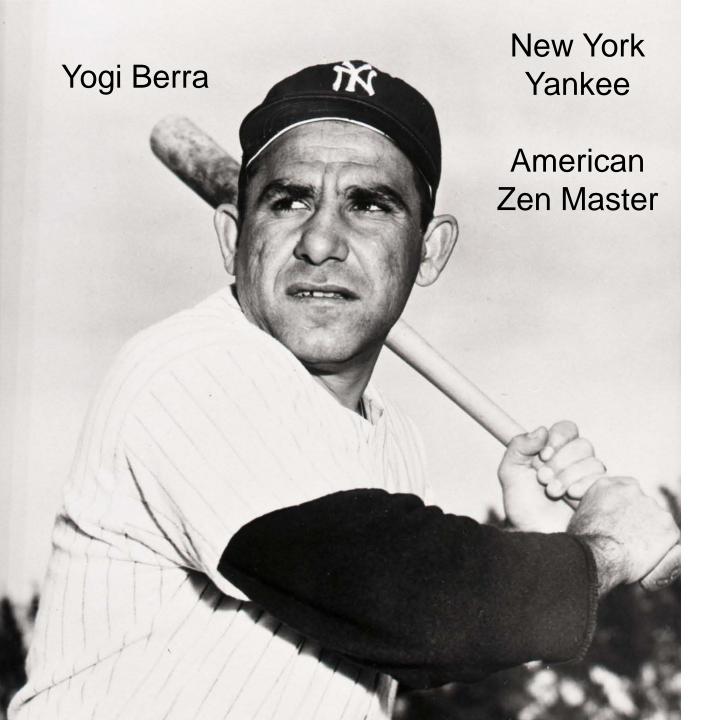


The Physiology of Information

Michael Ridley Chief Information Officer and Chief Librarian University of Guelph

> CANHEIT McMaster University June 6, 2011



"The future ain't what it used to be."



Jeff VanderMeer says: Sorry, but I think this guy is an idiot. Absolute moron.

What is "information?"

Data Information Knowledge Wisdom

Information Technology Information Management

Information Representation

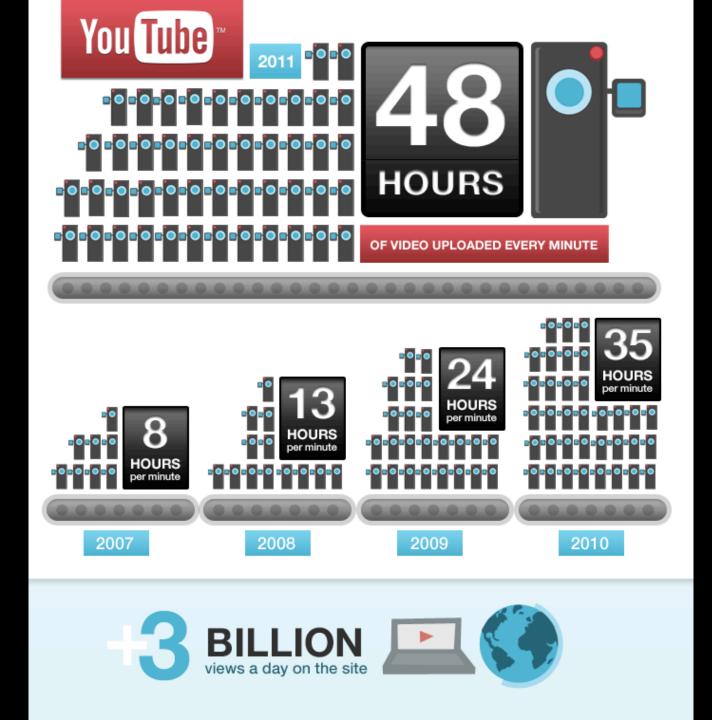
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The Information The Information The Information The Information By James Gleick L Compation By James Gleick

Too. Much. Information. **Too.** Much. Information. Too. Much. Information. Too Much Information Too Much Information Too Much





How Much Information?

5 exabytes from 0 to 2003.

Now 5 exabytes every 2 days.

23 exabytes in 2003.

Now 23 exabytes every 7 days.

Eric Schmidt, ex-CEO of Google

Electron 10

Too. Much. Information. **Too.** Much. Information. Too. Much. Information. Too Much Information Too Much Information Too Much



Nicholas Carr



Facebook

Email

Is Google Making Us Stupid? What the Internet is doing to our brains

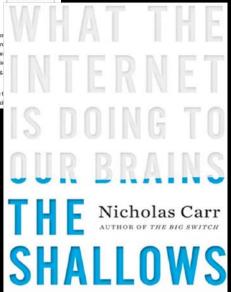
By Nicholas Carr

Ilustration by Cuy Billout



"Dave, stop. Stop, will you? Stop, Dave. Will you stop, Dave?" So the super pleads with the implacable astronaut Dave Bowman in a famous and wetr' toward the end of Stanley Kubrich's *soci*: // Spoce/Odysey, Bowman, ha to a deep-space death by the malfunctioning machine, is calmly, coldly dis memory circuits that control its artificial "brain. "Dave, my mind is going." " can feel it. confeel it."

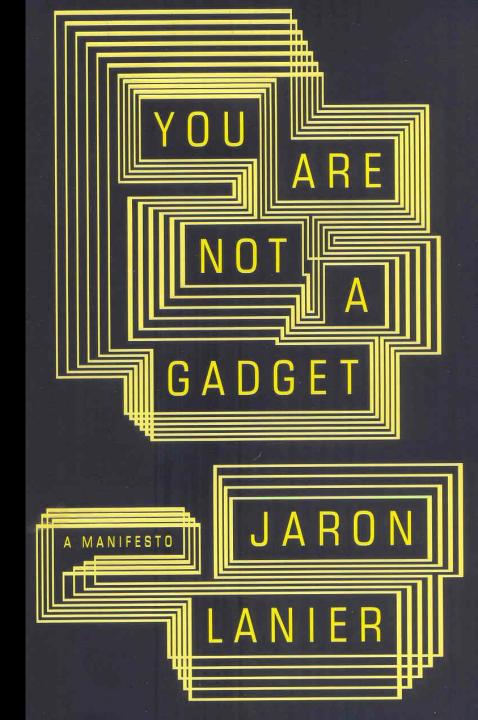
I can feel it, too. Over the past few years I've had an uncomfortable sense t something, has been tinkering with my brain, remapping the neural circuit



"My mind now expects to take in information the way the Net distributes it: in a swiftly moving stream of particles."

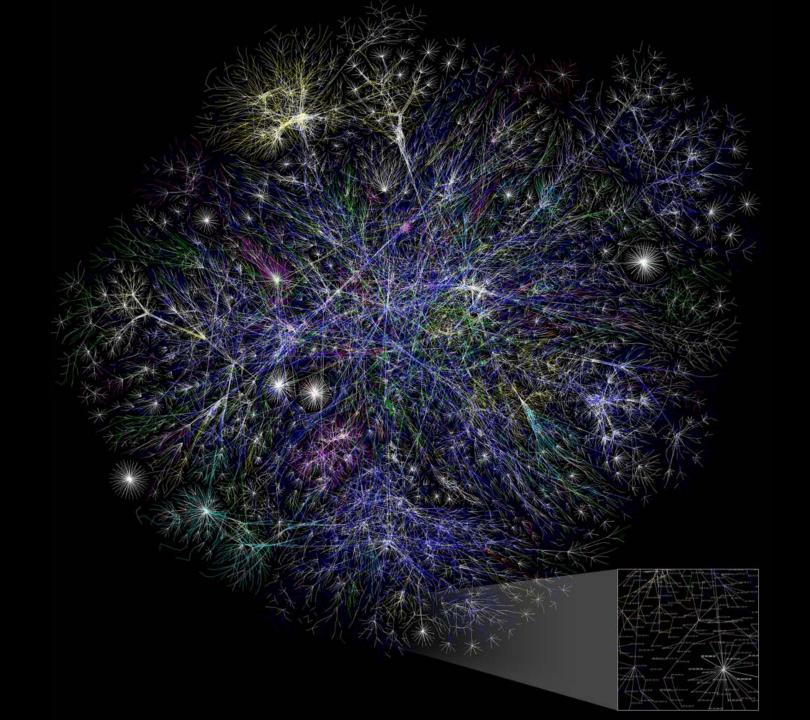
Jaron Lanier

"I fear that we are beginning to design ourselves to suit digital models of us."



Blame the technology.





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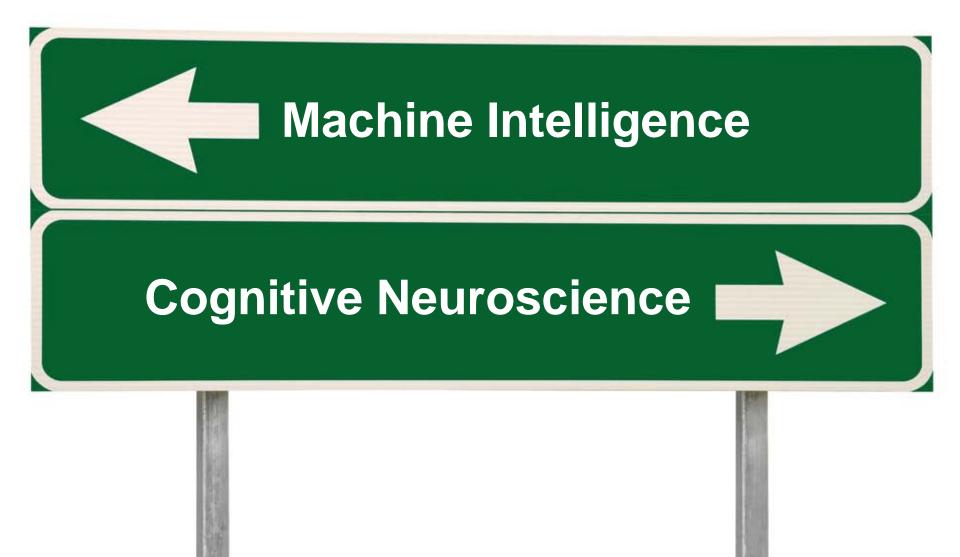
Understanding Media

"We shape our tools and thereafter our tools shape us."

> Marshall McLuhan

Codes are abstractions of information.

Two Critical Directions



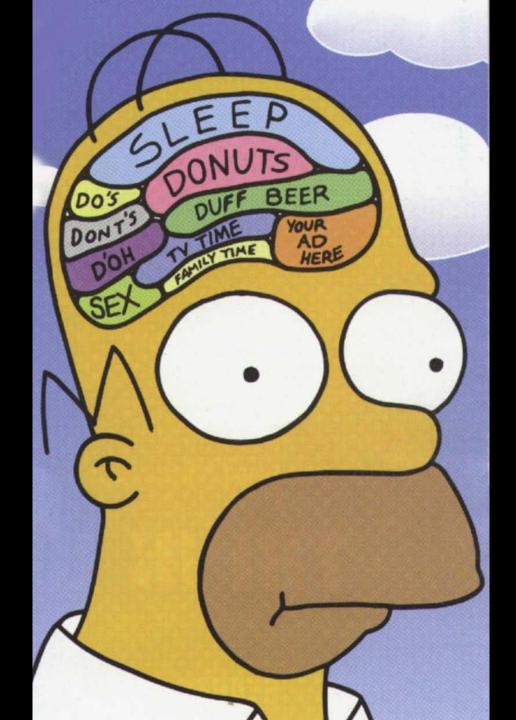
Cognitive Neuroscience

Neurocognitive enhancement: what can we do and what should we do?

"Humanity's ability to alter its own brain function might well shape history as powerfully as the development of metallurgy in the Iron Age, mechanization in the Industrial Revolution or genetics in the second half of the twentieth century."

fully as the development of metallurgy in the Iron Age, mechanization in the Industrial Revolution or genetics in the second half of the twentieth century. This possibility calls for

On the leading edge of neurotechnology is psychopharmacology. Our ability to achieve specific psychological changes by targeted



Brain £ Computer

Neurochemicals

Proteins

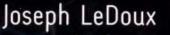


Connectivity

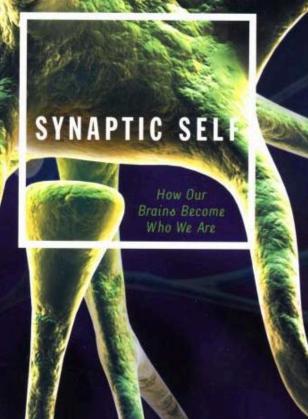
Neurons

Redundancy

Neurotransmitters

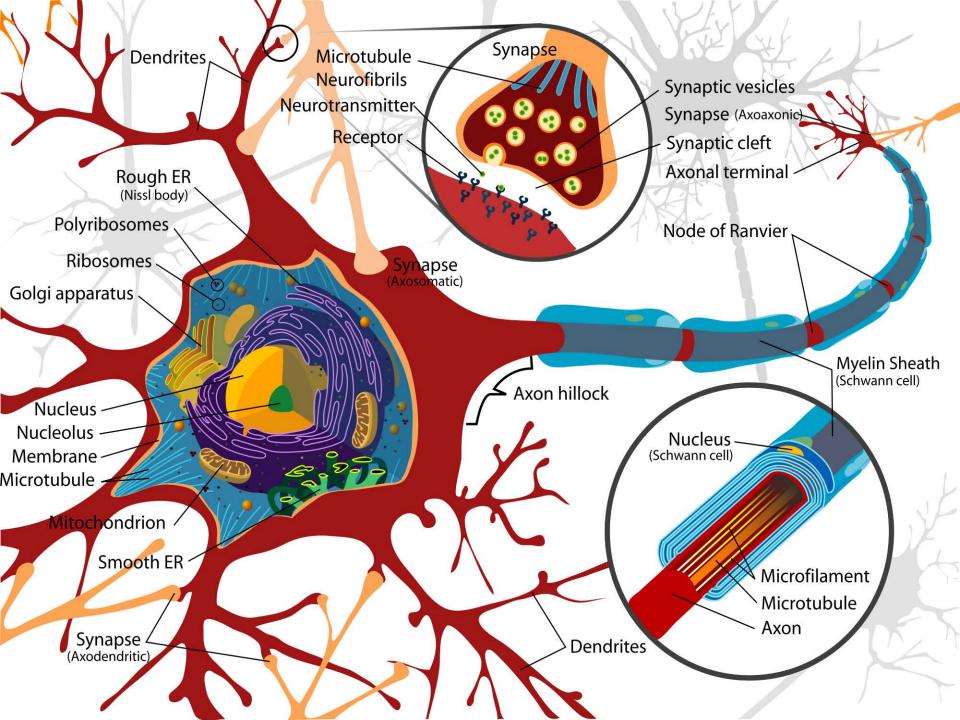


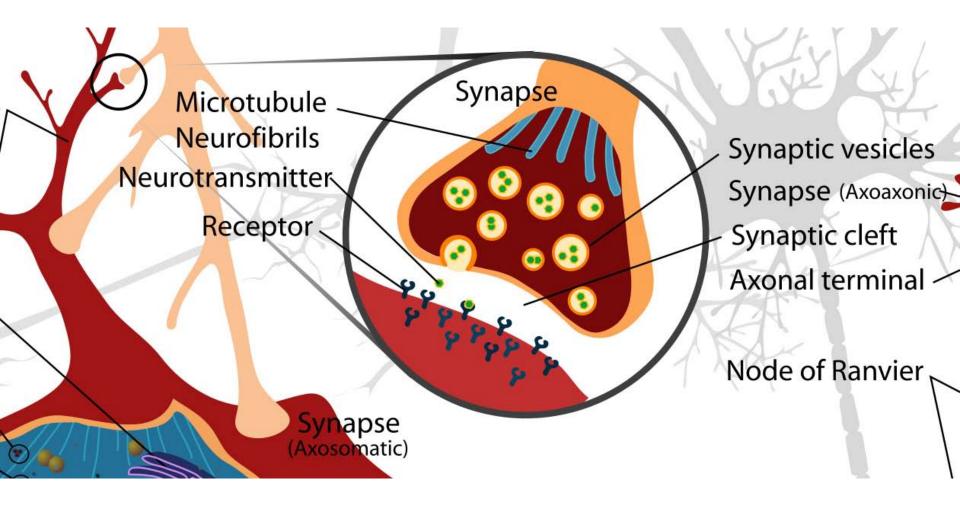
author of The Emotional Brain



"You are your synapses. They are who you are."

Joseph LeDoux The Synaptic Self





Pac-Man (Atari 2600)

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10¹¹ Neurons 10¹⁴ Synapses 10³⁶ IPv6 Address Space

What if?

Neurochemicals

Proteins

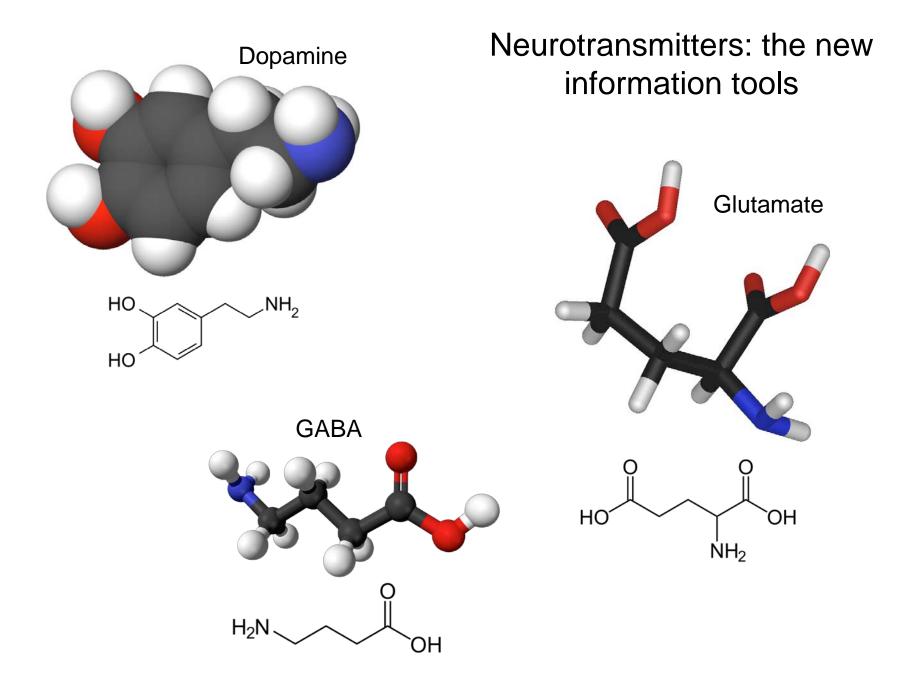


Connectivity

Neurons

Redundancy

Neurotransmitters



Codes are abstractions of information.

Neurophysiology is the information.

Psychopharmacology

The future of information is not digital but neurological



The Physiology of Information

Michael Ridley Chief Information Officer and Chief Librarian University of Guelph

> CANHEIT McMaster University June 6, 2011



Email: mridley@uoguelph.ca Twitter: mridley Website & Blog: www.michaelridley.ca