

# Computer Ethics (English)

Spring 2014

BLG412E

## Social Issues

### Contents of today's lecture

- **Digital Divide.**
  - Intro.
  - Causes, consequences, interventions.
  - Perspectives.
  - Case study.
- **Digital waste & consumption.**
- **Work issues.**
  - Unemployment.
  - Job security.
  - Work/life balance.
- **Robotics.**
- **Readings.**

**Lecturer:** Damien Jade Duff.

**Office:** EEf 2316.

**Office hour:** <http://djduff.net/my-schedule>

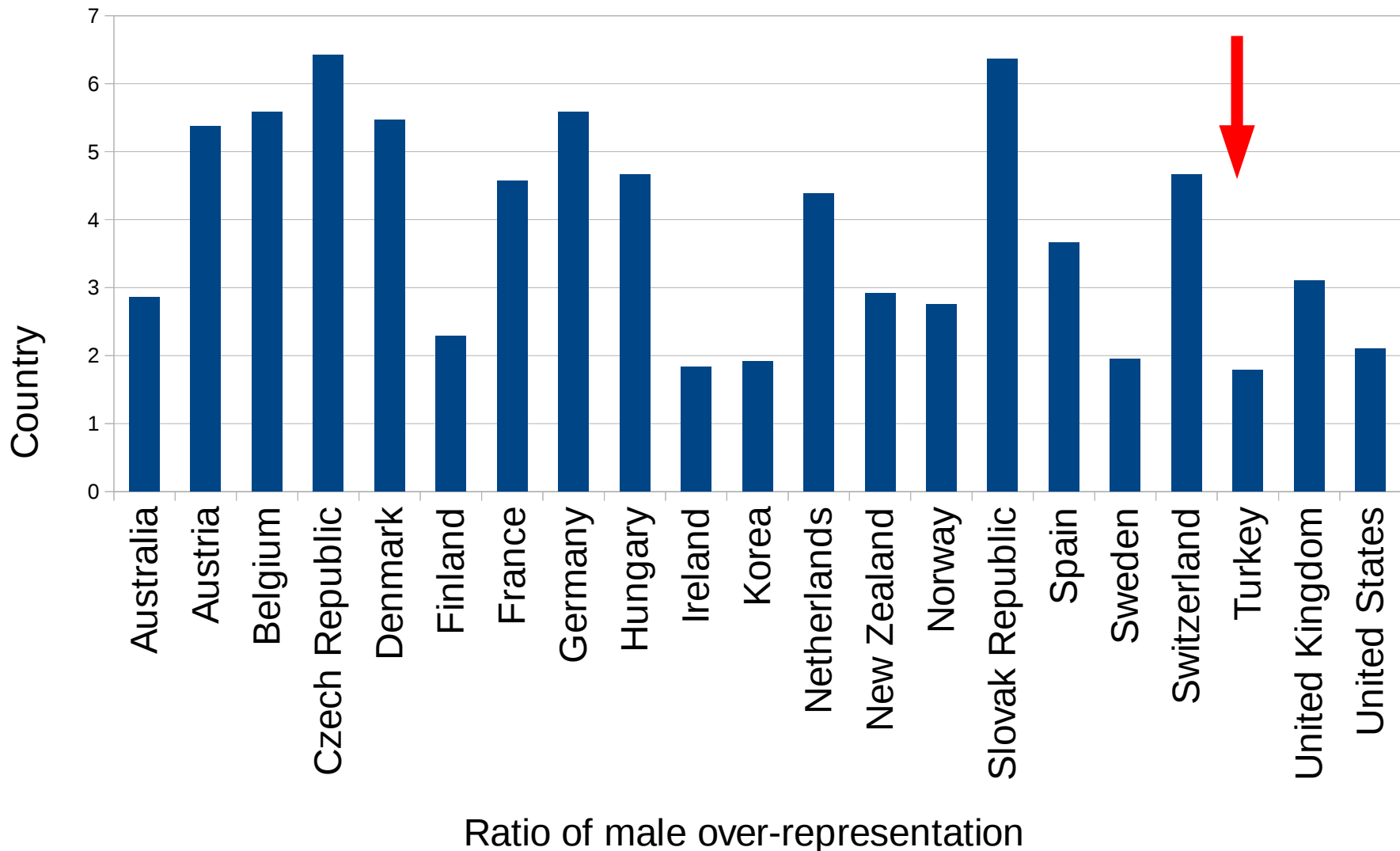
# The Digital Divide

The Haves	The Have Nots
Europe USA Australasia	Africa Brazil India
High income Educated Propertied families	Low income Uneducated Poor families
Males	Females
Able-bodied	Disabled



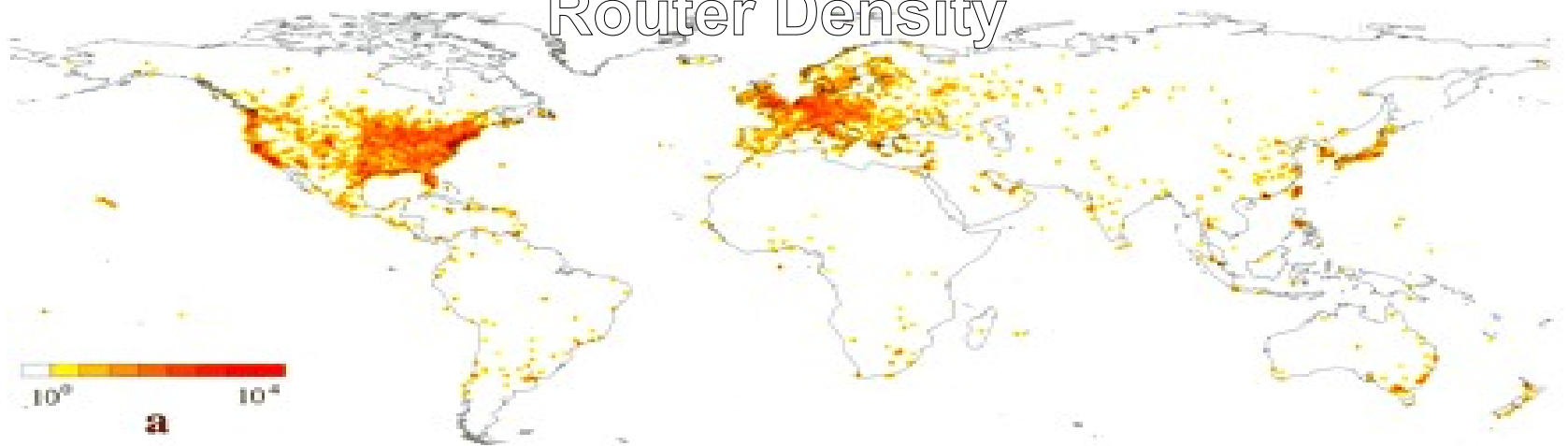
# Male over-representation

## Computer Engineering Programs

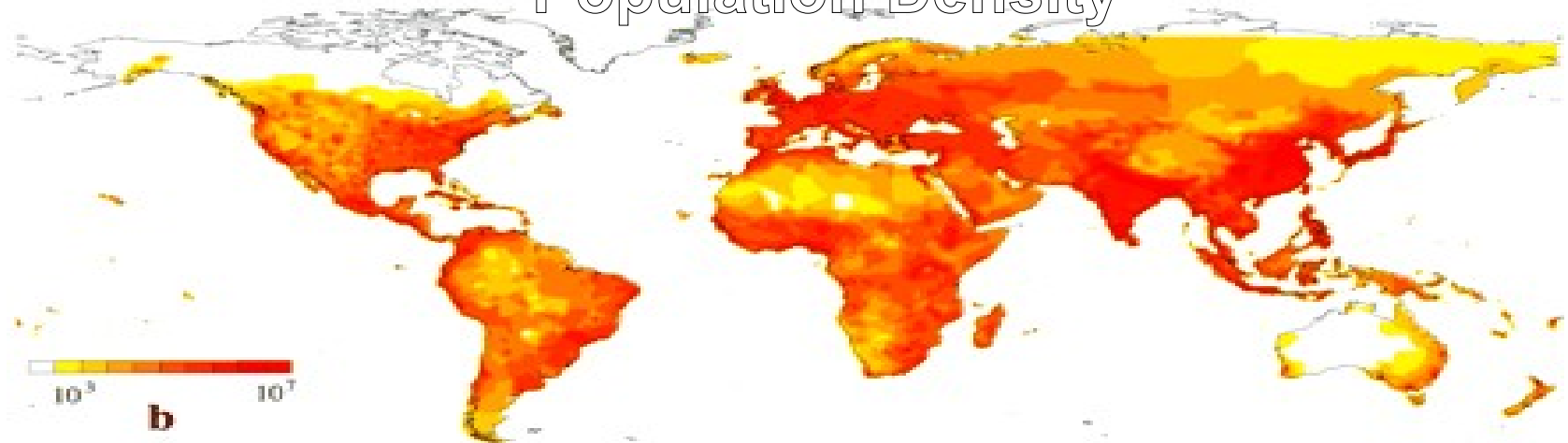


# Internet access globally

Router Density



Population Density



# Male over-representation

## Computer Engineering Programs

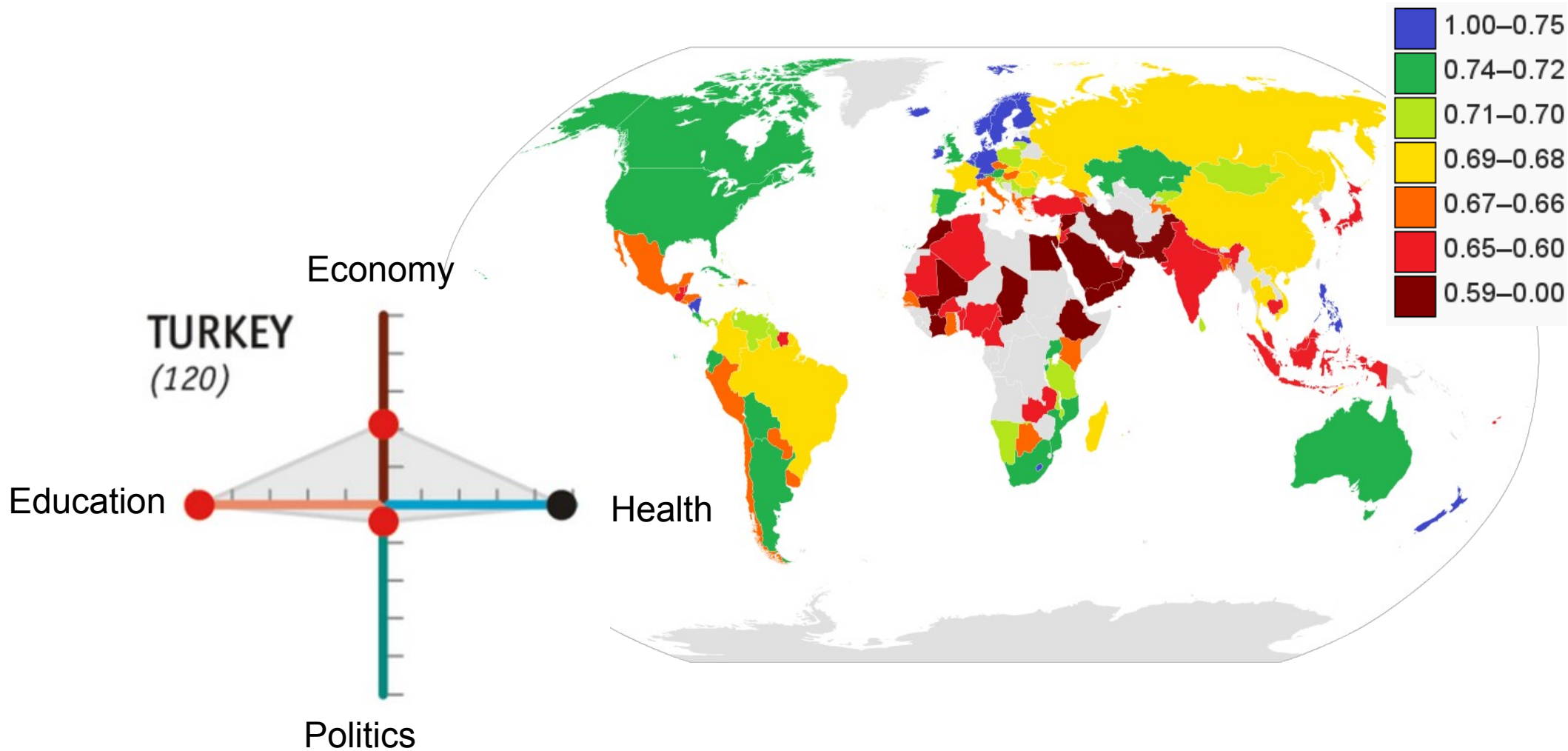
- ♦ Implications of required mathematics.
- ♦ Pipe-lining effect of stereotyping.
- ♦ Male-culture dominated workplaces.
- ♦ Paradoxical expectations.

<http://www.computerweekly.com/news/2240223490/Number-of-females-entering-IT-continues-to-decline-finds-BCS-Scorecard>

<http://ucsdnews.ucsd.edu/archive/newsrel/soc/CharlesCampusSci.asp>

[http://www.computerworld.com/s/article/9243700/Jonny\\_Evans\\_Technology\\_is\\_sexist](http://www.computerworld.com/s/article/9243700/Jonny_Evans_Technology_is_sexist)

# Gender gap by country



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# Possible Consequences

## Digital Divide

Knowledge access

Economic improvement

Political engagement

Cultural representation



# Possible Causes

Digital Divide

Access

Money & time

Education

Will/culture

# Possible remedies

Digital Divide

Universal access / service

Material support

Education

Opportunities & support

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# Perspectives on digital divide

- ❖ Reflects broader socio-economic divide.
- ❖ Impinges on fundamental rights and freedoms.
- ❖ Detracts from action on real social divisions.
- ❖ Needs complementary broader social action.

# Case study: FATİH Project

Fırsatları Artırma ve Teknolojiyi İyileştirme Hareketi

- ♦ 10 million + tablets for students/staff.
- ♦ ~500,000 interactive whiteboards.
- ♦ Creation of e-content, ICT → curricula.
- ♦ Training in ICT for teachers, evaluation.



# Criticisms

FATiH project.

- ♦ Early trials:
  - ♦ Limited subject content.
  - ♦ Insufficient technical & pedagogical support.
  - ♦ Tablets superfluous.
- ♦ General criticisms:
  - ♦ No clear educational goals.
  - ♦ Lack of transparency & stakeholder leverage.
  - ♦ Misuse of valuable resources (e.g. basic literacy).
  - ♦ Evidence for approach patchy.

# Defenses

FATİH project.

- ♦ ICT knowledge is future power:  
democratise it.
- ♦ Opportunity to defeat inequality.
- ♦ Potential economic competitiveness.
- ♦ Local technology.

## Take-home

The key to the solutions as well as the causes of the digital divide is the context of technology.

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# WEEE

## Waste Electrical and Electronic Equipment

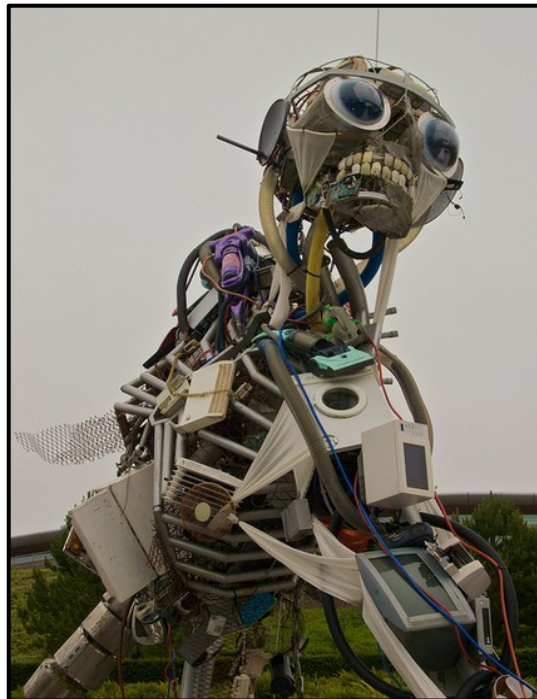
- ♦ Electronic waste:
  - ♦ Toxic components.
  - ♦ Irreplaceable commodities.
- ♦ Waste cities.



# EU WEEE Directive

2002/96/EC + revisions

- ♦ **Aim:** 85% WEEE recycled by 2016.
- ♦ Manufacturer & distributor manage recycling.



Eden project WEEE Man.  
Photo Copyright [Steve Parker](#) CC Attribution

# Energy & computers



Amazon Web Services (AWS) energy sources 2013

■ Clean energy ■ Nuclear ■ Coal ■ Natural gas

- ♦ 2% of world's energy used for cyber activities.
  - ♦ including production.
- ♦ 100s of video conferences for one flight.

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# Technology & Unemployment

**Does computer technology lead to unemployment?**

Yes! Old jobs are disappearing.

No! New jobs are appearing.

*Who gets the new jobs?*

- ♦ De-skilling & alienation.
- ♦ Concentration of capital.

(digital divide?)

# Job security in IT

- ♦ Contract & temporary work common.
- ♦ Mobile labour.
- ♦ Outsourcing.
- ♦ Asymmetric power relationship.

Telecommuting	
Advantages	Disadvantages
Flexibility Family life Overcome disability	Less job security Lack of benefits Stigmatisation

# Work-life balance

**The New York Times**

## *In France, a Move to Limit Off-the-Clock Work Emails*

By SCOTT SAYARE APRIL 11, 2014

- ♦ ICT employees "always on".
- ♦ Quality, safety considerations.
- ♦ Anxiety & quality of work.

**The New York Times**

## Volkswagen Agrees to Curb Company E-Mail in Off Hours

By REUTERS

Published: December 23, 2011

**The Telegraph**

Out of hours working banned by German labour ministry

<http://www.nytimes.com/2014/04/12/world/europe/in-france-a-move-to-limit-off-the-clock-work-emails.html>

<http://www.nytimes.com/2011/12/24/business/volkswagen-curbs-company-e-mail-in-off-hours.html>

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# Robots

War robots

## New word in dictionary:

- ♦ Drone (v.). To drone: to kill or injure through the use of weaponised autonomous air vehicles.

**THEWORLDPOST**

## Drone Deaths: 3 Percent Of People Killed By U.S. Strikes Since 2008 Were Civilians, Pakistan Reports

AP | By MUNIR AHMED and SEBASTIAN ABBOT

Posted: 10/31/2013 4:36 am EDT | Updated: 10/31/2013 5:46 pm EDT

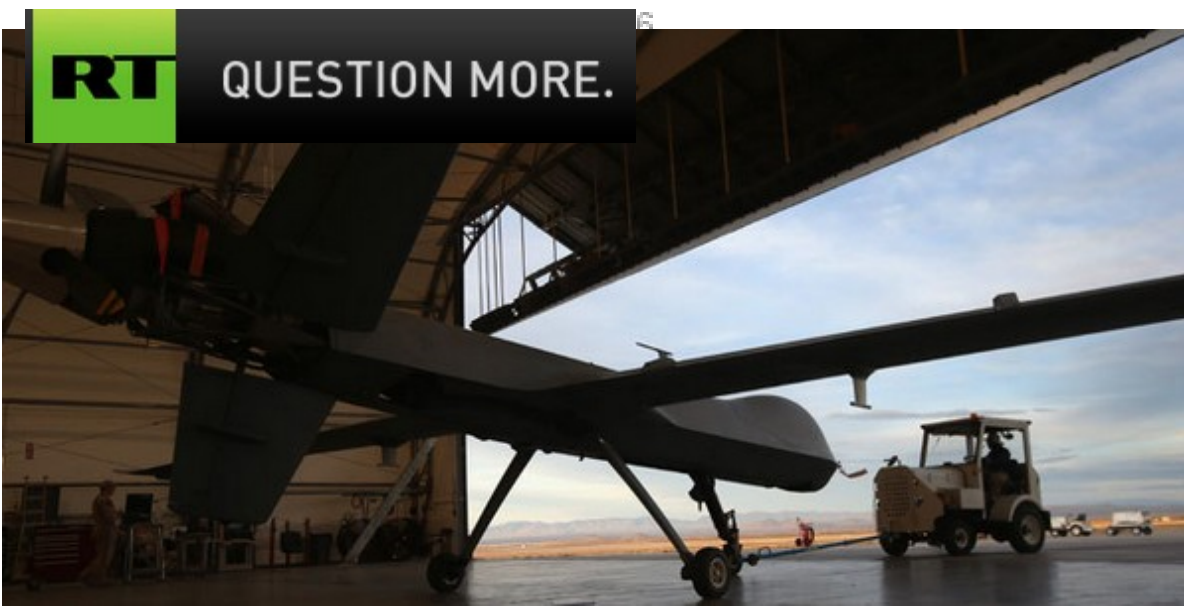
[http://www.huffingtonpost.com/2013/10/31/civilian-drone-deaths-pakistan-report\\_n\\_4180293.html](http://www.huffingtonpost.com/2013/10/31/civilian-drone-deaths-pakistan-report_n_4180293.html)

# Robots

## War robots

- ♦ War robots:
  - ♦ Concentration of power.
  - ♦ Autonomy & judgement.

Drones cause 10 times more civilian deaths than manned planes



# Robots

## Care robots

- ♦ Issues:
  - ♦ Dignity & respect.
  - ♦ Surrogacy psychological effects.
  - ♦ Systematic delusion of attachment.

"My Spoon" Feeding System



"Paro Baby Seal" Companion System





<http://www.youtube.com/watch?v=OrNBEhzig8I>

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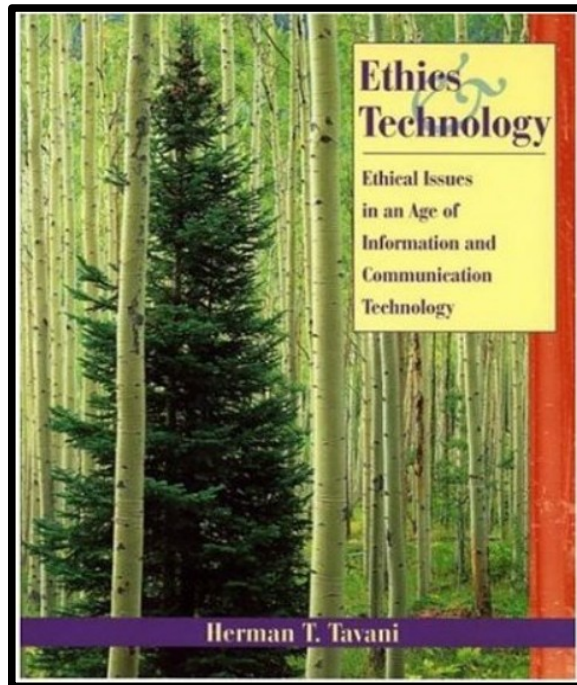
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# Reading



Tavani Chapter 10: Social Issues I:  
Equity & Access, Employment & Work

## 10

Educational Reform Initiative & Research Triangle Institute (December 2013). "Turkey's FATİH Project: A Plan to Conquer the Digital Divide or a Technological Leap of Faith?"

<http://www.rti.org/files/conferences/cies2014/cies2014-kipp-pres.pdf>[accessed 2014-05-07].

Noel Sharkey (2008). The Ethical Frontiers of Robotics. Science. 322 (5909). 1800-1801.

# Take-home questions

- ♦ List the arguments for and against the Africa- and South America- targeted “one laptop per child” campaign.
- ♦ List a set of discouraging experiences that you might experience as someone on the “other side of the digital divide”.
- ♦ Do transgender people have the same problems as women in computer engineering education and work?
- ♦ In 1930, Keynes famously predicted that with the that due to economic (technological) progress, by the 21<sup>st</sup> century we would all be working 15-hour weeks or shorter. Why did he get this wrong? Is there any cure?
- ♦ What can be done to democratise robot technology and reduce the concentration of power it provides?

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