

Week 3

Bill Joy—

Why the Future Doesn't Need Us

The New Luddite Challenge

Before we begin, what or who were the Luddites?

Hans Moravec's predictions of commuters by 2050.

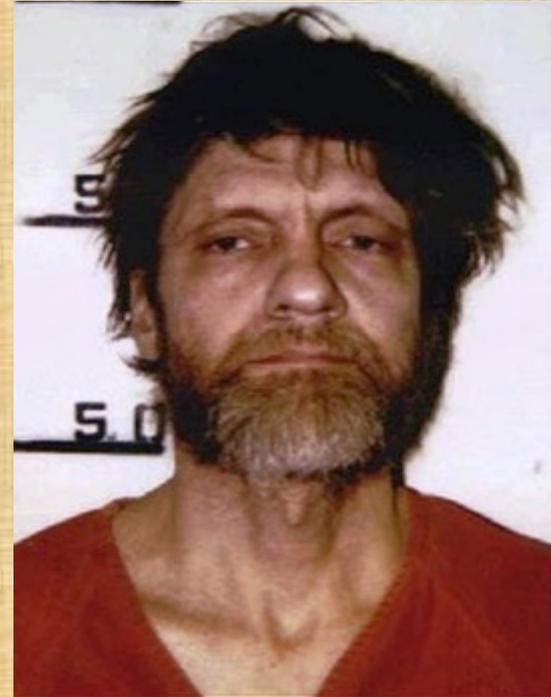
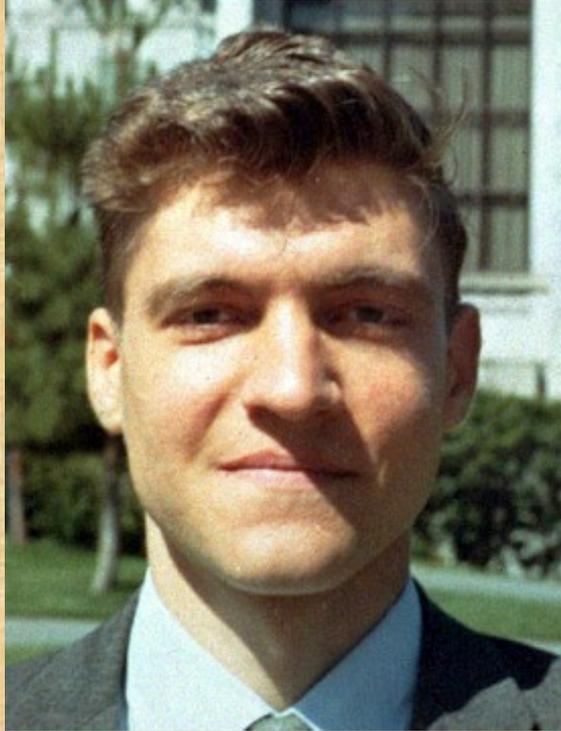
And now back to the really present time....

**Joy quotes Kurzweil's prediction of the future
if computers are not controlled.**

**Joy goes on to talk about Ted Kaczynski,
who is the Unabomber.**

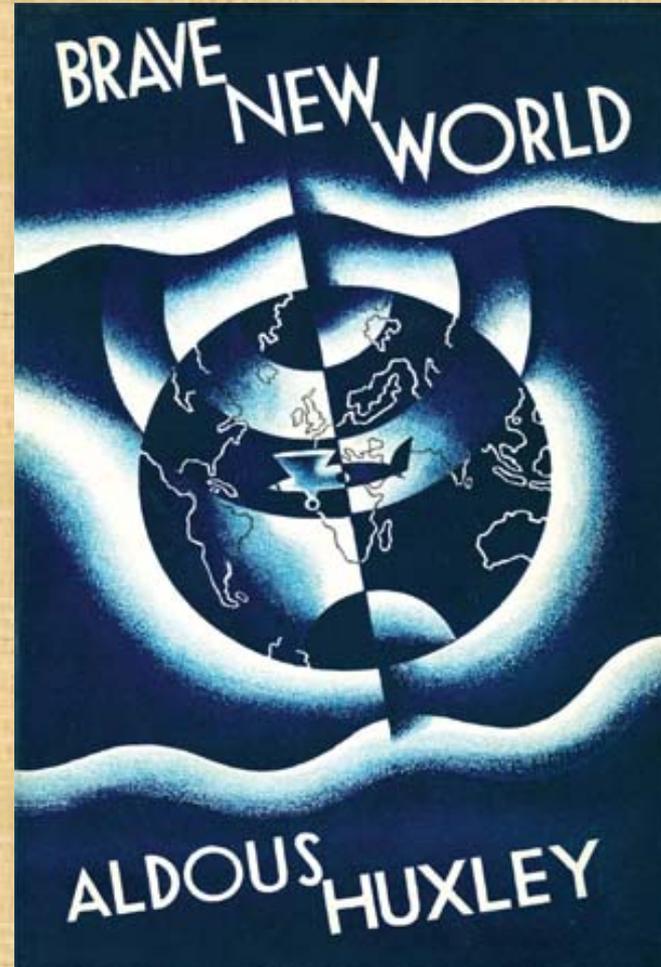
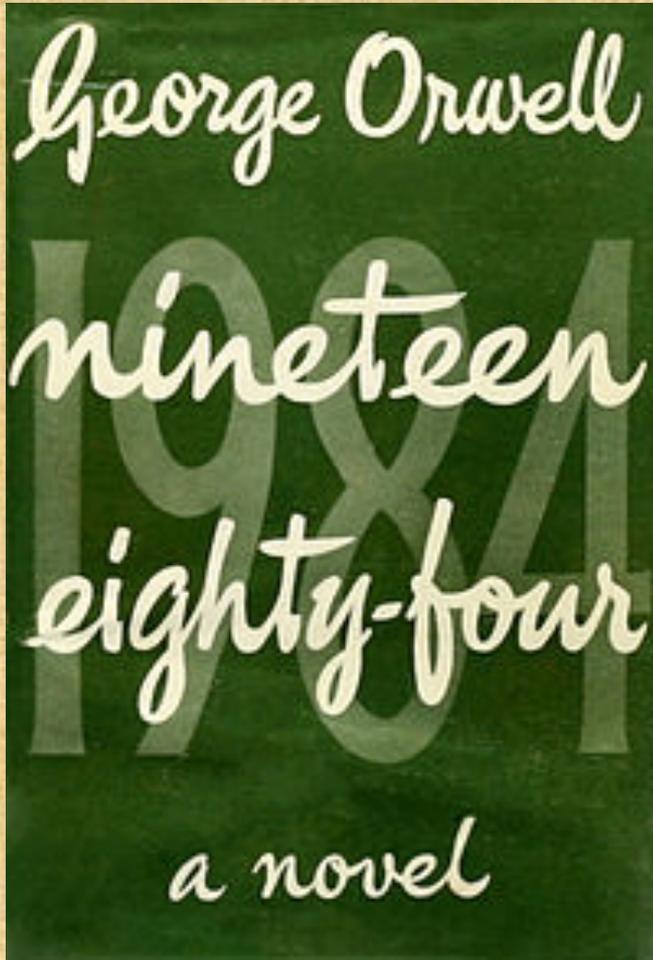
**The dystopian vision of Kaczynski
becomes a problem. Dystopia comes
from the Greek δυσ-which means bad or hard
and
τόπος which means “place, landscape”.**

Dystopia means anti-utopia.



Kaczynski in part of his manifesto from *Industrial Society and Its Future* states that “the Industrial Revolution and its consequences have been a disaster for the human race.”

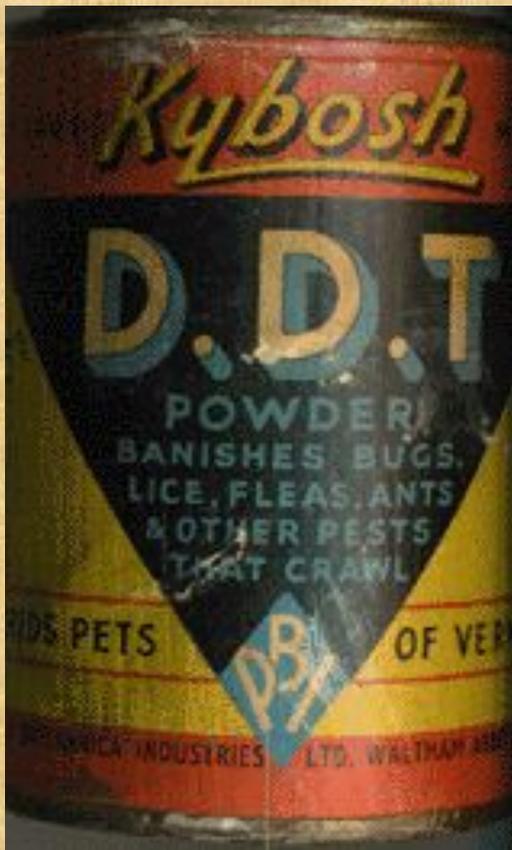
Other dystopia writings include
1984 and *Brave New World*.



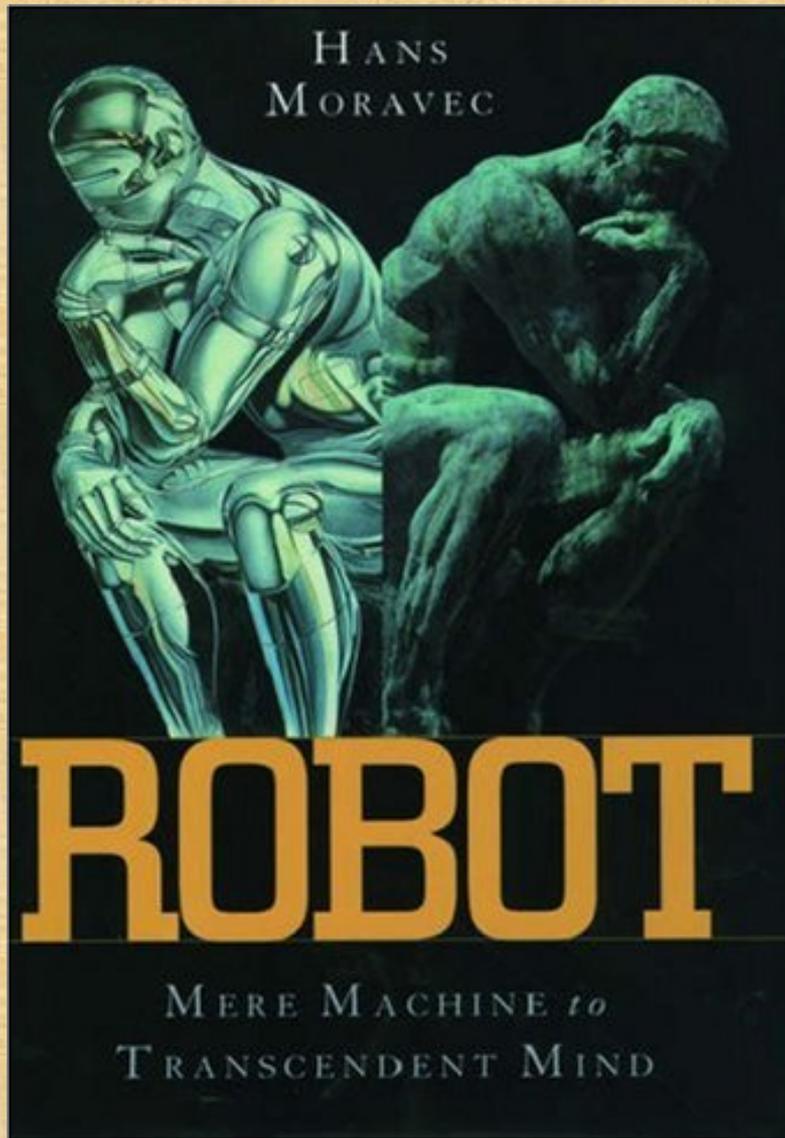
**Kaczynski, Murphy and Finalge's
Law of Dynamic Negatives,
“Anything that can go wrong, will—
at the worst possible moment.”**

**However, Finagle's law can also be translated,
"Inanimate objects are out to get us."**

**Back to the first understanding of Finagle's law:
“Anything that can go wrong, will—
at the worst possible moment.”**



**Joy provides his best example:
antibiotic-resistant drugs,
which is parallel to mosquitoes
creating antibodies to DDT.**



**Make sure that you
read this link: [Robot](#)**

**“What about life back on the preserve?
For some of us the thought of being grandly
upstaged by our artificial progeny will be
disappointing, and life may seem pointless
if we are fated to spend it staring stupidly
at our ultra-intelligent progeny as they
try to describe their ever more spectacular
discoveries in baby-talk that we can
understand. Is there any way individual
humans might join the adventure?**

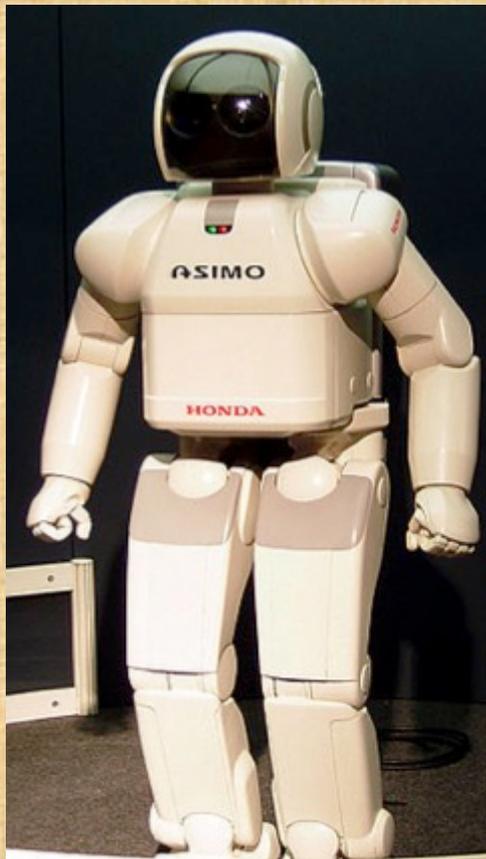
-Moravec

The Short Run (Early 2000s)

Moravec wrote of the 21st century that we will be “ensuring continued cooperation from the robot industries.”

He feels that robots will evolve past us as we become extinct.

**Joy's concern about our future
in the 21st century is
“Specifically, robots, engineered
organisms, and nanobots share
a dangerous amplifying factor:
They can self-replicate.”**



Robots have been around already like ASIMO and this female android, which comes from Greek $\alpha\upsilon\delta\rho$ = man and the suffix –oid, which means “having the form or likeness.

<http://www.youtube.com/watch?v=MY8-sJS0W1I&feature=related>

<http://www.cnn.com/2012/03/04/opinion/ted-kumar-flying-robots/index.html>

Do you know
what you're
eating?

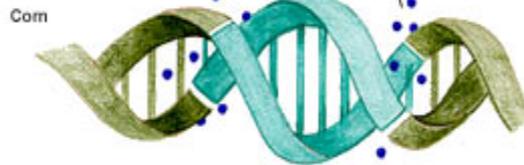
Let's label GM food



Bt gene will
help corn resist
harmful insects



Enzymes are used
to move genes



Bt gene

Enzymes

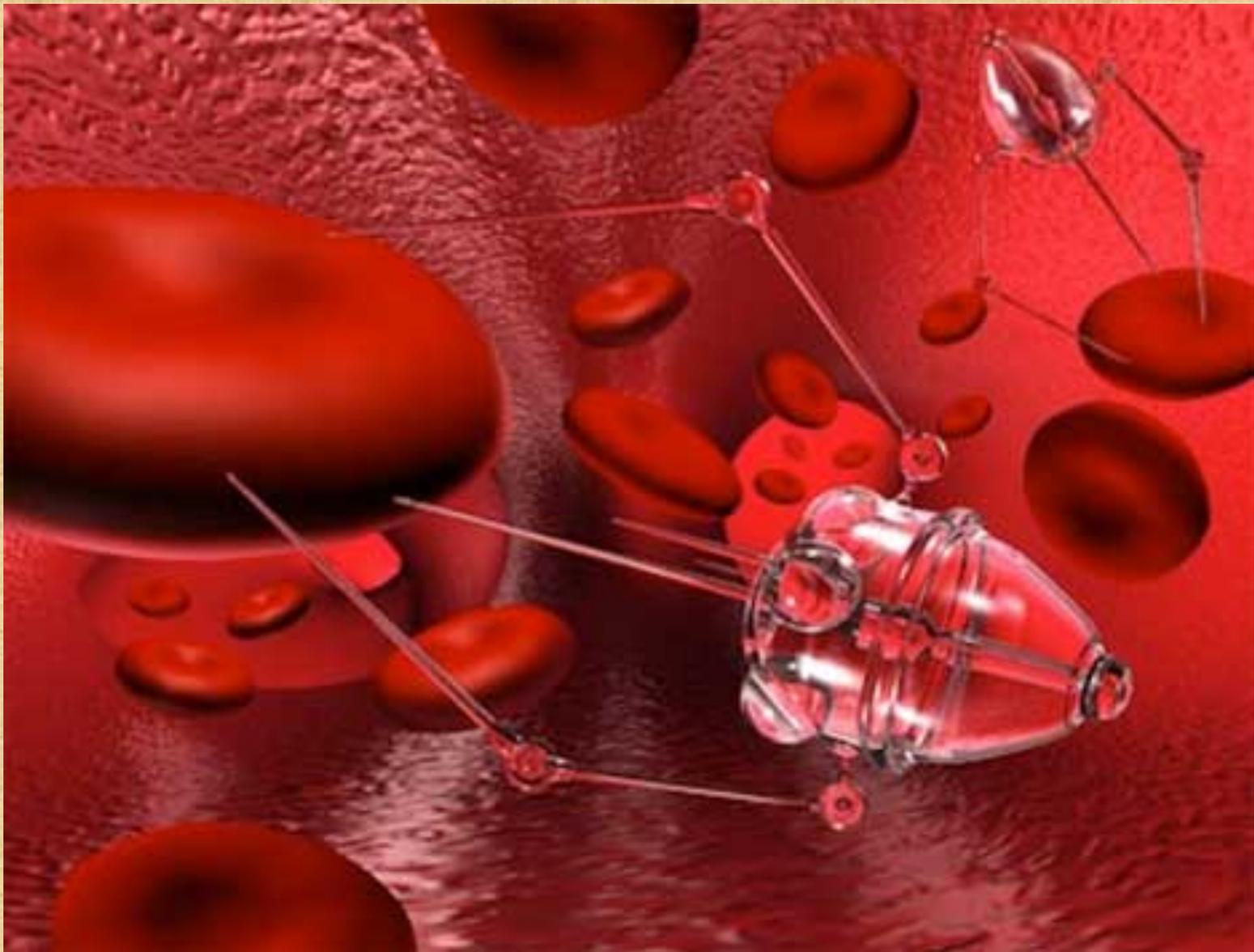


Corn

Bt gene inserted
into corn



Genetic engineering is much researched
and much debated in the 21st century.



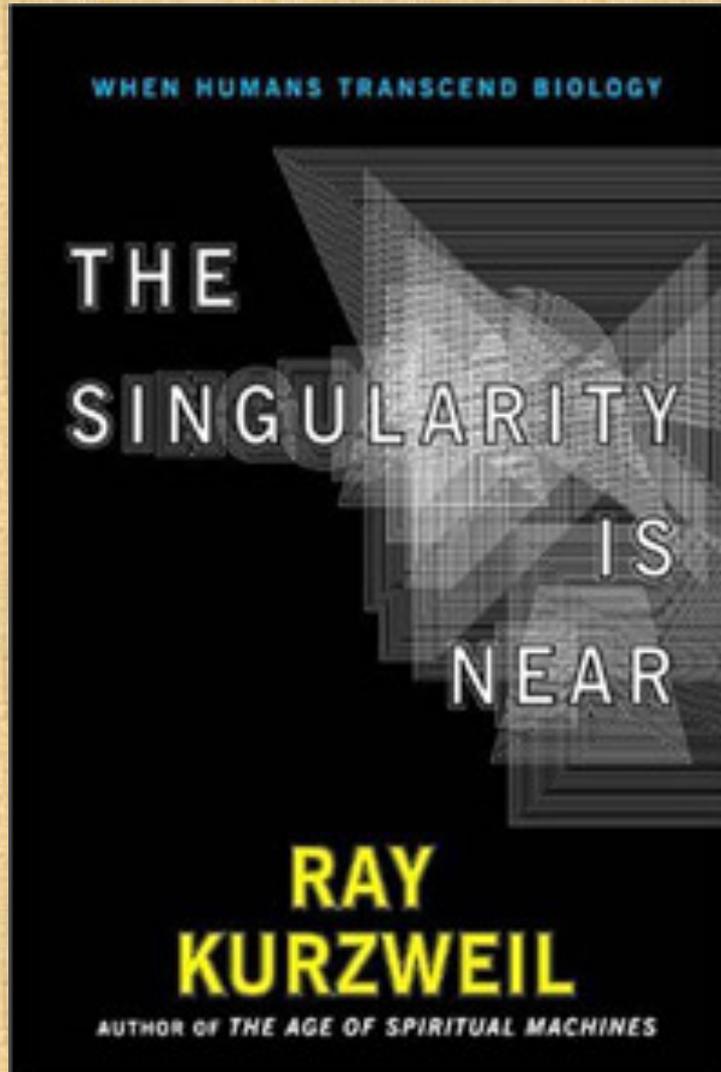
A nanobot is in the process of turning off a cancer cell.

These technologies provide promise of an improved world in which to live, but they also provide the possibility of a living-nightmare and then death due to the uncontrolled *replication* issue.

**In the 20th century, we have faced
the problems of weapons of mass destruction (WMD),
which include nuclear, biological, and chemical (NBC).**

That was yesterday....

**The 21st century faces genetics,
nanotechnology, and robotics (GNR).**



Kurzweil's book on GNG

Watch this video:

<http://mitworld.mit.edu/video/327>

We also have the knowledge-enabled mass destruction (KMD), which can be tied to self-replication.



Joy talks about his journey of growing up and *wising-up* by his comment about Michelangelo and sculpting who saw the object encased in the marble.

All that Michelangelo had to do was to remove the unnecessary pieces.

Joy writes about his pilgrimage through his adult life with this central and pivotal thought:

“...I have never had the feeling that I was designing an intelligent machine.”

Remember that haunting confession.

Then an even more haunting statement:

**“...I may be working to create tools
which will enable the construction
of the technology that
may replace our species.”**



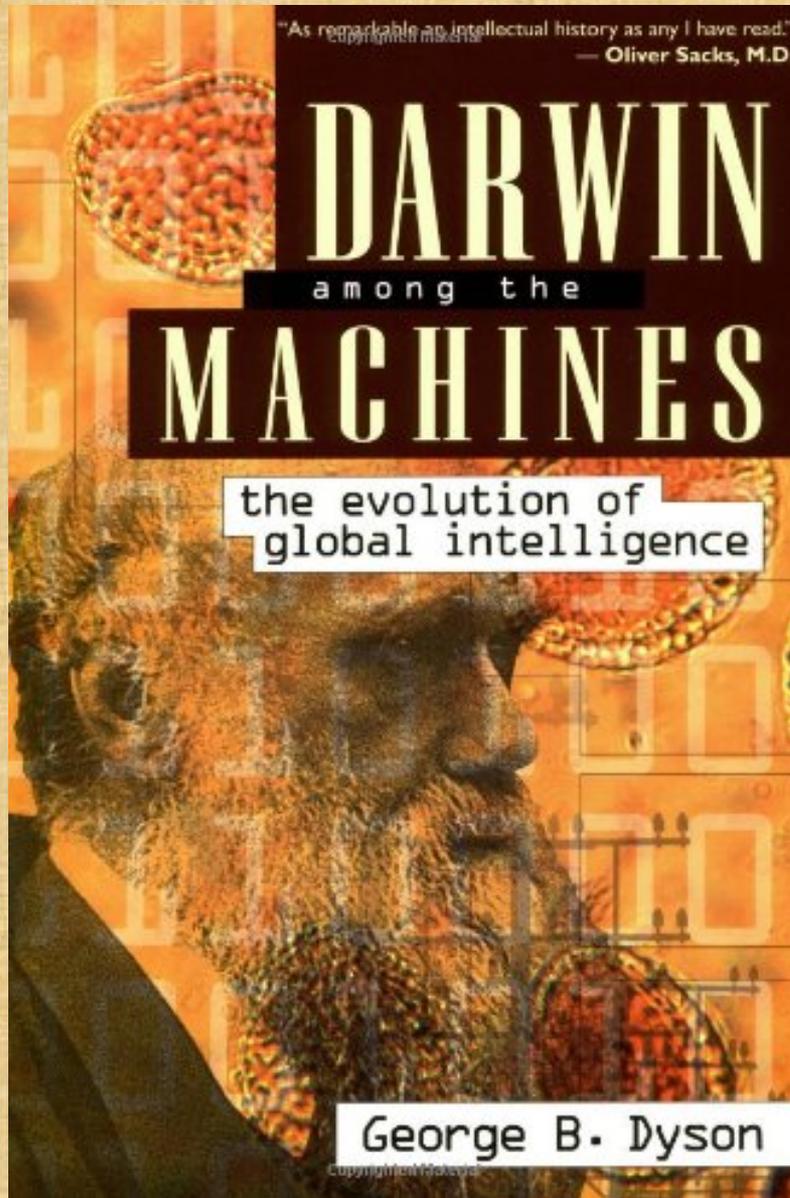
**Joy sees his problem and that of many others.
He said, “...it is always hard to see the bigger
impact while you are in the vortex of a change.”**



**Certainly within *our* lifetimes,
we will be facing creating a
technology that will replace us.**

Joy raises this issue of caution.

**A special note: I plan to out
live George Burns who was
also born on January 20th.
He lived to 100 and 6 weeks.**



**Dyson wrote,
“In the game of life and
evolution, there are three
players at the table: human
beings, nature, and machines.
I am firmly on the side
of nature. But nature,
I suspect, is on the side
of the machines.”**

But when will the machines be able to take over?

**Joy's prediction is by 2030;
Moravec's prediction is by 2050.**

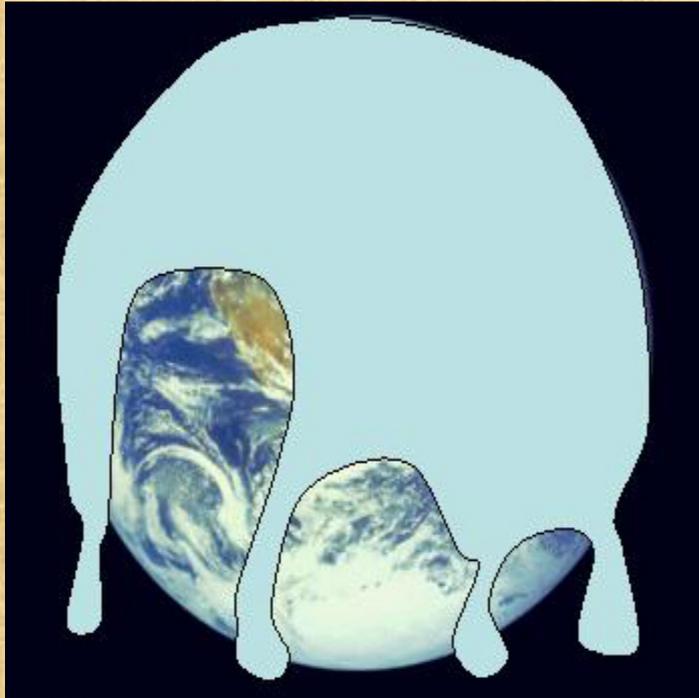
**That is not much of a margin of error
nor is it far away.**

There is also the possibility that humans will replace ourselves with robots.

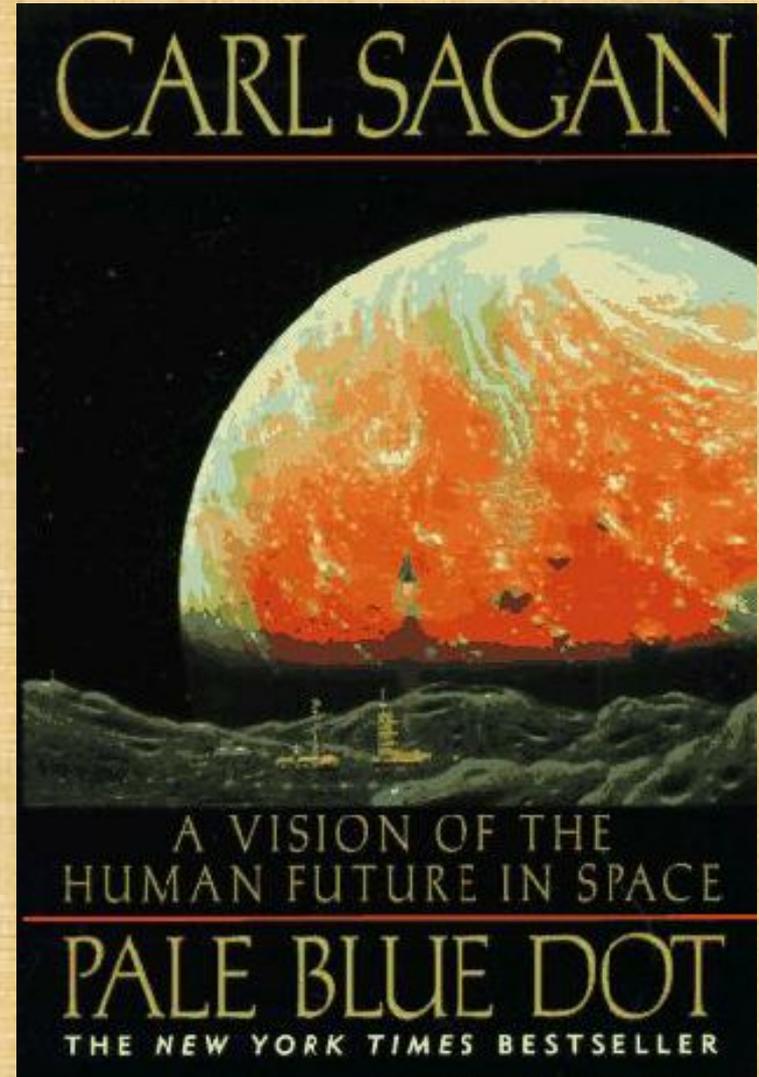
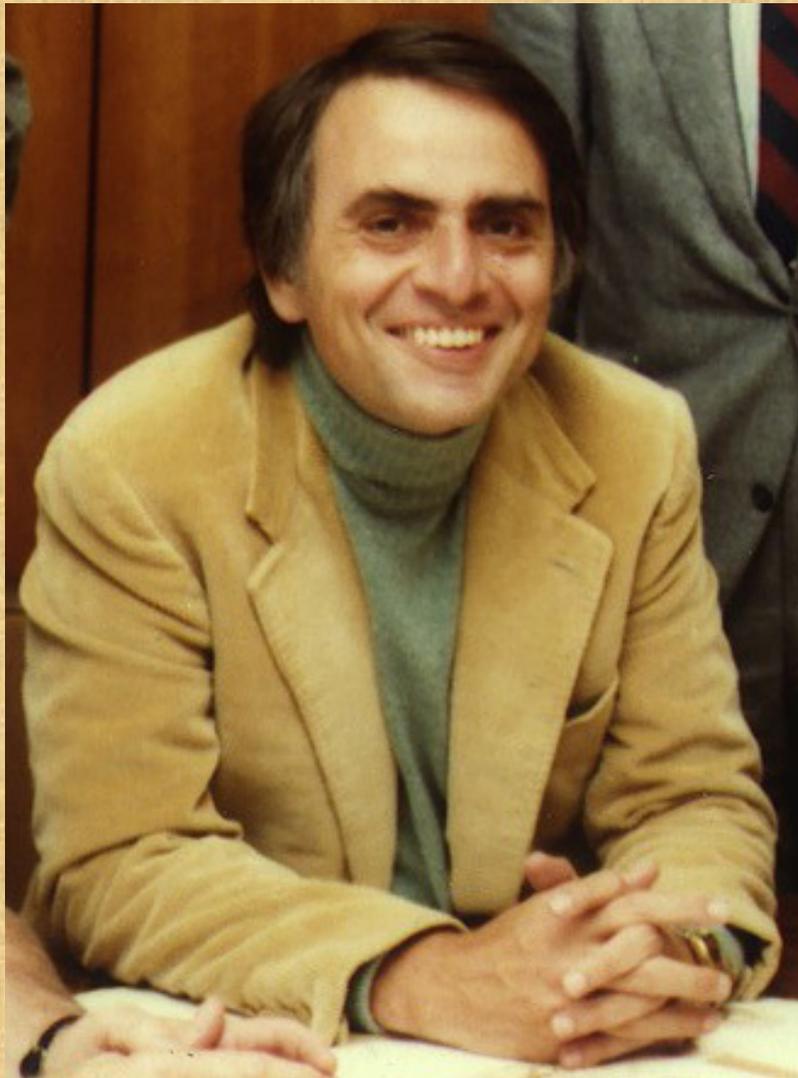
**Go back to slide #19 on Kurzweil's
*The Age of Spiritual Machines.***

**Joy wrestles with the ethics
of the future of science.**

Is science an engine of destruction?



**Drexler and Joy raise
the issue of *gray goo*
and the accidents that
might occur by the
“replication (of)
assemblers.”**



www.carlsagan.com

<http://www.hulu.com/cosmos>



<http://www.youtube.com/watch?v=p86BPM1GV8M>

**From Voyager 1, we live on that *pale blue dot*,
which is seen from 3.7 billion miles from Pluto.**

We succeeded in taking that picture [from deep space], and, if you look at it, you see a dot. That's here. That's home. That's us. On it, everyone you ever heard of, every human being who ever lived, lived out their lives. The aggregate of all our joys and sufferings, thousands of confident religions, ideologies and economic doctrines, every hunter and forager, every hero and coward, every creator and destroyer of civilizations, every king and peasant, every young couple in love, every hopeful child, every mother and father, every inventor and explorer, every teacher of morals, every corrupt politician, every superstar, every supreme leader, every saint and sinner in the history of our species, lived there on a mote of dust, suspended in a sunbeam.

The earth is a very small stage in a vast cosmic arena. Think of the rivers of blood spilled by all those generals and emperors so that in glory and in triumph they could become the momentary masters of a fraction of a dot. Think of the endless cruelties visited by the inhabitants of one corner of the dot on scarcely distinguishable inhabitants of some other corner of the dot. How frequent their misunderstandings, how eager they are to kill one another, how fervent their hatreds. Our posturings, our imagined self-importance, the delusion that we have some privileged position in the universe, are challenged by this point of pale light. Our planet is a lonely speck in the great enveloping cosmic dark. In our obscurity – in all this vastness – there is no hint that help will come from elsewhere to save us from ourselves. It is up to us. It's been said that astronomy is a humbling, and I might add, a character-building experience. To my mind, there is perhaps no better demonstration of the folly of human conceits than this distant image of our tiny world. To me, it underscores our responsibility to deal more kindly and compassionately with one another and to preserve and cherish that pale blue dot, the only home we've ever known.

—Carl Sagan, *Pale Blue Dot: A Vision of the Human Future in Space*

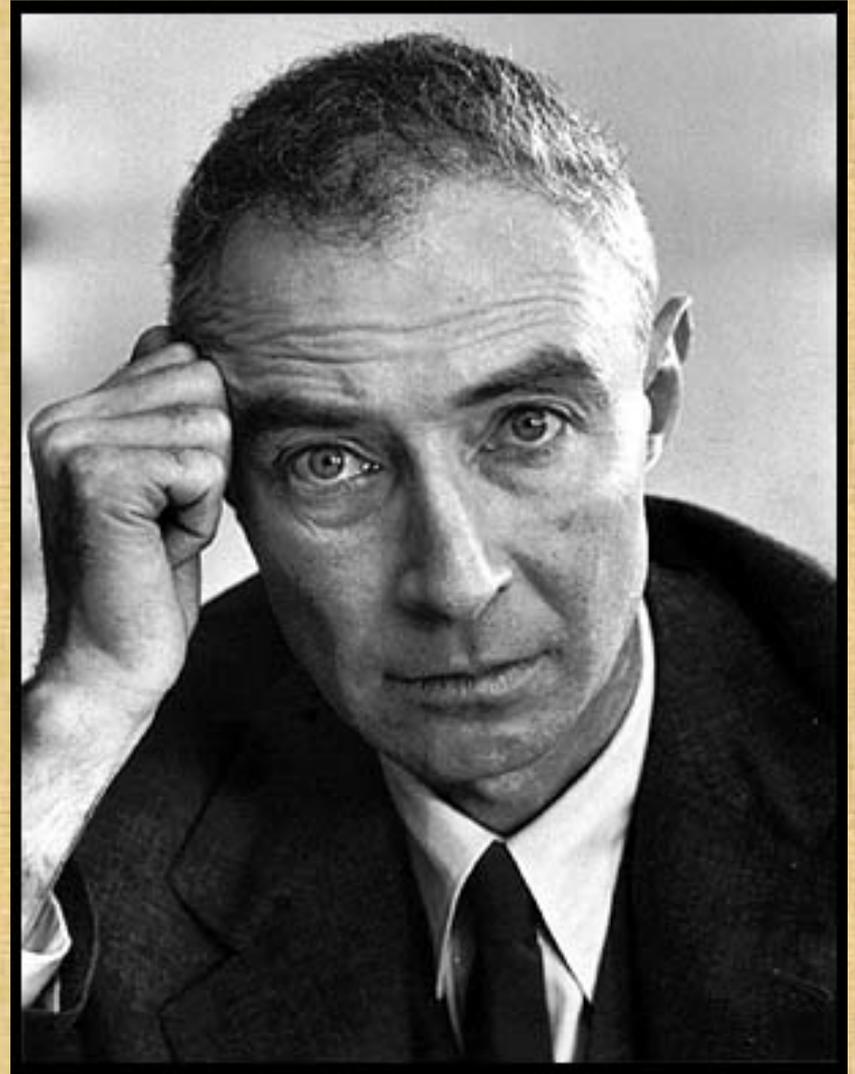
Some people think God is an outsized, light-skinned male with a long white beard, sitting on a throne somewhere up there in the sky, busily tallying the fall of every sparrow.

Others—for example Baruch Spinoza and Albert Einstein—considered God to be essentially the sum total of the physical laws which describe the universe. I do not know of any compelling evidence for anthropomorphic patriarchs controlling human destiny from some hidden celestial vantage point, but it would be madness to deny the existence of physical laws.

**J. Robert Oppenheimer
said this about the Trinity
test on July 16, 1945.**

**These words were
from the Bhagavad Gita:
“Now, I am become Death,
the destroyer of worlds.”**

<http://www.youtube.com/watch?v=n8H7Jibx-c0>



**Oppie, as his friends called him,
was concerned about the beginning
of the atomic age.**

He wanted the UN to control the weapon.



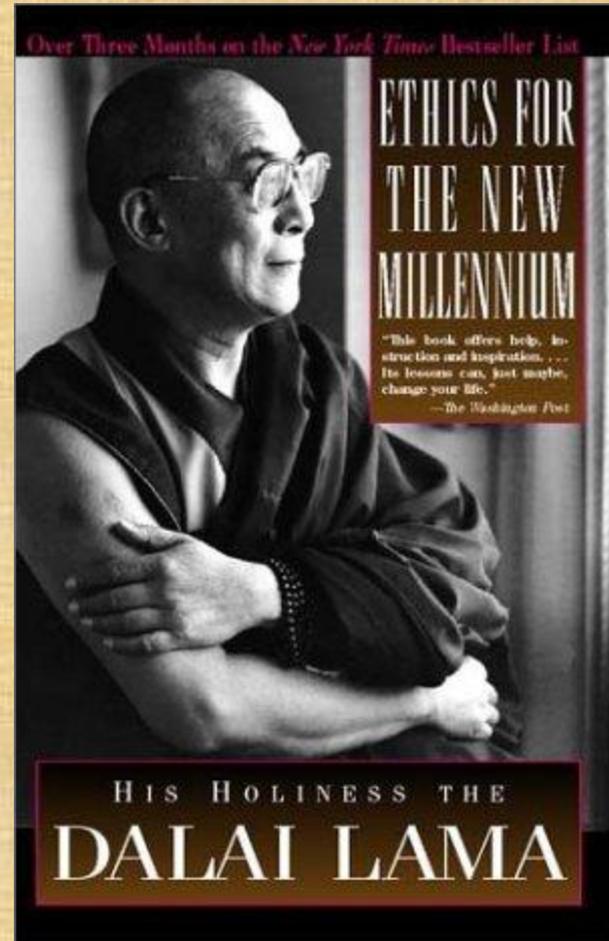
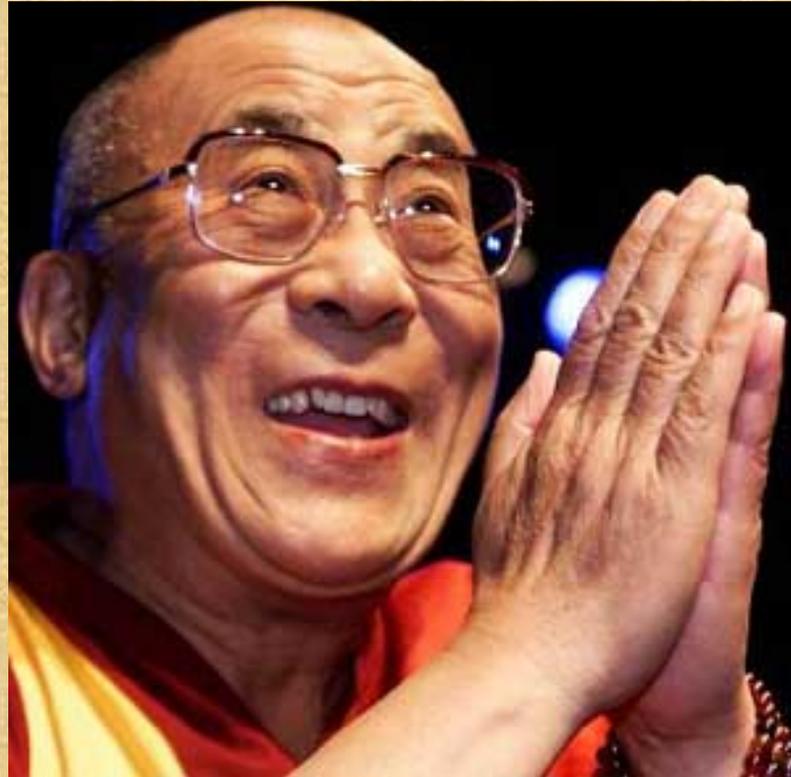
**Joy raises the question
about whether we have
passed the fail-safe point
...and there is no return.**



PANDORA opening her Box.



Pandora's Box (Jar) for Joy is that there is still hope left for us...not to be destroyed by what we have wrought.



The Dalai Lama wants us to live lives with love and compassion and to be enmeshed by the concept of universal responsibility and interdependence.

