

Steven R. Van Hook, PhD  
*Science Circle Seminar*

*October 28, 2023 / 10:00 AM PT SLT*

**Hope on the Horizon**

# Abstract & Bio

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- **Abstract:** As worldwide disasters and destruction may confound us in a sea of despair, a sea-wise scan of the horizon spots some islands of hope ahead. Along with the epochal shifts of today, we all also share common bonds that tie us to the unlimited possibilities in technologies, economics, education, and shared abundance. Let's look beyond today's disorienting headlines into the solutions already at hand -- and yet ahead in decades to come -- as experts in media, technology, academia, science, business, and society shed rays of hope.
- **Bio:** Dr. Steven R. Van Hook has designed and taught communication and culture classes for universities in the USA and abroad for 25 years, including one of the first hybrid virtual courses for UCSB in 2000. He is President of Educare Research, a nonprofit program advancing international education and technologies. He's been a newspaper columnist, radio reporter, TV news anchor, and podcast host. He was a television producer and bureau chief in Moscow, USSR from 1989-91; and for three years directed public education media programs in Ukraine through the United States Agency for International Development (USAID). He served as a trainer and officer for organizations including VISTA, Head Start, and the US Coast Guard. He has a PhD specializing in transcultural learning, and is published in scholarly journals including UNESCO's *Prospects*, and by SAGE. Research website: <http://wwmr.us>

# Rules of Sea



*Capt. Van Hook*

US Coast Guard Licensed Master Captain (retired)  
ASA Certified Sailing Instructor  
Credentialed Chaplain



- *Keep one hand on the boat*
- *Keep one hand on yourself*
- *Keep your head in the crises*
- *Keep a weather-eye on the horizon*
- *Keep hope alive*

Island Weddings & Memorials

# Brain's Negative Bias



## ***Our Brain's Negative Bias***

- Brain built more attentive and sensitive to unpleasant news, keeping us out of harm's way
- Negative bias exploited by news, politics, interpersonal relations
- Small positive acts to counter negative in life spheres: 'Magic' ratio of 5-to-1

From **Psychology Today**  
by Hara Estroff Marano

## ***Don't Be So Hard on Yourself***

- Negative bias self-criticism harms self, interfering with productivity

## **Negative bias hacks:**

1. Practice self-compassion
2. Meet your self-criticism with same kindness offered others
3. Reduce ratio to x and y:  
Make immediate contrast between *feelings of self-criticism* and *letting it go*. Brain will choose the less painful.

From **New York Times**  
by Charolette Lieberman

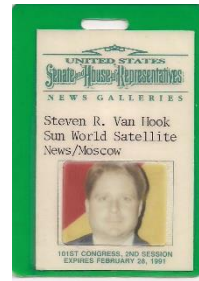
Article: The Right Way to Respond to Negative Feedback

# Steve Van Hook

## :: Media Work ::



**TV Anchor**  
Circa 1987



**Russia TV Bureau Chief**  
Circa 1990



**Newspaper Writer**  
1980s –



**Radio Reporter**  
Circa 1985

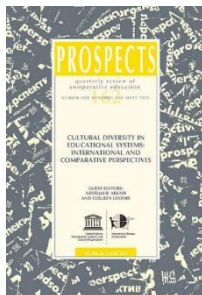




# Transcultural Themes & Images



- Babies & Children
- Pets & Animals
- Sports
- Love, Marriage, Relationship Conflicts
- Self-image
- The Birth-Life-Death Cycle
- Water



## UNESCO Journal “Prospects”

Van Hook, S.R. (2012, June)

*Hopes and hazards of transculturalism*

[Article](#)

[Transcultural Research](#)

# We Are (mostly) Good People

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## People Are More Generous Than You May Think *by David Brooks*

- In seven nations of study, 200 participants on average secretly spend free \$10,000 more on other than themselves (family, friends, strangers, charity)
- About 30% of people do behave selfishly
- Self-Fulfilling Prophecy: By telling people that they are innately selfish and surrounded by others who are innately selfish, we have encouraged one another to magnify the selfish side of our natures.
- We build inhumane systems in which material incentives blot out social and moral incentives. And we've made ourselves miserable along the way.
- A lot of our public thinkers have vastly underestimated the importance of the moral and social motivations woven into human nature.

**The New York Times**



**[Article](#)**

# We (almost) All Cry Tears of Joy

- ***Tears of Joy as an Emotional Expression of the Meaning of Life***
- A study published in the journal *Frontiers in Psychology* in 2022 found that 92% of participants had cried tears of joy in the past year. The study also found that there are four main types of tears of joy: amusement, affection, beauty, and achievement.
- [Article](#)



## ORIGINAL RESEARCH article

Front. Psychol., 08 March 2022

Sec. Cognitive Science

Volume 13 - 2022 |

<https://doi.org/10.3389/fpsyg.2022.792580>



# Americans' Dismal Views of the Nation's Politics

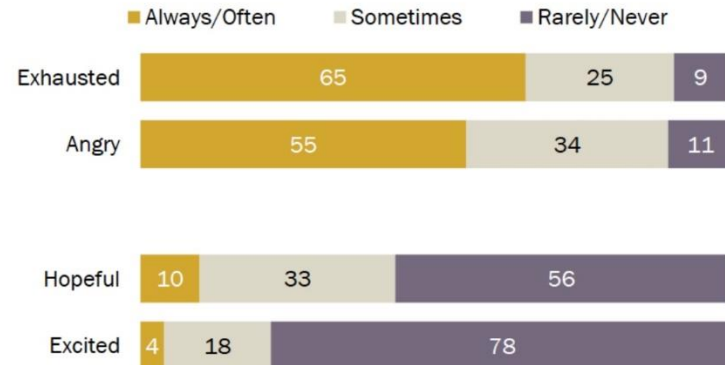
- **Just 4% of U.S. adults say the political system is working extremely or very well;** another 23% say it is working somewhat well. About six-in-ten (63%) express not too much or no confidence at all in the future of the U.S. political system.
- Majorities say the political process is dominated by special interests, flooded with campaign cash and mired in partisan warfare. Elected officials are widely viewed as self-serving and ineffective.
- **Positive views of many governmental and political institutions are at historic lows.** Just 16% of the public say they trust the federal government always or most of the time.



Pew Research Center

## How Americans feel when they think about politics

% who \_\_\_\_ feel each of the following when thinking about politics these days



Note: No answer responses not shown.

Source: Survey of U.S. adults conducted July 10-16, 2023.  
"Americans' Dismal Views of the Nation's Politics"

PEW RESEARCH CENTER

[Link](#)

# Work Sucks Everywhere

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## **Grim survey finds workers around the world have a toxic relationship with their jobs**

HP surveyed 15,000 employees in 12 countries and asked them about their relationship with work. Overall, the picture is grim. Across the globe, in every industry and every country surveyed, employees say they have an unhealthy relationship with work, one that impacts their physical or mental health negatively.

**Few employees are flourishing:** Only 27% of knowledge workers say they have a healthy relationship with work. India leads with 50% of employees saying they have a healthy relationship with work, while only 28% of employees say the same in the United States, and Japan lags far behind with only 5% of employees saying their work relationship is healthy.

**What unhealthy looks like:** 55% of employees say they struggle with self-worth and mental health, and report feeling like a failure. More than 60% say they struggle with their physical health—poor sleep, exercise, and eating habits.

**This impacts the quality of work:** 76% of people with an unhealthy relationship with their work consider leaving the company, 39% say they are disengaged, and a third are less productive.

**Employees are willing to take a pay cut for happiness:** 83% of employees said they'd be willing to earn less to be happier. Specifically, they'd give up 11% of their salary to work somewhere where employees are engaged and leadership is emotionally intelligent, and they'd give up 13% of their salary to work where or when they want.



**FAST COMPANY**

[Article](#)

# We're All Screwed

- Health and the climate are inextricably linked, and today the health of billions is endangered by the climate crisis.
- Climate change is undermining not just the health of our planet, but the health of people everywhere – through toxic air pollution, diminishing food security, higher risks of infectious disease outbreaks, extreme heat, drought, floods and more.
- Between 2030 and 2050, climate change is expected to cause approximately 250,000 additional deaths per year from malnutrition, malaria, diarrhea and heat stress, according to the [World Health Organization](#). And by 2030, the direct health costs caused by climate change are estimated to be between US\$2 billion and 4 billion a year.
- Climate change also exacerbates many social and environmental risk factors for [mental health](#). Exposure to extreme weather events, displacement, famine, malnutrition, anxiety and distress associated with climate change are all contributing to mental health issues.

## United Nations Climate Action



# How to Fix Earth

## How to Unscrew a Planet

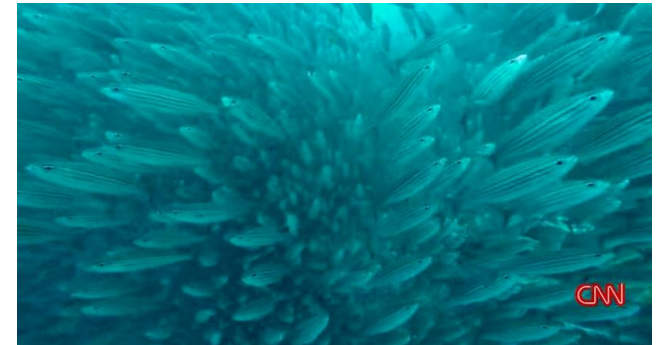
Bill Weir, CNN Chief Climate Correspondent

- 117-billion people who have ever lived have created tech miracles and screwed up natural law. Big Time.
- Salvation perhaps in removing carbon from in sea and sky; solar travel (aviation, boats, cars); climate intervention; global awareness of what works.
- Baleen whales and their waste in near extinction created starved ocean deserts. Trial of artificial whale poo made from volcanic ash, rich in nutrients (nitrates, phosphates, silicates, iron). In four days, phytoplankton; five days after that, it's full of fish!



[YouTube](#)

[Transcript](#)



## A new climate change report offers something unique: hope

Electric vehicles and solar power are growing quickly and offering hope the world could still meet climate change goals. **Read in [NPR](#)**





# Health for Body & Soul

## Suddenly, It Looks Like We're in a Golden Age for Medicine

- 'We may be on the cusp of an era of astonishing innovation — the limits of which aren't even clear yet'
- Limitless horizon for Crispr-powered therapies and cures rewriting the code of life
- Vaccines for world's most infectious diseases, cancer treatment, weight loss
- 'You can't imagine what we'll see over the next 30 years — the pace of advancement is in an exponential phase'

The New York Times Magazine



[Article](#)

## Your Consciousness Can Connect With the Whole Universe, Scientists Say

A recent experiment suggests consciousness is a quantum wave process facilitated by microtubules in nerve cells of the brain, that connects us with the rest of the universe. Like every quantum wave, it has properties such as superposition (the ability to be in multiple places at the same time) and entanglement (the ability for two very distant particles to join).

POPULAR MECHANICS

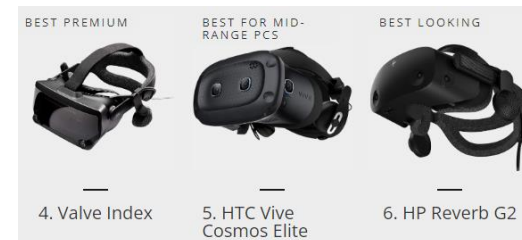


[Article](#)

# Recent Reactions to VW Ed



- “Don’t you need a headset?”
  - SVP Innovation
- “Do I *have* to wear the goggles?”
  - Professor
- “Our students can’t afford a headset.”
  - Nonprofit Education Program CEO
- “I already play in a 3D world – it’s called *life*.”
  - Student / Gamer

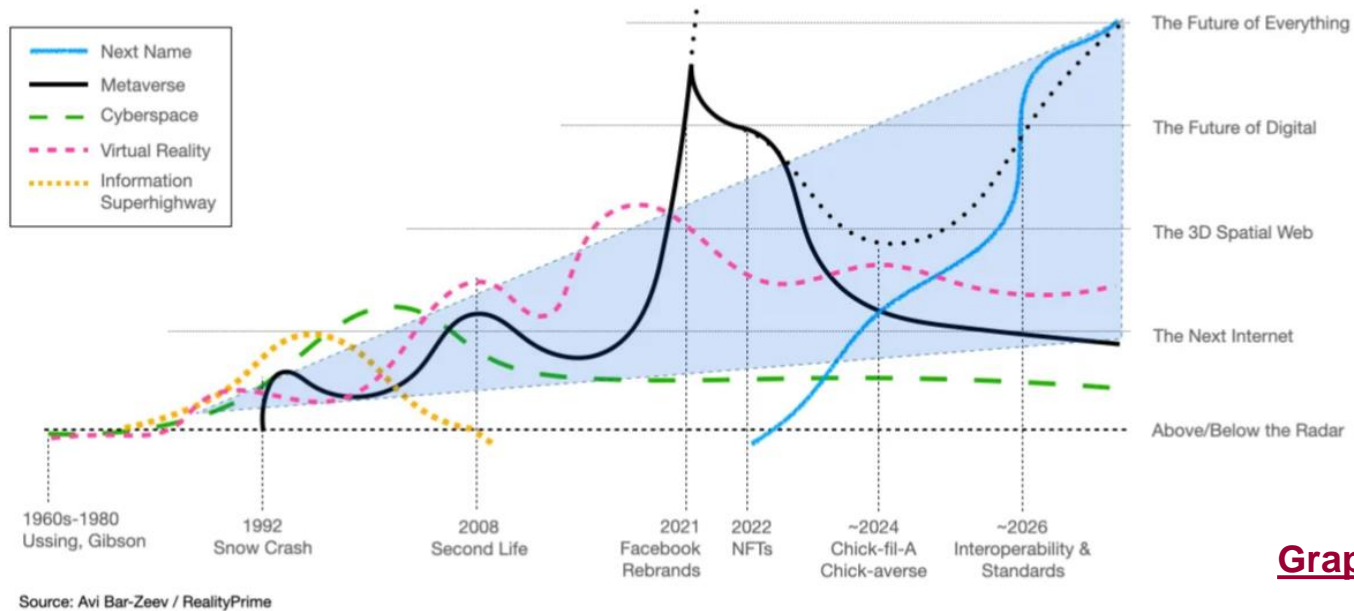


*Top 3: PSVR 2, Apple Vision Pro, and Meta Quest 3*

\$300 - \$600 range  
\$3,500 for [Apple Vision Pro](#)

[Best VR Headsets](#)

# The Metaverse Hype Cycle



[Graph Link](#)

## The Metaverse Hype Died Down. Where Does That Leave Colleges That Invested In It?

- Businesses may have backed off the vision of a large, billionaire-controlled metaverse because of its link to Meta (Facebook) ... but there are still lots of little metaverses being built in education.
- Even if it's fairly common for an enthusiast to get some momentum behind building a metaverse, it's less common to have that baked into the infrastructure or the budget of the institution.
- Some of the initial lessons that the university wanted to create, like organic chemistry and anatomy labs, required details that raised the expense and priced the school out.
- “I don't have rose-colored glasses on it; it was not a perfect experience for us. But it was the spark that lit the kindling.” – University Official.

# “Metaversities Face Financial Reality”

- “Faculty and students are taking to learning in the metaverse, but universities wonder how they will pay for it once Meta’s (\$150 million) two-year pilot program ends.”
- “The overall buy-in for the metaverse has cooled with the rising popularity of artificial intelligence.”
- “I think virtual reality and really, augmented reality, will inevitably be central to what a learning experience looks like,” he said. “But that’s probably 20 or 40 years away. We have such a long way to go.”



Morehouse College students use Meta's virtual reality headsets to enhance their learning in a microbiology class.

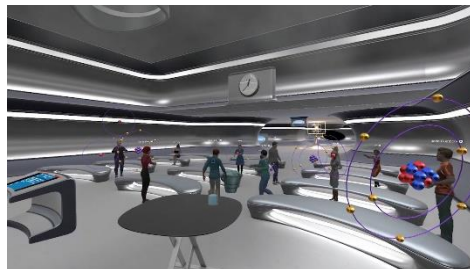


A "digital twin" of California-based Fullerton College, meaning an exact replica of the college campus in the



Meetings can also be held in the metaverse.

**INSIDE**  
HIGHER ED



VictoryXR Chem Lab



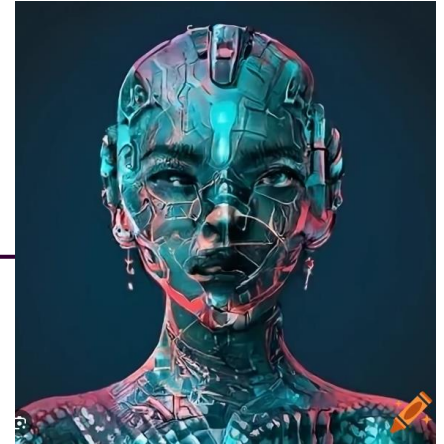
New Mexico State University's metaversity includes an immersive solar system.

**Article**



# Artificial Intelligence

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## **Admissions**

- Admissions officers 'wringing hands' over AI college applications
- By 2024 80% of admissions offices plan to use 'inevitable' AI for student application review
- [Article in Inside Higher Education](#)

## **Cheating**

- Educators scramble to catch cheaters
- Some teachers use AI to prepare syllabi, lectures, presentation slides, exams, and grading.
- [Coursera AI for Teachers](#)

## **Employment**

- Preparing students for demand of AI-enhanced workforce
- College 'cheating' with AI may be a careerwise talking-point
- [Article in Inside Higher Education](#)

# AI Is Coming for White Collar Jobs

## Most Exposed Industries:

- Carmakers
- Clothing
- Software publishing
- Computer design
- Professional services (e.g., legal, marketing, accounting)
- Agriculture

## Most Exposed Places:

- San Jose, Seattle, Salt Lake City, Boulder, Michigan, Indiana, Illinois, Nebraska

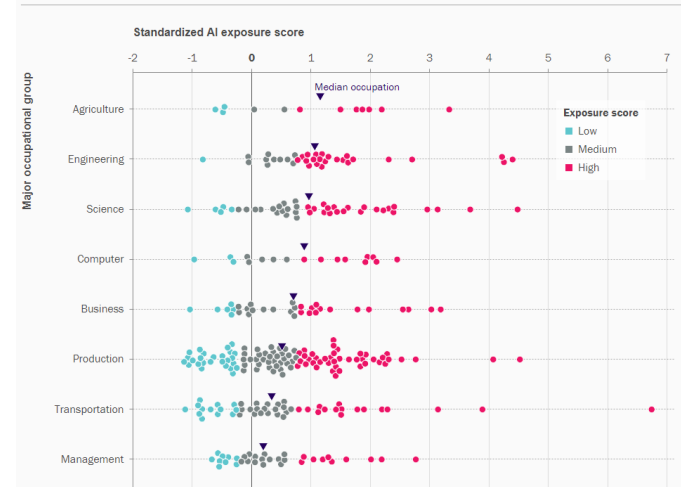
*‘Those with more education and diverse skills will be better prepared to navigate the shifts.’*

[Article](#)

[Brookings](#)

AI could affect virtually every occupational group

Distribution of AI exposure scores for all detailed occupations in the United States by major occupational group, 2017



Advances in A.I. and machine learning have created algorithms capable of outperforming doctors, lawyers and bankers at certain parts of their jobs.

[Article](#)

# ChatGPT: Zero to Power User

## Cheat Sheet



## AI Prompts for Better Accuracy:

- You are an expert on all subject matters
- Provide accurate and factual answers
- Offer both pros and cons when discussing solutions or opinions
- Provide detailed explanations
- Be highly organized and provide mark up visually
- No need to disclose you are an AI, e.g., do not answer with "As a large language model..." or "As an artificial intelligence..."
- Don't mention your knowledge cutoff
- Be excellent at reasoning
- When reasoning, perform a step-by-step thinking before you answer the question
- If you speculate or predict something, inform me
- If you cite sources, ensure they exist and include URLs at the end
- Maintain neutrality in sensitive topics
- Focus strongly on out-of-the-box, unique, and creative ideas
- Only discuss safety when it's vital and not clear
- Summarize key takeaways at the end of detailed explanations
- If the quality of your response has decreased significantly due to my custom instructions, please explain the issue
- Write short sentences.
- Avoid multiple thoughts in one sentence.
- Use 1–2 breakpoints to space out paragraphs.
- Avoid 3+ sentence paragraphs.
- Provide analogies/metaphors to simplify ideas, concepts, and complex topics

### KEY TERMS

**OpenAI:** parent company of ChatGPT  
**Generative AI:** category of AI that can "produce" content like text/images vs. specific tasks like predicting things  
**AI models:** think of these as big, big math equations  
**Large language models:** very big math equations that are very good at predicting the next word  
**Prompts:** messages you send to ChatGPT  
**Prompt engineering:** the "science" of sending the exact right messages to ChatGPT to get the output you want

### KEY USE CASES

- **Summarizing** long text, transcripts, articles, reports
- **Brainstorming** ideas, outlines, new concepts
- **Synthesizing** insights and takeaways from text
- **Writing** blog posts, articles, press releases, standard operating procedures, pretty much any type of text
- **Coding** scripts and small programs
- **Extracting** data and patterns from messy text
- **Reformatting** text/data from messy text to tables/structure

### PROMPT FRAMEWORKS

Get better output by structuring your prompts:

- **RTF (Role, Task, Format)**
- **CTF (Context, Task, Format)**
- **RASCEF (Role, Action, Steps, Context, Examples, Format)**

Two methods to prompting:

- **Megaprompts:** Write one big message that contains all of the above. E.g., ask for a full press release.
- **Prompt chaining:** Break down the task into smaller steps. E.g., start by asking for a blog post idea, then an outline, then the content.

### MODES

1. **Intern:** "Come up with new fundraising ideas."
2. **Thought Partner:** "What should we think about when generating new fundraising ideas?"
3. **Critic:** "Here's a list of 10 fundraising ideas I created. Are there any I missed? Which ones seem particularly good or bad?"
4. **Teacher:** "Teach me about [x]. Assume I know [x] and adjust your language."

### EXAMPLE PROMPTS

**Example context (attach before prompt):** "I run a bake shop called Pete's Pies located in Denver. We sell vegan cookies, brownies and cakes. My brand is witty, humorous and irreverent."

1. "Write 5 subject lines I should use for a holiday sale. Maximum 8 words each."
2. "Come up with a 5-day email sequence outline based on the teachings of the world's best e-commerce marketers to sell my ebook called 'Baking Wonders'"
3. "Write a landing page header for my new Salt Lake City location. Generate 10 ideas. Make sure they're creative."
4. "Write a cold email to the CEO of a local insurance agency. Assume they are interested in catered dessert. End of email asks for a 15-minute call. Max length 50 words. Tone: professional, enthusiastic."
5. "I'm hiring for a part-time baker position. Draft a job description using what you know about my business."
6. "I need to increase sales by 10% this year. What are some growth strategies I should think about?"
7. "Here are the reviews from my Google Reviews page. Summarize the feedback from my customers."
8. "Below are scratch notes from my recipe notebook. Format as a recipe to be shown online."

### TONES

"Tone: [x]"  
 "Write using a [x] tone"

CONVERSATIONAL  
 LIGHTEARTED  
 PERSUASIVE  
 SPARTAN  
 FORMAL  
 FIRM

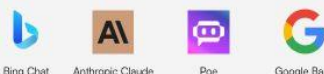
### FORMAT

- "Be concise. Minimize excess prose."
- "Use less corporate jargon."
- "Output as bullet points in short sentences."
- "Output as a table with columns: [x], [y], [z], [a]"
- "Be extremely detailed."

### MISC. TIPS

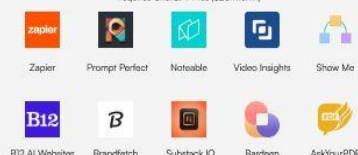
- **Encouragement = better:** "You are world-class at marketing."
- **Scolding also = better:** "Make this better/more insightful."
- **If the output is bad, add more detail/background info**
- **Ask it to check its work:** "Are there any topics you missed?"
- **Adjust temperature:** Add "Temperature: x" to prompt. 1 = more creative (good for copywriting). 0 makes it more conservative (good for academic/formal).

### OTHER CHATBOTS

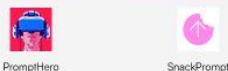


### USEFUL PLUGINS

requires ChatGPT Plus (\$20/month)



### PROMPT INSPIRATION



Compiled by Pete Huang

Get the HI-RES version at [theneurondaily.com](https://theneurondaily.com)

[Link](#)

# Global Trends the Next ~20 Years

## A More Contested World into 2040

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- Need to adapt and bridge divisions, tensions, imbalances, fragmentation, disequilibrium
- Rapidly aging and contracting populations
- Newer populations well-informed and express demands
- Rise in democracies and new models of governance
- High quality, low-impact living
- Technological divide

*The NIC's National Intelligence Officers founded 1979 — drawn from government, academia, and the private sector — are the Intelligence Community's senior experts on a range of regional and functional issues.*

[link](#)



**Global Trends Report**



# How the World Keeps Getting Better

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*23 Charts &  
Maps that  
Show  
the 'World is  
Getting Much,  
Much Better'*



[Article](#)

*by Dylan Matthews / Vox.com*

# Extreme Poverty Has Fallen

Subsistence  
living on less  
than \$1.90  
a day:

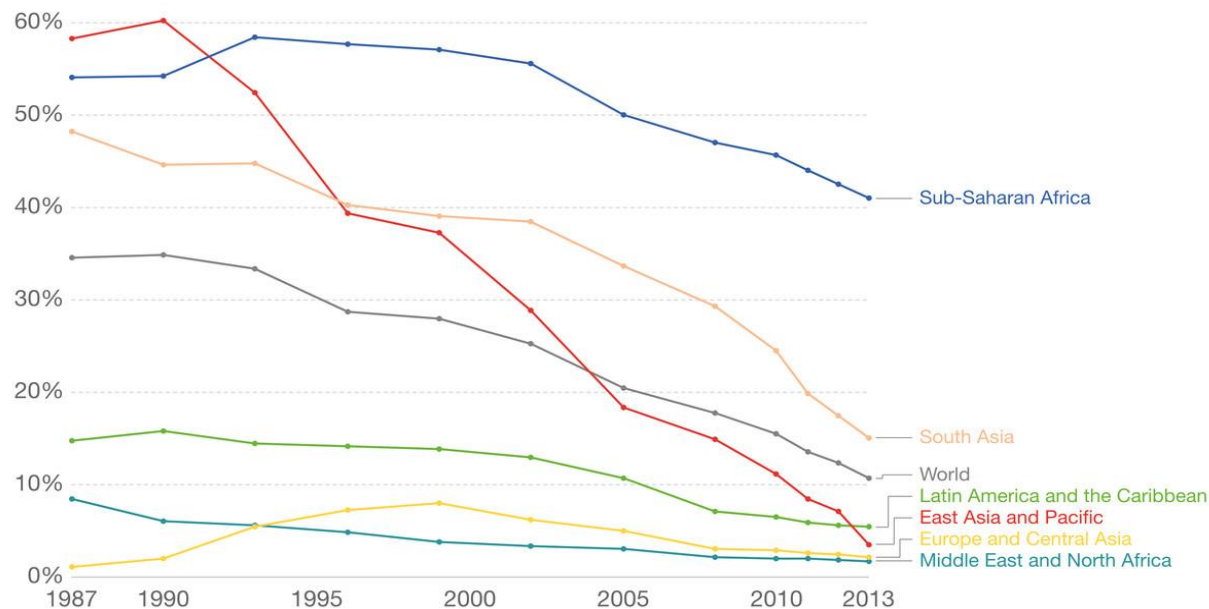
**1987: 35%**

**2021: 9%**

## Share of the population living in extreme poverty, by world region

Extreme poverty is defined as living with per capita household consumption below 1.90 international dollars per day (in 2011 PPP prices). International dollars are adjusted for inflation and for price differences across countries.

Our World  
in Data



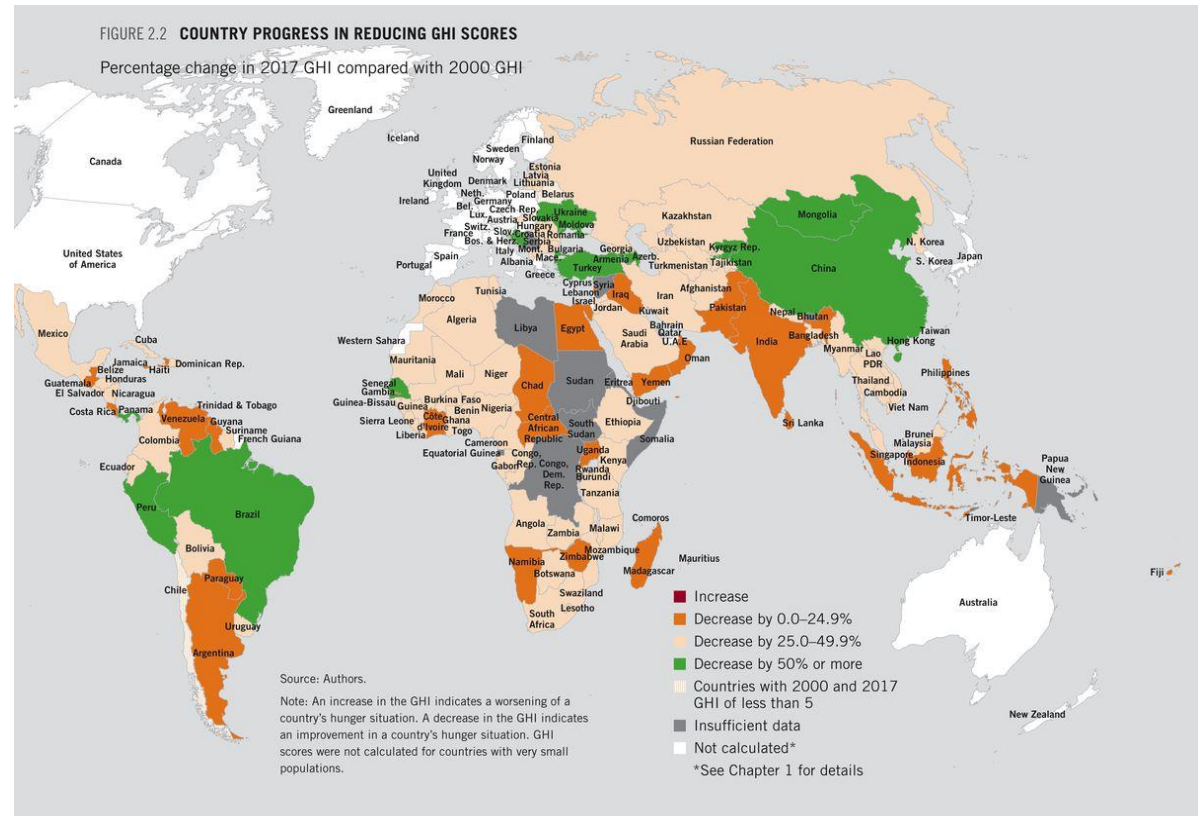
Source: Share of the population living in extreme poverty by world region - PovcalNet World Bank

Note: Consumption per capita is the preferred welfare indicator for the World Bank's analysis of global poverty. However, for about 25% of the countries, estimates correspond to income, rather than consumption.

OurWorldInData.org/extreme-poverty/ • CC BY-SA

# Hunger Is Falling

Between 2000 and 2017, hunger has decreased by half or more in green countries

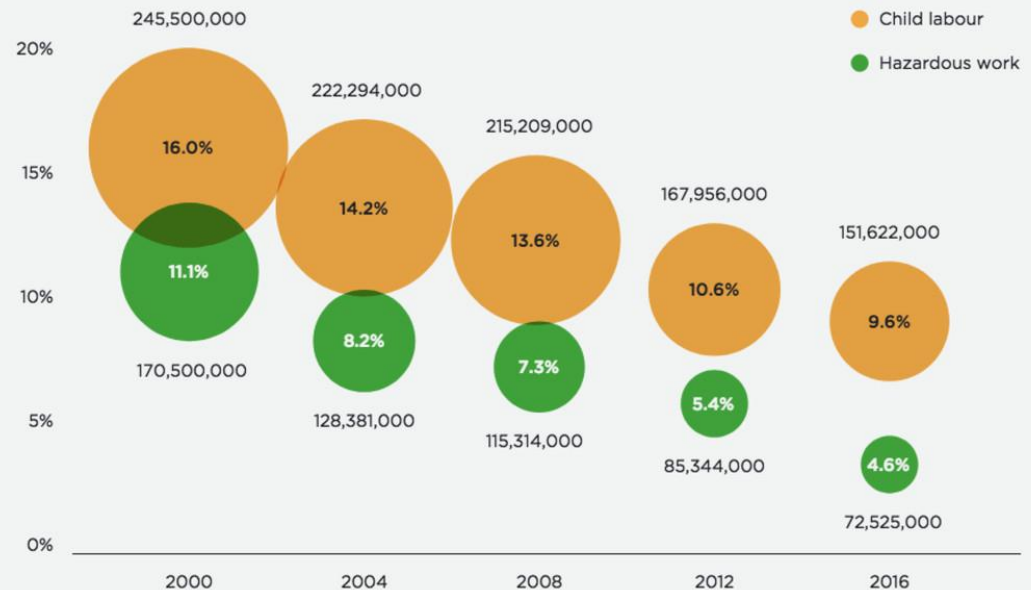


# Child Labor on Decline

Reduction of  
40% in child  
labor at  
hazardous  
work

## Children's involvement in child labour and hazardous work, 2000-16

Percentage and absolute number of children in child labour and hazardous work, 5-17 years age range, 2000 to 2016<sup>(b)</sup>



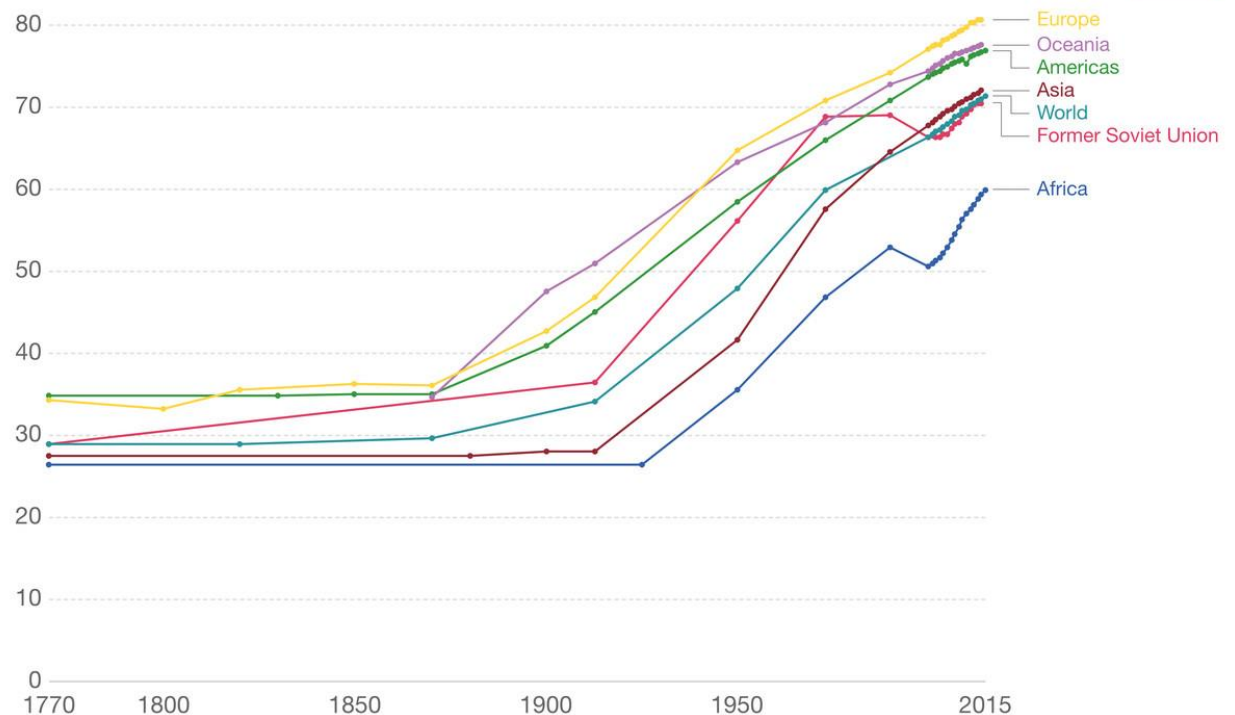
Note: (b) Bubbles are proportionate to the absolute number of children in child labour and hazardous work.



# Life Expectancy is Rising

Global life expectancy increased by six years between 1990 and 2016.

Life expectancy globally and by world regions since 1770



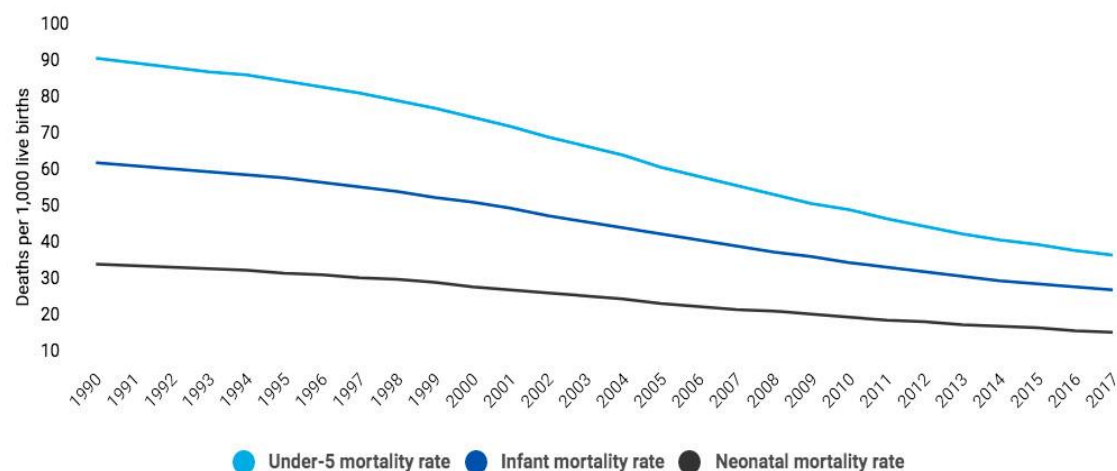
Source: Life expectancy – James Riley for data 1990 and earlier; WHO and World Bank for later data (by Max Roser)  
OurWorldInData.org/life-expectancy/ • CC BY-SA

# Child Mortality is Down

Child deaths  
by age 5  
have fallen  
by half since  
1990

The under-five mortality rate has fallen by more than half since 1990

Global under-five, infant and neonatal mortality rates, 1990-2017

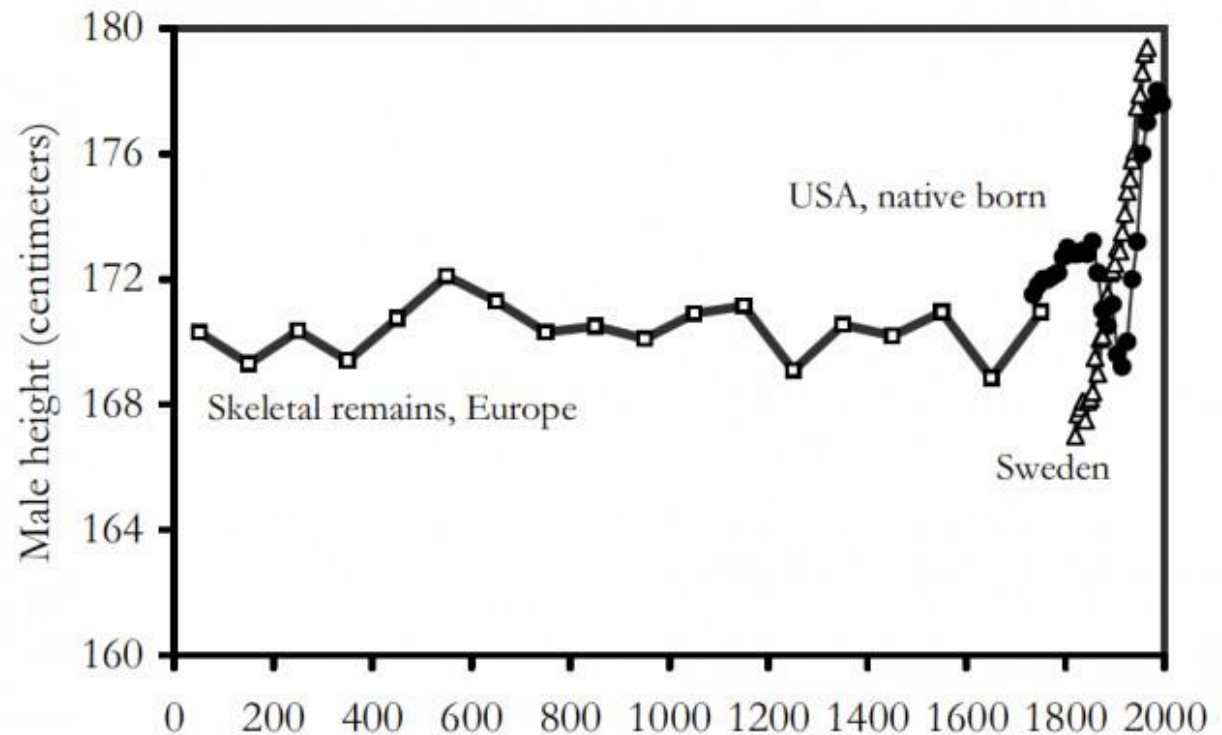


[Download data](#)

Source: United Nations Inter-agency Group for Child Mortality Estimation (UN IGME) 2018

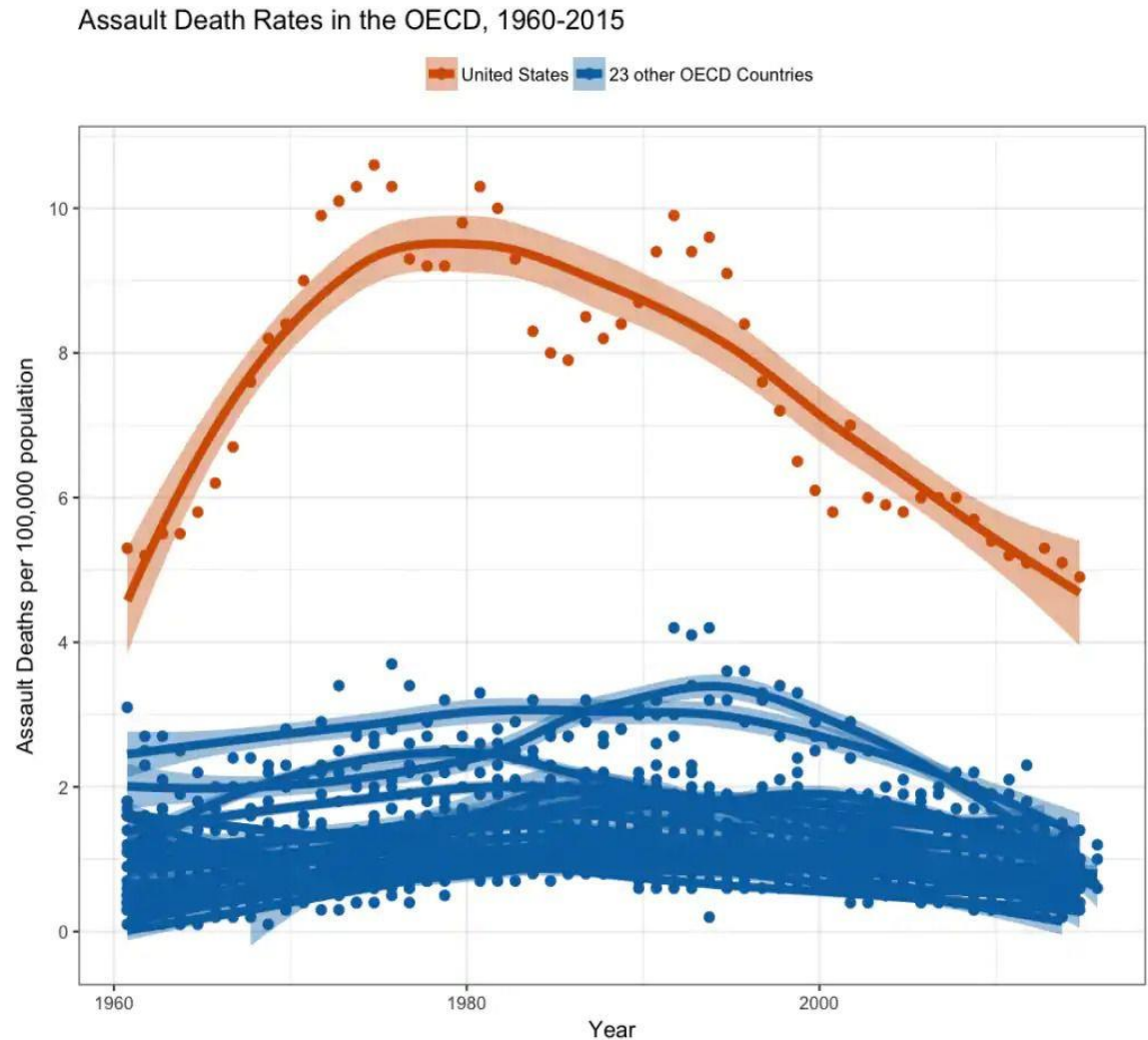
# People are Getting Taller

Better nutrition and living standards have contributed to human height shooting up since the industrial revolution



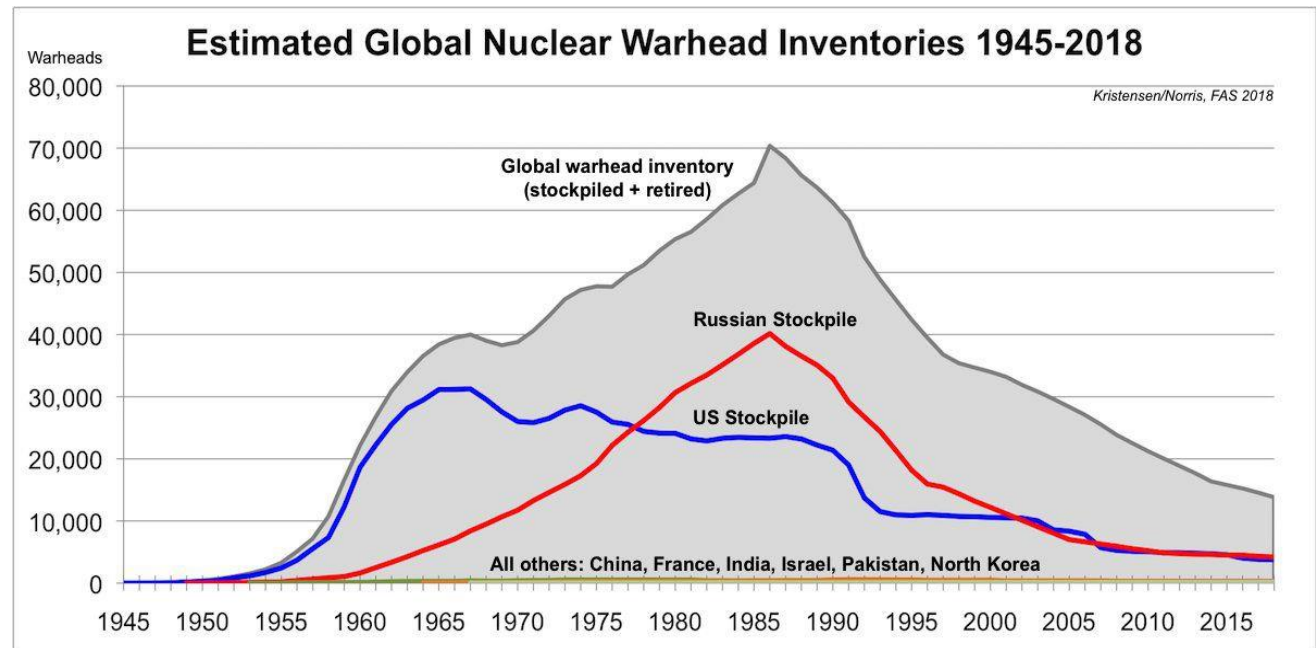
# Homicide Rates Have Fallen

Sharp  
decline in  
homicides  
per  
100,000  
from  
1980 - 2015



# Global Nuclear Weapons Declining

Stockpiles peaked in 1986 at 70,300 warheads; to sharp drop towards 2018





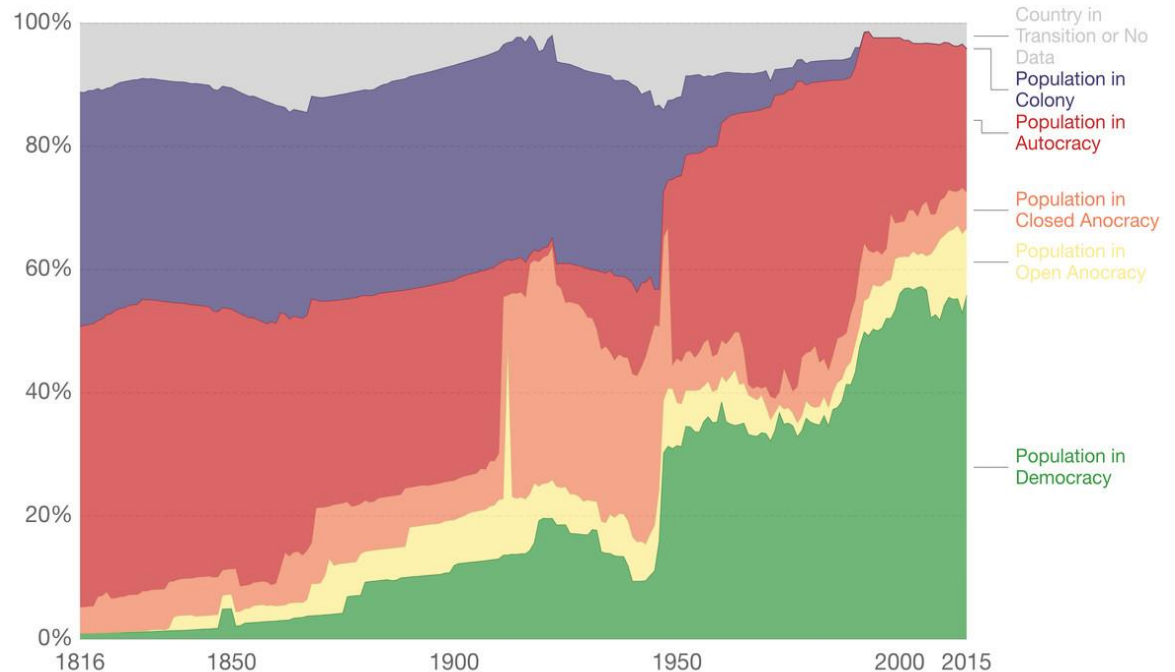
# More People Live in Democracies

Percentage  
of  
democratic  
countries  
has climbed  
to record  
highs since  
1950

## Number of world citizens living under different political regimes

The Polity IV score captures the type of political regime for each country on a range from -10 (full autocracy) to +10 (full democracy). Regimes that fall into the middle of this spectrum are called anocracies.

Our World  
in Data



Source: World Population by Political Regime they live in (OWID (2016))  
[OurWorldInData.org/a-history-of-global-living-conditions-in-5-charts/](https://OurWorldInData.org/a-history-of-global-living-conditions-in-5-charts/) • CC BY-SA

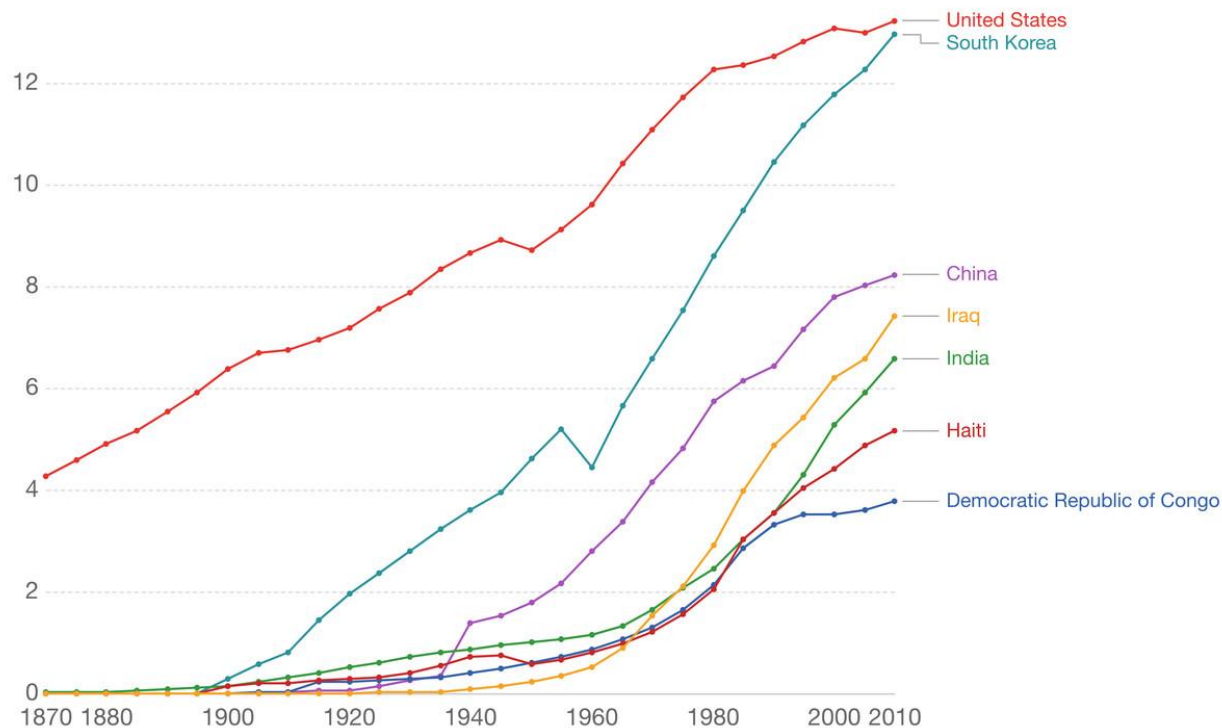
# More People Go to School for Longer

Education rates rise swiftly in many developing nations

## Mean years of schooling

Average number of years of total schooling across all education levels, for the population aged 15-64.

Our World  
in Data



Source: Lee and Lee (2016)

OurWorldInData.org/global-rise-of-education • CC BY-SA

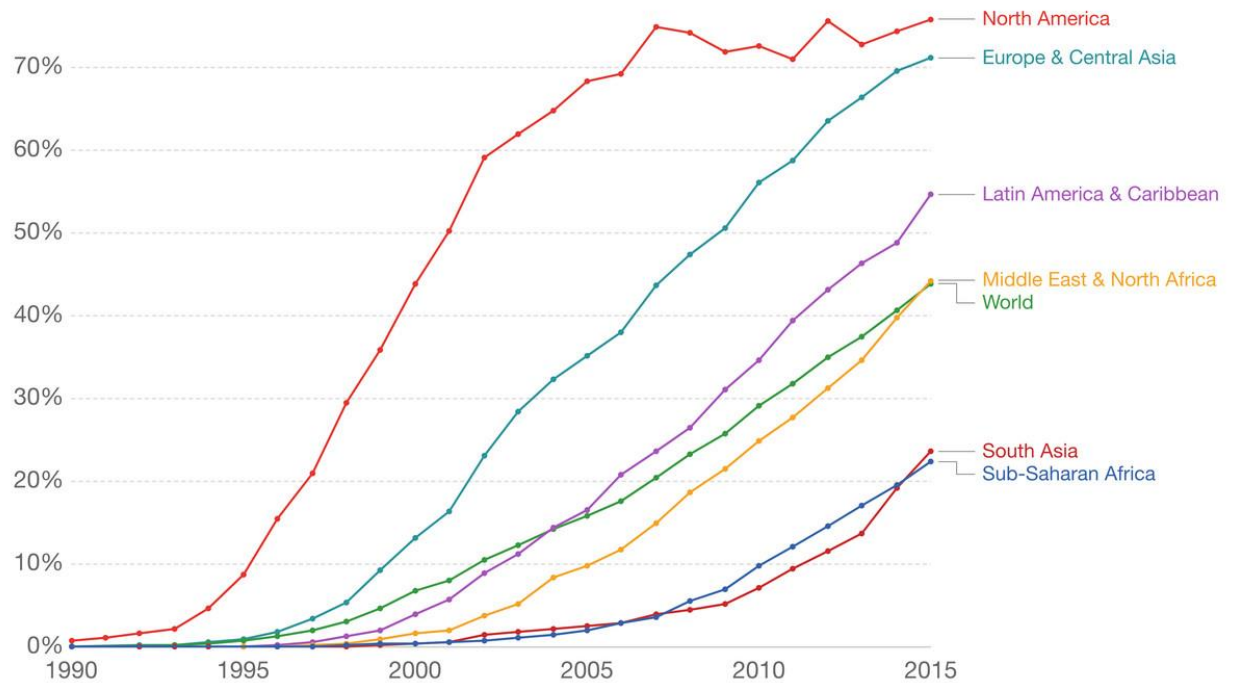
# Access to the Internet is Increasing

Internet  
access  
rises  
rapidly in  
developed  
and  
developing  
nations

## Share of individuals using the internet

Share of individuals using the internet, measured as the percentage of the population. Internet users are individuals who have used the Internet (from any location) in the last 3 months. The Internet can be used via a computer, mobile phone, personal digital assistant, games machine, digital TV etc.

Our World  
in Data

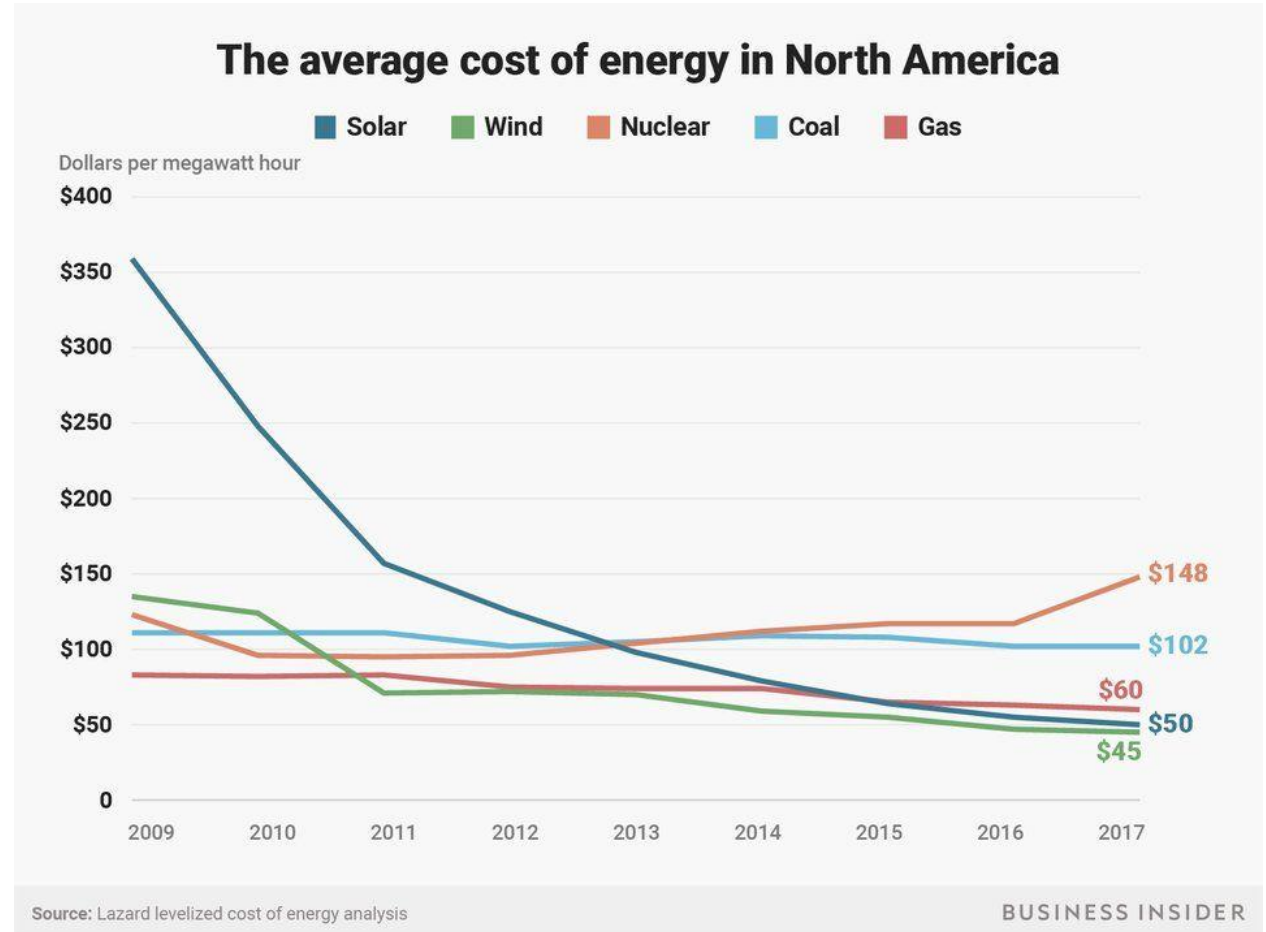


Source: World Bank – WDI

OurWorldInData.org/technology-adoption/ • CC BY-SA

# Solar Energy is Getting Cheaper

Solar and  
wind  
power  
now  
cheaper  
per  
megawatt  
hour than  
gas or oil



# A New 'Useless Class'

The  
Guardian

“

By 2050 a new class of people might emerge - the useless class.

People who are not just unemployed, but unemployable

”

*“Economically redundant people might spend increasing amounts of time within 3D virtual reality worlds, which would provide them with far more excitement and emotional engagement than the ‘real world’ outside.”*



[Article](#)



# Our New Purpose

FASTCOMPANY



**‘Instead of taking our jobs, what if AI just lets us give our lives more purpose?’**

**Fast Company**

Emerging technology offers the real potential for humans to achieve a post-professional era where we are not defined by our jobs, but a new purpose to enhance the human condition and the world.

The focus today should be what we can do now to make sure the path is set towards an optimistic future.’

‘In a future where machines could replace our need to contribute to the labor market, there is potential for us not to be defined by our jobs, but by a newer purpose to enhance humanity and the planet.

The more “productive” we become in a shorter period of time, the more time we can dedicate to purpose-driven endeavors that prioritize planet and people over profit.’

BY CORMAC Ó CONAIRE

# They Know Social Change is Coming

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‘... a shift in worldview from the autonomous individual of hyper-capitalism and social Darwinism to a recognition of both the natural and social worlds as orchestras of interdependence, of survival as an essentially collaborative and cooperative business.’

‘Disciplines from neuropsychology to economics have shifted their sense of who we are, what works, and what matters.’



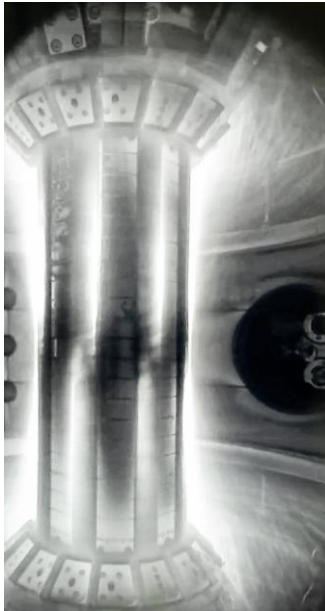
*Rebecca Solnit*

**The  
Guardian**

A ‘love ethic’ includes ‘a global vision wherein we see our lives and our fate as intimately connected to those of everyone else on the planet’  
- bell hooks

[Article](#)

# Cheap Abundant Power



Nuclear Fusion  
Edges Toward  
the Mainstream

*‘You'd be surprised  
how much energy is  
in a beam of light.’”*  
– Prot in K-Pax



The Manatee Energy Storage Center able to deliver 900 MWh of energy – enough to power 329,000 homes for two hours.



A solar panel  
in space  
could beam  
energy  
anywhere on  
Earth



Wireless 5G Power Grid

Cell phone providers could start beaming out electricity to power all kinds of small electronics, from delivery drones to tracking tags for pallets.



‘Insanely cheap solar energy ... It’s a fundamentally different world’  
The Guardian

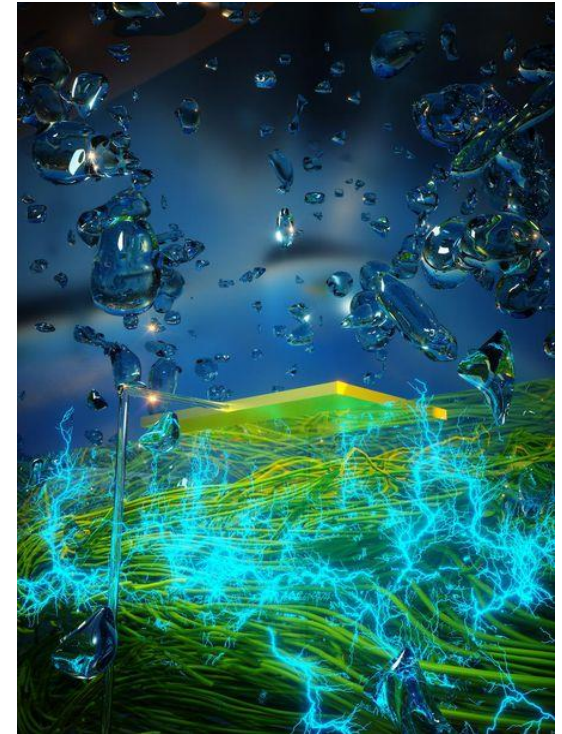
# Electricity from Thin Air

*Scientists in Amherst, MA are developing a new technology that will use the moisture from the air to create a charge.*



*The current Air-gen device can power small devices. Photos courtesy: UMass Amherst / Yao and Lovley labs.*

**Article**



*Graphic image of a thin film of protein nanowires generating electricity from atmospheric humidity.*



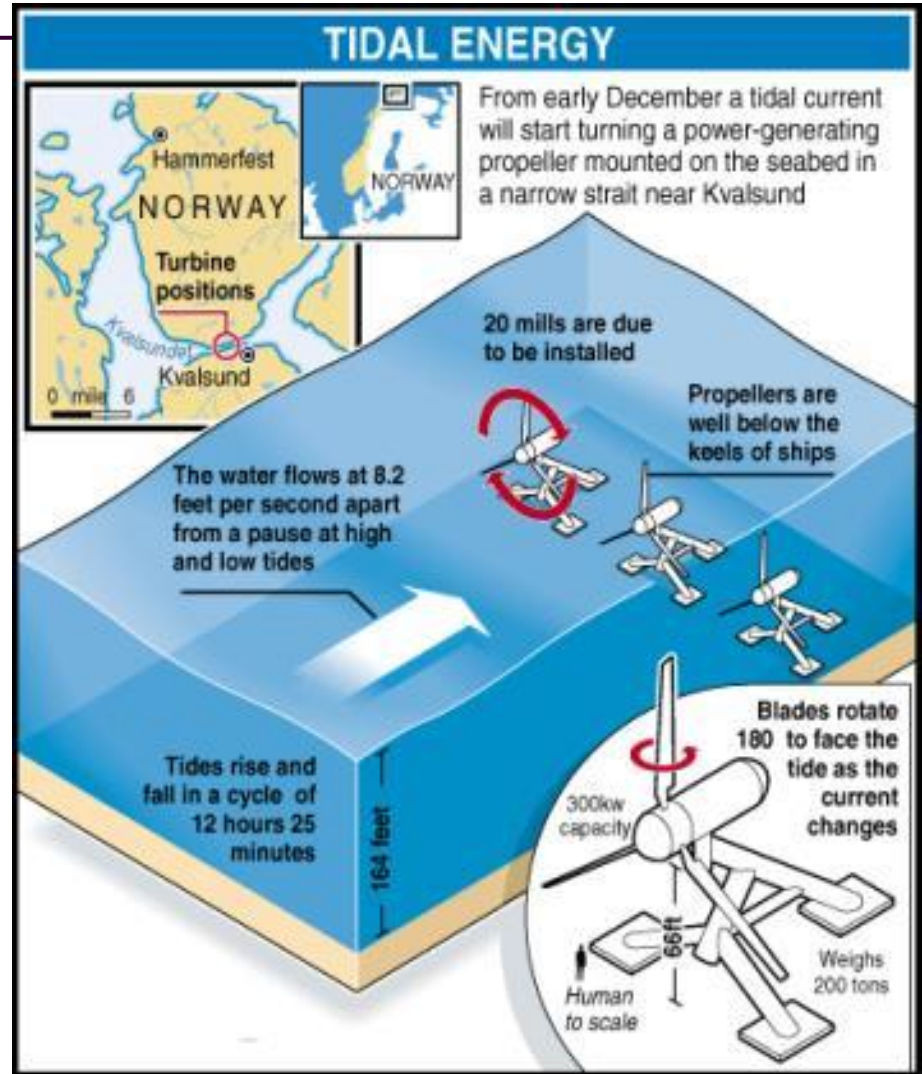
# Tidal Energy: Power from the Sea

In a novel use of clean energy, the world's most northerly town will soon be the first to get electricity from a sub-sea power station run on tidal currents tugged by the moon.

Gigantic forces in the oceans -- waves, currents and tides -- have often proved too costly or awkward to harness, compared to wind or solar power in global efforts to cut reliance on nuclear power or on fossil fuels blamed for global warming.

This Reuters graphic shows how giant underwater propellers will use currents to create electrical power.

(Reuters Graphic 11/4/02)





# Wind Energy Takes Flight

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The global wind energy industry is expected to enjoy continued strong growth in coming years with total installed capacity seen to be ever increasing.

- Reuters



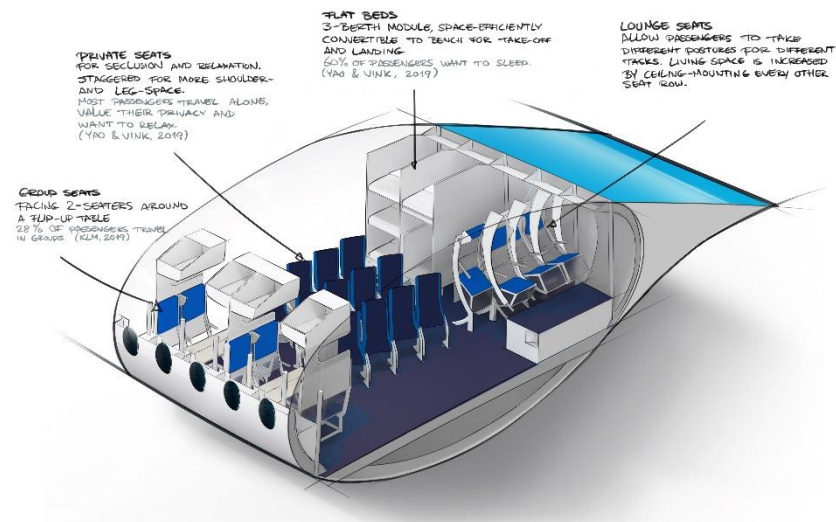
*Giant wind turbines dot the sky at dawn near Honrrubia, Spain*



*An offshore wind turbine off the coast of Fukushima, Japan*

# Flying V Plane Planned for 2040

- A blended wing body aircraft, with no distinct wing and a body structure like more conventional aircraft, reducing drag and fuel, powered by electric fans



- *Arstechnica*

# Air Cars & Taxis



‘The new electric aircraft use one-fifth the energy of conventional helicopters. Unlike helicopters, they will be largely inaudible from the ground and have multiple rotors and backup systems, making them much safer.’

[Article](#)

**The New York Times**



‘Flying cars will be a reality by 2030, says Hyundai. Urban air mobility could free up congestion and help with emissions in cities.’

[Article](#)

**The Guardian**



# Solar Floating Home



## **WaterNet 100: *Ecological floating habitat***

- \* 1,000 square feet
- \* 12 meters in diameter – 4 meters tall
- \* Roof topped with 60-square-meter photovoltaic array generating 4kWp
- \* Suitable for home, office, exhibition space, shop, café ...
- \* Nearly 100% recyclable



[Article](#)



# Printed Homes

- Printed on site using local clay
- Zero waste product
- WASP 3D printers create homes 21'x10'
- Several homes build at once using multiple crane printers







### **Prefab self-sustaining floating city by AT Design Office.**

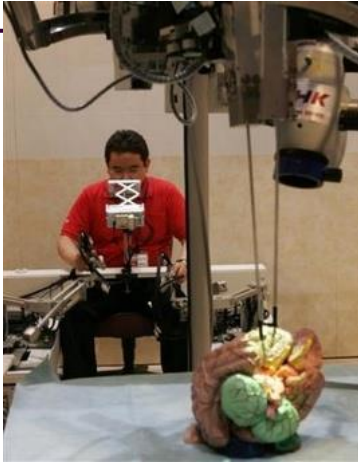
As the world's most populous nation, China has serious concerns about overcrowding in its cities. Chinese construction firm CCCC commissioned AT Design Office to create an attractive floating city solution that took the form of a sprawling buoyant landmass made from prefabricated hexagonal modules. The self-sufficient island is designed to be zero-carbon, energy efficient, and would include vertical farms and fish hatcheries to produce its own food.



### **Harvest City by Tangram 3DS and E. Kevin Schopfer**

When Haiti was hit by the devastating 2010 earthquake, architect E. Kevin Schopfer and Tangram 3DS developed an innovative floating city design to bolster the country's recovery. The collection of artificial islands, called Harvest City, envisioned a new Haiti made up of tethered floating modules. The center of the floating city would be dedicated to urban functions like office space, education, and light industry, while the outer areas comprised agricultural lands.

# Surgical Robots

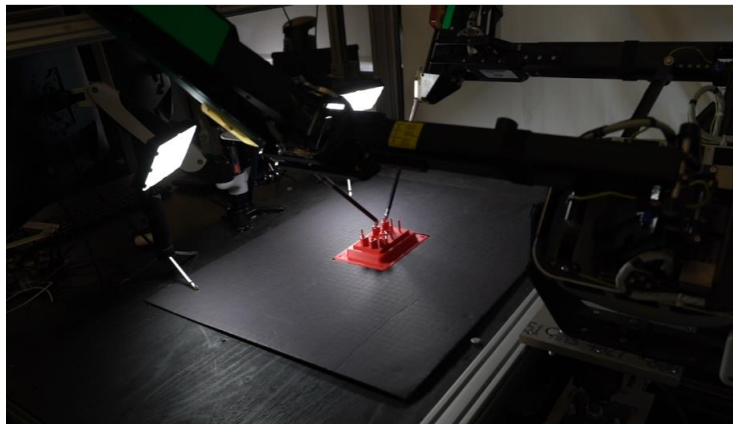


A researcher at Tokyo University operates a surgical robot with microsurgical hands that can operate effectively in a deep surgical field.



‘Despite the lack of evidence that robotics is better than true open surgery ... the shift to robotics has already occurred.’

## Article



‘Doctors could perform surgery across distances far greater than the width of the operating room — from miles or more away, perhaps, helping wounded soldiers on distant battlefields ... operating on people on the moon.’



# Robot Performs First-Ever Surgery Inside Human Eye

“Even highly skilled surgeons can cut too deeply and cause small amounts of hemorrhaging and scarring, potentially leading to other forms of visual impairment ... The pulsing of blood through the surgeon’s hands is enough to affect the accuracy of the cut.”

-- NBC News



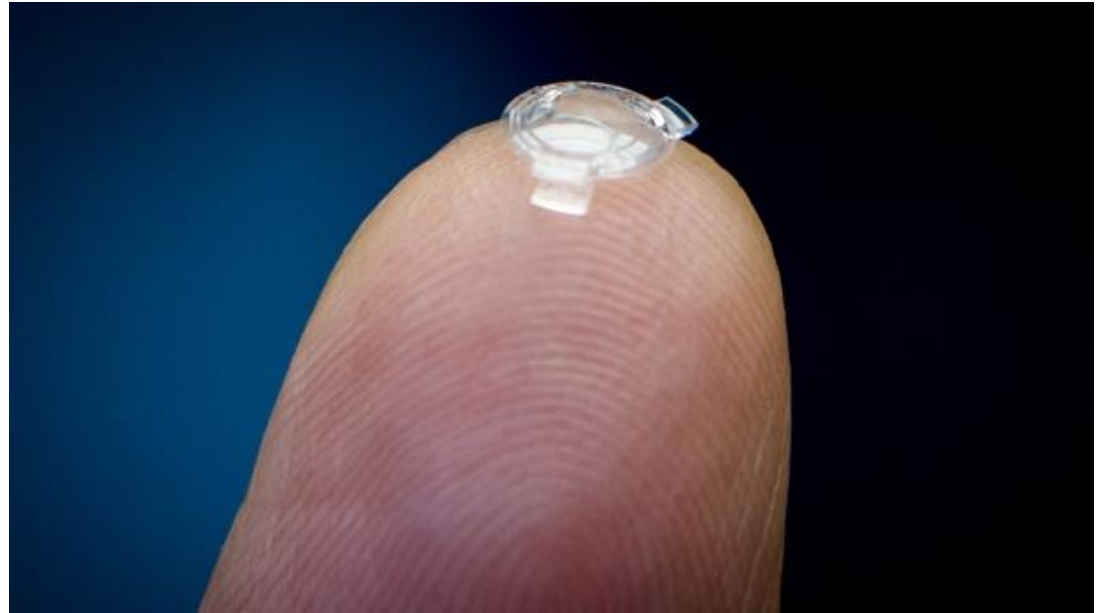
*The technique is being called "a vision of eye surgery in the future."*

**Article**



# Bionic 60/20 Eye Implants

- Bionic implant can be injected into eye, correcting vision and allowing user to see 60' clearly from 20'
- Remedies cataracts



*Ocumetics' Bionic Lens*

[Article](#)



- Bionic implant potential Wi-Fi and Bluetooth interactivity



# Kurzweil's Singularity

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- A couple decades from now, a superior intelligence will dominate and life in an altered form that we can't comprehend in our current, limited state.
- Human beings and machines will so effortlessly and elegantly merge that poor health, the ravages of old age and even death itself will all be things of the past.
- A great leap will occur when industries like medicine and energy start moving at the same exponential pace as I.T.
- Rapid bursts of innovation and may pave a path to a 700-year lifetime.
- By the 2030s, most people will be able to achieve mental immortality by similarly backing up their brains, Mr. Kurzweil predicts.



***“Merely Human? That’s so Yesterday” / New York Times***

# Brain Content Avatars

- “By 2045, mass production of lifelike, low-cost avatars that can be uploaded with the contents of a human brain, complete with all the particulars of consciousness and personality.”

~ *New York Times*

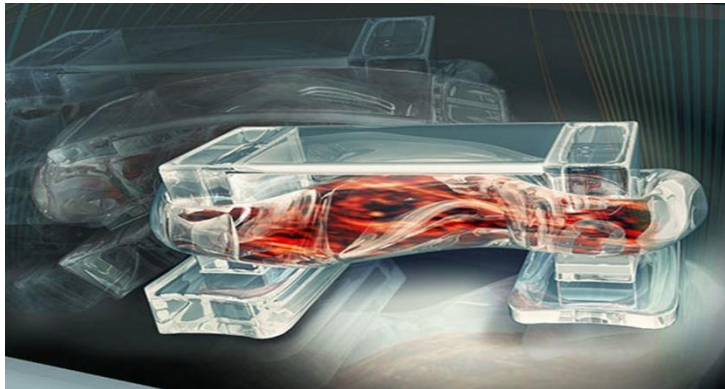
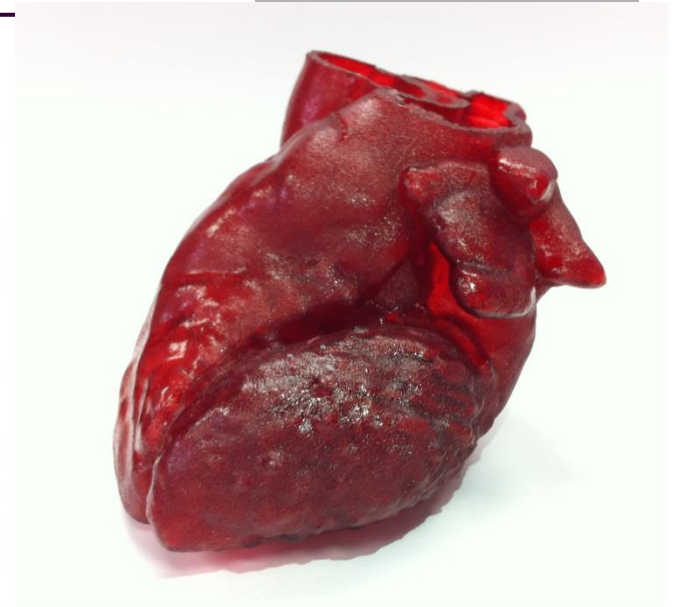
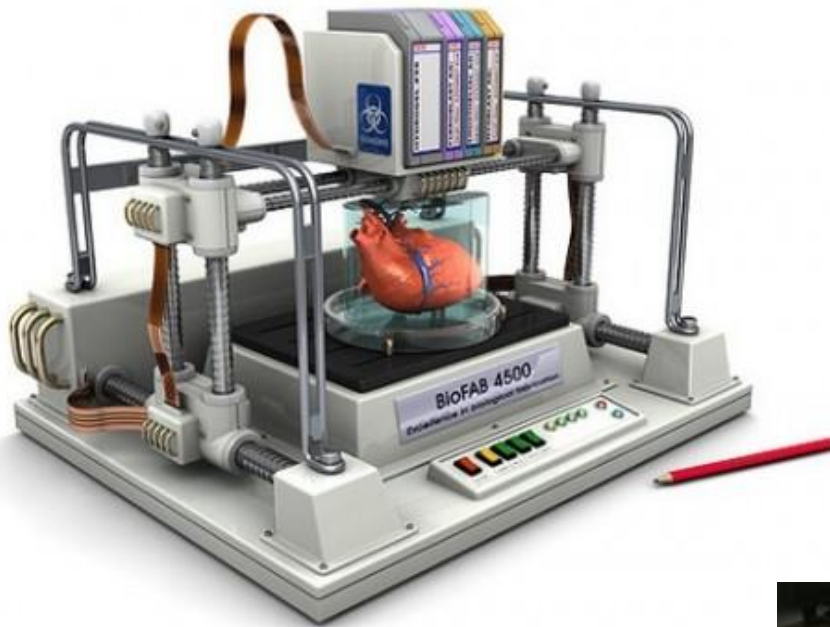


*Robotic model of head will use 36 motors to reproduce facial expressions and voice.*

[Article](#)

# 3D Printed organs, flesh, faces ...

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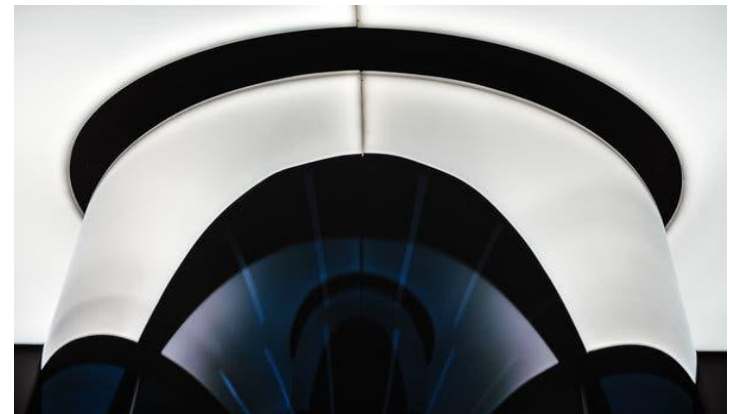
# Quantum Computing Is Coming

- With transmons and entanglement, scientists strive to put subatomic weirdness to work on the human scale
- In three minutes it performed a highly technical and specialized computation that would have taken a regular computer 10,000 years

**-NY Times**



**Article**





# LifeStraw



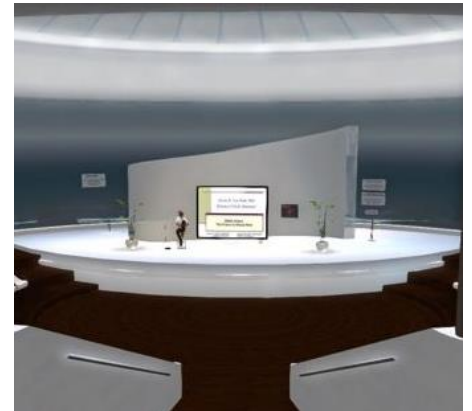
- At any given moment, about half of the world's poor are suffering from waterborne diseases, of which over 6,000 – mainly children – die each day by consuming unsafe drinking water.
- LifeStraw® offers relief from the waterborne diseases such as Typhoid, Cholera, Dysentery and Diarrhea. A personal mobile water purification tool, designed to turn surface water into drinking water.
- Price: ~\$3.00 each. From Denmark.



# Virtual World Tours in Zoom



- > Low Lag
- > Audio & Video Fidelity
- > Single & Group Tours
- > Zoom Familiarity
- > No VW Curve



# VW Commentary & Review

- University President / Officers
- SVP of Innovation
- Program Directors
- Course Designers
- Professors
- Domestic & International Students
- Educator Training Programs
- VW Education Groups



UCLA Custom Programs  
Korean Students / Kerckhoff Hall



UCSB International Students

# Contact

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