Β Χ ΚΑΛΔΗΣ

INFORMATION

"Information is not innocent."

James G. March 1988

'Computer technology is to the information age what mechanization

was to the industrial revolution'

*'We now **mass-produce information** the way we used to mass-produce*

cars . . . this knowledge is the driving force of the economy'

J. Naisbitt 1984

Marshall McLuhan, *Understanding Media: The Extensions of Man* 1964

«…»

«The electric technology is within the gates and we are

numb, deaf, blind and mute about its encounter with the Gutenberg
technology, on and through which the American way of life was formed»

 "Our conventional response to all media, namely that it is how they are

used that counts, is the numb stance of the **technological idiot**"

Το περιεχόμενο (νόημα) του μέσου είναι "the juicy piece of meat
carried by the burglar to distract the watchdog of the mind."

Β Χ ΚΑΛΔΗΣ

The Evolution From Linear Thought To Networked Thought

S. Karp

https://publishing2.scottkarp.ai/2008/02/09/the-evolution-from-linear-thought-to-networked-thought/

Bruce Friedman, "How Google Is Changing Our Information-Seeking Behavior," *Lab Soft News* blog, February 6, 2008
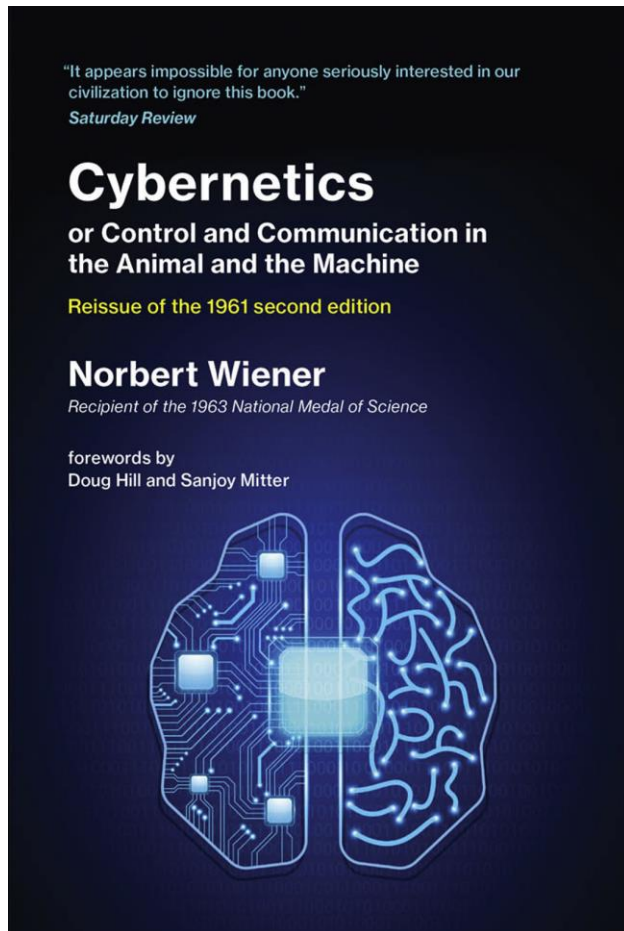
Is Google Making Us Stupid? Nope!

By PHIL DAVIS 2008

https://scholarlykitchen.sspnet.org/2008/06/16/is-google-making-us-stupid-nope/

B X KAΛΔΗΣ

INFORMATION = Φυσική

NORBERT WEINER 1948

"It appears impossible for anyone seriously interested in our civilization to ignore this book."
Saturday Review

Cybernetics
or Control and Communication in the Animal and the Machine
Reissue of the 1961 second edition

Norbert Wiener
Recipient of the 1963 National Medal of Science

forewords by
Doug Hill and Sanjoy Mitter

John WHEELER (1990) "it from bit"
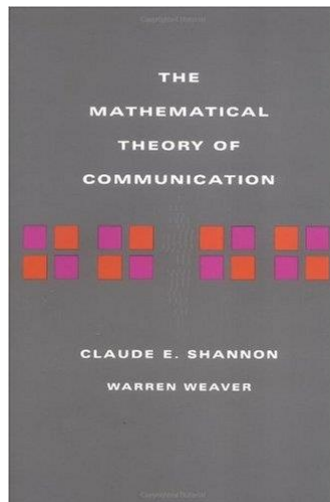
"every physical entity, every it, derives from bits" – "every particle, every field of force,

even the spacetime continuum itself . . . derives its function, its meaning, its very existence from bits".

"Tomorrow we will have learned to understand and express all of physics in the language of information"

CLAUDE SHANNON

1944+

<u>Μαθηματική/Στατιστική Θεωρία της Πληροφορίας</u>

(Boolean algebra)

Shannon 1948: "fundamental problem of communication": να αναπαραχθεί σε ένα σημείο (δέκτη) μια αλληλουχία σημείων που παρήχθη σε ένα άλλο σημείο (πομπος) π.χ. πιλότος αεροπλάνου – πύργο ελέγχου > ο S έδειξε οτι υπάρχει τρόπος να καθορίσουμε αυτήν την διαδικασια χωρίς να <mark>υπεισέρχεται το περιεχομενο της ακολουθείας των σημείων (αδιαφορώντας το τι σημαίνουν και αν σημαίνουν τίποτα)</mark>

Η λύση βρίσκεται στο οτι υπάρχει κάτι για το οποίο πληροφορούμαστε όταν ένα σημείο/σύμβολο

επιλέγεται (σε αντίθεση με ένα άλλο), δηλ οτι όλα τα δυνατά σημεία/σύμβολα διαφορετικά από αυτό που επελέγη, δεν επελέγησαν = Πληροφορία, επομένως, συνισταται στη μείωση της αβεβαιότητας όταν συμβεί/επιλεγεί όντως ένα από πολλά δυνατά

Η **πληροφορία (ποσότητα) μπρεί να μετρηθεί σε** <mark>bits</mark> *όπου 1 bit ισοδυναμεί πληροφορία που παράγει ένα αποτέλεσμα που έχει 50% πιθανότητα να συμβεί –ενώ οποιοδήποτε αποτέλεσμα με μικρότερη απο 50% πιθανότητα θα δημιοθργήσει μεγαλύτερη (περισσότερη) πληροφορία δηλ > 1 bit (και το αντίστροφο για το αντίθετο)*

$2^{ος}$ Νόμος Θερμοδυναμικής

«*Entropy here appears as the negative of the amount of information contained in the message. . .*

In fact, it is not surprising that entropy and information are negatives of one another.

Information measures order and entropy measures disorder» **1946**

0 εντροπία = μηδενική αλαγή =μηδενική πληροφορία = καθόλου έκπληξη

Μέγιστη εντροπία = μέγιστη αβεβαιότητα (ίσες πιθνότητητες έκβασης της πραγματικότητας) = μέγιστη πληροφόρηση

Μείωση «θορύβου» μέσου & Θεωρήματα Shannon
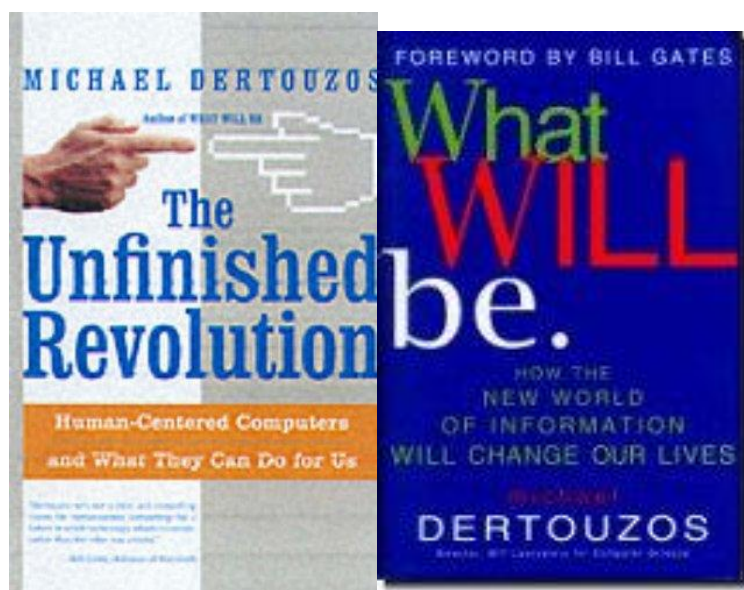

Οι μη-μαθηματικές θεωρίες πληροφορίας αντιστοιχούν σε σημασιολογικές προσεγγίσεις (semantic theories of information) που διακρίνονται σε <u>φυσική</u> και <u>μη-φυσική</u> πληροφορία (μη-γλωσσική /γλωσσική)

Computers and Information

MICHAEL DERTOUZOS

2002*: A new approach* ==human-centric== *computing, and the machines* ==human-centered==*, to emphasize that from now on, computer systems should focus on our needs and capabilities, instead of forcing us to bow down to their complex, incomprehensible, and mechanistic details*

Rise of the Information Marketplace

1997: So let me think, I said to myself as I drafted my talk, *what would people and organizations do if they all had computers and all these computers were interconnected?*
Stretching, stretching . . . an image flashed before me—the **Athens flea market**. I knew it well.

As a boy I had spent nearly every Sunday in its bustling narrow streets packed with people selling, buying, and trading every conceivable good. I was looking for electronics, especially illegal crystals with which you could build your own small radio station. Almost all of the people were friendly and talkative, tackling every conceivable topic between deals. They formed a **community that stretched beyond its commercial underpinnings**. There was no central authority anywhere; all the participants controlled their own pursuits.

It seemed natural and inevitable to me that the future world of computers and networks would be just like the Athens flea market—only instead of physical goods, the commodities would be information goods.

The painful conclusion is that, *left to its own devices, the Information Marketplace will increase the gap between rich and poor countries and between rich and poor people.*

2002: *Taken together, the monetary and nonmonetary activities of the Information Marketplace, driven by the onrush of faster*

computers and communications, computerized appliances, mobile gadgets, and portable software, will propel us toward a world overflowing with information and information-related activities.

The question is, "How can we build this world so we are ensured of doing more by doing less?" rather than drowning in information overload and computer complexity. Only by throwing out last century's model for computing and adopting—indeed, demanding—a new computing philosophy, a new master plan, that lets people interact naturally, easily, and purposefully with each other and the surrounding physical world.

Human-centric computing will transform today's individual computers, the Internet, and the Web into a true Information Marketplace, where we'll buy, sell, and freely exchange information and information services using systems that will talk with us, do things for us, get the information we want, help us work with other people, and adapt to our individual needs. Indeed, it is these five basic capabilities of computer and communications systems that are the pivotal forces of human-centric computing.

What we really want our human-centric systems to do is to understand how we individually like to organize and describe

information, and get us what we want, when we want it, whether it's on our machines or out on the Web.

*That is the goal of **individualized** information access*

NOMADIC SOFTWARE: ownership of information (όχι ΗΥ)

INFORMATION SOCIETY

Αντιθετικά χαρακτηριστικά

Ορισμοί

Τεχνοκρατική προσέγγιση: ΤΕΧΝΟΛΟΓΙΑ κεντρικής σημασίας

Information Age

Socio-technical approach (διαφέρει απο τον τεχνολογικό ντετερμινισμό)

Οικονομική προσέγγιση (Fritz Machlup / Marc Porat)

Εργασιακή προσέγγιση –επαγγελματική απασχόληση "ΝΕΑ Ταξη»

Knowledge analyst /information labour/Technical intelligentsia

***Living on Thin Air* (1999) ή «άβαρής οικονομία»**

The Rise of Professional Society

Χωρική προσέγγιση

Network Society

Flow of Information

Πολιτισμική :

Media & Πληροφοριακά μορφοποιημένες κοινωνίες

Signs // παράδοξα: «ο θάνατος του σημείου»

Β Χ ΚΑΛΔΗΣ

λιγότερο νόημα –περισσότερο πληροφοριακό φορτίο

hyper reality

Παραδοξο: Η τεχνοκρατική – ποσοτική (μη-ποιοτική) έννοια της «πληροφορίας» οδηγεί τελικά σε ποιοτικές μεταβολές (και μάλιστα ριζιές) μετατρέποντας ποιοτικά την κοινωνία σε άλλου τύπου

"Compunications"

**"Narrowcasting"   "de-massified media"**

"Info-sphere"

"theoretical knowledge"- knowledge society

The post-industrial society is a knowledge society because the sources of innovation are increasingly derivative from research and development.

And more directly, there is a new relation between science and technology because of the centrality of ==theoretical== knowledge.

DANIEL BELL 1973

'the post-industrial society is an information society, as industrial society is a goods-producing society'
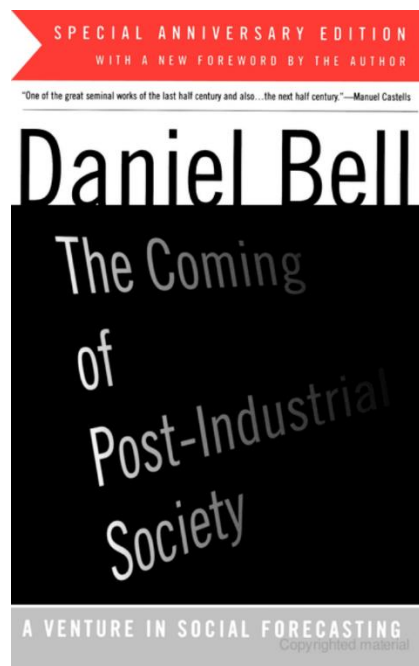
«My basic premise has been that knowledge and information are becoming the strategic resource and transforming agent of the post-industrial

society . . . just as the combination of energy, resources and machine technology were the transforming agencies of industrial society»

Χώρος - Χρόνος

'knowledge, not labour, is the source of value'

Information economy – information workers

The ==information uti==lity . . . consisting of information networks and data banks, the core

organization for the production of information, will ==replace the factory== as the societal symbol.

It will have the fundamental character of an

infrastructure, and ==knowledge capital== will predominate over material capital in the structure of the economy
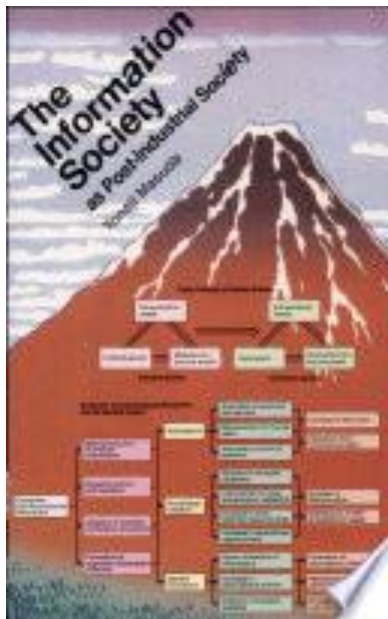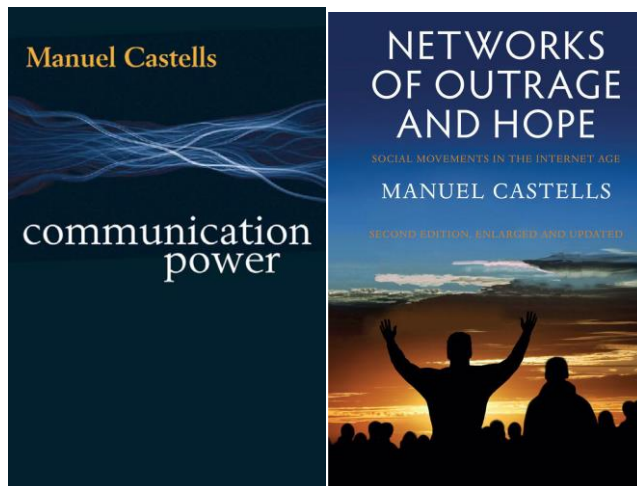

Y. Masuda, *The Information Society as Post-industrial Society* 1981

'The future information society . . . will become a classless society, free of overruling power, the core of society being voluntary communities"
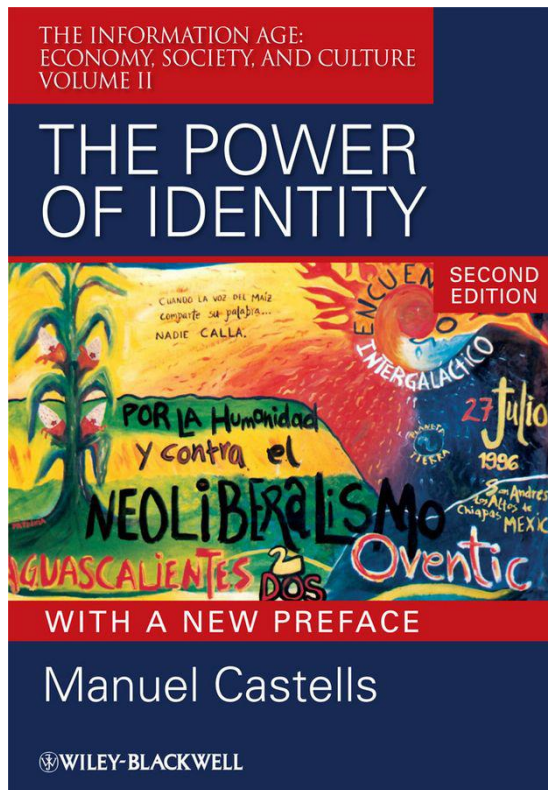
MANUEL CASTELLS

INFORMATIONAL CAPITALISM

The NETWORK (GLOBALIZED) SOCIETY

- Completely novel forms of society
- The spread of networks linking people, institutions and countries

- informational mode of development
- restructured capitalism
- *'the logic of the network is more powerful than the powers in the network'*
- *Mass self communication > "prosumer"*

A network is a set of interconnected nodes

Nodes increase their importance for the network by absorbing more relevant information, and processing it more efficiently

Nodes only exist and function as components of networks. The network is the unit, not the node

Networks process flows. Flows are streams of information between nodes, circulating through the channels of connection between nodes.

At the core of this technological change that unleashed the power of networks was the transformation of information and communication technologies, based on the microelectronics revolution that took shape in the 1950s and 1960s