

Past, Present and Future

A Talk in Honor of Bernard's Transition to New and Exciting  
Adventures.



Professor Steven Dubowsky, MIT



# Some Background

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I am very honored to be invited to speak here today. I asked what I should do and received the following suggestions

1. Talk about my research, but:

- Speaking about my work was not appropriate to honor Bernard's important contributions to robotics.
- Review the large body of important contributions Bernard has made to robotics, would take more time than the 20 or so minutes I have today.

2. I should speak in French.

- When I stopped laughing, I realized that speaking in very very bad French was not a good idea.

3. I should not show any pictures of Bernard that might be embarrassing (such as Bernard without his pants or after having too much wine).

- That was probably a good idea, but not too much fun, so One is OK!

- \_\_\_\_\_

I told Bernard he should not have 4 glasses of Génepy with lunch when he is skiing



Bernard





So I chose the title for the talk Title:  
The Past, Present and Future of Robotics.

However such a talk would be hard.

1. For the future – “Making Predictions is difficult, especially when they are in the future\*"
2. It would be too much work!

By the way most of know that  
Bernard loves Flex the Cat, but only  
a few know why does – Let me show  
you.



\*Yogi Berra -- Catcher of the New York Yankees (1946 to 1965)



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June 2012



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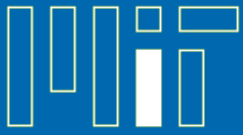
# The Subjects of the Talk Changed:

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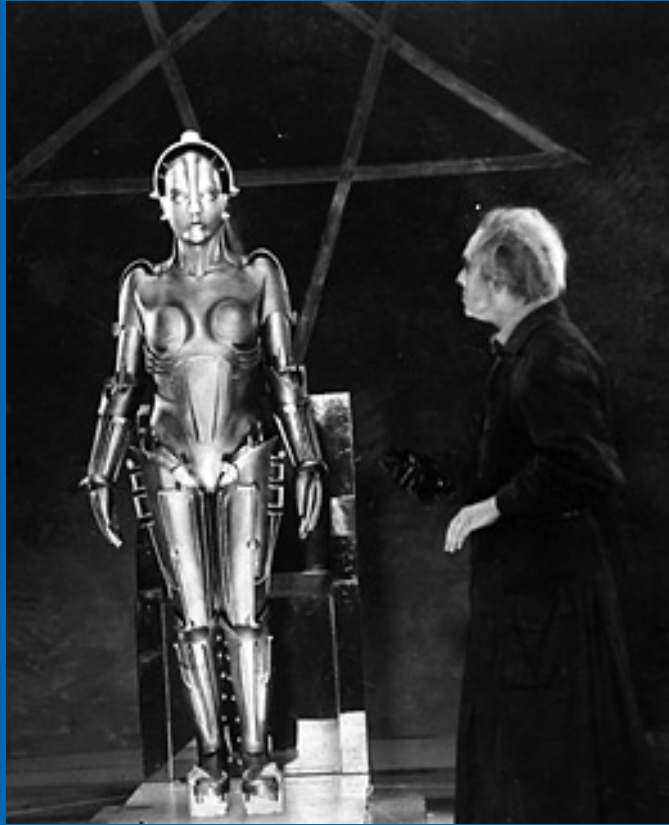
- The Robotics of the Past (Easy)
- The Present State–of-the Art of Walking Robots (An area that Bernard has made important contributions)
- Some Quick Looks of How Robots Might Enter Bernard's Life in the Future .... And Yours and Mine as Well.



# Robotics in the Past



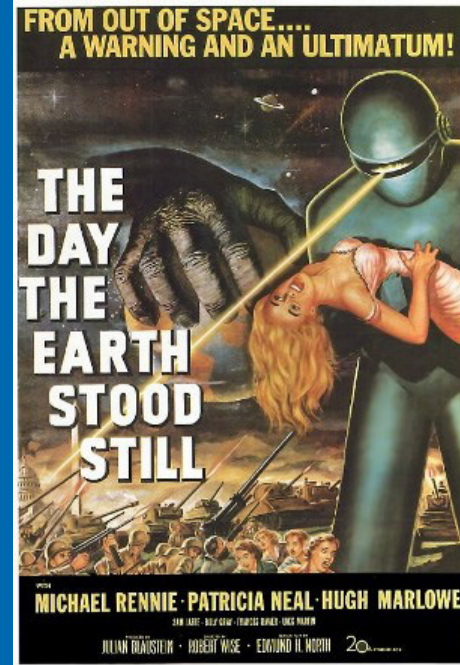
# The Earliest Robots Were in Hollywood



Metropolis (1927)

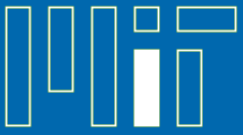


Robbie the Robot: 1956

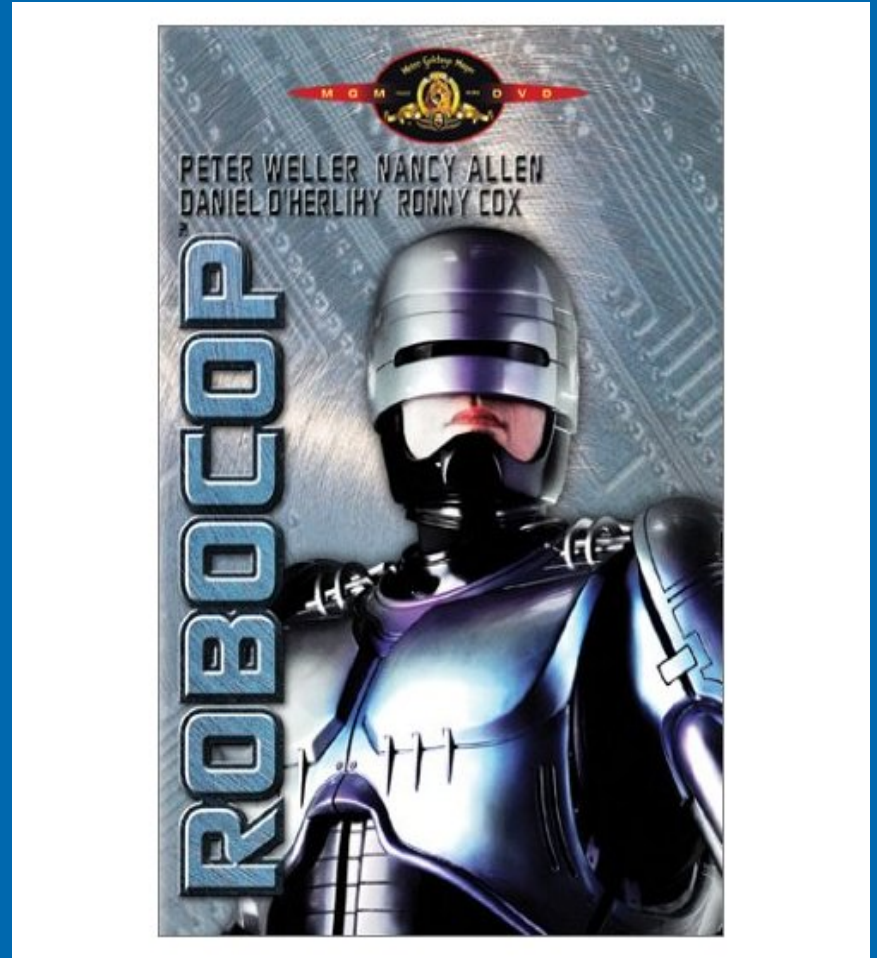
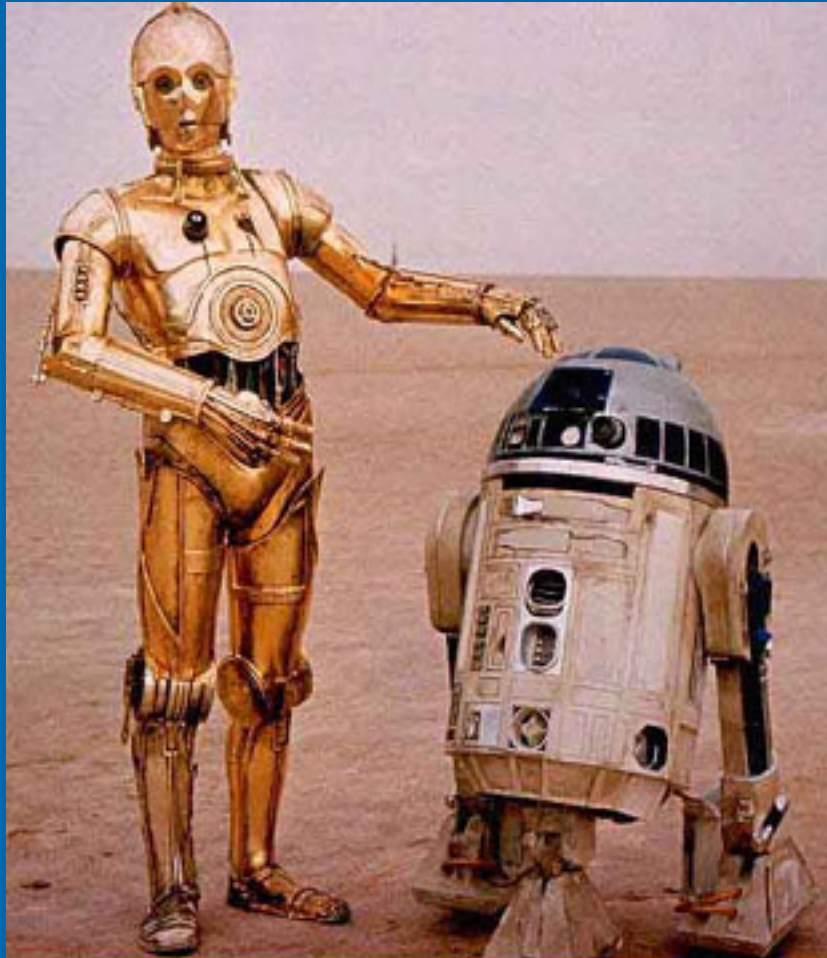


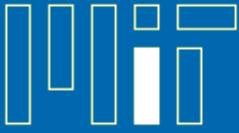
1951





# Hollywood Still Leads the Way





- The Present State—of-the Art of Walking Robots
- A subject that Bernard has made important contributions.



# Four Legged Walking

Advances have been made – Thanks to military funding and smart people.



**BIG DOG**

Boston Dynamics

## Advances have been made



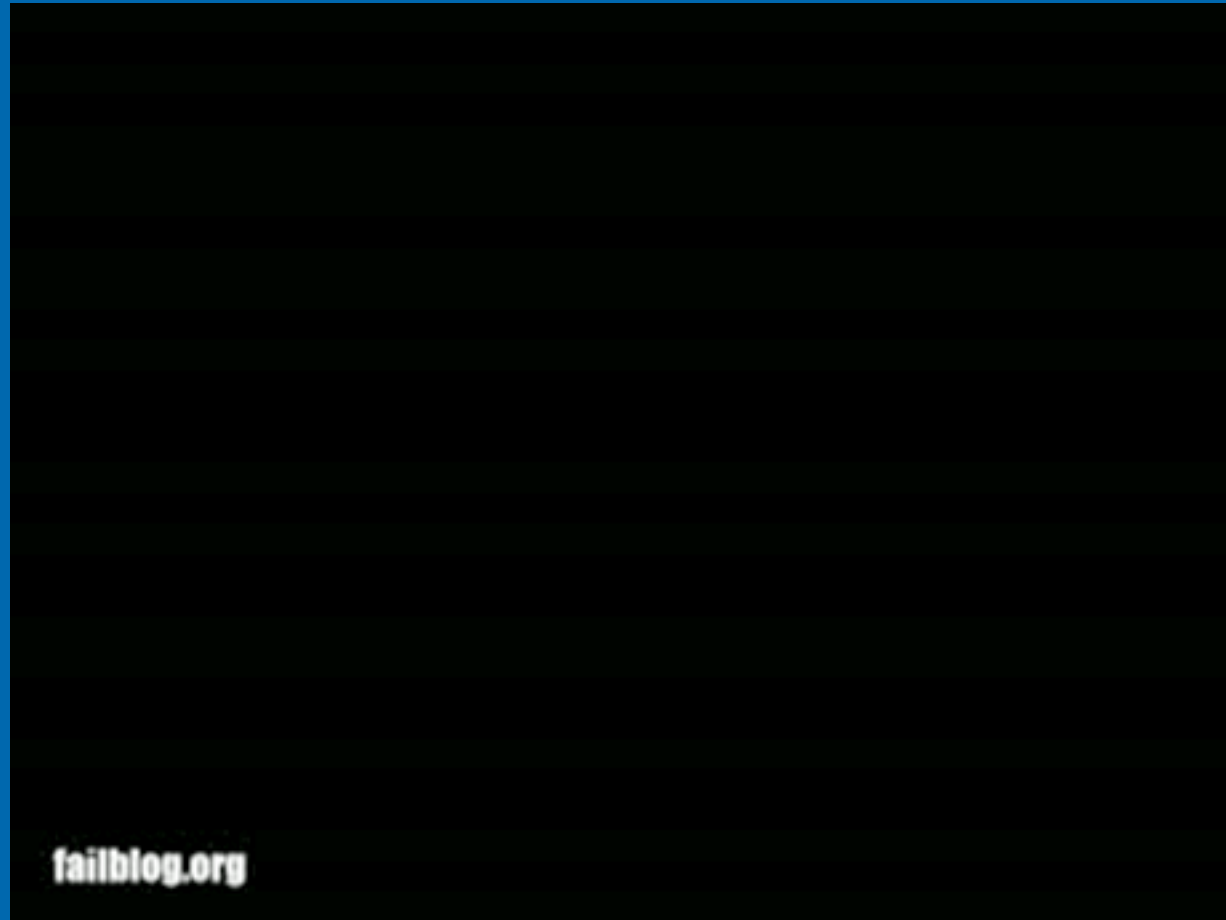
人とのすれ違い  
～迂回して回避～

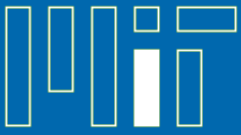
ASIMO avoids a person

- ASIMO alters its path to avoid the person without stopping -



Although two is much harder than four.





# Where is Walking Robotics Going\*?



\* Yogi says: You have to be very careful if you don't know where you are going, you will wind up somewhere else.



# Robots in Bernard's Future?

...and yours and mine....Maybe?

This something for us all to think carefully about.





The direction and progress\* of today's research provides a signpost of where robotic technology will be in the future.

MIT PAMM...

SmartWalker  
Examples of Healthy  
Elderly Users





For predictions of the distant future we need to look to Hollywood again.





Business Will Make Money From It.



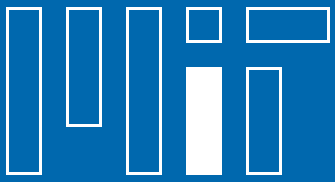
Any Questions?



Yogi Berra said: If you ask me anything I don't know, I'm not going to answer.

# Bernard You Had Better Get Going – You have a Lot of Things to Do!





Felix the Cat



Sylvester the Cat