

GRANDS ENJEUX DU MONDE DE DEMAIN:

Robotics and Artificial Intelligence

Institut Royal des Etudes Stratégiques

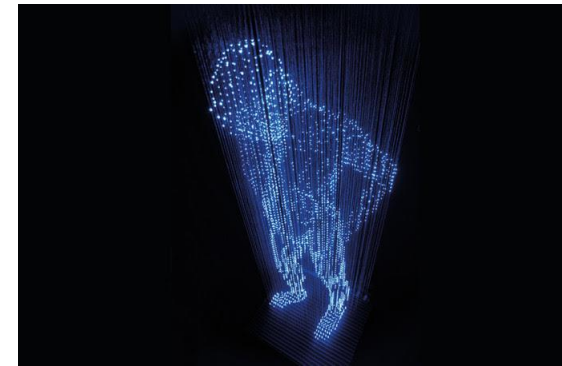


**BIBLIOTHEQUE NATIONALE DU ROYAUME
DU MAROC**

13 JUILLET 2016 A 14H30



Jim Dator
University of Hawaii



I am very honored to be part of this panel.

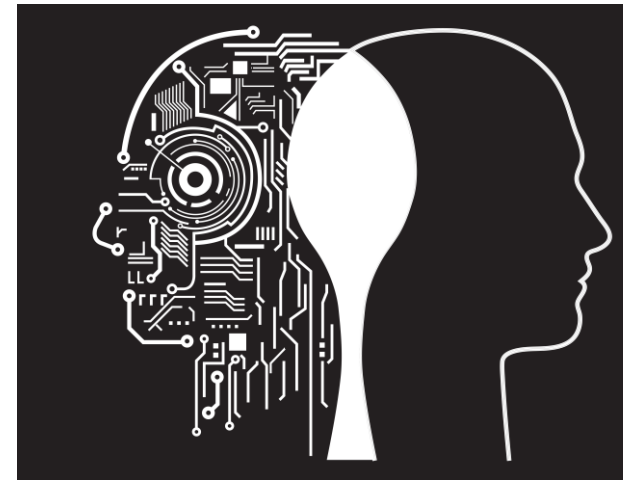
My experiences in Morocco over the past few days
have been memorable indeed.

What an impressive group of people
determined to create even more vibrant futures
for this impressive place!


I have been asked to speak today
about the futures of artificial intelligence and robotics,



and how those technologies
might result in a world quite unlike that of today,
or of any yesterday.



Futures Studies



I will do that.
But before I do,
I need to explain that
I have been devoted to futures studies
for a very long time—



DeColonial
FUTURES

in South Asia and Beyond

UHM Center for South Asian Studies
32nd Annual Symposium



One of the many things I have learned
over all these years is that

Futurists can not

predict

THE Future

(No one can)

But futurists can and do

forecast

Alternative Futures

(and so should you)

Futures are

**plural,
alternative,
diverse,
possible:
*futuribles***

Not
THE Future
but

Alternative *FutureS*

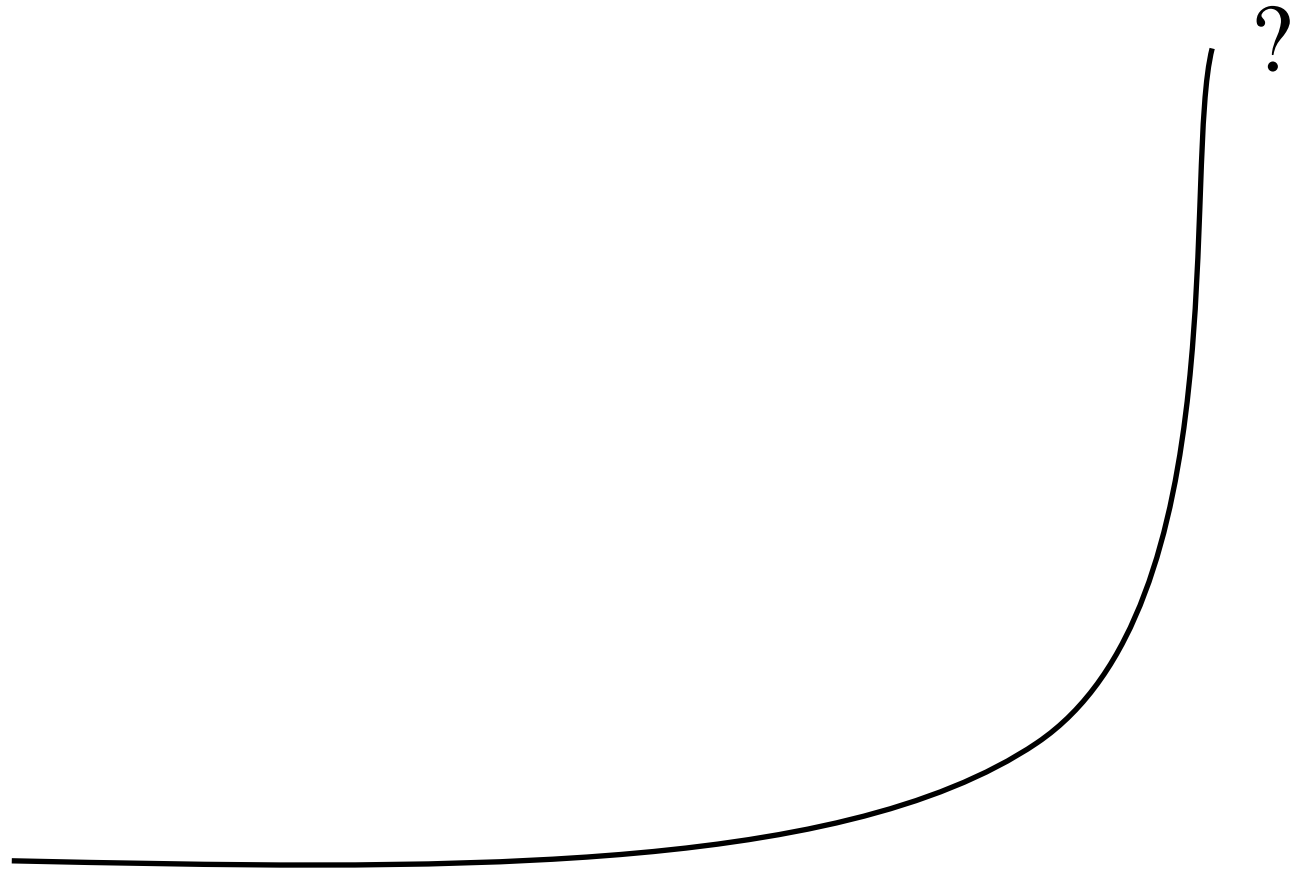
Most importantly

futures studies helps you

invent

Preferred Futures

WHAT'S NEXT??



The answer to the question:

what's next?

is **always:**

There are four generic alternative futures.

Four Generic Images of the Futures

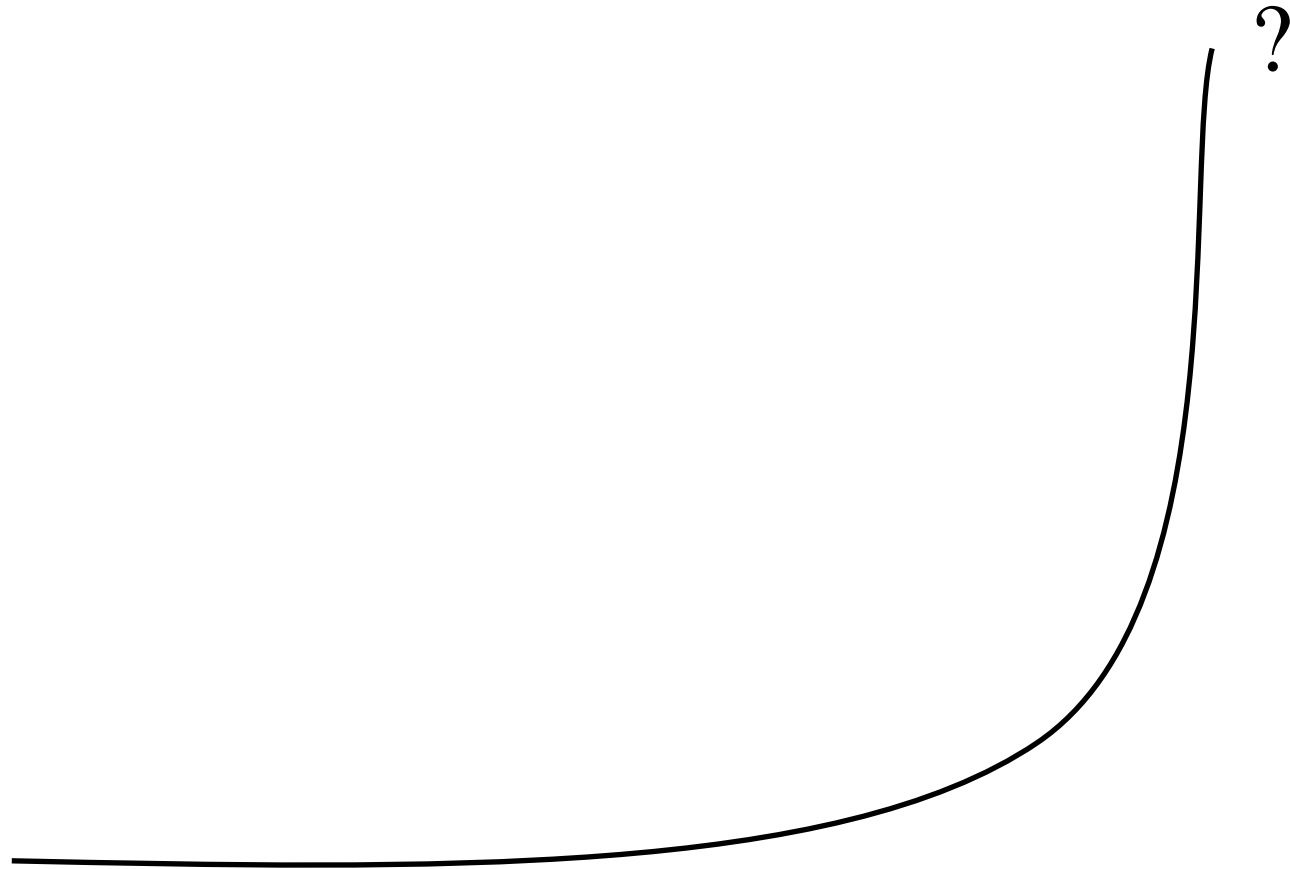
Grow

Collapse

Discipline

Transform

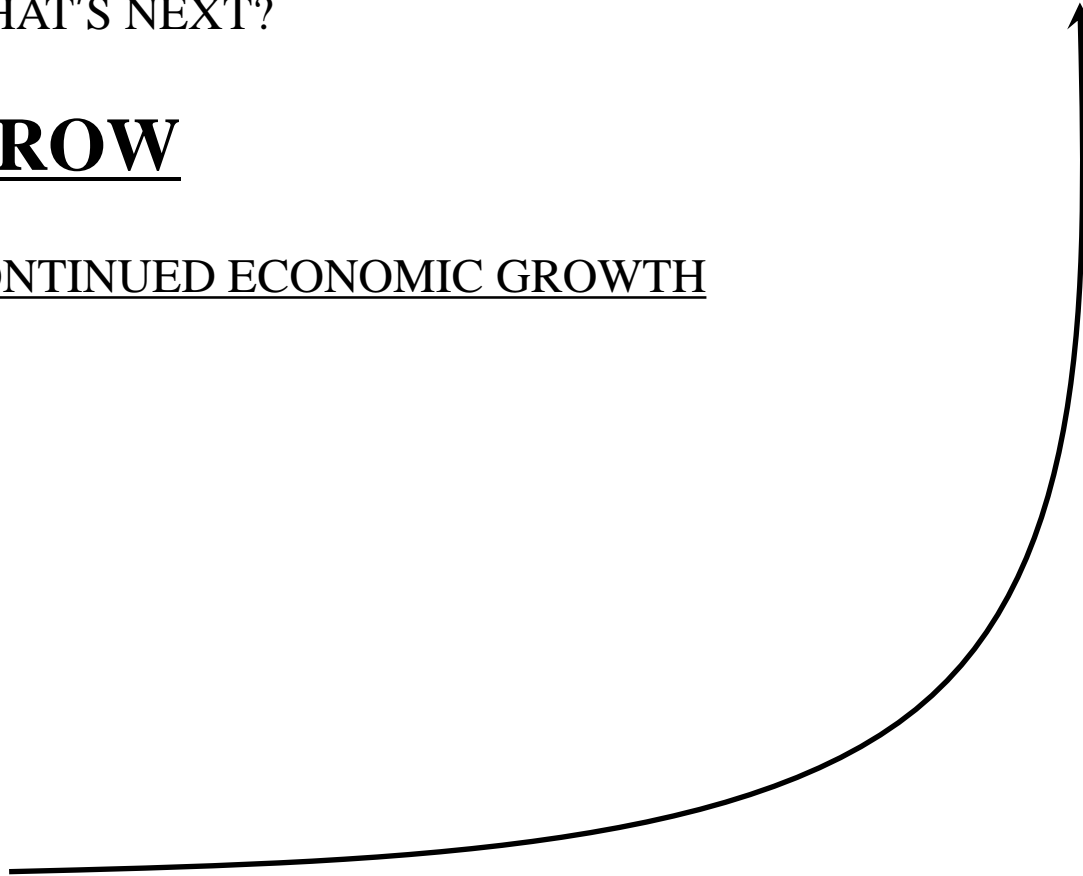
WHAT'S NEXT??



WHAT'S NEXT?

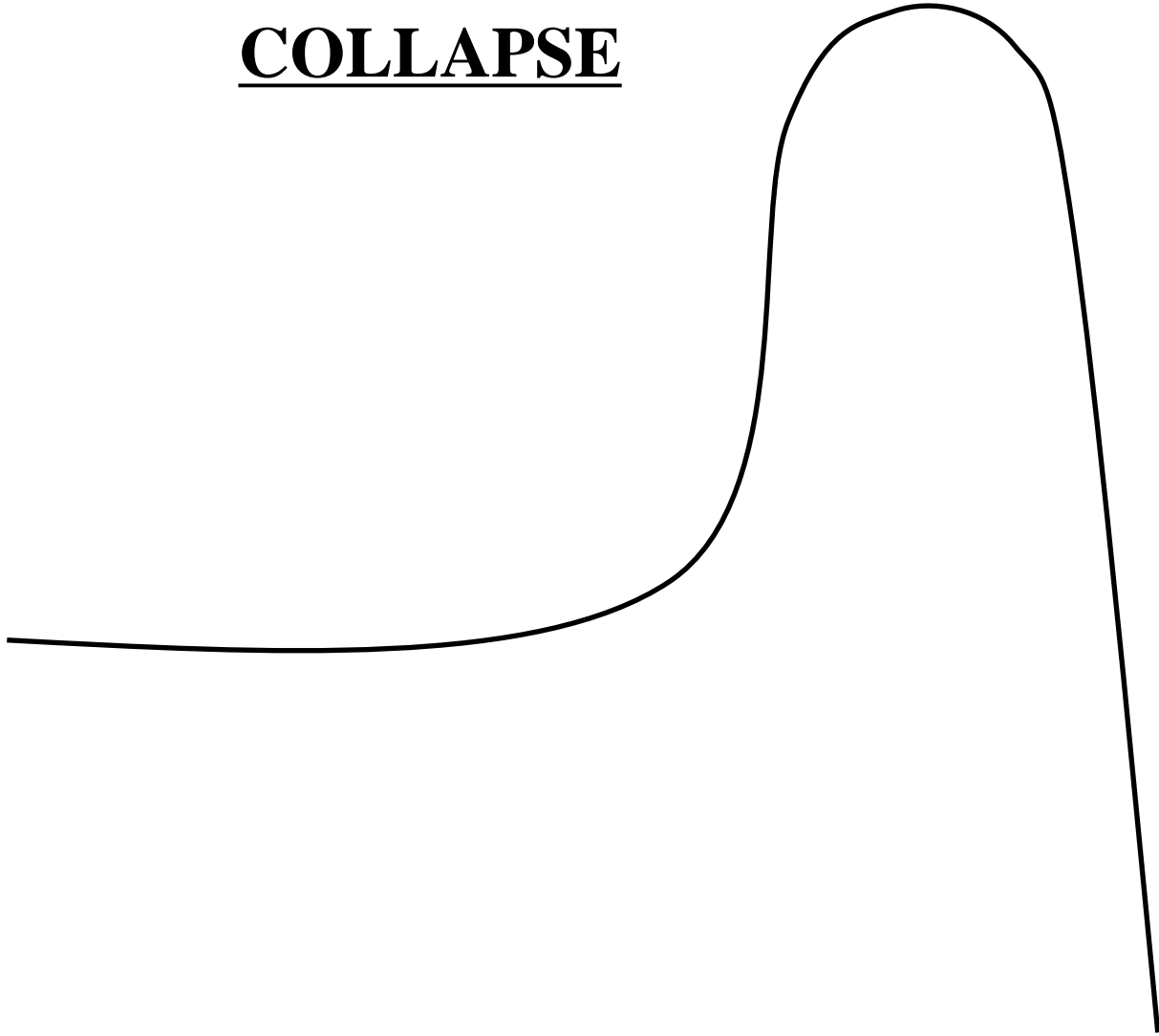
GROW

CONTINUED ECONOMIC GROWTH



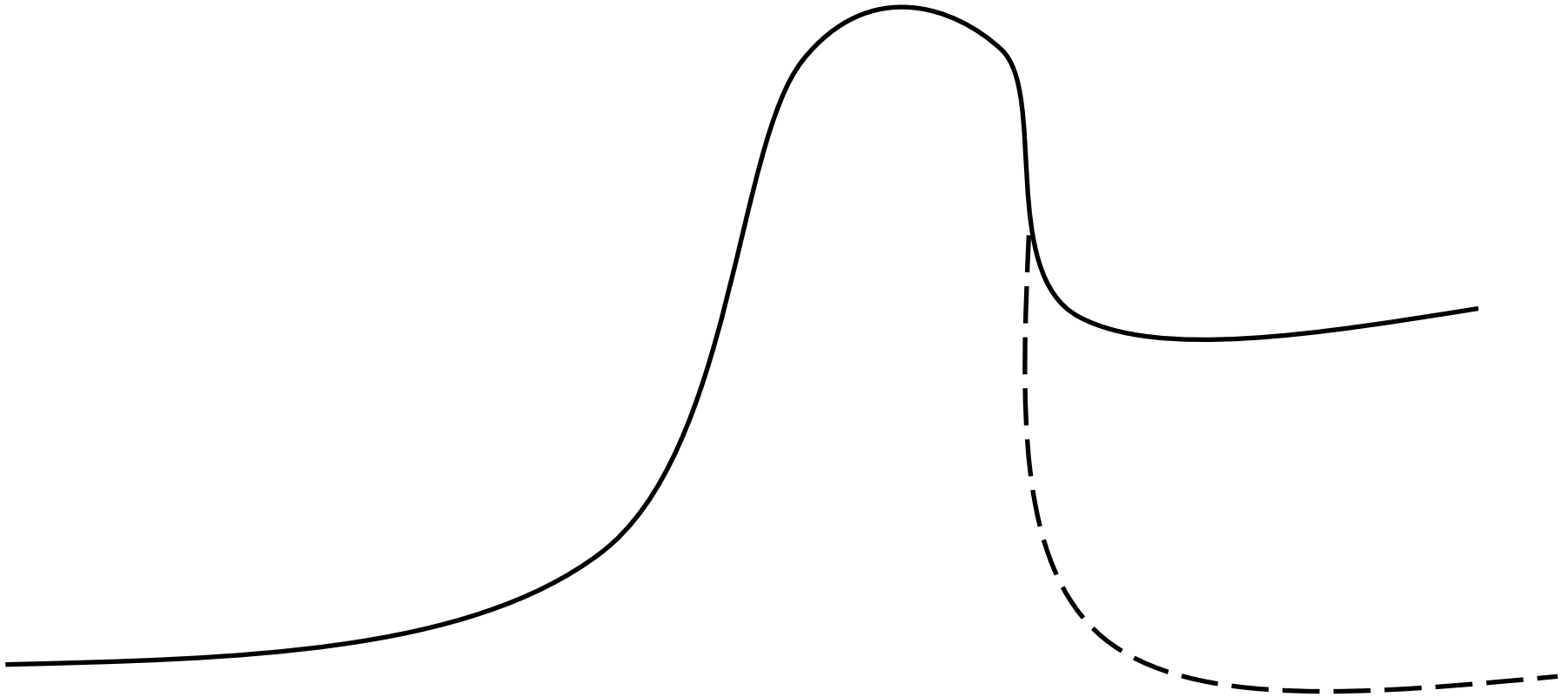
WHAT'S NEXT?

COLLAPSE



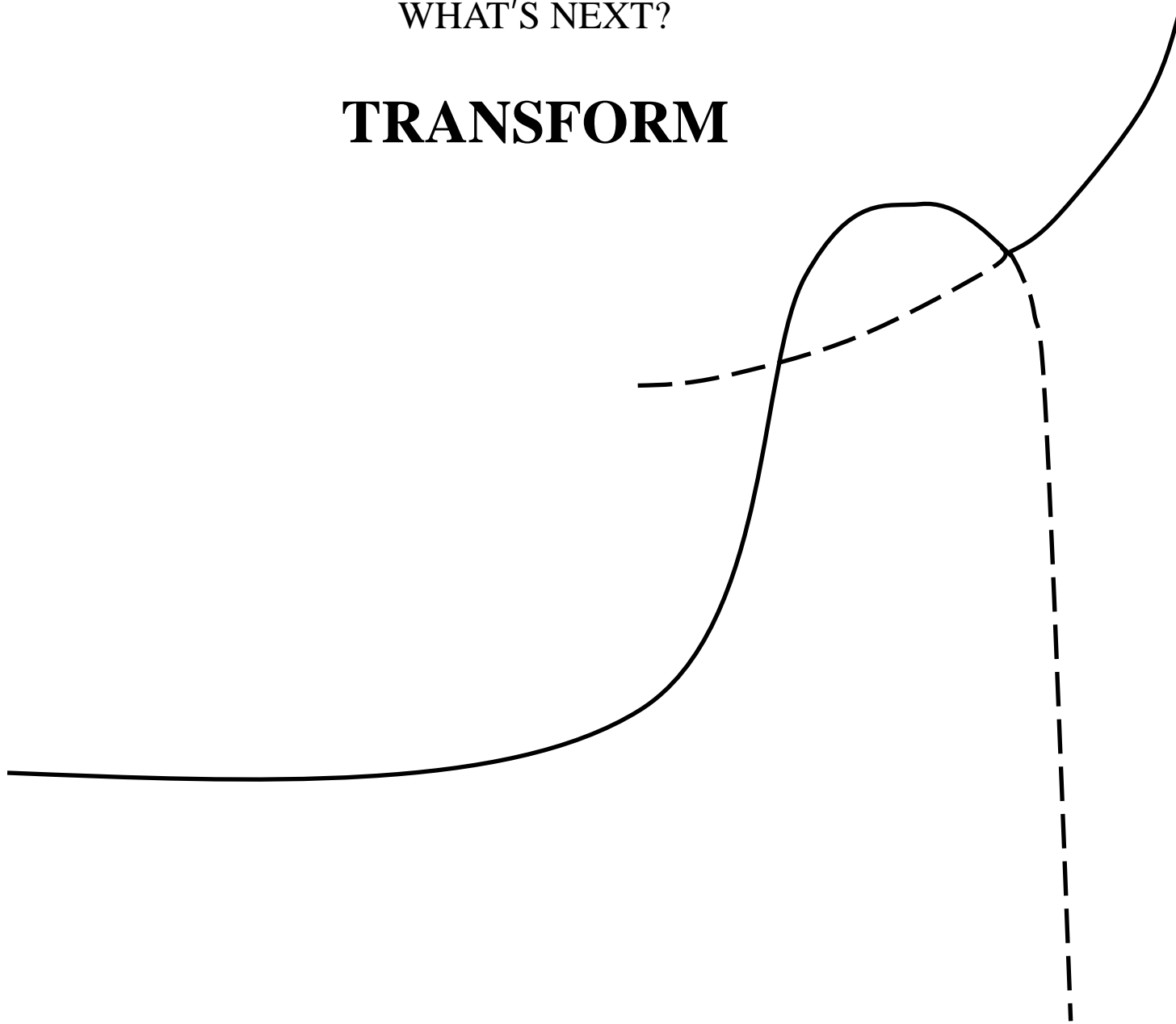
WHAT'S NEXT?

DISCIPLINE



WHAT'S NEXT?

TRANSFORM



I will speak briefly today only about one aspect of
a Transformational Future.

I will discuss robotics and artificial intelligence
within the context
of a Transformational Future.



We presently live the way we do
in part because of
our natural biology
within our natural environment, Earth,

and because of the social institutions and cultures
we have created.



But increasingly we live the way we do because of the kinds of technologies we have developed and used.



Technology is neither “good” nor “bad.”
But also, technology is never neutral.

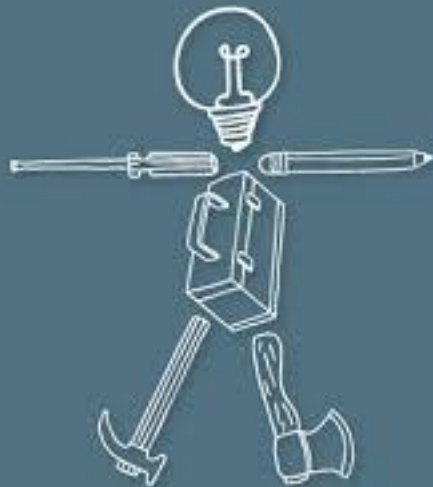


It is always mutative.
It always changes us;
changes what it means to be “human”.



*“WE SHAPE
OUR TOOLS,
AND
THEREAFTER
OUR TOOLS
SHAPE US.”*

Marshall McLuhan



Robotics and artificial intelligence have already changed the lives of many of us profoundly.

Physical labor that once only humans or other animals could perform



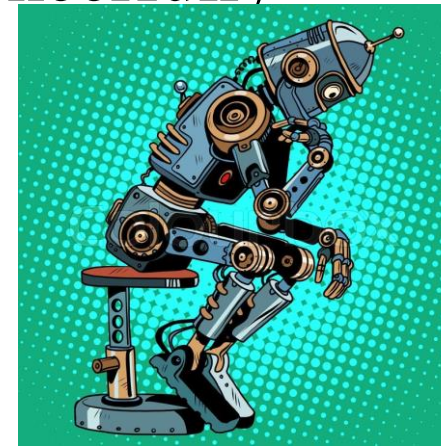
are now done entirely by automated technologies





Similarly, once upon a time,
only humans could think, choose, make decisions.

Increasingly we now rely on artificial intelligence
to make decisions
more quickly, more decisively, more fairly,
more repeatedly, more patiently, and more cheerfully
than humans can.





Our world now would not operate
as well as it does
without our reliance on
artificial intelligence making decisions for us.



Baring decisions by humans to the contrary,
or environmental and social collapse,

we very soon will be in a world that simply
does not need, and may not be able to allow,
much human physical or mental labor.



It may simply be too dangerous to let selfish, lazy,
error-prone humans intervene in
automated routine decision-making process.



I am not talking about some distant future.

Even now, vast numbers of people live lives without purpose, in poverty, hunger, and misery because they are unemployed with no hope of meaningful employment in the future.

Also, this is not just a problem for advanced countries
in Europe, North America or East Asia.

It is a challenge for all people everywhere.



This need not be a cause for despair

One of the clearest lessons from developments in robotics and artificial intelligence is that our entire political-economic system needs to be reinvented.



At the very least, we need to realize

—if human manual and mental labor is not needed
to produce all the goods and services
that anyone could want—

then we need to have a goal of “Full UNemployment”,



and not “Full Employment” which is not possible.

Moreover, we need to develop educational structures that teach humans how to live, play, and pray together peacefully, contentedly, and meaningfully without “working.”





For tens of thousands of years,
humans lived in small hunting and gathering societies,
surrounded by abundant natural resources.

Very little human planning or labor was needed
in order for everyone to thrive.

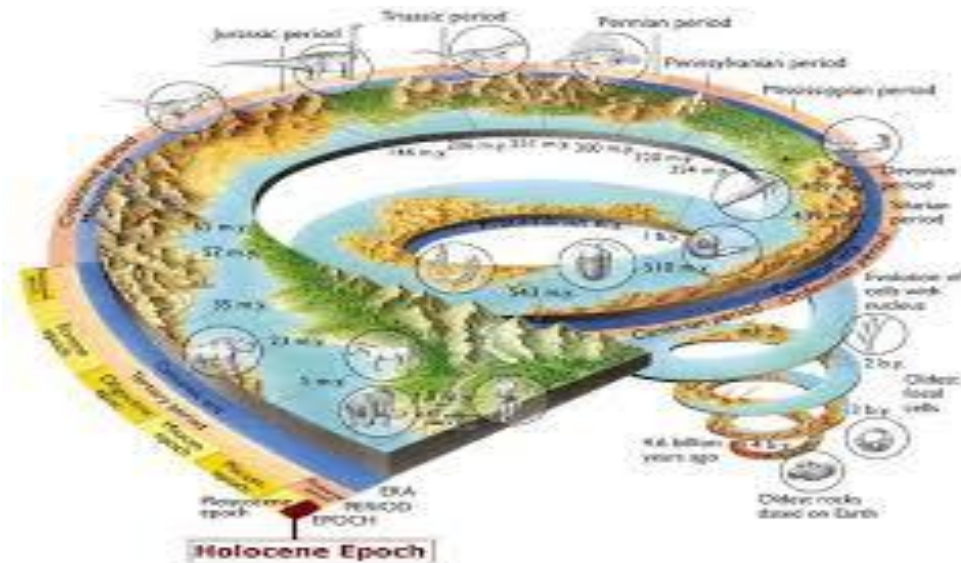


With the invention of agriculture and then industry, humans destroyed the natural ability of nature to provide for us, and so most of us had to learn to work harder and harder just to survive.



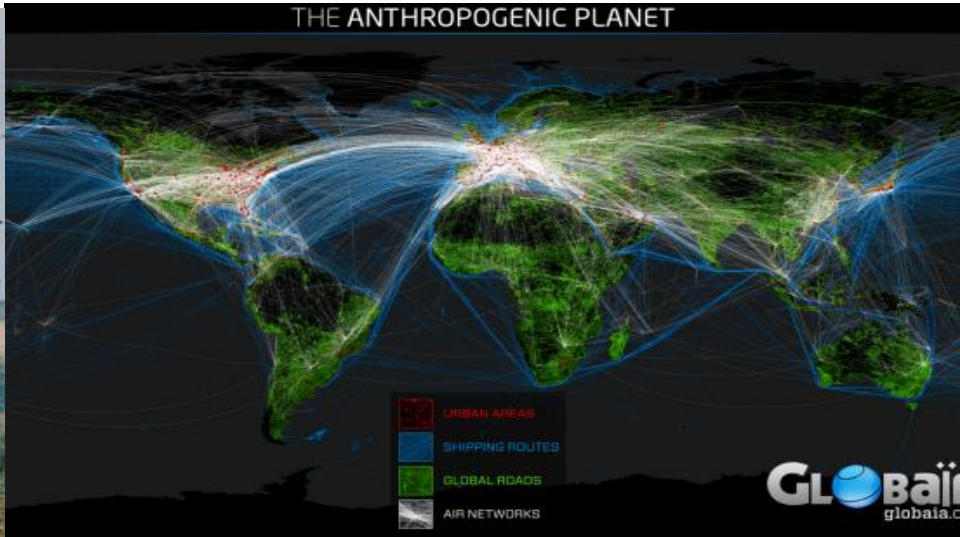
As a consequence, geologists tell us that we have entered a new geological epoch.

Homo Sapiens, Sapiens emerged during the Holocene Epoch about 15,000 years ago.





Since then, we have so modified our environment
that we live in a new Epoch called
the Anthropocene.



Designing and maintaining such a world on the basis of human intelligence and attention alone may be impossible.



Humans are not smart enough or diligent enough.

However, together with automation and artificial intelligence, we have the potential of returning to a world of material abundance that does not require much human labor.





If so, this will enable humans to focus our attention not on working and fighting, but on the things humans do best, which is to play and to pray.



Of course, this is only one future,
and only one sliver of that future.

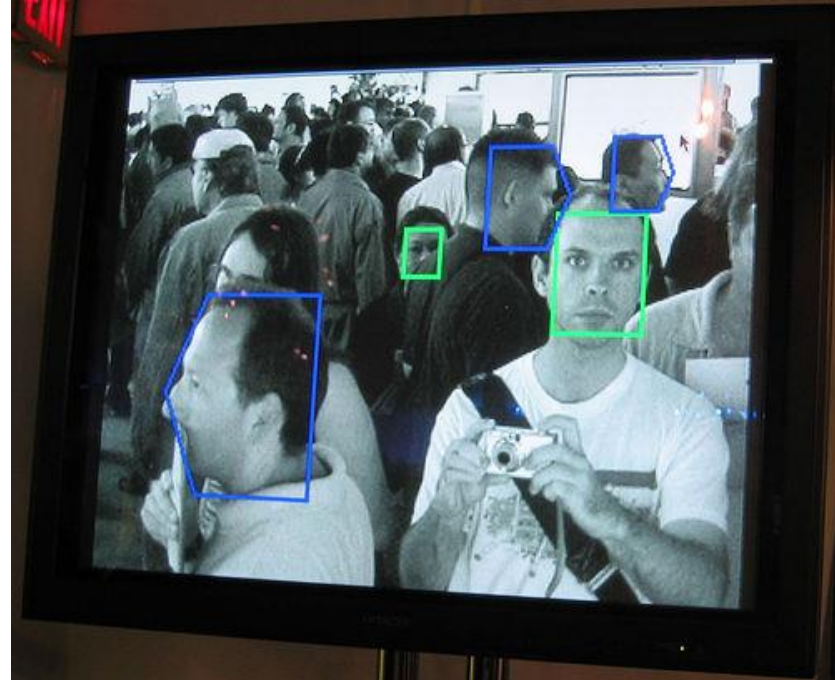


The same technologies
that allow full UNemployment
can also be put to the service of
a Disciplined Society of total electronic surveillance.

Not only our actions, but our thoughts
might be monitored and manipulated
well beyond anything possible now.

Who will be the monitors and manipulators,
and for what ends?





This is not a trivial question.



Nonetheless, whether Transformational or Disciplined
—or Collapse—
our world of tomorrow
(and the day after tomorrow)
is not likely to be much like our world of today.



I will end by reading one of my favorite poems,
expressing the hope of Transformation:



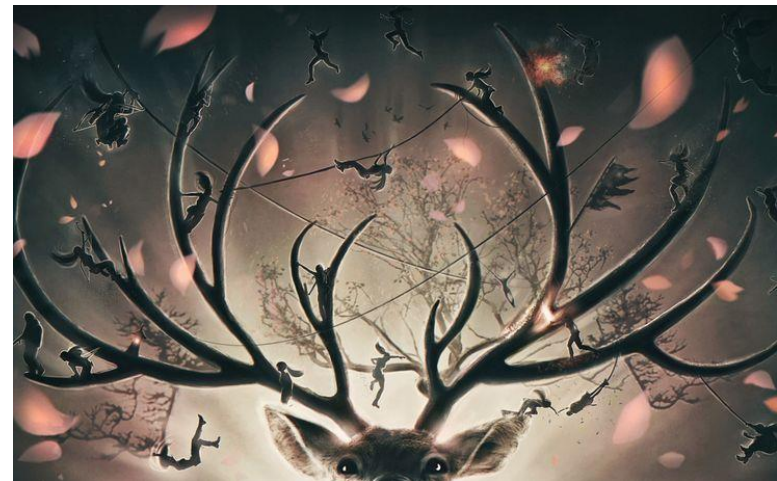
I like to think
(and the sooner the better!)

of a cybernetic meadow
where mammals and computers
live together
in mutually programming harmony

like pure water
touching clear sky.

I like to think
(right now please!)

of a cybernetic forest
filled with pines and electronics
where deer stroll peacefully
past computers



as if they were flowers
with spinning blossoms.



I like to think
(it has to be!)



of a cybernetic ecology
where we are free of our labors
and joined back to nature,
returned to our mammal brothers and sisters,

and all watched over
by machines of loving grace.



by Richard Brautigan



Thank you.

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