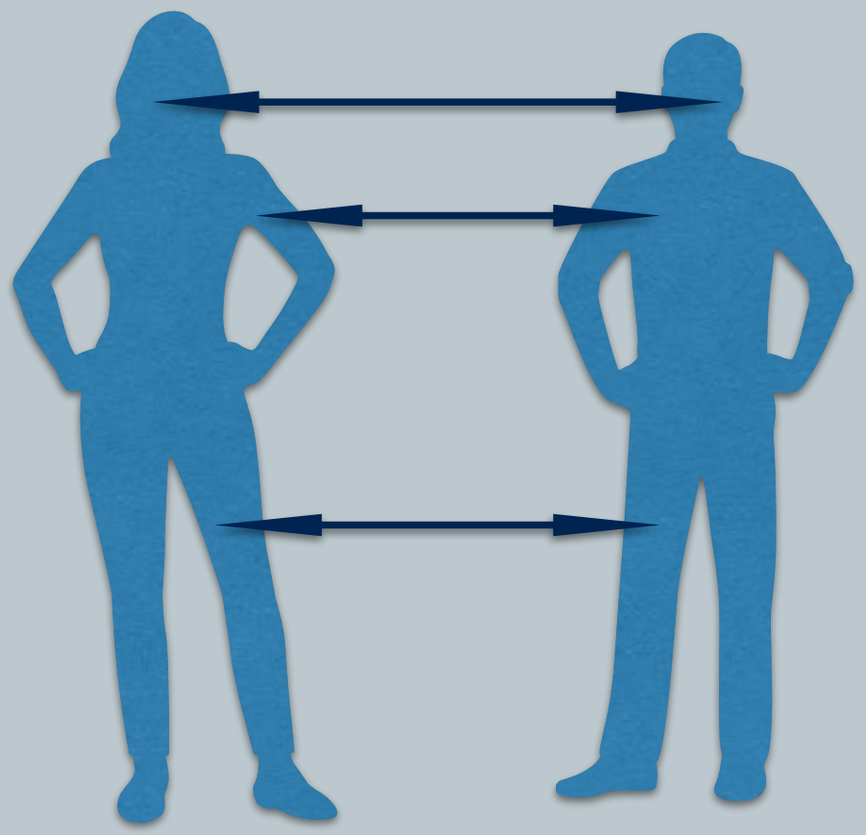
Robotique Sociale, interaction multimodale

Logique Input / Output



Réciprocité des signaux