

Collectively Reducing Harms of Computing As Ecocide

Solidarity, Resistance, Climate Justice, Empathic Connections

TBD::Not-A-Camp::2023

BECHA@unciv.nl

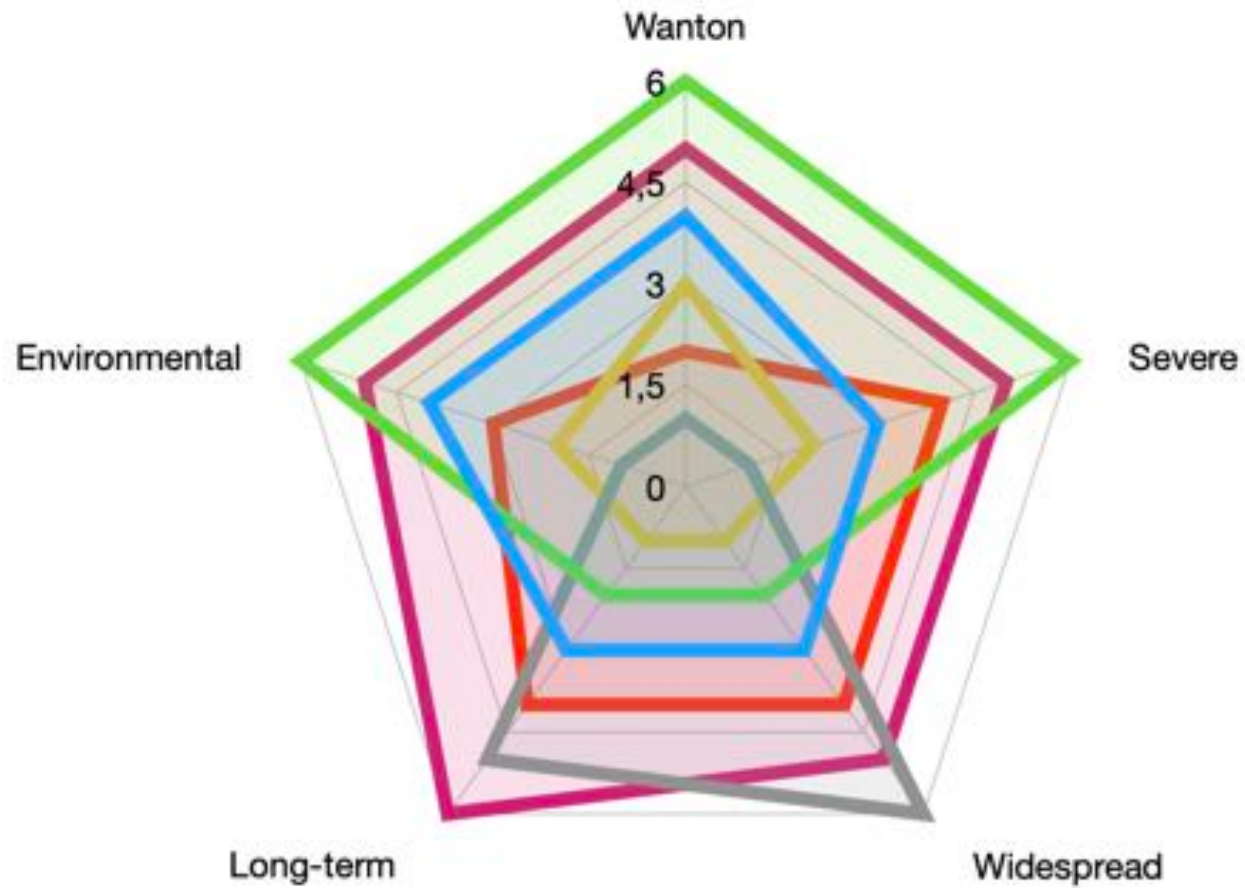
www.UnCiv.nl

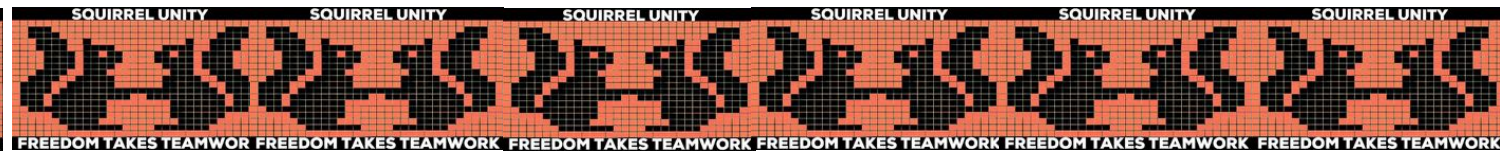
Speaker For Squirrels



Computing is Ecocide

AI / LLM Bitcoin Networks 5G Data Centers e-waste





Based on:
“Computing as Ecocide”
 by Rob Comber and Elina Eriksson
 LIMITS workshop, 2023

<https://limits.pubpub.org/pub/a8h46wqy/release/1>

Computing is Ecocide

	AI / LLM	Bitcoin	Networks	5G	Data Centers	e-waste	
Wanton		4	6	1	3	2	5
Severe		3	6	1	2	4	5
Widespread		3	2	6	1	4	5
Long-term		3	2	5	1	4	6
Environmental		4	6	1	2	3	5

TBD: Interrupt ICT's Death Cycle!



- 1. Materials are extracted in violent & polluting ways**
- 2. Shipping (of materials & equipment) is using fossil fuels**
- 3. Equipment is produced by using fossil fuel energy (& exploitative conditions)**



Extinction is forever. - Laura Uselis

- 4. Operating networks & data storage uses electricity sourced by burning fossil fuels**
- 5. Disposing old equipment is wasteful & polluting & unjust**

***Minimal solutions:
reverse every step!***

Principles of Degrowth



Sustainability

Never deteriorate supporting ecosystems



Circularity

Waste not, want not



Cooperation

People and planet, not profit



Useful Production

What is not needed should not be made



Sharing

Sufficiency for all, excess for none



Local Production

Produce local, consume local



Work-Life Balance

Work less, play more



Relational Goods

Less stuff, more relationships



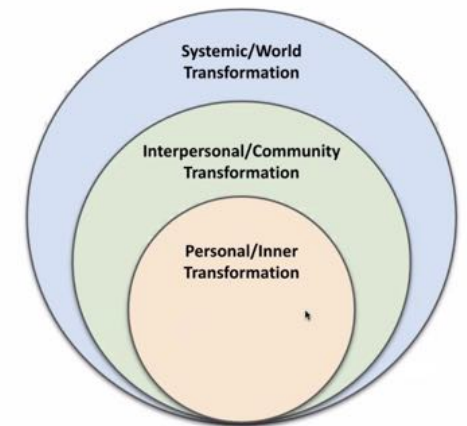
Joie De Vivre

If I can't dance, I don't want to be part of your economy!

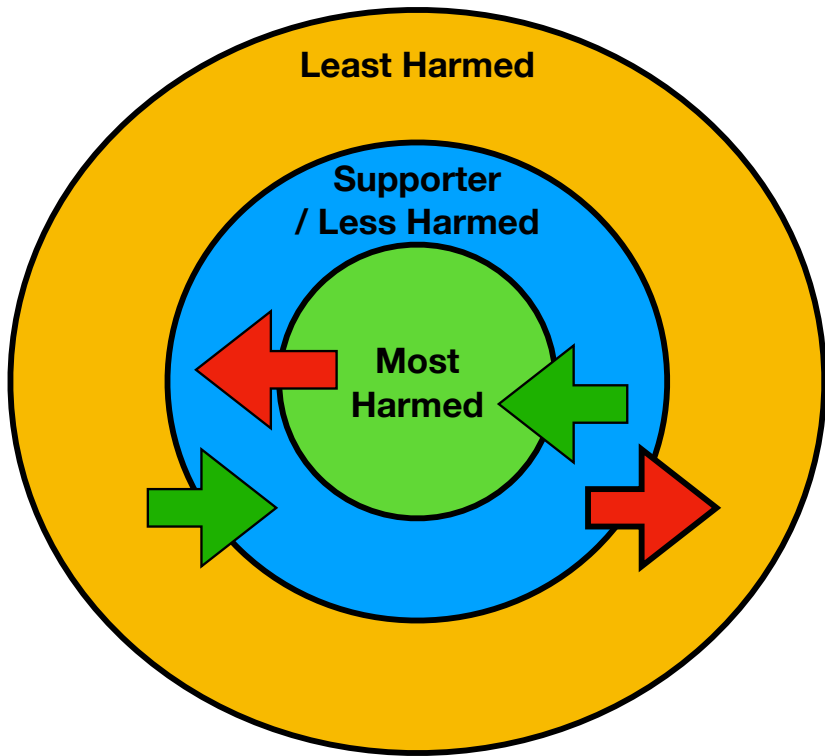
Source: <https://tel.archives-ouvertes.fr/tel-02499463/document>

“Full Spectrum Resistance”

- militant: Zapatistas, Rojava...
- civil disobedience: **XR**, suffragettes, Black Power movement (20th century), Black Lives Matter (21st century), 15M, Occupy Wall Street
- a mix: Standing Rock, Stop Cop City, (etc?)
- incrementalist: voting, signing petitions, suing the government...
- + “harm reduction” when dealing with Violence, Assault and Abuse

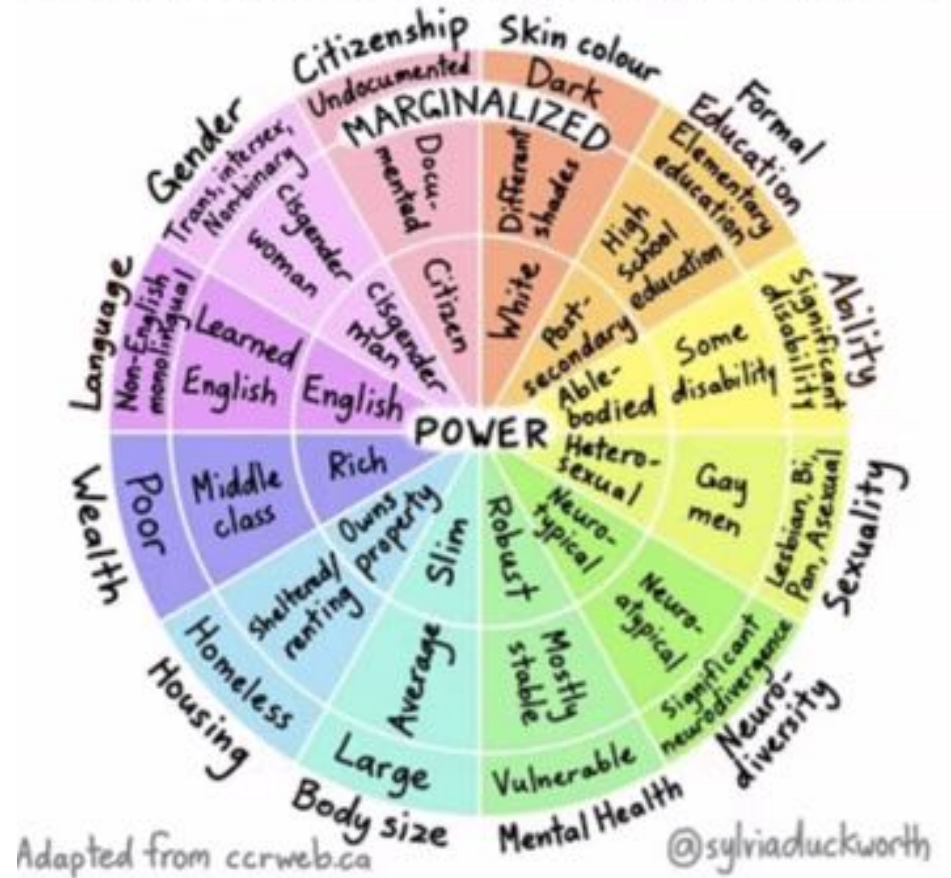


Integrating Personal, Interpersonal & Systemic Transformation



Circles of "Loss" / Grief

WHEEL OF POWER/PRIVILEGE



solidarity with diverse groups



- **essential workers, care workers , minimum-payed workers, food-producers**
 - (NOT industrial-farmers!)
- **refugees**
- **unhoused / squatters / youth**
- **climate justice warriors**
- **“frontline communities” (first & most affected by polycrisis)**
- **marginalised groups (people of color, women, trans persons...)**
- **non-WEIRD (Western, educated, industrialized, rich and democratic)**
- **solidarity with animals, plants, ecosystems ...**

Join Existing Digital Rights & Climate Justice Communities

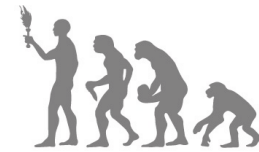


- [APC.org](https://apc.org)
- [RightsCon.org](https://rightscon.org)
- [Scientists Rebellion](https://scientistsrebellion.org)
- <https://climateaction.tech/>
- **Mailing lists:**
 - DRxCJ: digital-rights-climate-justice@groups.io
 - DeGrowth: degrowth-world@lists.riseup.net
 - unciv.nl
- **Events: ripe.net/events / [OpenMeetup.org](https://openmeetup.org)**

- **Other movements:**
- **Intersectional Environmentalism**
- **RegenerationMovement**
- **Eco-socialism**
- **Sufficiency Movement**
- **Eco-feminism**
- **Decolonizing Internet**

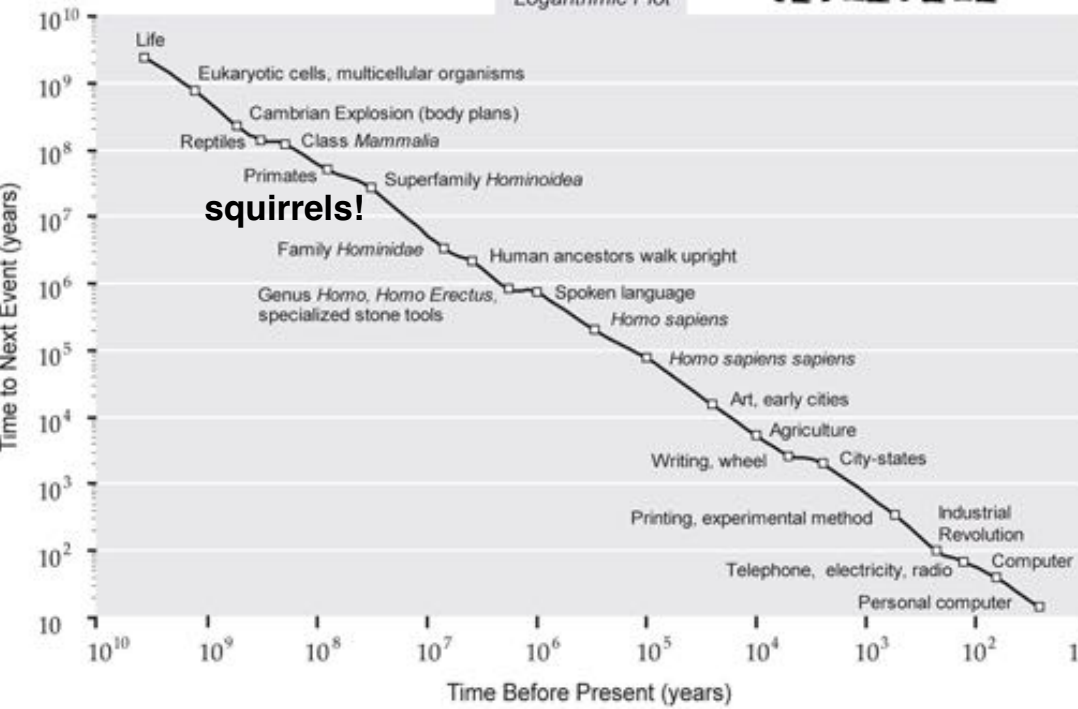
(to read / watch more: <https://labs.ripe.net/author/becha/environmental-impact-of-internet-urgency-de-growth-rebellion/>)

A Perspective on Time



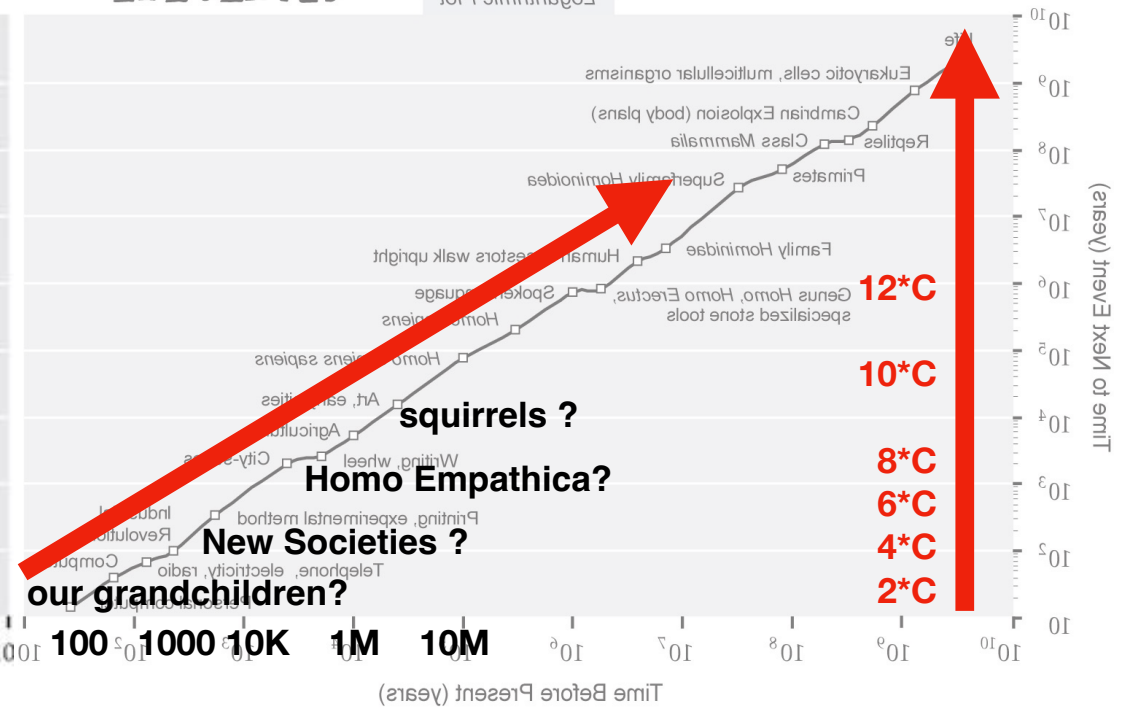
Countdown to Singularity

Logarithmic Plot



squirrels!

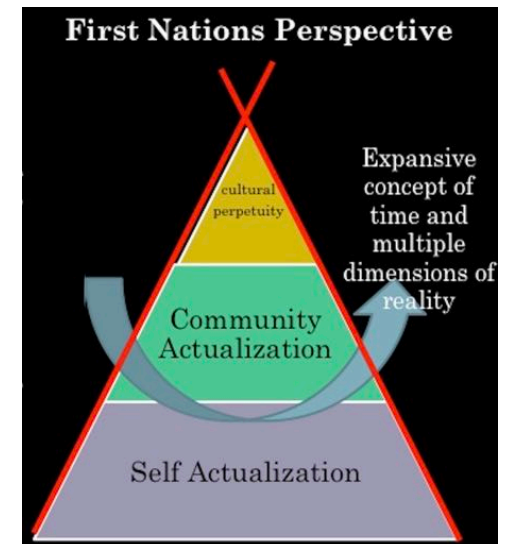
Logarithmic Plot



“Alternative” Narrative / Myths / Ethics



- "...a society predominantly concerned with preserving its existence (but not endlessly expanding), a society with a modest standard of living, conservative of natural resources, with a low constant fertility rate and a political life based upon consent; a society that has made a successful adaptation to its environment and has learned to live without destroying itself or the people next door...that is the society I want to be able to imagine — I must be able to imagine, for one does not get on without hope.”
 - — “A Non-Euclidean View of California as a Cold Place to Be”, Ursula K. Le Guin
- Ursula K. LeGuin: “The Dispossessed”
- Starhawk: “Fifth Sacred Thing”
- Octavia Butler: Parable of the Sower:
- “Biophilia” ; Solarpunk ; “DeGrowth”
- Mitakuye Oyasin; Ubuntu; Shamanism; Dreamtime

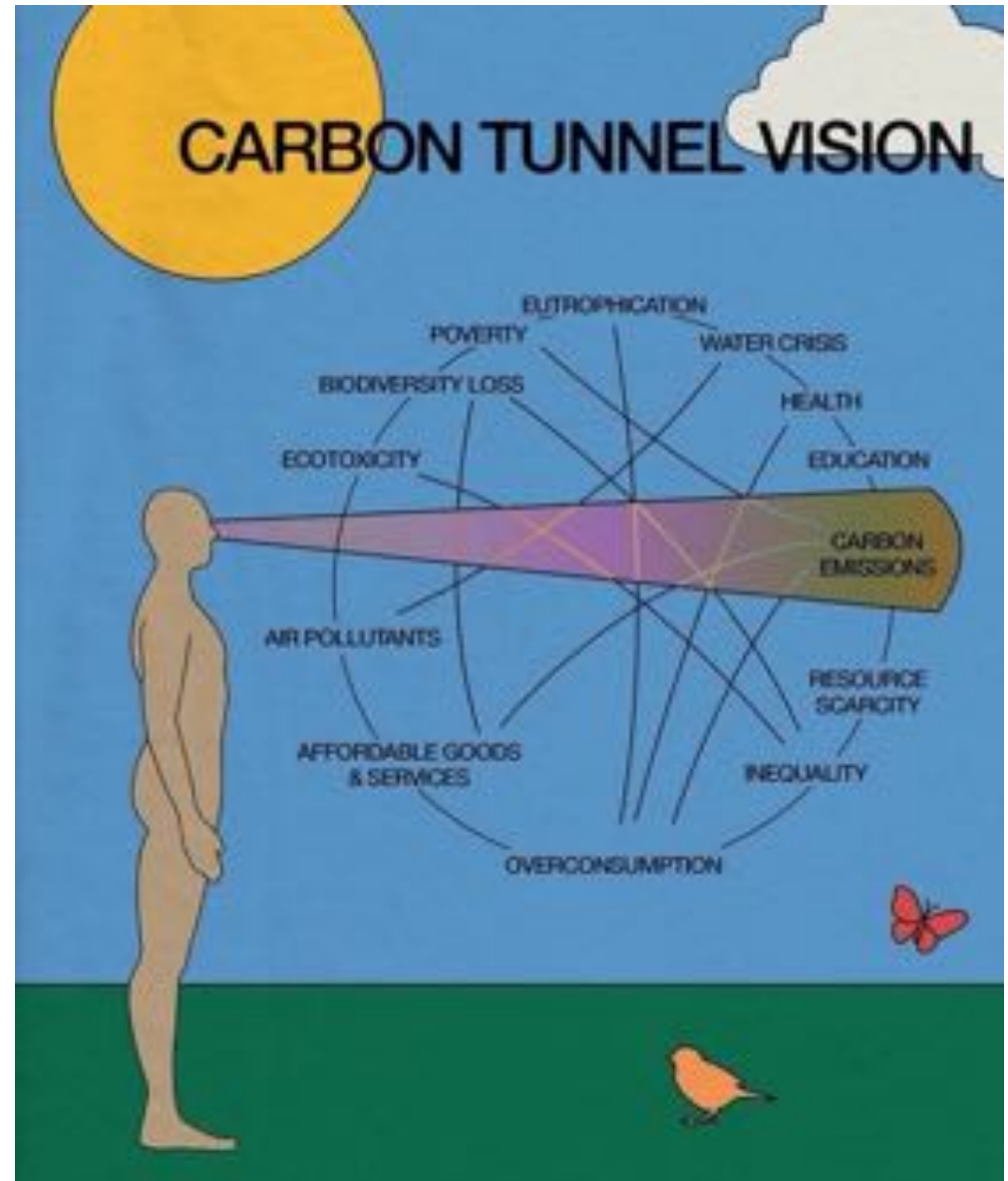




Extra Slides

Context

- Polycrisis
- *“The future is already here, it’s only not evenly distributed”*
(William Gibson)
- **Guy McPhearson:**
OHM2013: Nature Bats Last



Problems Statements: ICT's Death Cycle



- 1. Materials are extracted in violent & polluting ways**
- 2. Shipping (of materials & equipment) is using fossil fuels**
- 3. Equipment is produced by using fossil fuel energy (& exploitative conditions)**



EXTINCTION IS FOREVER.

Extinction is forever. - Laura Uselis

- 4. Operating networks & data storage uses electricity sourced by burning fossil fuels**
- 5. Disposing old equipment is wasteful & polluting & unjust**
- 9. Flying to conferences is a terrible luxury**

Minimal Solutions: the Opposite of Death-cycle!



1. Re-Use existing materials

1. or re-source materials in sustainable & just ways

2. Use renewable energy sources

1. (refuse fossil fuels)

3. Produce locally (reduce shipping)

4. Decrease energy usage

-7.6%
/year

5. Reduce new equipment needs: Repair; Repurpose; Recycle

6. Do Not Fly! (take a train / bike, or use email / chat)



Impact ↑

Global

Regional

Local

Ban ICE car manufacture	Home insulation and efficiency	Tariffs on countries that don't control	Increase green space	Funding to help farms become greener
Funding for equipment to improve green technologies	Increase wind/solar	Increase nuclear	Reduce gas boilers	Cycle schemes
Replace gas stoves	Tax breaks for business owners to reduce their carbon footprint	TREES!!	Increase solar	Decrease work week
Require companies to disclose carbon footprint	Increase EV charge points	Bus banking	Improve public transport	Large scale battery storage
Support EV adoption	Universal food waste recycling	Ban ICE airports	Frequent flyer tax	Fund research for climate solutions

Community / Corporate (#CC)



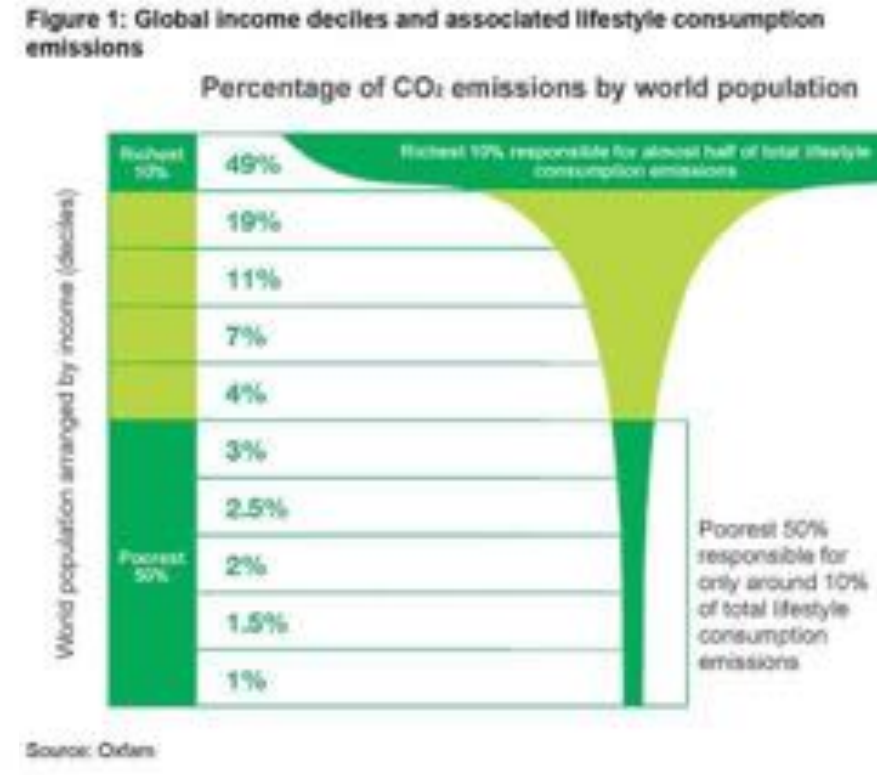
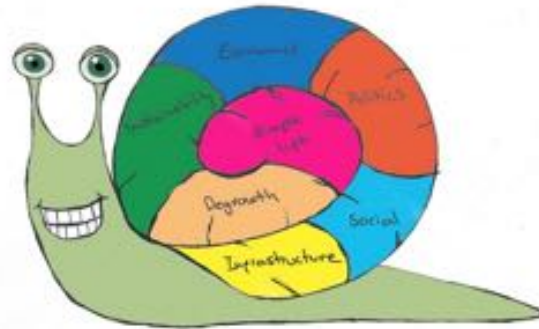
1. Set the target for net-zero emissions (by 2030?)
2. OKR: 10% less per year, every year
3. Create RIPE Sustainability Task Force
4. Fund sustainability projects & research
5. Move from CSR to ESG reporting
6. Create Co-operatives & community ISPs
7. Implement ITU standards (L1460-L1520)
8. Join IETF e-impact & GAIA efforts
9. STOP with AI, LLM, 5G, QI, BC, HFT, NFT, Web3

<https://labs.ripe.net/author/becha/towards-climate-justice-in-tech/>

Personal Community Societal *Effort*

“Imagining an internet that serves environmental justice” APC 2020, <https://www.apc.org/en/project/technology-environmental-justice-and-sustainability>

ICT, DeGrowth & Climate Justice



MEETING THE PARIS AGREEMENT

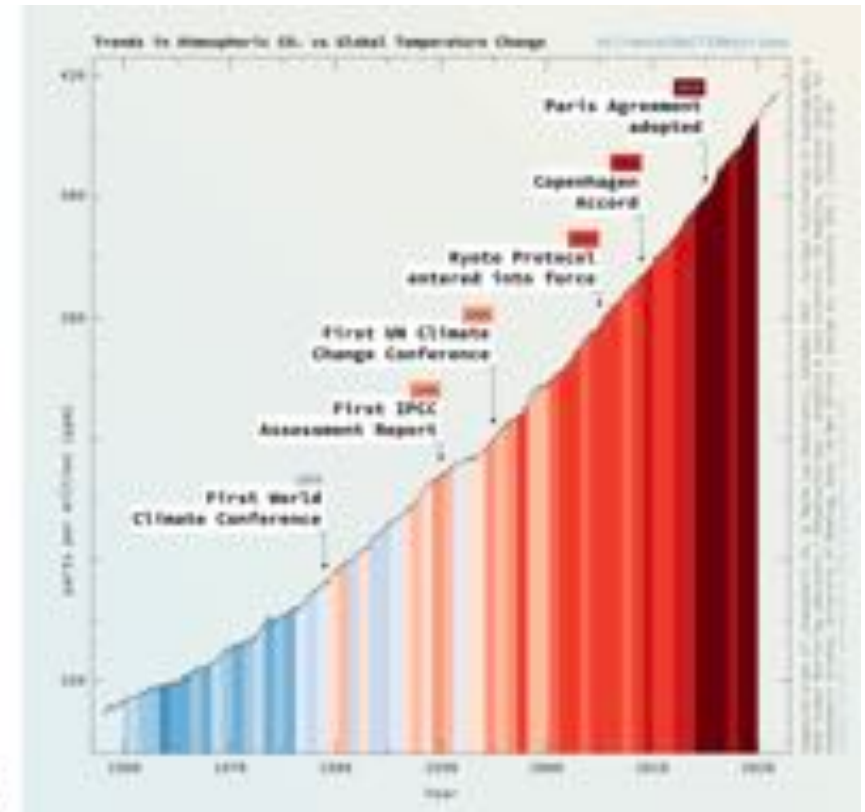
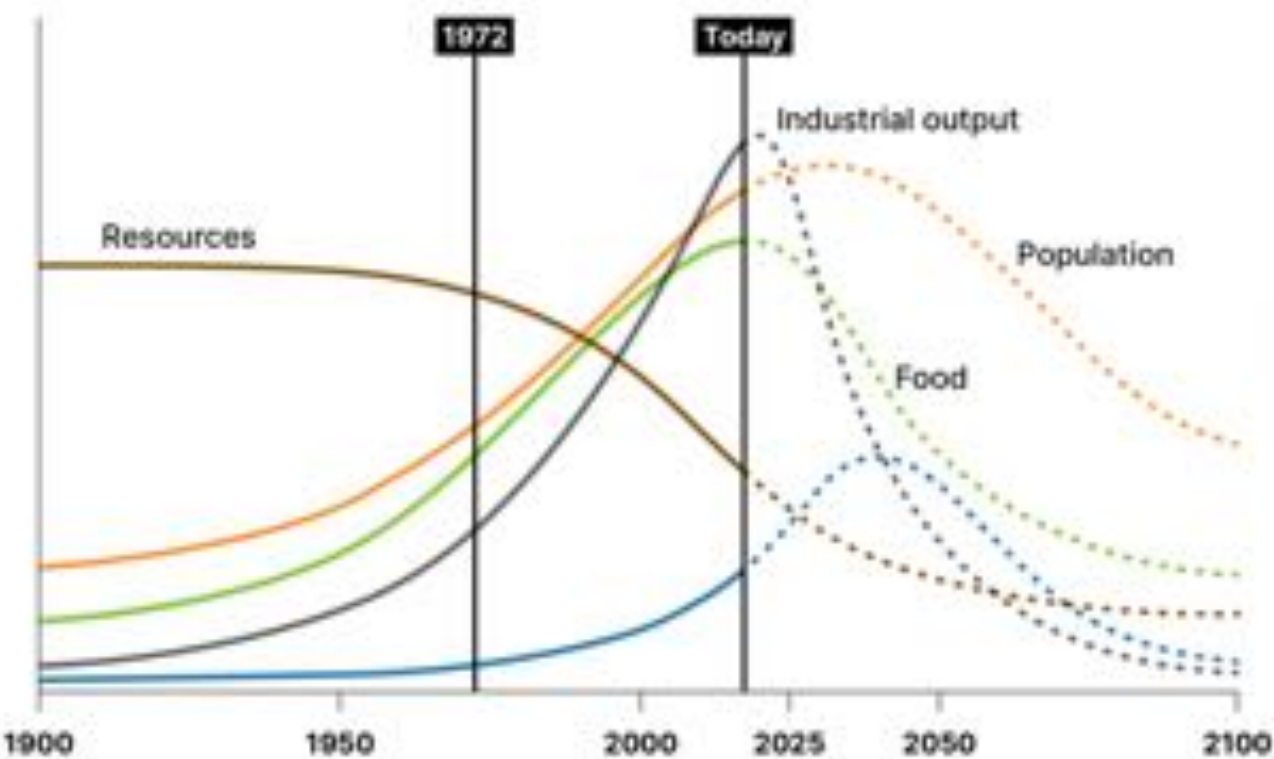
RAPID, DRASTIC CUTS NEEDED TO LIMIT WARMING



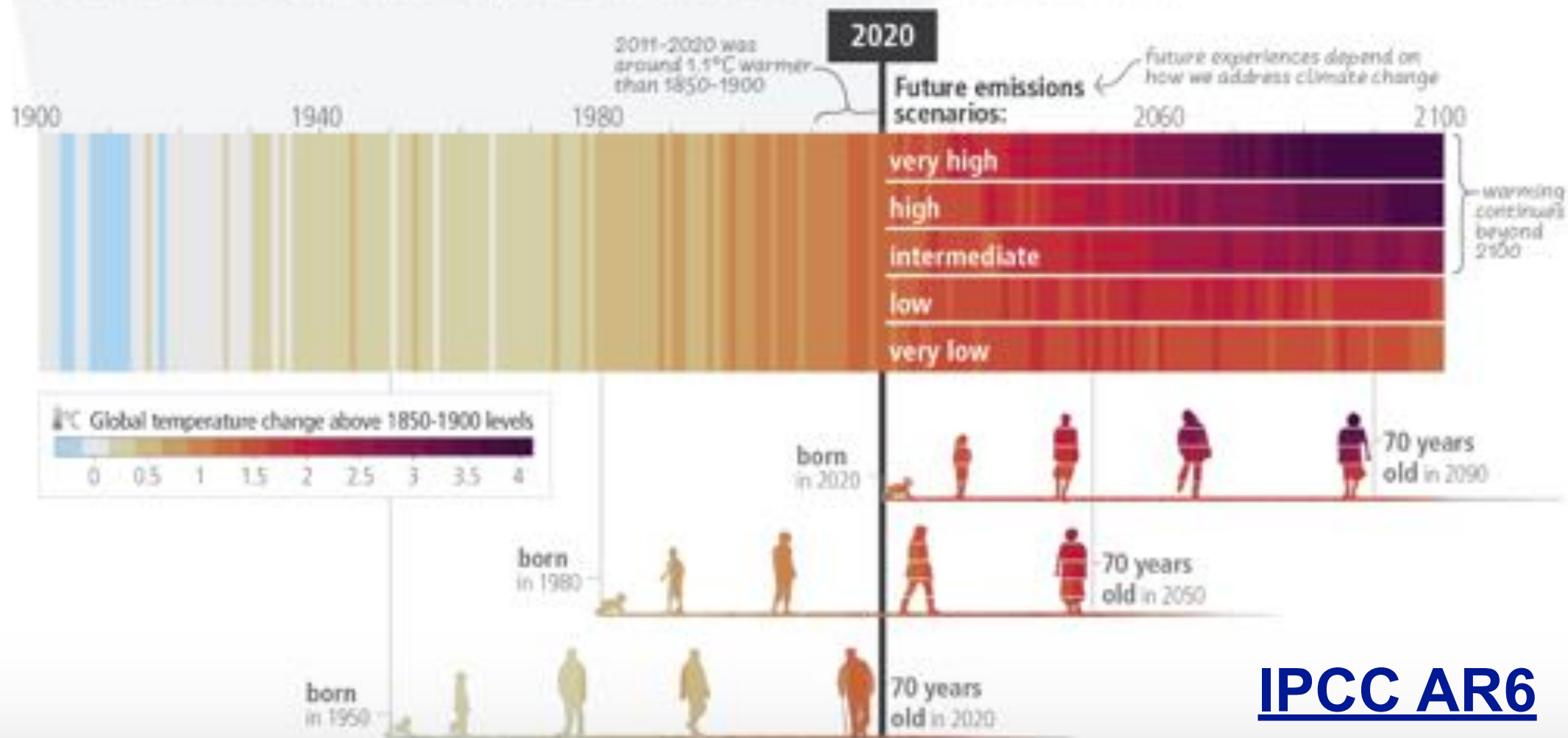
BRON: HELGA VAN LEIJN / CLIMATECENTRAL

... we've agreed to that many times...

- “Limits to Growth” (1972), “Earth4All” (2022) & IPCC
 - by “Club Of Rome” (Donella Meadows et.al.)



c) The extent to which current and future generations will experience a hotter and different world depends on choices now and in the near-term

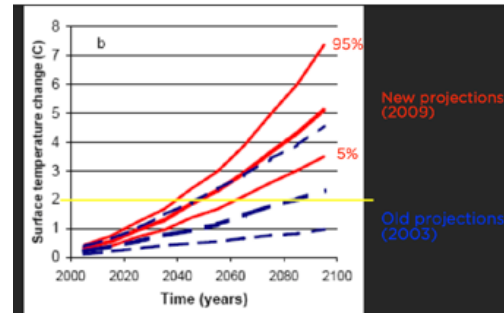
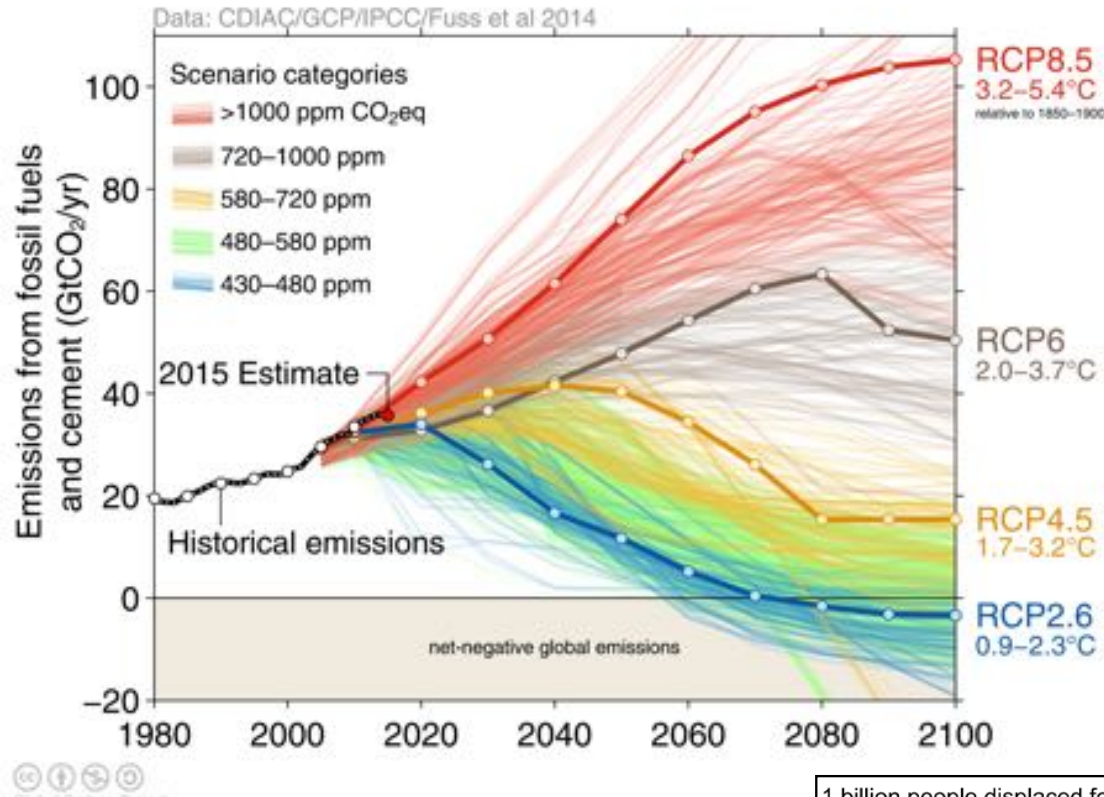
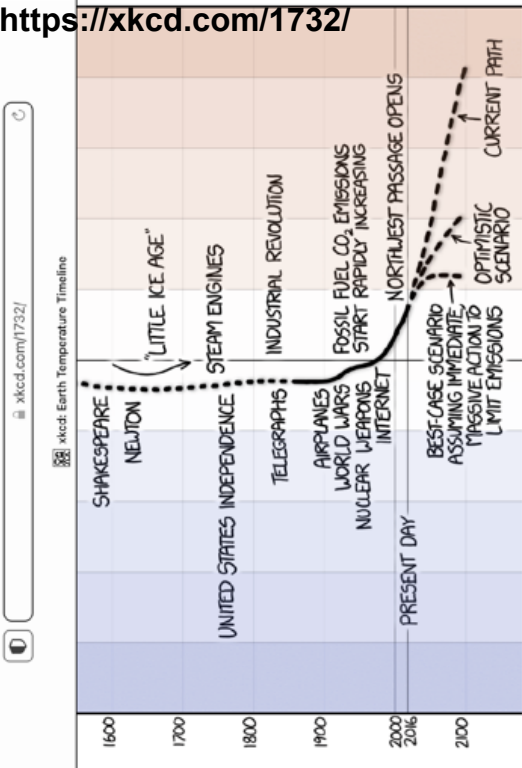


IPCC AR6

Emissions & Extinctions



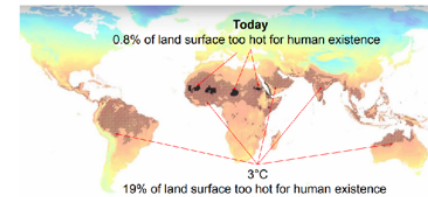
<https://xkcd.com/1732/>



What Do Degrees C Mean?

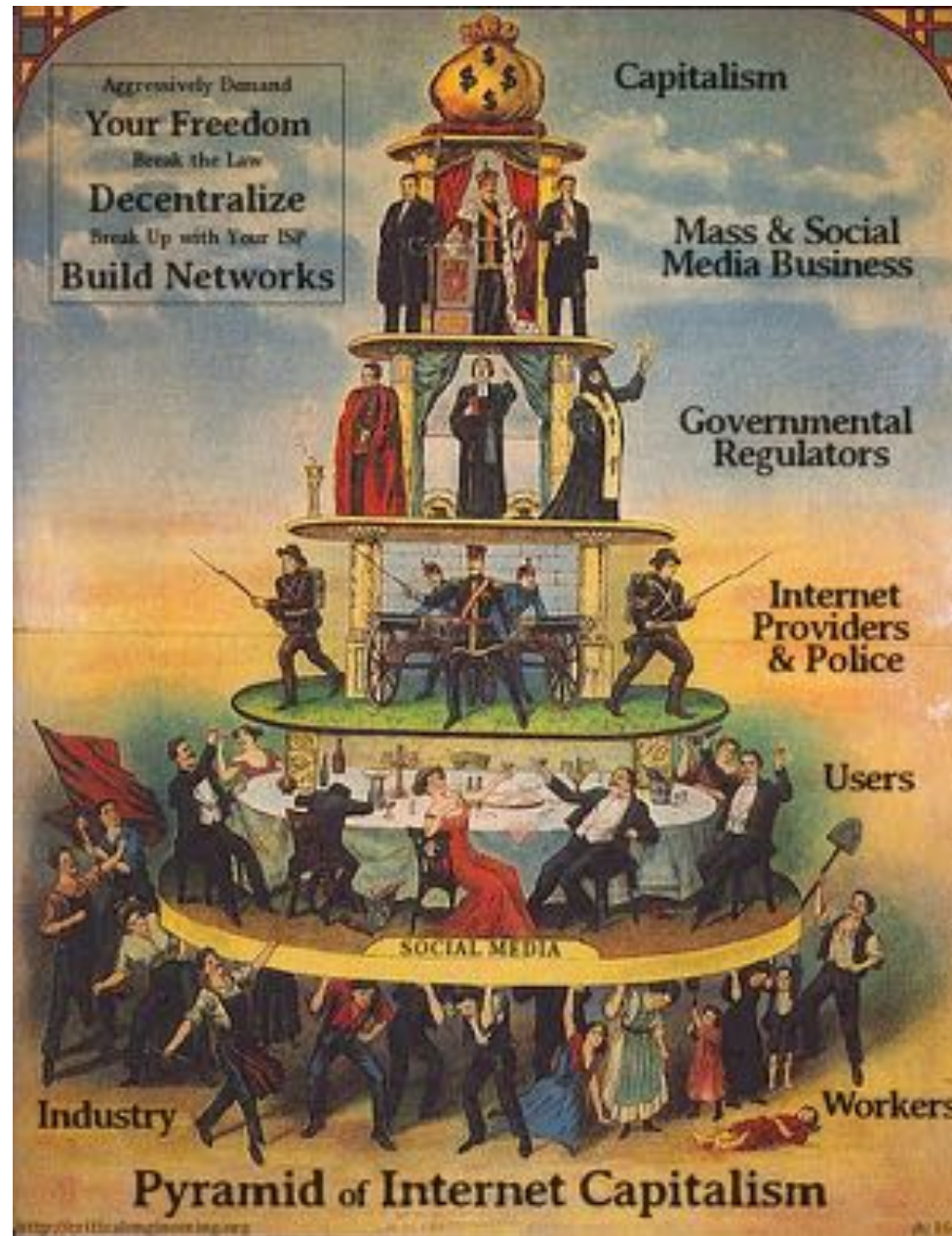
- 1 degree** Ice-free arctic summer, polar ecosystem damage; coral reef bleaching; stronger hurricanes; erratic weather
 - 2 degrees** Lots of problems; 10-15% species extinction; most coral reefs bleached; permafrost melt begins; limit of no-return
 - 3 degrees** 20-80% loss of Amazon rainforest; extinction risk for polar species. 20-30% species extinction; continued permafrost melt; 1.1-3.2 billion people with increased water stress; widespread coral loss
 - 4 degrees** Shutdown of ocean calcification; major extinctions around the globe; decrease in food production; near-total deglaciation
 - 5 degrees** Many unknown impacts
- [IPCC07]

1 billion people displaced for every additional 1°C of global warming





ICT & DeGrowth



COUNTER COMPUTING: <https://counter-n.net/>



- → decolonial computing, Stefanie Wuschitz,
- → insurgent computing, Anna Engelhardt
- → minimal computing, Andrew Lison
- → permacomputing, Marloes de Valk, Ville-Matias Heikkilä
- → more-than-binary computing, Juan Pablo García Sossa
- + frugal computing, Wim van der Bauwhede
- + junkard computing, Jennifer Switzer
- + off-the-grid / SolarPunk & <https://doingthedoughnut.tech/>
- + low-tech, “green tech”, slow tech, durable tech, circular tech

ICT & DeGrowth: ITU, IEA, EU

- ITU in 2020: “reduce ICT GHG emissions by 45% by 2030”

- <https://www.itu.int/en/mediacentre/Pages/PR04-2020-ICT-industry-to-reduce-greenhouse-gas-emissions-by-45-percent-by-2030.aspx>

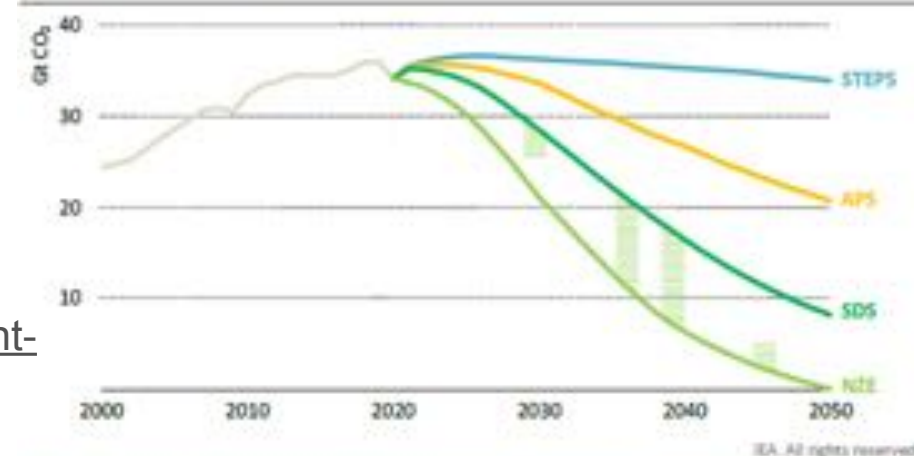
- International Energy Agency: “align ICT with climate-based targets”

- <https://www.iea.org/reports/data-centres-and-data-transmission-networks>

- European Green Digital Coalition: “net-zero no later than 2040”

- <https://digital-strategy.ec.europa.eu/en/policies/european-green-digital-coalition>

CO₂ emissions in the WEO-2021 scenarios over time



IEA. All rights reserved.
The APS pushes emissions down, but not until after 2030; the SDS goes further and faster to be aligned with the Paris Agreement; the NZE delivers net zero emissions by 2050



Digitalisation & DeGrowth Demands



- <https://digitalization-for-sustainability.com/digital-reset/>

Three requirements must be met for digitalisation to work for sustainability:

- The social and environmental impacts of producing and operating **digital devices, infrastructures and data centres** must be reduced. To make a difference in the short term, this report presents a combined strategy for digital sufficiency, repairability, circularity, and efficiency.
- The growth-oriented **business models of Big Tech companies** must be controlled and eventually replaced by business models that are oriented towards the common good. This report points out three policy pathways that can initiate this transition.
- The governance of **data and artificial intelligence** needs to actively pursue an information-based circular economy. This report shows which new institutions are required, and which policies can put data and AI in the service of sustainability.

Political Demands, Bits & Bäume 2022

1. Digitisation within the planetary boundaries
2. Global justice and regional self-determination
3. Redistribution of technological design power, democracy and participation
4. Fair digitisation, sustainable technology design and social issues
5. Protection of digital infrastructure and IT security

<https://bits-und-baeume.org/konferenz-2022/forderungen/#heading>

“Data is the New Oil”

- **Data Centers over-consumption of water, electricity, land**

- <https://www.youtube.com/watch?v=wOJmAClrqj4> (Stroomnet, De Avondshow met Arjen Lubach) (2023)
- <https://www.akcp.com/blog/data-centers-coping-with-climate-change-induced-wildfires/>
- <https://www.datacenterdynamics.com/en/opinions/why-data-centers-need-to-talk-about-water/>
- <https://www.consultancy.uk/news/28772/10-ways-businesses-can-reduce-their-digital-carbon-footprint>
- <https://www.oregonlive.com/silicon-forest/2022/12/googles-water-use-is-soaring-in-the-dalles-records-show-with-two-more-data-centers-to-come.html>
- <https://www.washingtonpost.com/climate-environment/2023/04/25/data-centers-drought-water-use/>
- <https://www.newscientist.com/article/2354801-google-has-finally-revealed-how-much-water-its-data-centres-use/>

- **Dutch Protests against Data Centers**

- <https://www.wired.com/story/microsoft-netherlands-hyperscale-data-centers/>
- <https://www.youtube.com/watch?v=OiPoR9OvD0Y> (Nederland als harde schijf | Zondag met Lubach) (2020)
- <https://youtu.be/lpQN32dXt10?t=218> (Datacentrum in Zeewolde | De Avondshow met Arjen Lubach) (2022)
- & <https://www.dutchnews.nl/news/2022/03/facebook-puts-zeewolde-data-centre-plan-on-hold-after-protests/>



Table 2.1: From data ethics to data justice

Concepts That Secure Power	Concepts That Challenge Power
Because they locate the source of the problem in individuals or technical systems	Because they acknowledge structural power differentials and work toward dismantling them
Ethics	Justice
Bias	Oppression
Fairness	Equity
Accountability	Co-liberation
Transparency	Reflexivity
Understanding algorithms	Understanding history, culture, and context

Solidarity with Alternative Movements

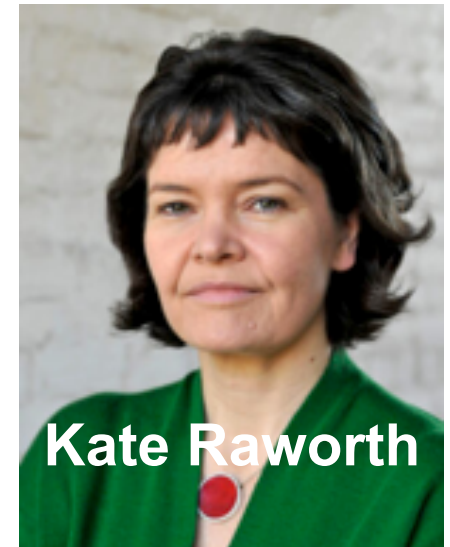


- **Society & Economy:**
 - Intersectional Environmentalism, Regeneration <https://urban-arena.eu/> , Eco-socialism, Green New Deal, Sufficiency Movement...
- **Tech:**
 - **Decentralisation, federation, self-hosting, Divestment, "Green Tech", "Right To Repair" Movement ...**
 - **Community-owned & community-run networks** <https://datatracker.ietf.org/group/gaia/about/>
 - <https://feministinternet.org/>
 - **Digital Rights & Climate Justice:** <https://www.theengineerroom.org/new-report-at-the-confluence-of-digital-rights-climate-justice/>
 - <https://sdialliance.org/>

My Top 10 21st-Century Alternative Economic Theory Books:

- Giving Economy, Heather Marsh (in "Binding Chaos", 2013)
 - Post-carbon Economy, Naomi Klein (in "On Fire", 2021)
 - Caring Economy, Riane Eisler (2007) : <http://caringeconomy.org/>
 - Decolonising Economics, Nonhlanhla Makuyana (2021) <https://decolonisingeconomics.org/>
 - Ecofeminism, Maria Mies and Vandana Shiva (2014) <https://www.environmentandurbanization.org/ecofeminism>
 - Mutualism, Sara Horowitz (2021)
 - Doughnut Economics, Kate Raworth (2017) <https://doughnuteconomics.org/>
 - Mission Economy, Mariana Mazzucato (2021)
 - The Support Economy: Shoshana Zuboff (2002) <http://www.thesupporteconomy.com/>
 - Enlightenment Economics, Diane Coyle (in "The Economics of Enough", 2011)
- <https://labs.ripe.net/author/becha/ripe-community-resilience-economy-of-care/>

Decolonizing Internet, Economy, Ecology...



Kate Raworth

VANDANA SHIVA

"I think the combination of feminism and ecology creates two potentials. First, I have seen feminism that is not ecological become a new oppressor. I have seen environmentalism that is not feminist enough also become a new elitism. Ecofeminism prevents those two new forms of elitism by saying, No, it's about society and nature. It's about other ways of thinking"



Nonhlanhla Makuyana

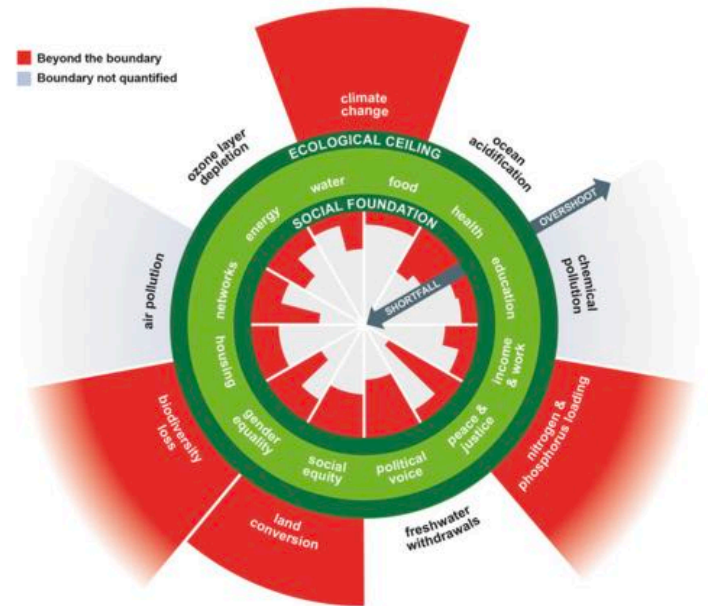


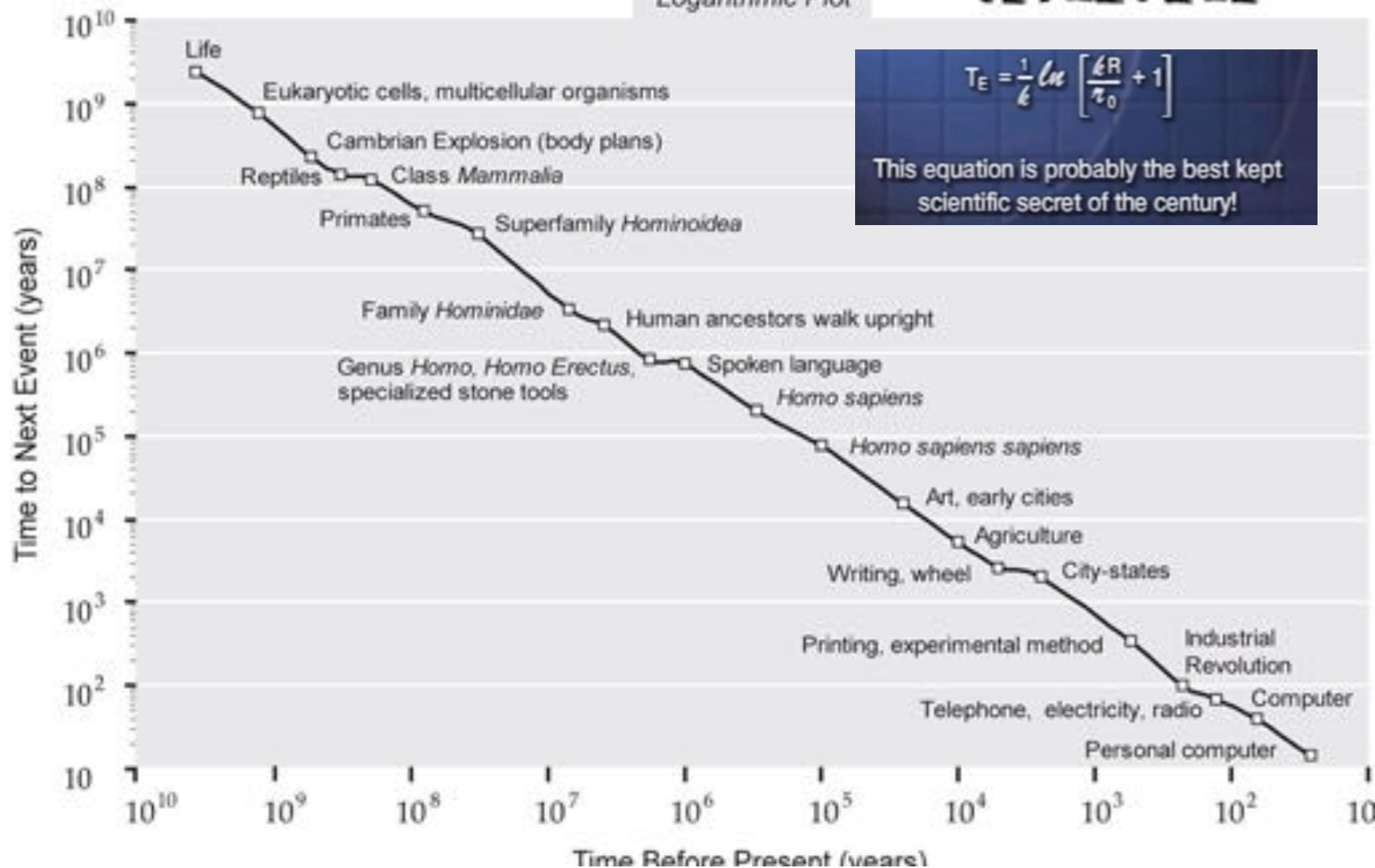
Image: Kate Raworth and Christian Guthrie/The Lancet Planetary Health



More Tech Is Not a Solution

Countdown to Singularity

Logarithmic Plot



$$T_E = \frac{1}{k} \ln \left[\frac{kR}{\tau_0} + 1 \right]$$

This equation is probably the best kept scientific secret of the century!



Mental Health While Civilisations Collapse



11. WELTSCHMERZ

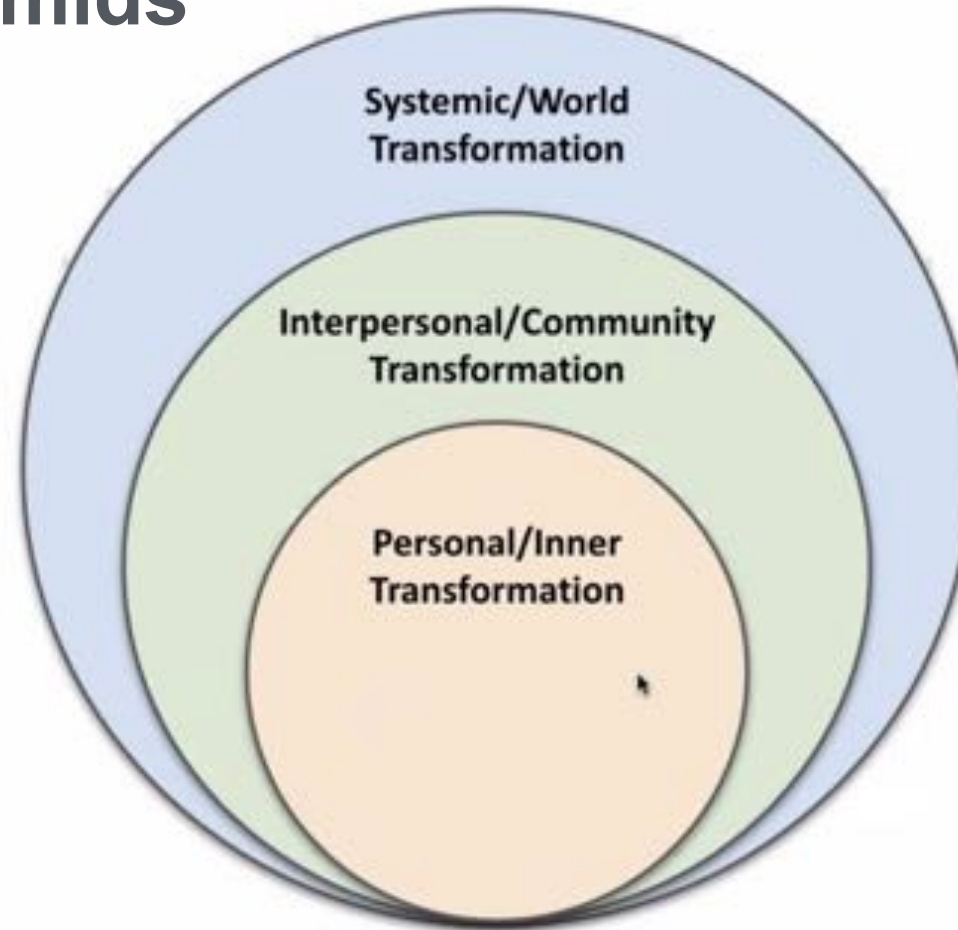
"World pain" is a sadness brought on by a realization that the world cannot be the way you wish it would be. It's more emotional than pessimism, and more painful than ennui.



14. ZIVILISATIONSKRANKHEIT

"Civilization sickness" is a problem caused by living in the modern world. Stress, obesity, eating disorders, carpal tunnel syndrome and diseases like type 2 diabetes are all examples.

Beyond Pyramids



Integrating Personal, Interpersonal & Systemic Transformation

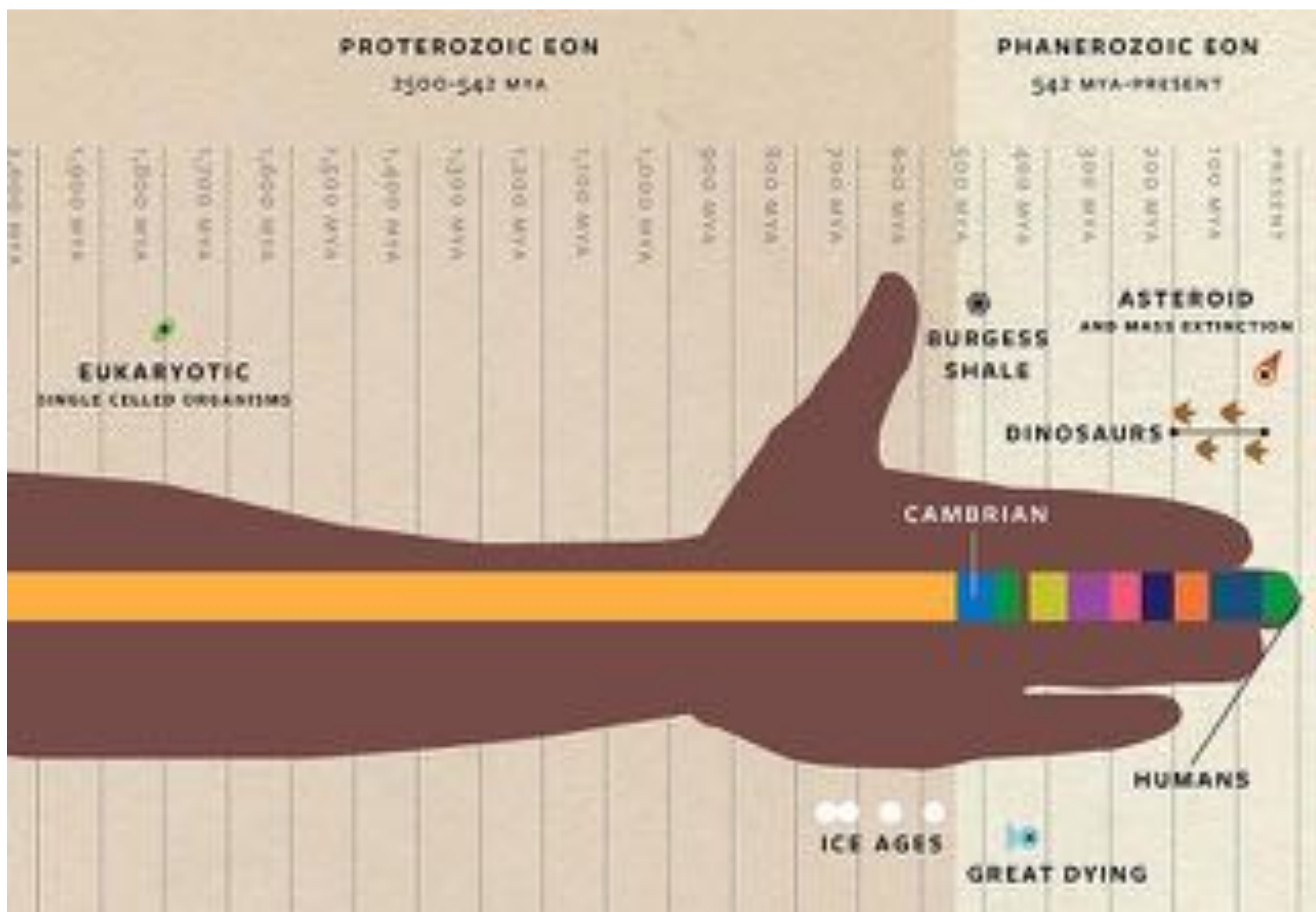
My part of the story

- Death is part of Life
- All we can do is to love
- This, too, shall pass
- Only love remains
- I am enough
- Love is all we have left



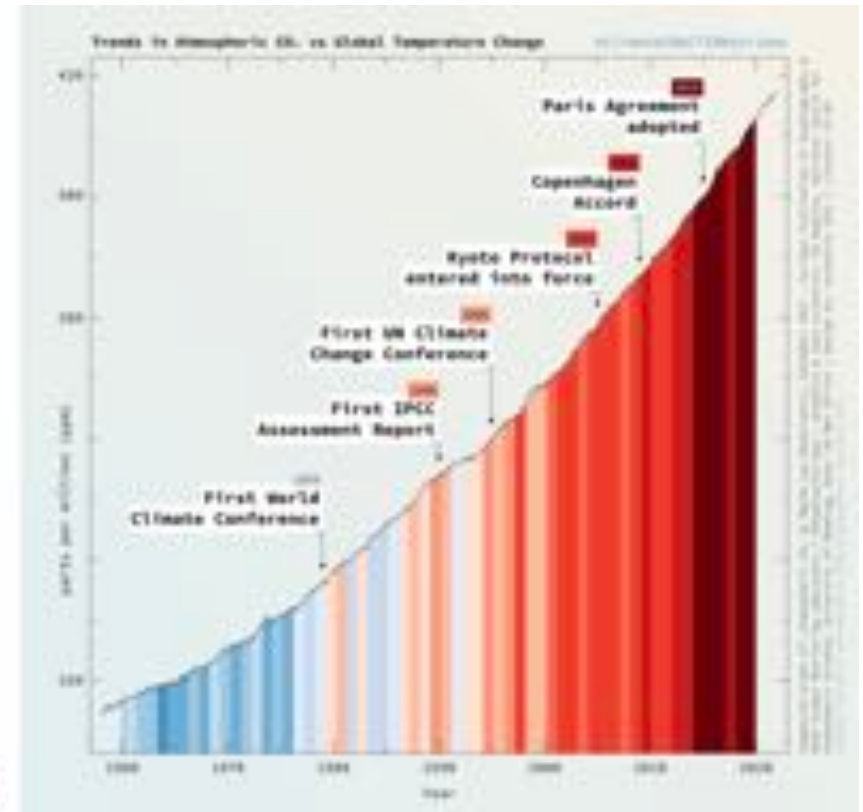
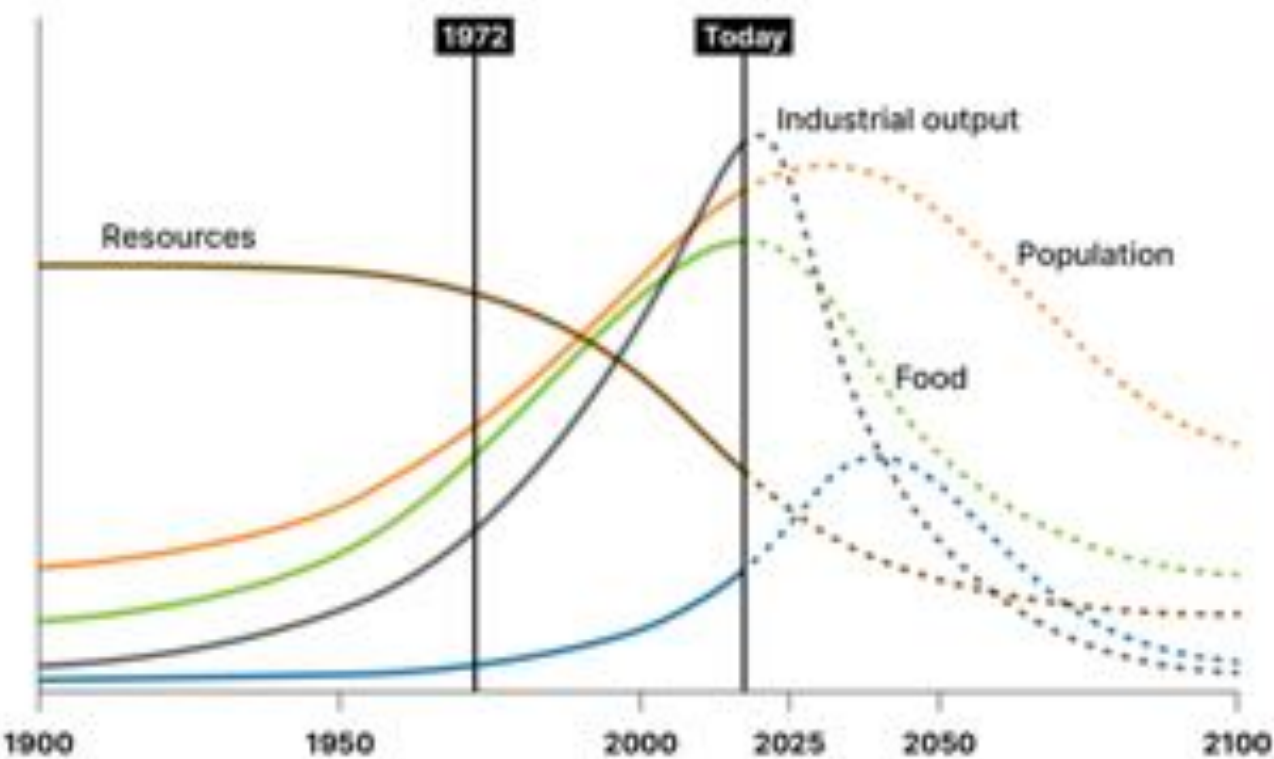


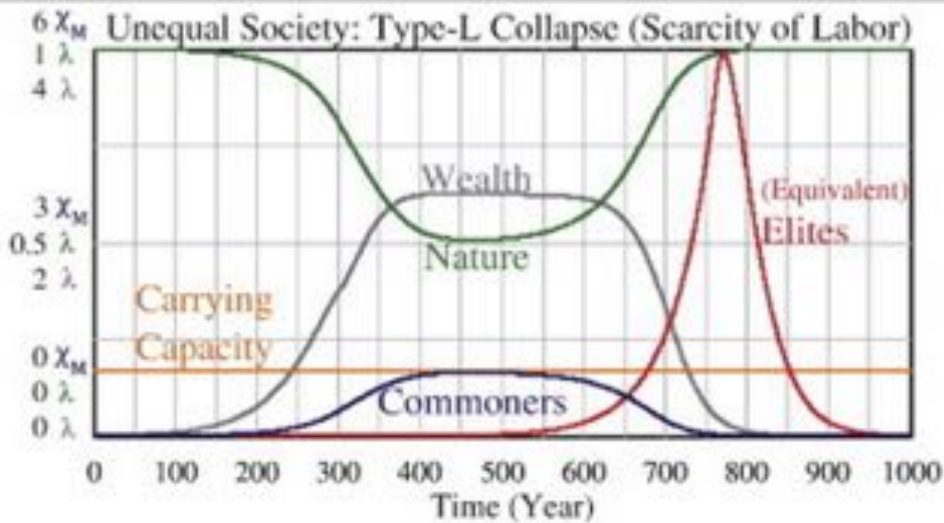
Cultural Perpetuity



Problem Statement: Science View

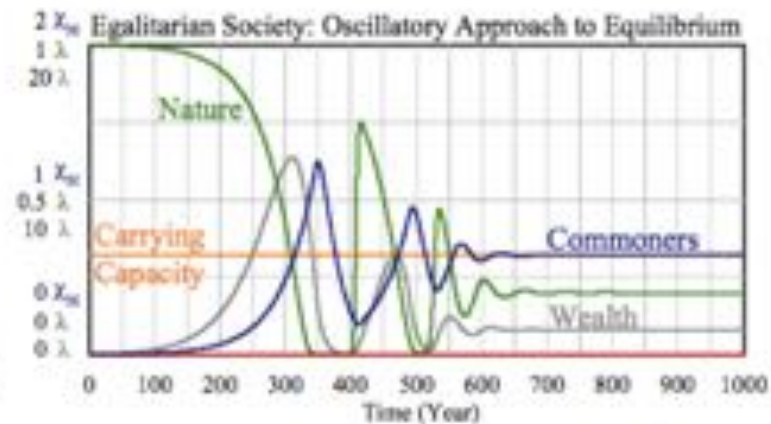
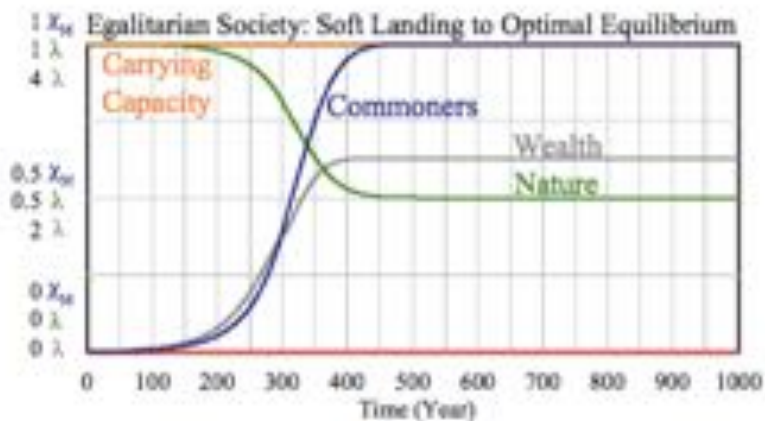
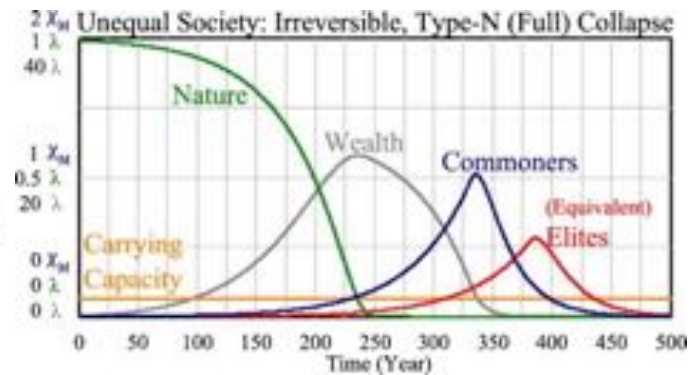
- “Limits to Growth” (1972), “Earth4All” (2022) & IPCC
 - by “Club Of Rome” (Donella Meadows et.al.)

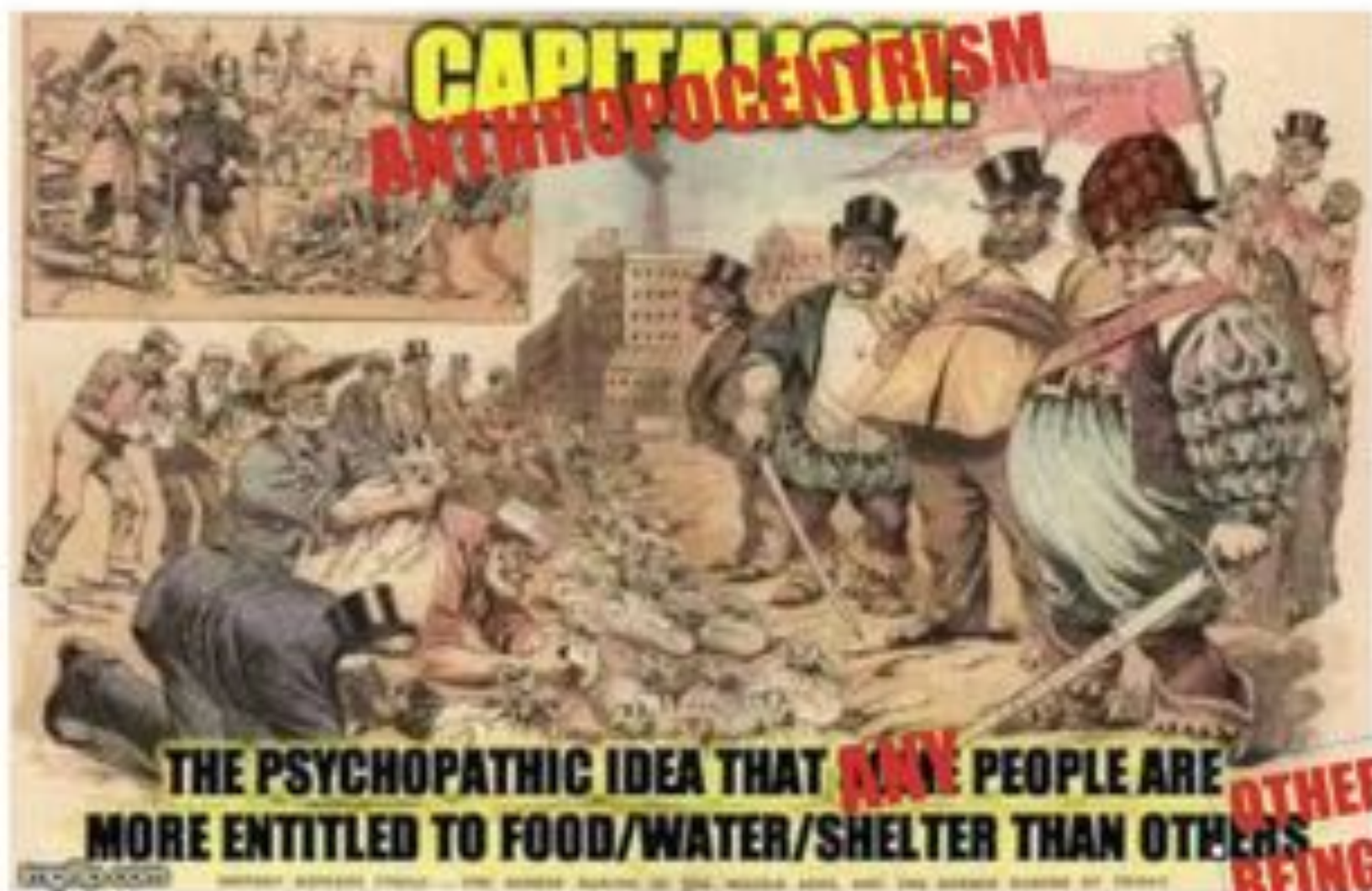




a) Population collapse following an apparent equilibrium due to a small initial Elite population when $\kappa = 100$. This scenario also shows a different route to a collapse, in which, although Nature eventually recovers, population does not.

HANDY: Modeling inequality and use of resources in the collapse or sustainability of societies <https://www.sciencedirect.com/science/article/pii/S0921800914000615>

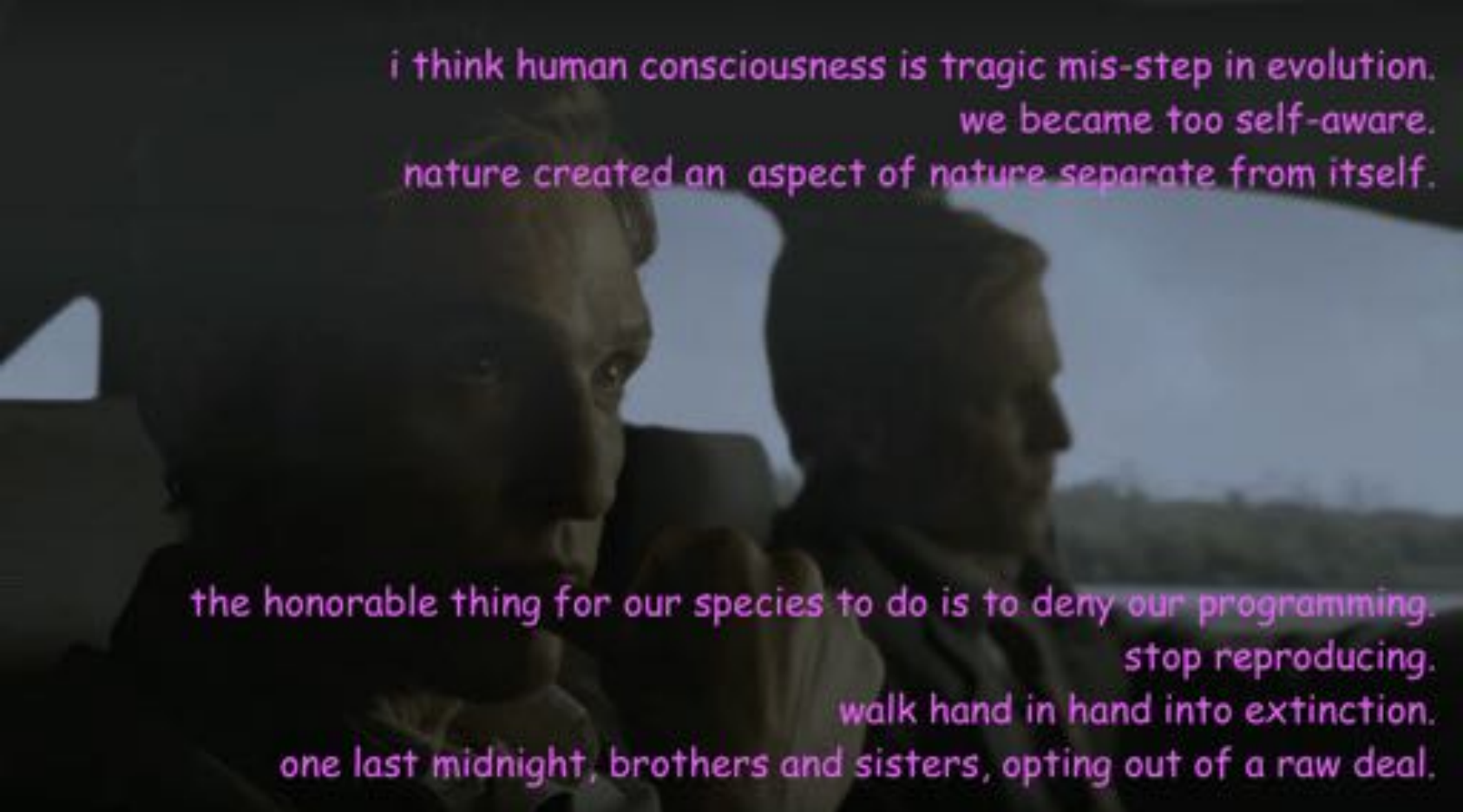




**CAPITALISM
ANTHROPOCENTRISM**

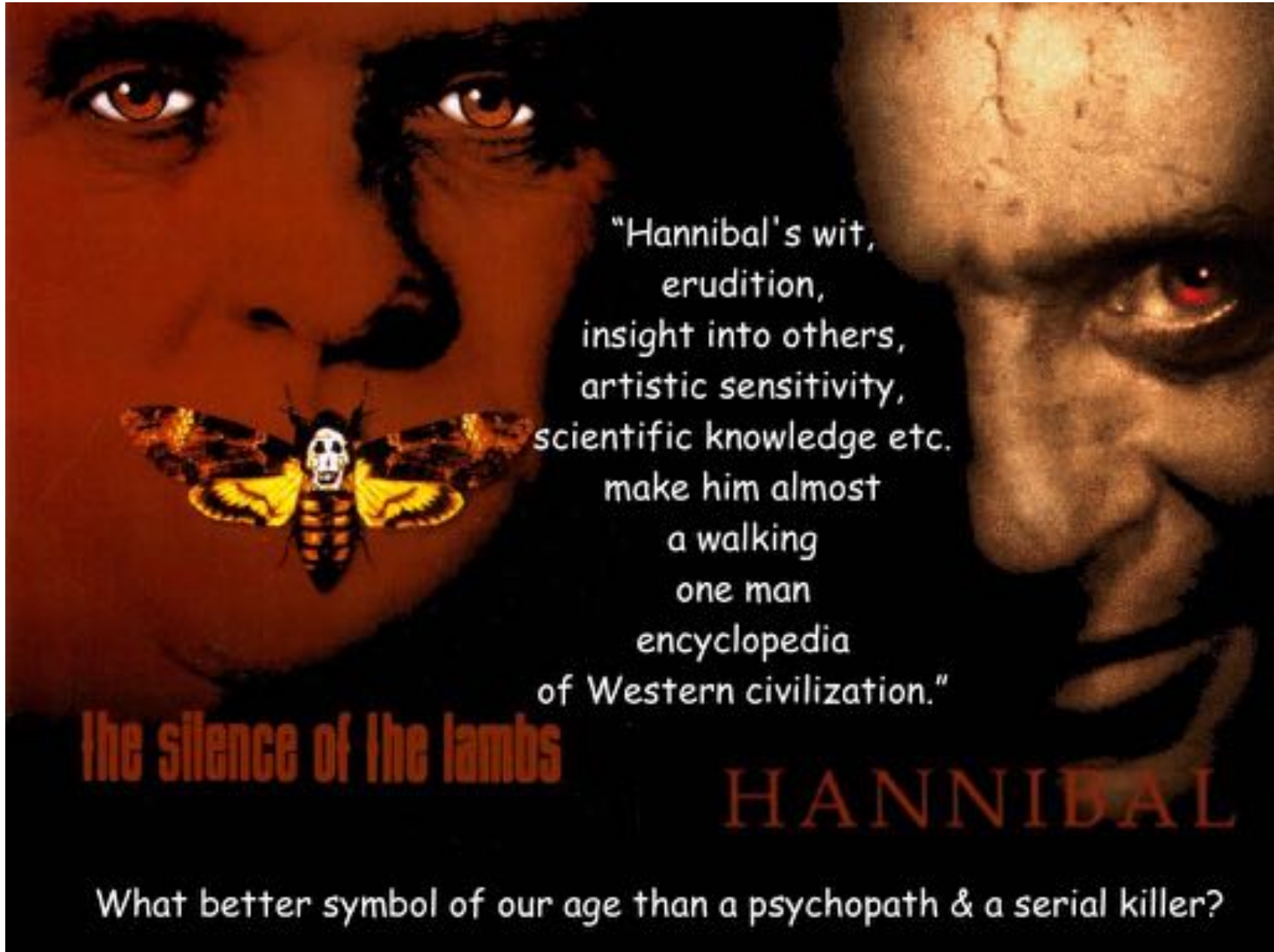
**THE PSYCHOPATHIC IDEA THAT ANY PEOPLE ARE
MORE ENTITLED TO FOOD/WATER/SHELTER THAN OTHERS**

**OTHER
BEINGS**



i think human consciousness is tragic mis-step in evolution.
we became too self-aware.
nature created an aspect of nature separate from itself.

the honorable thing for our species to do is to deny our programming.
stop reproducing.
walk hand in hand into extinction.
one last midnight, brothers and sisters, opting out of a raw deal.



"Hannibal's wit,
erudition,
insight into others,
artistic sensitivity,
scientific knowledge etc.
make him almost
a walking
one man
encyclopedia
of Western civilization."

The silence of the lambs

HANNIBAL

What better symbol of our age than a psychopath & a serial killer?

"When you're
accustomed to
privilege,
equality feels
like
oppression"

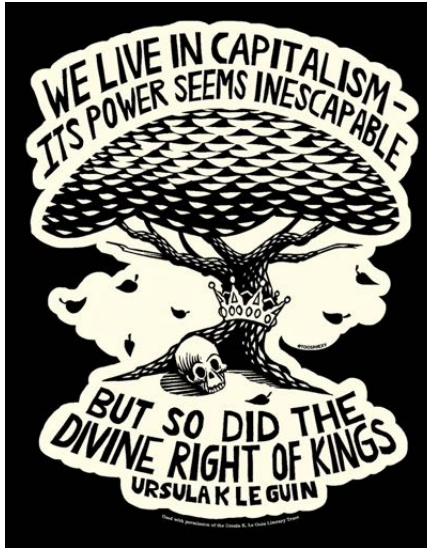
**AFRO
PUNK.**

Layer 9: Cultural Perpetuity

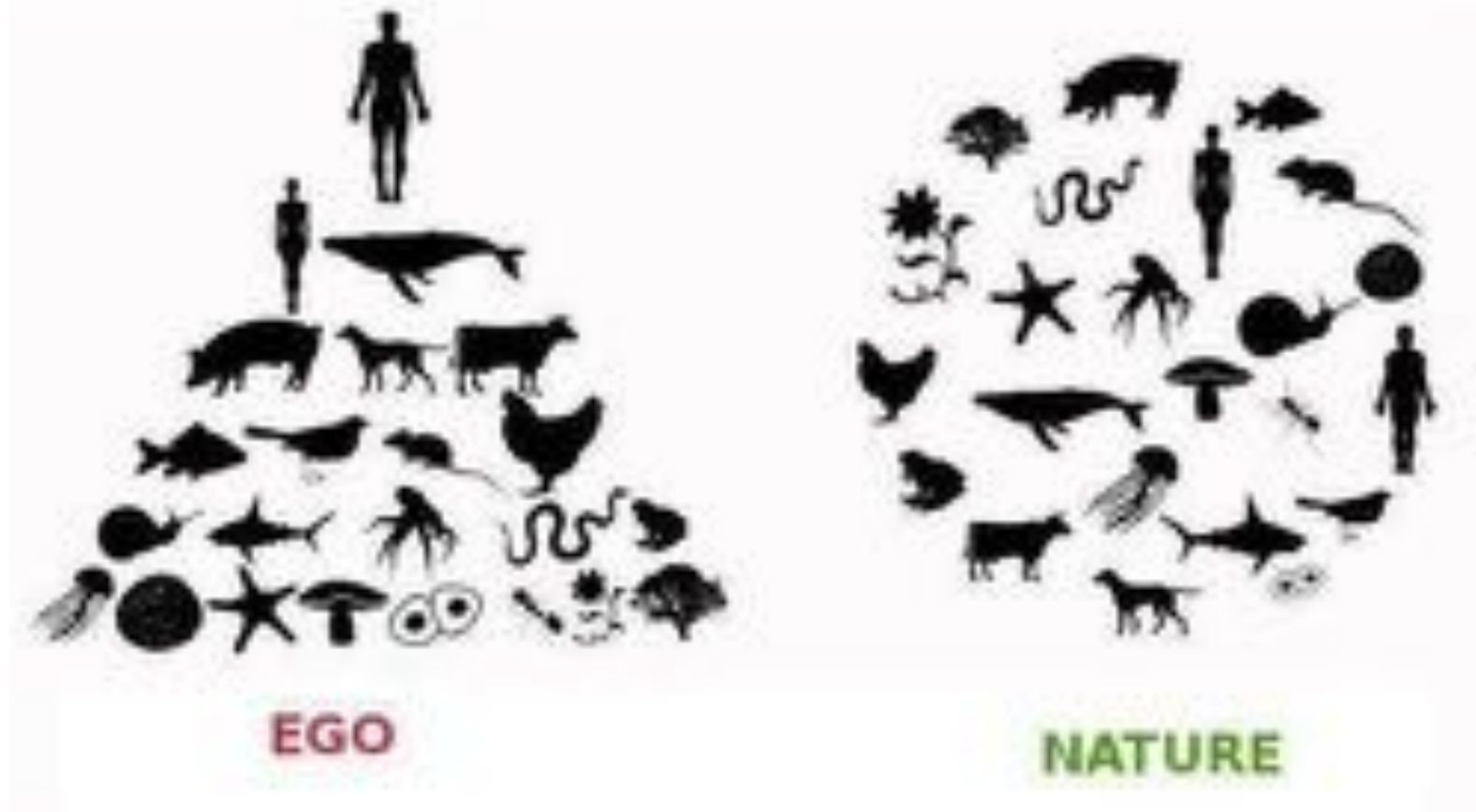


<https://labs.ripe.net/author/becha/ripe-community-resilience-every-society-has-the-internet-they-deserve/>

Vesna



Right place and the right role in the symphony of life



Mature cultures have found balance with Nature



http://UnCiv.NL



A screenshot of a web browser window displaying the website unciv.nl. The browser's address bar shows the URL 'unciv.nl'. The main content of the page is a photograph of a brown squirrel sitting on a wooden log, holding a nut in its paws and eating it. Below the image, there are four lines of contact information, each separated by a horizontal line:

Mailinglist: <https://lists.puscii.nl/www/info/uncivilization>

Wiki: <https://www.unciv.nl/w/>

Mail: contact@unciv.nl

Twitter: [Ms_Multicolor](#)