



# So you can sleep at night

**Jonathan Rothwell** @jorodev

**Steve Freeman** @sf105

Zühlke Engineering Ltd.

Please

Ask questions  
through the app



*Rate Session*

Thank you!







CONTAINS: **SCARY STORIES, SPECULATIONS**  
FREE FROM: **CONCLUSIONS**  
PRODUCED IN A FACILITY CONTAINING **NUTS**

**Autonomy**

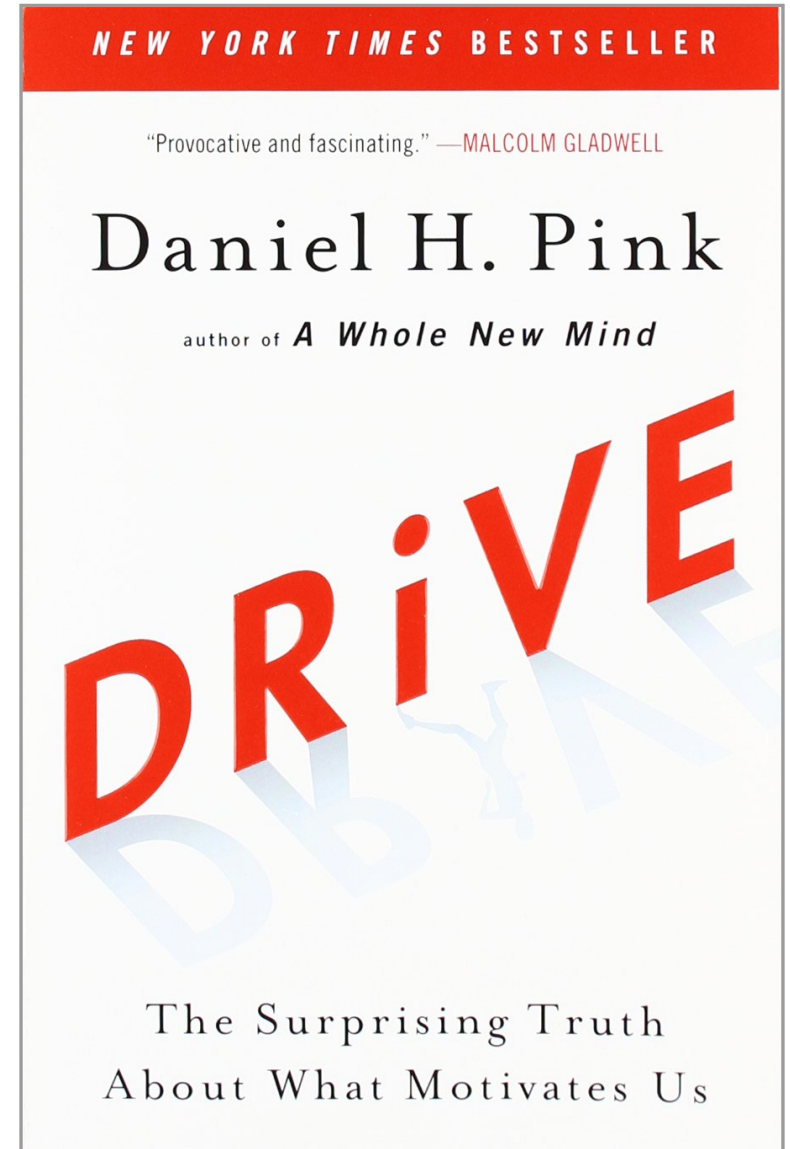
Mastery

**Purpose**

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# Thomas Midgley Jr.

- 1922 Nichols Medal
- 1925 Longstreth Medal
- 1937 Perkin Medal
- 1941 Priestley Medal
- 1942 Willard Gibbs Award
- 1944 President American Chemical Society
- 2 Honorary degrees
- Over 100 patents
- Member of US Academy of Sciences



# Thomas Midgley Jr.

Inventor of leaded petrol

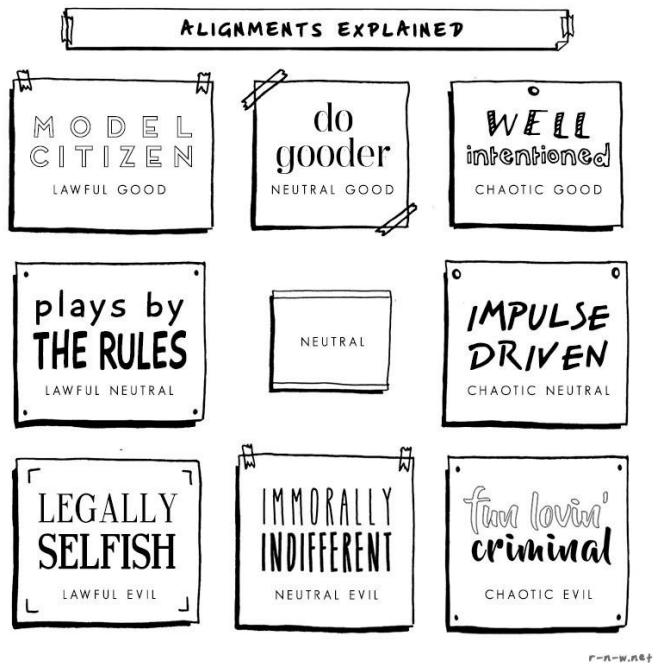
...and CFCs

“[had] more impact on the atmosphere than any other single organism in Earth’s history”

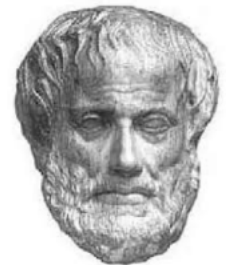
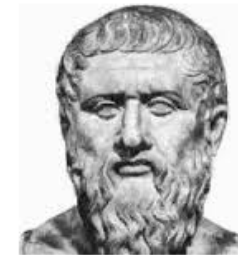
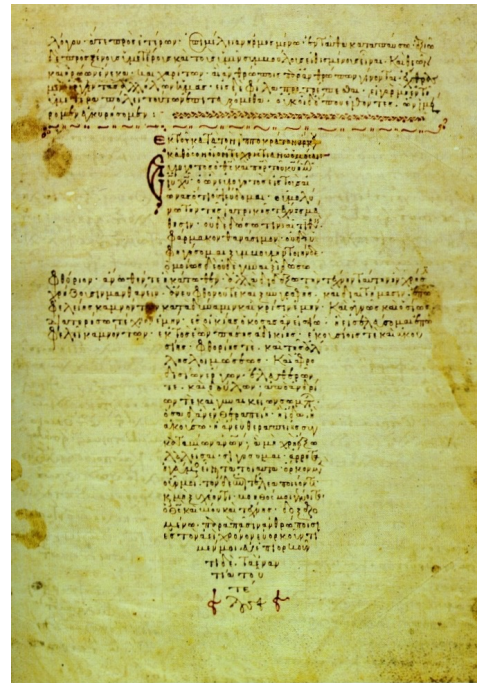
—J. R. McNeill, Georgetown U



# How can we even think about these issues?



<https://r-n-w.tumblr.com>

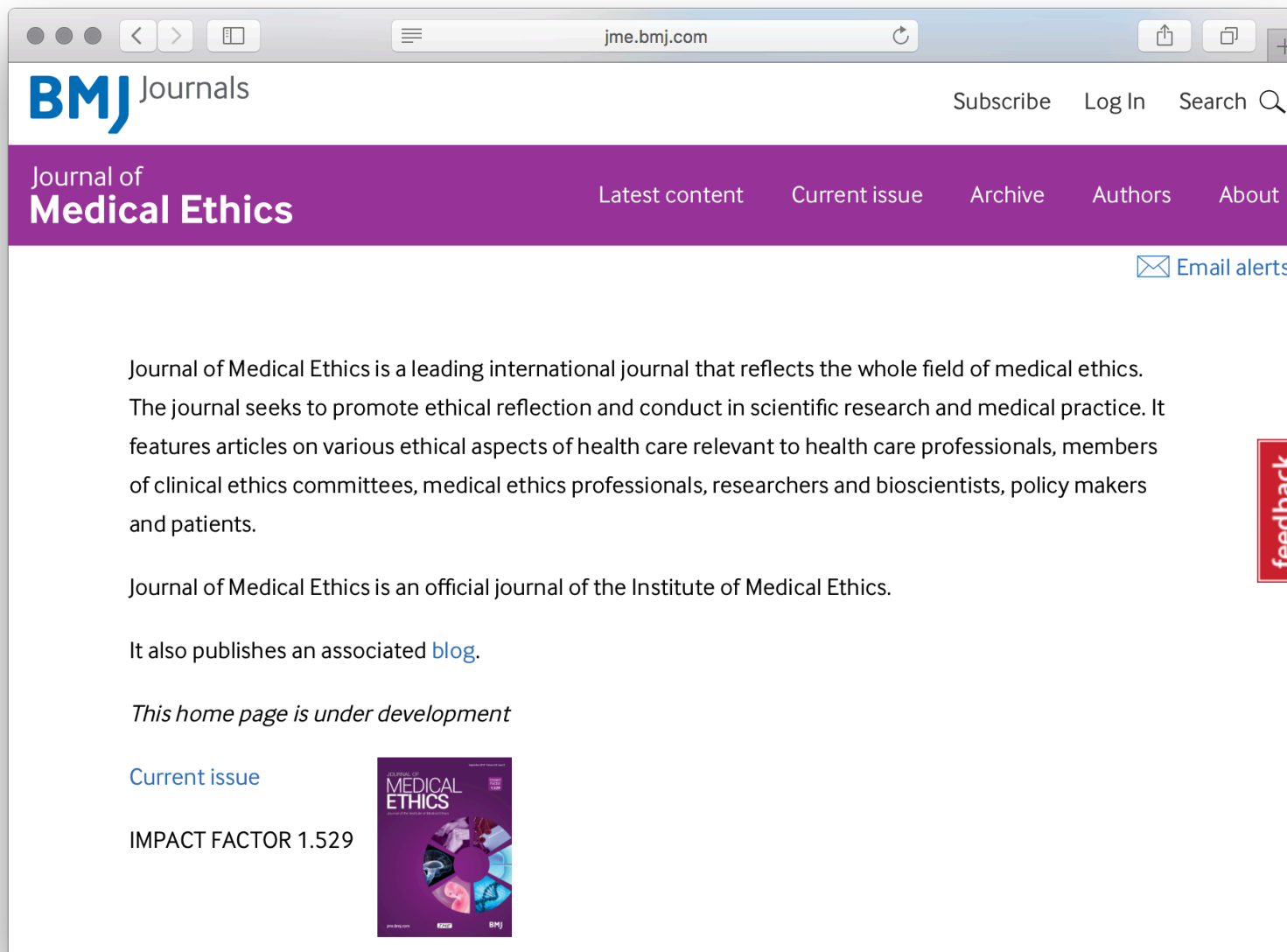


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# We do have codes of conduct



**Nikki Lee**  
@nkk1

Follow

Replying to @nkk1 @jpetazzo @alicegoldfuss

My first \*day\* of engineering school I had a laminated IEEE code of ethics handout in my mailbox, and so did all my classmates.

10:20 PM - 14 Nov 2017

6 Retweets 43 Likes



1 6 43

The screenshot shows the ACM Code of Ethics and Professional Conduct webpage. The header features the ACM logo and the text "Association for Computing Machinery". The main content area is titled "ACM Code of Ethics and Professional Conduct" and includes a section for the "Preamble" and "Contents & Guidelines". A sidebar on the right contains a "Lifelong Learning" section with a graphic of books.

www.acm.org/about-acm/acm-code-of-ethics-and

ACM Code of Ethics and Professional Conduct

Adopted by ACM Council 10/16/92.

Preamble

[Contents & Guidelines](#)

Preamble

Commitment to ethical professional conduct is expected of every member (voting members, associate members, and student members) of the Association for Computing Machinery (ACM).

This Code, consisting of 24 imperatives formulated as statements of personal responsibility, identifies the elements of such a commitment. It contains many, but not all, issues professionals are likely to face. [Section 1](#) outlines fundamental ethical considerations, while [Section 2](#) addresses additional, more specific considerations of professional conduct. Statements in [Section 3](#) pertain more specifically to individuals who have a leadership role, whether in the workplace or in a volunteer capacity such as with organizations like ACM. Principles involving compliance with this Code are given in [Section 4](#).

CAREER RESOURCE

**Lifelong Learning**

ACM offers lifelong learning resources including online books from Safari, online courses from Skillsoft, webinars on the hottest topics in computing and IT, and more.

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It's *impossible* to get struck off  
as a software developer



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# Buddhism's “Three Poisons”

**Ignorance**

**Attachment**

**Aversion**



CC [https://en.wikipedia.org/wiki/File:Bhavacakra\\_Thikse.jpg](https://en.wikipedia.org/wiki/File:Bhavacakra_Thikse.jpg)

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# ཁུ་མཁུ་ Ignorance

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**The Register**  
Biting the hand that feeds IT

DATA CENTRE SOFTWARE SECURITY TRANSFORMATION DEVOPS BUSINESS PERSONAL TECH SC

Business ► Policy 63

## UK Post Office admits false accusations after computer system cockup

Bleak Horizon led to jail time for some



9 Jul 2013 at 05:00, Iain Thomson

The Post Office has admitted that it may have wrongly prosecuted sub-post office officials after its computer payment system overcharged some branches.

The Motley Fool

## Everything You Need to Know About the Knight Capital Meltdown

What went wrong?

Matt Koppenheffer (TMFKopp)  
Sep 14, 2012 at 12:00AM

If the climax of **Knight Capital's** (NYSE: KCG) story is a piece of trading software going disastrously haywire, the beginning was the trading giant trying to defend its turf.

Knight's primary business is market making. As Georgetown professor Jim Angel explains,

ars TECHNICA UK SIGN IN

BIZ & IT —

## Failure to patch two-month-old bug led to massive Equifax breach

Critical Apache Struts bug was fixed in March. In May, it bit ~143 million US consumers.

DAN GOODIN (US) - 14/9/2017, 13:45

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You are here: Home » Technology » Fiat Chrysler Automobiles »

## Hacked Jeep Cherokee exposes weak underbelly of high-tech cars

July 31, 2015 @ 6:49 am



**A thorough account of the Therac-25 medical electron accelerator accidents reveals previously unknown details and suggests**

## Therac-25 Accidents

Nancy G. Leveson, University of Washington

Clark S. Turner, University of California, Irvine

Computers are increasingly being introduced into safety-critical systems and, as a consequence, have been involved in accidents. Some of the most widely cited software-related accidents in safety-critical systems involved a computerized radiation therapy machine called the Therac-25. Between June 1985 and January 1987, six known accidents involved massive overdoses by the Therac-25—with resultant deaths and serious injuries. They have been described as the worst series of radiation accidents in the 35-year history of medical accelerators.<sup>1</sup>

With information for this article taken from publicly available documents, we present a detailed accident investigation of the factors involved in the overdoses and the attempts by the users, manufacturers, and the US and Canadian governments to deal with them. Our goal is to help others learn from this experience, not to criticize the equipment's manufacturer or anyone else. The mistakes that were made are not unique to this manufacturer but are, unfortunately, fairly common in other safety-critical systems. As Frank Houston of the US Food and Drug Administration (FDA) said, "A significant amount of software for life-critical systems comes from small firms, especially in the medical device industry; firms that fit the profile of those resistant to or uninformed of the principles of either system safety or software engineering."<sup>2</sup>

Furthermore, these problems are not limited to the medical industry. It is still a common belief that any good engineer can build software, regardless of whether he or she is trained in state-of-the-art software-engineering procedures. Many companies building safety-critical software are not using proper procedures from a software-engineering and safety-engineering perspective.

Most accidents are system accidents; that is, they stem from complex interactions between various components and activities. To attribute a single cause to an accident is usually a serious mistake. In this article, we hope to demonstrate the complex nature of accidents and the need to investigate all aspects of system

# འདོད་ཆགས་ Attachment

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ars TECHNICA



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RISK ASSESSMENT —

# Creepy IoT teddy bear leaks >2 million parents' and kids' voice messages

Publicly accessible database wasn't even protected by a password.

DAN GOODIN - 2/28/2017, 1:12 AM



https://www.youtube.com/watch?v=EcXNHgYUz6s

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## Airbnb hosts more likely to reject guests with disabilities, study finds

Guests with blindness, cerebral palsy, dwarfism and spinal injuries were refused at higher rates, sometimes when homes were advertised as wheelchair accessible



206

Sam Levin in San Francisco

Friday 2 June 2017 19:39 BST

Airbnb hosts routinely reject guests with disabilities, sometimes when they have even advertised their homes as wheelchair accessible, according to a new study that adds to growing concerns about discrimination in the sharing economy.

Media Press releases 2017 September

Licensing decision on Uber London Limited

## Licensing decision on Uber London Limited

22 September 2017

Transport for London (TfL) has today (Friday 22 September) informed Uber London Limited that it will not be issued with a private hire operator licence after expiry of its current licence on 30 September.

TfL's regulation of London's taxi and private hire trades is designed to ensure passenger safety. Private hire operators must meet rigorous regulations, and demonstrate to TfL that they do so, in order to operate. TfL must also be satisfied that an operator is fit and proper to hold a licence.

TfL has concluded that Uber London Limited is not fit and proper to hold a private hire operator licence.



**Anna Marie Clifton** @TweetAnnaMarie · Aug 20

Design principal: When building a new feature, you should ALWAYS think about spam and stalker ex's.

7 401 537



**Anna Marie Clifton**

@TweetAnnaMarie



Follow

Eg—a friend's abusive ex has been sending her \$1 on @SquareCash regularly for months... cause he can add a message & she can't block that.

RETWEETS

342

LIKES

369



11:31 PM - 22 Oct 2016

13 342 369



Reply to @TweetAnnaMarie @SquareCash



**Robert Andersen** @rsa · Oct 24

@TweetAnnaMarie You're absolutely right. We have been talking about doing this for a while as part of some larger changes. We'll fix.

2 19

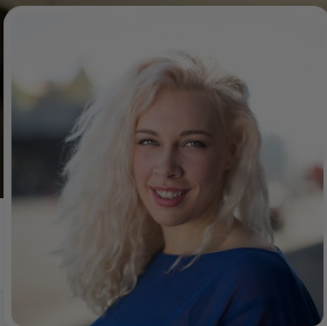


**Anna Marie Clifton** @TweetAnnaMarie · Oct 24

.@rsa ❤️



@jorodev @sf105



**Anna Marie Clifton**

@TweetAnnaMarie

Product manager @yammer. Listening and learning. Makes @clearlyproduct with @sandimac

medium.com/@tweetannamarie

Joined August 2010



**Tim Bennett**  
@flashman



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This is a quintessentially 21st century photo

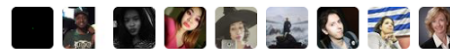


RETWEETS

3,620

LIKES

2,038



2:44 AM - 5 May 2014

@jorodev @sf105

**Tim Bennett**

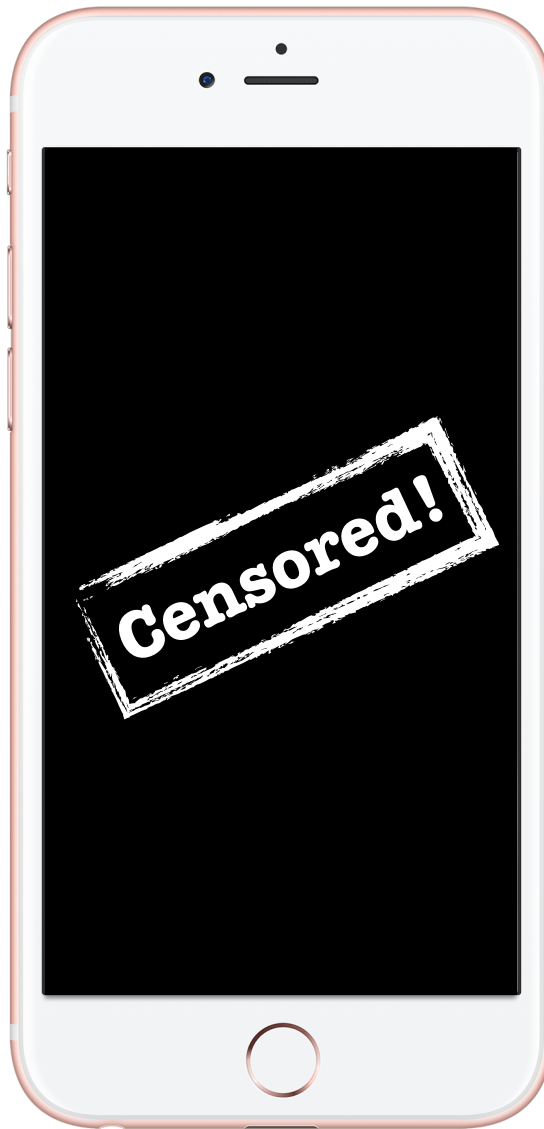
@flashman

I do cool stuff with data.

[electronsoup.net](http://electronsoup.net)

Joined March 2007

*So you can sleep at night*

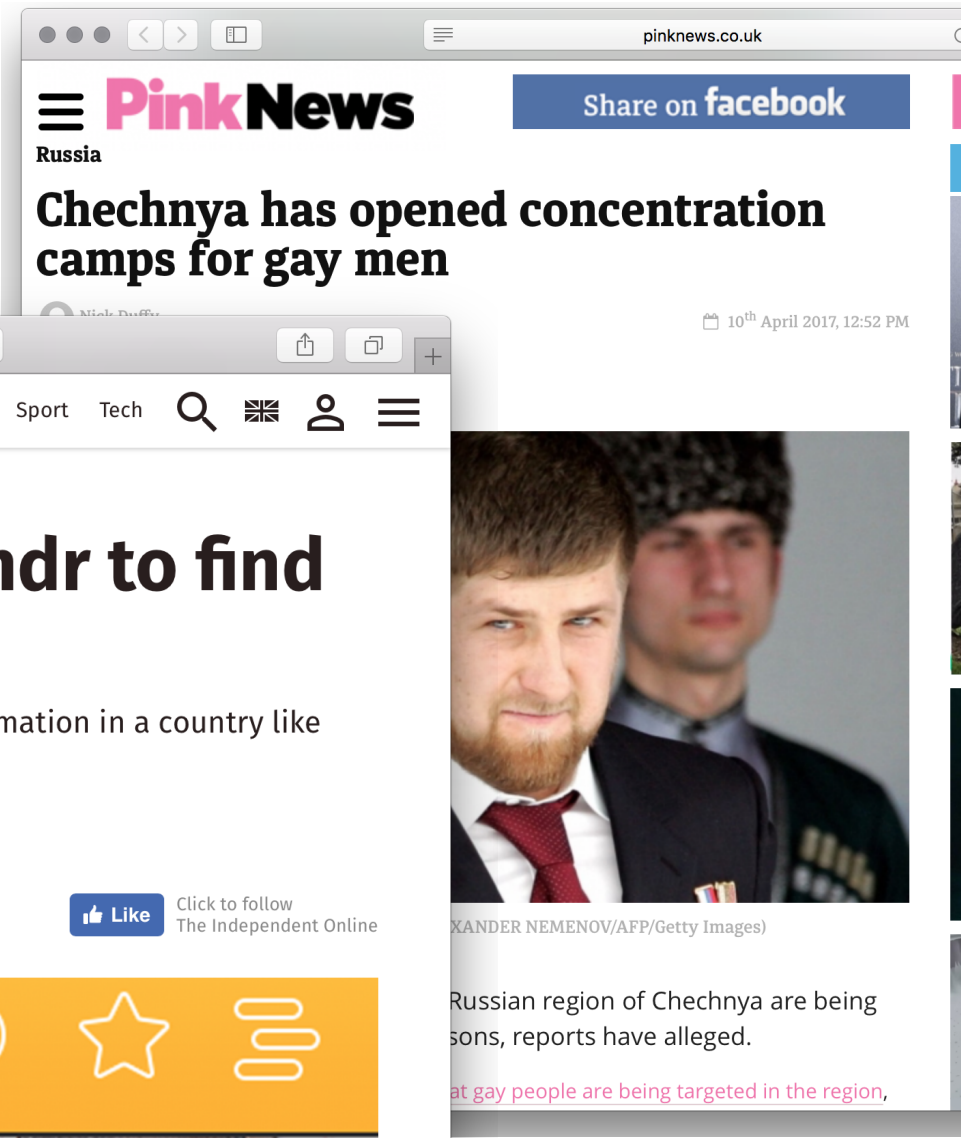


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the guardian

news / opinion / sport / arts / life

UK / world / business / environment / tech / UK politics / more

Artificial intelligence (AI)

## New AI can guess whether you're gay or straight from a photograph

An algorithm deduced the sexuality of people on a dating site with up to 91% accuracy, raising tricky ethical questions



An illustrated depiction of facial analysis technology similar to that used in the experiment. Illustration: Alamy

57,847

Sam Levin in San Francisco

Friday 8 September 2017 00.46 BST

Artificial intelligence can accurately guess whether people are gay or straight based on photos of their faces, according to new research that suggests machines can have significantly better “gaydar” than

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DAILY PAYROLL																								HOURS WORKED											
12 13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34														
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12 13 14 15 16 17 18 19 20 21 22 23 24	25 26 27 28 29 30 31 32 33 34	TOTAL																																	

Why Machine Learning Becomes Racist—and What We Need to Do to Stop It



**GET UPDATES**



EQUALS CHANGE BLOG

# Can computers be racist?

## Big data, inequality, and discrimination



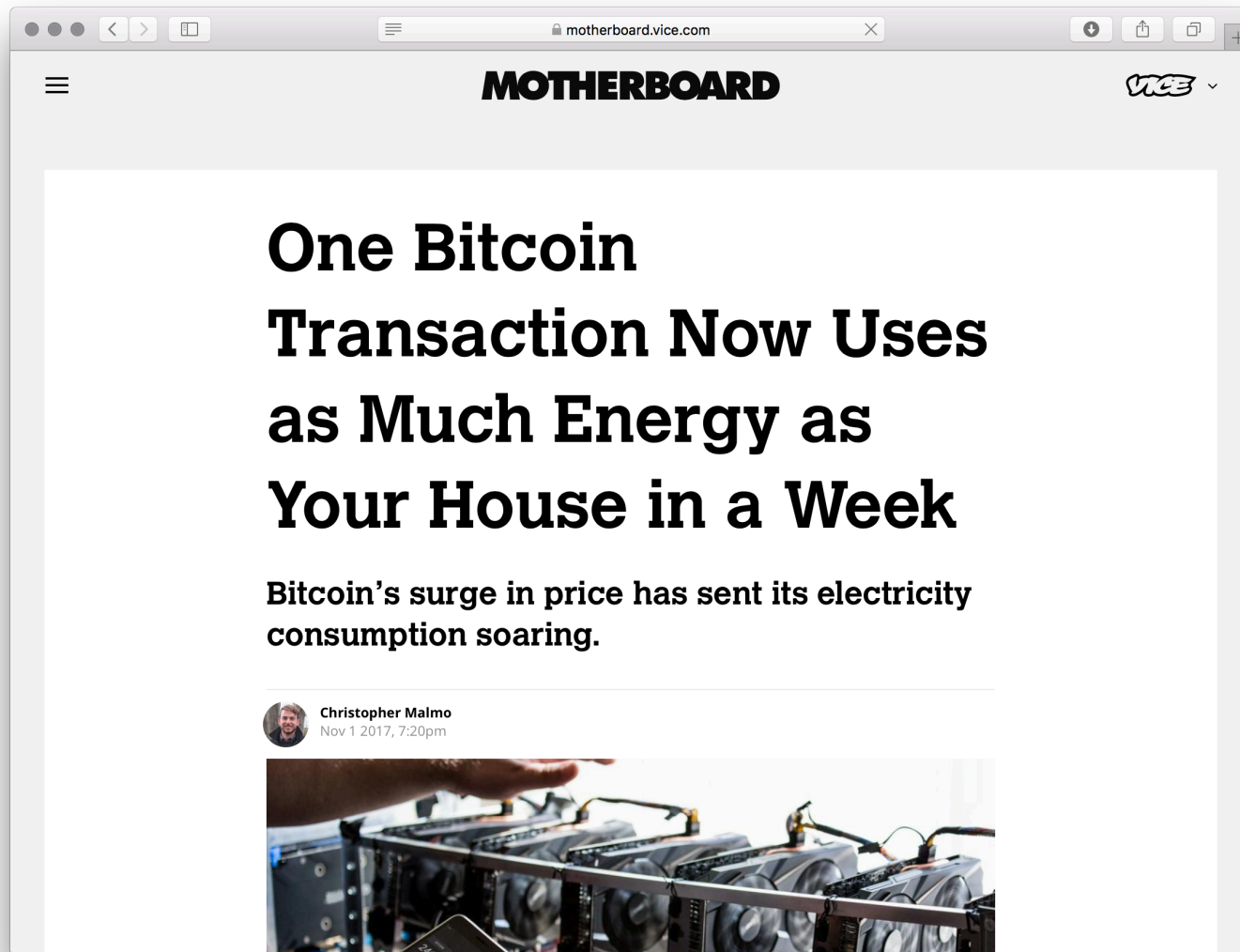
<https://commons.wikimedia.org/wiki/File:Agbogbloshie.JPG>



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# འཕྲུང་ **Aversion**

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**Some people consciously  
do bad things**

**But most people don't believe  
they're bad**



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Business Your Money Market Data Markets More

## Volkswagen says 800,000 cars may have false CO2 levels

4 November 2015 Business

f t w e Share

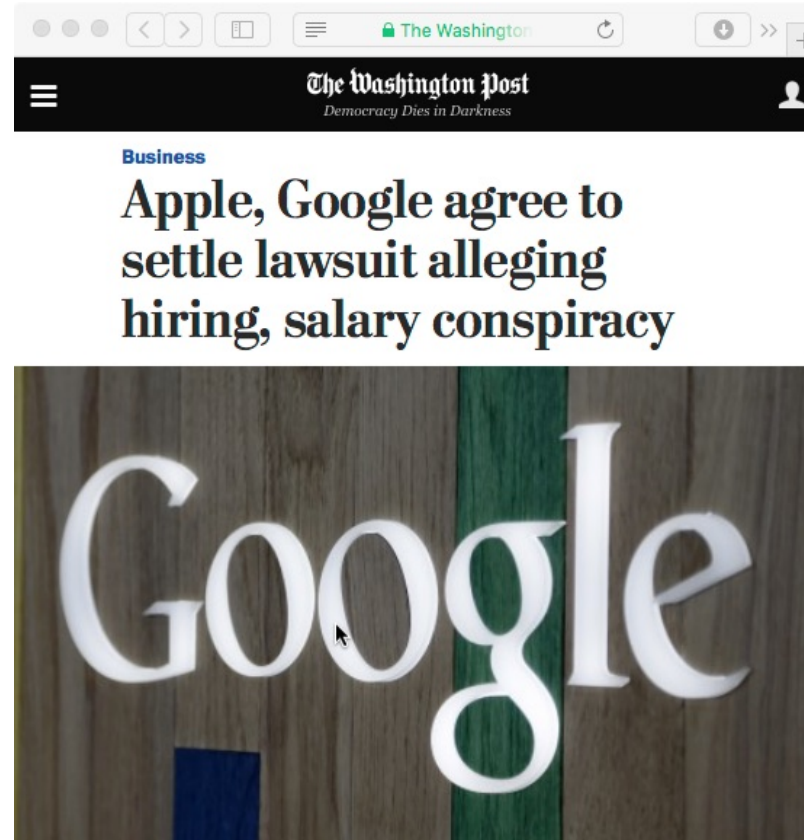


Shares in VW have dropped after it reported "irregularities" in carbon dioxide emissions levels, which could affect about 800,000 cars in Europe.

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Google, Apple, Intel and Adobe Systems announced Thursday, April 24, 2014, they have settled a class-action lawsuit alleging they conspired to prevent their engineers and other highly sought technology workers from getting better job offers from one another. (Alan Diaz/AP)

**By Dan Levine** April 24, 2014

SAN FRANCISCO — Just weeks before a high-profile trial was to begin, four major tech companies — including Apple and Google — have agreed to settle a lawsuit accusing them of conspiring to hold down salaries in Silicon Valley.

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## Uber's unraveling: The stunning, 2 week string of blows that has upended the world's most valuable startup



Biz Carson

Mar. 4, 2017, 1:30 PM 33,368



FACEBOOK



LINKEDIN



TWITTER



Uber was already off to a bad start in 2017, but the year is getting worse by the day, if not the hour, for the \$69 billion ride-hailing company.

In January, Uber lost more than 200,000 customers in a single weekend after the #DeleteUber movement led to a fury of account



The #DeleteUber protests were just the beginning.

Spencer Platt / Getty Images

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Nick Patterson, a former colleague of Mercer's, said, "In my view, Trump wouldn't be President if not for Bob."

ILLUSTRATION BY OLIVER MUNDAY / ANIMATION BY JAMES IACOBELLI / PHOTOGRAPH BY ANDREW TOTH / GETTY



## Mark Ritson: How to win an election in seven complex steps

*My money is on the Conservatives to win this week's general election, for the simple reason that they have mastered Facebook advertising and its ability to prioritise the voters who matter most.*

By Mark Ritson 5 Jun 2017 4:54 pm



As we head into the week of the general election the race seems to be narrowing. Just like the 2015 election there are various estimates of who will win what but the polls appear to suggest a hung parliament becoming far more likely than we would have imagined six weeks ago.

General election 2017 The Observer

## Revealed: Tory 'dark' ads targeted voters' Facebook feeds in Welsh marginal seat

Unregulated practice discovered after posts attacking Jeremy Corbyn drown out campaign aimed at boosting youth vote



One of the anti-Labour 'attack' ads posted on Facebook by the Conservatives, focusing on the Delnly marginal constituency. Photograph: Facebook

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graphics.wsj.com/blue-feed-red-feed/#/guns

THE WALL STREET JOURNAL

## Blue Feed, Red Feed

See Liberal Facebook and Conservative Facebook, Side by Side

By Jan Keegan  
Published May 18, 2016 at 8:00 a.m. ET | Updated hourly

FILTER FEEDS BY TOPIC:

PRESIDENT TRUMP HEALTH CARE **GUNS** ABORTION ISIS BUDGET  
EXECUTIVE ORDER IMMIGRATION

LIBERAL

**AMERICA'S GUN OBSESSION**

The Normalization of Guns in America is Why A Shift in Gun Culture is Impossible. The Problem Runs Deeper Than You Think #America2017

1.6K 438 919

**Right Wing Watch** on Tuesday

The far-right predicted that Barack Obama would impose tyranny and confiscate guns. Now doomsday peddlers have had to find new ways to scare people into stocking up on guns and survival food

With Obama Gone, Survivalists Find New Ways... Many thought the end was nigh under Obama. ...

198 40 275

**Occupy Democrats** on Sunday

Trump used yesterday's tragedy to promote his gun agenda. This iconic British professor immediately shut him down.

Trump Just Used The London Attack To Promo... Trump used yesterday's tragedy to promote his...

WASHINGTONJOURNAL.COM | BY BRIAN

3.3K 514 1.6K

CONSERVATIVE

**The Federalist Papers** 2 hours ago

Leftists constantly say that guns make us less safe. But if that is really the case, then how do you explain this?

BOOM: Map Shows Why Private Gun Ownersh... It's not that difficult.

290 14 181

**Bretitbart** on Monday

"The London terror attacks showed that a man with a knife is king in a world where law-abiding citizens are denied gun possession."

AWR HAWKINS on London Terror: When Gun...

3.8K 500 1.7K

**Herman Cain** on Monday

A liberal's worst nightmare. Good guys with guns stop a crime, proving that... good guys with guns stop crimes!

Watch: Punk Pulls Gun in Store Where Everyon... Boy, he sure chose the wrong store to target.

2.8K 66 557

**Conservative News Today** on Monday

"When you outlaw guns only criminals will have

These Facebook posts do not represent the reporting or opinion of The Wall Street Journal, and are not verified, edited or endorsed in any way. Read our [Methodology](#).

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This year especially there's an uncomfortable feeling in the tech industry that we did something wrong, that in following our credo of “move fast and break things”, some of what we knocked down were the load-bearing walls of our democracy.

–Maciej Cegłowski, Build a Better Monster  
[http://idlewords.com/talks/build\\_a\\_better\\_monster.htm](http://idlewords.com/talks/build_a_better_monster.htm)





6 million Jews  
2–3 million Soviet POWs  
1.8–1.9 million ethnic Poles  
150,000 Disabled people  
90,000–220,000 Romani  
5,000–15,000 Homosexuals  
1,400–2,500 Jehovah's Witnesses  
Total: 17 million people killed



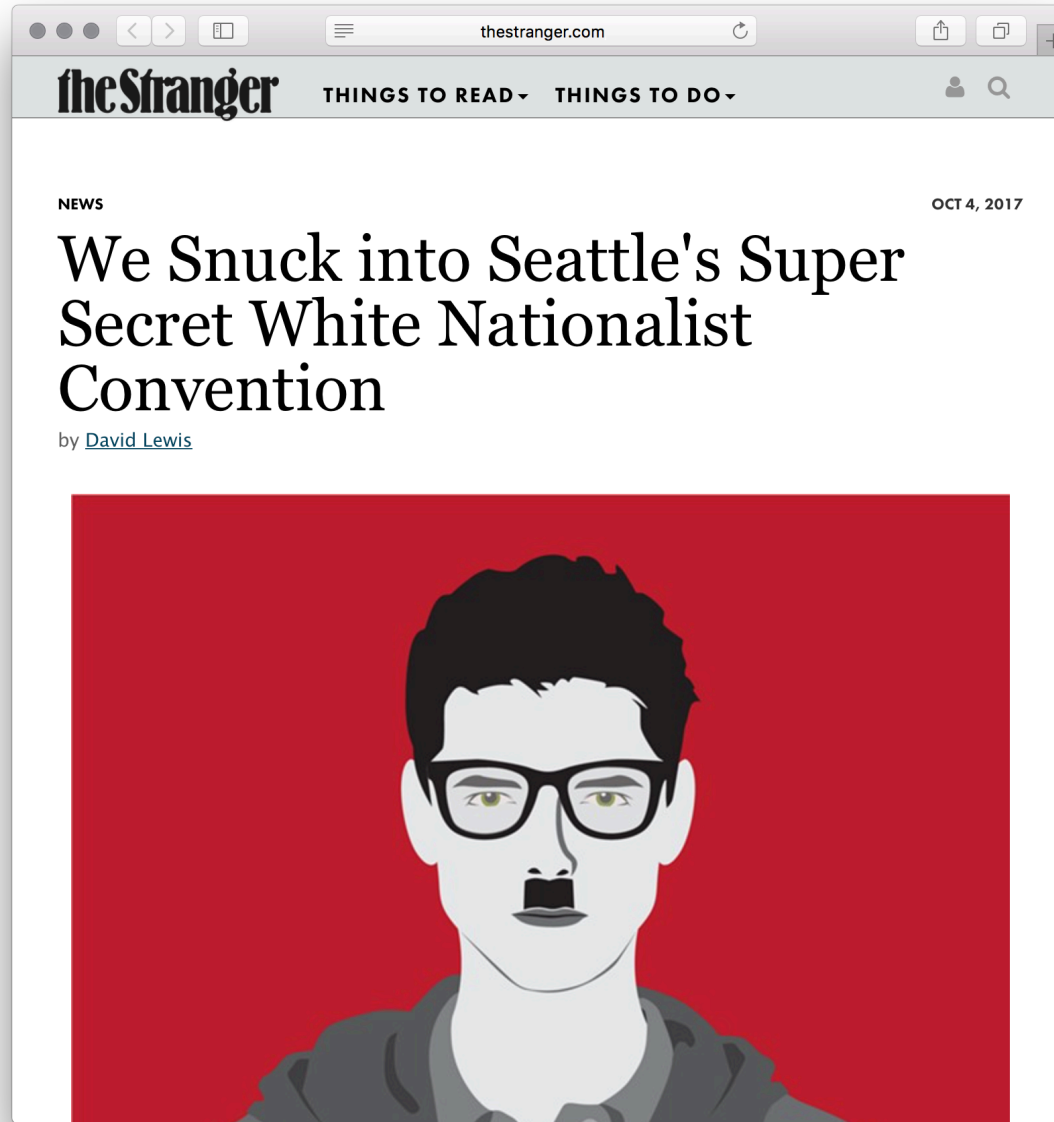
This is the concentration camp and crematorium at Auschwitz. This is where people were turned into numbers.

Into this pond were flushed the ashes of some four million people. And that was not done by gas. It was done by arrogance, it was done by dogma, it was done by ignorance.

–Jacob Bronowski, The Ascent of Man



**What if someone wanted  
to do that today?**



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–Jacob Bronowski, The Ascent of Man



# What can we do?



# Buddhism's “Three Poisons”

**Ignorance**

**Attachment**

**Aversion**



CC [https://en.wikipedia.org/wiki/File:Bhavacakra\\_Thikse.jpg](https://en.wikipedia.org/wiki/File:Bhavacakra_Thikse.jpg)

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# གཏི་མུག་མེད་པ། **Non-Delusion**

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UK / world / business / election / tech / UK politics / more



**Call for encryption ban pits Rudd  
against industry and colleagues**

A previous plan to ban end-to-end encryption was dropped after widespread opposition, including from David Davis

f t e ...

169

Alan Travis Home affairs editor

Sunday 26 March 2017 16.45 BST

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Home | News | Technology



DAILY NEWS 26 October 2016

## Souped-up SIM allows mobile payments where there's no network



Another way to pay  
Noor Khamis/Reuters

@jorodev @sf105

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Approaching the world as a software problem is a category error that has led us into some terrible habits of mind.

– Maciej Ceglowski, The Moral Economy of Tech

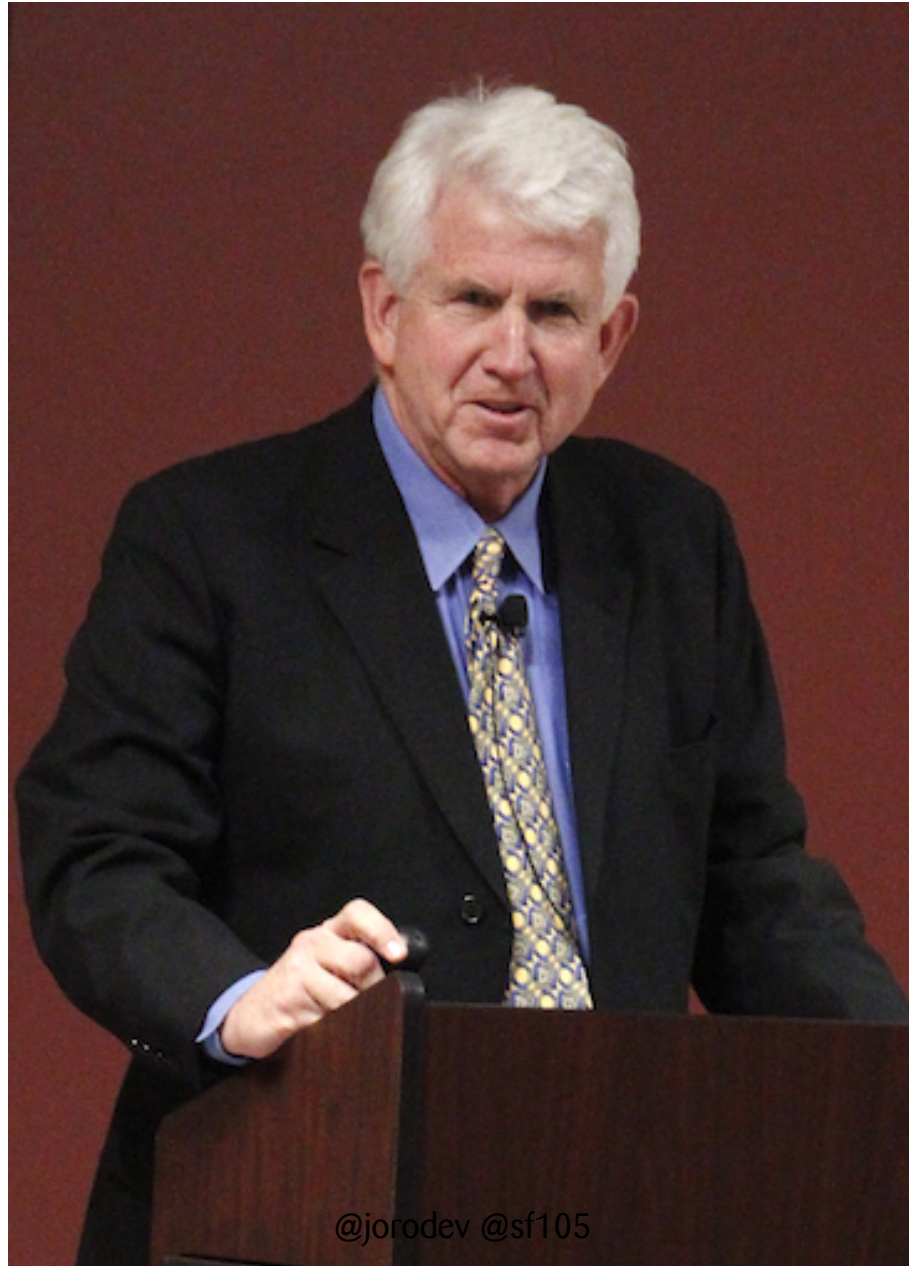


# མ་ཆགས་པ། Non-Attachment

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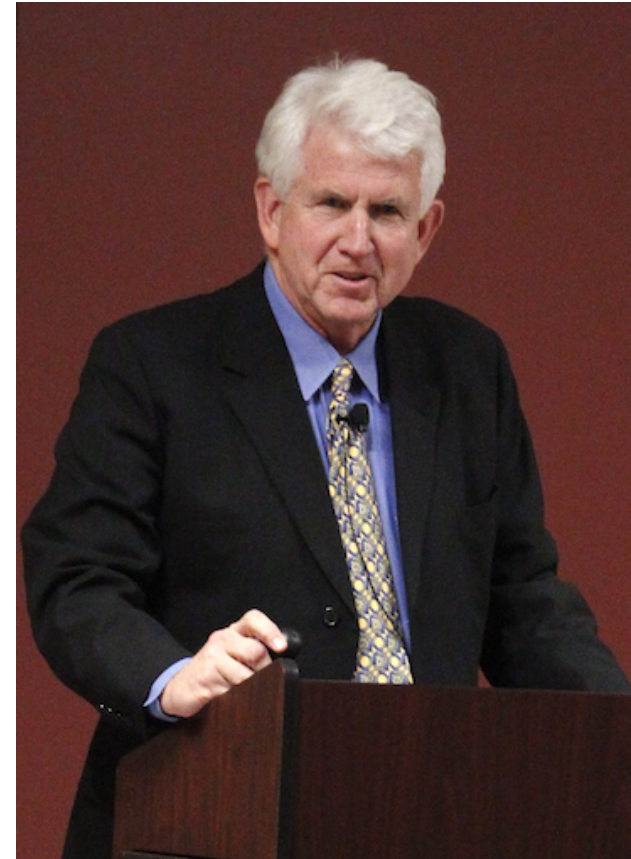
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# Metcalfe's Law

“the value of a telecommunications network is proportional to the square of the number of connected users of the system ( $n^2$ )”







# SHINY OBJECT SYNDROME

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When things in real life that sound like satire start to happen, it's way past the time where we need to start reflecting on how we are fostering a society built on hate [...]

We cannot let people advance tech for their own selfish reasons while they pretend that they're doing it for everyone.

— Jenn Schiffer

# ཉེས་སྒྲུང་མེད་པ། **Non-Hatred**

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News > People

# Mary Beard writes character reference for Twitter troll who called her a 'slut'

Adam Lusher | Wednesday 27 August 2014 18:42 BST | 0 comments

514 shares

Like Click to follow The Independent Online



Mary Beard has been a high-profile target of Twitter trolls David Sandison

@jorodev @srt05

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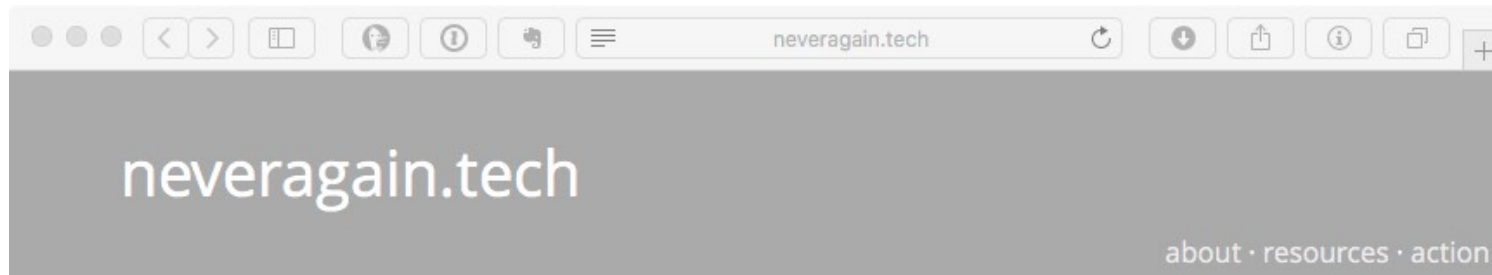


# Be civil to people?

The screenshot shows a web browser window with the URL `gotober.com`. The navigation bar includes the **goto;** conference logo, links for [Schedule](#), [Speakers](#), [Workshops](#), and [More](#) (with a dropdown arrow). On the right side of the navigation bar are links for [Sponsors](#), [Hotel](#), [GOTO Nights](#), and a prominent [Register Today](#) button. The main content area is titled 

## Code of Conduct

. The text states: "GOTO Berlin is dedicated to providing a harassment-free conference experience for everyone, regardless of gender, sexual orientation, disability, physical appearance, body size, race, or religion. We do not tolerate harassment of conference participants in any form. Sexual language and imagery is not appropriate for any conference venue, including talks. Conference participants violating these rules may be sanctioned or expelled from the conference without a refund at the discretion of the conference organizers." It continues: "Any form of written, social media, or verbal communication that can be offensive or harassing to any attendee, speaker or staff is not allowed at GOTO Berlin. Please inform a GOTO Berlin staff member if you feel a violation has taken place and the conference leadership team will address the situation." The next paragraph defines harassment: "Harassment includes offensive verbal comments related to gender, sexual orientation, disability, physical appearance, body size, race, religion; sexual images in public spaces; deliberate intimidation; stalking; following; harassing photography or recording; sustained disruption of talks or other events; inappropriate physical contact; and unwelcome sexual attention. Participants asked to stop any harassing behavior are expected to comply immediately." It then addresses exhibitors: "Exhibitors in the expo hall, sponsor or vendor booths, or similar activities are also subject to the anti-harassment policy. In particular, exhibitors should not use sexualized images, activities, or other material. Booth staff (including volunteers) should not use sexualized clothing/uniforms/costumes, or otherwise create a sexualized environment." The final paragraph states: "If a participant engages in harassing behavior, the conference organizers may take any action they deem appropriate, including warning the offender or expulsion from the conference with no refund. If you are being harassed, notice..." At the bottom of the page, there is a footer with the text `@jorodev @sf105`.



*Write a list of things you would never do. Because it is possible that in the next year, you will do them. —Sarah Kendzior [1]*

## Our pledge

We, the undersigned, are employees of tech organizations and companies based in the United States. We are engineers, designers, business executives, and others whose jobs include managing or processing data about people. We are choosing to stand in solidarity with Muslim Americans, immigrants, and all people whose lives and livelihoods are threatened by the incoming administration's proposed data collection policies. We refuse to build a database of people based on their Constitutionally-protected religious beliefs. We refuse to facilitate mass deportations of people the government believes to be undesirable.

We have educated ourselves on the history of threats like these, and on the roles that technology and technologists played in carrying them out. We see how [IBM collaborated to digitize and streamline the Holocaust](#), contributing to the deaths of six million Jews and millions of others. We recall the [internment of Japanese Americans](#) during the Second World War. We recognize that [mass deportations](#) precipitated the very atrocity the word genocide was [created](#) to describe: the murder of 1.5 million Armenians in Turkey. We acknowledge that genocides are not merely a relic of the distant past—among others, [Tutsi Rwandans](#) and [Bosnian Muslims](#) have been victims in our lifetimes.

@jorodev @sf105

*So you can sleep at night*

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The one effective lever we have against tech companies is employee pressure [...]

Unfortunately, the enemy is complacency. [...] A workplace free of 'politics' is just one of the many perks the tech industry offers its pampered employees.

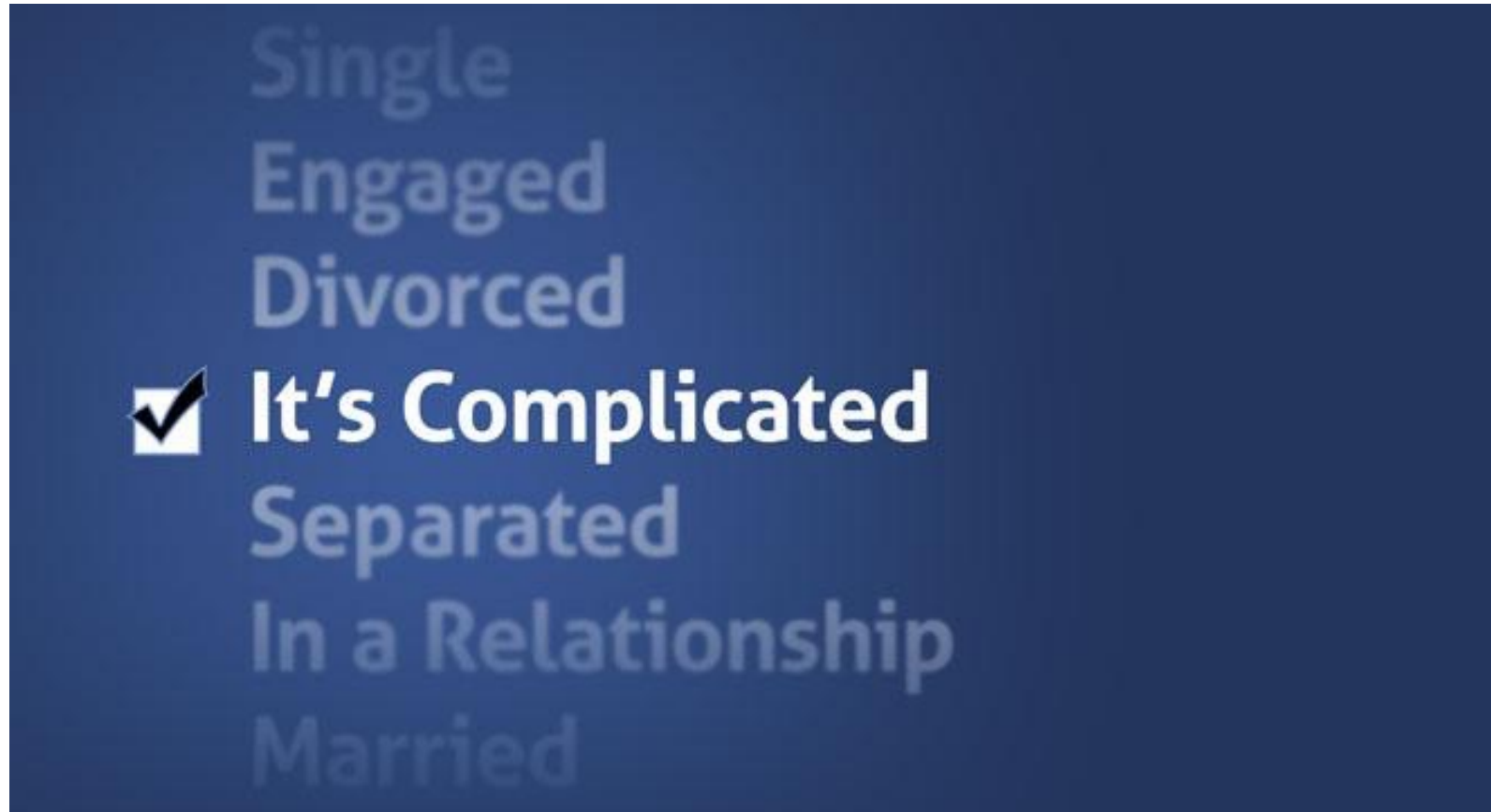
– Maciej Cegłowski

Should we use our position  
to resist handing control to  
a few dominant players?

*But...*  
who do we think we are  
to make this call?

*But...*  
who else is there?





# What can *we* do?

# Non-Delusion

- Be humble
- Talk about it
- Have a life outside tech

# Non-Attachment

- Try not to be seduced
- Track what people actually do with your system
- Think about hostile users, not just attackers

# Non-Hatred

- Have a visible ethical charter
- Leave or refuse
- Try to be civil to people

# Make a conscious decision



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# Don't drift into a world you didn't choose



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*please*

**Remember to  
rate this session**

*Thank you!*



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# If you liked that, try...

## Meeting Resistance and Moving Forward

by Linda Rising (@RisingLinda)

<https://www.youtube.com/watch?v=DrCD1wmK9oM>



# If you liked that, try...

## Consequences of an Insightful Algorithm

by Carina C. Zona (@cczona)

<https://www.youtube.com/watch?v=YRI40A4tyWU>





# If you liked that, try...

## No-One Expects The Lady Code Troll

by Jenn Schiffer (@jennschiffer)

<https://www.youtube.com/watch?v=DrCD1wmK9oM>



# If you liked that, try...

When The Truth No Longer Matters  
by Kate Gray (@grisgraygrau)

<https://www.youtube.com/watch?v=DeyRJnhwPgU>





# Links

- [http://idlewords.com/talks/notes\\_from\\_an\\_emergency.htm](http://idlewords.com/talks/notes_from_an_emergency.htm)
- [http://idlewords.com/talks/sase\\_panel.htm](http://idlewords.com/talks/sase_panel.htm)
- [http://idlewords.com/talks/build\\_a\\_better\\_monster.htm](http://idlewords.com/talks/build_a_better_monster.htm)
- [https://www.schneier.com/blog/archives/2013/10/the\\_battle\\_for\\_1.html](https://www.schneier.com/blog/archives/2013/10/the_battle_for_1.html)
- [https://docs.google.com/presentation/d/1xTxAPtv9TJIF1exU9hR48pIP1wBbl8QiLbZPvY8Eopw/edit#slide=id.g222c0f1959\\_0\\_23](https://docs.google.com/presentation/d/1xTxAPtv9TJIF1exU9hR48pIP1wBbl8QiLbZPvY8Eopw/edit#slide=id.g222c0f1959_0_23)
- <https://www.theguardian.com/technology/2017/may/07/the-great-british-brexit-robbery-hijacked-democracy>
- <http://www-formal.stanford.edu/jmc/little/little.html>

# Recommended Reading

- **Better - A Surgeon's Notes On Performance**  
written by Atul Gawande
- **IBM and the Holocaust: The Strategic Alliance between Nazi Germany and America's Most Powerful Corporation**  
written by Edwin Black
- **Why I'm No Longer Talking To White People About Race**  
written by Reni Eddo-Lodge

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- Asad Razvi
- Friends and colleagues at Zuhlke

## for their invaluable help and encouragement

*please*

**Remember to  
rate this session**

*Thank you!*



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