

Taking advantage of our unknown future

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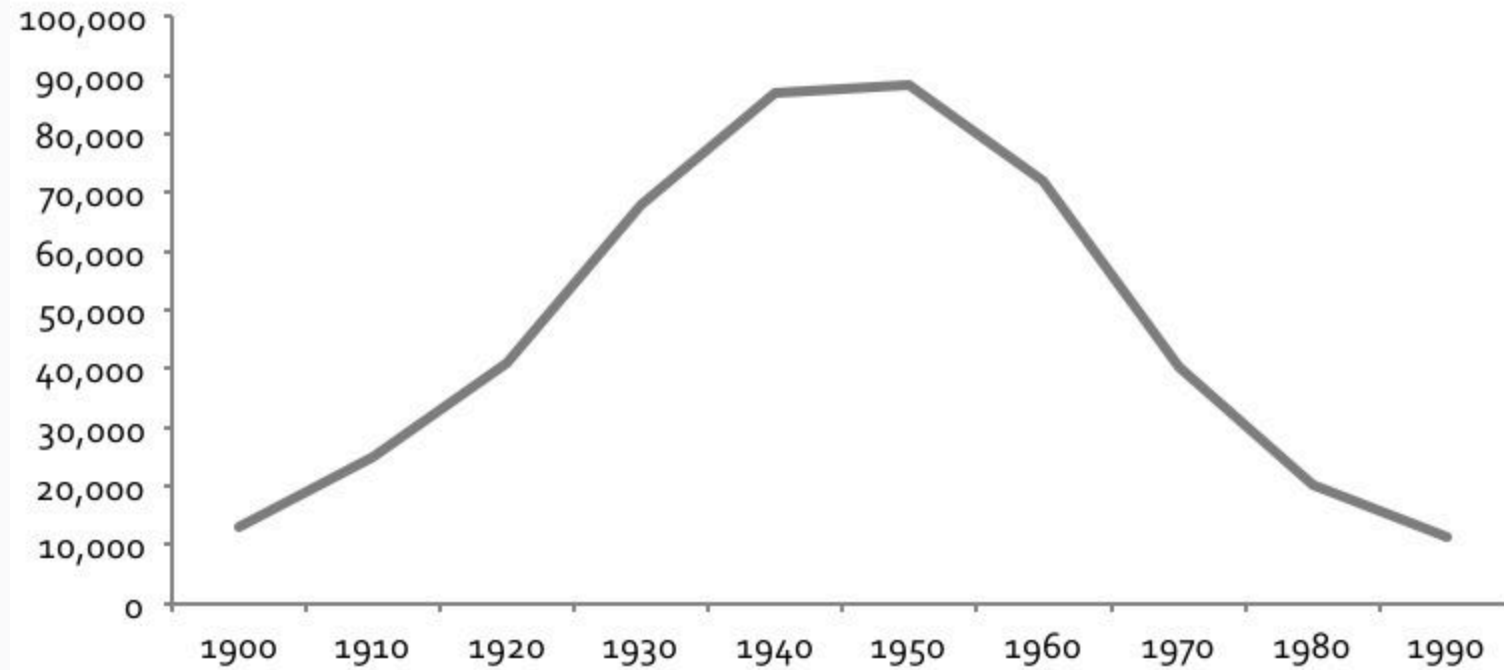
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TAKING ADVANTAGE OF OUR UNKNOWN FUTURE

- 1 The future of work
- 2 Unexpected consequences of progress
- 3 Design the future

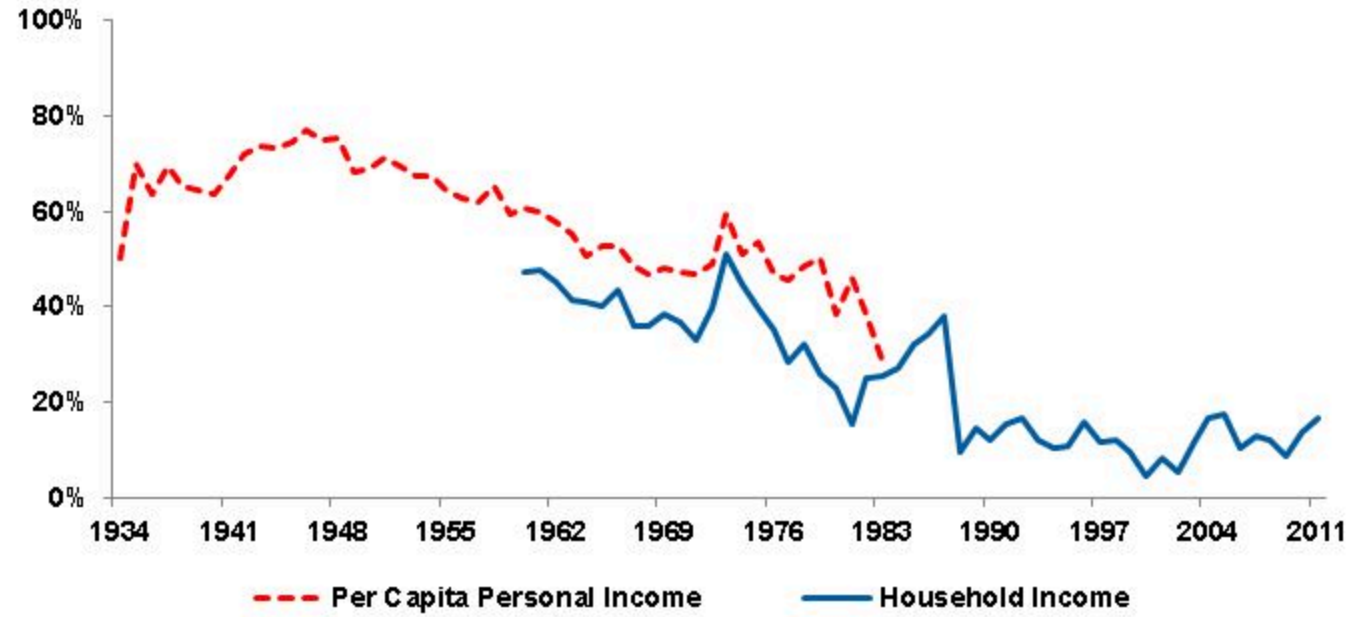
Technology is changing work...

Elevator attendants



[Source: US Census, a16z]

Figure 2. Share of Farm Population's Total Income from Farming, U.S., 1934-2011





IT'S NOT IMMIGRANTS, IT'S **AUTOMATION!**

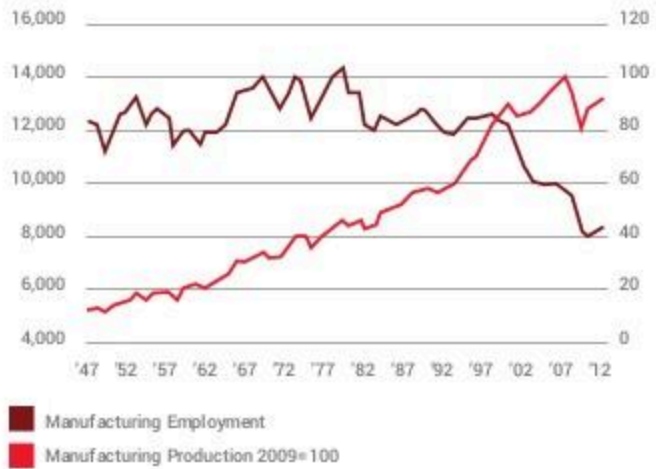


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PELLENC OPTIMUM



Manufacturing: Total Employment and Production



Source: Federal Reserve Board of Governors, U.S. Bureau of Labor Statistics.

Bring on the personal trainers

Probability that computerisation will lead to job losses within the next two decades, 2013
(1=certain)

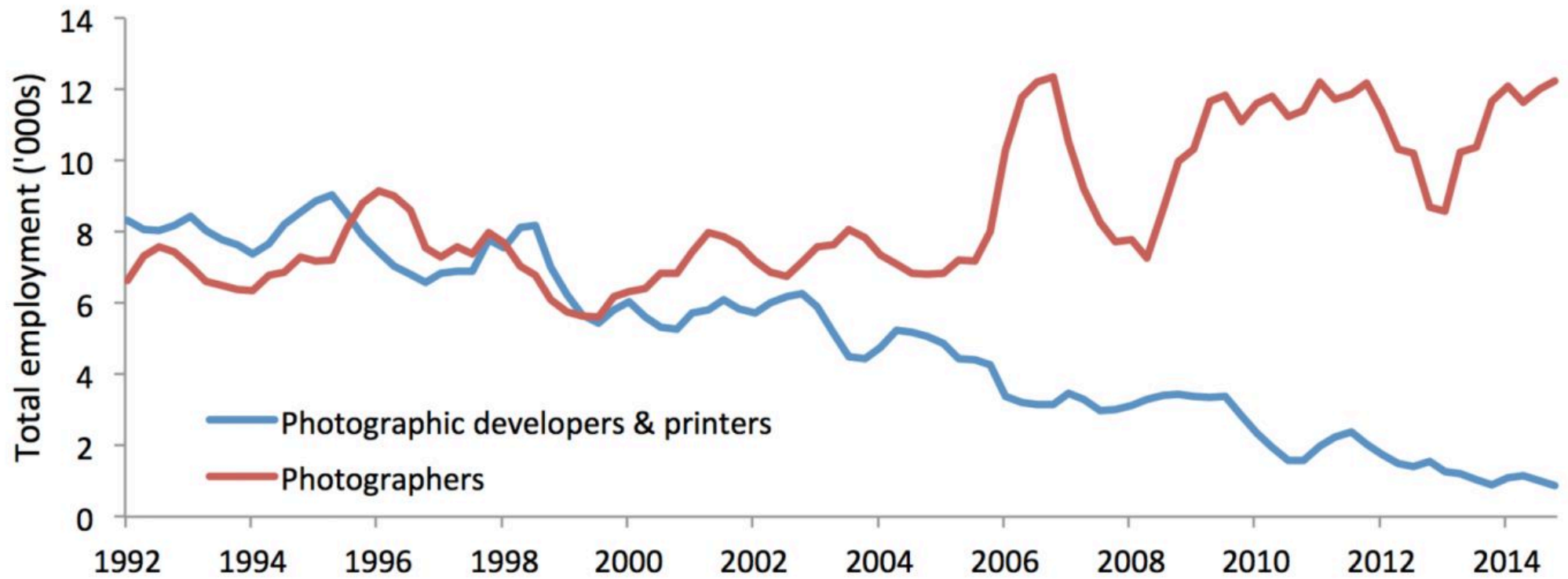
Job	Probability
Recreational therapists	0.003
Dentists	0.004
Athletic trainers	0.007
Clergy	0.008
Chemical engineers	0.02
Editors	0.06
Firefighters	0.17
Actors	0.37
Health technologists	0.40
Economists	0.43
Commercial pilots	0.55
Machinists	0.65
Word processors and typists	0.81
Real estate sales agents	0.86
Technical writers	0.89
Retail salespersons	0.92
Accountants and auditors	0.94
Telemarketers	0.99

Source: "The Future of Employment: How Susceptible are Jobs to Computerisation?" by C.Frey and M.Osborne (2013)

... and technology can create better
work

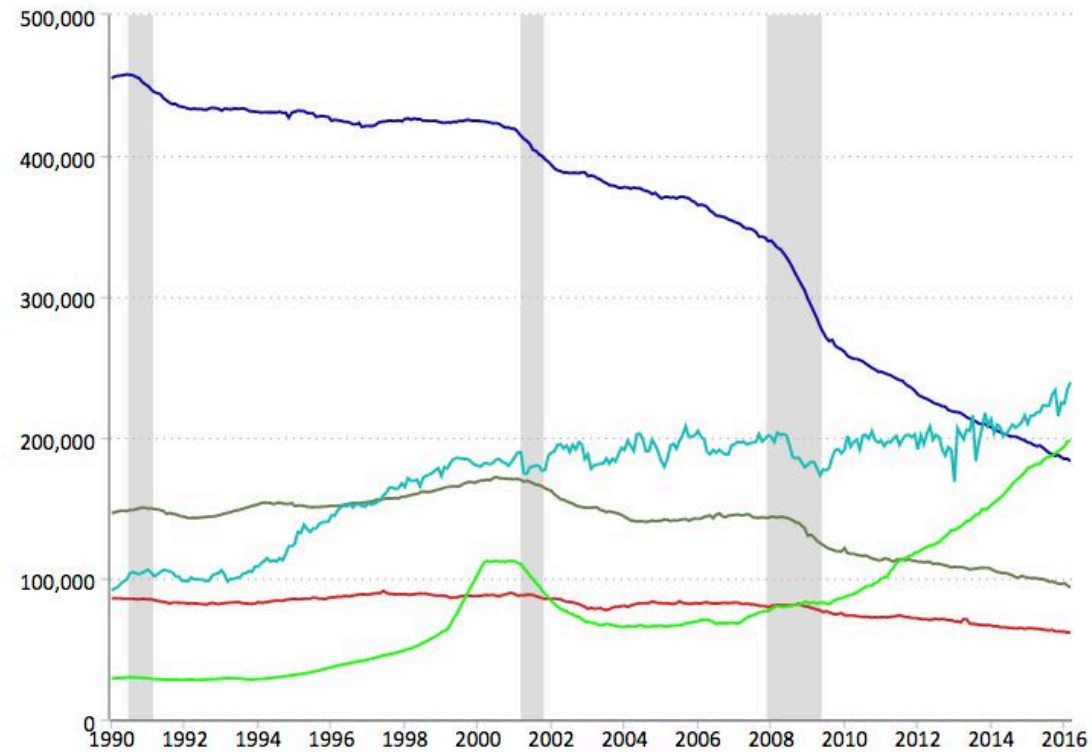
1970: 90% farmers
Now: 2% farmers

88% are not out of work.



Employment in selected information industries, seasonally adjusted, 1990–2016

- Newspapers
- Periodicals
- Books
- Internet publishing and broadcasting
- Motion picture and video production
- Television broadcasting
- Motion picture and video exhibition
- Cable and other subscription programming
- Directories and mailing lists
- Other publishing
- Radio broadcasting



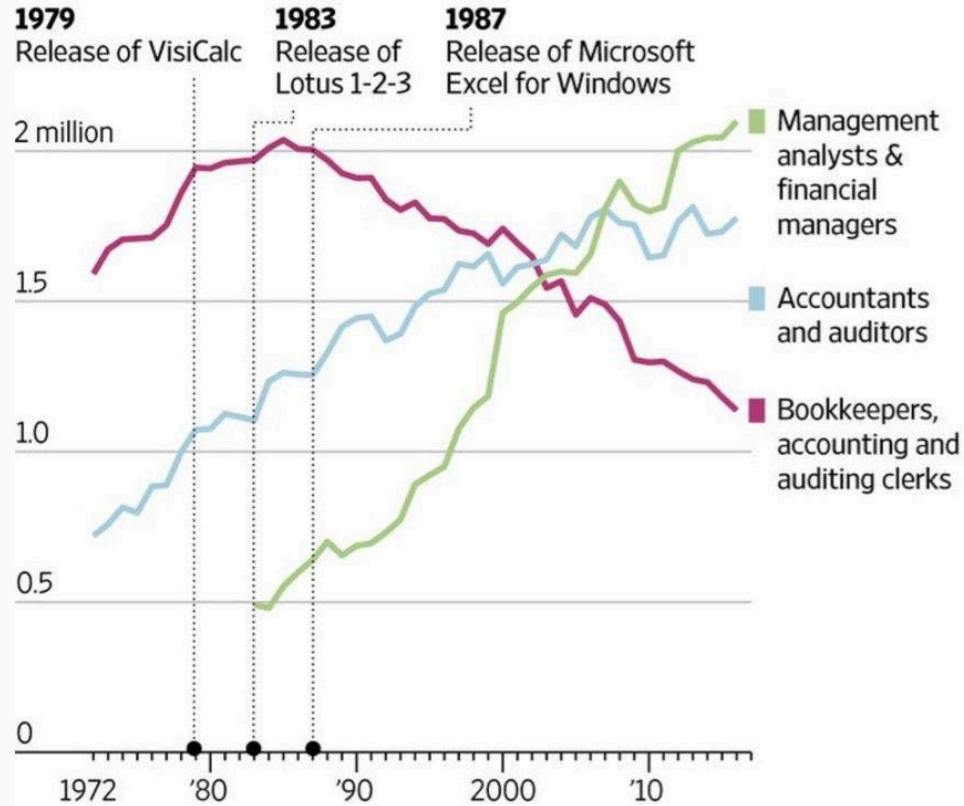
Click legend items to change data display. Hover over chart to view data.
Note: Shaded area represents recession, as determined by the National Bureau of Economic Research.
Source: U.S. Bureau of Labor Statistics.





The Spreadsheet Apocalypse, Revisited

Jobs in bookkeeping plummeted after the introduction of spreadsheet software, but jobs in accounting and analysis took off.



Notes: There is no data for 1982. Changes in occupational definitions in 1983, 2000 and 2011 mean that data is not strictly comparable across time. There was no category for management analysts or financial managers prior to 1983.

Source: Bureau of Labor Statistics

THE WALL STREET JOURNAL.

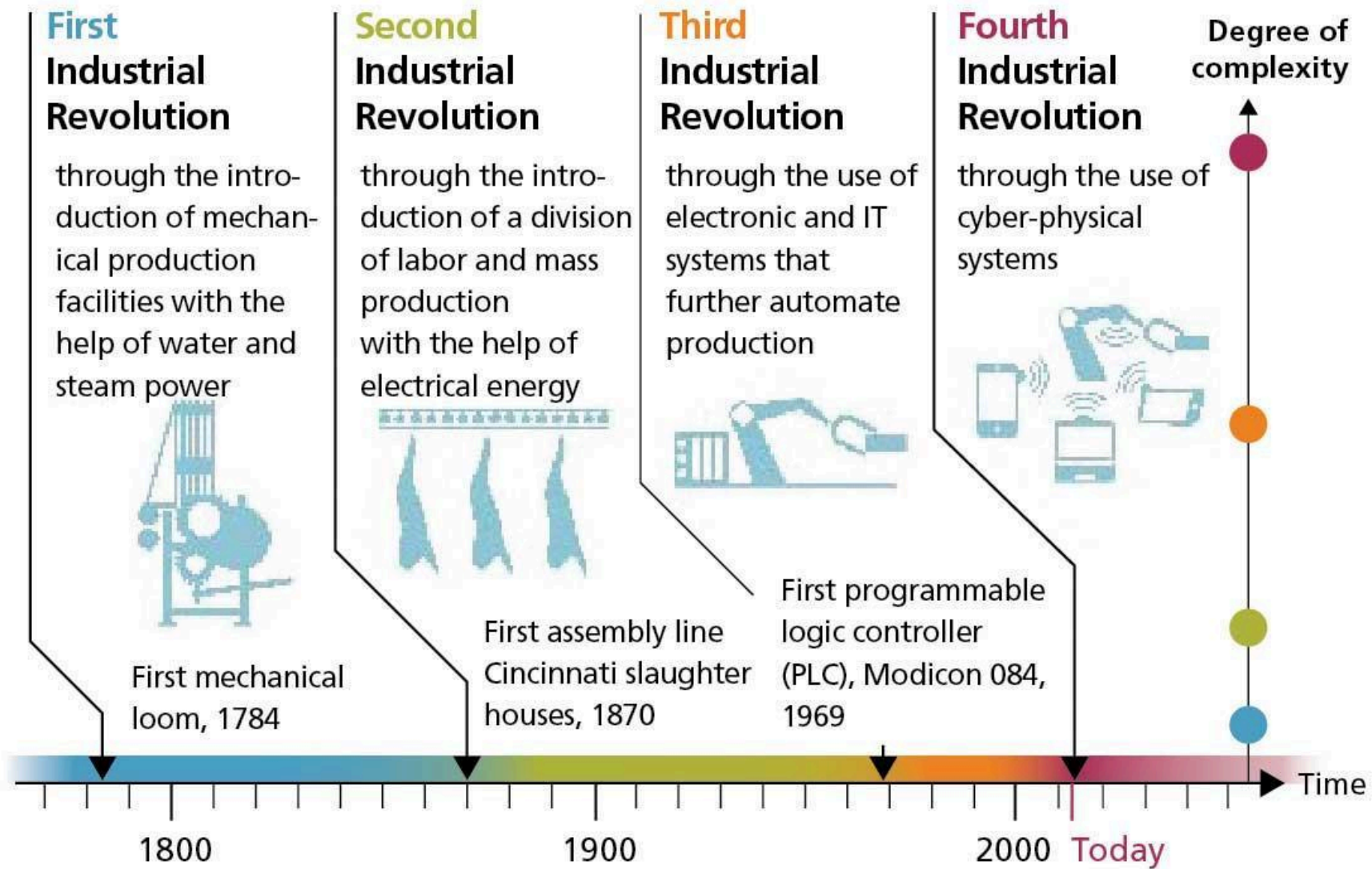
800k

UK jobs have been lost to automation since 2001.

3.5m

have been created.

Could this time be different?



How do we respond?
Think different; seek opportunity in
change.



Safe car effects:

- Car insurers
- Medical practices
- Health insurance
- Crash repairers
- Law practices
- Government revenue

Car-as-a-service effects:

- Car manufacturers
- Public transport
- Hire cars
- Construction companies
- Aftermarket parts
- Parking
- Roadside stops



Simulated world effects:

- Sports and spectating
- Education
- Real Estate
- PTSD and medical treatment
- Conferencing
- Simulation itself



BLOCKCHAIN

Blockchain effects:

- Finance
- Content distribution
- Cloud computing
- Democracy
- Big data

Technology shapes culture, not
the other way around.

Strive for net gains.

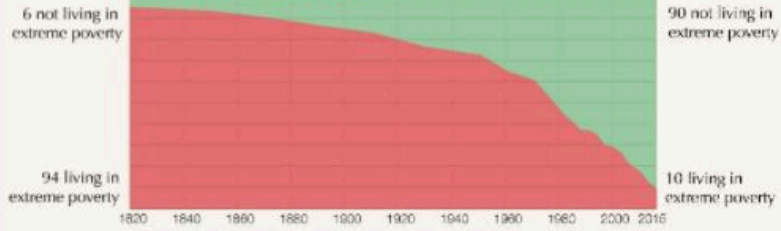


Net gains have made the world is
the best it has ever been right now.

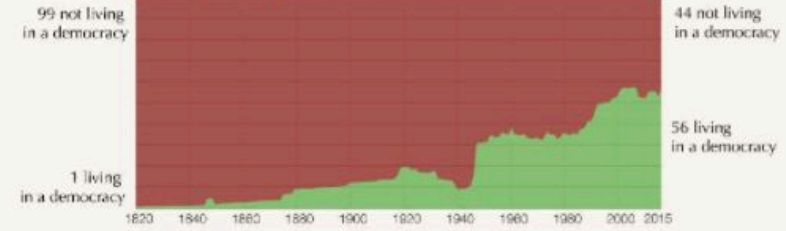
The World as 100 People over the last two centuries



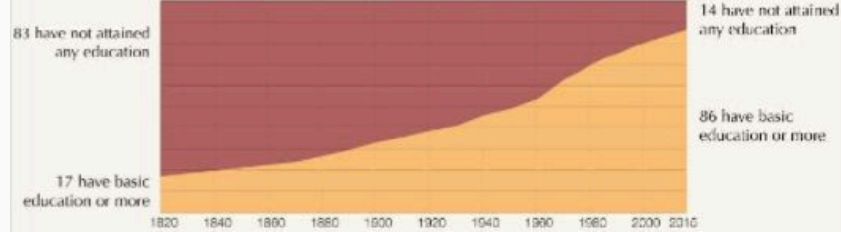
Extreme Poverty



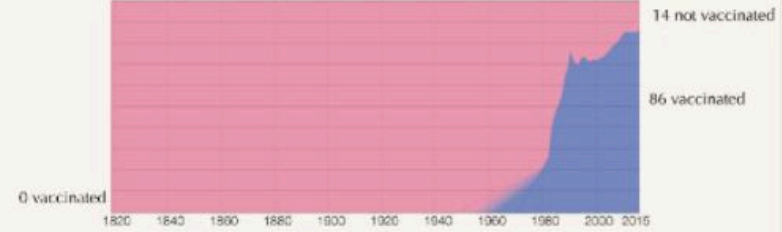
Democracy



Basic Education



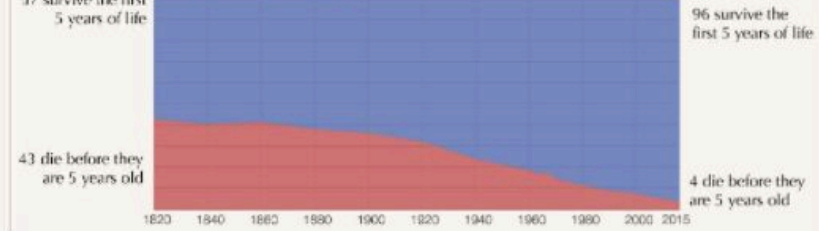
Vaccination against diphtheria, pertussis (whooping cough), and tetanus



Literacy



Child Mortality



Data sources:

Extreme Poverty: Bourguignon & Morrison (2002) up to 1970 – World Bank 1981 and later (2015 is a projection);
 Vaccination: WHO (Global data are available for 1990 to 2015 – the DPT3 vaccination was licensed in 1949);
 Education: OECD for the period 1820 to 1960, TIASA for the time thereafter;
 Literacy: OECD for the period 1820 to 1990, UNESCO for 2004 and later.

Democracy: Polity IV Index (own calculation of global population share);
 Colonialism: Wimmer and Witt (own calculation of global population share);
 Continent: HYDE database;
 Child mortality: up to 1960 own calculations based on Gapminder; World Bank thereafter.



All these visualizations are from OurWorldInData.org an online publication that presents the empirical evidence on how the world is changing.

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Don't merely predict your
future.

Create it.

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