



NESDW

25 July 2018

Industrial Revolution 4.0 The Leadership Dilemma

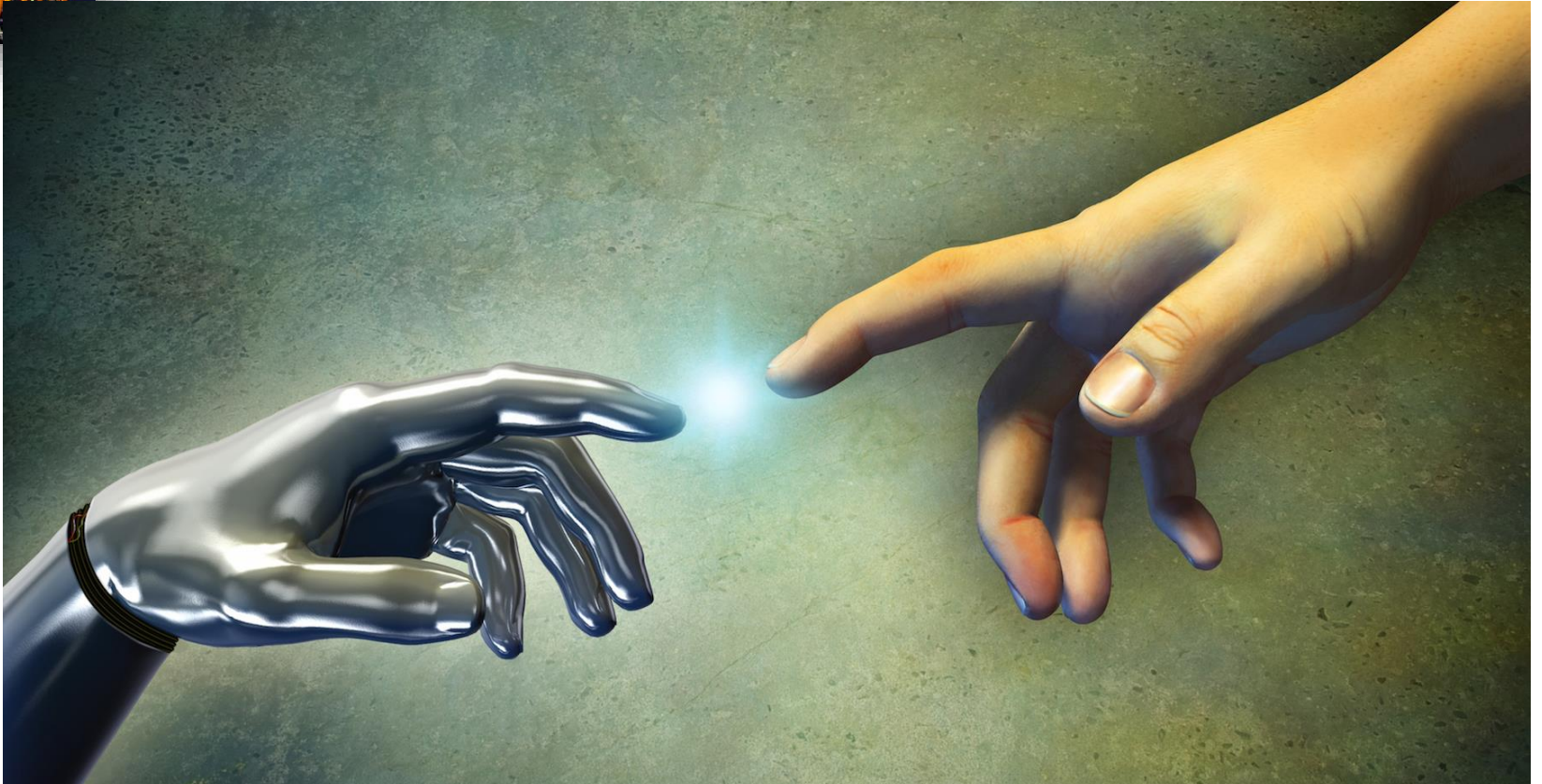
Dzulkifli Abdul Razak

Chairperson BOD, USIM

Advisor, NESDW



DILEMMA 1



INDUSTRY
1.0

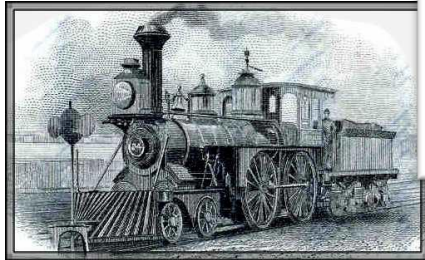
INDUSTRY
2.0

INDUSTRY
3.0

INDUSTRY
4.0

INDUSTRIAL REVOLUTION

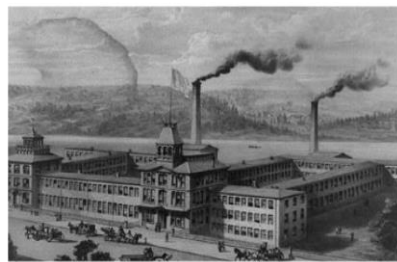
GDP



1st IR

Water & Steam –
powered
Mechanical
Manufacturing
Facilities, Textiles

End of 18th century

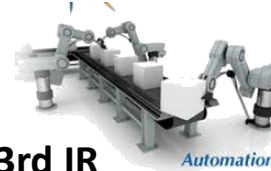


2nd IR

Assembly line
manufacturing
& infrastructure of
Electricity, Gas,
Water, Telegraph,
Radio/TV, Radios

Start of 20th century

Continuum



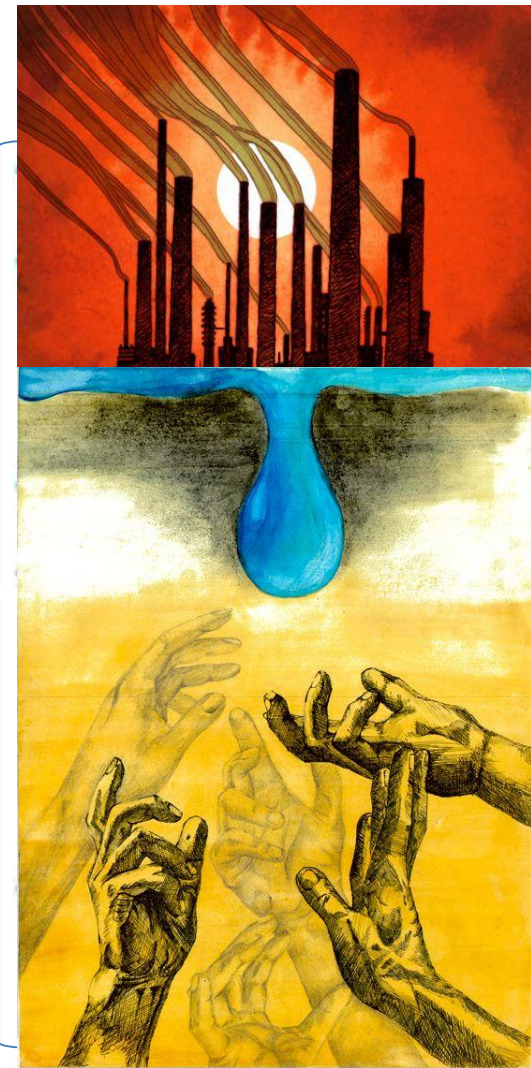
3rd IR

Electronics,
Computers,
Production
Automation, Lean
Manufacturing
Internet, Digital

Late 20th century

SMACIT

S = Social
M = Mobile
A = Analytics
C = Cloud
IT = IoT



1780

1900

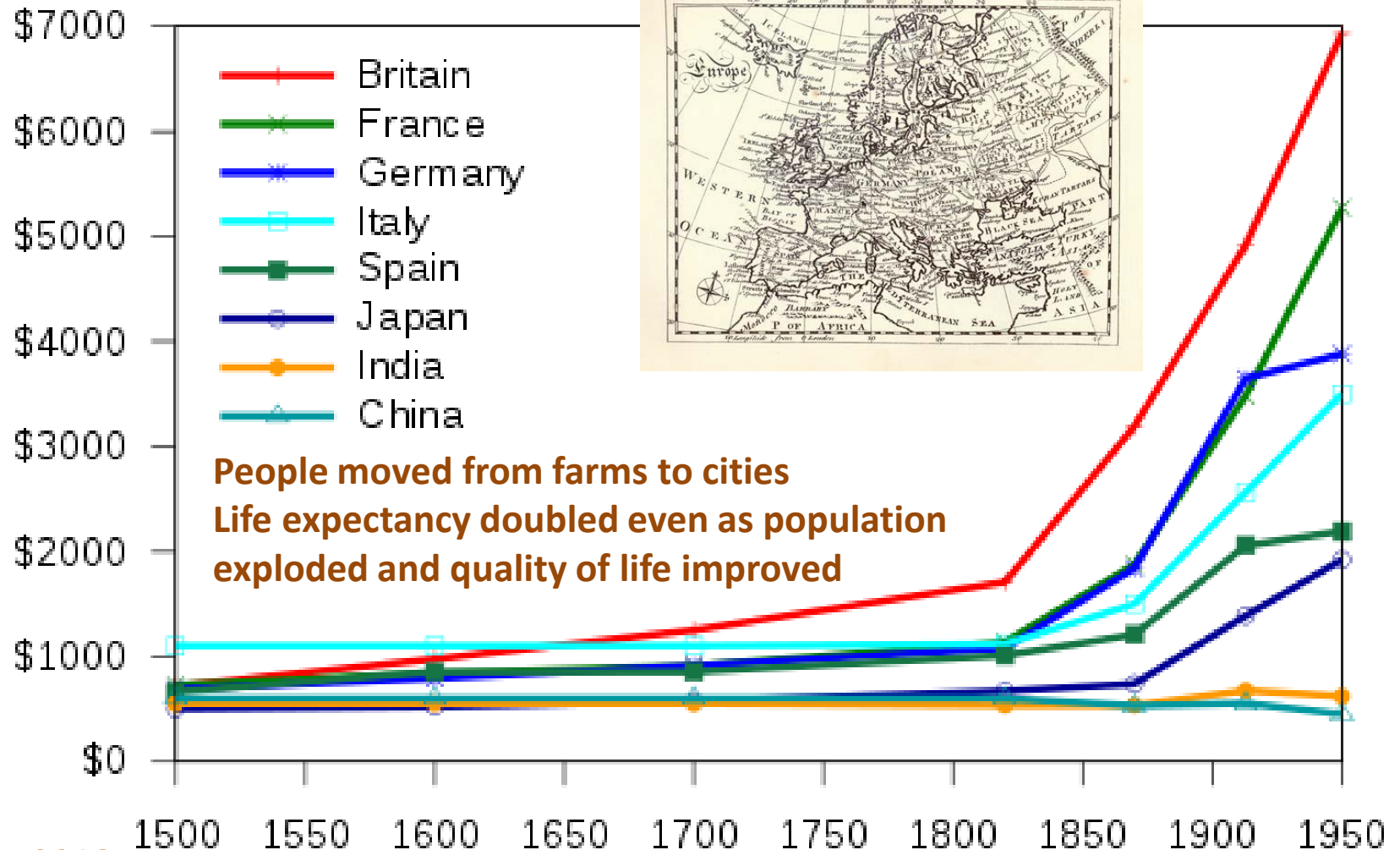
1970

2000



INDUSTRIAL REVOLUTION

Impact (Economic)



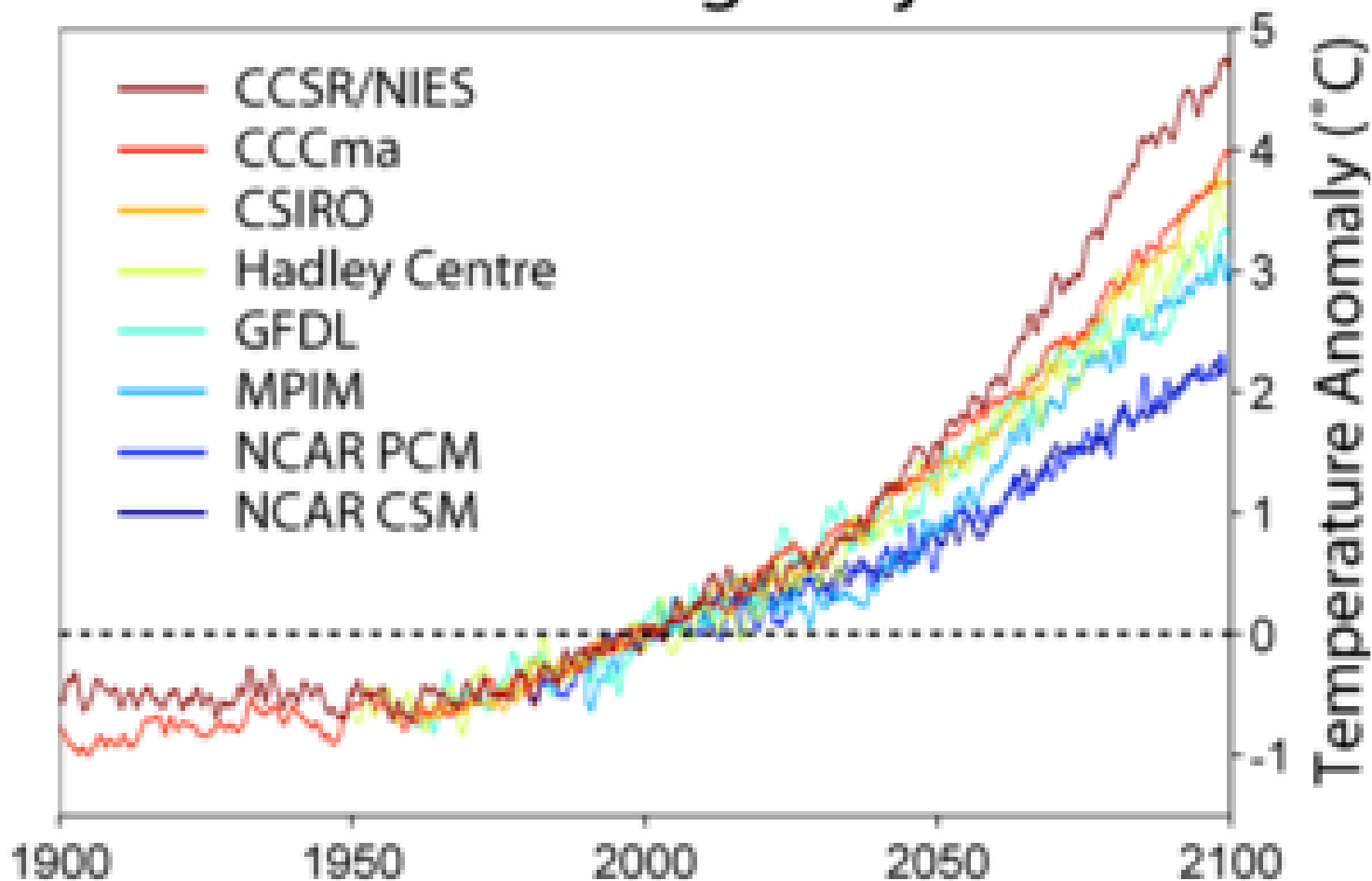


INDUSTRIAL REVOLUTION



Impact (Environment)

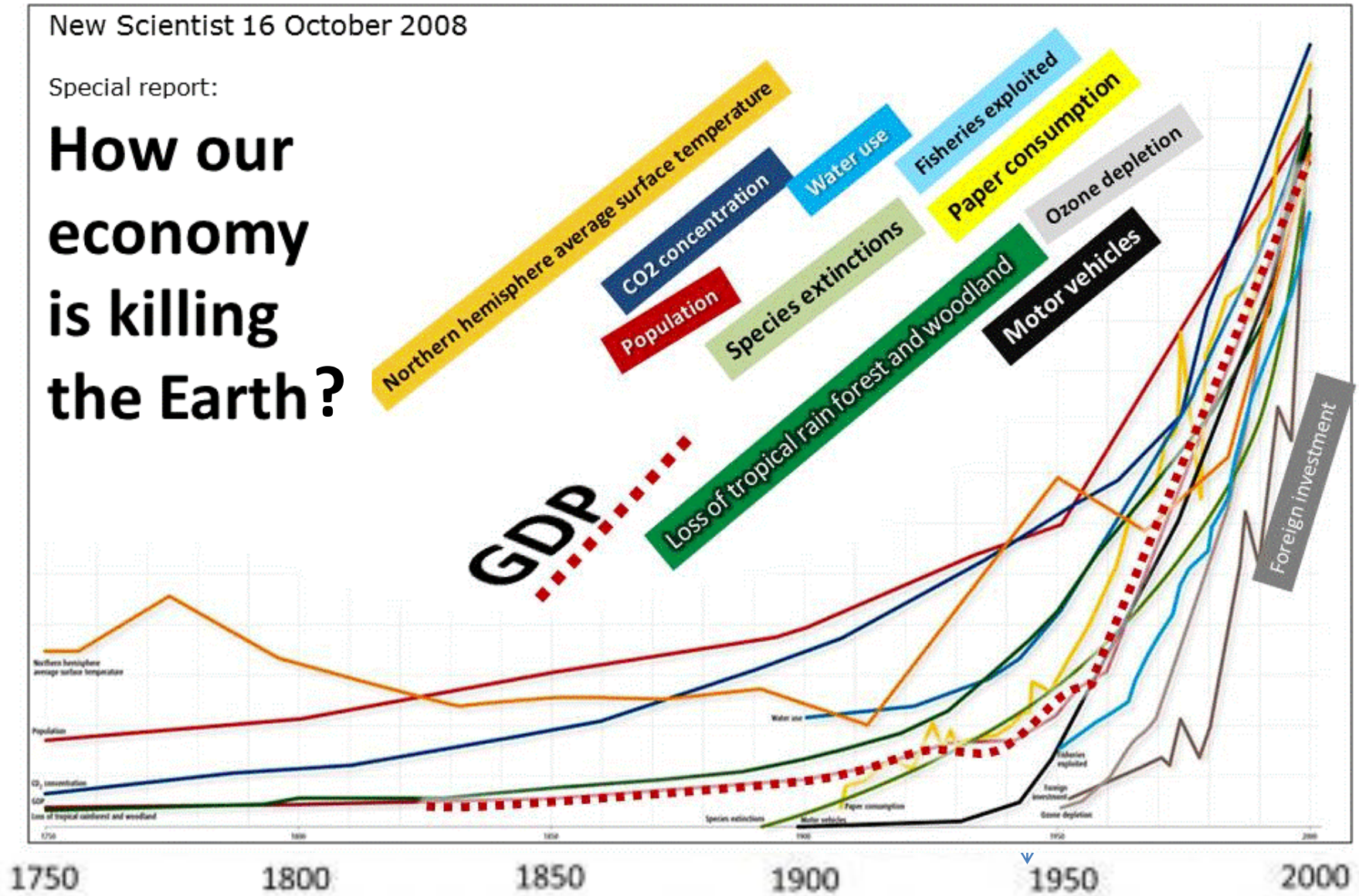
Global Warming Projections



New Scientist 16 October 2008

Special report:

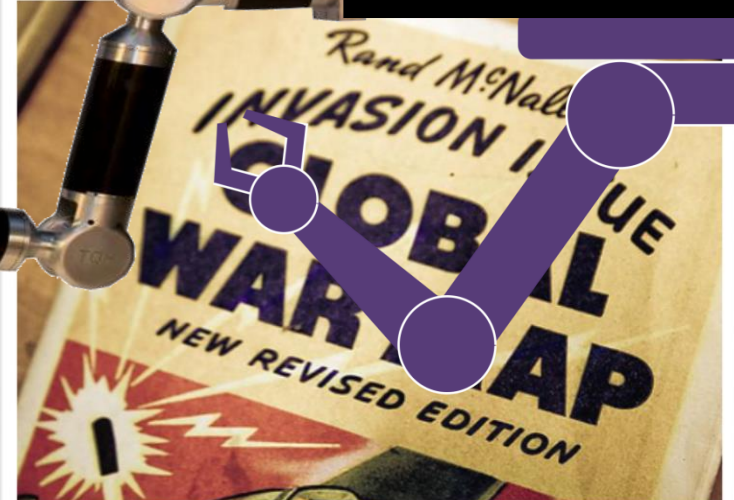
How our economy is killing the Earth?





...a global **imbalance**?...

4 The
INDUSTRIAL
REVOLUTIONS





DILEMMA 2



EARTH OVERSHOOT DAY

THE DAY BY WHICH WE USE UP THE YEAR'S SUPPLY OF NATURAL RESOURCES!

In less than eight months, human consumption has been more than what the Earth can provide for the entire year. In economic terms, today we go into ecological deficit spending. This day is Earth Overshoot Day - and the date has been moving forward each year.

2017

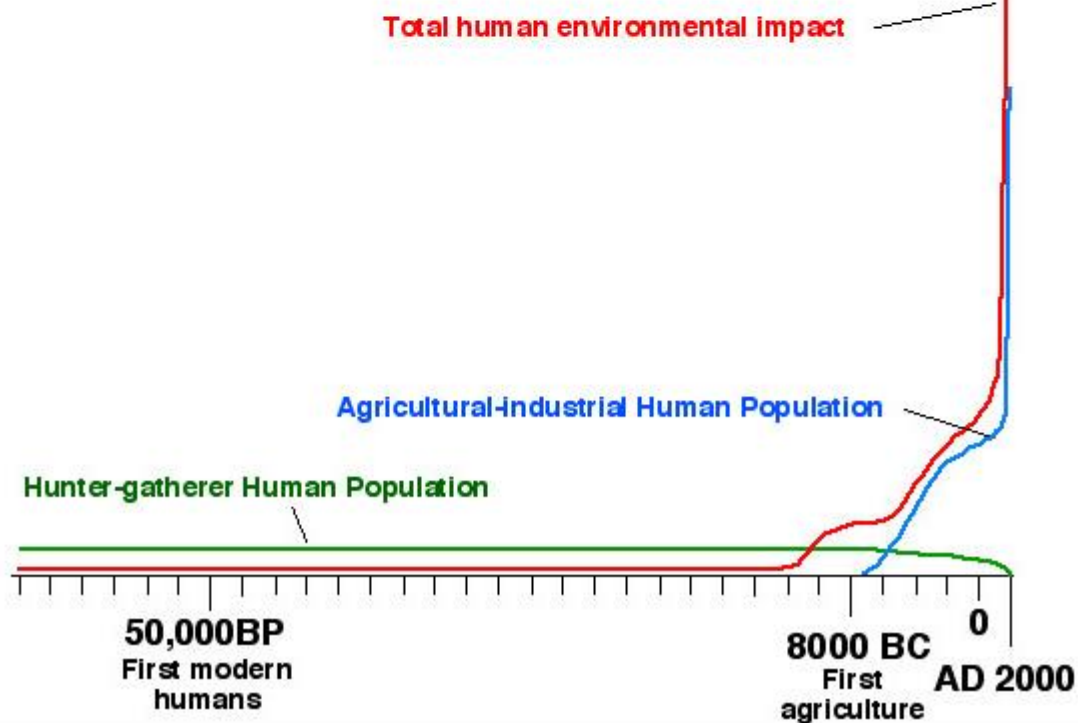
02 AUGUST —●

151 DAY OVERDRAFT



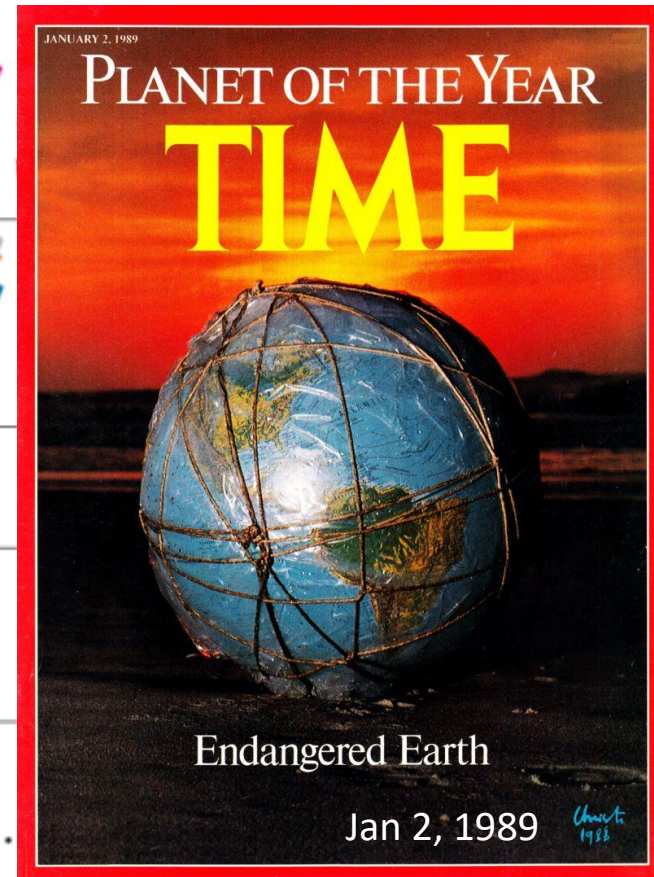
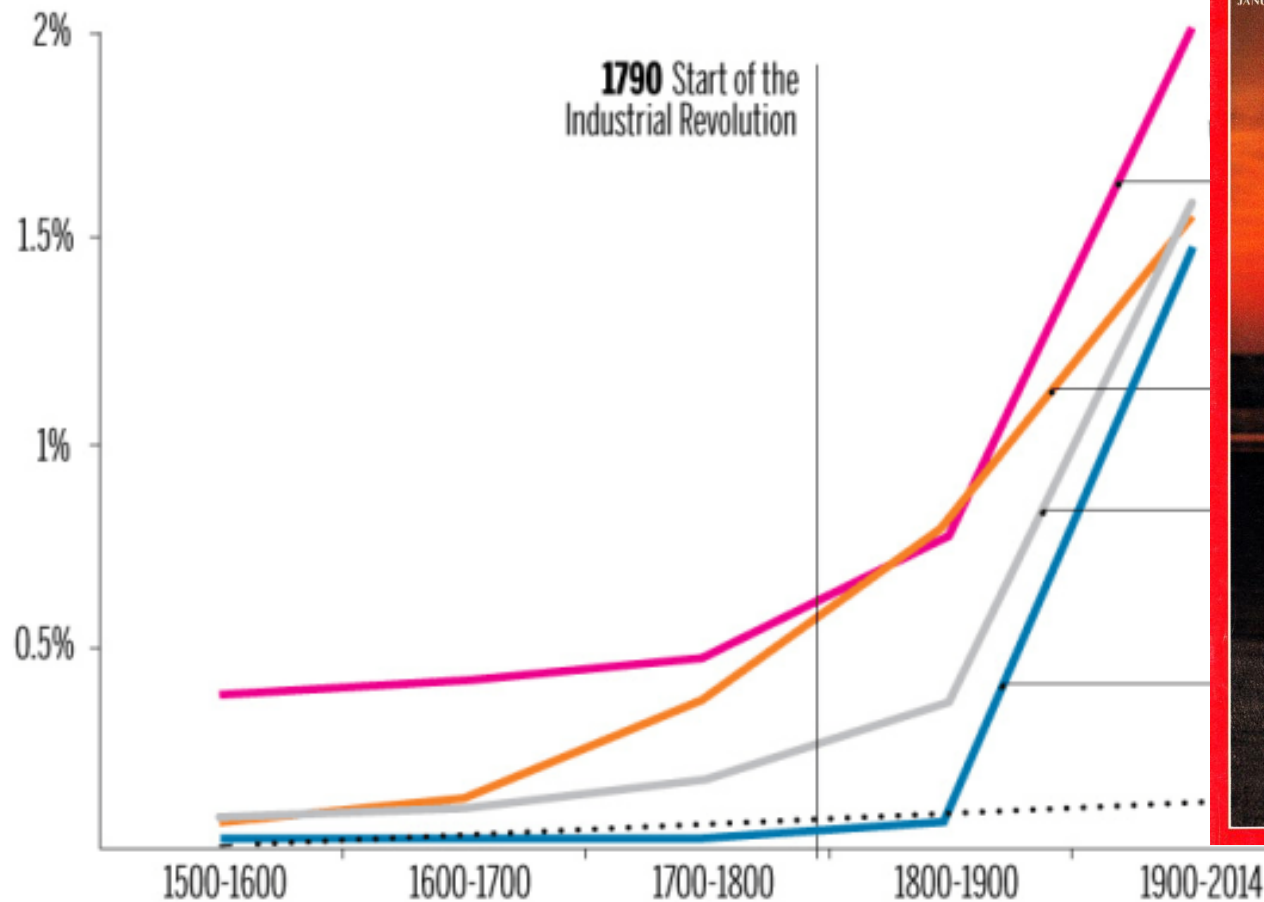


Cumulative Human Impact



VERTEBRATE SPECIES EXTINCTION RATES

Cumulative, recorded as “extinct” or “extinct in the wild”



SOURCE: Ceballos et al. Sci. Adv. 2015;1:e1400253 | GRAPHIC: Amanda Shendruk

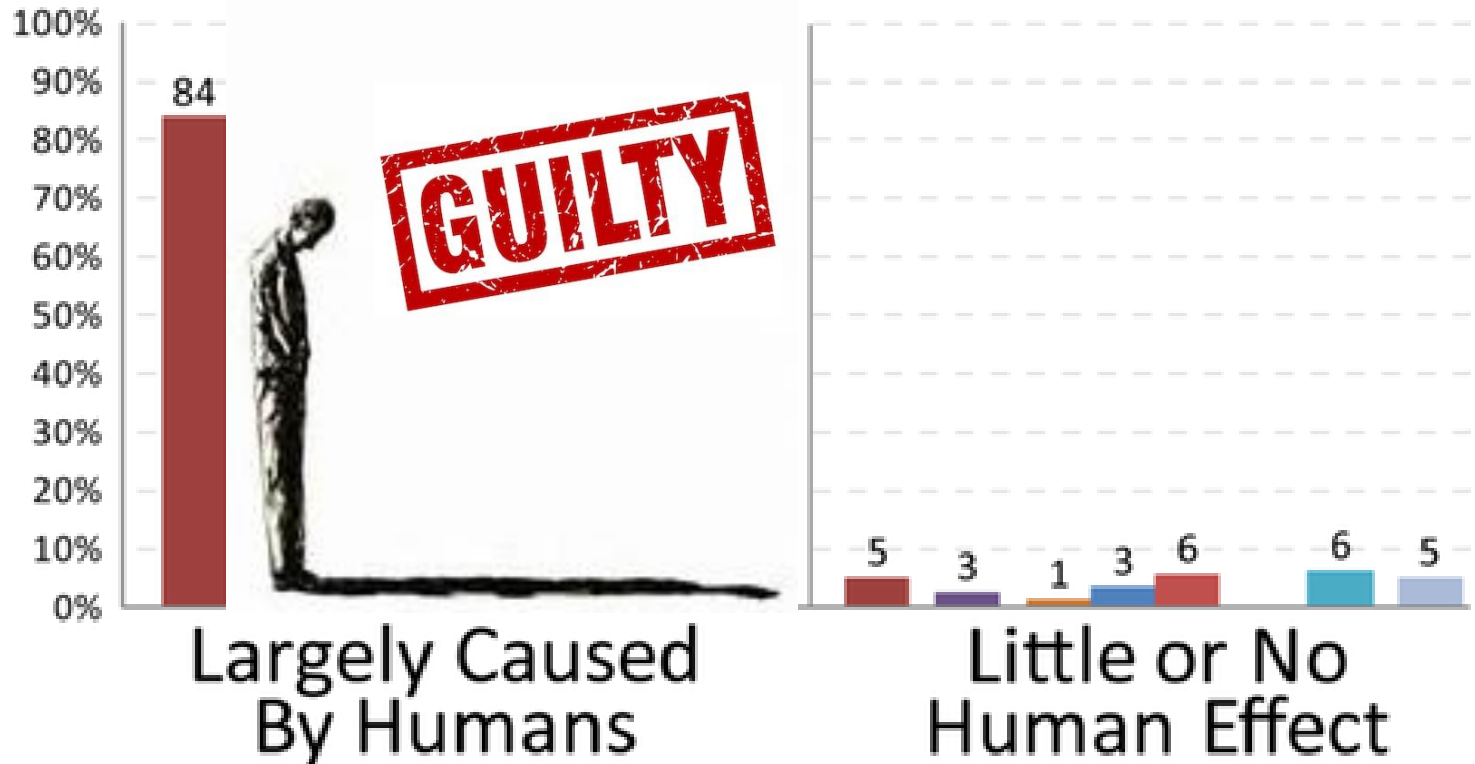
MACLEAN'S

wavewatching.net



Anthropocentrism

Opinions of Climate and Earth Scientists on Global Warming



Farnsworth & Lichter (2011)
■ AGU / AMS Member Scientists

Anderegg et al. (2010)
■ 200 Most Published Climate Scientists

Doran & Zimmerman (2009)
■ Most Frequently Published Climatologists
■ Scientists Publishing on Climate Change
■ Climatologists
■ Earth Science Faculty / Researchers

Bray & Von Storch (2008)
■ Climate Scientists

STATS / Harris Interactive (2007)
■ AGU / AMS Member Scientists



DILEMMA 3

...the assembly-line is held up as an paragon for today's education...



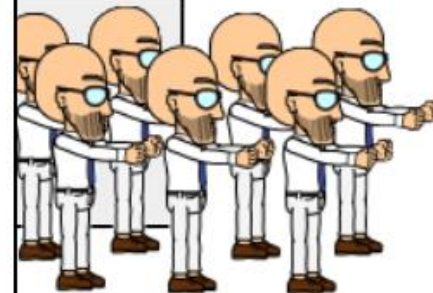


HUMANITY
DIVERSITY
CITIZENRY

TECHNOLOGY
COMFORMITY
EMPLOYABILITY

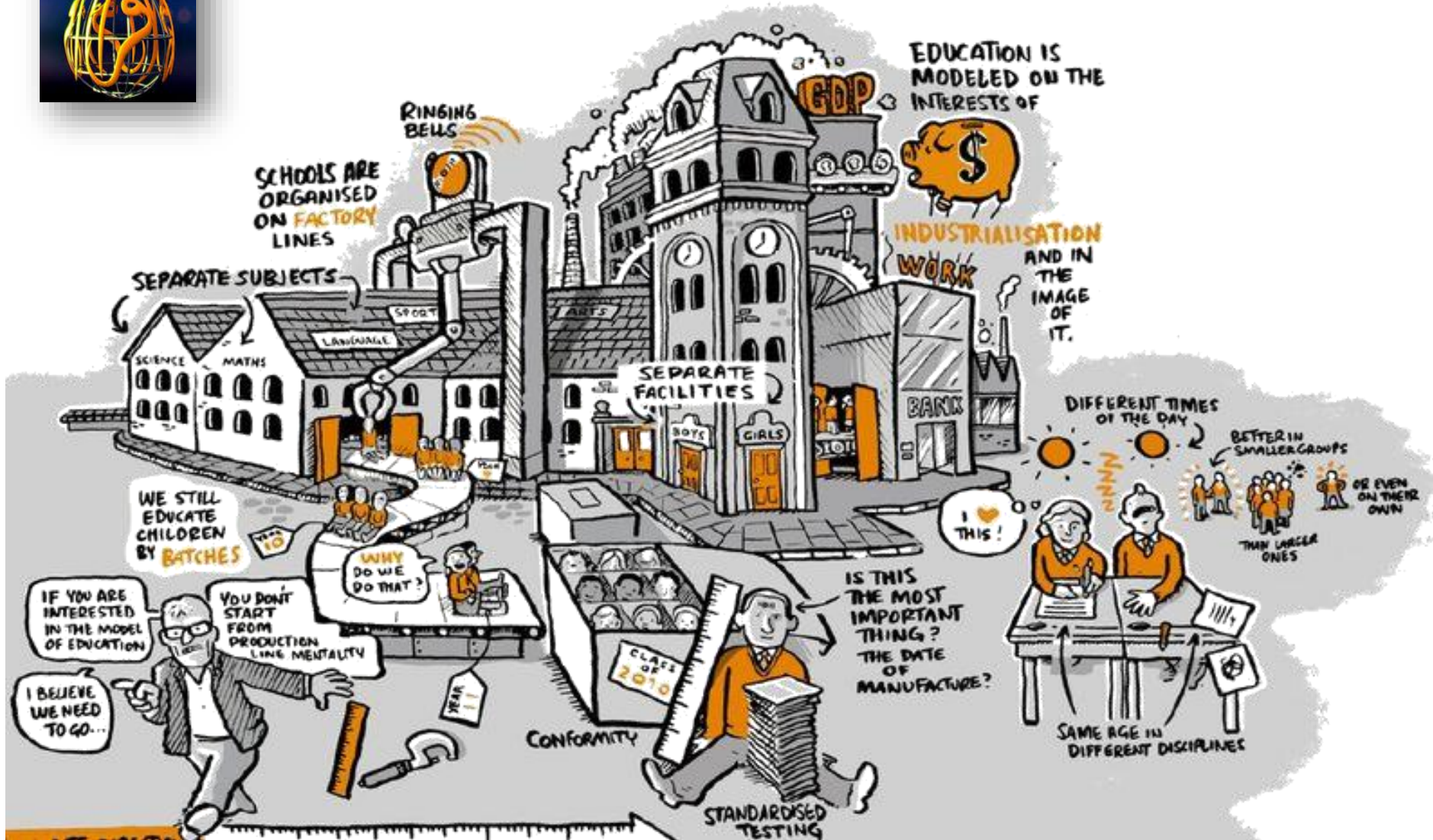


SCHOOL
Assembly-like Model



EDUCATION

UTILITY TRAINING



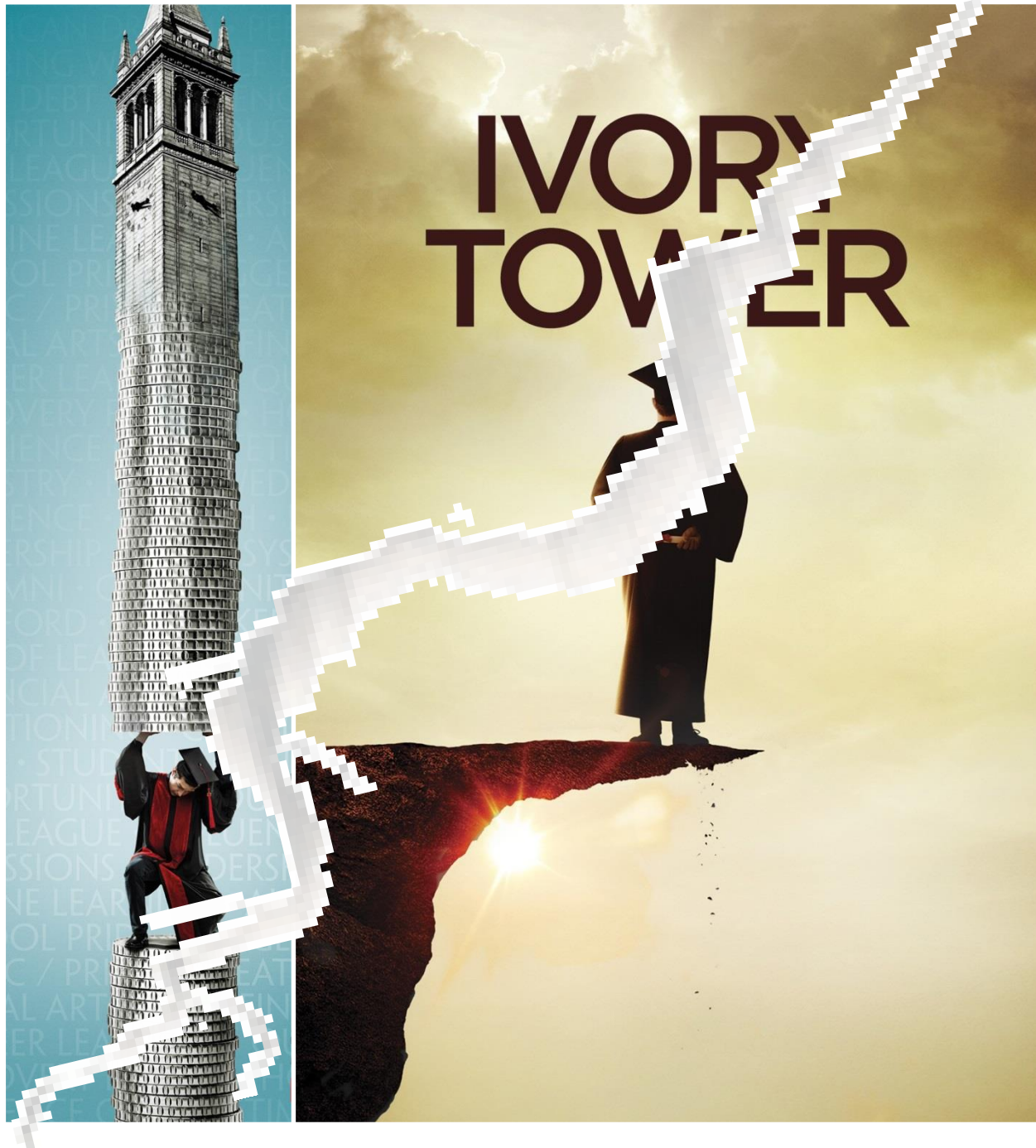
<https://larrycuban.files.wordpress.com/2014/05/schools-as-factories.jpg>

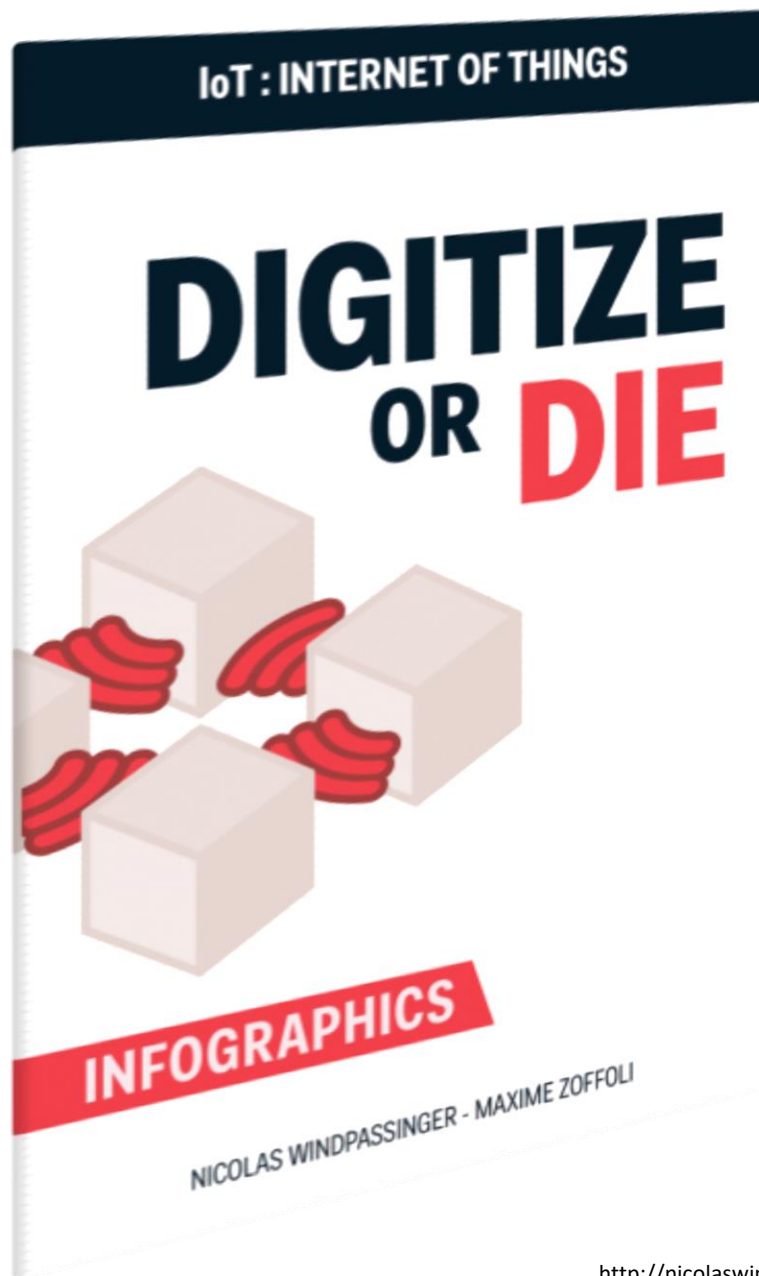


...the (souless) human factory ecosystem...

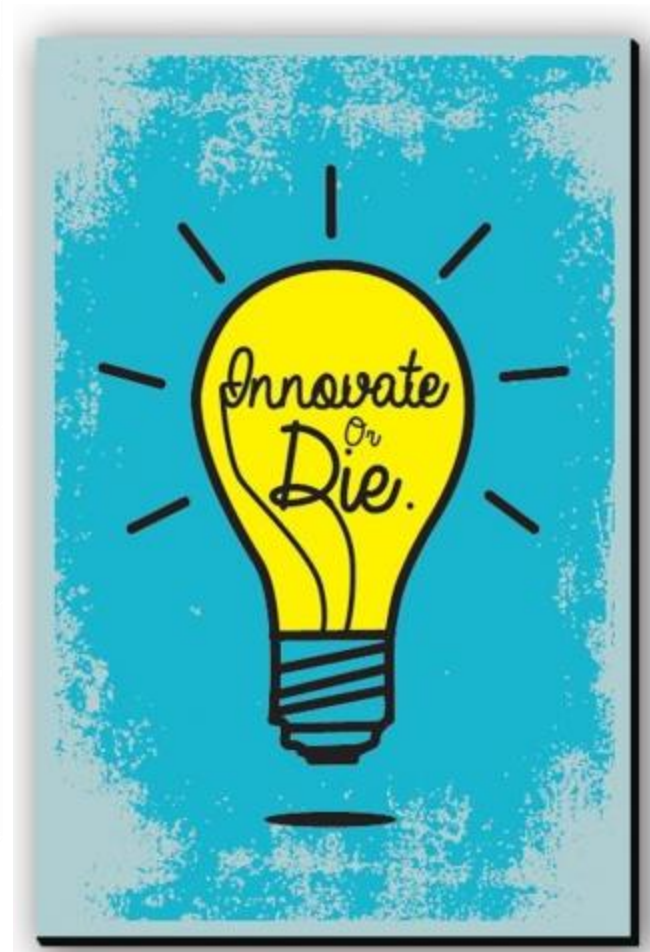


<http://risingpowers.foreignpolicyblogs.com/>





- ✓ **STI**
- ✓ **R&I**
- ✓ **AIM**





DIGITAL ACADEMY



SCIENCE
TECHNOLOGY
ENGINEERING
MATHEMATICS

STEM

Lecture
Series

Neural Networks The Quest for an Artificial Brain

V. Scott Gordon
Computer Science Professor
Sacramento State

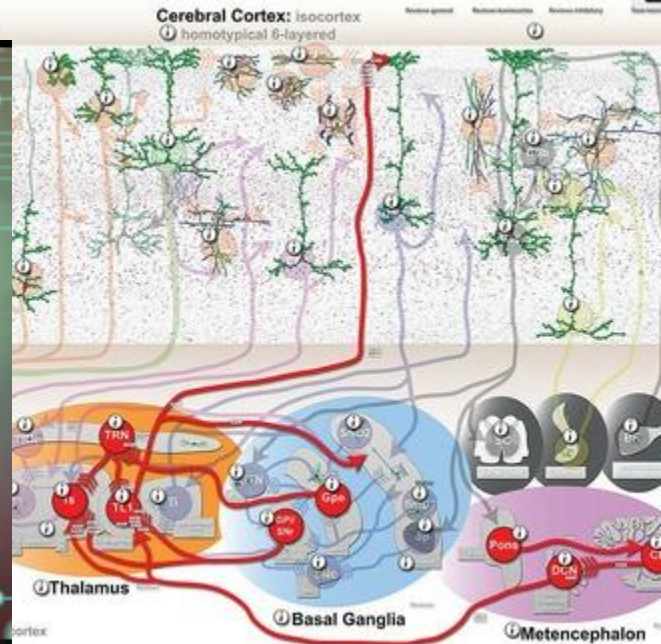
www.csus.edu/stem

Free Community Lecture » Free Parking
(Display Permit on Back of Card)

Thursday, Sept. 20, 2012 » 6 p.m.
University Union, Redwood Room



SACRAMENTO STATE
Center for STEM Excellence

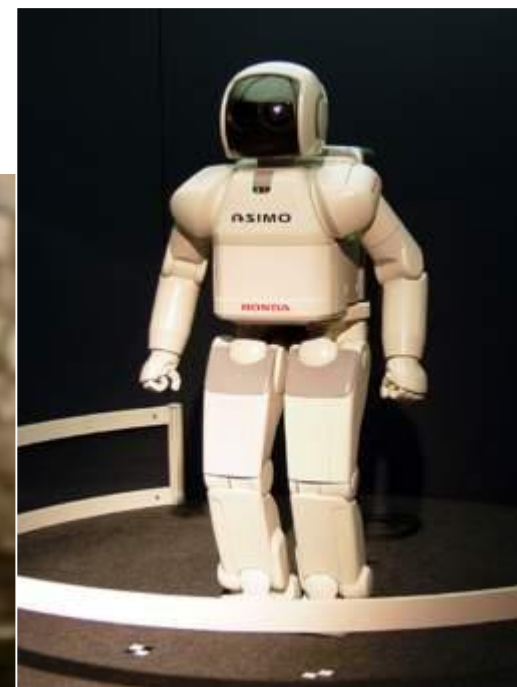
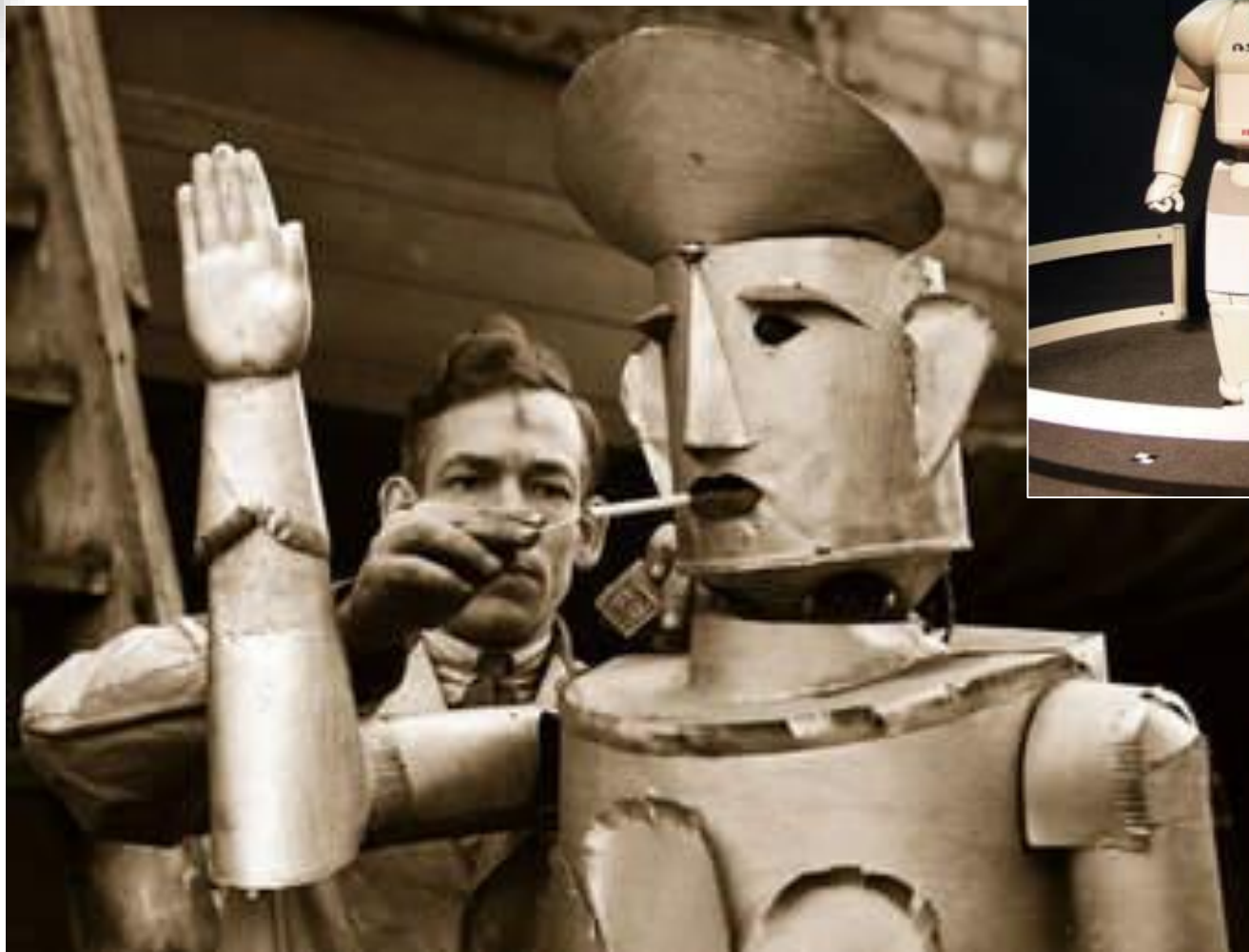


1.0
2.0
3.0
4.0

STEM

SCIENCE * TECHNOLOGY * ENGINEERING * MATH
© DAR 2018





<https://www.express.co.uk/news/science/727979/lung-disease-cancer-cure-robot-chain-smoking-harvard-university>



technology takeover

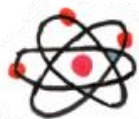




“The development of full artificial intelligence could spell the end of the human race.”

“Humans, who are limited by slow biological evolution, couldn't compete and would be superseded.”





STEAM



First Industrial Revolution

Learning Objectives

Mastery of basic skills and knowledge (e.g., reading, math)



Role of Educator

Expert



Learner Experience

'Factory model' - Passive, structured, directed, en masse



Target Age

K-12



Expertise

"Teacher knows best"



Access

Physical classroom





5>

Falsafah Pendidikan Kebangsaan

Pendidikan di Malaysia adalah suatu **usaha berterusan** ke arah memperkembangkan lagi potensi individu secara **menyeluruh dan bersepadu** untuk mewujudkan **insan yang seimbang dan harmonis** dari segi **intelek, rohani, emosi dan jasmani** berdasarkan **kepercayaan dan kepatuhan kepada Tuhan**. Usaha ini adalah bagi melahirkan **rakyat Malaysia** yang berilmu pengetahuan, berketerampilan, berakhlak mulia, bertanggungjawab dan berkeupayaan mencapai **kesejahteraan diri**, serta memberi **sumbangan terhadap keharmonian dan kemakmuran** keluarga, masyarakat dan negara (KPM, 1996).



30 tahun FPK dari perspektif Etika dan Kerohanian

Setiap murid akan mempunyai



... sejajar dengan Falsafah Pendidikan Kebangsaan



SCANDAL



Up to 87 million Facebook users



Had their data exposed by



Facebook

Exposed raw data of up to 87 million profiles to...



Cambridge Analytica

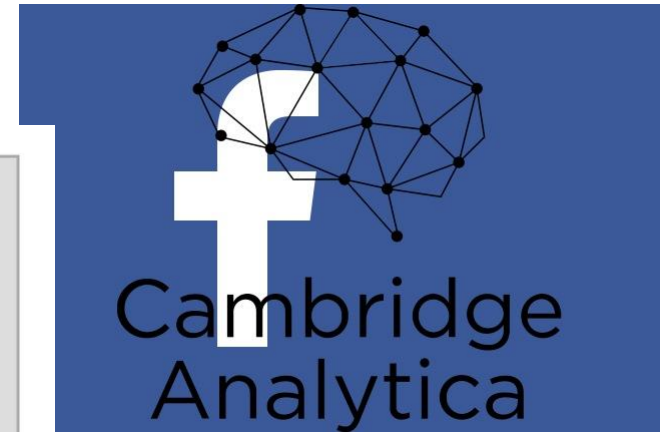
Political consulting firm



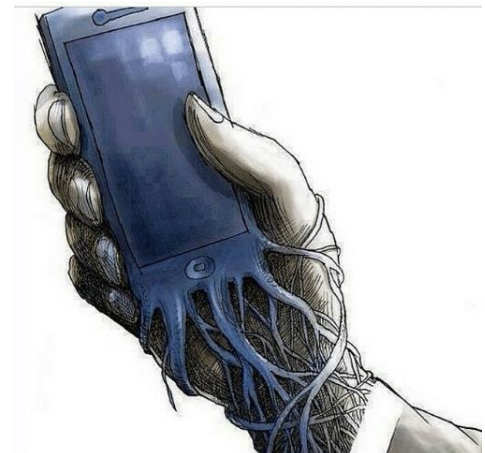
Worked on...



Trump campaign



Likes and Dislikes



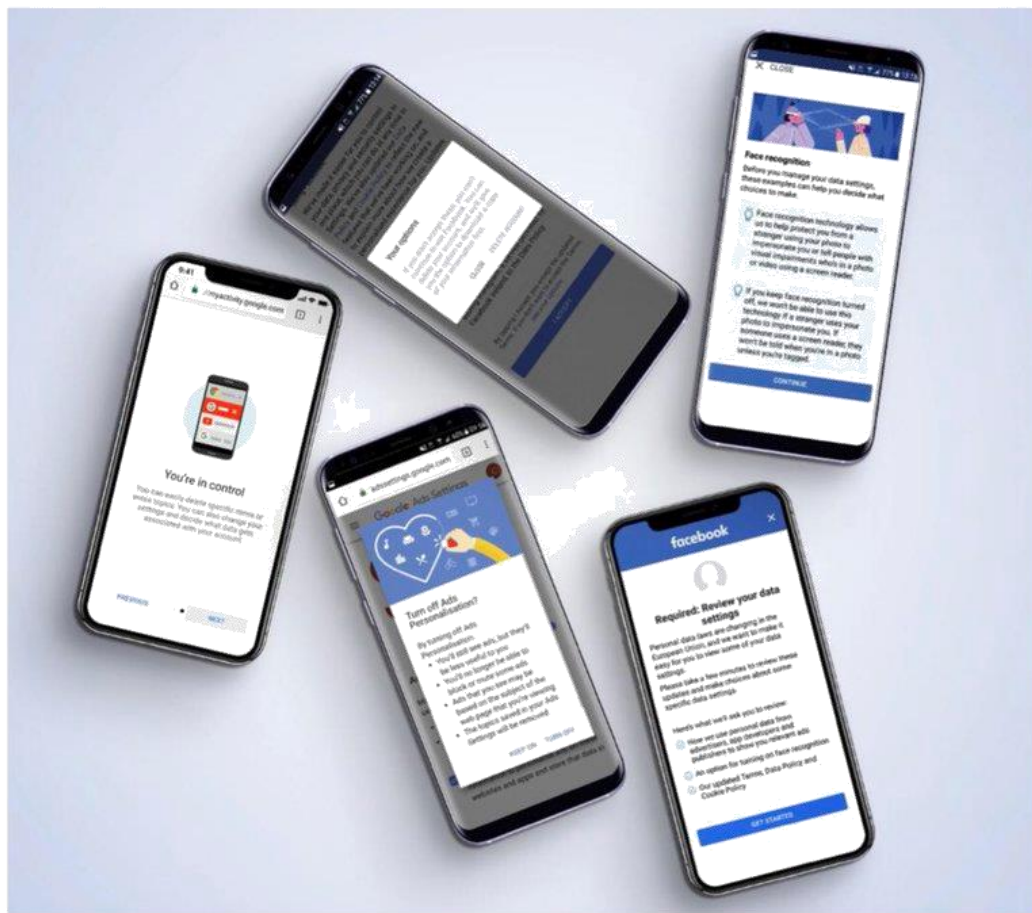
technology takeover



DECEIVED BY DESIGN

How tech companies use dark patterns to discourage us from exercising our rights to privacy

27.06.2018

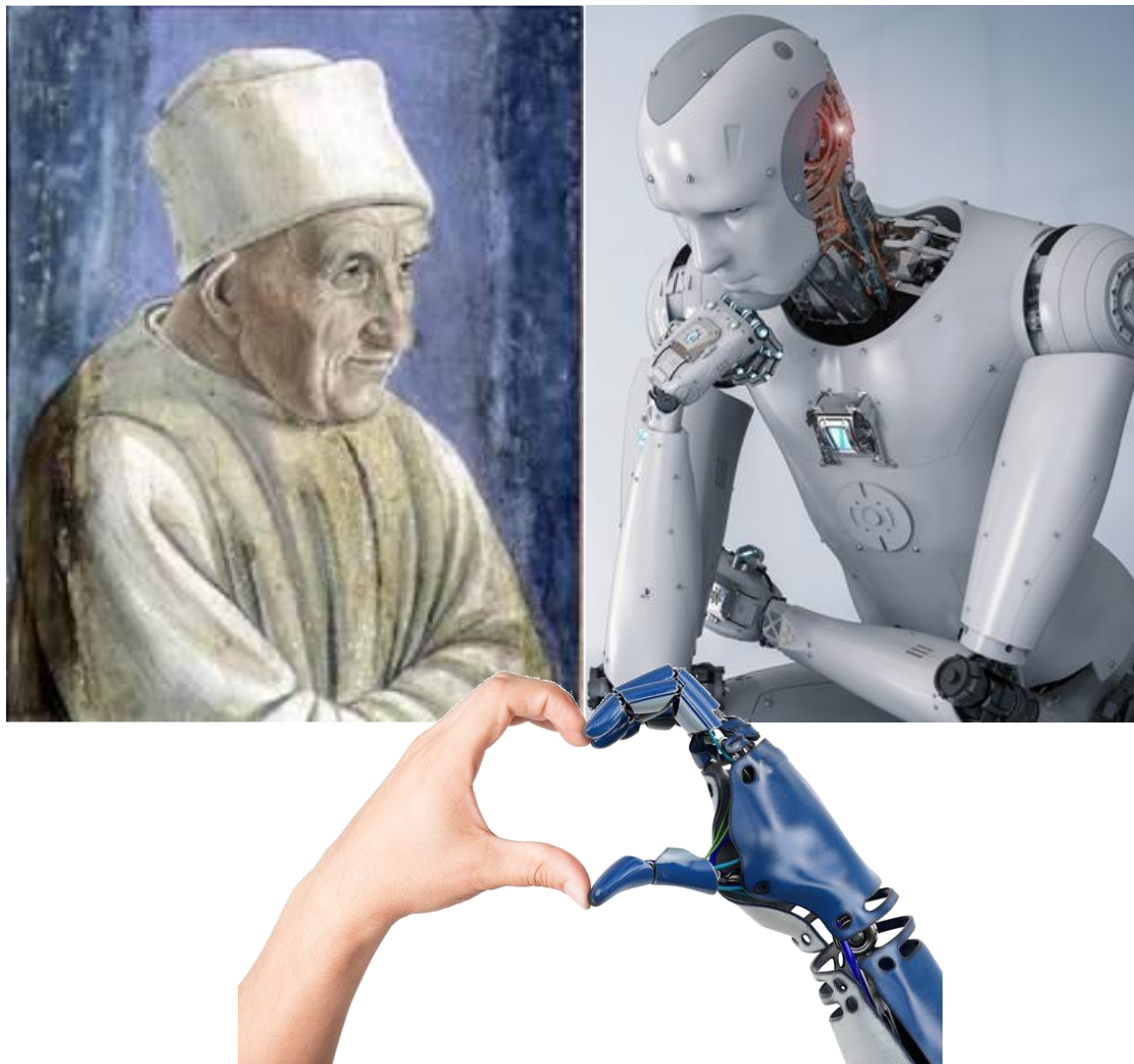


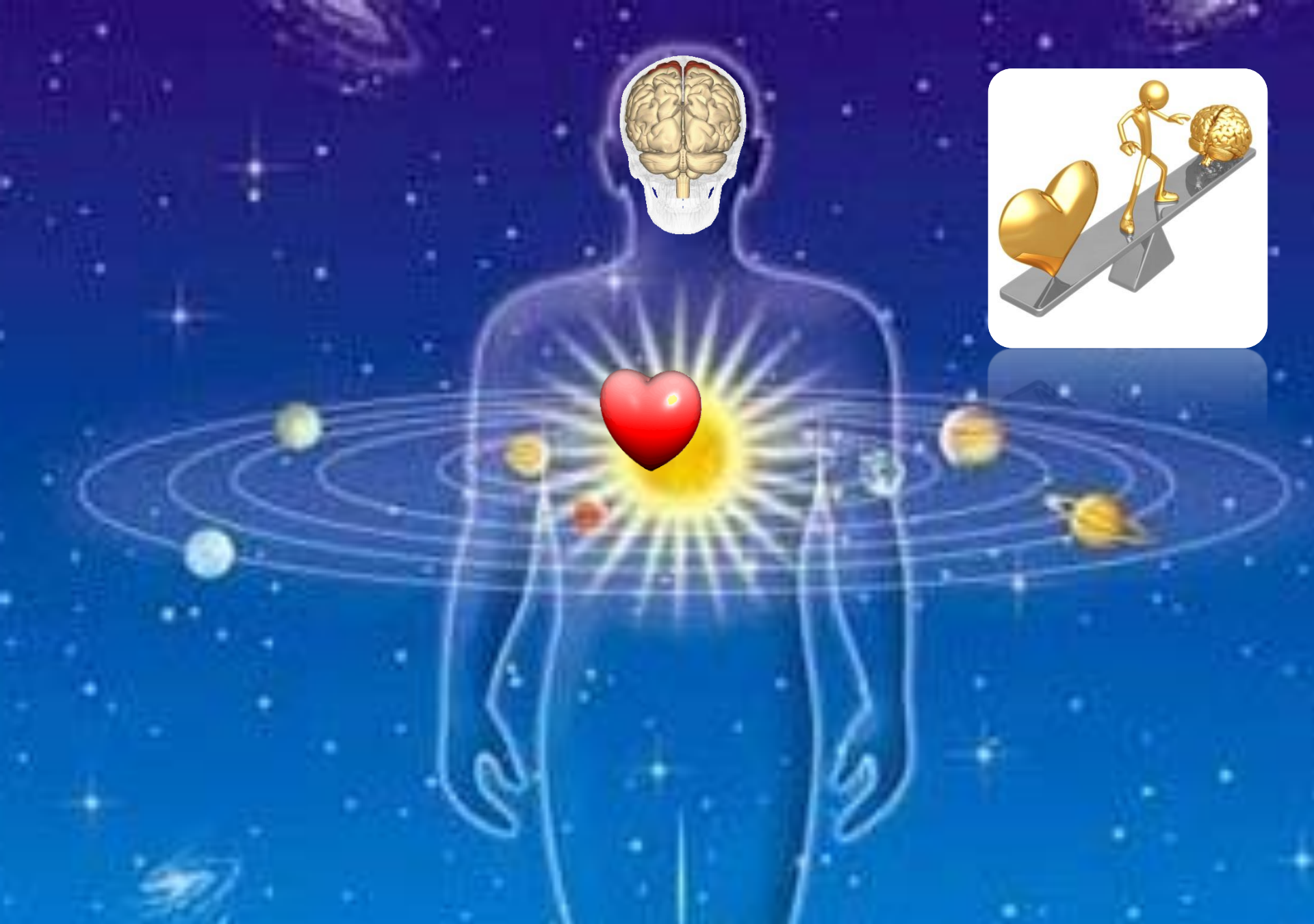
**Go check out “Deceived by Design”
— the Norwegian Consumer
Council’s report that shows how
Facebook, Google, and Microsoft
use “dark patterns”, which are
design tricks to manipulate users
into selecting less-private privacy
options.**

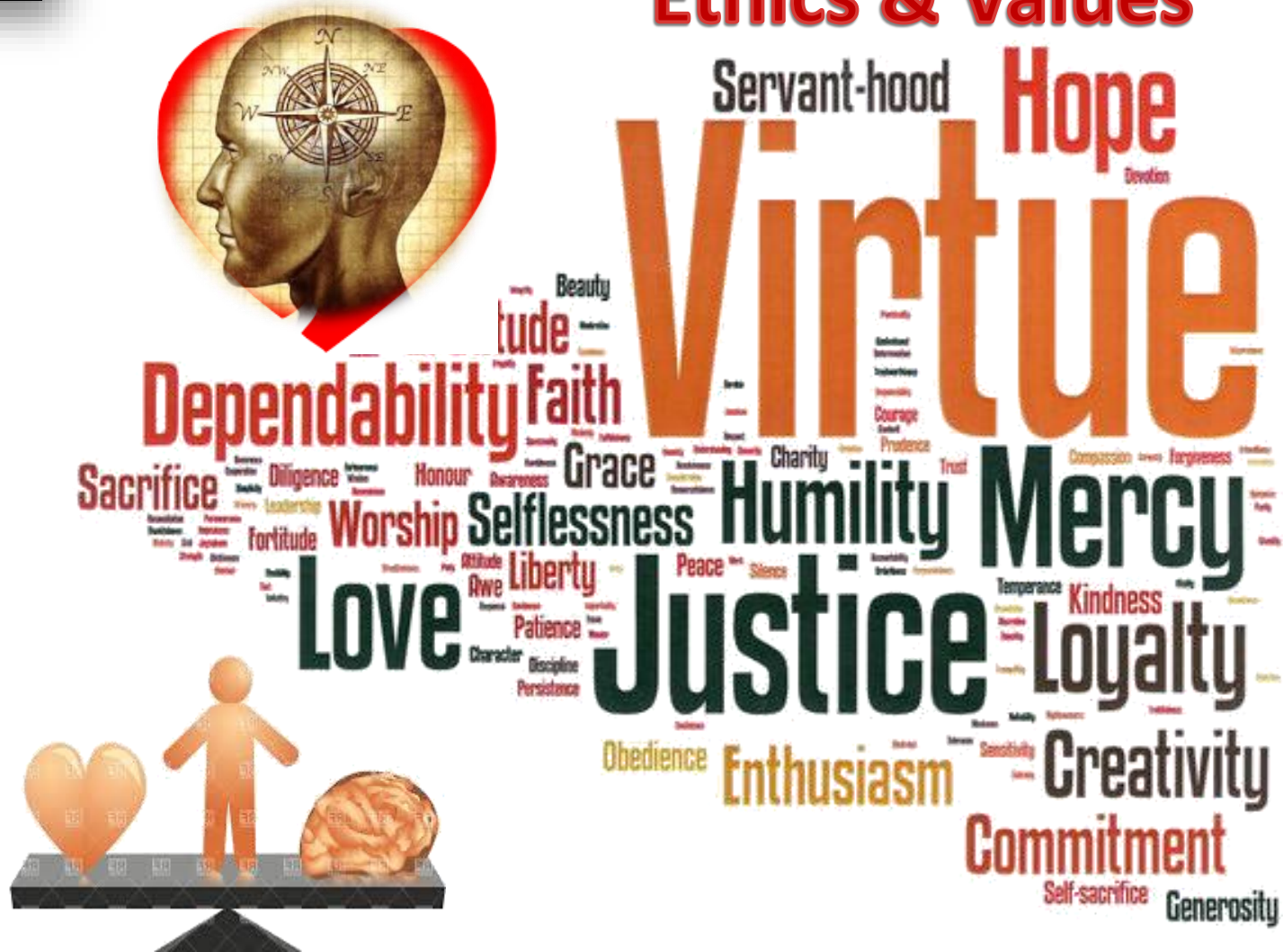
<https://fil.forbrukerradet.no/wp-content/uploads/2018/06/2018-06-27-deceived-by-design-final.pdf> ...



DILEMMA ?









*Thank you
from the heart!*





Acknowledgement & Disclaimer

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