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# **Mapping the connection between technology and ethics**

**Albert S. Kochaphum**  
**Week 3 | July 7<sup>th</sup>, 2021**

# Today's Agenda

**Logistics**

**Visiting Voice**

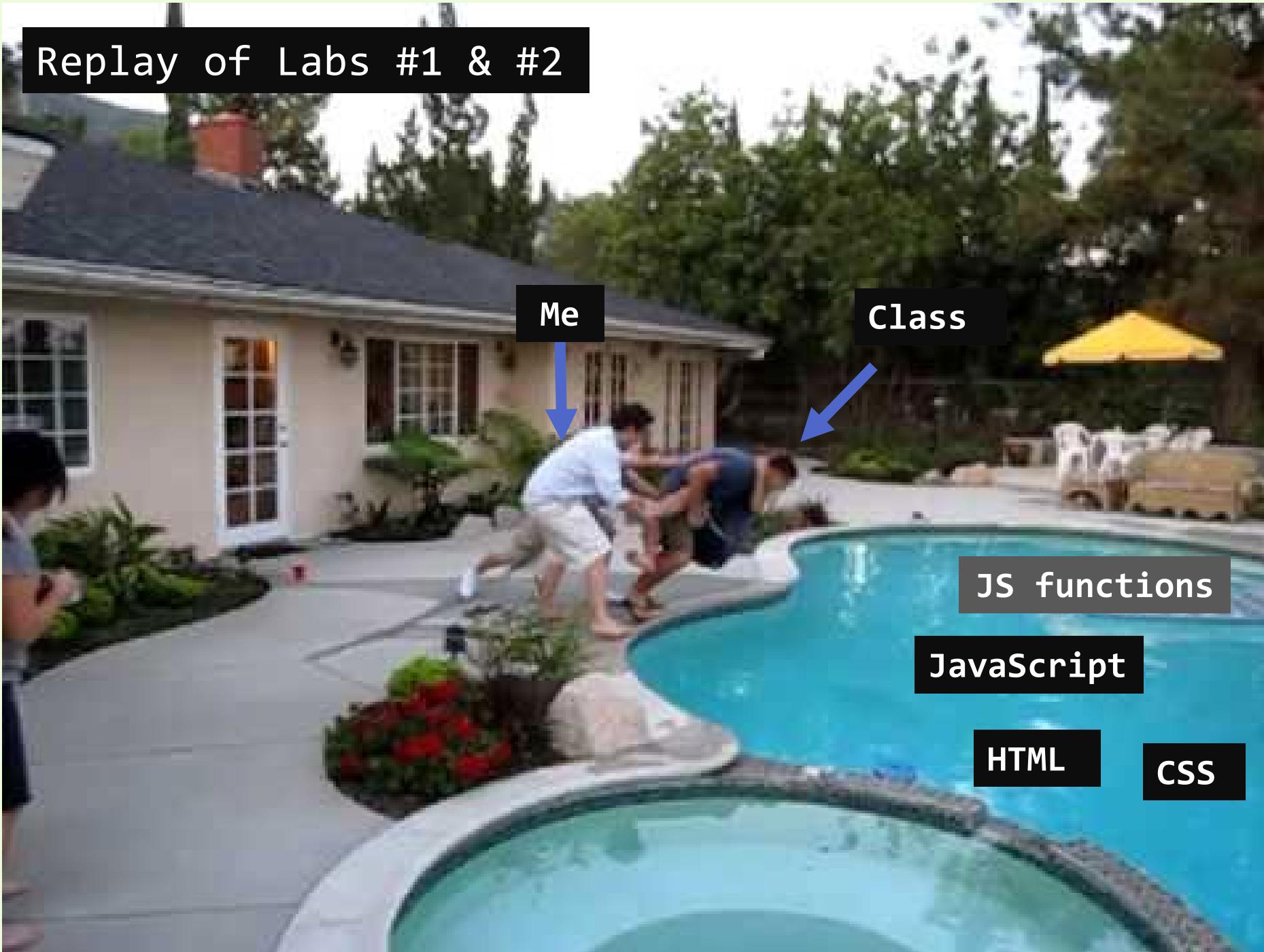
**Lecture**



**1:05pm**

**~1:45pm**

## Replay of Labs #1 & #2



**Week 2 ALwards**

Amazing Labs  
and  
Thinking Caps to  
Poke(e-mon) Around

# Alwards for Week 2



-Rating this two column layout

# Harry Frahn

## Week 1 Lab Assignment: Portfolio

### Places I've Camped in Southern California

**About Me**

- From the Bay Area
- 2nd Year Public Affairs Major (GIS Minor)
- I got lowkey obsessed with baking in the last few months; here are some things I made

**Mapping Goals**

I've loved maps ever since I was a little kid; something about the combination of art, visual storytelling, and the information they can convey makes them unique from other forms of data visualization for me. In this class, I want to learn to use GIS to do more than just make cool maps (which by itself is pretty awesome). I want to use it to identify social problems and use the power of

### rainbow map of CA

The map displays a color-coded representation of California and its neighbors. The colors range from purple in the north to red in the south. A legend at the bottom left indicates that clicking on a color box will randomize the colors. The map includes labels for major cities and state/province names.

Click to randomize colors

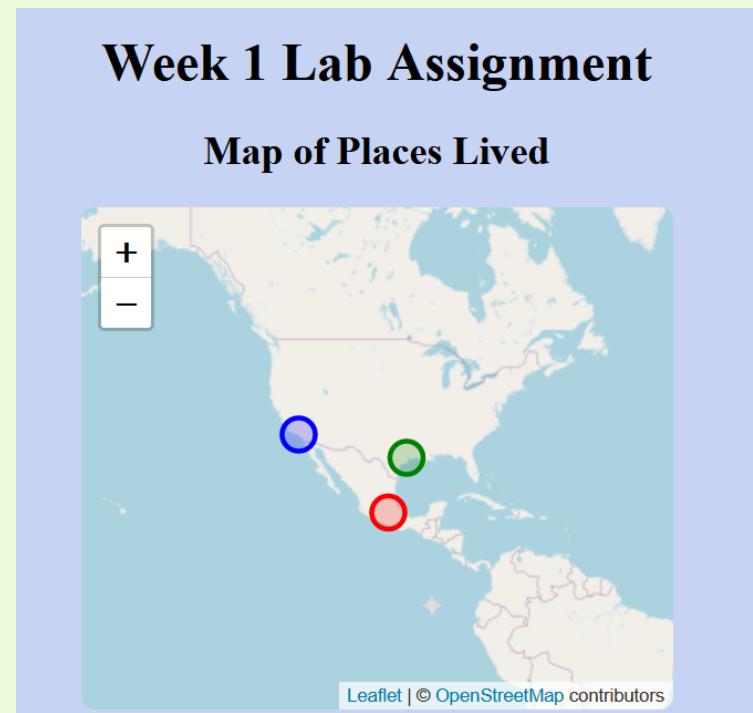
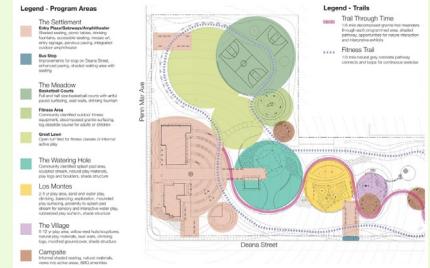
Copyright(2021)

# Alwards for Week 2

Good R- Map Border



Irvin Ramirez



# Alwards for Week 2

Great -radiant Background!

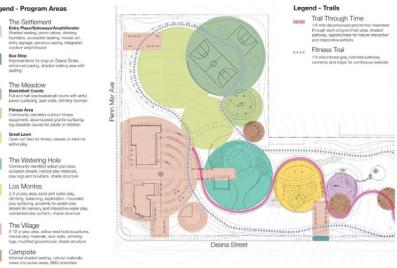


## Abita Venkatesh

ASIA AM 191A Portfolio Summer  
2021

### Welcome to Abita's Portfolio!

My goals are to eventually work in the field of public health and/or sustainability. I am not sure about specifics yet, but I want to take my last year of undergrad and a bit of time after college to gain experience either contact tracing or working in sustainable food climate jobs (ex. using maps to locate disease outbreaks or to look for areas vulnerable to particular climate change impact situations). In particular, as a critical digital map maker, it would be interesting to create an interactive map that both temporally and spatially showcases how different vulnerable groups, protected classes, or demographic categories of people are differentially affected by zoonotic diseases in years to come, since their prevalence is expected to increase. I enjoy writing, journalism, reading, and experimenting with new recipies. I also to thrift shop and buy more books than I end up reading.



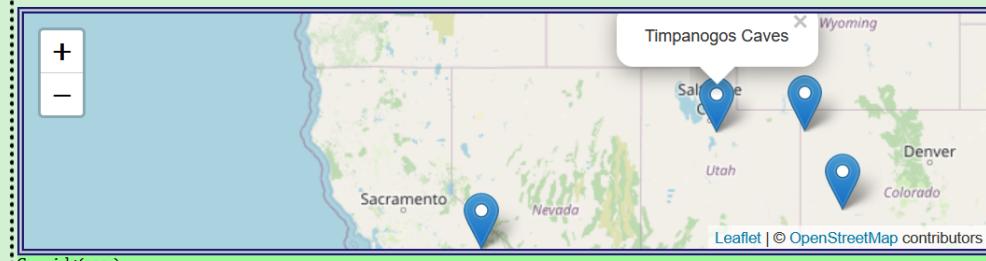
# Alwards for Week 2



## -mazing CSS Styles!

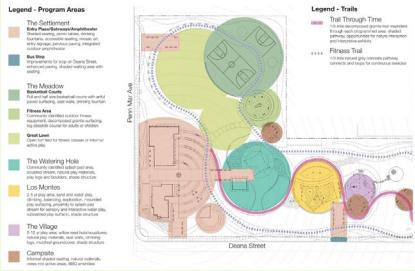
Liz Andrusenki

### Liz's Portfolio



### My Favorite NPS Service Areas Map

1. Black Canyon of the Gunnison National Park
2. Death Valley National Park
3. Devils Postpile National Monument



# Alwards for Week 2

Lots of content to alk-about



Edmond Wen

## WEEK 1 LAB ASSIGNMENT

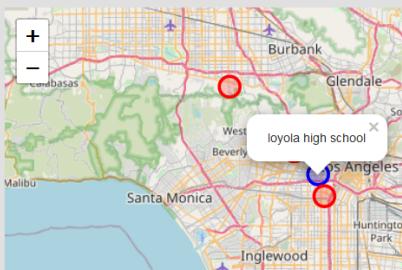
### GOALS

MY FIRST SIGNIFICANT MEMORY OF MAPS COMES FROM A CHILDREN'S ENCYCLOPEDIA BOOK WHICH USED A STYLISH MAP TO HIGHLIGHT COUNTRIES AROUND THE WORLD, EXPOSING MY MIND AND IMAGINATION TO A BREADTH OF CULTURES AT A YOUNG AGE. THE FACT THAT THIS MEMORY STILL STICKS WITH ME IS A TESTAMENT TO THE POWER OF MAPS AS A FORM OF INFORMATION. I WANT TO USE MAPS TO HIGHLIGHT THE STORIES OF EVERYDAY PEOPLE WHO OFTENTIMES DO NOT GET A VOICE AT A TABLE.

### DEBATE TRAVEL

THIS MAP FEATURES SOME OF THE PLACES I'VE TRAVELED TO FOR HIGH SCHOOL DEBATE. THE COLOR I CHOSE FOR EACH ICON REFLECTS THE MASCOT/LOGO FOR THE SCHOOL/INSTITUTION. I TRAVELED MAINLY FOR ONE OF TWO REASONS:

- TOURNAMENTS
- CAMPS



# Alwards for Week 2



**What a nice reflective post**

**Abita Venkatesh**

While this article was written in 2005, and since then more community mapping applications and courses have become more available, the problem itself still seems prevalent such that these opportunities are still largely limited to people with the privilege of access to academia... In this same regard, improvement of participatory mapping and critical cartography can also be made by giving value to maps that do not strictly adhere to the western viewpoints of what a map is.

# Alwards for Week 2

Nice topics you -sed to discuss!



Cynthia Orozco

I appreciate the participation ladder with roles and responsibilities (p. 9) in the Chambers article. The extractive model is really prevalent in academic, in which the researcher extracts knowledge from the community they study and then get all the credit for the knowledge produced... You don't see community members as authors nearly enough in my opinion. With that said, as a PhD student, one thing I really don't like about the dissertation is that ultimately I'm a single author of the dissertation and my participants at most can be a collaborator.



# Alwards for Week 2

**What a meaningful comment you  
to your classmate!**

**Luigi Magdamit**

I think your point about authorship in research is something that is new to me. I think having one person claim ownership over research that is gathered through a community goes against the ethos of participatory mapping, and I think its really admirable that you are trying to find ways to overcome it. The map is also well drawn!



**Moving on!**

# Where we ARRRRRR at

**Critical Cartography**

**Leaflet.js**

**VS Code**

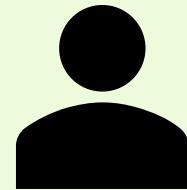
**HTML**

**GitHub**

**QGIS**

**Firefox**

**Why?**



# **Theme of the week**

**The societal impacts of technology**

slido

week 3

- ① Start presenting to display the poll results on this slide.

**What is the relationship between society  
and technology?**

# Visiting Voice

# Visiting Voice: Yoh Kawano



[Yoh Kawano](#) is a research coordinator at UCLA's [Institute for Digital Research and Technology](#). His community empowerment is on narratives in Japan's Fukushima prefecture following the 2011 Tsunami.

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## Audience Q&A Session

- ⓘ Start presenting to display the audience questions on this slide.

**First off.. Why is this relevant?**

**Society and Technology = Should be separate?**



JASON FRIED

April 26, 2021

# Changes at Basecamp

At Basecamp, we treat our company as a product. It's not a rigid thing that exists, it's a flexible, malleable idea that evolves. We aren't stuck with what we have, we can create what we want. Just as we improve products through iteration, we iterate on our company too.

Recently, we've made some internal company changes, which, taken in total, collectively feel like a full version change. It deserves an announcement.

<https://world.hey.com/jason/changes-at-basecamp-7f32afc5>

**1. No more societal and political discussions on our company Basecamp account.** Today's social and political waters are especially choppy. Sensitivities are at 11, and every discussion remotely related to politics, advocacy, or society at large quickly spins away from pleasant. You shouldn't have to wonder if staying out of it means you're complicit, or wading into it means you're a target. These are difficult enough waters to navigate in life, but significantly more so at work. It's become too much. **It's a major distraction.** It saps our energy, and redirects our dialog towards dark places. It's not healthy, it hasn't served us well. And we're done with it on our company Basecamp account where the work happens. People can take the conversations with willing co-workers to Signal, Whatsapp, or even a personal Basecamp account, but it can't happen where the work happens anymore. *Update: David has shared some more details and more of the internal announcement on his HEY World blog.*

**6. No forgetting what we do here.** We make project management, team communication, and email software. **We are not a social impact company.** Our impact is contained to what we do and how we do it. We write business books, blog a ton, speak regularly, we open source software, we give back an inordinate amount to our industry given our size. And we're damn proud of it. Our work, plus that kind of giving, should occupy our full attention. **We don't have to solve deep social problems,** chime in publicly whenever the world requests our opinion on the major issues of the day, or get behind one movement or another with time or treasure. These are all important topics, but they're not our topics at work — they're not what we collectively do here. Employees are free to take up whatever cause they want, support whatever movements they'd like, and speak out on whatever horrible injustices are being perpetrated on this group or that (and, unfortunately, there are far too many to choose from). But that's their business, not ours. We're in the business of making software, and a few tangential things that touch that edge. **We're responsible for ourselves.** That's more than enough for us.

April 26, 2021

## Changes at Basecamp

At Basecamp, we treat our company as a product. It's not a rigid thing that exists, it's a flexible, malleable idea that evolves. We aren't stuck with what we have, we can create what we want. Just as we improve products through iteration, we iterate on our company too. Recently, we've made some internal company changes, which, taken i...

[Read more](#)

April 24, 2021

## I bought a sauna

I bought a sauna. Which one doesn't matter. I barely know. I don't even care. Model number? I couldn't tell you. Maker? I'd pronounce it wrong. I just know it goes up to about 184 degrees Fahrenheit. I bought a sauna on a second-hand recommendation from someone I don't know, but do respect. I bought a sauna sight unseen, heat unfelt. I...



A FEW  
DAYS LATER

# INSIDE THE ALL-HANDS MEETING THAT LED TO A THIRD OF BASECAMP EMPLOYEES QUITTING

*The company's senior leadership wanted to quell employees' concerns, and only made things much, much worse*

By Casey Newton | [@CaseyNewton](#) | May 3, 2021, 8:00pm EDT

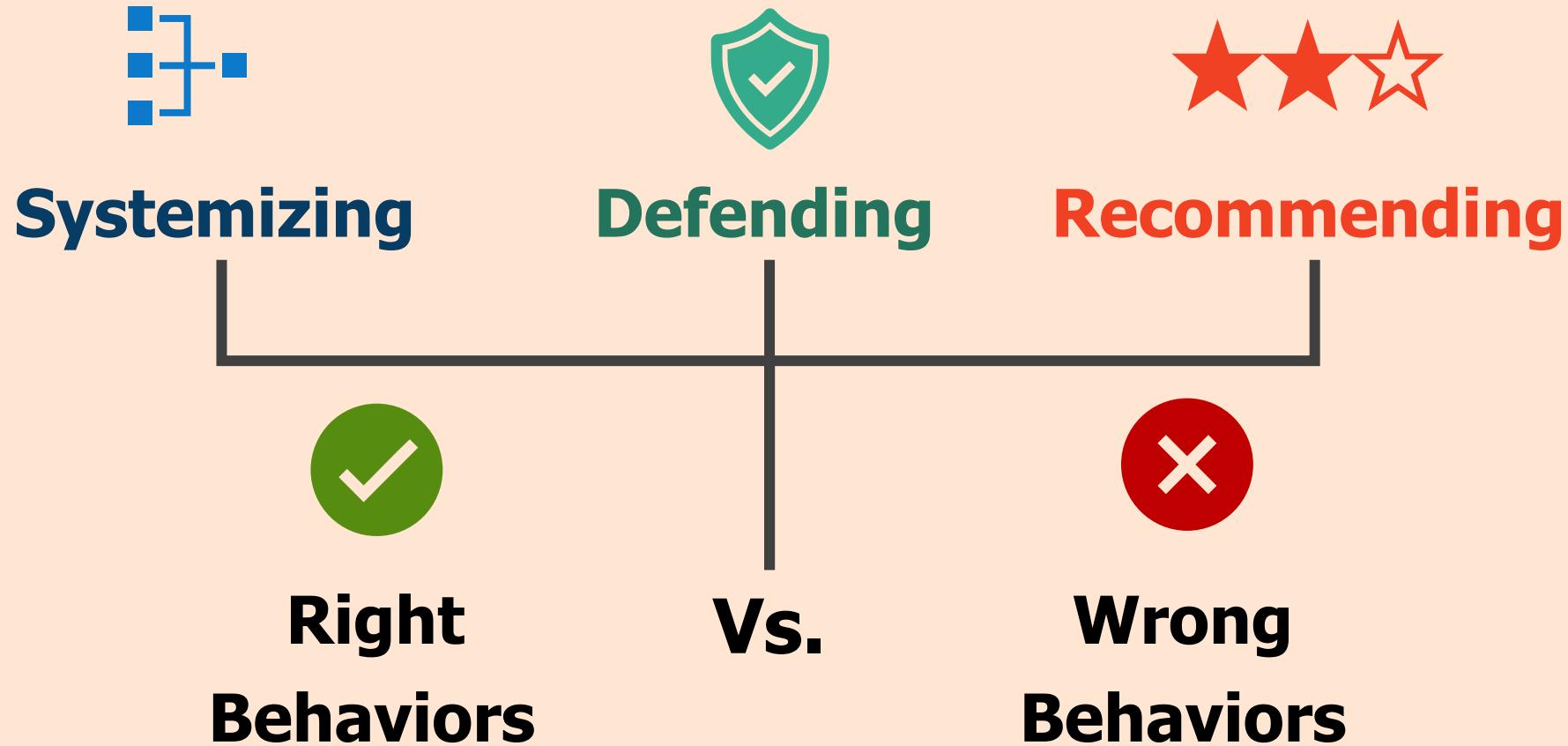
**Community + Technology + Ethics = Necessary**

**Analyzing this looks like a job for...**

# Ethic



# Reminder, ethics is about:



# **Reminder, ethics is about:**

**Understanding why we should be doing a certain action.**

**There are no “right” answers...**

**BUT!!!!!!**

**We should be able to *systemize*, *defend*, and  
*recommend* what is *right* or *wrong* for ourselves.**

# Three ethical terms to walk away with:



**Technological Determinism**



**Techno-facism**

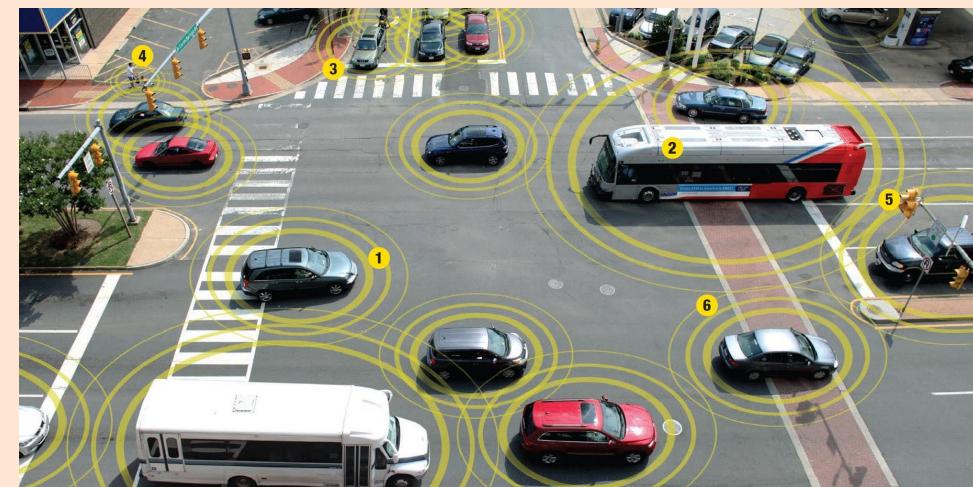


**Holism**

# **Society, Ethics, and Technology**

# Technology

- 1. Objects that provide a “solution” to a problem**
- 2. Technique of knowledge**
- 3. Set of objects that exist only within certain social relations.**



# Technology

**When we think about technology as an “object” we cut it out of the social context that it exists in.**

**This causes:**

- **Commodification of technology**
- **Fetishizing technology**

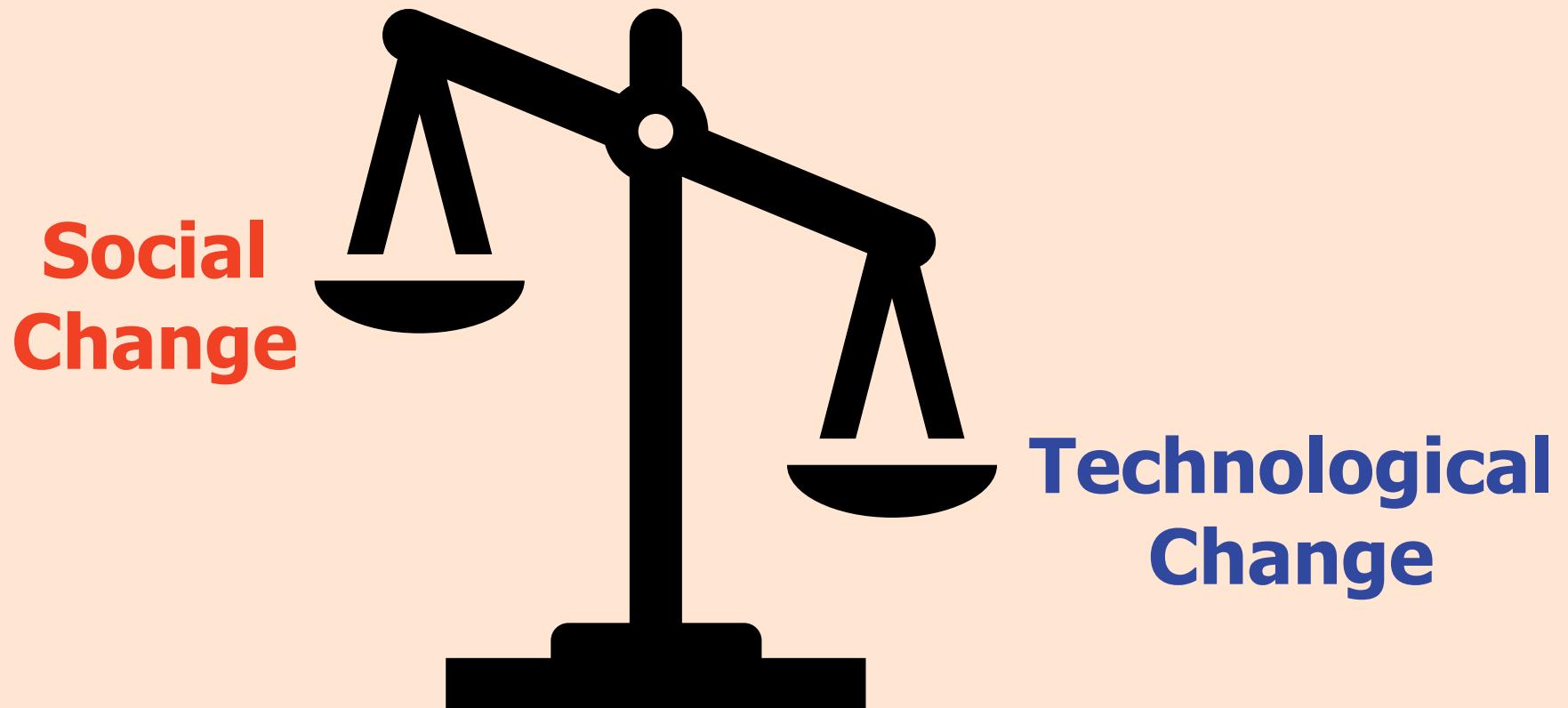


# Society

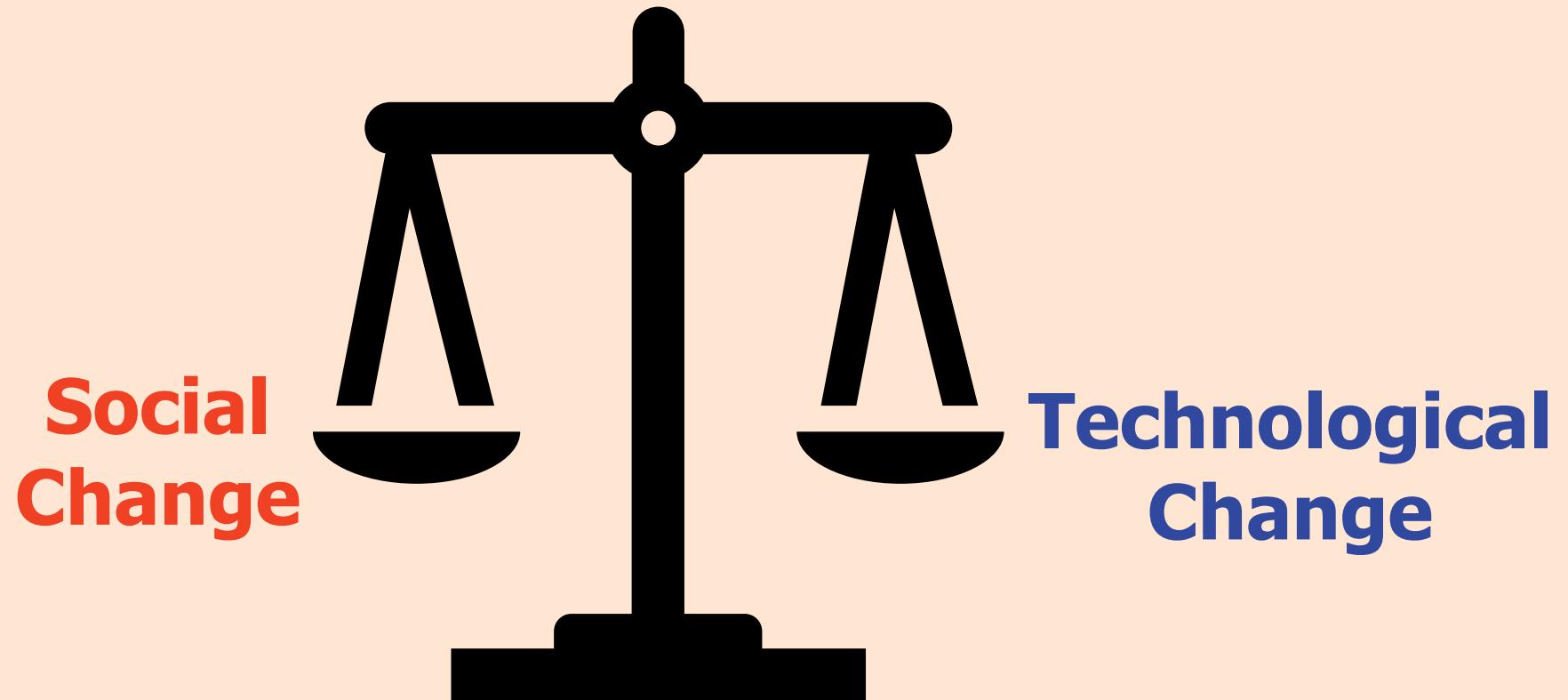


**“We live in a society”**

# As a society where we are at:



# Where we need to be:



# Why?

# We have tools to solve social issues like:

- Hunger
- Climate change
- Police brutality
- Houselessness

**But....**

**We spend resources on trying to find “new”  
bigger and better technical solutions instead of  
addressing root causes.**

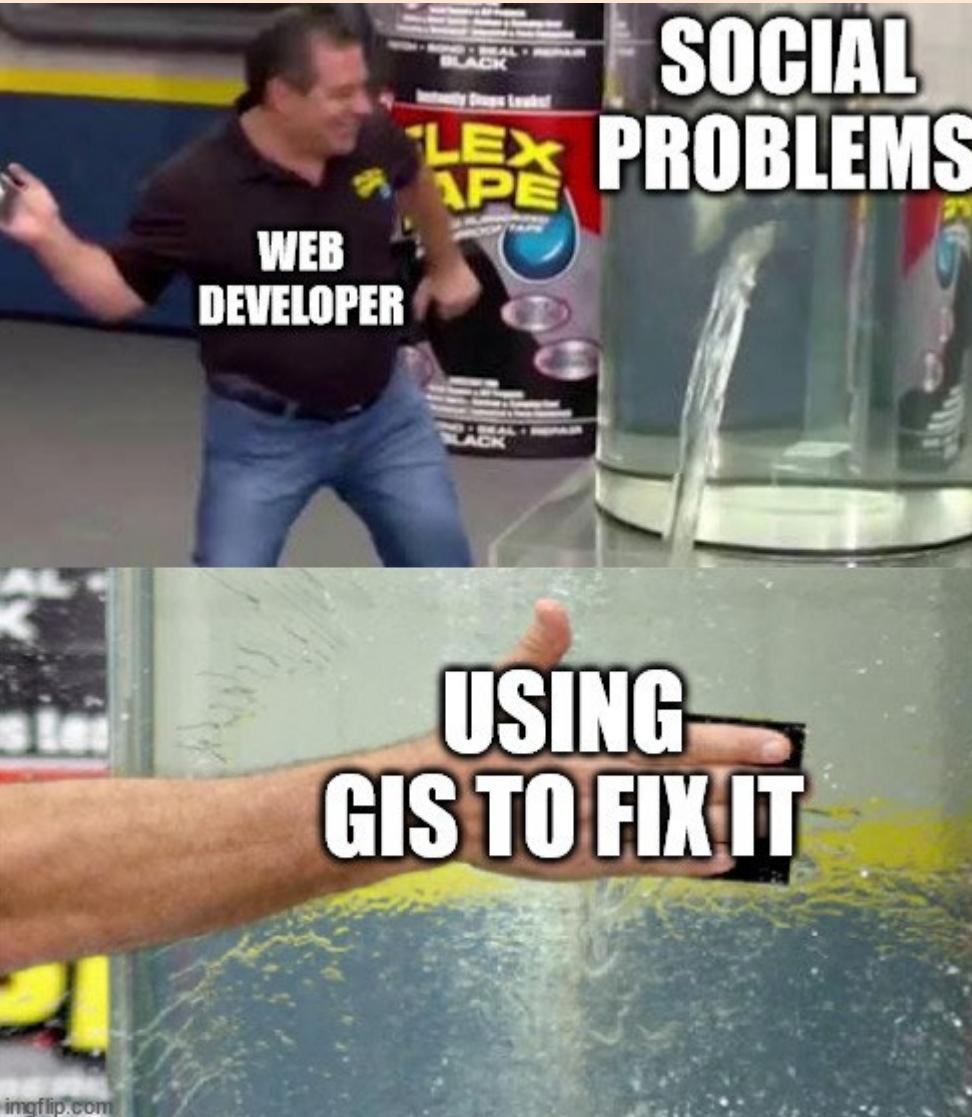
# Why?

**It's easier to invest in new technology than to face the causes of social problems.**

# **Today's main point:**

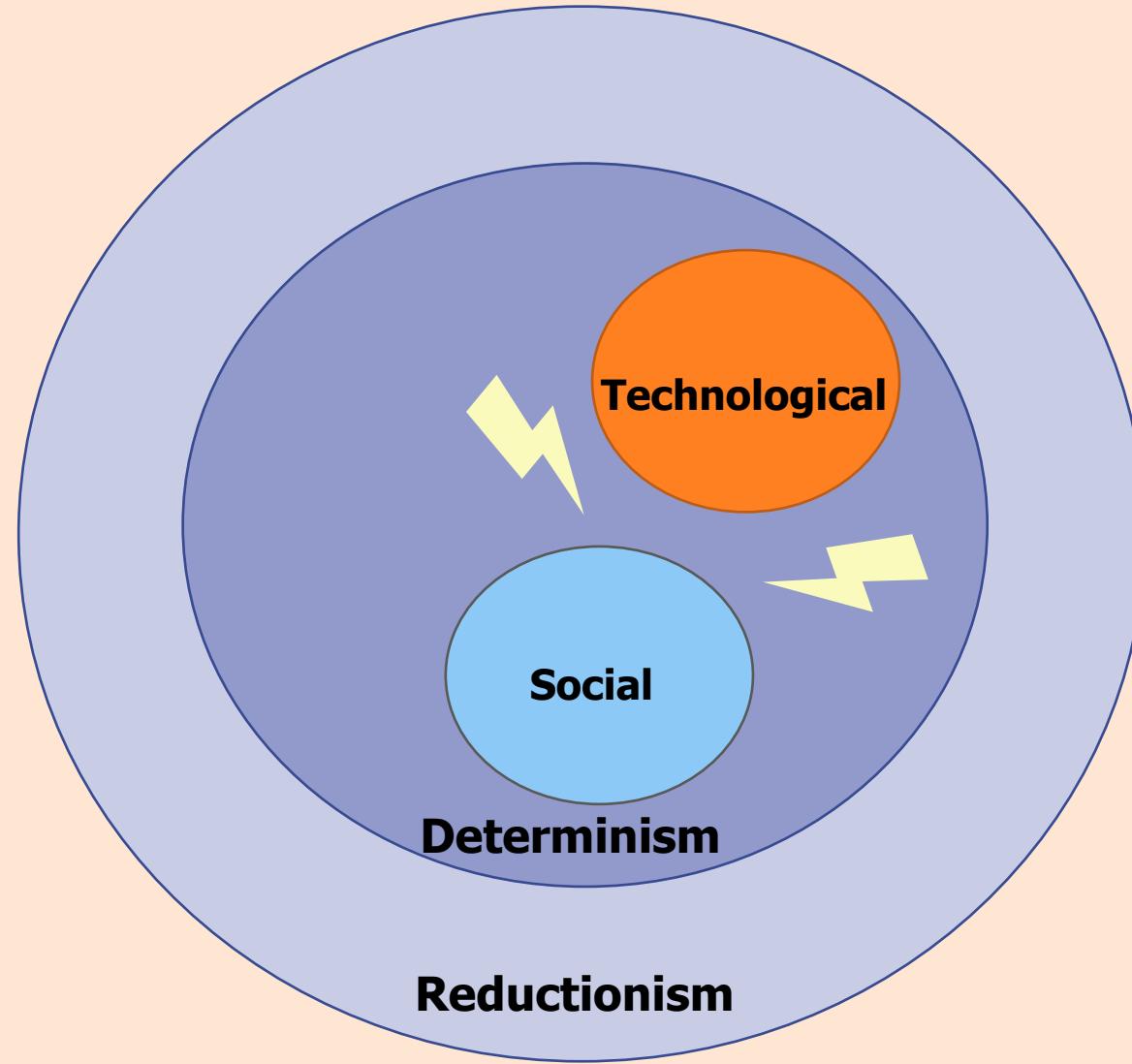
**You cannot solve **social problems** with just technology.**

# Don't be this type of mapper:



**The idea of reducing something into simpler components is called...**

# Reductionism



# Two types of determinism:

**Technological  
Determinism**

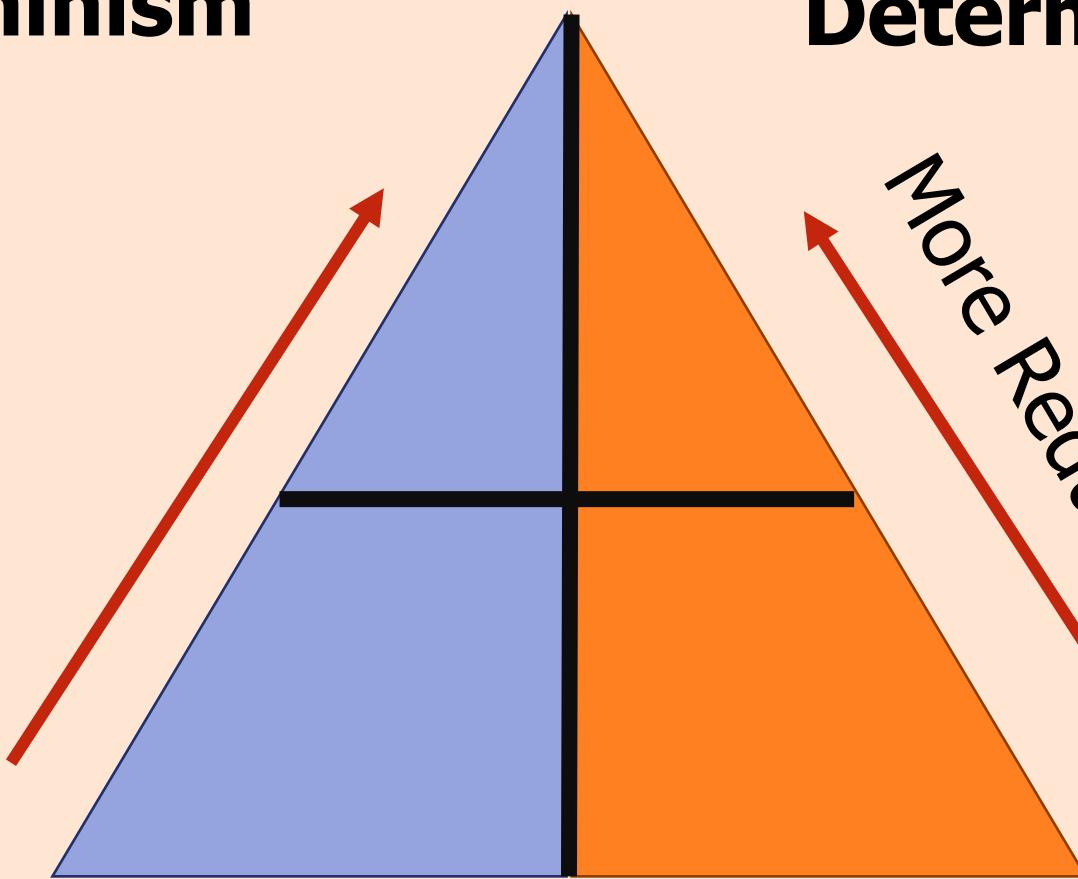
Hard

Soft

**vs.**

**Social  
Determinism**

More Reductionism



# Reductionism

**In the social sciences:  
Reduces qualitative data into  
quantitative.**

- For example... this map can be reduced to:
  - Places where I lived ->
    - 4 points in Asia
    - 2 points in North America

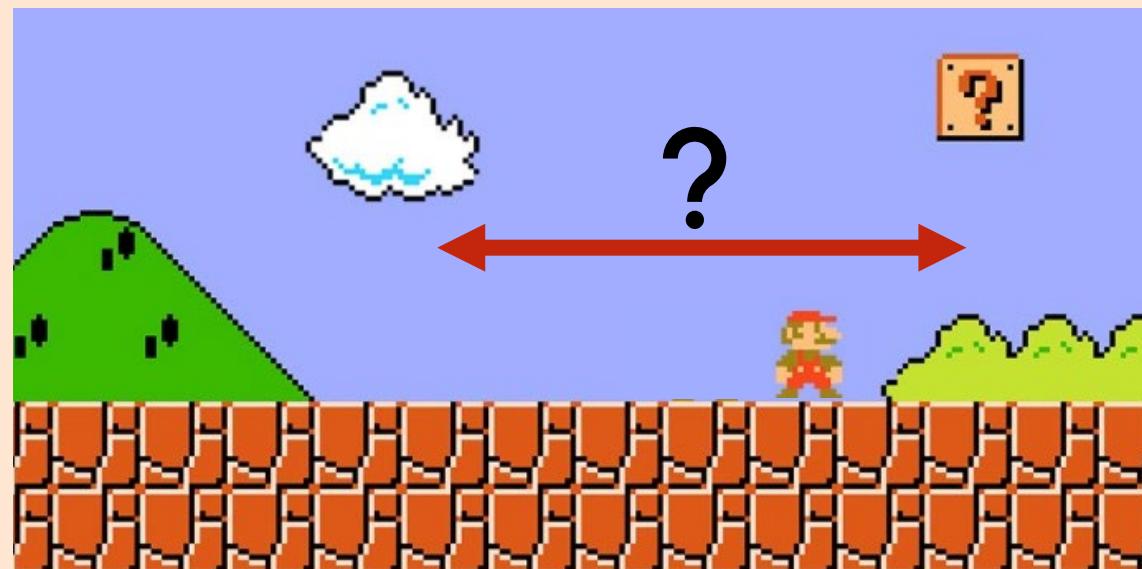
Reducing my experiences to numbers on a continent.



Introduces loss of information.

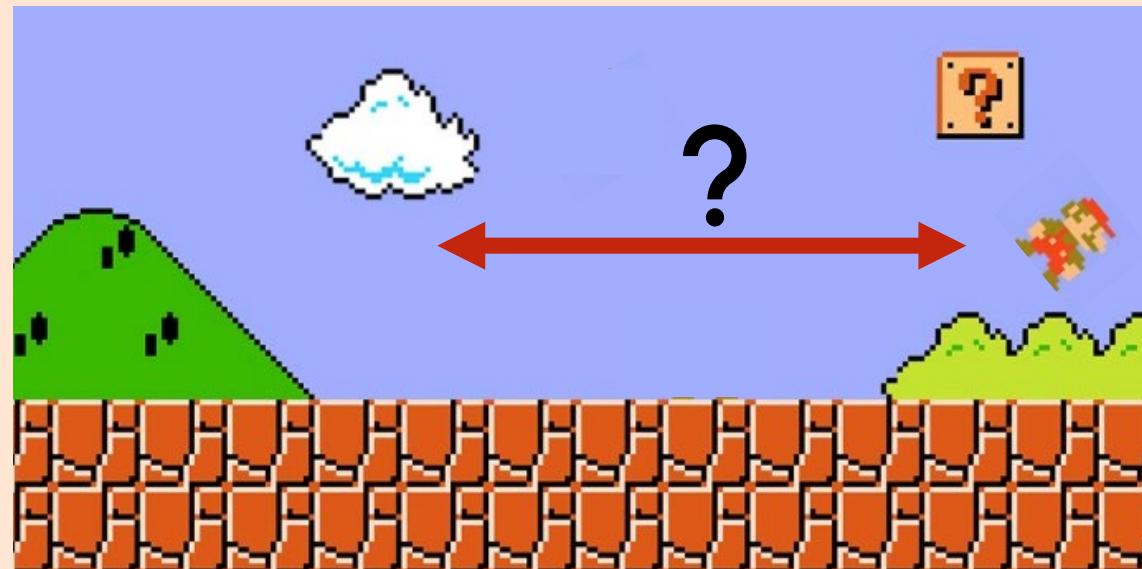
# Determinism

**All our actions are pre-determined because it is governed by systems**



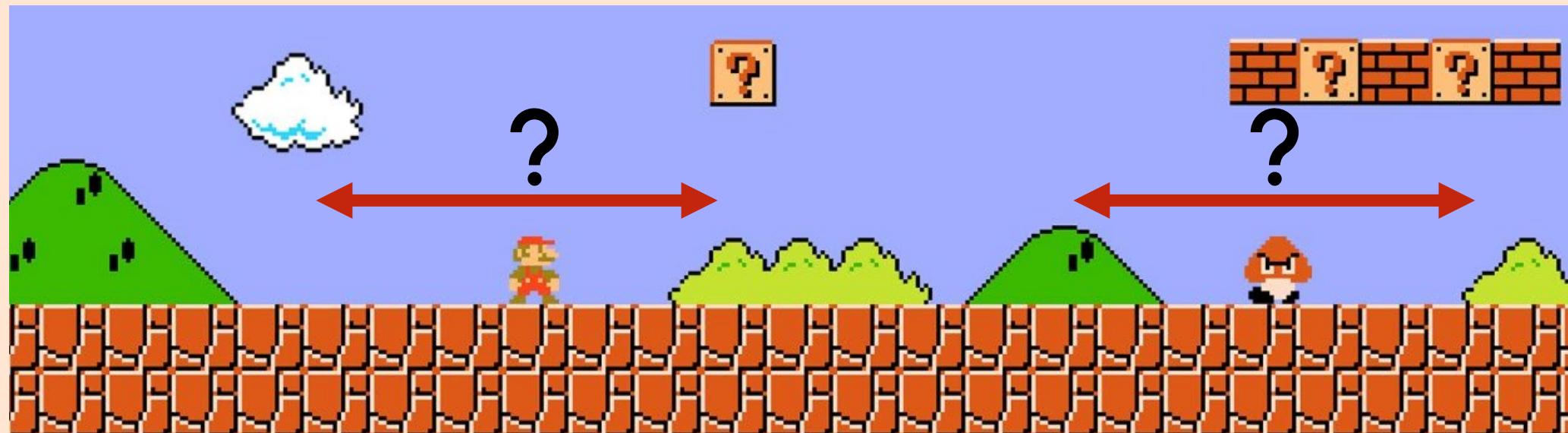
# Free-Will

**Systems are chaotic so there no pre-determined events can be attributed to them**



# Compatibilists:

**Determinism and free-will can co-exist.**



# **Technological Determinism**

**The idea that technology will solve all social problems.**

**Example: We can “invent” our way out of climate change.**

# Technological Determinism

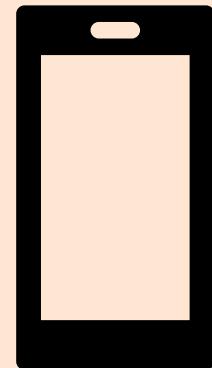


**THE WORLD IF...**

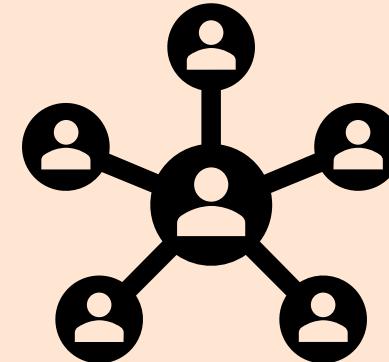
**WE ONLY HAD THE RIGHT TECHNOLOGY**

# Technological Determinism

Technology



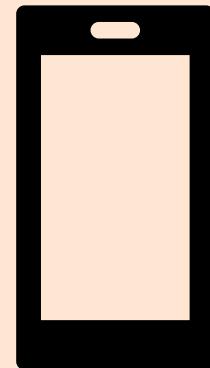
Society



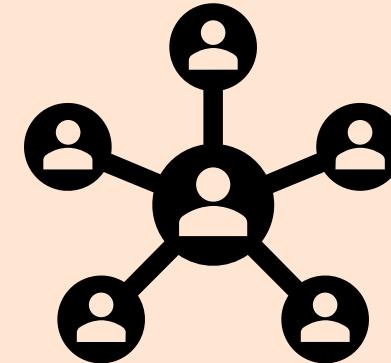
Technology is the force that changes society

# Technological Determinism

Technology



Society

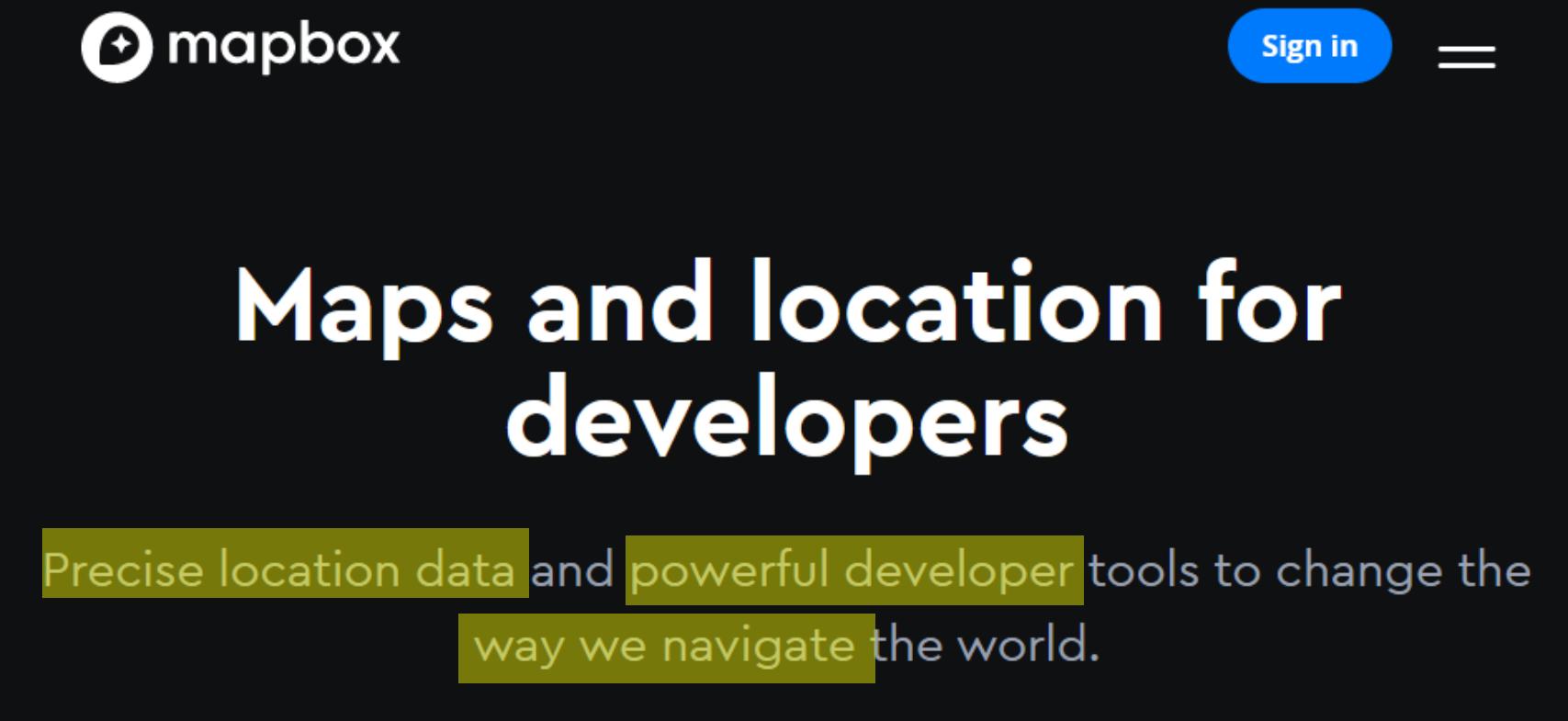


**“Phones will improve people’s life.”**

# Let's apply this to mapping:



# Mapping Technologies

A screenshot of the Mapbox website homepage. The header features the Mapbox logo (a white circle with a black star) and the word "mapbox" in white lowercase letters. To the right are a "Sign in" button and a user icon. The main title "Maps and location for developers" is centered in large, bold, white font. Below it is a subtitle in smaller white font: "Precise location data and powerful developer tools to change the way we navigate the world." The background is black.

## Maps and location for developers

Precise location data and powerful developer tools to change the way we navigate the world.

# Mapping Technologies

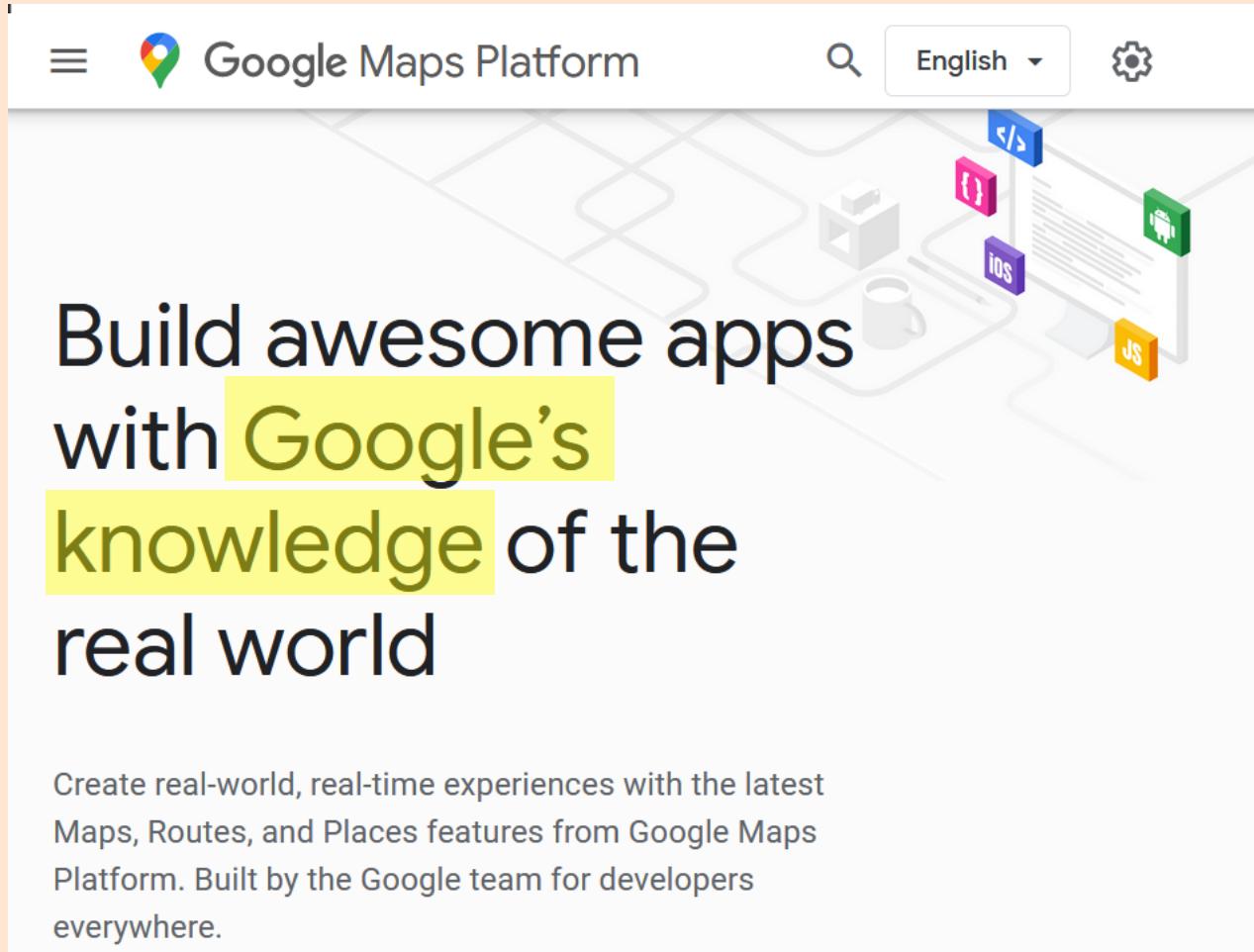
The Carto logo consists of the word "CARTO" in white capital letters next to a red circular icon containing a white dot.

≡

Unlock the **power** of  
spatial analysis

The only cloud-native Location Intelligence platform

# Mapping Technologies

The image shows a screenshot of the Google Maps Platform website. At the top, there is a navigation bar with a menu icon, the "Google Maps Platform" logo, a search bar, a language dropdown set to "English", and a settings gear icon. Below the header, the main content area features a large, semi-transparent map background. Overlaid on the map are several colorful icons representing different technologies: a blue icon with code symbols (</>), a pink icon with curly braces {}, a purple icon with the text "iOS", a green icon with an Android logo, and a yellow icon with the text "JS". To the left of these icons, the text "Build awesome apps" is written in black. Below this, the words "with Google's" and "knowledge" are highlighted with yellow rectangular boxes. The final part of the sentence, "of the real world", is also in black. At the bottom of the content area, there is a descriptive paragraph: "Create real-world, real-time experiences with the latest Maps, Routes, and Places features from Google Maps Platform. Built by the Google team for developers everywhere."

Build awesome apps  
with Google's  
knowledge of the  
real world

Create real-world, real-time experiences with the latest Maps, Routes, and Places features from Google Maps Platform. Built by the Google team for developers everywhere.

# Mapping Technologies



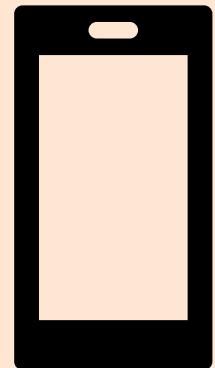
**Why are these examples problematic?**

**Separates society's role in creating the technologies.**

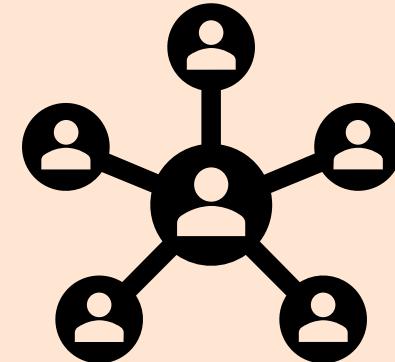
# **Social Determinism**

# Social Determinism

Technology



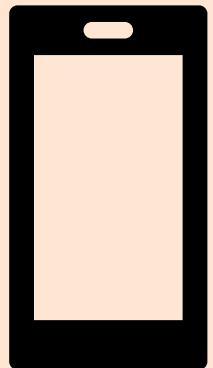
Society



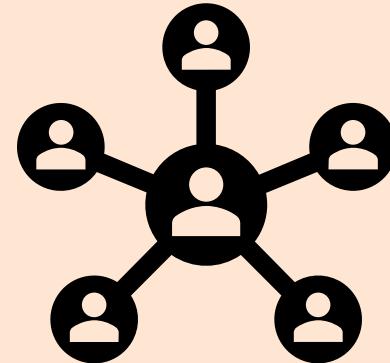
Technology is a result of the society

# Social Determinism

Technology



Society

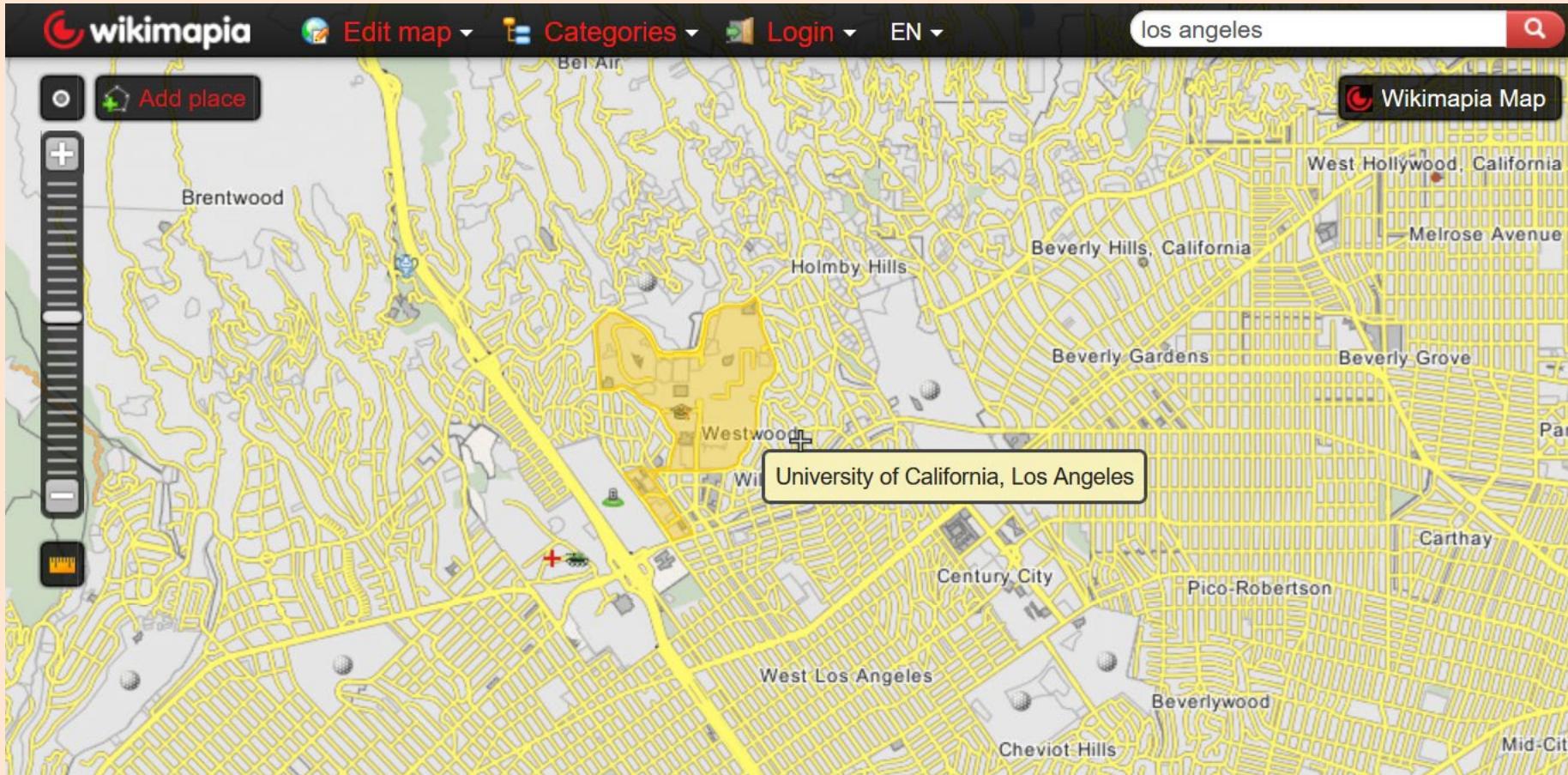


**“People created phones to talk easier.”**

# Examples



# Examples



# Recapping

**Technological  
Determinism**

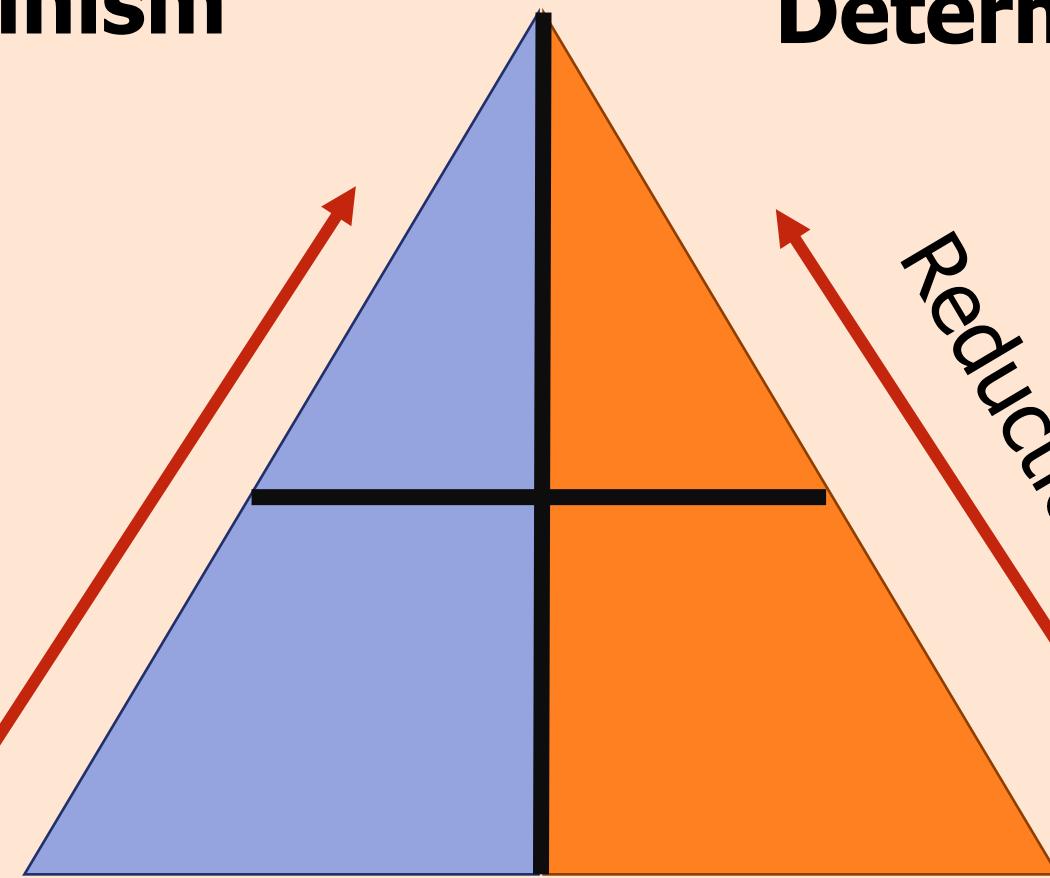
Hard

Soft

**vs.**

**Social  
Determinism**

Reductionism



# Main takeaway:

**Reductionism is problematic because it only  
re-aligns the balance in one direction.**



**Wait.. This is a technology skills class..  
Shouldn't we focus on technology solutions?**

**No, because.. It leads to...**

# Techno-Fascism



# **Technocracy/Techno-Fascism**

**Fascism – Oppression of opposing thoughts**

**Technocracy – Rule by only those with expertise**

**Techno-Fascism = Fascism + Technocracy**

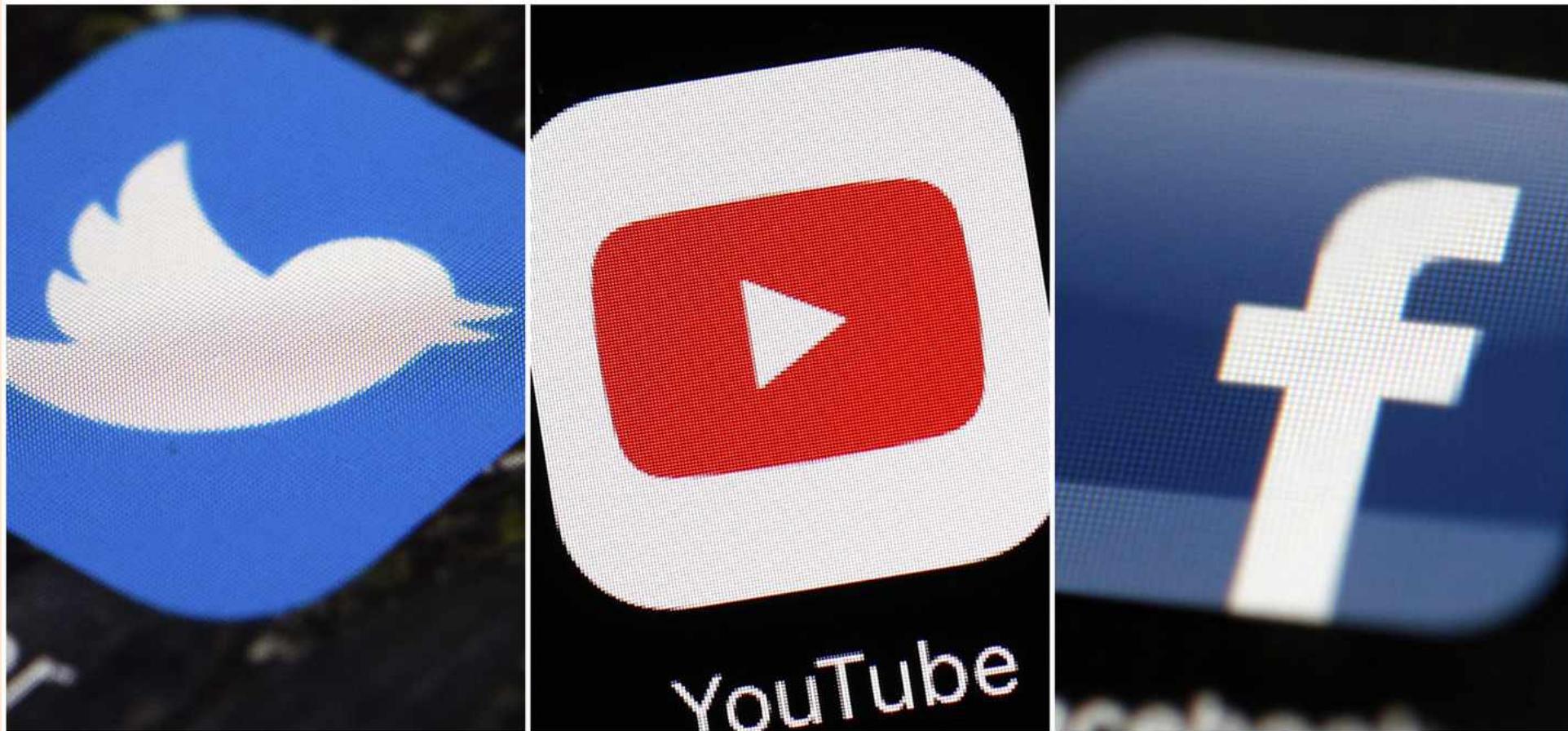
# **Technocracy/Techno-Fascism**

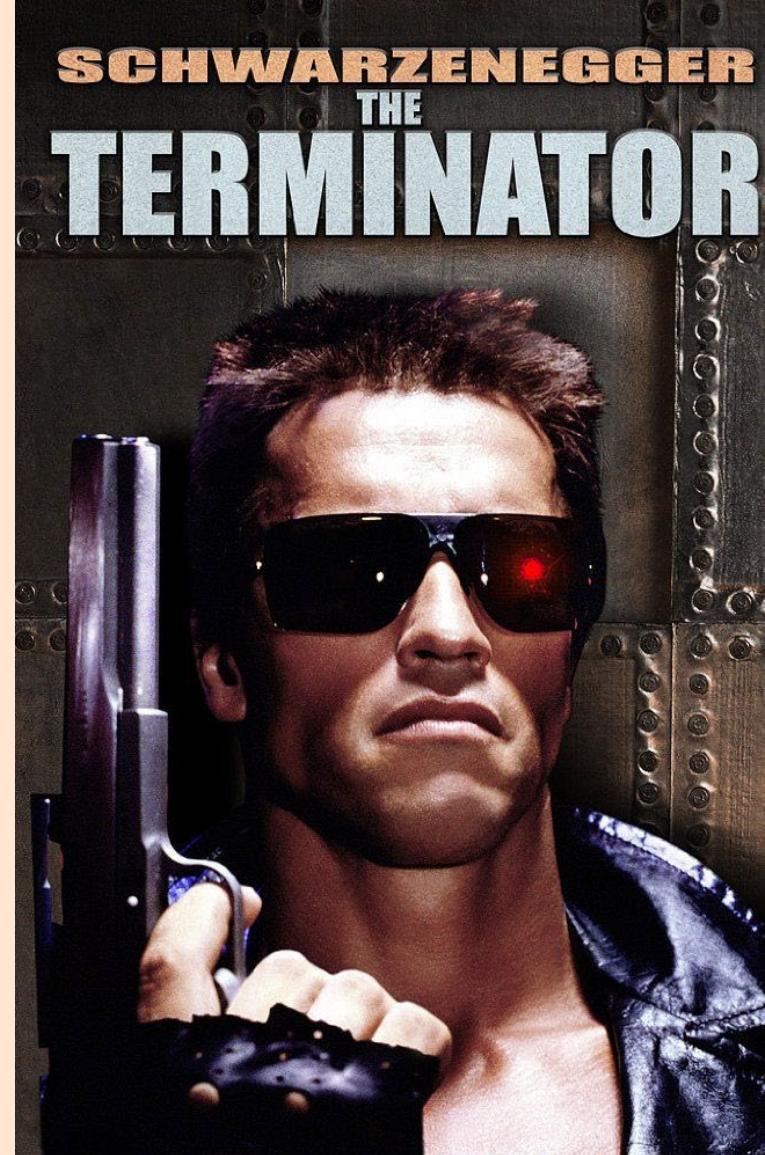
**Techno-Fascism – Rule by those with  
expertise that oppresses opposing thoughts**

# **Techno-Fascism:**

**“Big tech, machine learning, AI is too big,  
people cannot stand up against it.”**

# Techno-Fascism:





Hasta la vista freedom

# **What it really means is:**

**“I have more ‘technical’ skills and know more than you, so I am better than you, do not resist.”**

**-Every Big Tech CEO**



**Resistance is futile.**

**What it really means is:**

**Commodification of humans as data points.**

**Fetishism of knowledge and technology.**

**Decouples the impacts of society on technology  
and vice-versa.**

**How to avoid all this?**

# Holism



**“Some process or phenomenon cannot be broken into parts, and can only be understood as a whole”**

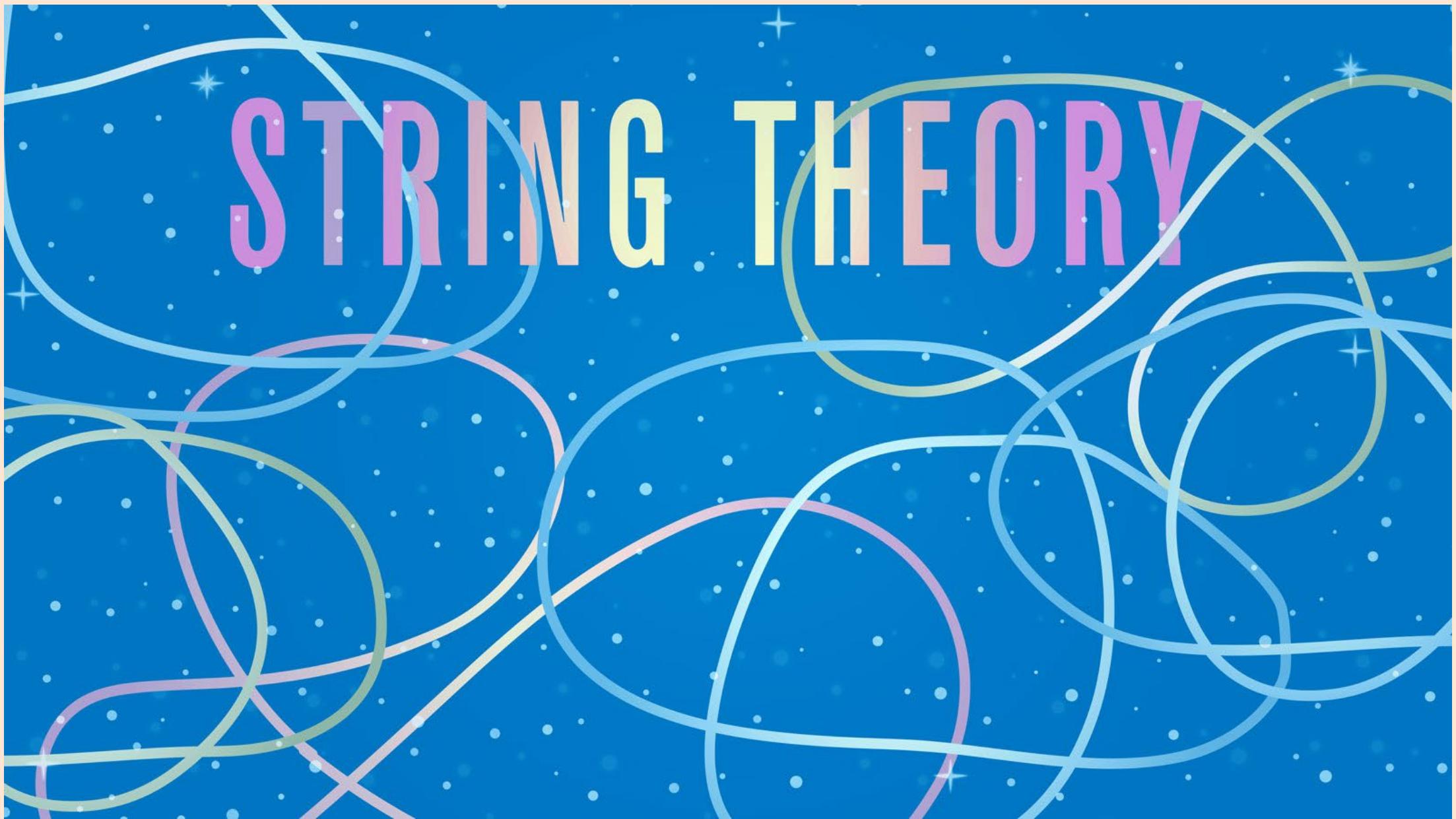
<https://cseweb.ucsd.edu/~goguen/courses/275f00/s2.html>

**Reinforces the direct connection between of technology and society.**

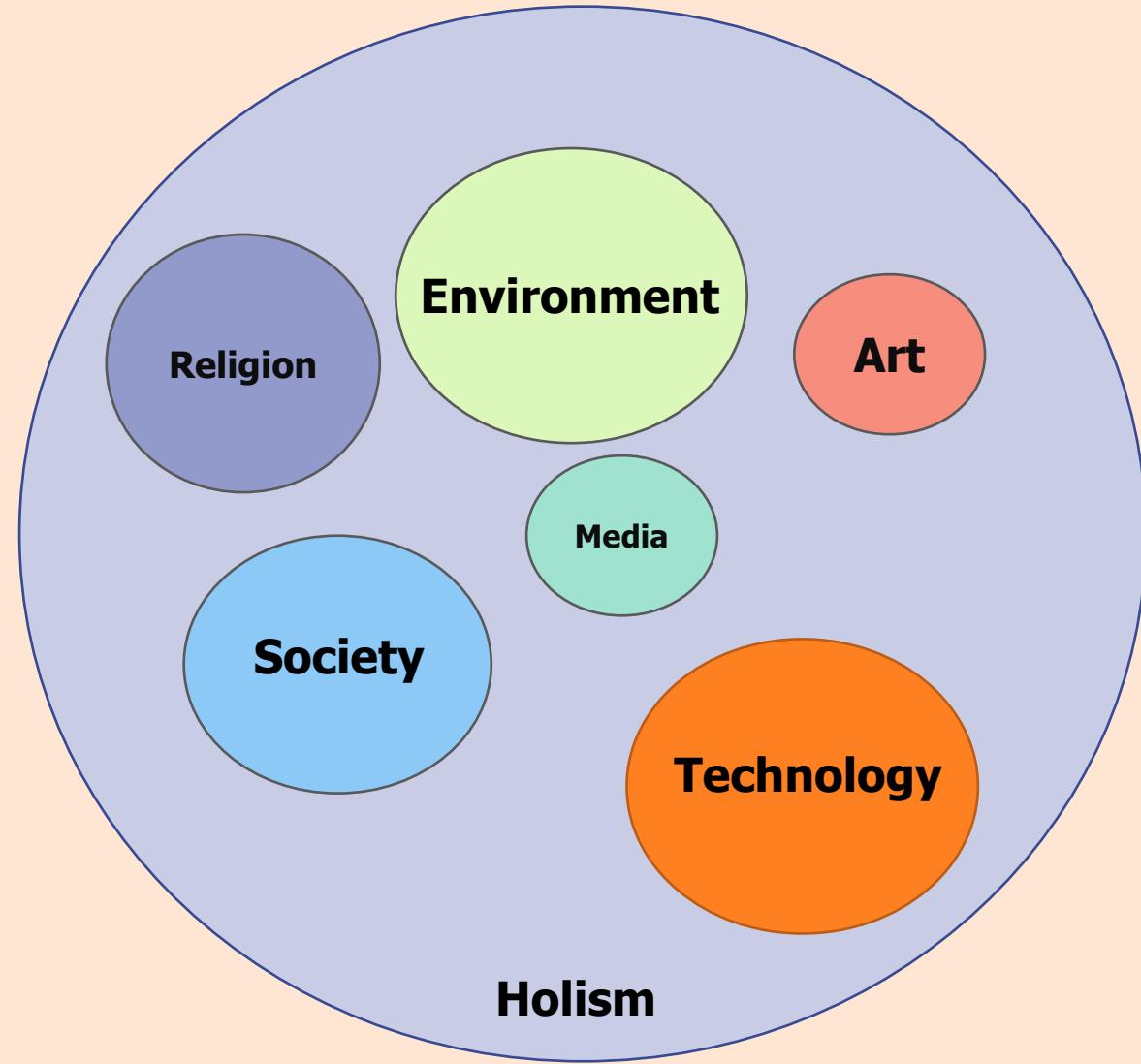
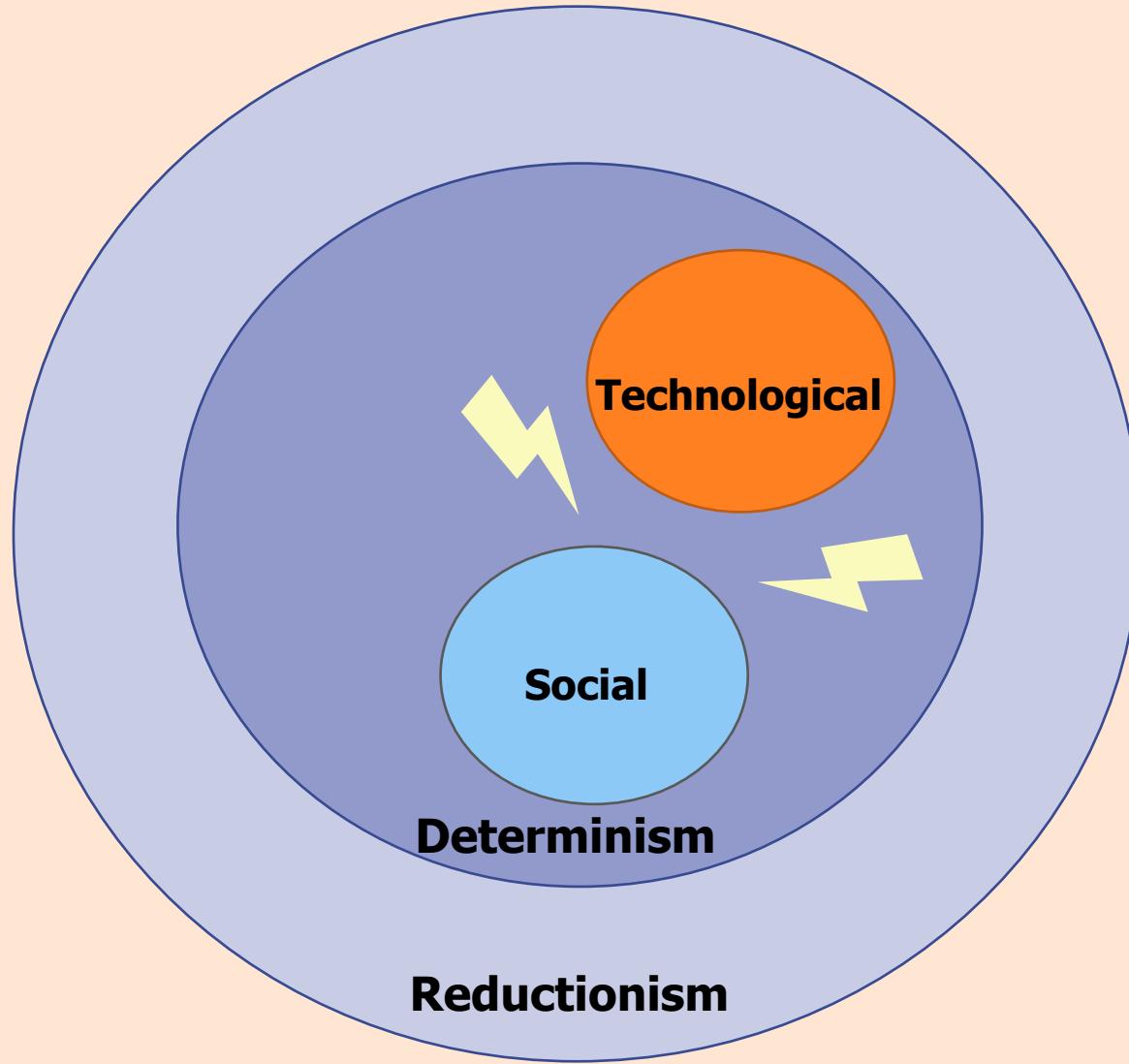
# Holism

**Goes against western concepts of knowing...  
but slowly being adopted:**

# STRING THEORY



# Reductionism vs Holism

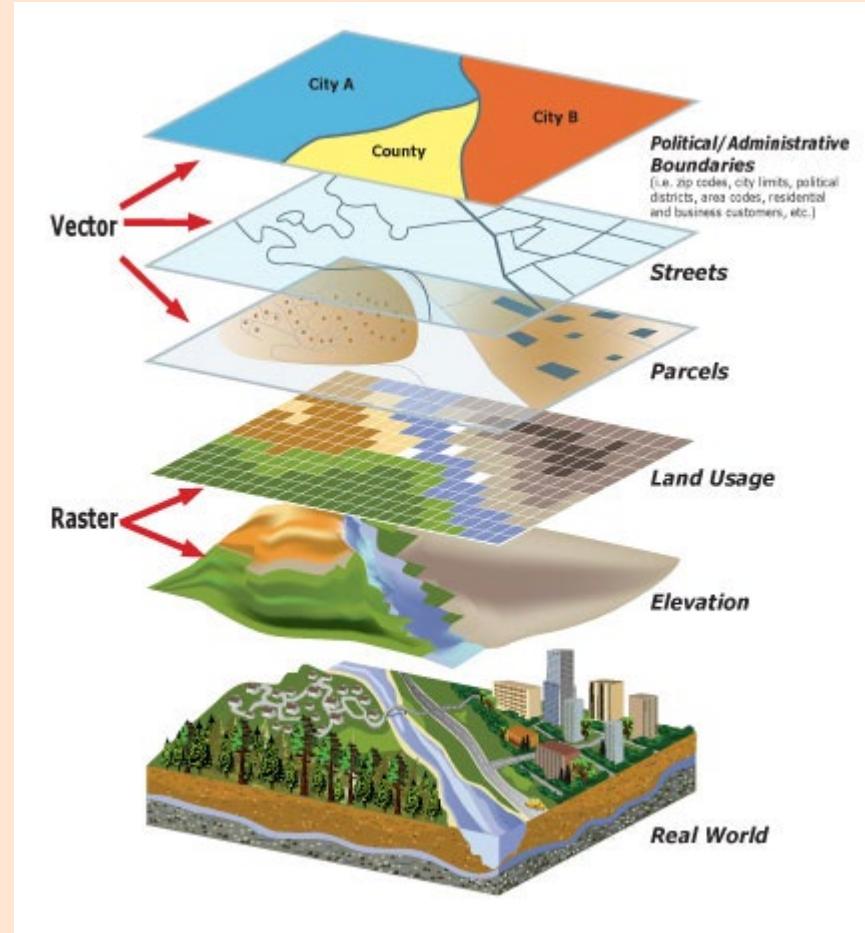


# Eastern perspectives

**Buddhism and Hinduism believe in a middle path to describing our decision-making by connecting it to consequence of our actions.**



# Reductionism vs Holism



**Reductionism**

**esri** Charging Up: Lifecycle of a Battery

Raw Materials Cobalt A Story Map

Huayou then sells the cobalt to cathode manufacturers. Some of the largest cathode producing companies include Toda Hunan Shanshan, Pulead Technology Industry, Tianjin Bambo Science and Technology, and L&F Material.

Cobalt is processed by CDM

A world map highlights the flow of cobalt from mining sites in Congo to processing facilities in China (Toda Hunan Shanshan New Material Co., Ltd., L&F Material Co., Ltd., Tianjin Bambo Science and Technology Co., Ltd., Pulead Technology Industry Co., Ltd.).

**Holism**

<http://storymaps.esri.com/stories/2017/batteries/index.html>

**Considering all we just covered...**

**How to apply it to mapping, beyond just Critical  
Cartography and Participatory Mapping?**

# **Focus on Tradition-based GIS**

Tradition	Key Ideas	Example Publications
Queer(ing) Cartographies, GIS	<ul style="list-style-type: none"> <li>• Recognize queer labor and lives present in production of knowledge/maps</li> <li>• Interrogate political, economic, and social relations present in software, algorithms, code used to produce maps</li> </ul>	Brown & Knopp (2008); Giesecking (2018)
Marxist Cartography	<ul style="list-style-type: none"> <li>• Visualize and map the contours of capital and state power</li> <li>• Interrogate how mapping serves interests of the state</li> </ul>	Lacoste (1973); Toscano & Kindle (2015)
Indigenous Mapping	<ul style="list-style-type: none"> <li>• Make claims upon ancestral lands to secure tenure and other rights</li> <li>• Simultaneously, potentially make said lands visible for looting and destruction</li> </ul>	Chapin et al. (2005); Hunt (2013); see <b>Figure 3</b>

<https://gistbok.ucgis.org/bok-topics/cartography-and-power>

# **Thinking Cap for the week:**

**Consider what are your ethical views when  
it comes to society and technology?  
Does it empower civil society?**

# **Assignments**

**Due Friday 7/9:**

- 1. Lab Assignment #2**
  
- 2. Group Assignment #2**

# **Group Assignment #2**

## **Memo**

- Background on the social issue/campaign
- Goals
- Community/organization description
- At least 2 user stories
- 3 Ideas of questions to be included on the survey
- Future plans
- Template:
  - <https://tinyurl.com/eaxj27hx>