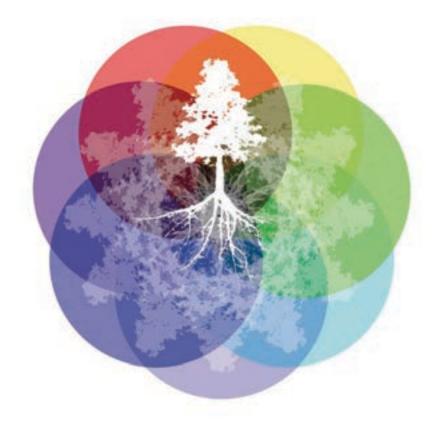
The Data Citizen

new ways of being in the world

Geoffrey C. Bowker
Department of Informatics
University of California at Irvine

- Introduction
- The Body Politic
- Prediction and Control
- Invisibility
- Misplaced Concretism
- Synchronization
- Conclusion

(throat clearing)



BOUNDARY OBJECTS AND BEYOND

WORKING WITH LEIGH STAR

Introduction







WHY MOST DAY

Big Data is data that is too large. complex and dynamic for any conventional data tools to capture, store, manage and analyze.

The right use of Big Data allows analysts to spot trends and gives niche insights that help create value and innovation much faster than conventional methods.

The "three V's", i.e the Volume, Variety and Velocity of the data coming in is what creates the challenge.

O CASE STUDY - Healthcare



VARIETY



WEB LOGS ...

TO PEOPLE NETIZENS, VIRTUAL COMMUNITIES. SOCIAL NETWORKS. PEOPLE TO MACHINE

ARCHIVES, MEDICAL DEVICES, DIGITAL TV. E-COMMERCE, SMART CARDS, BANK CARDS, COMPUTERS, MOBILES...



SURVEILLANCE CAMERAS. SCIENTIFIC RESEARCH...



TO MACHINE SENSORS, GPS DEVICES. BAR CODE SCANNERS.



MILLION **EMALS** SENT EVERY

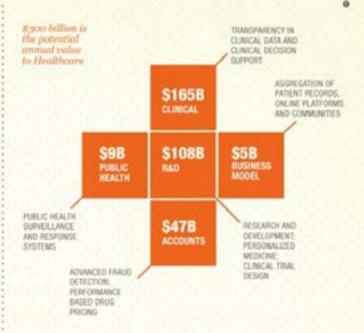
SECOND

VELOCITY

20 HOURS

OF VIDEO UPLOADED EVERY MIN

MILLION TWEETS PER DAY





57.6% OF ORGANIZATIONS SURVEYED SAY THAT BIG DATA IS A CHALLENGE





50% SAY THAT BIG DATA HELPS IN BETTER MEETING CONSUMER DEMAND AND FACILITATING GROWTH



40% PROJECTED GROWTH IN GLOBAL DATA CREATED PER YEAR



PROJECTED GROWTH IN GLOBAL IT SPENDING PER YEAR

The estimated size of the digital universe in 2011 was 1.8 zettabytes. It is predicted that between 2009 and 2020, this will grow 44 fold to 35 zettabytes per year. A well defined data management strategy is essential to successfully utilize Big Data.

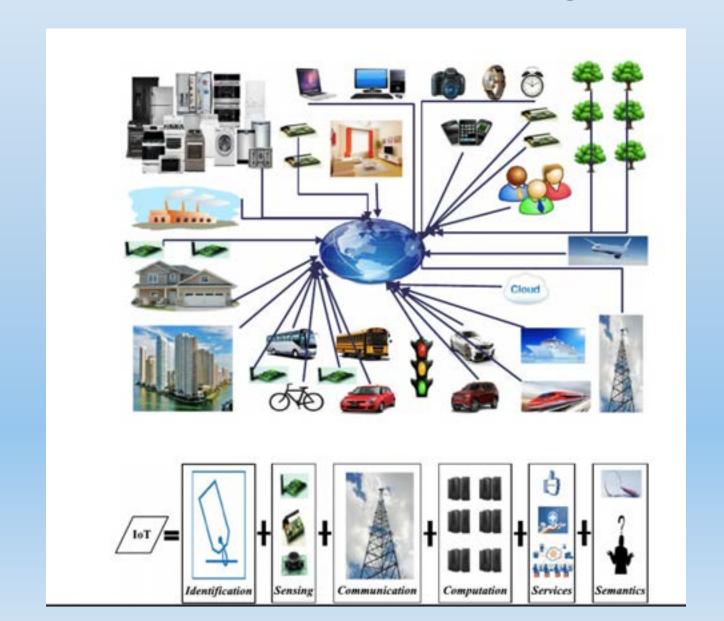
Normal Officering the Newton's of Day Sele-Wijes Report Office Select Teacher for Securities. Competition and Productivity - McKinery Chilal Society Report @ventures, Earland Strong (\$ Monocring the Decrees Separts of Ultrative Data - study by Intercepty of Sease Austra 😝 15 Separtment of Labour

DO BUSINESS BETTER

WHE JAT 176TH TOLD BEAUTICE IN DIVINING CONDICTING SPECIAL INTERNATIONAL INTERNATION.



The Internet of Things





Vehicle, asset, person & pet monitoring & controlling



Agriculture automation







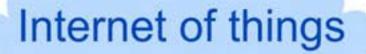


Building managment





Embedded Mobile



Everyday things for smarter get connected tomorrow



M2M & wireless sensor network



Everyday things



Smart homes & cities











Telemedicine & helthcare

The Internet of Cows: Azure-powered pedometers get dairies mooovin' Cloud data tracking helps farmers track when cows are in heat, monitor health.

by Sean Gallagher - Apr 30, 2015 12:30pm PDT Share Tweet 19

Daisy, we need to put a pedometer on you...

Pa Ry Dobd (hdah (Oun work) (Bublic domain), via Wikimadia Commons

The body politic

Die Waffen der Self-Tracker

Für das Sonstagsfillick magazin hat Model Lucia Thalman fürf Gadyets aur Seibstilberwachung am Körper montlert. Der Siese Tracker von Zeo misst die Anzahl und Dauer von Terfachlaf, Traum- und Wachphasen, Wer schlecht schillift, kenn damit überprüfen, welche Verhaltensänderung bei besser schlafen lässt

Der Pulamesser von Wahnon kommunichert direkt mit dem Phone. Dieses schickt die Deten in die Cloud – Nutzer von Doersig können die Werte direkt in ihr Pryfill einflessen lassen. Gersde für Sport-Anflieger ist die Pulakontrolle lauf. Experten sehr wichtig, well sich die meisten Menachen überschätzen.

Das Phone lat so etwas wie die zentrale Steuersinheit der Seibelvernessez. Es kommusiziert mit anderen Geriten, erstellt Sewegungsprofile und schickt die Daten anschliessend in die Cloud. Auf Pletformen wie Quertig flessen sie Daten zusammen – dort vernetzen sich die Nutzer und bracken sich gegenseitig www.quertig.com

Das Gerätchen am Schriftzilbler von Fillienz, Es übenwacht die gelaufsnen Distanzan und gibt Auskunft über die verbrannten Kalorien. Mit eigenen, im Schuh eingebauten Monitoring-Systemen arbeiten auch die Sport-Giganten Mike und Adidas







Zur Pulsuhr von Germie, gehört ein Brustband, das die Pulsrate am Handgelenk funkt. Die Daten lädt die Uhr anschlieseand in die Datenwolke hoch. Dauls eingebautem (GPS-Emptinger entsellt sie auch Bewegungsprofile. Gelaufene Stracken sind also gespeichert. Das erleichtert die Pflamung und das Überprüfen von Entsteht die Pflamung und das Überprüfen von Entsteht die Pflamung und das Überprüfen von Entsteht die









Körper unter der Lupe

J Der Glucose-Meter von Bayer mit USS-Anschluss nisst den Blutzuckerspiegel. J Der Schrittstiller von Fittet hält fiest, wie viel man sich bewegt. J Des Blutzuckmesspielst von Withings lässt sich ans Phone anschliesen. J Die Withings-Wasge misst Gewicht, Körperfett und Muskelmasse und schloop die Daten vis WLAN ins Internet.

Design principles of wearables



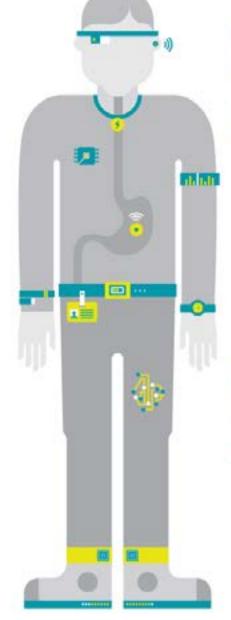
CONTENT

Ascribe to (much) "less is more" for content and its delivery—the design facilitates exceptionally low duration, high frequency use.



COMMUNICATION

Focus on communicating rather than simply displaying data—not necessarily visually, and not necessarily via the device generating the notification.





INFLUENCE

Do not force new behavior, but allow users to adjust their future behavior by providing new information or capabilities.



INTERACTION

Are careful about requiring response from the user—interaction with the device should be minimal and expedite the user's manual actions.



INTENTION

Use persistent design elements, alerts, just-in-time information, and notifications with discretion.



INTELLIGENCE

Are fueled largely by intelligence from analytics, big data, and sensors, which are often embedded in other devices.



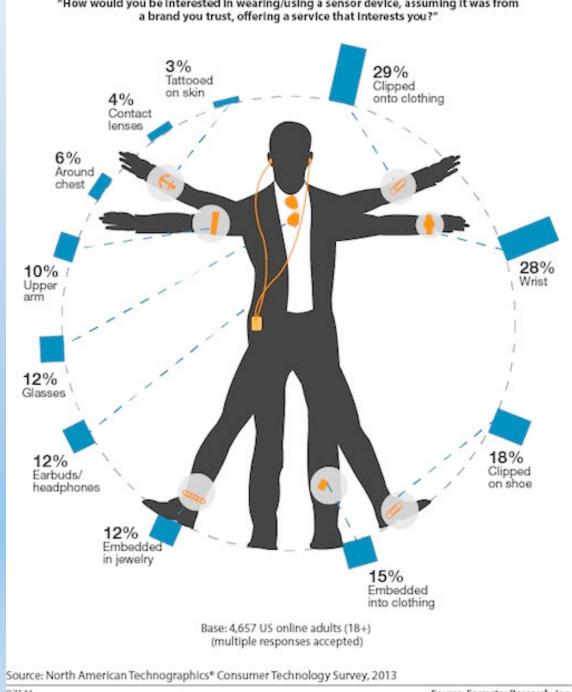
ENHANCEMENT

Leverage the digital world to enhance the user's behaviors, actions, and experiences in the real world.



NETWORK

Communicate with an expanding community of wearables, data, devices, systems, platforms, services, and software.





Stay Happy, Choose Technology— The One Wearable That Will Change Your Life



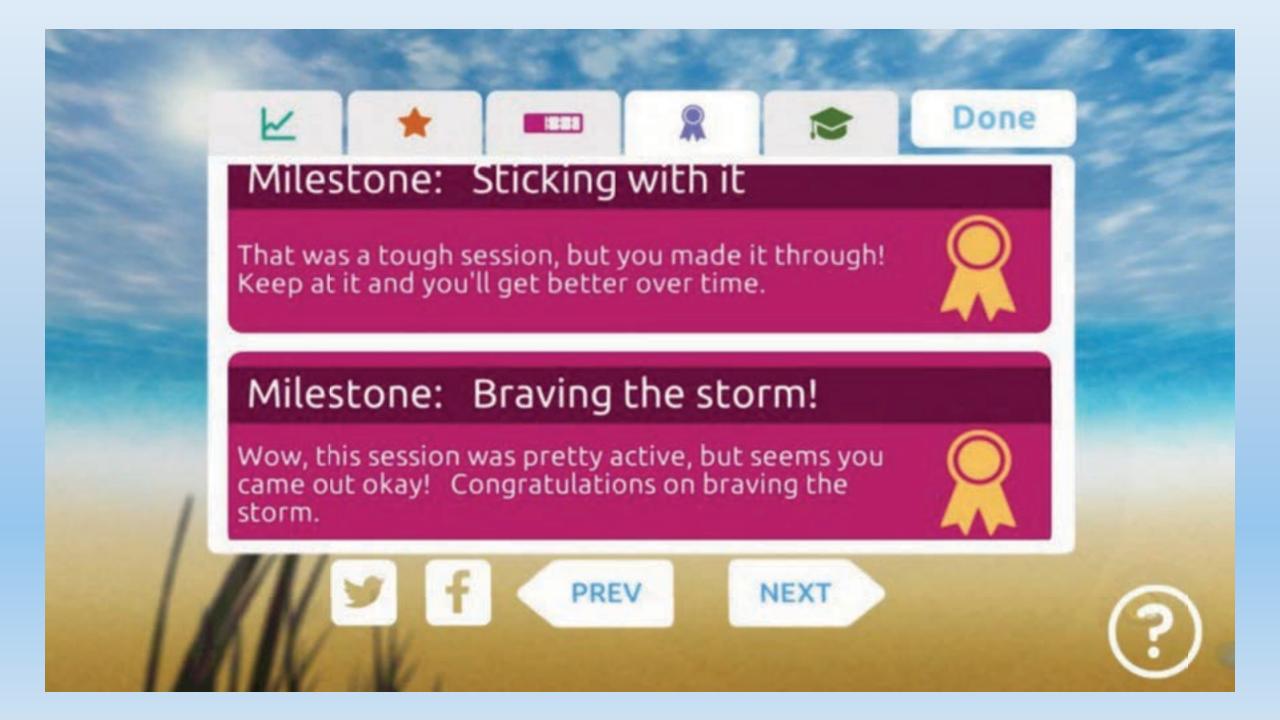
Yes, Muse Is Reading Your Brain—Sort Of

People spend about 47% of their day thinking about something other than what they're currently doing, according to psychologists at Harvard University, who assert that a "wandering mind is an



unhappy mind." A new product currently sold online is facing this problem head on. Making waves on Indiegogo, and most recently, at The International CES in Vegas, Muse is a headband that monitors brain activity the same way a heart rate monitor reads your pulse. Created by Canada-based InteraXon, its objective is to refocus the mind during that 47% chunk of time when your thoughts are elsewhere.

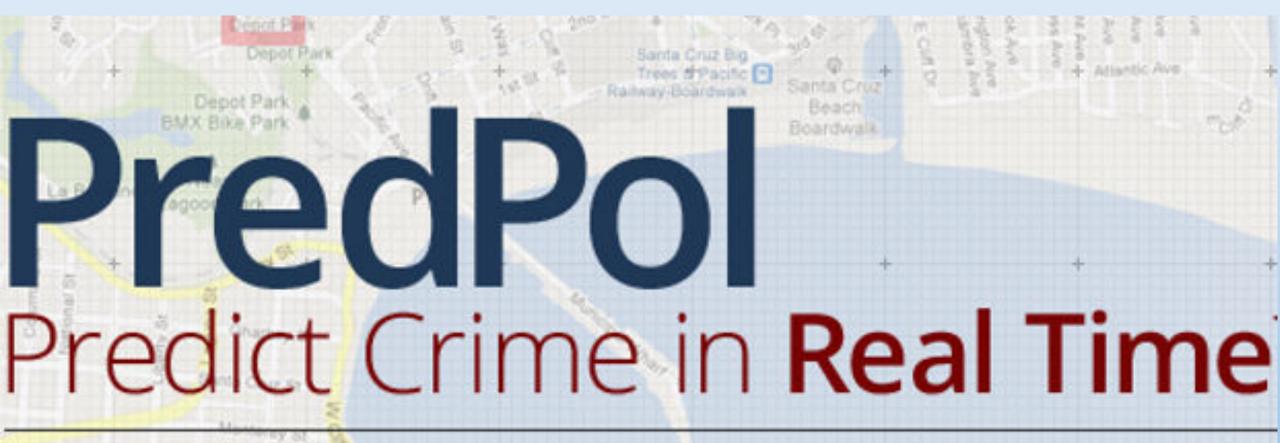
"In society, there are so many things that are pulling at our attention right now," says Michael Apollo, Director of Mind Sciences at InteraXon and experienced trainer of stress reduction techniques from the University of Toronto. "We're so agitated, so anxious, that we're forgetting we have a choice of what we bring our attention to and what we don't." According to Apollo, Muse is a tool that can be used to reclaim that choice.



Prediction and Control







PredPol provides targeted, real-time crime prediction designed for and successfully tested by officers in the field.

to 12 Department Ave.



A week after students begin their distance learning courses at the UK's Open University this October, a computer program will have predicted their final grade. An algorithm monitoring how much the new recruits have read of their online textbooks, and how keenly they have engaged with web learning forums, will cross-reference this information against data on each person's socio-economic background. It will identify those likely to founder and pinpoint when they will start struggling. Throughout the course, the university will know how hard students are working by continuing to scrutinise their online reading habits and test scores.

Behind the innovation is Peter Scott, a cognitive scientist whose "knowledge media institute" on the OU's Milton Keynes campus is reminiscent of Q's gadget laboratory in the James Bond films. His workspace is surrounded by robotic figurines and prototypes for new learning aids. But his real enthusiasm is for the use of data to improve a student's experience. Scott, 53, who wears a vivid purple shirt with his suit, says retailers already analyse customer information in order to tempt buyers with future deals, and argues this is no different. "At a university, we can do some of those same things — not so much to sell our students something but to help them head in the right direction."



Policy on Ethical use of Student Data for Learning Analytics

1 Introduction

1.1 Rationale

- 1.1.1 The Open University has collected and analysed student data as a means of providing information relating to student support and retention for many years. The changing landscape of higher education has seen the rapid expansion of uses to which student data is put. The Open University, in common with many other higher education institutions, is now looking at its use of learning analytics.
- 1.1.2 In the context of the Open University, learning analytics is the use of raw and analysed student data to proactively identify interventions which aim to support students in achieving their study goals. Such interventions may be designed to support individual students and/or the entire cohort. This is in line with the University's vision of "...delivering a step-change in how effectively we help students achieve their study goals" and to deliver "...a study experience that maximizes students' chances of success in achieving their study goals whilst maintaining academic standards."
- 1.1.3 The use of a learning analytics approach to drive student support within the University is relatively new. There is a need to establish guiding principles which help provide a clear framework for the ethical application of learning analytics.

1.2 Problem statement

1.2.1 All data captured as a result of the University's interaction with the student has the potential to provide evidence for learning analytics. Data will, however, only be used for learning analytics where there is likely to be an expected benefit (which will be evaluated) to students' learning.

Ted Cruz using firm that harvested data on millions of unwitting Facebook users



Better audience targeting

Communication has changed. Blanket advertizing no longer provides viable ROI for every campaign. Big data revolutionized the way organizations identify and locate their best prospects. But data alone isn't enough. Cambridge Analytica is building a future where every individual can have a truly personal relationship with their favorite brands and causes by showing organizations not just where people are, but what they really care about and what drives their behavior.

Data firm in talks for role in White House messaging - and Trump business

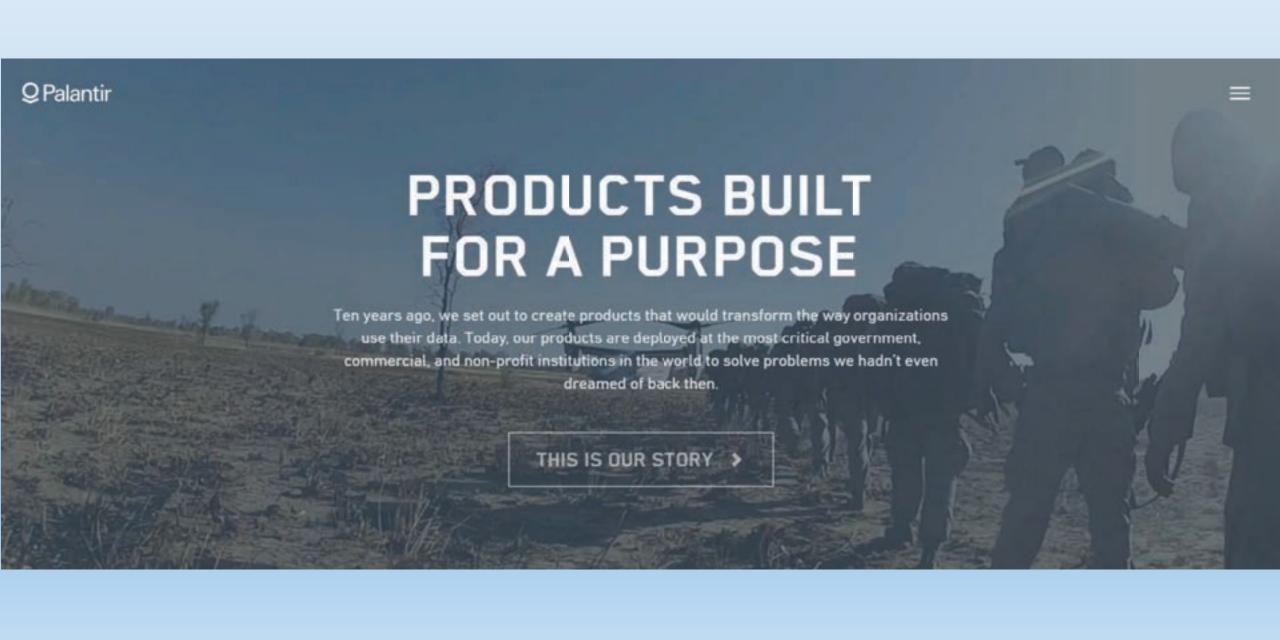
Trump strategist Steve Bannon apparently involved in talks despite being on board of Cambridge Analytica, which helped president-elect to victory



Steve Bannon, chief strategist for Donald Trump, is on the board of Cambridge Analytica. Photograph: Carlo Allegri/Reuters

A data mining company that helped Donald Trump win the presidency is in early talks to snare two potentially lucrative new contracts, one to boost the incoming Trump White House's policy messaging and the other to help the Trump Organization expand its sales, the Guardian has learned.

Cambridge Analytica, a data company that uses personality profiling and boasts billionaire Trump backer Robert Mercer as a key investor, is in discussions about potential deals with the Trump Organization and Steve Bannon, the CEO of the campaign and now Trump's senior counselor and chief strategist, according to a conservative digital strategist familiar with Cambridge. Despite his apparent role

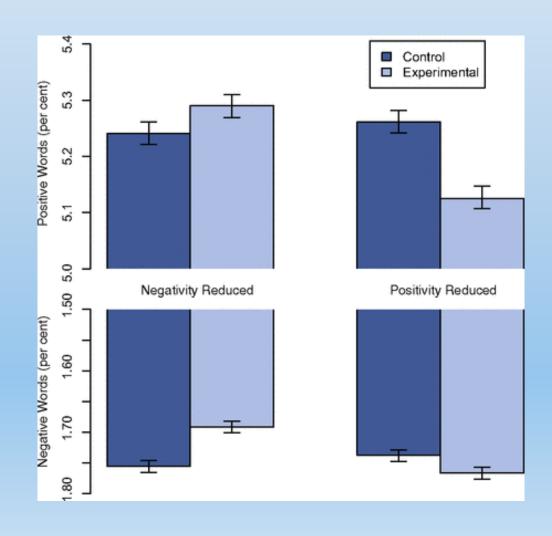


Executive Order -- Using Behavioral Science Insights to Better Serve the American People

- (ii) improve how information is presented to consumers, borrowers, program beneficiaries, and other individuals, whether as directly conveyed by the agency, or in setting standards for the presentation of information, by considering how the content, format, timing, and medium by which information is conveyed affects comprehension and action by individuals, as appropriate;
- (iii) identify programs that offer choices and carefully consider how the presentation and structure of those choices, including the order, number, and arrangement of options, can most effectively promote public welfare, as appropriate, giving particular consideration to the selection and setting of default options; and
- (iv) review elements of their policies and programs that are designed to encourage or make it easier for Americans to take specific actions, such as saving for retirement or completing education programs. In doing so, agencies shall consider how the timing, frequency, presentation, and labeling of benefits, taxes, subsidies, and other incentives can more effectively and efficiently promote those actions, as appropriate. Particular attention should be paid to opportunities to use nonfinancial incentives.



Experimental evidence of massive-scale emotional contagion through social networks



Facebook Data Science Team Announces Open Source Tools for A/B Testing

by John Furrier | Apr 4, 2014 | NEWS , SOCIAL |

Facebook is continuing their mission of donating goodness to the community with the release of source code called PlanOut. PlanOut is used for online A/B testing experiments.

This is a great move for Facebook, developers, and the data community. As we talk about on SiliconANGLE Wikibon and the CUBE is that Data science is the hottest emerging trend that is creating new value that has never been seen before.

This is a great preview of the upcoming F8 conference on April 30th in SF.

Here is the Facebook news:



RESEARCH | REPORTS

POLITICAL SCIENCE

Exposure to ideologically diverse news and opinion on Facebook

Eytan Bakshy, 12 † Solomon Messing, 1 † Lada A. Adamic 1,2

Exposure to news, opinion, and civic information increasingly occurs through social media. How do these online networks influence exposure to perspectives that cut across ideological lines? Using deidentified data, we examined how 10.1 million U.S. Facebook users interact with socially shared news. We directly measured ideological homophily in friend networks and examined the extent to which heterogeneous friends could potentially expose individuals to cross-cutting content. We then quantified the extent to which individuals encounter comparatively more or less diverse content while interacting via Facebook's algorithmically ranked News Feed and further studied users' choices to click through to ideologically discordant content. Compared with algorithmic ranking, individuals' choices played a stronger role in limiting exposure to cross-cutting content.

kind of content shared among a set of partisans, which can include topic matter, framing, and slant. These scores, averaged over websites, capture key differences in well-known ideologically aligned media sources: FoxNews.com is aligned with conservatives ($A_a = +.80$), whereas the HuffingtonPost.com is aligned with liberals ($A_a = -0.65$) (additional detail and validation are provided in the supplementary materials, section S1.4.2). We observed substantial polarization among hard content shared by users, with the most frequently shared links clearly aligned with largely liberal or conservative populations (Fig. 1).

The flow of information on Facebook is structured by how individuals are connected in the network. The interpersonal networks on Facebook are different from the segregated structure of political blogs (16); although there is clustering according to political affiliation on Facebook, there are also many friendships that cut across

What is an A/B Test?

A/B testing, also called split testing, is a method by which you find out which ad headlines, body copy, images, call-to-actions, or a combination of the above work best on your target audience.

Unless you've already created a lot of Facebook Ad campaigns for your product, it'll be pretty hard for you to predict what kind of ad design will work better for you or which demographic audience will be more likely to buy your product. This is where a thorough Facebook Ads A/B test comes in handy: You can quickly test multiple ads' designs and target audiences to uncover the most effective ones.

Culture Digitally // Examining Contemporary Cultural Production

Home

About

Event Calendar

Dialogues

Digital Keywords

With the generous support of the National Science Foundation we have developed Culture Digitally. The blog is meant to be a gathering point for scholars and others who study cultural production and information technologies. Welcome and please join our conversation.

List of Participants

John Banks

Josh Braun

Nick Couldry

Kevin Driscoll

Mary Gray

Lee Humphreys

Tim Jordan

Aphra Kerr

Seth Lewis

Joshua McVelgh-Schultz

Andrés Monroy-Hernández

Gina Neff

Casey O'Donnell

Zizi Papacharissi

Tamara Shepherd

Thomas Streeter

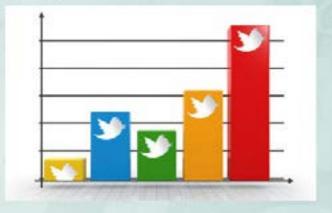
Sam Srauy

Fred Turner

Can an algorithm be wrong? Twitter Trends, the specter of censorship, and our faith in the algorithms around us Oct 19, 2011

The interesting question is not whether Twitter is censoring its Trends list. The interesting question is, what do we think the Trends list is, what it represents and how it works, that we can presume to hold it accountable when we think it is "wrong?" What are these algorithms, and what do we want them to be?

It's not the first time it has been asked. Gllad Lotan at SocialFlow (and erstwhile Microsoft UX designer), spurred by



questions raised by participants and supporters of the Occupy Wall Street protests, asks the question: is Twitter censoring its Trends list to exclude #occupywallstreet and #occupyboston? While the protest movement gains traction and media coverage, and participants, observers and critics turn to Twitter to discuss it, why are these widely-known hashtags not Trending? Why are they not Trending in the very cities where protests have occurred, including New York?

The presumption, though Gilad carefully debunks it, is that Twitter is, for some reason, either removing #occupywallstreet from Trends, or has designed an algorithm to prefer banal topics like Kim Kardashian's wedding over important contentious, political debates. Similar charges emerged around the absence of #wikileaks from Twitter's Trends when the trove of diplomatic cables were released in December of last year, as well as around the #demo2010 student protests in the UK, the controversial execution of #TroyDavis in the state of Georgia, the Gaza #flotilla, even the death of #SteveJobs. Why, when these important points of discussion seem to spike, do they not Trend?

Artificial intelligence (AI)

A beauty contest was judged by AI and the robots didn't like dark skin

The first international beauty contest decided by an algorithm has sparked controversy after the results revealed one glaring factor linking the winners





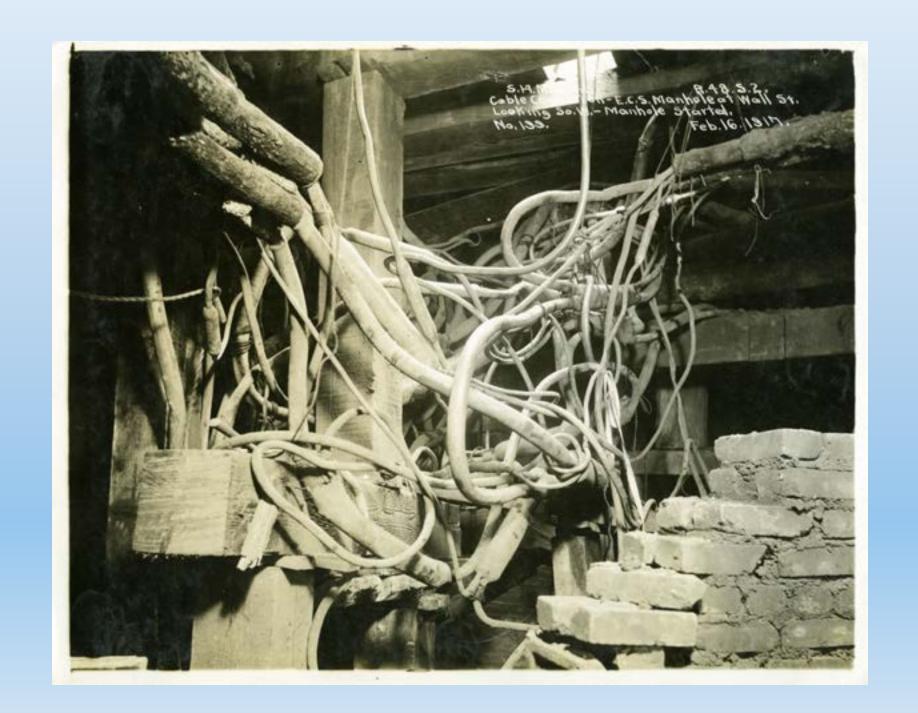
One expert says the results offer 'the perfect illustration of the problem' with machine bias. Photograph: Fabrizio Bensch/Reuters

The first international beauty contest judged by "machines" was supposed to use objective factors such as facial symmetry and wrinkles to identify the most attractive contestants. After Beauty. AI launched this year, roughly 6,000 people from more than 100 countries submitted photos in the hopes that artificial intelligence, supported by complex algorithms, would determine that their faces most closely resembled "human beauty".

But when the results came in, the creators were dismayed to see that there was a glaring factor linking the winners: the robots did not like people with dark skin.

Invisibility





People killed by police in USA so far this year







Misplaced Concretism

The Human Skin: Philosophy's Last Line of Defense

Arthur F. Bentley

HUMAN skin is the one authentic criterion of the universe which philosophers recognize when they appraise knowledge under their professional rubric, epistemology. By and large—except for a few of the great Critics and Sceptics—they view knowledge as a capacity, attribute, possession, or other mysterious inner quality of a "knower"; they view this knower as residing in or at a "body"; they view the body as cut off from the rest of the universe by a "skin"; all of which holds for philosophizing physicists and physiologists even as for the professionals of the arcanum itself. If this assertion seems crude, one may recall that there *are* times when a bit of crudity is a fair physic for an inflamed subtlety. In the case before us the factual crudity lies in the use of "skin" for a criterion, not in our calling attention to the fact. The "skin" that is so used is, indeed, that of ancient anatomical schematism, unaffected by the transformation of understanding which modern physiological research

Bentley, 1941





"Our Self-Portrait: the Human Microbiome" by Joana Ricou



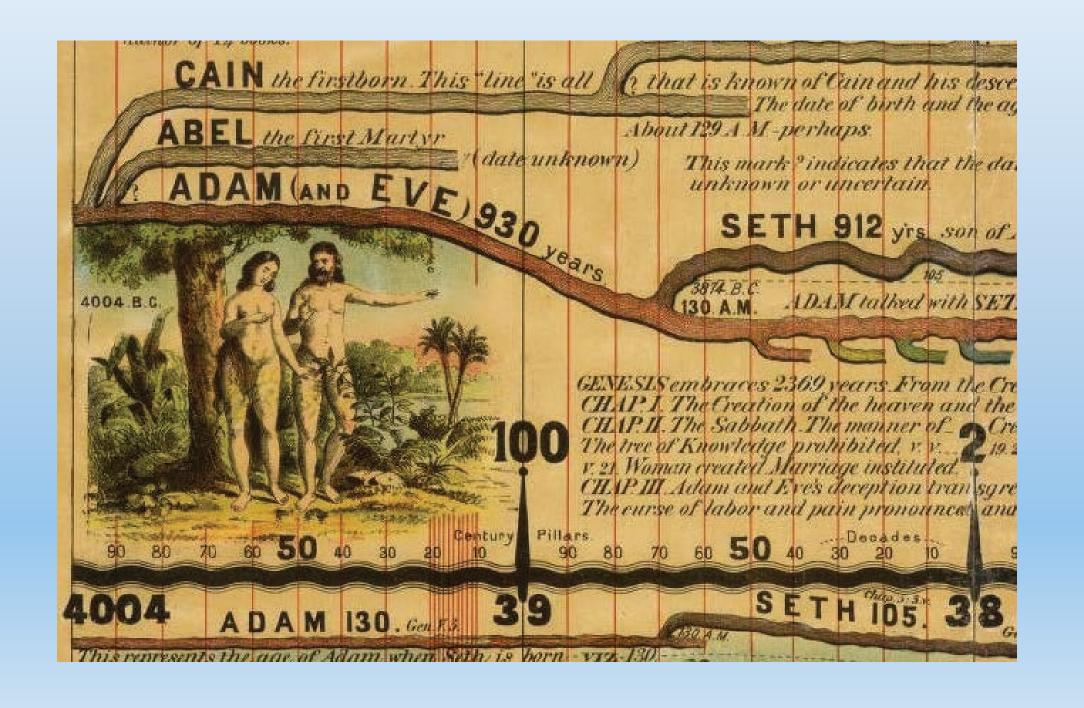
Inside all of the intestinal tract where food goes through without rupturing mucous membrane is "outside" the body border

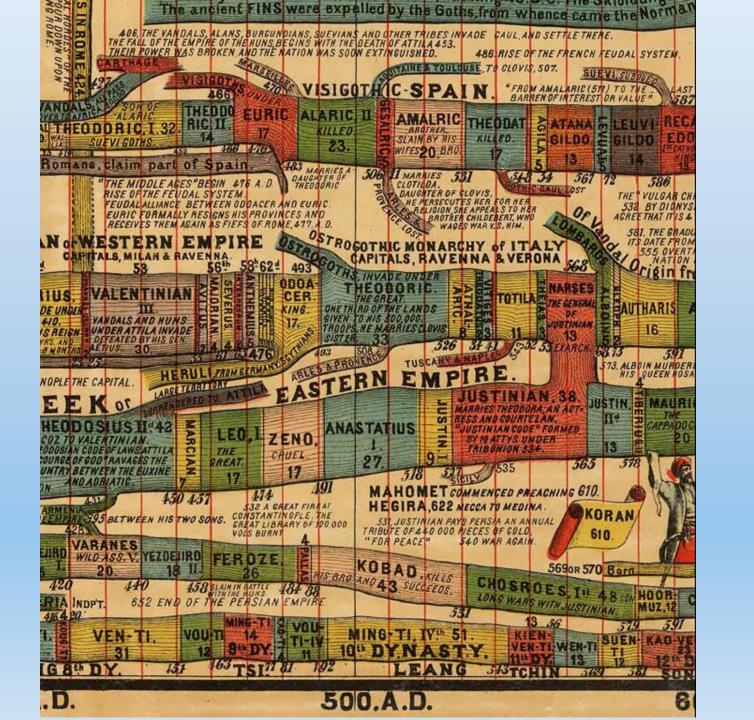


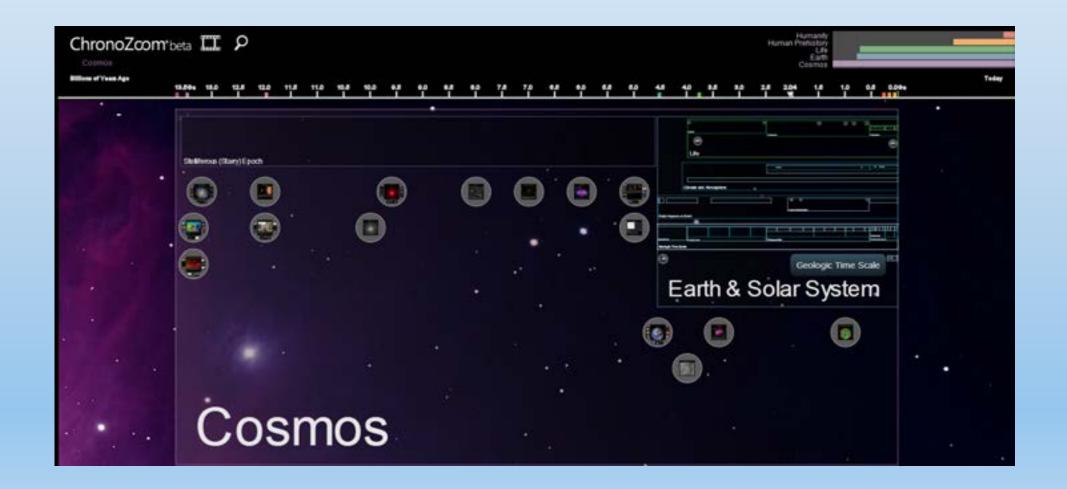


Synchronization

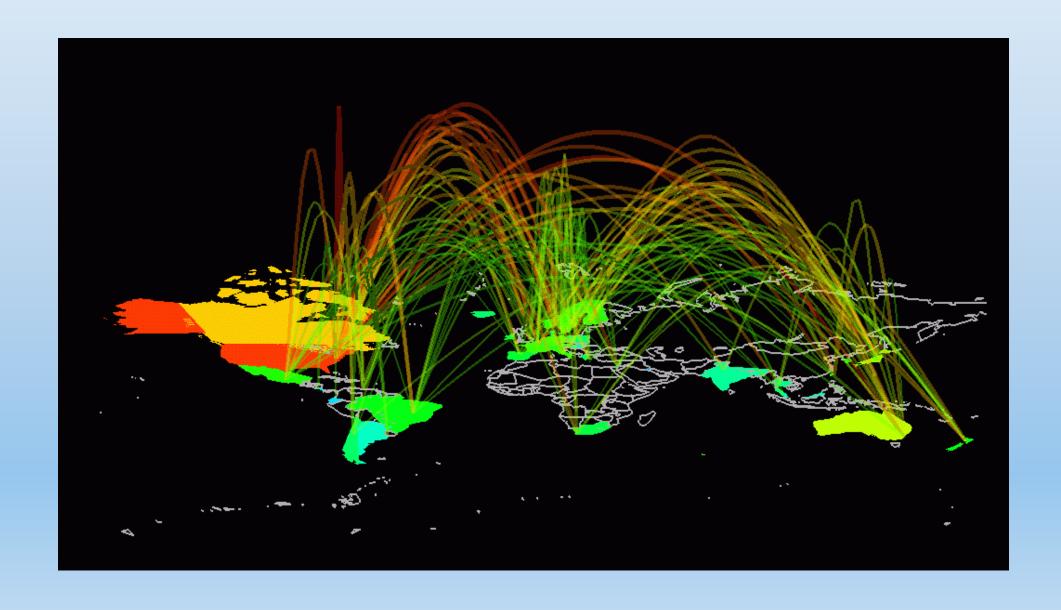












Memes

100 Memomes

Participate

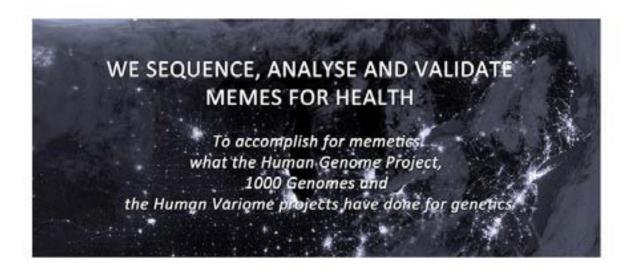
How it works

The Team

Bloc

Contact

To be part of a community that aims to increase global health and wellbeing - dick to participate!



Why start The Human Memome Project?

Discrete units of ideas -- Memes -- are key to everything, Memes inform and create choices, behaviours, reactions and impact on health, wellbeing and success.

The Human Memome Project Team think that health and wellbeing are the most important things in the universe. We hypothesise that by sequencing the memes of participants and then correlating these memes with quantitative and qualitative biomarkers of health we will be be able to find the memes that most positively affect health.

Using data science, linguistics and omics techniques we will analyse the health survey and meme data results. We want to find the memes that most positively correlate with health. We will then use these memes to create memetic tools in order to increase health and wellbeing and for the calculation of which memes most positively affect human life span and health span. We think those are great reasons to start The Human Memome Project.

masterclocktimes

In a world demanding ever more precise synchronized time...







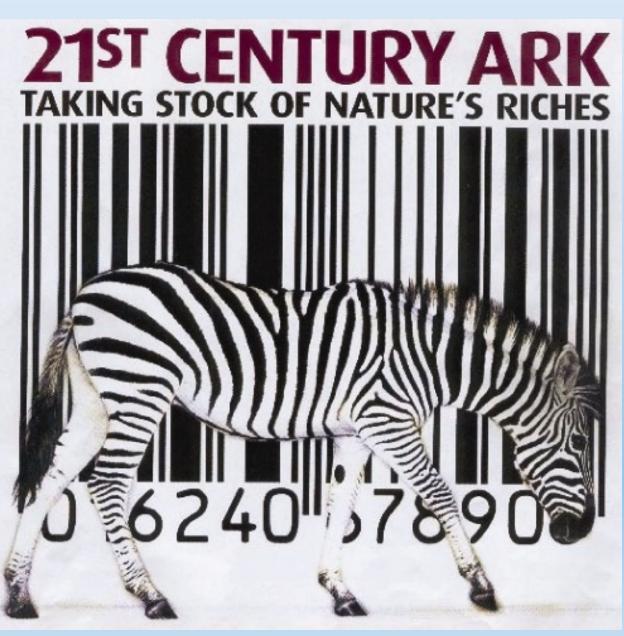


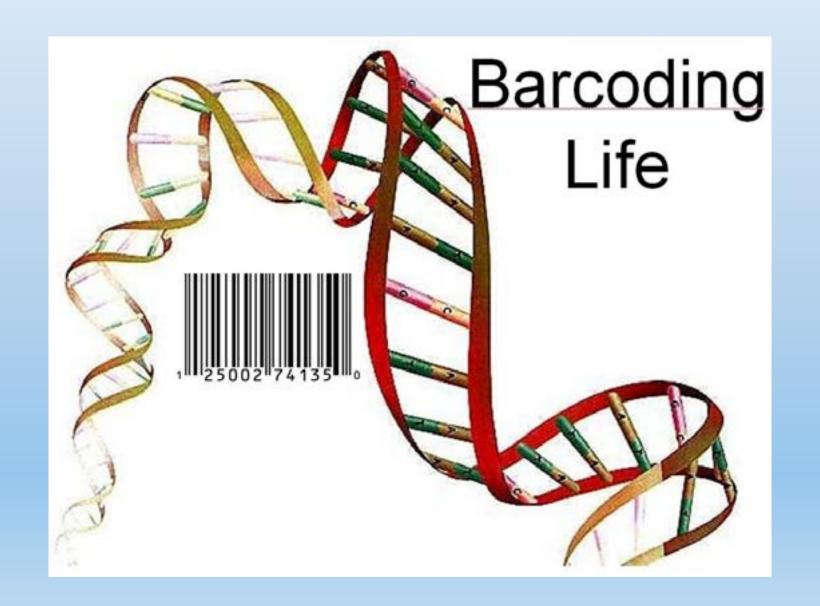
Graphic by Bloomberg Businessweek; Data: Hibernia Atlantic, NASA, Greg Mahlknecht

Markets & Finance

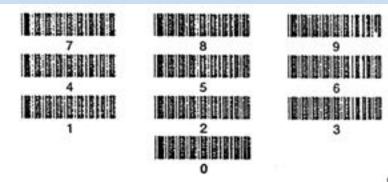
Stock Trading Is About to Get 5.2 Milliseconds Faster











CONVERSATION: EXPRESSION OF ODD IDEAS



- 1. None
- 2. Occasionally present (less than twice monthly)
 3. Frequiat eg. weekly but most speech is appropriate
 4. Very frequently eg. daily
 5. Virtually all conversation is inappropriate

- 99.No data

LAUGHING OR TALKING TO SELF



- 1. No such behaviour
- 1 or 2 times in the past month but can stop if reminded
 3 times in the past month difficulty stopping if reminded

- 4. Occurs weekly 5. Daily episodes or long-lasting or noisy 99.No data

About Us Working Groups

Resources

News and Events

Get Involved

Search





What is iBOL?

What is the Purpose of the International Barcode of Life Project?



Life is threatened

- Life is threatened with a mass extinction event rivaling any in earth history.
- Life provides critical ecosystem services, such as pollination, nutrient recycling, food and forest products.
- · Life causes major economic losses linked to pests and diseases of crops, livestock and humanity.
- · Life creates complex molecules, such as antibiotics and enzymes, with tremendous economic and societal benefit.
- · Life is largely unknown despite nearly three centuries of scientific

News

Changes announced at iBOL Governance streamlined; cost recovery for sequencing Recent ...

Enviro Outreach 2012 targets invasive species

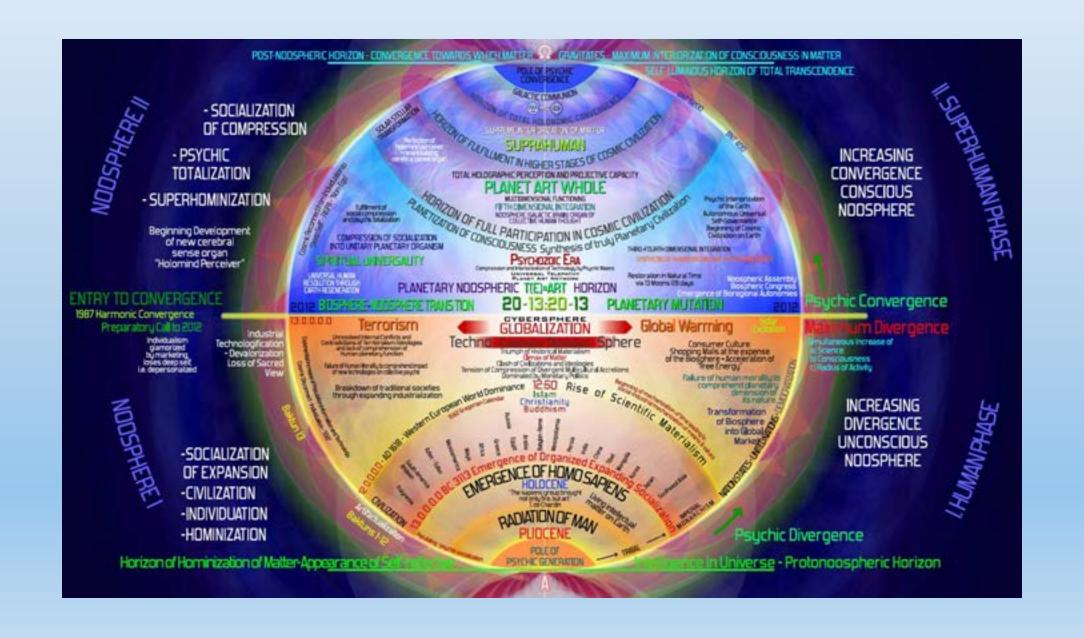
Toyota expedition's third barcode blitz in South Afric...

Events

Features

For Scientists Darwin's butterflies?

endeavour.



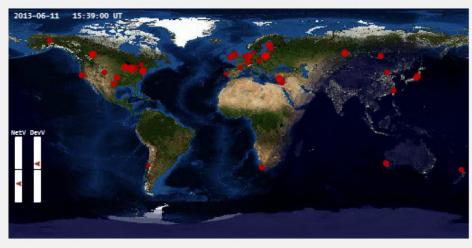
The Global Consciousness Project Meaningful Correlations in Random Data

Main Menu media & info introduction background main results egg network data access daily tables egg status updates utilities links faq

Aesthetics

the GCP dot
daily movies
the egg story
poetic history
youtube spots
planetary smile
realtime display
globalbrainpaint
musical interlude
production credit
how to contribute
random tapestry
speculations
our allies
videos

Mind is nonlocal - it is not in your head.



Coherent consciousness creates order in the world

Subtle interactions link us with each other and the Earth

When human consciousness becomes coherent and synchronized, the behavior of random systems may change. Quantum event based random number generators (RNGs) produce completely unpredictable sequences of zeroes and ones. But when a great event synchronizes the feelings of millions of people, our network of RNGs becomes subtly structured. The probability is less than one in a billion that the effect is due to chance. The evidence suggests an emerging noosphere, or the unifying field of consciousness described by sages in all cultures.

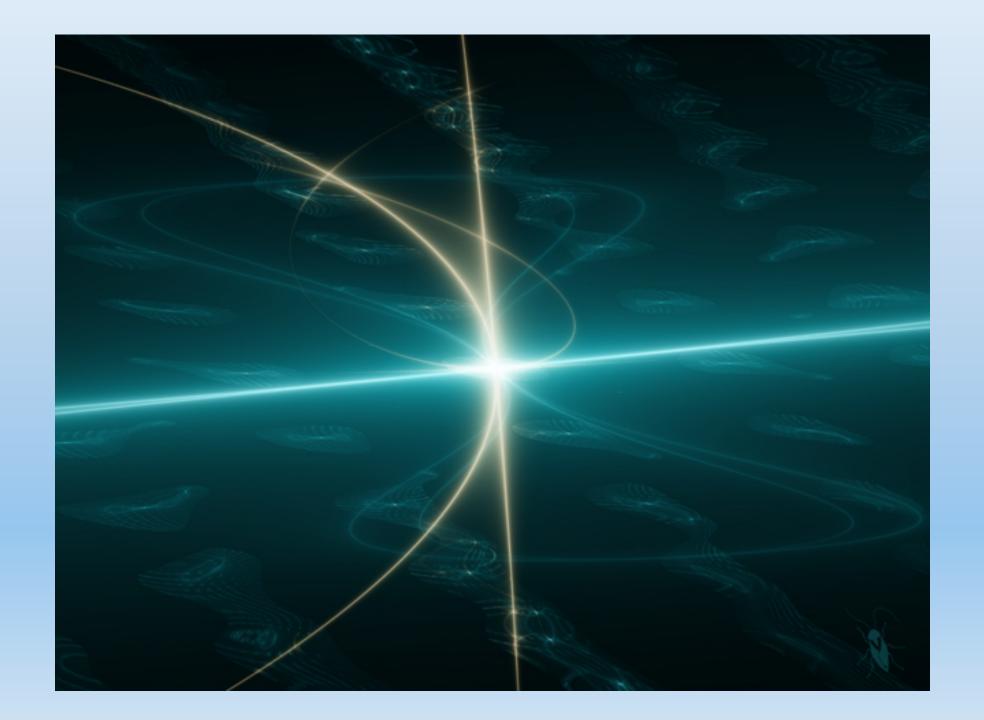
The Global Consciousness Project is an international, multidisciplinary collaboration of scientists and engineers. We collect data continuously from a global network of physical random number generators located in 70 host sites around the world. The data are transmitted to a central archive which now contains more than 12 years of random data in parallel sequences of synchronized 200-bit trials every second.

Our purpose is to examine subtle correlations that reflect the presence and activity of consciousness in the world. We hypothesize that there will

V	/hat's New	
New	GCP Webs	<u>ite</u>
<u>B</u>	arthquake Sichuan angladesh Collapse tht of Hopes Oklahoma	<u>i</u>
	Tornados	
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44.14	ONATE TO PPORT GO	
	Search	
	Go	
Sub	scribe Ema	ail
	Go	

Coming soon...





Memes

Participate

How It works

The Team

Blog

Contact

Data

To be part of our citizen science project and be part of a community focused on increasing global health and wellbeing - click here participate!

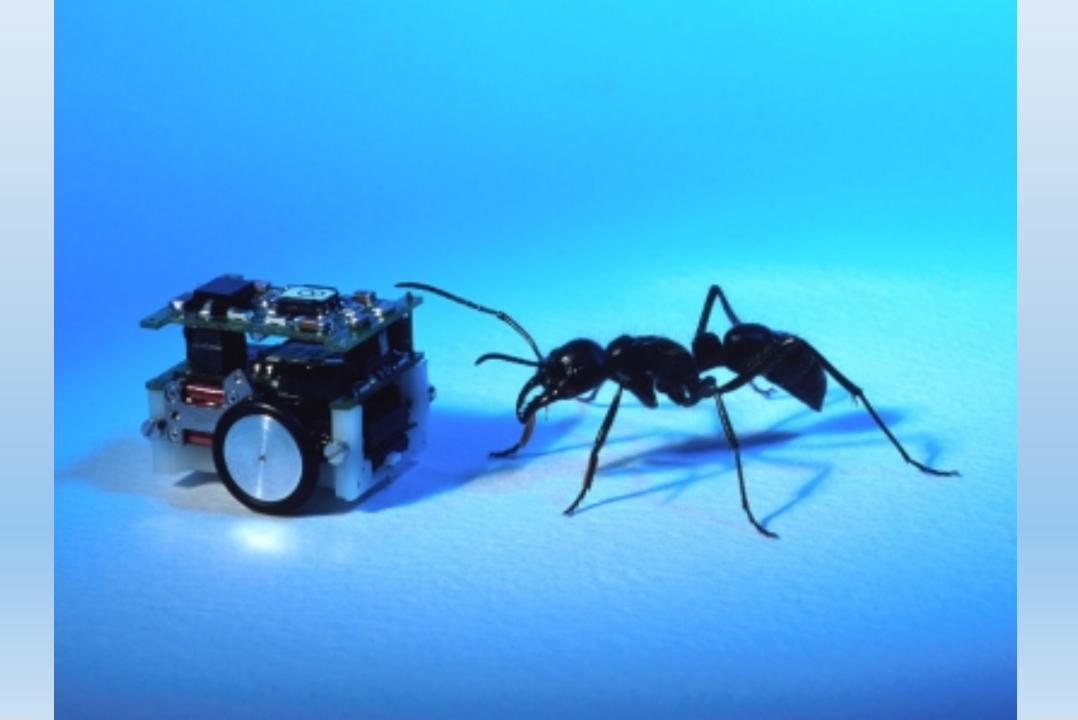
or here to signup!



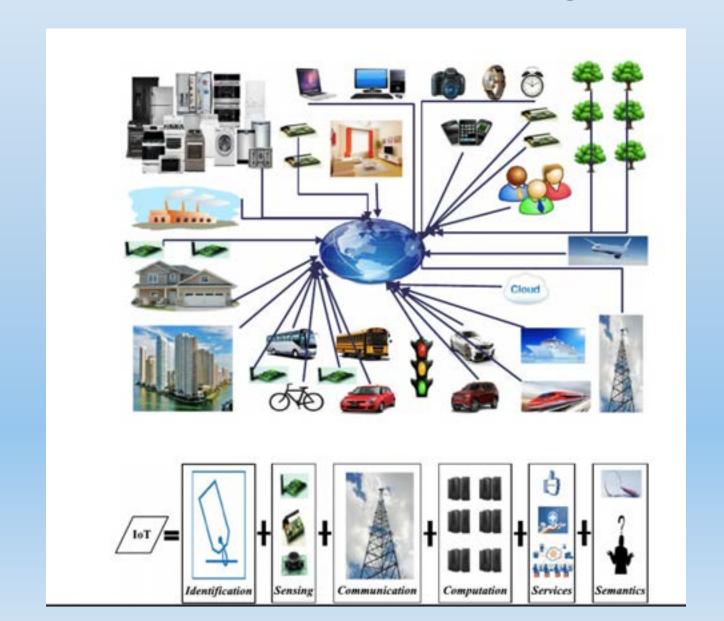
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The Internet of Things



Conclusion



The March of Intellect 1 (1828)



The March of Intellect 2 (1828)





THE SLOWEST COMPUTER IN THE WORLD . . IS A CLOCK!

The idea to build a monument scale, multi-millennial, all mechanical clock as an icon to long term thinking came from computer scientist Danny Hillis in 01995 (that's not a typo).

Hillis reasoned that by actually building a remote monument, the discussions around long term thinking would be far more focused. And it would lend itself to good storytelling and myth, both essential requirements of anything lasting a long time.

In 01996 a group of friends led by Stewart Brand incorporated a non profit around the idea of long term thinking and responsibility. This group became the founding board of The Long Now Foundation. One of the members, Peter Schwartz, suggested that 10,000 years be the time frame, as it was about how long humans have had a stable climate and technological progression.

