

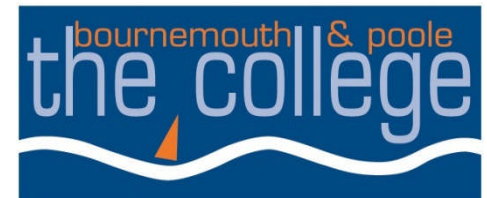
Only Everybody Knows the Truth

Dr Philip Davies

Bournemouth and Poole College

United Kingdom

MMEDIA2012 Chamonix,
Keynote Address



Bournemouth and Poole College Bournemouth University

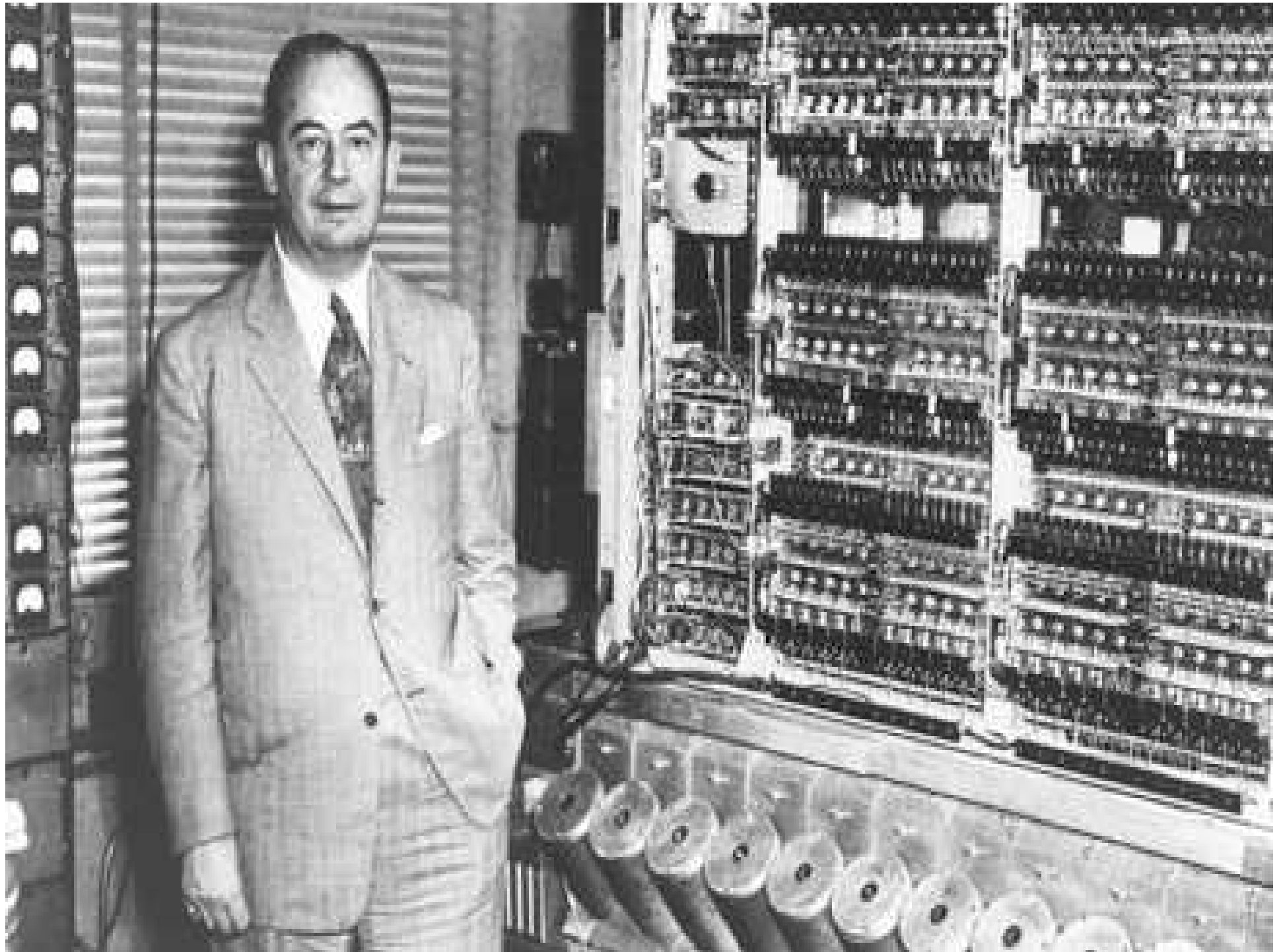


*“In thirty years
it will be as easy
to ask a computer a question
as to ask a person”*

Alan Turing, 1946









A **PETABYTE** IS A LOT OF DATA

1

PETABYTE

■ 20 MILLION
FOUR-DRAWER FILING CABINETS
FILLED WITH TEXT

1

PETABYTE

■ 13.3 YEARS
OF HD-TV VIDEO

1.5

PETABYTES

■ SIZE OF THE 10 BILLION
PHOTOS ON → **FACEBOOK**

15+

PETABYTES



INTERNET USER'S DATA BACKED UP ON
MOZY.COM

20

PETABYTES



THE AMOUNT OF DATA **PER**
PROCESSED BY **GOOGLE** **DAY**

20

PETABYTES



TOTAL HARD DRIVE SPACE
MANUFACTURED IN **1995**

50

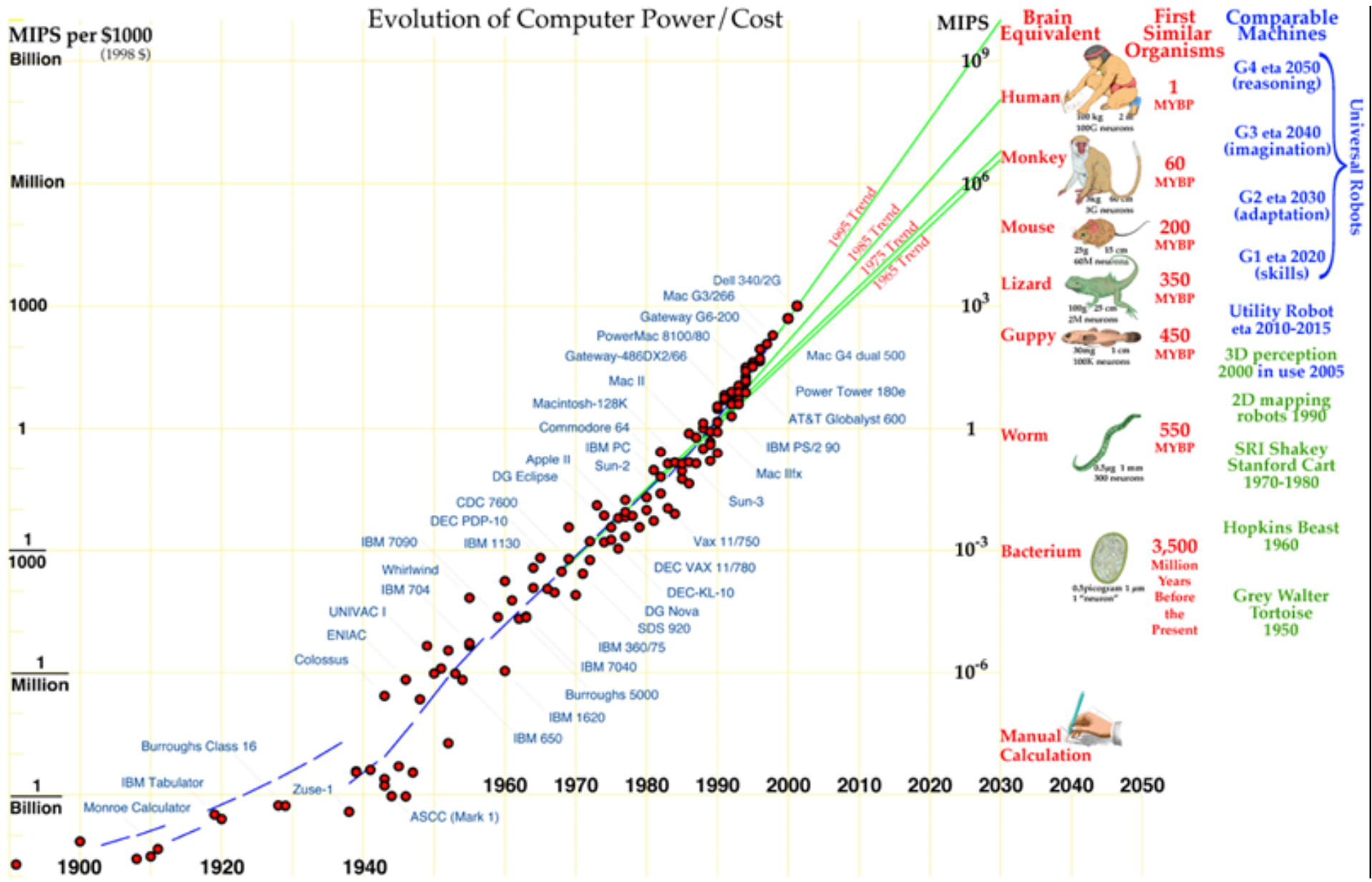
PETABYTES

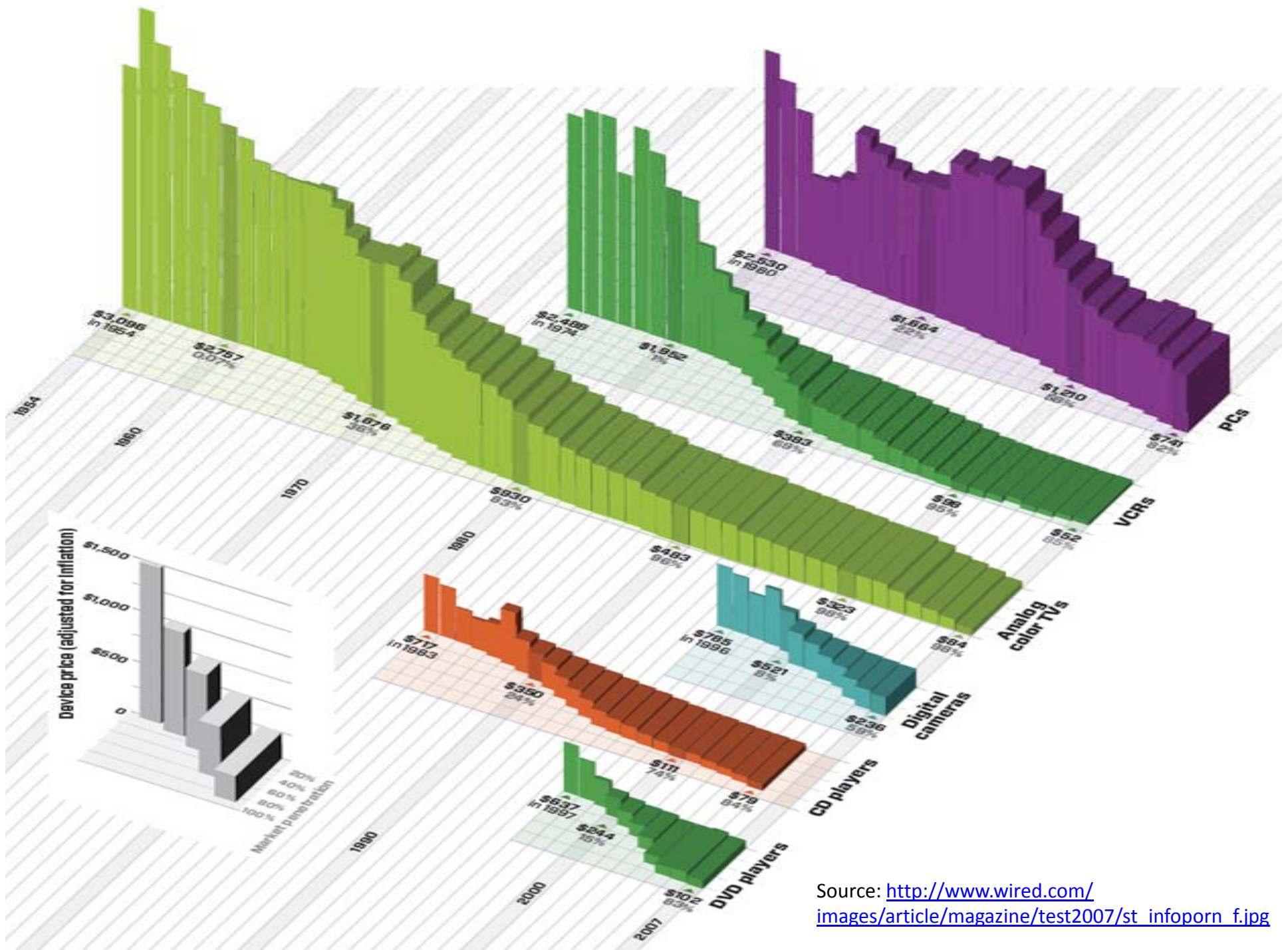


THE ENTIRE WRITTEN WORKS
OF MANKIND, FROM THE BEGIN-
NING OF RECORDED HISTORY,
IN ALL LANGUAGES

(all approximate)

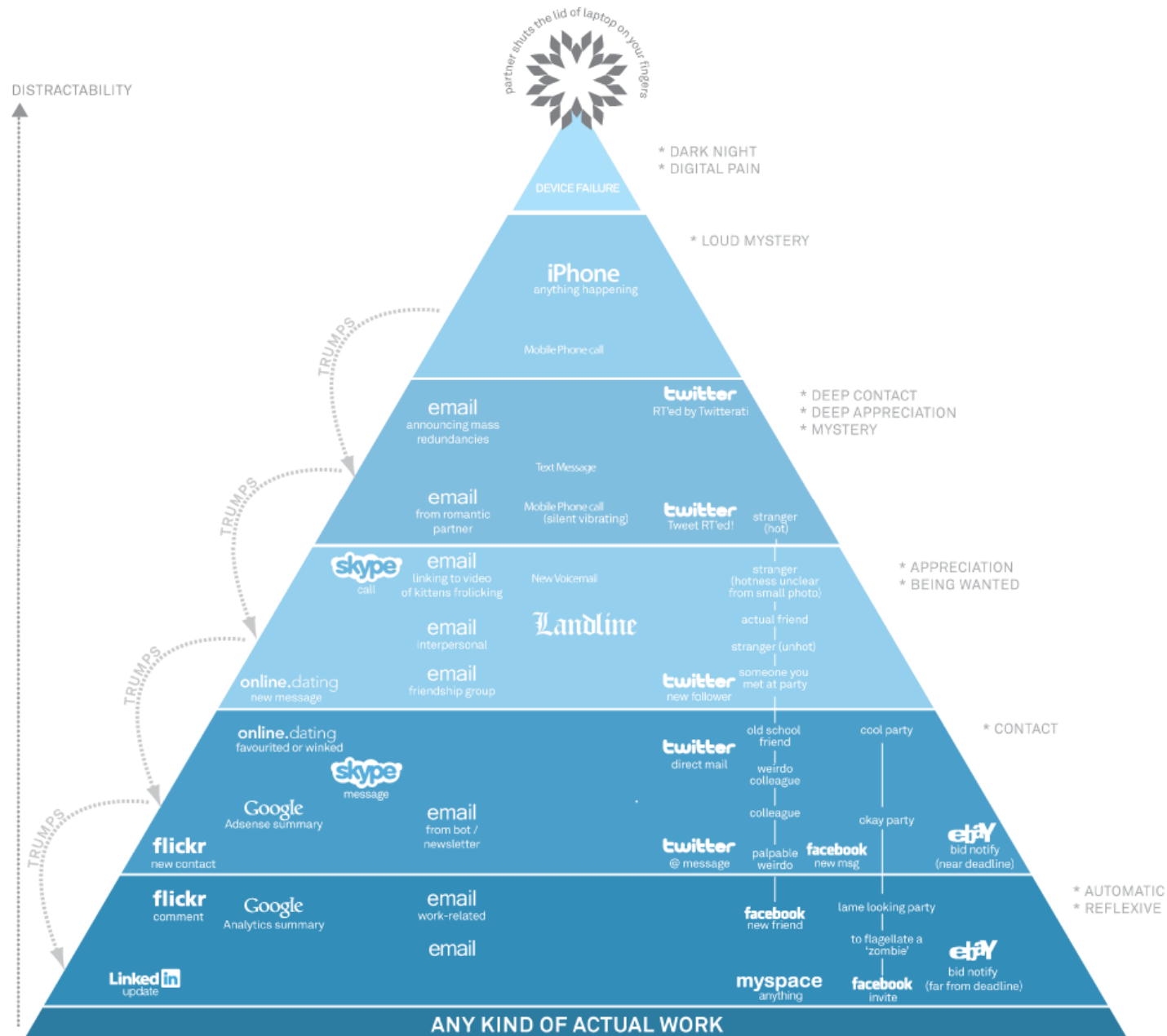
Evolution of Computer Power/Cost





Source: http://www.wired.com/images/article/magazine/test2007/st_infoporn_f.jpg

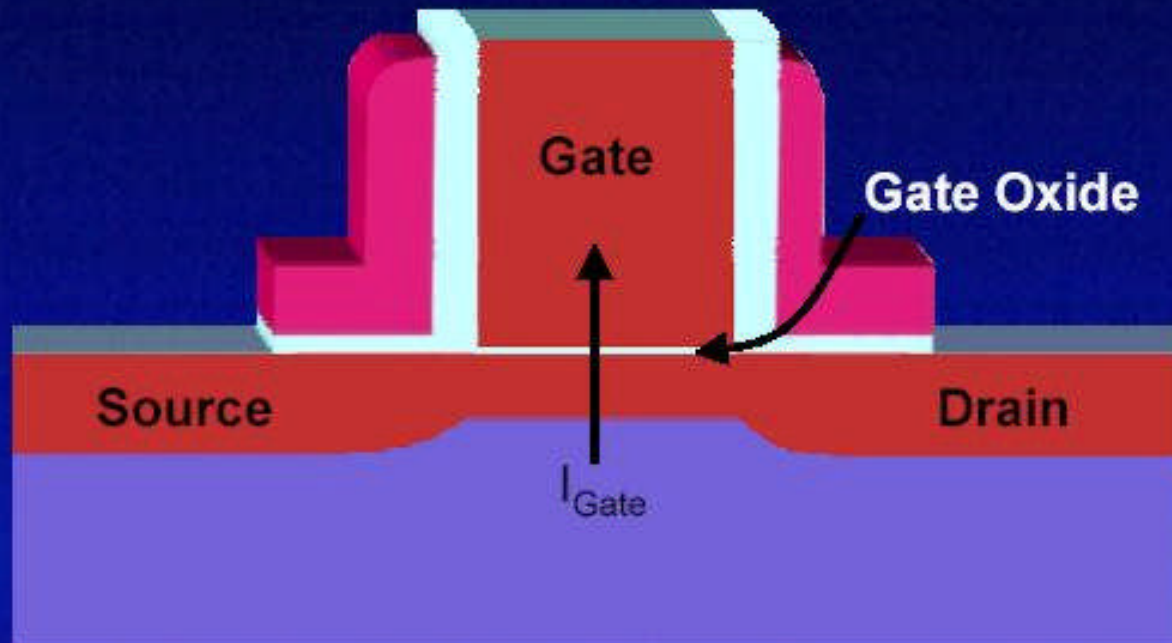
The Hierarchy of Digital Distractions



From <http://www.informationisbeautiful.net/visualizations/the-hierarchy-of-digital-distractions/>

The Practical Problems

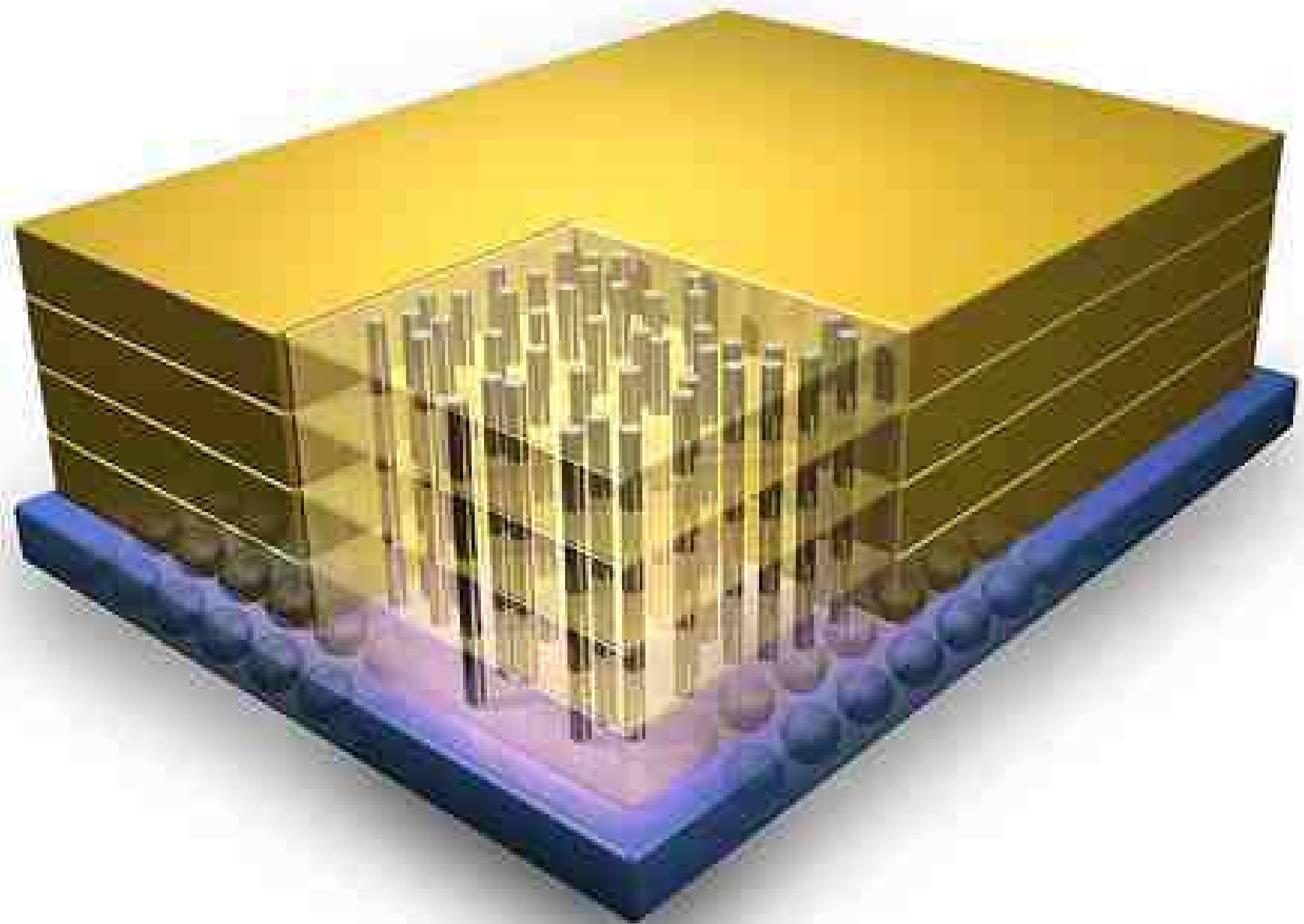
Challenges: Gate Leakage



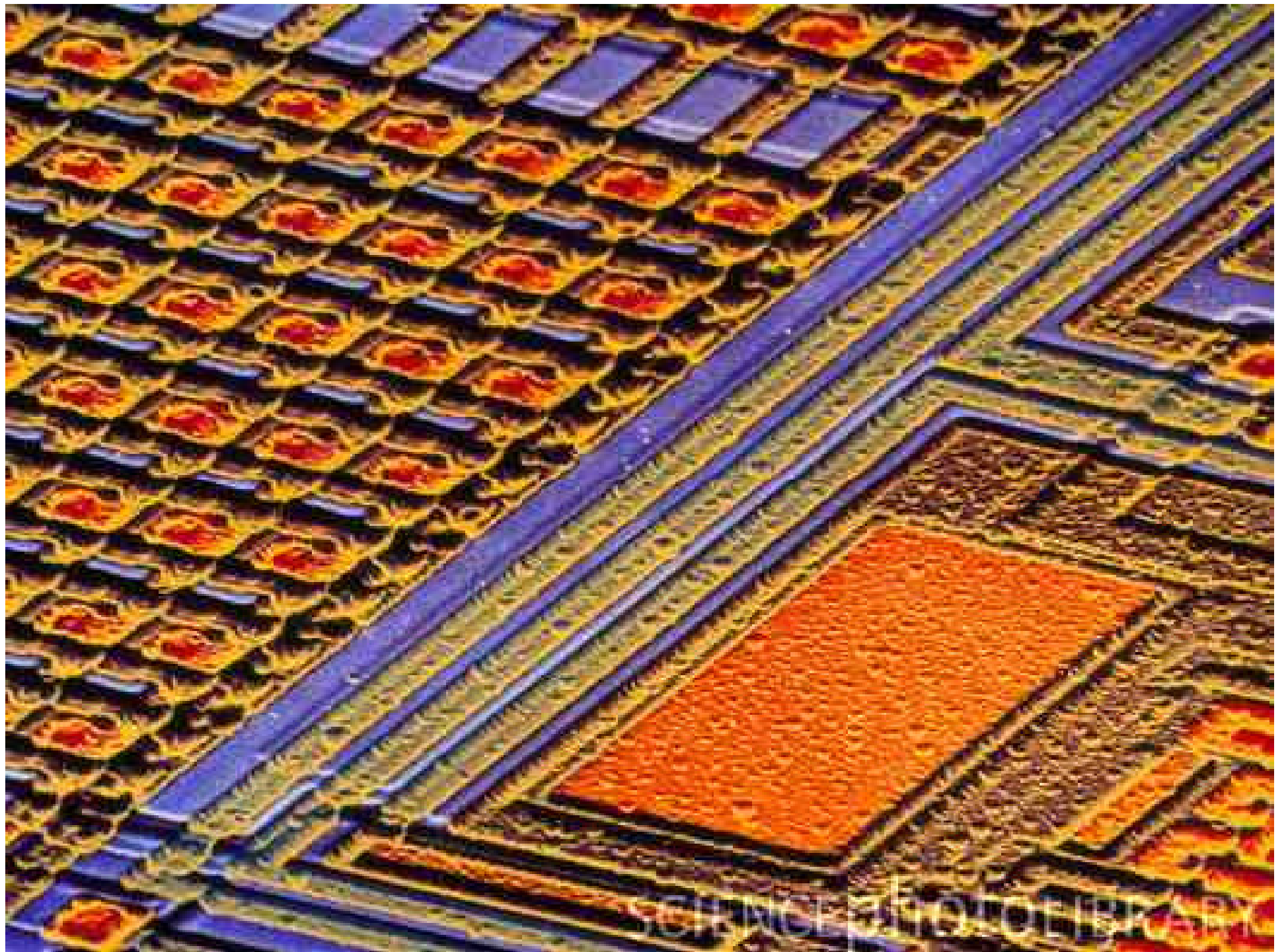
Gate Leakage Current:

- Thinner gate oxides produce faster transistors
- We have reached the limit of Gate Oxide (SiO_2) scaling.
 - 30nm transistor had 0.8nm gate oxide
- Thinner oxides leak more.
 - Gate oxide can get so thin it no longer acts as a good insulator

$$\Delta x \Delta p \geq h/2\pi$$



$$\frac{\textit{Heat Generated}}{\textit{Cooling}} = \frac{r^3}{r^2} = r$$



$$E = h\nu$$



Great computing starts with Intel inside



QUBIT ENTANGLED

OPTIMIZED FOR THE INTEL® WIRE EXPRESS CHIPSET

Intel® Hyper-Threading Technology

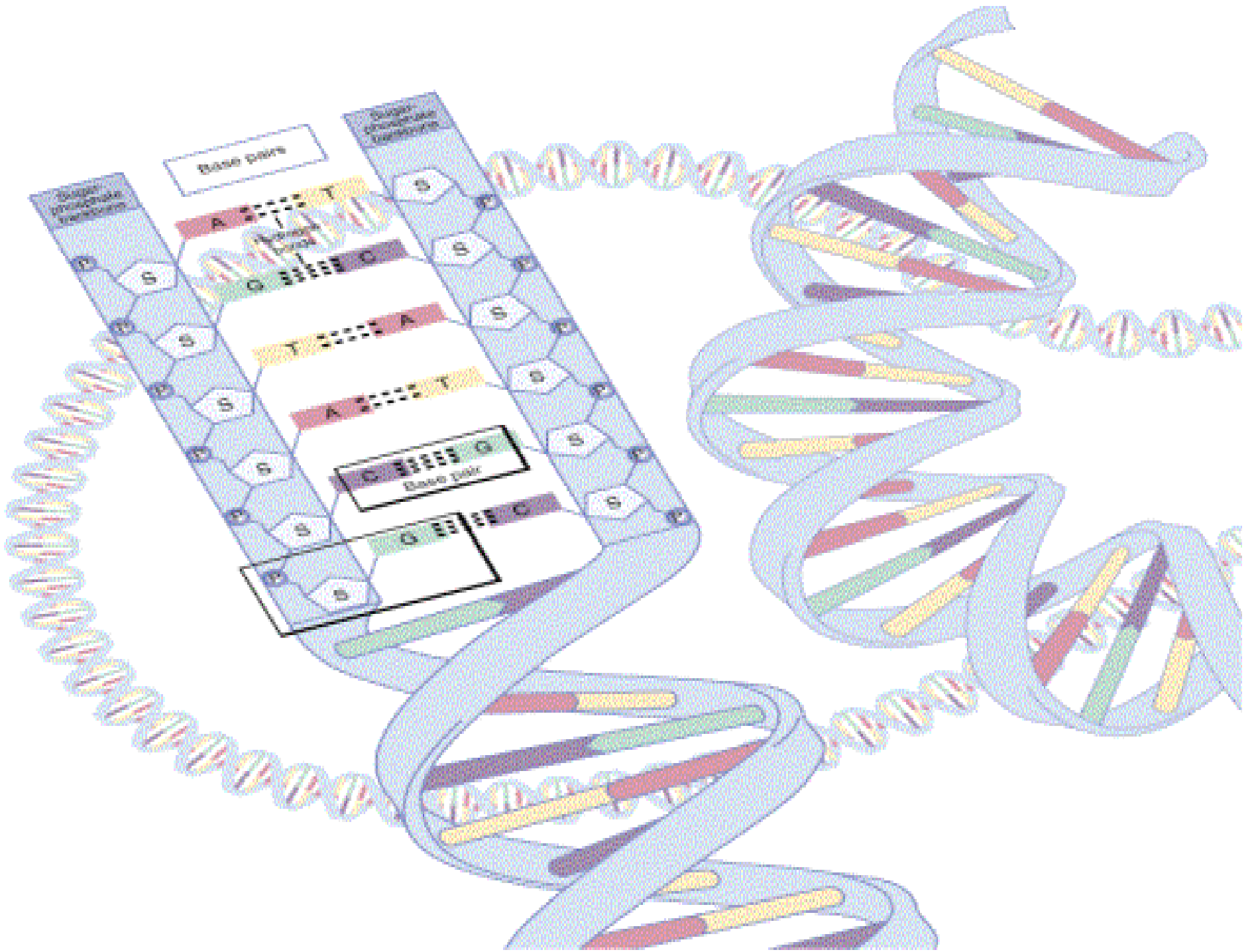
Intel® Smart Cache

Three-Year Limited Warranty



Intel® Core™ Processor

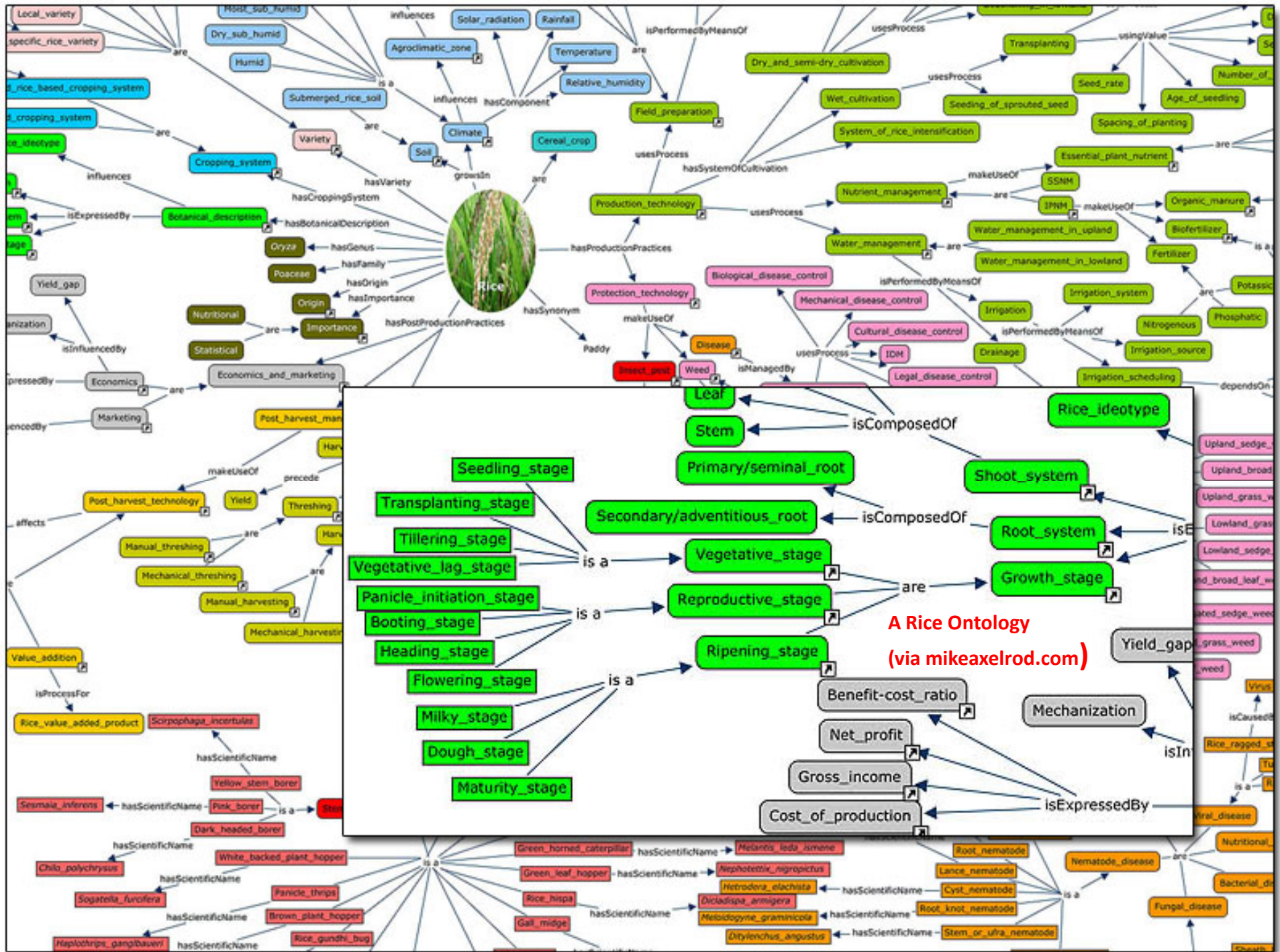
$$3 \times 5 = 15$$



The Conceptual Problems



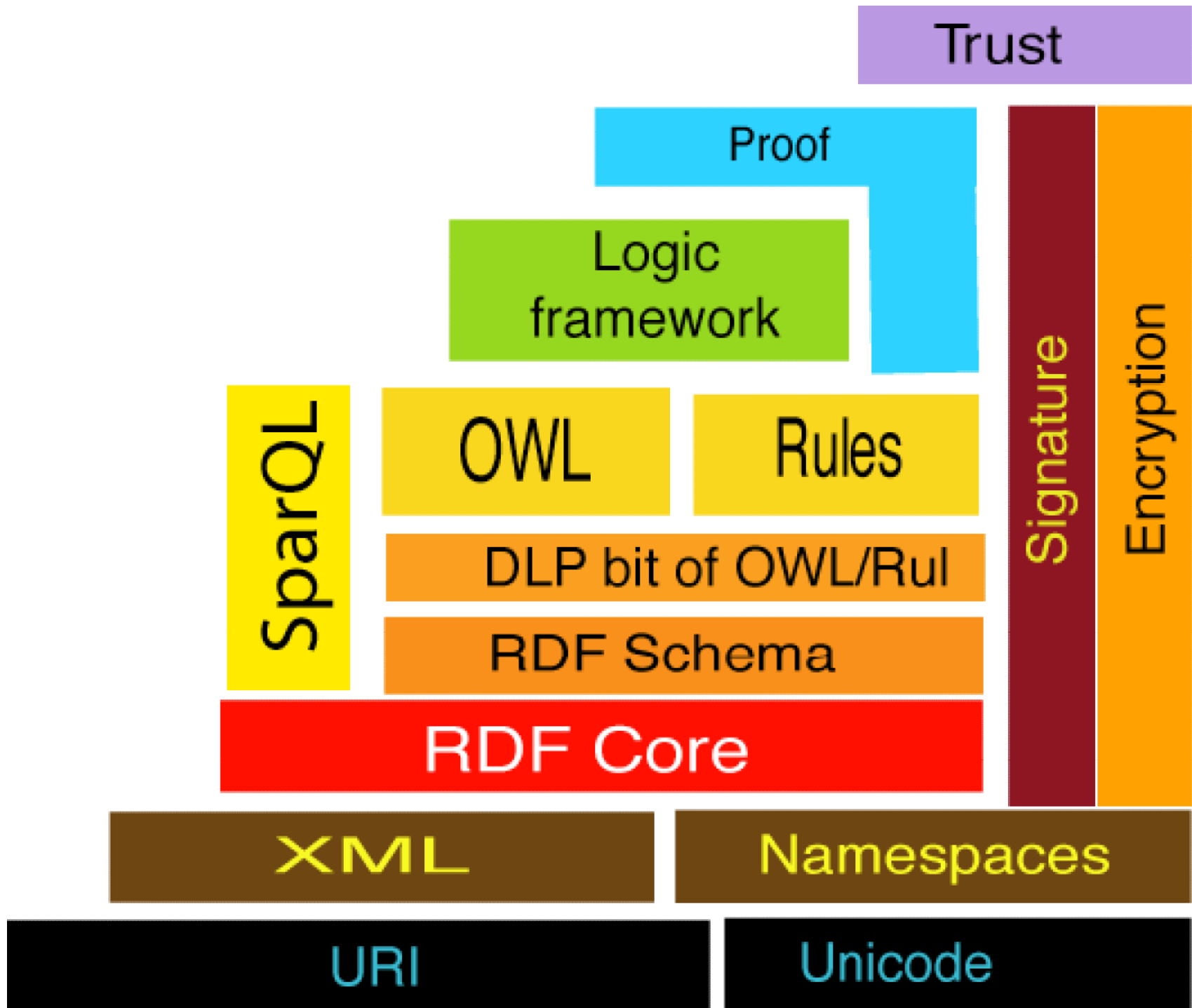
Dave... I'm afraid I can't
let you do that...



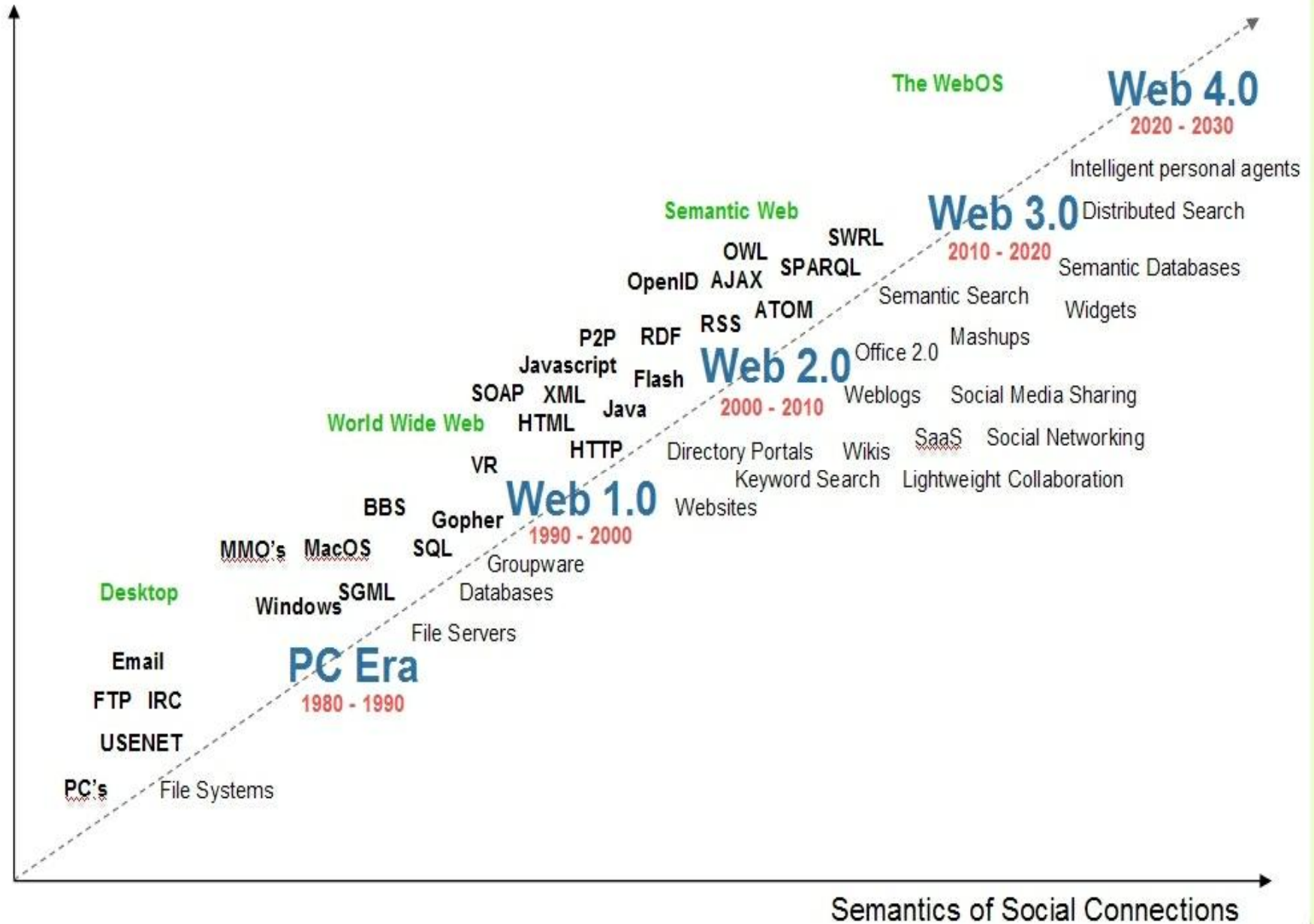
A Rice Ontology
(via mikeaxelrod.com)







Semantics of Information Connections



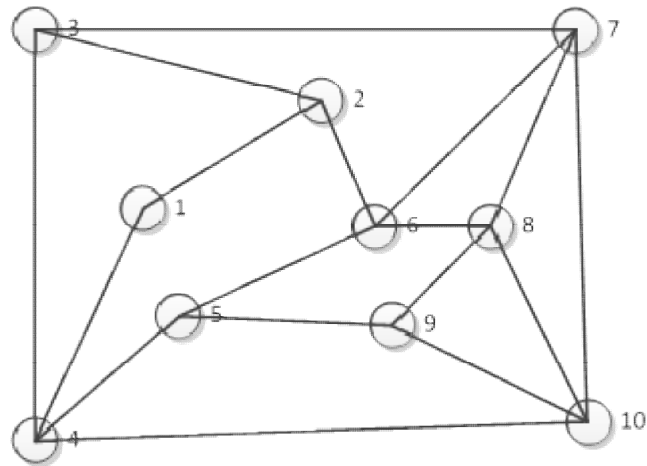
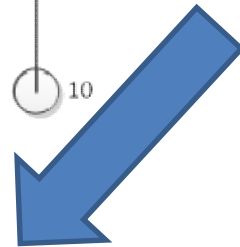
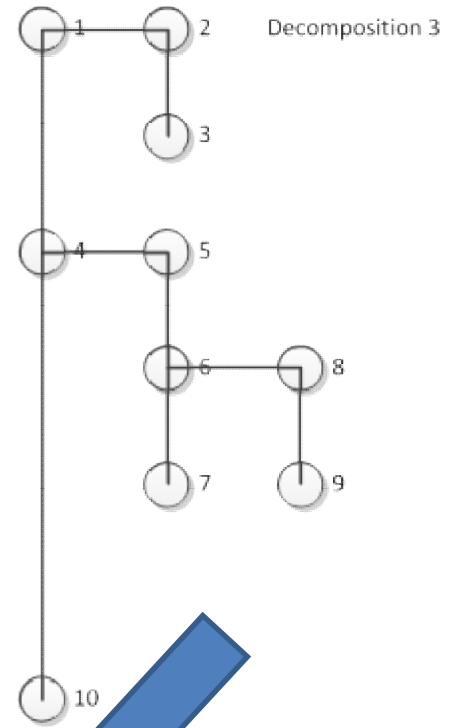
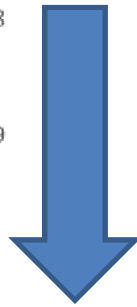
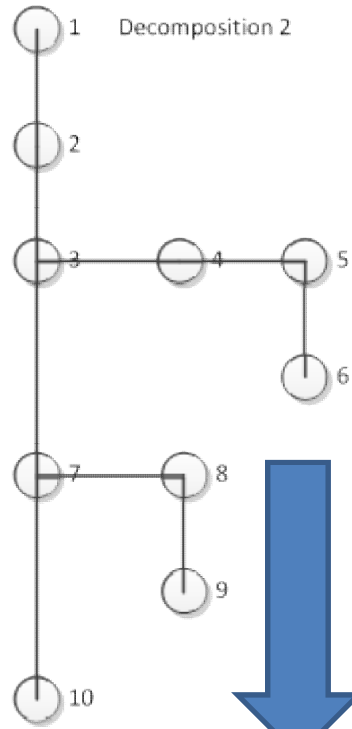
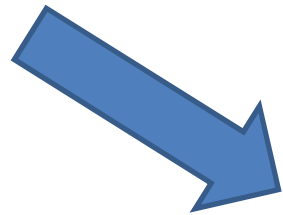
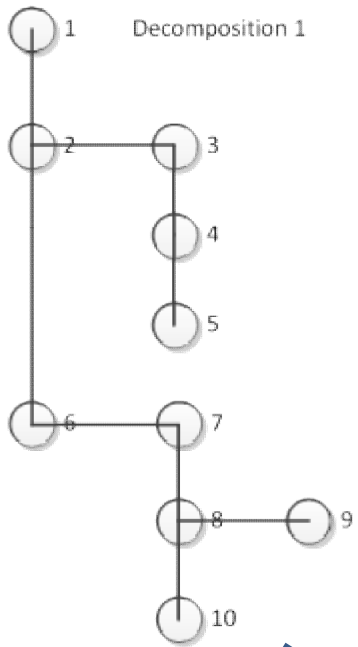
Source: Radar Networks & Nova Spivack, 2007 – www.radarnetworks.com



Toronto - Pelee Harbour Sunset | June 2010



Self Portrait
Miró 1937





“Only everybody knows the Truth”

Goethe



Dependency of Disciplines

