

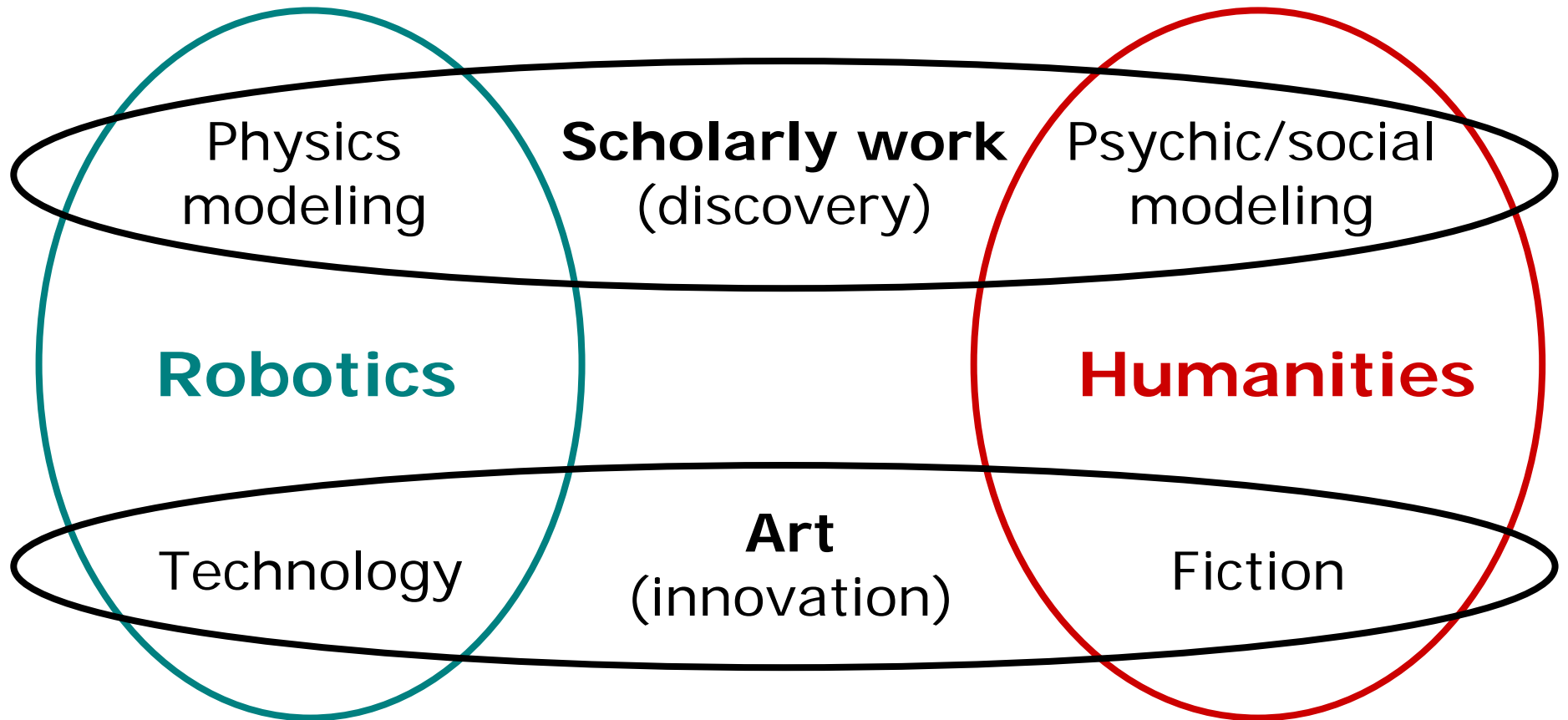


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Being human
in the robot age

The Science Forum (as I picture it)



Scholarly work and Art: mutual inspiration

(Physics and Science-fiction)

2007: 50th anniversary of the **many-worlds hypothesis** by Hugh Everett III (quantum mechanics)

“The futures we fail to encounter, upon the roads we do not take, are just as real as the landmarks upon those roads. We never see them, but we freely admit their existence...”

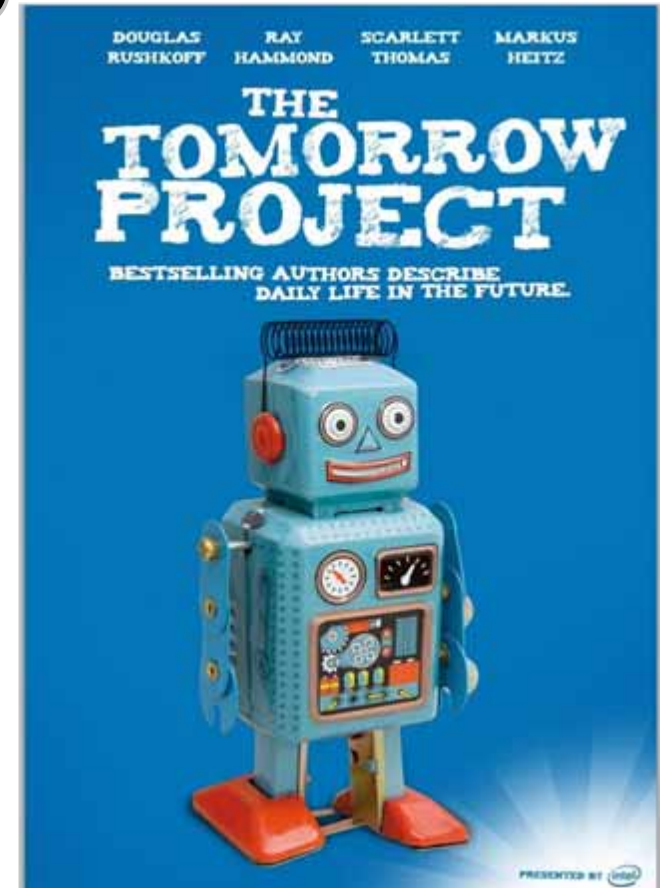


Scholarly work and Art: mutual inspiration

(Computing and Science-fiction)

2010: “The Tomorrow Project” (INTEL)

“Research being conducted by Intel in the fields of photonics, robotics, telematics, dynamic physical rendering and intelligent sensors served as the basis to inspire four bestselling authors. The results are four short stories which paint amusing, thought-provoking and hopeful pictures of our future.”



Scholarly work and Art: mutual inspiration

(Engineering and Science-fiction)

2012: Center for Science and the Imagination



"Innovation starvation"



"What SF stories can do better than almost anything else is to provide not just an idea for some specific technical innovation, but also to supply a coherent picture of that innovation being integrated into a society, into an economy, and into people's lives."



Scholarly work and **Art**: mutual inspiration

(**Science** and **Science-fiction**)

2009:



2013:



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Scholarly work and Art: mutual inspiration

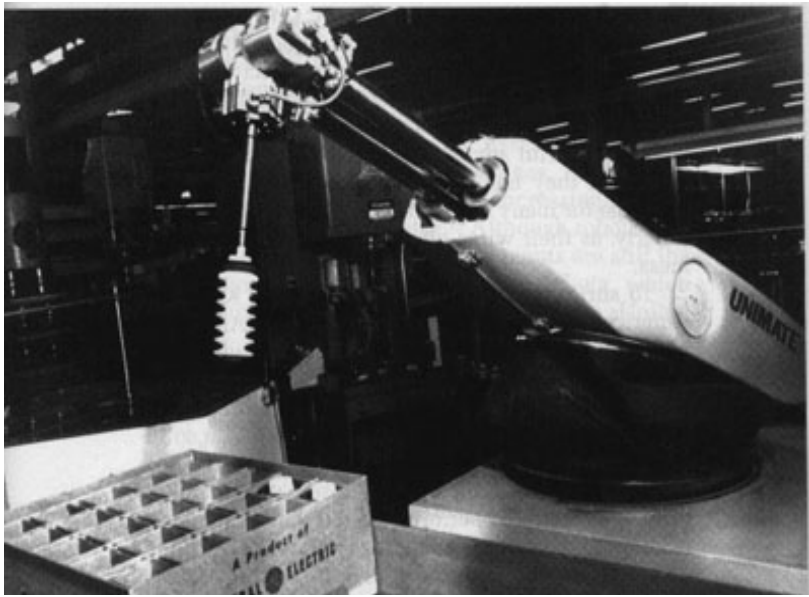
(Robotics and Science-fiction)

2003:



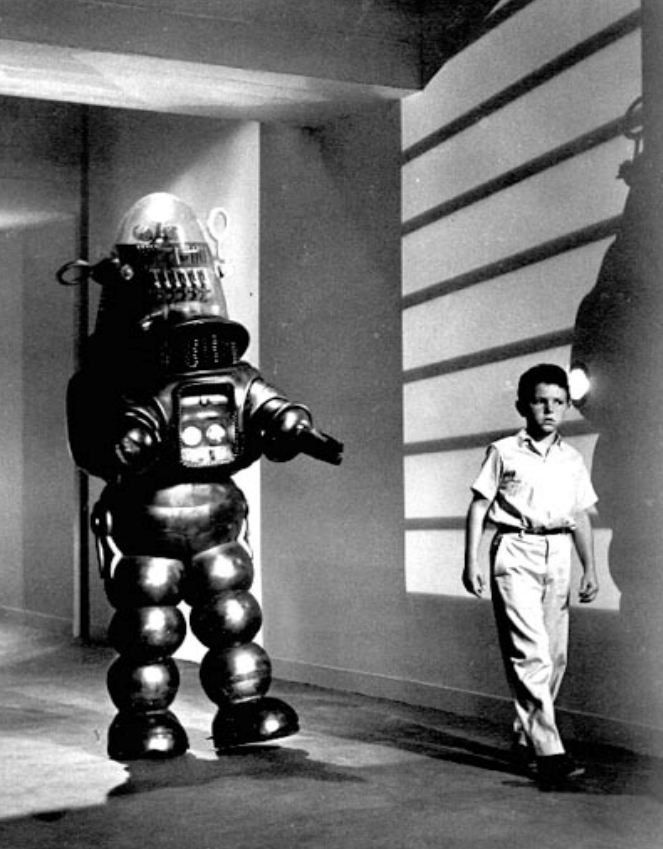
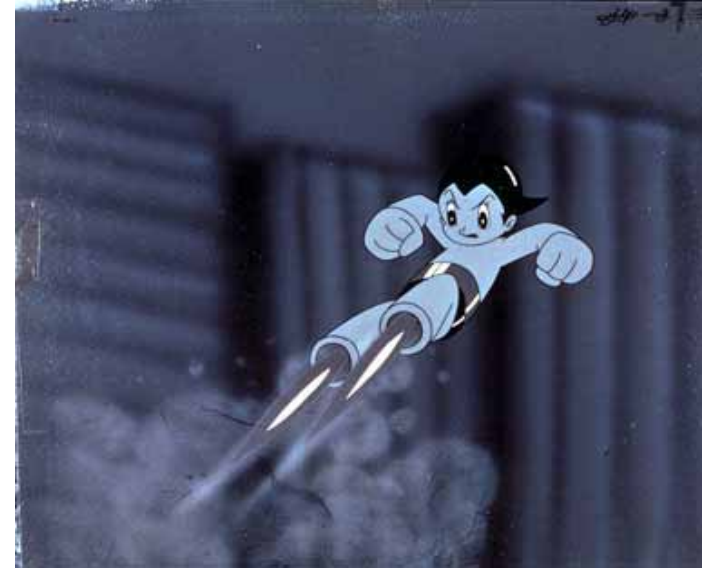
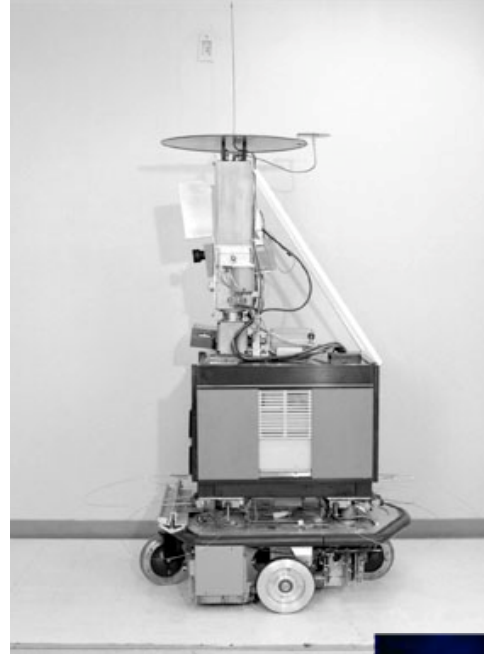
“established to create a broader awareness of the contributions that robots and roboticists make to science and society. It has honored robots both of science and of science fiction – the robots of metal and silicon that embody technical and scientific innovation as well as the imagined robots that excite audiences about what the future may hold and inspire roboticists to greater achievements.”





2003





2004

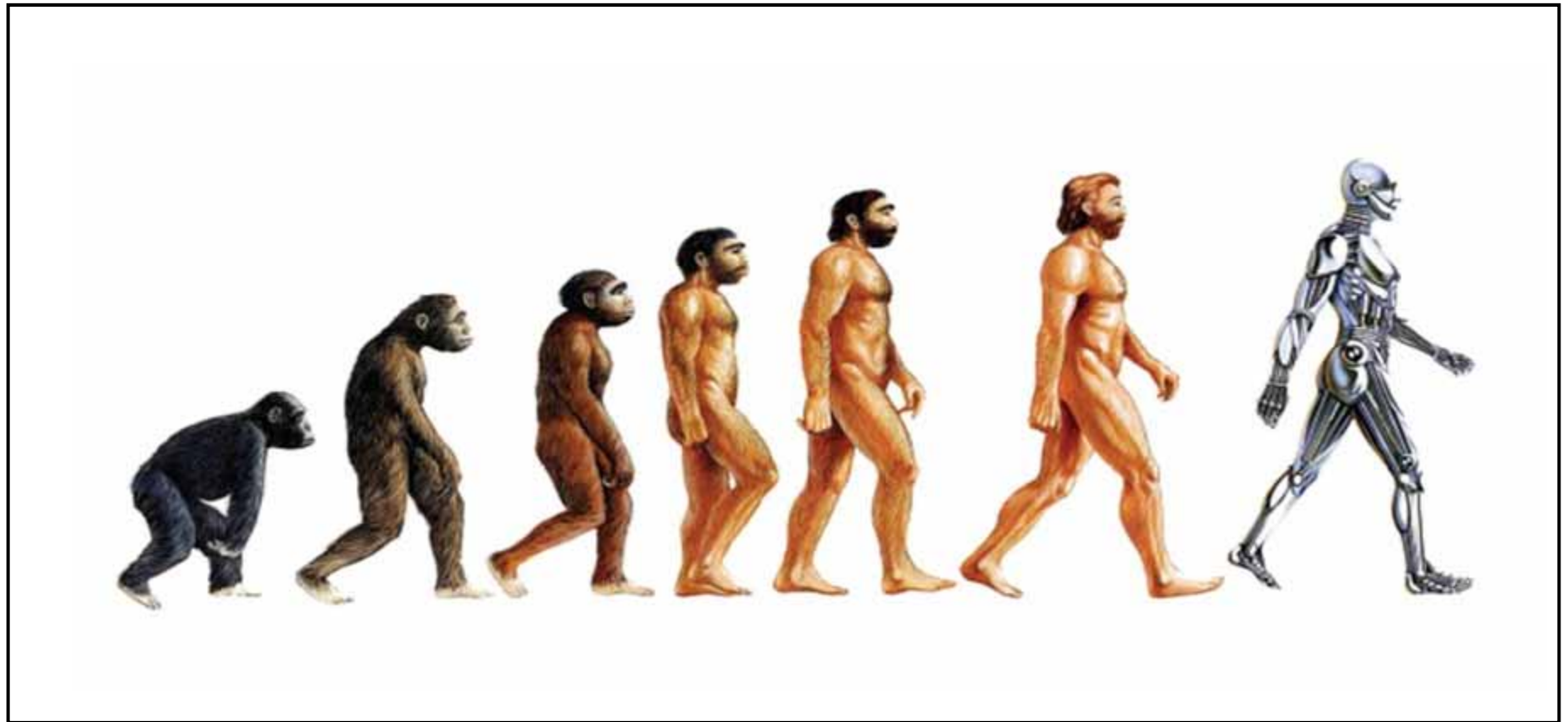




2012



Robots and humans... **closer ties**



Robots and humans... **two types of ties**

Artificial retinas, sensorized dresses,
exoskeletons, telepresence...

robotic prostheses expand our body



Living with butlers and
artificial nannies,
learning from robotic teachers, sharing
work and leisure with humanoids...

**will enhance our intellectual and
social habits? will develop new ones?**



Some considerations for the **round table**

- **Robotics differs from other technologies** in entering domains previously thought to be exclusively human.
- **What defines "human beings"?**
 - The capacity of establishing our own goals?
 - Change in the concepts of "normality" and "deficiency".
- How will **human nature change** with H-R interaction?
(Other moral issues: military, damage responsibility, digital gap)
- Science-fiction may help **develop ethical social opinion**
(e.g., Asimov's three laws of Robotics)



Recent **SF** movies about H-R relationships

2012



E V A

2011



2009

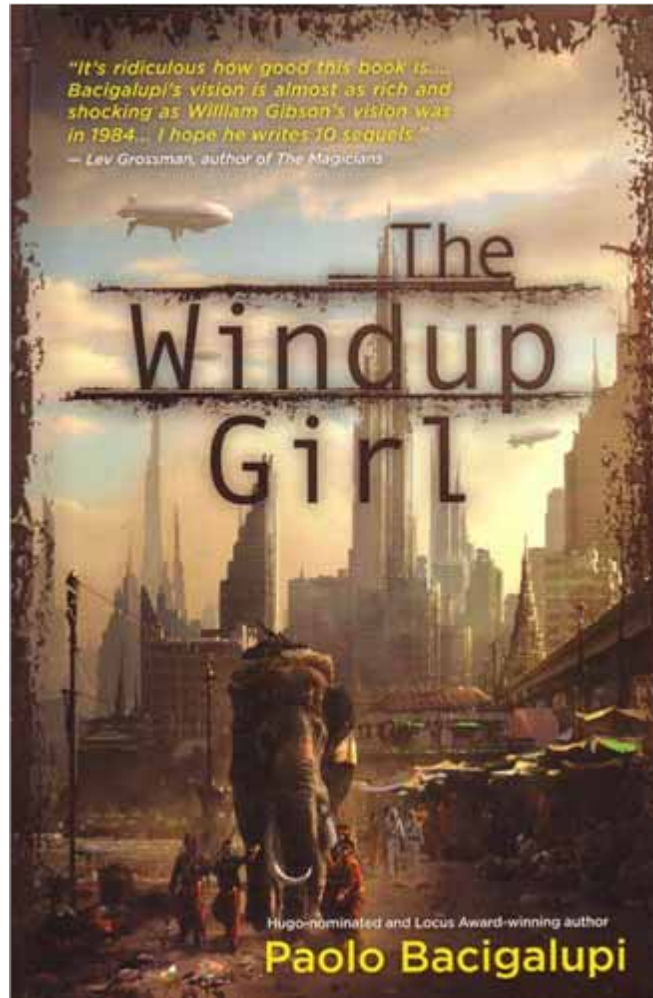


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Recent **SF books** about H-R relationships

2010



2008/2012



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Questions for the **round table** discussion

*“It is the relationships that we have constructed
which in turn shape us”*

Robert C. Solomon, “The Passions”

- How will our increasing interaction with robots affect individual identity, society and the future of humankind?
- **Can this evolution be predicted?**
- Can it somehow be guided?



Questions for the **round table** discussion

- Can this evolution be predicted?

Methodological difficulties:

- Appearance of **unforeseen uses for devices** (Ihde, 2004)
- **Limitations of language to describe the future:** *"it is through technique that we perceive the sea as navigable"* (Heidegger)
- Cannot be studied separately from the socio-cultural context:
Social construction of reality (Berger and Luckmann, 1966)

Joint work with F. Ballesté (Humanities, UOC)



Questions for the **round table** discussion

- How will our increasing interaction with robots affect individual identity, society and the future of humankind?
- Can this evolution be predicted?
- Can it somehow be guided?

The future holds exciting technological, ethical and anthropological challenges

(Real-time social experiment vs. fictional simulation)

