

The Persistence Paradox: Critical Junctures and Our Shared Future

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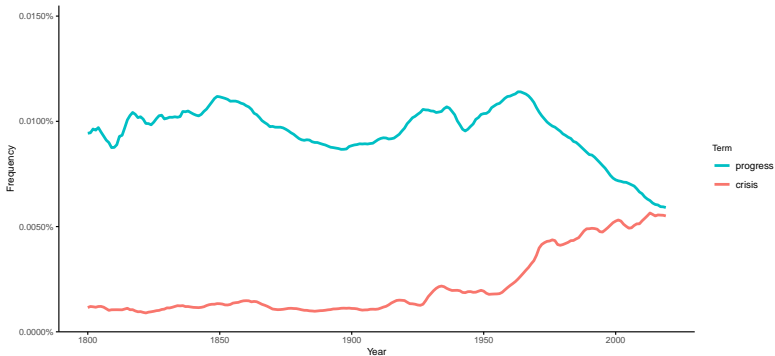
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December 11, 2023

- We appear to be living in a changing world.
 - Environmental catastrophes and climate crisis.
 - Global inequality, migration pressures, and rising populist sentiment.
 - Global health crises.
- We appear to be at a critical juncture.
- What path will we take?
 - Adaptation does not appear to be automatic and, in some cases, appears very challenging.

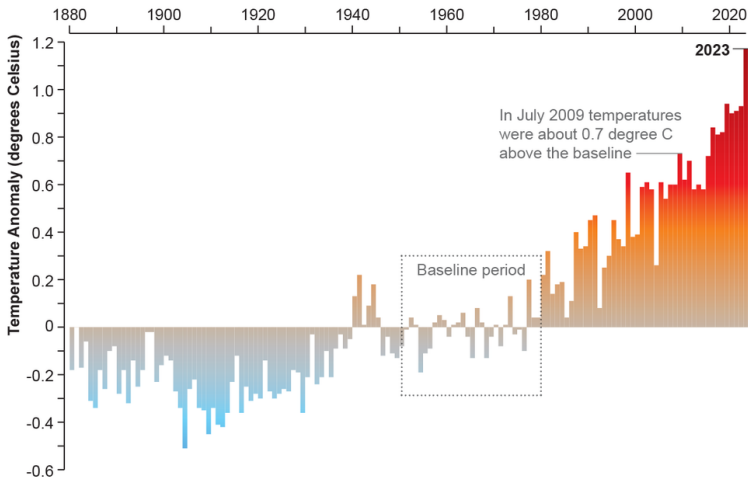
A changing world?

Data from Google N-Grams, 1800–2019



Climate change

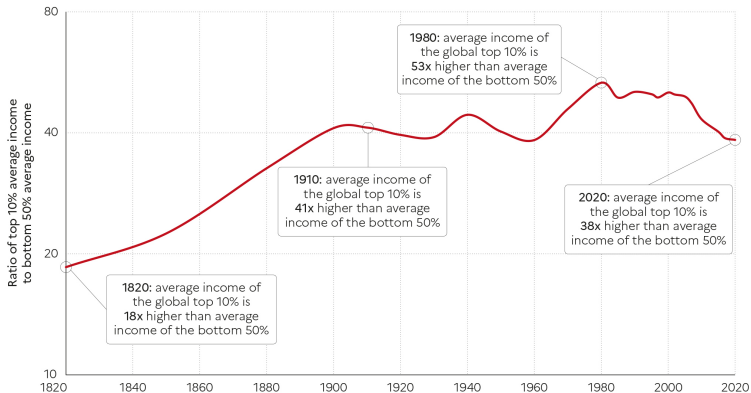
Global Temperature Anomalies for July, Compared with 1951–1980



Global inequality

Source: World Inequality Report, 2022

Figure 2.2 Global income inequality: T10/B50 ratio, 1820-2020



Interpretation: Global inequality, as measured by the ratio T10/B50 between the average income of the top 10% and the average income of the bottom 50%, more than doubled between 1820 and 1910, from less than 20 to about 40, and stabilized around 40 between 1910 and 2020. It is too early to say whether the decline in global inequality observed since 2008 will continue. Income is measured per capita after pension and unemployment insurance transfers and before income and wealth taxes. **Sources and series:** wir2022.wid.world/lmethodology and Chancel and Piketty (2021).

Within-country inequality

Source: World Inequality Report, 2022

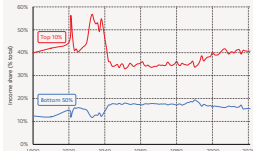
Figure 1: Top 10% and bottom 50% income shares in the United States, 1900-2021



Interpretation: The Top 10% income share is equal to 46% in 2021. Income is measured after the operation of pensions and unemployment insurance systems and before income tax.

Sources and series: see [wir2022.wid.world/methodology](#), and Chancel and Piketty (2021).

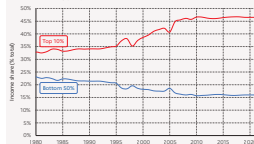
Figure 1: Top 10% and bottom 50% income shares in Canada, 1900-2021



Interpretation: The Top 10% income share is equal to 41% in 2021. Income is measured after the operation of pensions and unemployment insurance systems and before income tax.

Sources and series: see [wir2022.wid.world/methodology](#), and Chancel and Piketty (2021).

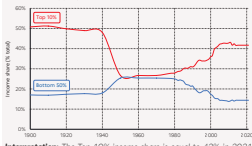
Figure 1: Top 10% and bottom 50% income shares in South Korea, 1980-2021



Interpretation: The Top 10% income share is equal to 46% in 2021. Income is measured after the operation of pensions and unemployment insurance systems and before income tax.

Sources and series: see [wir2022.wid.world/methodology](#).

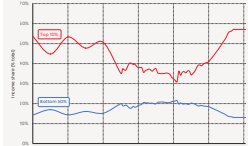
Figure 1: Top 10% and bottom 50% income shares in China, 1900-2021



Interpretation: The Top 10% income share is equal to 42% in 2021. Income is measured after the operation of pensions and unemployment insurance systems and before income tax.

Sources and series: see [wir2022.wid.world/methodology](#), and Chancel and Piketty (2021).

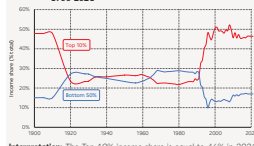
Figure 1: Top 10% and bottom 50% income shares in India, 1900-2021



Interpretation: The Top 10% income share is equal to 57% in 2021. Income is measured after the operation of pensions and unemployment insurance systems and before income tax.

Sources and series: see [wir2022.wid.world/methodology](#).

Figure 1: Top 10% and bottom 50% income shares in Russia, 1900-2021



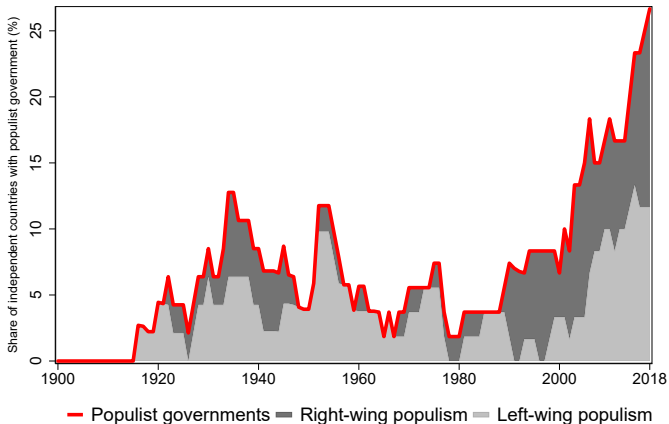
Interpretation: The Top 10% income share is equal to 46% in 2021. Income is measured after the operation of pensions and unemployment insurance systems and before income tax.

Sources and series: see [wir2022.wid.world/methodology](#), and Chancel and Piketty (2021).

Rising populism

Source: Funke, Schularick, and Trebesch (AER, forthcoming)

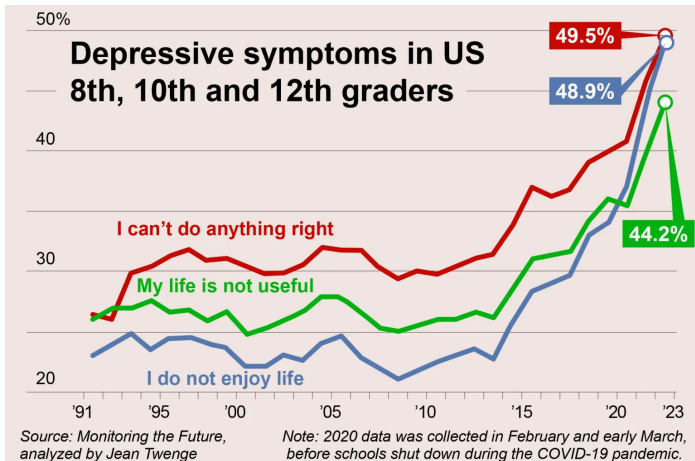
Figure 1: Populists in power – share of countries in sample



Notes: Share of populist governments in all governments in sample of (up to) 60 independent countries, 1900-2018. We consider any country-year in which a populist was the effective ruler (i.e., president, prime minister, or equivalent).

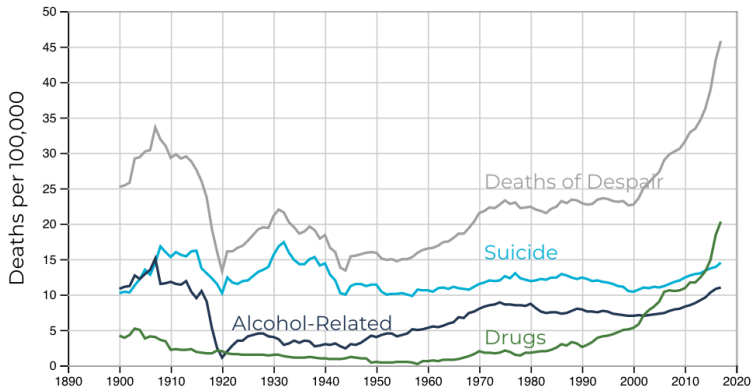
A rise in despair

Source: Monitoring the Future datasets (N=50k)



Deaths of despair

Source: U.S. Center for Disease Control



Decision-making in a complex world

- The world is highly complex and uncertain.
 - Average person faces 35,000 decisions each day.
- Humans have limited attention, time, and cognitive abilities.
- We have developed cognitive shortcuts that aid in decision-making.
- One of these is that we rely on information that is transmitted across generations.
 - Each generation does not have to 'reinvent the wheel.'
 - Instead, knowledge from previous discoveries can be taught to subsequent generations at low cost.
- Knowledge transmission takes the form of tradition, custom, religion, cultural values, beliefs, etc.

The benefits of tradition: Maize, pellagra, and nixtamalization



- Maize is deficient in the essential amino acids lysine and tryptophan, and in niacin.
 - Niacin deficiency causes pellagra: diarrhea, skin rashes, dementia, and death.
- A solution is alkali processing
 - Dried corn is cooked in a solution of lime (calcium oxide) in water.
 - Increases the bioavailability of amino acids and niacin.

Change is incremental

- Because of our reliance on culture and tradition, we are hesitant to change (a form of status quo bias).
 - While optimal in the bigger scheme of things, it can be suboptimal in a smaller more-static sense.
- Recent evidence within economics:
 - People who are randomly instructed to choose 'change' for a big life decision are happier six months later (Levitt, REStud, 2021).
 - People living in disadvantaged locations and forced to move because of natural disaster are better off (Deryugina, AEJ-Applied, 2018; Nakamura et al, REStud, 2022).
 - Using close national elections, 'randomly-chosen' new leaders have better policies, better governance, less corruption, and faster economic growth (Marx et al., REStud, forthcoming).

This generates historical persistence

- Because we rely on tradition and are slow to adapt, historical persistence is common.
 - Antisemitic values over 500 years (Voigtlaender & Voth, QJE, 2012)
 - Gender bias over 800 years (Damann, Siow & Tavits, PNAS, 2023)
 - Democratic norms (Giuliano & Nunn, AERPP, 2012)
 - Themes in historical folktales and contemporary movies (Michalopoulos & Rauh, in progress)
 - Technology and levels of economic wellbeing over 2,000 years (Comin, Easterly & Gong, AEJ-Macro, 2010)
- Effects of historical events that alter society can persist for long periods of time:
 - Slave trades and distrust (Nunn & Wantchekon, AER, 2012)
 - Traditional agriculture and gender norms (Alesina et al., QJE, 2013)

Persistence can generate mismatch

Source: Nunn (AEA, 2022)

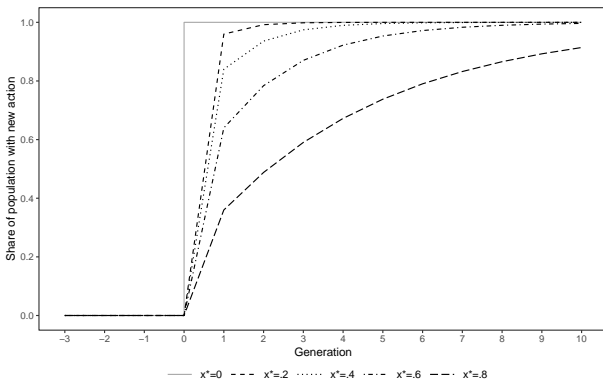
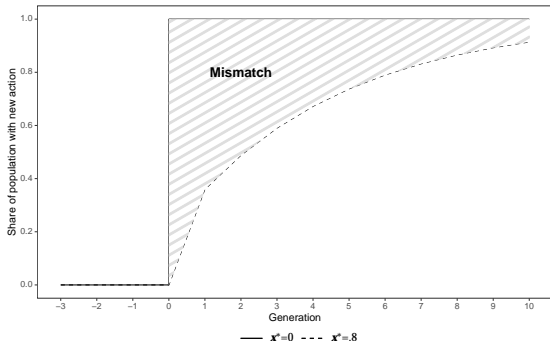


Figure shows how the transition to a new action following a change in the environment varies depending on how strong tradition is in society, x^* .

Cultural mismatch

Source: Nunn (AEA, 2022)



- With tradition, when the environment changes, in the shorter-run traits will no longer 'match' the current environment.
- Analogous to 'evolutionary mismatch' in biology.

Examples of mismatch

- Studies have shown that past events continue to affect contemporary cultural traits, which were beneficial in the past, but today are (likely) suboptimal.
 - The slave trades and low levels of trust in Africa (Nunn and Wantchekon, AER, 2011).
 - Traditional plough use and gender inequality (Alesina et al., QJE, 2013).
 - Tuskegee experiment and medical distrust in the U.S. (Alsan and Wanamaker, QJE, 2018).
 - Colonial medical campaigns and medical distrust in Africa (Lowes and Montero, AER, 2021).
 - Leper colonies in Colombia (Ramos-Toro, AER, 2023).

Institutions can also be mismatched

- Cultural values shape formal laws and institutions (e.g., Hackett Fischer, 1991).
- This formalization can deepen and prolong mismatch.
- Potential examples from the United States:
 - Second Amendment of the Constitution: 'Right to keep and bear arms').
 - Associated with less safety and higher death rates (Branas et al., 2009; Anglemyer et al., 2014).
 - 'Stand-your-ground' laws.
 - Associated with 24.4% increase in homicides (Humphreys et al., JAMA, 2017).
 - Lack of universal healthcare and limited social programs.
 - Potentially explained by exceptional economic mobility in the United States during the 19th Century.
 - For related evidence see Chinoy et al. (2022).

Competing traditions

- What happens in a world that has multiple traditions?
- One possibility is peaceful coexistence.
 - Sub-Saharan Africa is a potential example of this (Fernandez-Villaverde, QJE, 2023; Henn and Robinson, in progress).
- Can also have competition between groups.
- This intergroup competition can take different forms:
 - Competition for people (peaceful).
 - Conquest or eradication of other groups (violent).
- Winning traditions are those that most successfully generate the outcomes needed to successfully compete.
- **Question: which traditions won and which lost in recent history?**

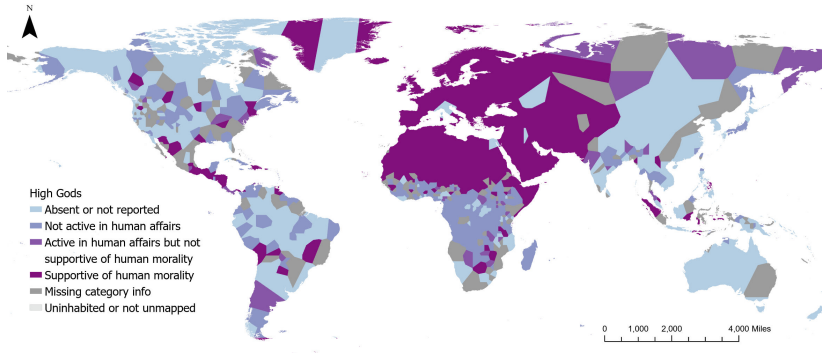
Characteristics that 'won':

- Independent psychology.
- Analytic thinking.
- Individual motivations.
- Norms emphasizing individualism.
- Social stratification and inequality.
- Belief in a single distant universal high god.

Characteristics that 'lost':

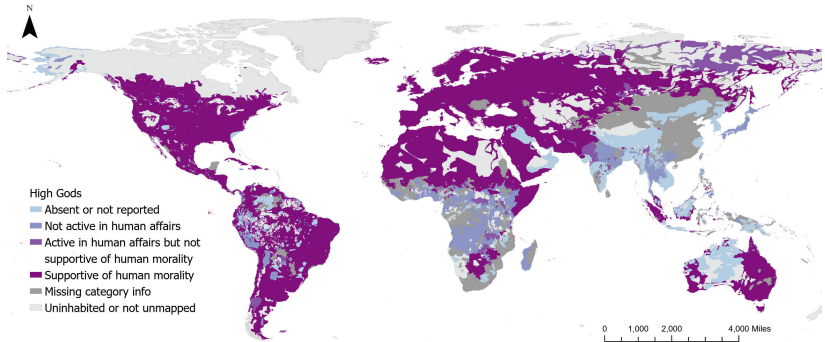
- Interdependent psychology.
- Holistic thinking.
- Relational motivations.
- Norms of sharing and redistribution.
- Social and economic equality.
- Belief in multiple integrated spirits, deities, and gods.

High Gods: Pre-Columbian Exchange



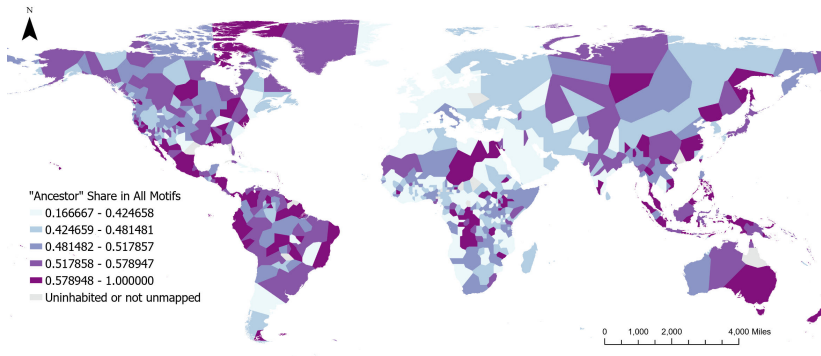
Note: **Historical** distribution of world's ethnic groups and variation in the traditional belief in a **high god**.

High Gods: Post-Columbian Exchange



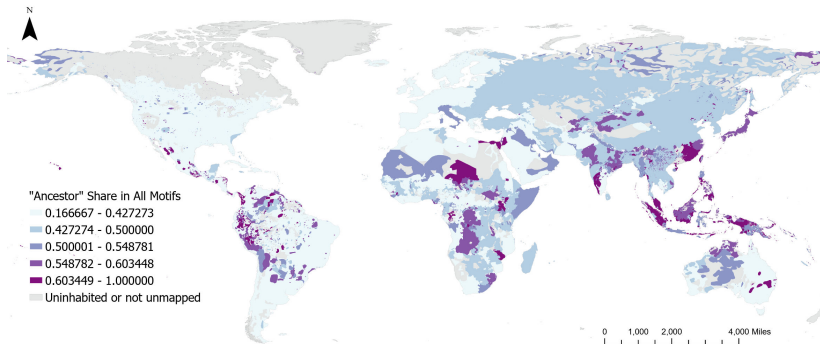
Note: **Contemporary** distribution of world's ethnic groups and variation in the traditional belief in a **high god**.

Folktales with ancestors: Pre-Columbian Exchange



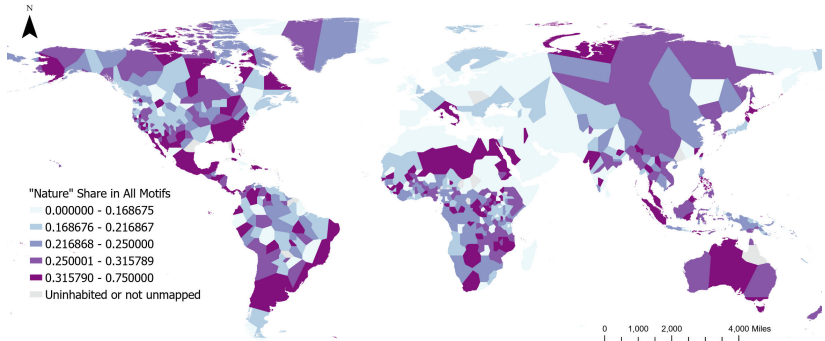
Note: **Historical** distribution of world's ethnic groups and variation in the mention of **ancestor(s)** in traditional folktales.

Folktales with ancestors: Post-Columbian Exchange



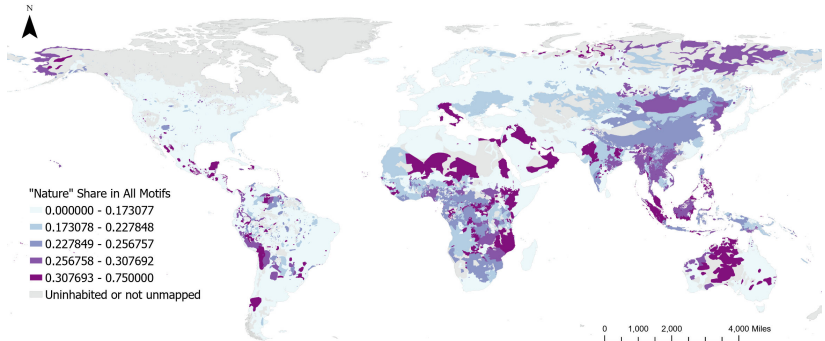
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Nature has agency: Pre-Columbian Exchange



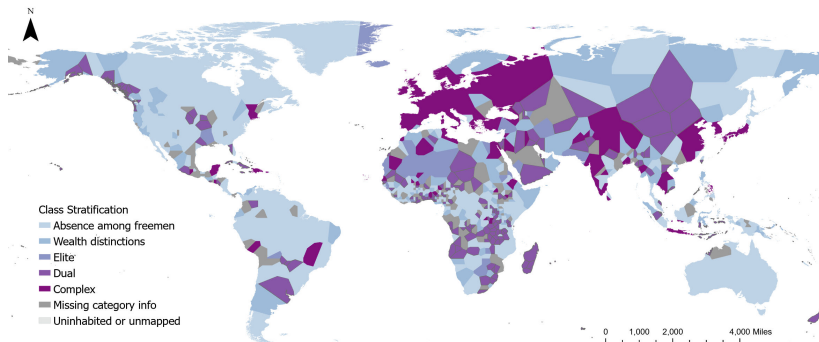
Note: **Historical** distribution of world's ethnic groups and variation in the cases where **nature has agency** in traditional folktales.

Nature has agency: Post-Columbian Exchange



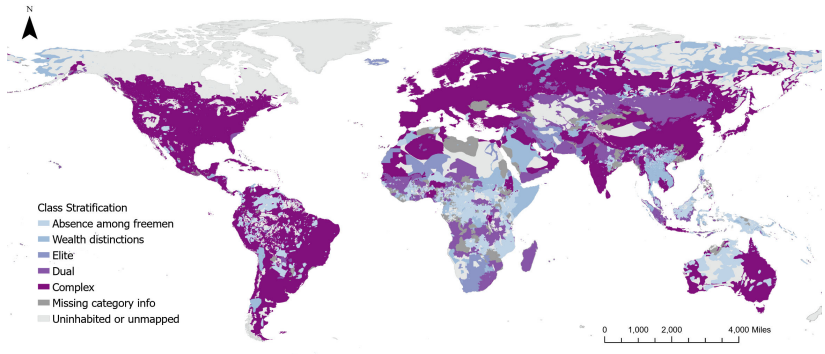
Note: **Contemporary** distribution of world's ethnic groups and variation in the cases where **nature has agency** in traditional folktales.

Inequality: Pre-Columbian Exchange



Note: **Historical** distribution of world's ethnic groups and variation in the traditional degree of **economic inequality**.

Inequality: Post-Columbian Exchange



Note: **Contemporary** distribution of world's ethnic groups and variation in the traditional degree of **economic inequality**.

Summary of the winners and losers in world history

Characteristics that 'won':

- Independent psychology.
- Analytic thinking.
- Individual motivations.
- Norms emphasizing individualism.
- Social stratification and inequality.
- Belief in a single distant universal high god.

Characteristics that 'lost':

- Interdependent psychology.
- Holistic thinking.
- Relational motivations.
- Norms of sharing and redistribution.
- Social and economic equality.
- Belief in multiple integrated spirits, deities, and gods.

Mismatch and future challenges

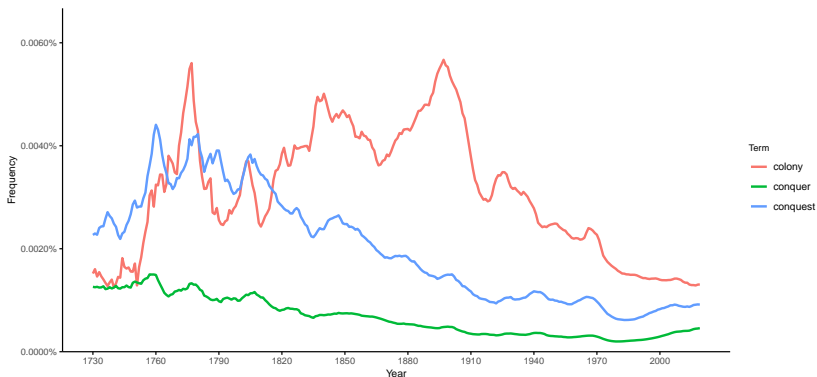
- The traditions that won out in world history are those that facilitated imperialism and colonial conquest.
 - High levels of social stratification.
 - Low religious tolerance (a single universal god rather than multiple gods).
 - Individualism (more emphasis on individual achievement, less on societal cohesion or equality).
 - Analytic thinking (rather than holistic thinking).
- Provided the moral justification of slavery, conflict, and colonial pursuits.
- Generated surplus that could be used for exploration, conflict, and colonialism.

But... how suited are these traits for the challenges of our world today?

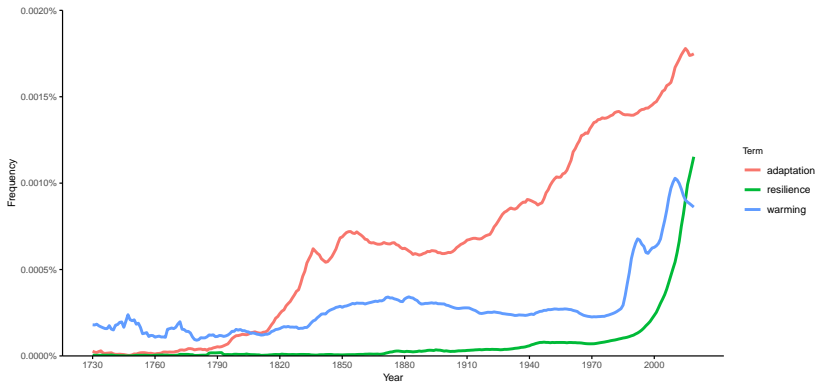
(How) is the past different from the present?

- During the past, the challenges and ambitions of nations were primarily economic and colonial:
 - Exploration, settlement, and control of distant territories.
 - Economic extraction during the slave trades and colonial rule.
 - Economic and military competition during the Cold War.
- Successful traits were those that were the best at achieving these goals.
- But, many of today's challenges and ambitions appear to be of a fundamentally different nature:
 - Rising inequality and discontent (nationally and internationally).
 - Environmental crises that are global in scale.
 - Global health crises.

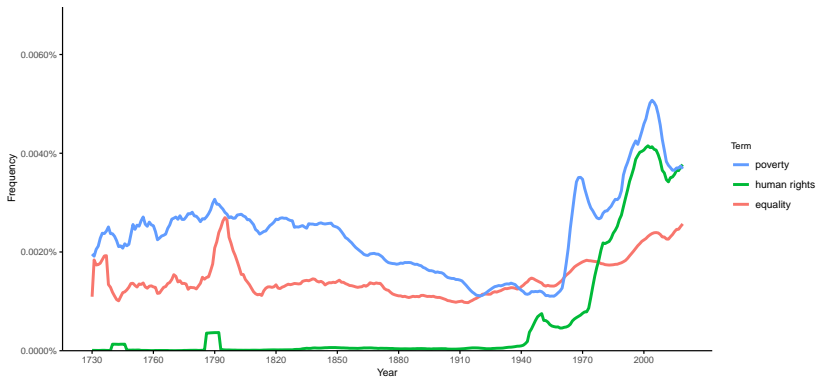
Declining focus on conquest over time



Increasing importance of climate change and adaptation



Increasing focus on inequality



The world seen through Igbo eyes

Source: Ikechukwu Anthony Kanu

- The universe is an interrelated and interconnected web.
 - Comprises active relationships between living and dead, spiritual and non-spiritual, visible and invisible, divine and human, animate and inanimate.
 - “The world of forces is held like a spider’s web of which no single thread can be caused to vibrate without shaking the whole network.”
- The universe is ordered and everything adheres to causal principals.
 - “*ife na-akpata ife*”: Something is caused by something
 - “*odighi ihe gbaraka mee*”: Nothing happens without reason
- Primary goal in life is to live while maintaining healthy relationships that preserve the health of the universe.
 - One’s relationship with the whole is what gives meaning to life.

It's arrogant to think humans can change earth's climate

Arrogance, illusions of grandeur, financial irresponsibly, lack of common sense. These are the words that come to mind when I read about global warming, climate change, climate cycles, and other buzz words that describe what is going on with our planet and how we are must go about fixing it.

ENERGY & ENVIRONMENT

Do humans cause climate change? Even now, only half of Americans say yes.

BY DANIEL DE VISÉ - 05/25/23 6:00 AM ET

SHARE

TWEET



“The climate has always changed – long before humans walked the earth – and it continues to change.”

– Quote from Michael Huckabee's *The Kids Guide to the Truth About Climate Change*, p. 4.



- More generally, individualism is correlated with greater 'climate intractability.' (Xiang et al., FiP, 2019)

Igbo relationships with the environment

Source: Ikechukwu Anthony Kanu

- Natural elements (land, water, etc) are alive, are spiritual, and have agency and voice.
- Individual spirits or deities comprise (or inhabit) the elements.
 - Mmuo Mmiri: Water goddess.
 - Ala: Land deity who is the sole daughter of Chukwu (divine creator) and the most powerful of all deities.
- Given this reality, it is illogical to view land as something that can be possessed.
 - Land “is the abode of the living and the dead, since all will be buried in her womb, and thus, it is the home of the ancestors.”
 - Thus, land “is not seen as a property, or belonging to the people; rather, *the people belong to the land.*”

Igbo relationships with the environment

Source: Ikechukwu Anthony Kanu

- Other agents in nature – e.g., animals, trees, plants, insects – can also be spirits or deities, their hosts, or their messengers.
 - Also viewed as having agency and voice.
- Taboos against harming sacred or valuable natural objects are common.
 - Examples include the python, owl, vulture, parrot, tortoise, sacred trees, sacred forests, etc.
 - Note, these are not universal commandments from a high god – motivation is much more practical.
- This worldview generates a deeply-felt moral responsibility to treat the environment with care and respect.

'American Progress' by John Gast, 1872



Another example of American Progress

See: Feir et al. (REStud, 2023)

“Kill every buffalo you can! Every buffalo dead is an Indian gone literally overnight.” (Colonel Richard Irving Dodge)

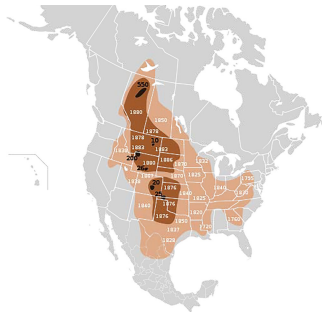


FIGURE 1
The North American bison's range in 1730, 1870, and 1889

Note: This is a digitized version of the map generated by Hornaday (1889) illustrating the range of the North American bison and the timing of its decline. The lightest region is the range as of 1730, the middle region is the range as of 1870, and the final black regions are the remaining herds (with labeled years) as of 1889. The 1889 herds were found in ranched captivity.

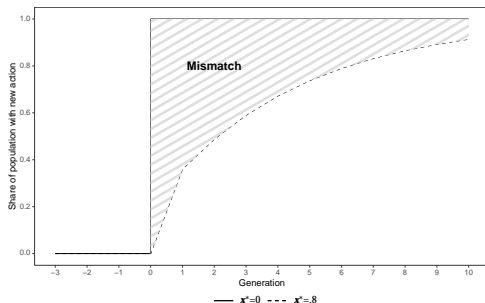
What's typical

- Igbo world view is more typical across societies than the W.E.I.R.D. worldview (Henrich, 2020).
- Two examples from North American Indigenous groups.
 - ① **Blackfoot** relations with Bison (Oetelaar, 2014):
 - *"To the Blackfoot, people are part of nature, as are streams and mountains, plants and animals. In this world, bison are identified as relatives and afforded the same treatment as human relatives. Thus, human-bison relations are based on reciprocity rather than the hierarchical relationships of exploitation."*
 - ② **WSÁNEĆ** naming practices (Clifford, 2019):
 - *"knowledge in the WSÁNEĆ tradition is not compartmentalized but holistic. . . This mode of reasoning is focused on relationships between interdependent beings. . . [and the fact that] we are in direct relation with all of creation – the land and animals are our relatives."*
 - Evidence from naming practices – e.g., name of sockeye salmon means "I'm your pitiful one."

Evidence for the advantage of non-WEIRD worldviews for environmental management

- In Brazil, early Indigenous extinctions have worse environmental management today (Barsanetti & Ferreira, 2022).
- In West Africa, adherence to traditional religion is associated with less deforestation (Deopa, 2022).
- In southern Benin, traditional 'voodoo' religion improves fishing conservation and prevents overfishing (Alonso et al., EE, 2016).
 - More effective than modern regulation-based strategies.
- In Nepal, a switch from national to community forest management (in 80s and 90s) doubled average forest cover.
 - Local management influenced by Hindu and Buddhist beliefs in sacred forests, tree worship, and the presence of spirits and deities in trees and forests (Igels, 1995).

Can we test for mismatch?



- When there is mismatch, each new generation will have systematically different beliefs than the previous generation.
- The newer beliefs will be better matched to the current environment.
- Suggests examining the cross-generational patterns present for specific values and beliefs.

Estimating patterns across generations

Measuring differences in values and beliefs across generations.

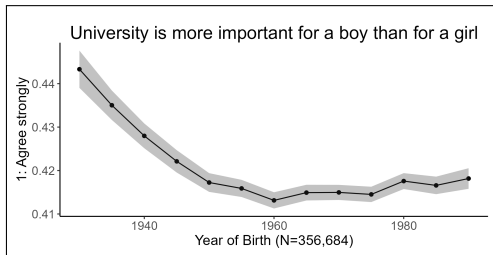
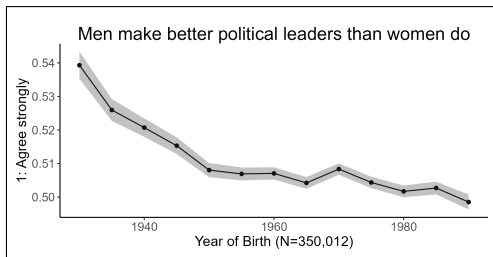
$$y_{i,t,c,b} = \phi_b I_i^b + \gamma_1 \text{Age}_{i,t,b} + \gamma_2 \text{Age}_{i,t,b}^2 + \theta_c + \varepsilon_{i,t,c,b}$$

- i indexes respondents, t the survey year, c country of residence, and b the respondent's birth year.
- I_i^b is an indicator that equals one if respondent i was born in birth year b .
- $\text{Age}_{i,t,b}$ is the age of respondent i , surveyed in year t , and born in year b .
- θ_c denote country fixed effects.

Note: Since we are conditioning on age, estimates should not reflect life cycle effects.

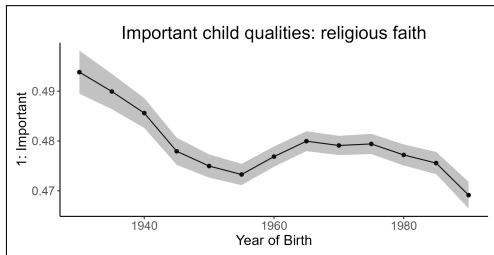
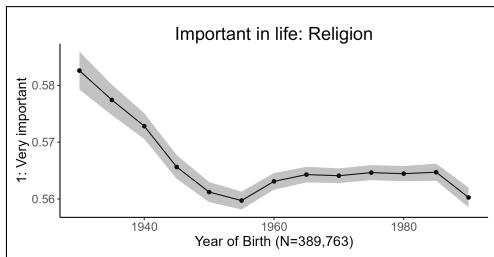
Support for gender inequality

Patterns across year-of-birth, flexibly controlling for age



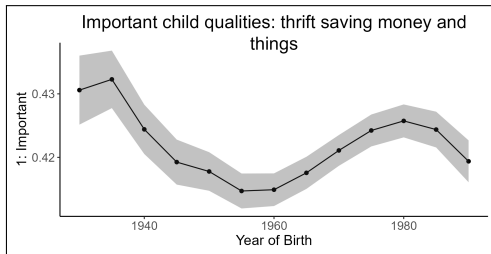
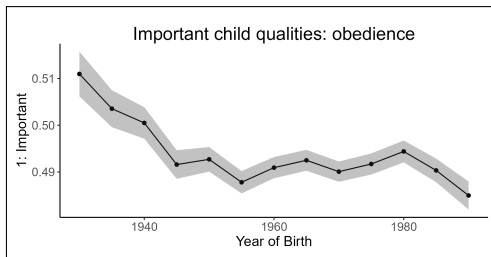
Importance of religion

Patterns across year-of-birth, flexibly controlling for age



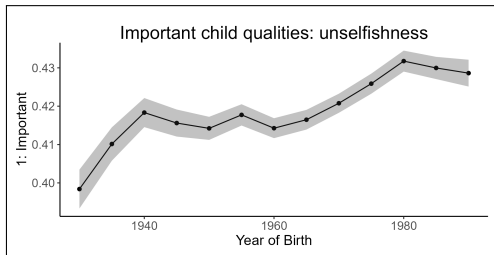
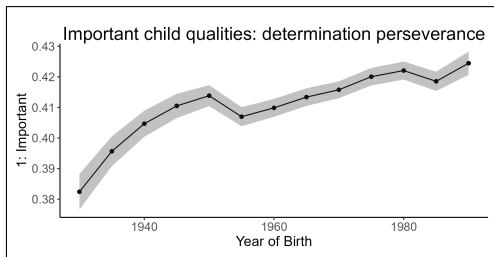
Obedience and thrift

Patterns across year-of-birth, flexibly controlling for age



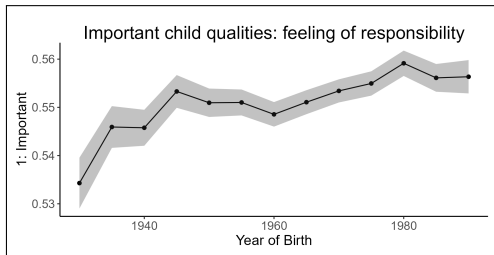
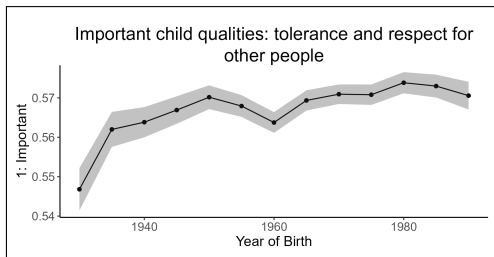
Determination and unselfishness

Patterns across year-of-birth, flexibly controlling for age



Responsibility, tolerance and respect for others

Patterns across year-of-birth, flexibly controlling for age



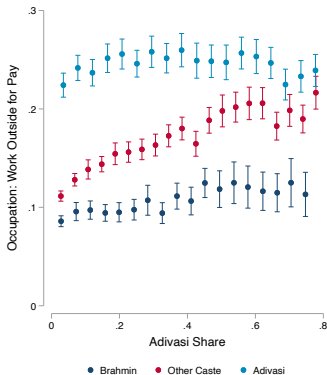
Other paths forward?

While tradition is important, we are also influenced by our current environment and by life events.

- Life experiences:
 - High school curriculum changes in China (Cantoni et al., JPE, 2017).
 - Frontier culture and 'rugged individualism' (Bazzi et al., Ecma, 2020).
 - Manne Program's (1976-99) effect on Federal Judges (Ash et al., 2021).
 - Economic mobility, immigration, enslavement and zero-sum thinking (Chinoy et al., 2022).
- Contemporaneous environment:
 - Economic downturns and risk taking (Malmedier and Nagel, QJE, 2011).
 - Southern Whites settlement and conservative ideology (Bazzi et al., QJE, 2023).
 - Confederate diaspora and racial bias (Bazzi et al., 2023).

The benefits of diversity

- The ability to learning from others and reduce mismatch highlights the importance of diversity.
- Learning from the traditions of other group can facilitate a speedier transition away from mismatched values.
- Example from Agte & Bernhardt (2022).
- In northern India, presence of Adivasi tribal groups (who are outside of the caste system) led to a weakening of Hindu caste purity norms.
- Exposure to Adivasi groups, despite their being low status, resulted in greater gender equality and less social stratification.



Diversity and global integration

- There are benefits to a more integrated world.
 - Creates a larger more-connected 'collective brain' (Muthukrishna & Henrich, PTRSB, 2016).
 - Generates 'scale effects,' which increase innovation and economic growth (Romer, JPE, 1986; Kremer, QJE, 1993).
- However, a more connected world also means less diversity, which is costly.
 - Populations that are more connected lose cultural diversity.
 - Partial isolation of subgroups produces a more diverse set of cultural traits.
- Theoretically and experimentally, a intermediate level of integration is found to be optimal (Derex and Boyd, PNAS, 2016; Derex et al., PTRSB, 2018).
- Too much integration limits diversity and is suboptimal.

- Within the **World Bank**:
 - U.S. has 16% of votes, Japan 7%, China 4.4%, Germany 4%, etc.
 - An 85% vote share is needed to pass a motion, making the US the only country with a veto right.
- In the **International Monetary Fund (IMF)** (in the Board of Governors):
 - U.S. has 16.5% of votes, Japan 6%, China 6%, Germany 5%, etc.
 - Approval requires an 85% majority.
- On the **UN Security Council**:
 - 5 permanent members (each with veto power): U.S., U.K., France, Russia, and China.
 - 10 non-permanent members, on the council for two years, and voted in by the General Assembly.

Consequences of limited diversity

Source: J. Stephen Lansing (2009)

- Hindu based belief system in Bali.
- Farmers organize into democratic collectives called *subak*.
- Using religious calendars, all *subaks* in a region coordinate planting.
- Elaborate multi-day and multi-location rituals must occur prior to planting.



Consequences of limited diversity

Source: J. Stephen Lansing (2009)

- In 1979, the Asian Development Bank launched the Bali Irrigation Project.
- Farmers were legally mandated to adopt new quick-maturing varieties and engage in uncoordinated planting and harvesting.
- By the 1980s, crops were consistently overwhelmed with pests.

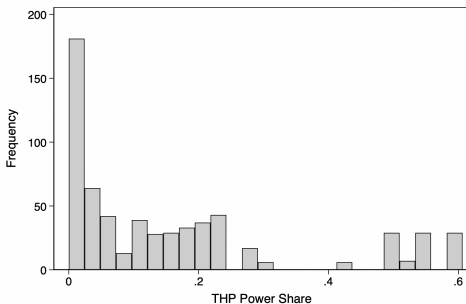


Consequences of limited diversity

Source: McGuirk and Nunn (2022)

- About 20-24% of the developing world's population is pastoral.
- Governments and international donors, from agriculture cultures, typically view pastoralism as archaic and primitive.

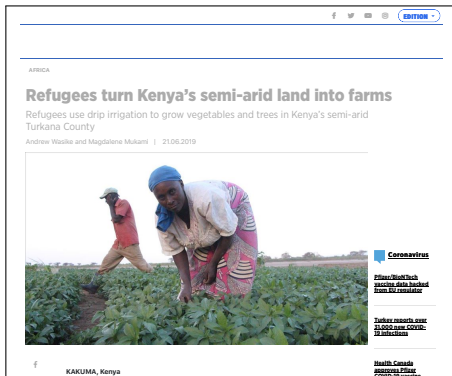
Share of national power held by pastoral groups in Africa



Consequences of limited diversity

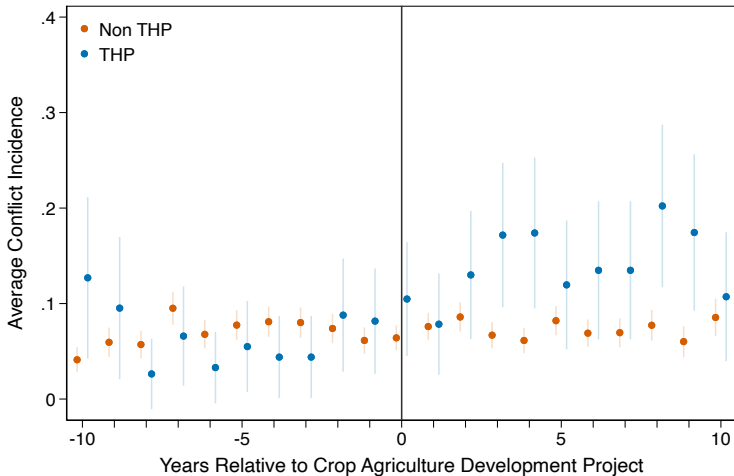
Source: McGuirk and Nunn (2022)

- A common strategy is to promote sedentary agriculture and encourage pastoralists to abandon their nomadic lifestyle.



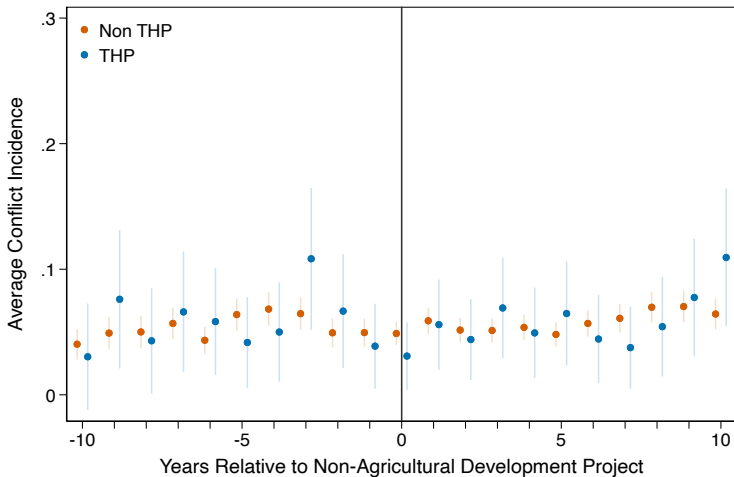
Conflict and World Bank crop agriculture projects

Source: McGuirk and Nunn (2022)



Conflict and World Bank crop agriculture projects

Source: McGuirk and Nunn (2022)



Consequences of limited diversity (in academia)

- Recent study (now NBER working paper) randomizes the allocation of savings lockboxes among the Tsimane, living in 61 remote villages in the Bolivian Amazon.
- Subsistence is from horticulture, fishing, hunting, and livestock.
 - Only 3-11% of consumption is purchased.
- Only effect of the lockboxes was to double the consumption of hard alcohol.
- “a year after the endline survey and after preliminary analysis of the data, we returned to the field with standard ethnographic methods. . .”
- Learned that the consumption of alcohol is an important social activity for the Tsimane.

Consequences of limited diversity (in academia)

Excerpt from abstract evaluating a recent World Bank intervention in Sierra Leone aimed at 'fixing' traditional governance:

*“Where the state is weak, **traditional authorities control the local provision of public goods.** These leaders come from an older, less educated generation and often rule in an authoritarian and exclusionary fashion. This means the skills of community members may not be leveraged in policy-making. We **experimentally evaluate two solutions to this problem...**”*

Concluding thoughts

- In our complex world, we rely heavily on culture and tradition to help us make decisions.
- They 'work' because they persist and evolve slowly.
- When the world changes, tradition can cause cultural 'mismatch.'
- Are the traits that won out in the past the best suited for the challenges of today?
- Reason to believe that the answer is "no."
- Part of the solution lies in diversity and our ability to learn from other world views, especially the non-WEIRD views that have lost out historically.