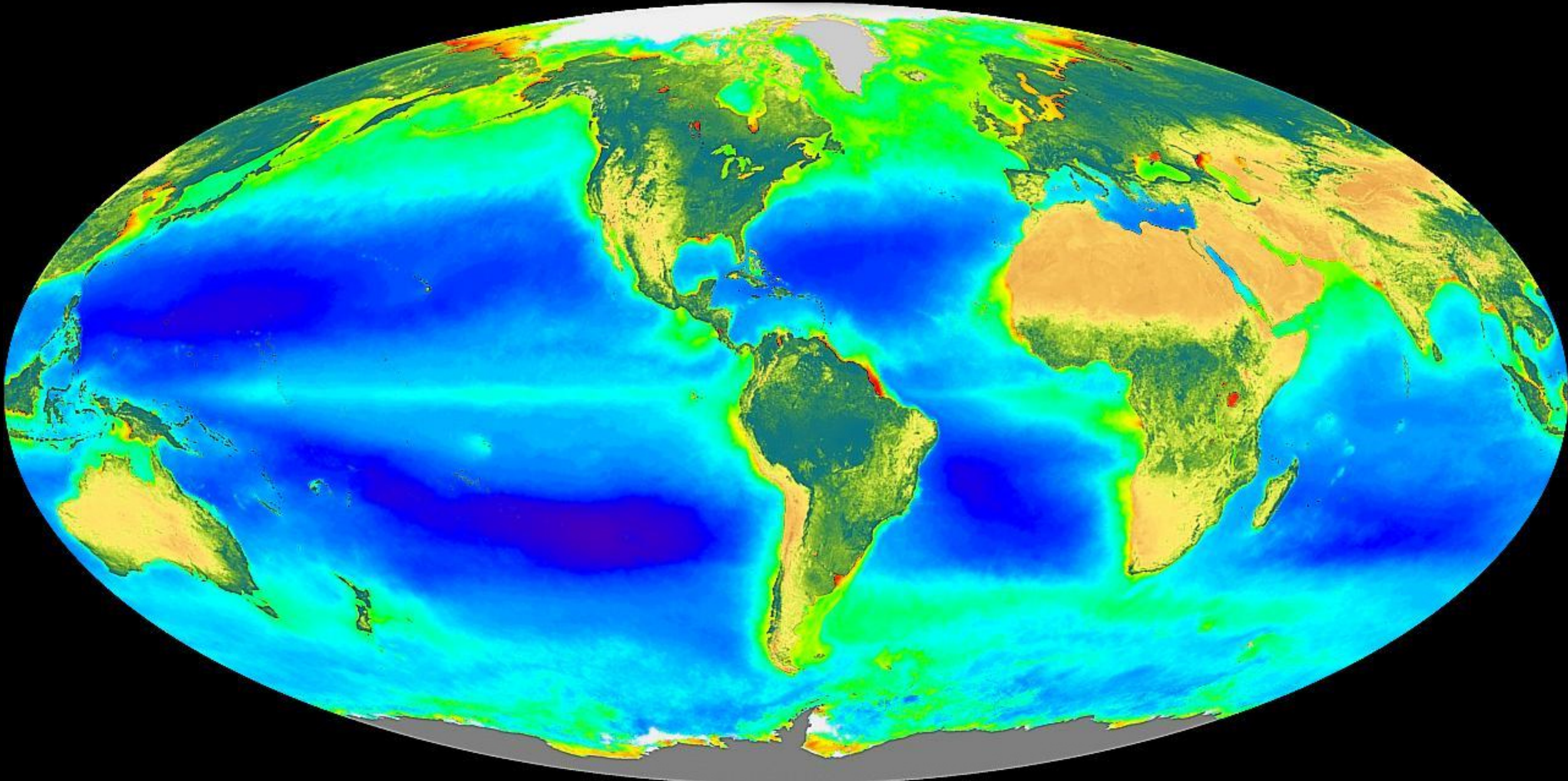


mit
media
lab

Complex Self-Adaptive Systems



>01 .02 .03 .05 .1 .2 .3 .5 1 2 3 5 10 15 20 30 50
Ocean: Chlorophyll *a* Concentration (mg/m³)

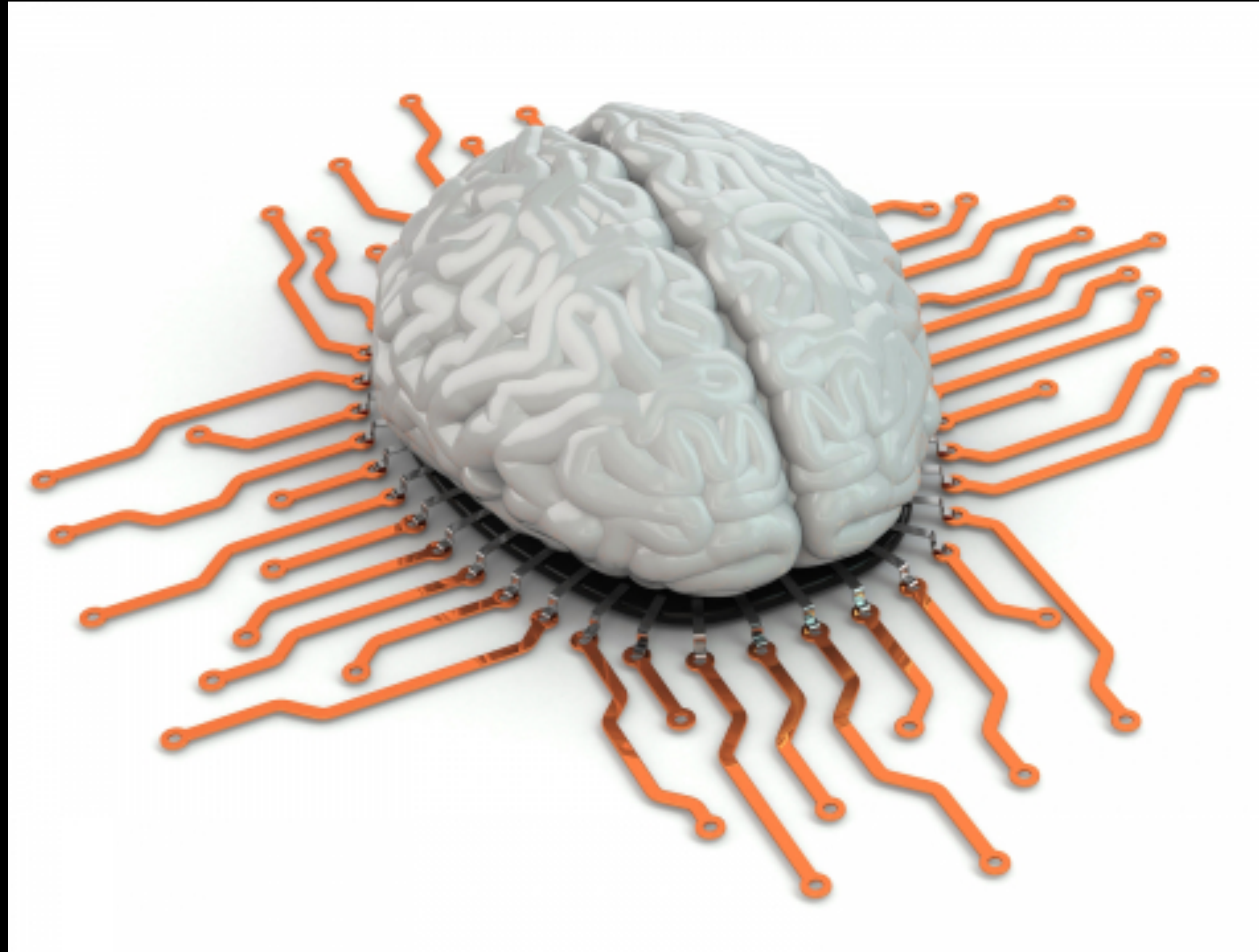
Maximum Minimum
Land: Normalized Difference Land Vegetation Index



“Machines of Flesh and Blood” - Norbert Wiener



Extended Intelligence



The Internet as a Parallel



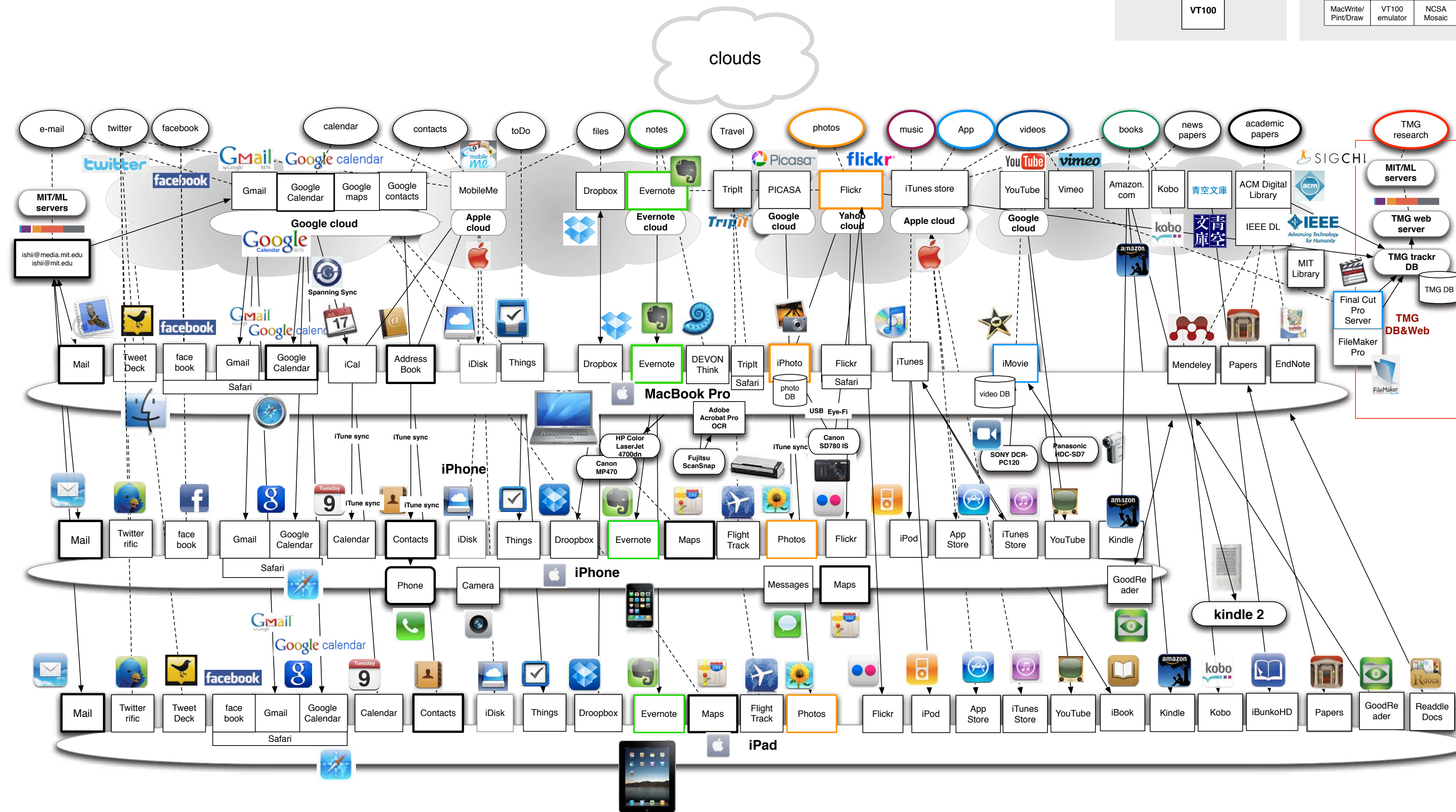
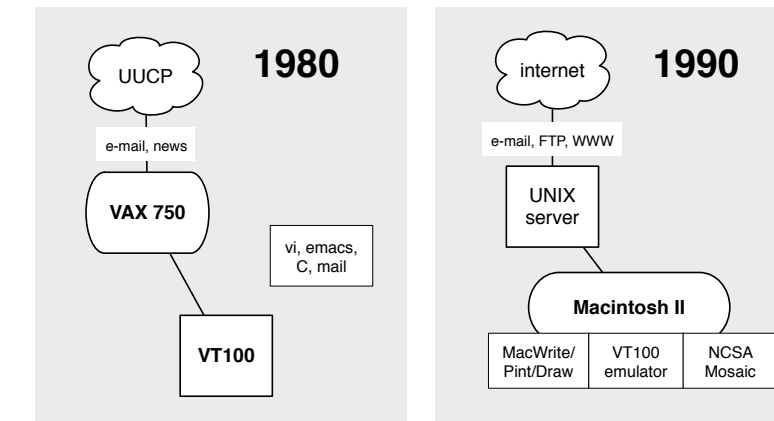
Ecosystems



Hiroshi ISHII's Digital Life Information Ecology 2010

June 12, 2010 Tokyo
January 9, 2010 Cambridge MA

(c) 2010 Hiroshi Ishii (Please do not distribute)





Ethernet - 1974



Ethernet - 1974

parc
A Xerox Company



TCP/IP - 1974

Ethernet - 1974

parc
A Xerox Company



TCP/IP - 1974



Ethernet - 1974



HTTP/HTML - 1990

TCP/IP - 1974



Ethernet - 1974



HTTP/HTML - 1990



TCP/IP - 1974



Ethernet - 1974



SSL 3.0 - 1996

HTTP/HTML - 1990



TCP/IP - 1974



Ethernet - 1974



SSL 3.0 - 1996



HTTP/HTML - 1990



TCP/IP - 1974



Ethernet - 1974



SSL 3.0 - 1996



HTTP/HTML - 1990



TCP/IP - 1974



Ethernet - 1974



 3COM 1979



SSL 3.0 - 1996



HTTP/HTML - 1990



TCP/IP - 1974



1984

Ethernet - 1974



1979



SSL 3.0 - 1996



HTTP/HTML - 1990



1994

TCP/IP - 1974



1984

Ethernet - 1974



1979



SSL 3.0 - 1996



HTTP/HTML - 1990



TCP/IP - 1974



Ethernet - 1974



SSL 3.0 - 1996



HTTP/HTML - 1990



TCP/IP - 1974



Ethernet - 1974



SSL 3.0 - 1996



HTTP/HTML - 1990



TCP/IP - 1974



Ethernet - 1974



SSL 3.0 - 1996



HTTP/HTML - 1990



TCP/IP - 1974



Ethernet - 1974



Minitel

1978 - 1982





1983 -



SSL 3.0 - 1996



HTTP/HTML - 1990



TCP/IP - 1974



Ethernet - 1974





SSL 3.0 - 1996



HTTP/HTML - 1990



TCP/IP - 1974



Ethernet - 1974



Competitive / For-Profit



1994

Collaborative / Non-Profit



Competitive / For-Profit



1984

Collaborative / Non-Profit



Competitive / For-Profit

Execution and Scaling

Collaborative / Non-Profit

Mindset

Competitive / For-Profit

Execution and Scaling

Collaborative / Non-Profit

Mindset



Internet





Payments

Internet



Smart contracts

 Payments

Internet



Equity and derivatives

Smart contracts

 Payments

Internet



Decentralized exchange

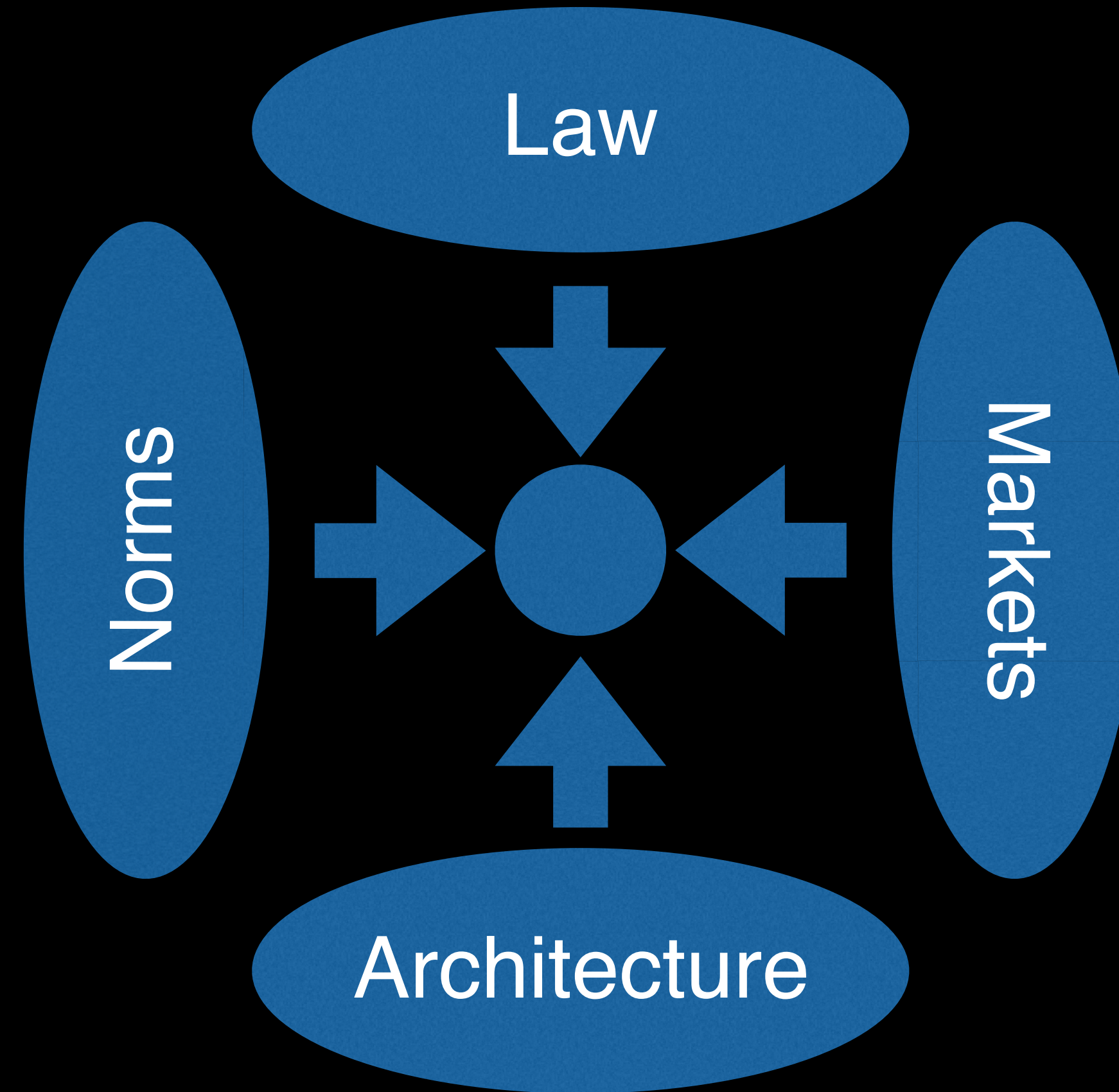
Equity and derivatives

Smart contracts

 Payments

Internet



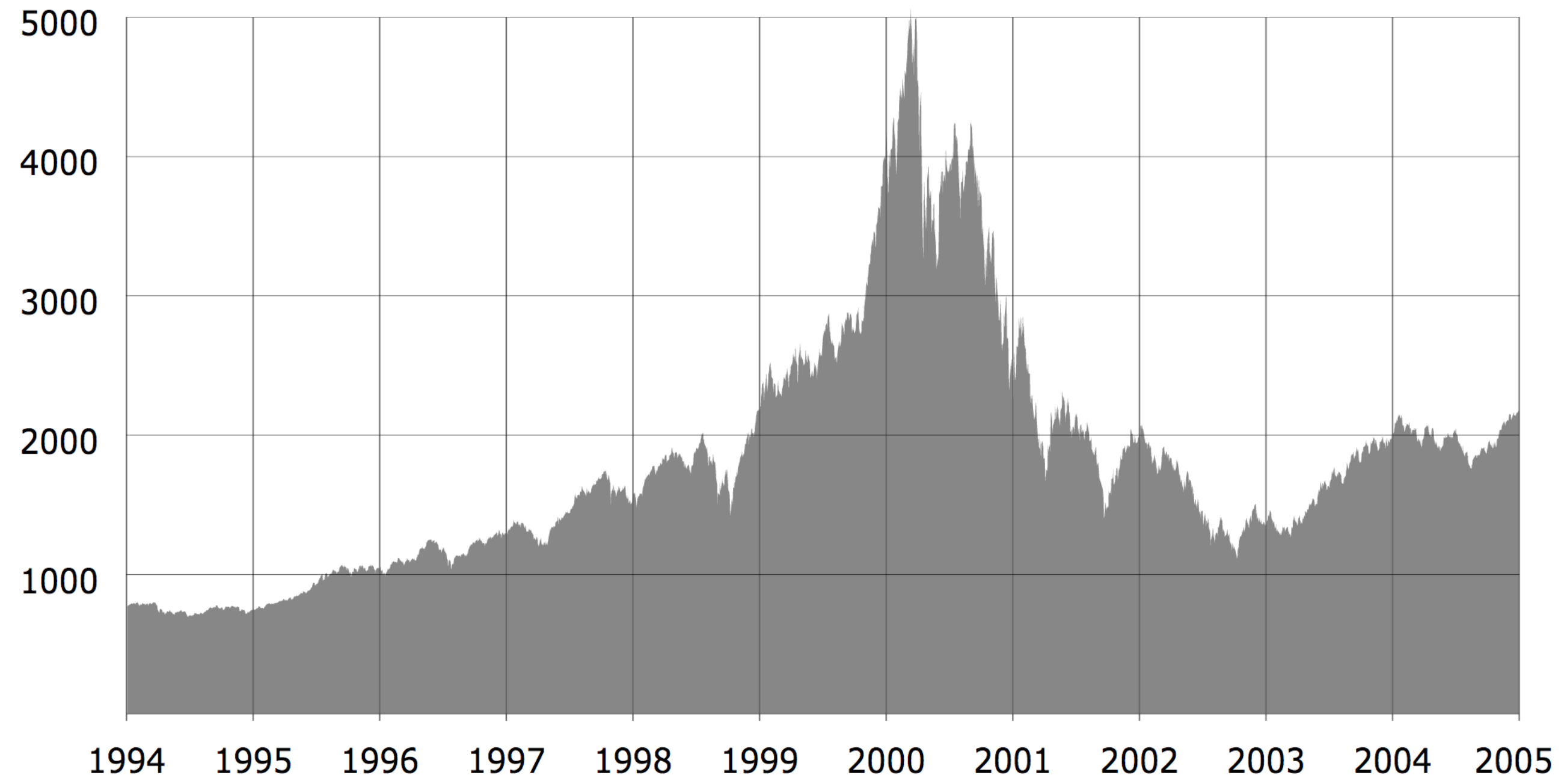


Lawrence Lessig. 1999. *Code and Other Laws of Cyberspace*

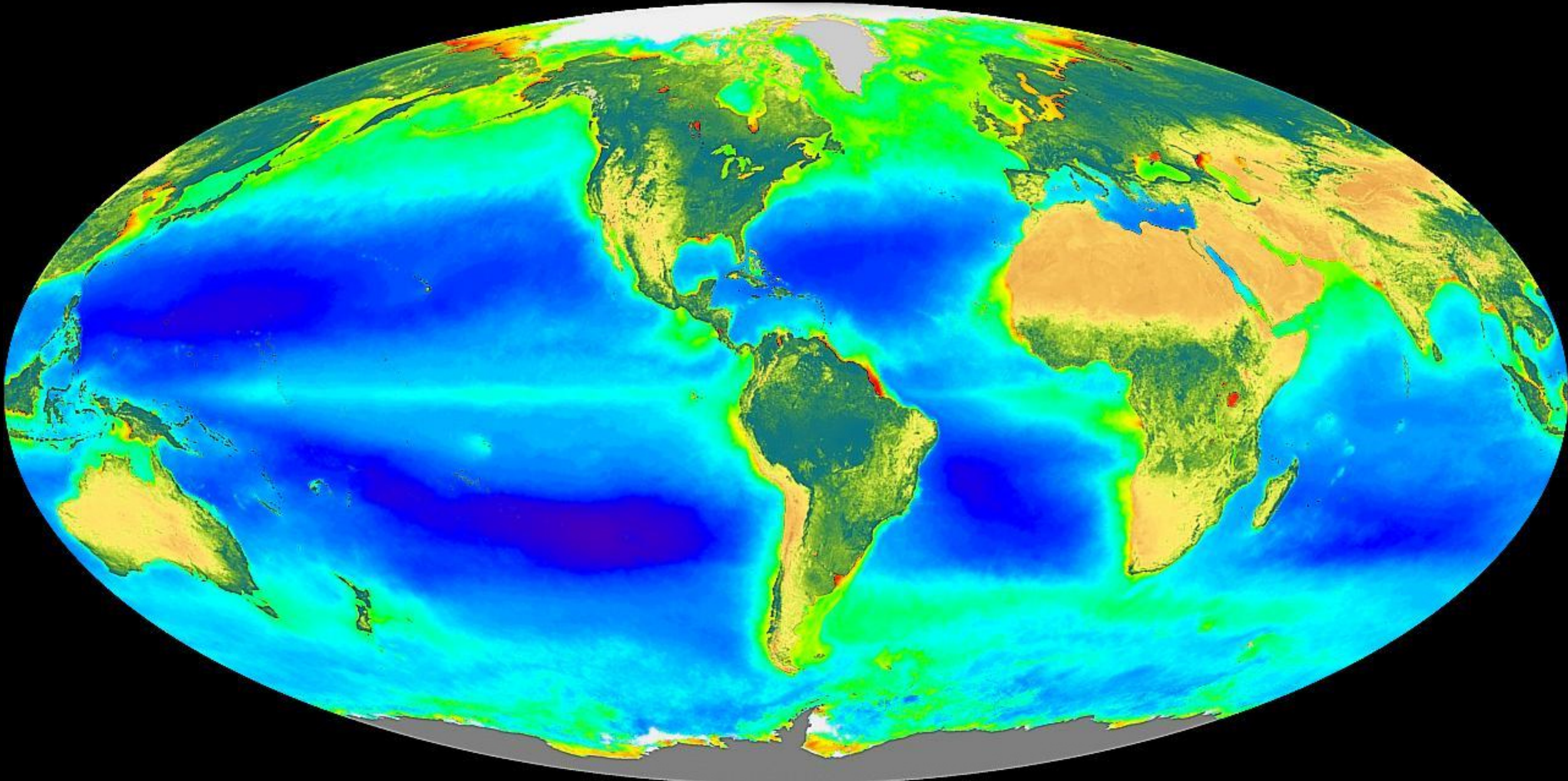


ICOs





Complex Self-Adaptive Systems



>01 .02 .03 .05 .1 .2 .3 .5 1 2 3 5 10 15 20 30 50
Ocean: Chlorophyll *a* Concentration (mg/m³)

Maximum Minimum
Land: Normalized Difference Land Vegetation Index





L. J. MAGIE.
GAME BOARD.

APPLICATION FILED MAR. 23, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

The Landlord's Game

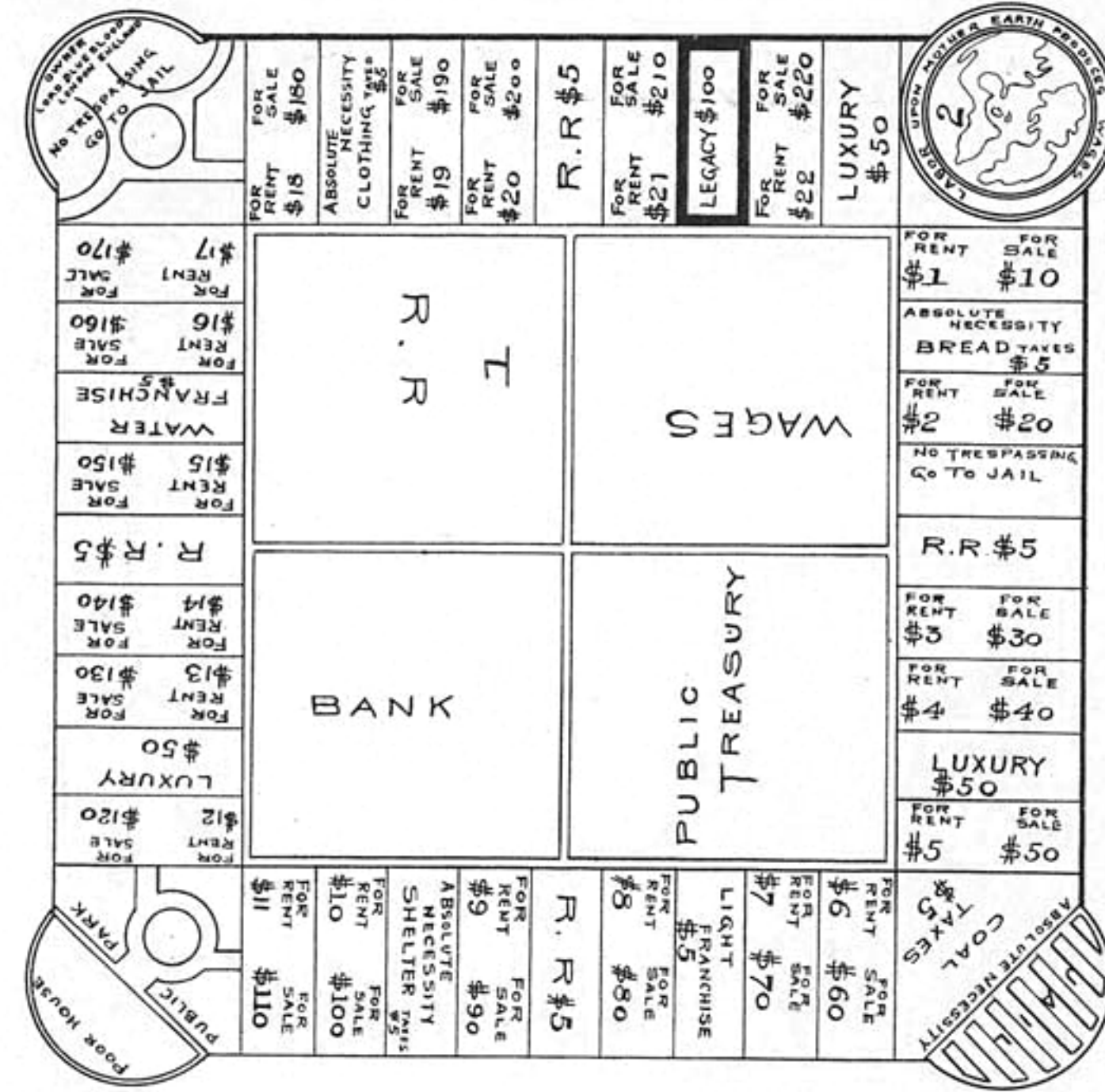


Fig. 1.

Witnesses
F. L. Curand.
M. H. Curand.

Inventor
Lizzie J. Magie
by John A. Saul
Attorney



Heart Attack Grill

BUTTERFAT SHAKE
Tab of Butter
World's Highest Fat Content

CORONARY DOG
Chilli Cheese Bacon

DOUBLE BYPASS BURGER

TRIPLE BYPASS BURGER

QUADRUPLE BYPASS BURGER



ButterFat Shake
The World's Highest Fat Content!
\$4.62



Strawberry Daiquiri
\$9.24 Mango Colada
Margarita
22oz Take Home Souvenir Cup
CAUTION: Half Liquor. Strongest Frozen on Fremont.



350 LBS EATS FREE

SEND HATE MAIL TO:
Heart Attack Grill
1300 Fremont Street #130
Las Vegas, Nevada 89101

WEIGH YOURSELF HERE

CASH ONLY
Because you might get before the check out.

CAUTION!
This establishment is bad for your health.
No Smoking Inside

FIGHTING ANOREXIA SINCE 2008!

GRAIN TO CLASS
Banger Brewing

WING WING MICRO BREWERY



ANDREW FLETCHER, LORD JUSTICE CLERK

And Keeper of his Majesty's Signet in Scotland,

*From an Original Picture painted by Aikman, in the
Collection of the R. Hon. the Earl of Buchan at Dryburg Abbey*

London. Published 1. Jan. 1798. by Robert Wilkinson N^o. 53. Cornhill.



“Let me make the songs of a nation, and I care not who makes its laws”



ANDREW FLETCHER, LORD JUSTICE CLERK

And Keeper of his Majesty's Signet in Scotland,

*From an Original Picture painted by Aikman, in the
Collection of the R. Hon. the Earl of Buchan at Dryburg Abbey*

London. Published 1. Jan. 1798. by Robert Wilkinson N^o. 53. Cornhill.



Donella Meadows, Places to Intervene in a System

(in increasing order of effectiveness)

12. Constants, parameters, numbers (such as subsidies, taxes, standards).
11. The sizes of buffers and other stabilizing stocks, relative to their flows.
10. The structure of material stocks and flows (such as transport networks, population age structures).
9. The lengths of delays, relative to the rate of system change.
8. The strength of negative feedback loops, relative to the impacts they are trying to correct against.
7. The gain around driving positive feedback loops.
6. The structure of information flows (who does and does not have access to information).
5. The rules of the system (such as incentives, punishments, constraints).
4. The power to add, change, evolve, or self-organize system structure.
3. The goals of the system.
2. The mindset or paradigm out of which the system - its goals, structure, rules, delays, parameters - arises.
1. The power to transcend paradigms.



First Principles and Ethics

3. The goals of the system.
2. The mindset or paradigm out of which the system - its goals, structure, rules, delays, parameters - arises.
1. The power to transcend paradigms.

