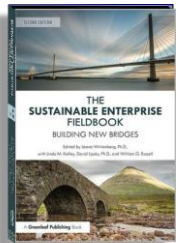


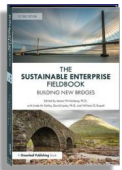
Movement of talent; and Geopolitical

Sustainable globalization

Linda Morris Kelley
May 7, 2020



Who's in the Zoom Room today? What have you been thinking about from previous classes?

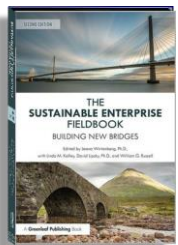


Movement of talent

Migration



Copyright 2016. V.G. Axelrod, J. Harmon, L.M. Kelley, W.G. Russell, and J. Wirtenberg. *Six lenses for sustainable globalization*



U.S. people who live where they were born

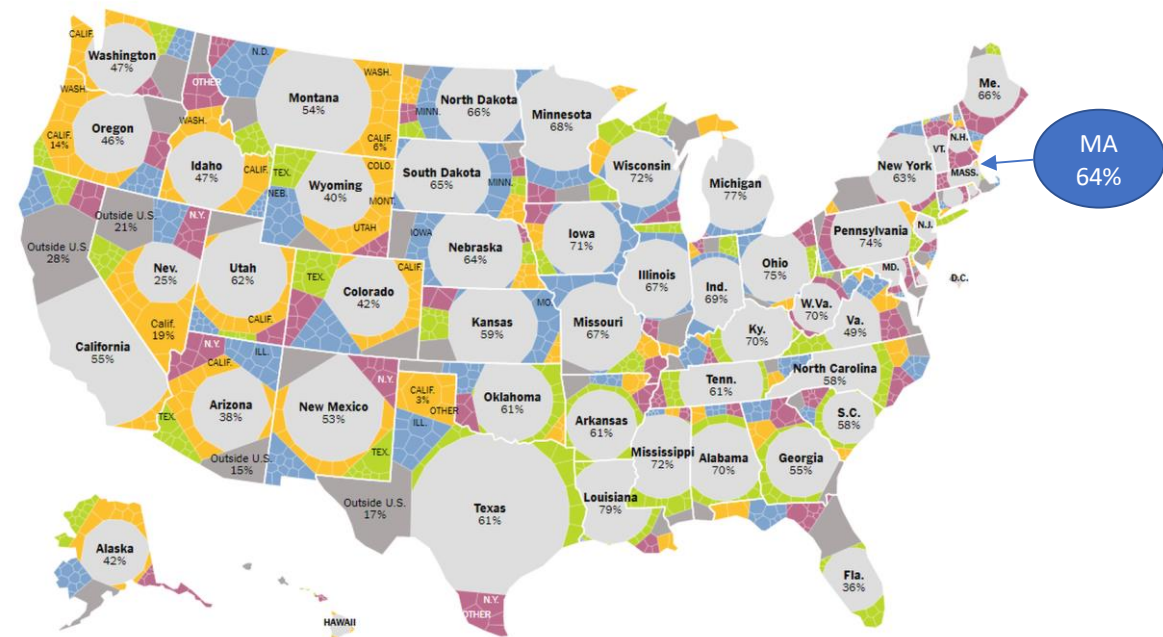
- Were you born in Pittsfield?
- Were you born in Berkshire County?
- How many places have you lived in your life?

Where people who lived in each state in 2012 were born

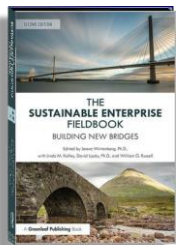
Each shape represents where the people living in a state were born. Within a state, larger shapes mean a group makes up a larger share of the population.

SELECT A YEAR
1900 | 1950 | 2012

■ Northeast ■ South ■ Midwest ■ West ■ Outside the U.S.*



<https://www.nytimes.com/2014/08/16/upshot/mapping-migration-in-the-united-states-since-1900.html?smid=pin-share>



People move. People have always moved

Homo erectus artifacts in Shangchen

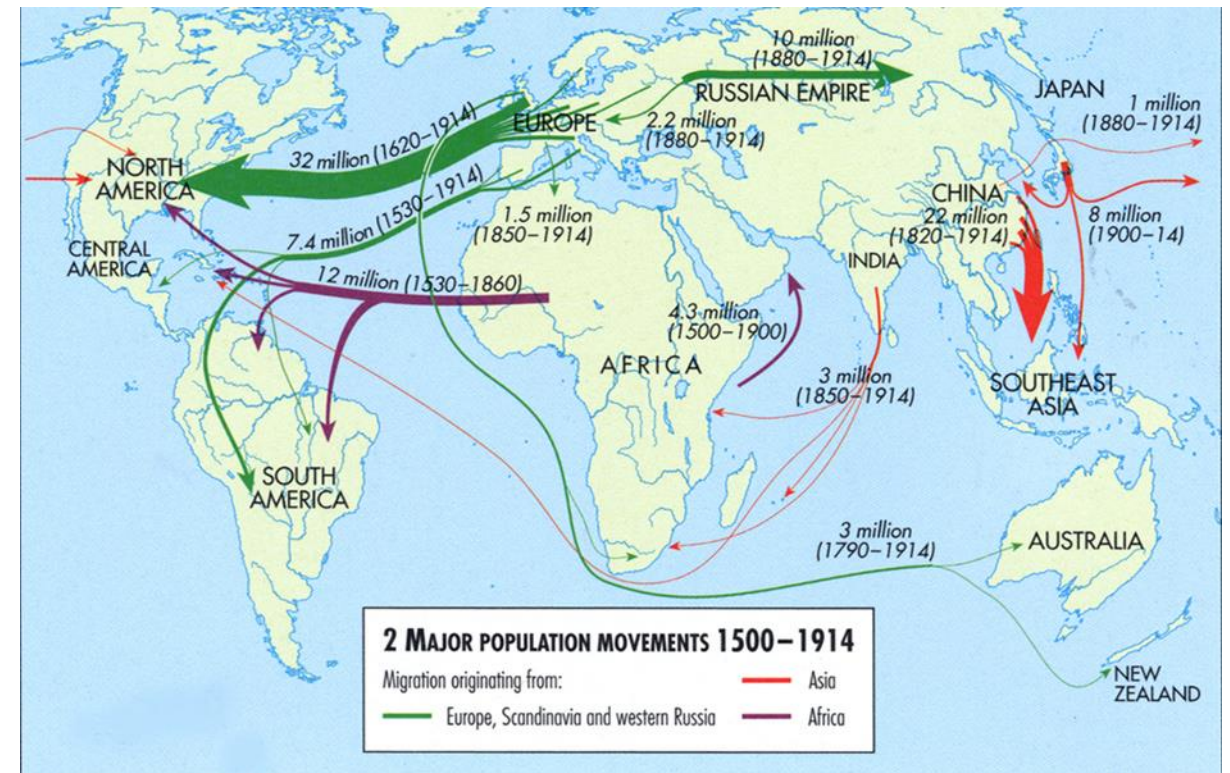
TRAVELLING HOMININS

Stone tools from a Chinese site called Shangchen were made as early as 2.1 million years ago (Myr) — the earliest known evidence of hominins living outside Africa. Remains and tools from Dmanisi in Georgia, dating to around 1.8 Myr, had previously marked the earliest known hominin migrations from Africa.

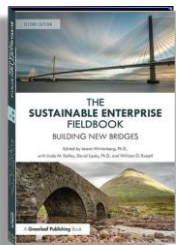


<https://www.nature.com/articles/d41586-018-05696-8>

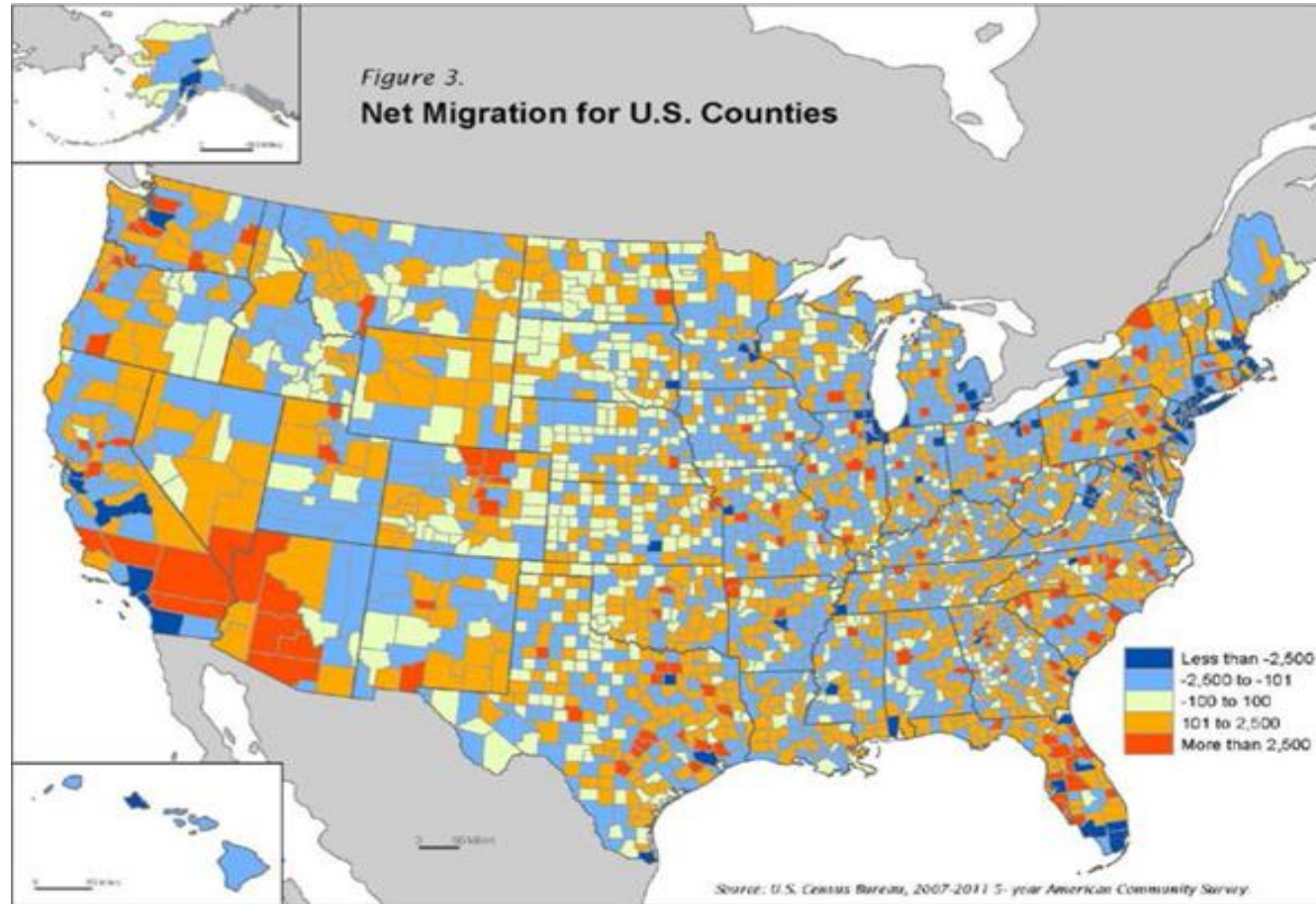
Modern day resettling of the World



<https://sites.google.com/site/whapheritage/home/unit-three-1750-1914/migrations>

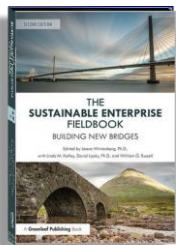


Moving within the U.S.



Blue represents people leaving

Red represents people coming in

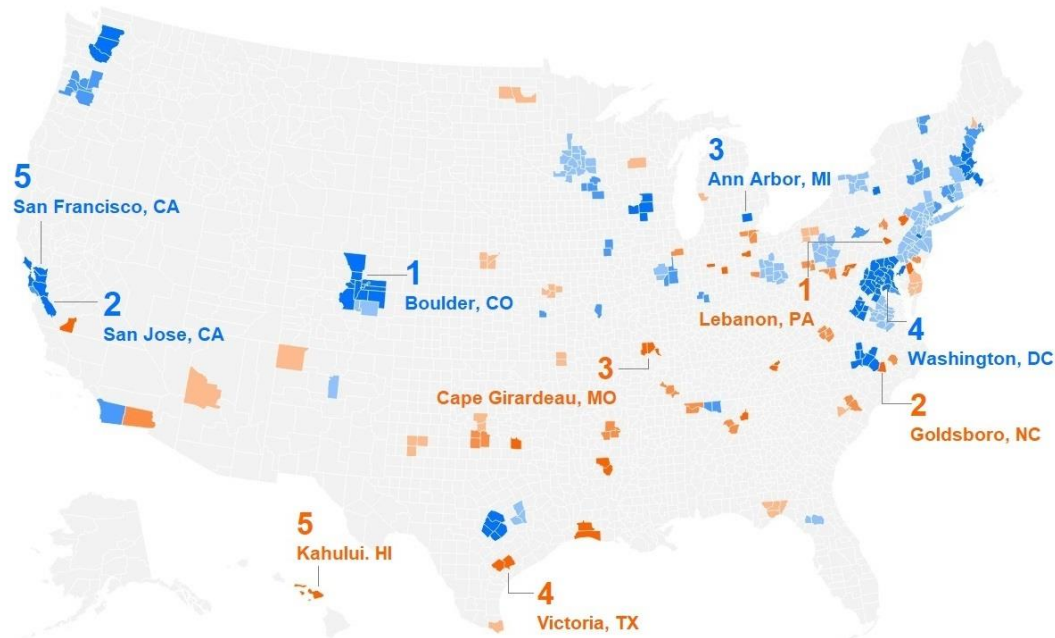


<https://www.economist.com/democracy-in-america/2014/02/17/hit-the-road-jack>

When people move, talent moves and changes

Bloomberg "Brain" Indexes - 2019

Metro areas benefiting from brain power and suffering from brain drain



Source: Bloomberg analysis U.S. Census data
 Notes: Bloomberg Brain Concentration Index measures the share of residents employed in STEM occupations, holding advanced degrees or Science/Engineering undergraduate degrees; The Brain Drain Index measures the hemorrhage of white-collar jobs and advanced-degree holders and the decline of STEM pay.

Bloomberg

<https://www.bloomberg.com/news/articles/2019-11-18/kansas-draws-enough-brain-power-to-make-it-a-top-tech-hub>

2019 Bloomberg Brain Concentration Index: Top Ten

Boulder, CO metro area has been ranked No. 1 since the 2016 inaugural index.

	Score	STEM jobs	Science & Engineering-degree holders	Advanced-degree holders
Boulder, CO	99.80	8.1%	19.5%	18.5%
San Jose, CA	99.63	10.2	21.1	17.3
Ann Arbor, MI	98.97	6.6	15.5	18.3
Washington, DC	98.67	6.4	15.8	17.4
San Francisco, CA	98.37	6.6	17.6	15.3
Ithaca, NY	98.10	5.6	15.1	18.0
Boston, MA	97.43	5.5	14.9	15.9
Durham, NC	96.97	5.0	14.0	16.1
Charlottesville, VA	96.40	4.1	14.2	16.2
Madison, WI	95.83	5.7	12.8	12.5

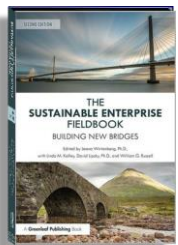
SOURCE: Bloomberg analysis of U.S. Census 1Y ACS data
 Notes: Metrics shown as a percentage of total population. Data as of 2018

2019 Bloomberg Brain Drain Index: Bottom Ten

First time included on the list since 2016: Kahului, HI & Monroe, LA metro areas.

	Score	Outflow: Advanced-degree holders	White-collar headcount chg	STEM job pay chg
Lebanon, PA	84.32	-5.5%	-9.0%	-15.0%
Goldsboro, NC	75.58	-3.5	-4.8	-10.1
Cape Girardeau, MO	73.77	-3.9	-5.1	-15.5
Victoria, TX	73.27	-2.4	-9.1	-44.0
Kahului, HI	72.07	-5.6	-2.5	-22.8
Muncie, IN	71.98	-3.5	-8.4	-16.4
Morristown, TN	71.05	-6.5	-6.9	19.4
Lima, OH	69.45	-5.8	-8.5	-29.8
Monroe, LA	66.08	-4.2	10.1	-41.7
Hanford, CA	63.95	-8.3	18.8	-8.2

SOURCE: Bloomberg analysis of U.S. Census 1Y ACS data
 Notes: Outflow of advanced degree-holders was the 2016-2018 3Y average; 1Y change for both white-collar job counts and STEM pay. Select metrics shown. Data as of 2018.



Tech centers in the U.S.

Geographical Innovation Clusters

Share of a fields' inventors located in each of the top-5 geographical research clusters for:

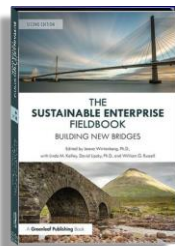
 Semiconductors  Biology and Chemistry  Computer Science



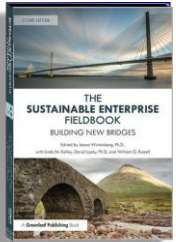
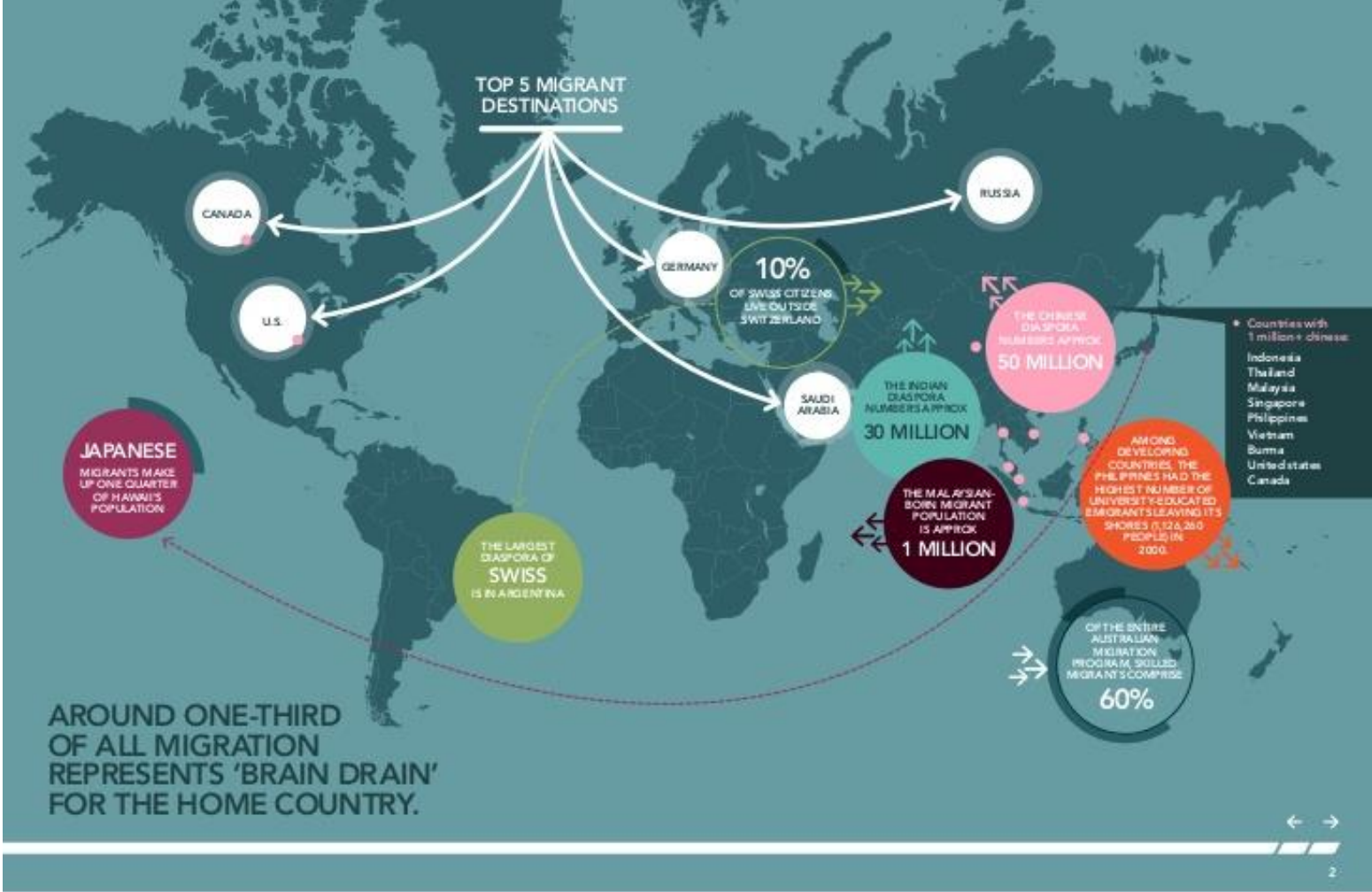
City labels represent larger local geographical clusters

Source: Researcher's calculations using data from the COMETS patent database

<https://www.nber.org/digest/nov19/w26270.shtml>



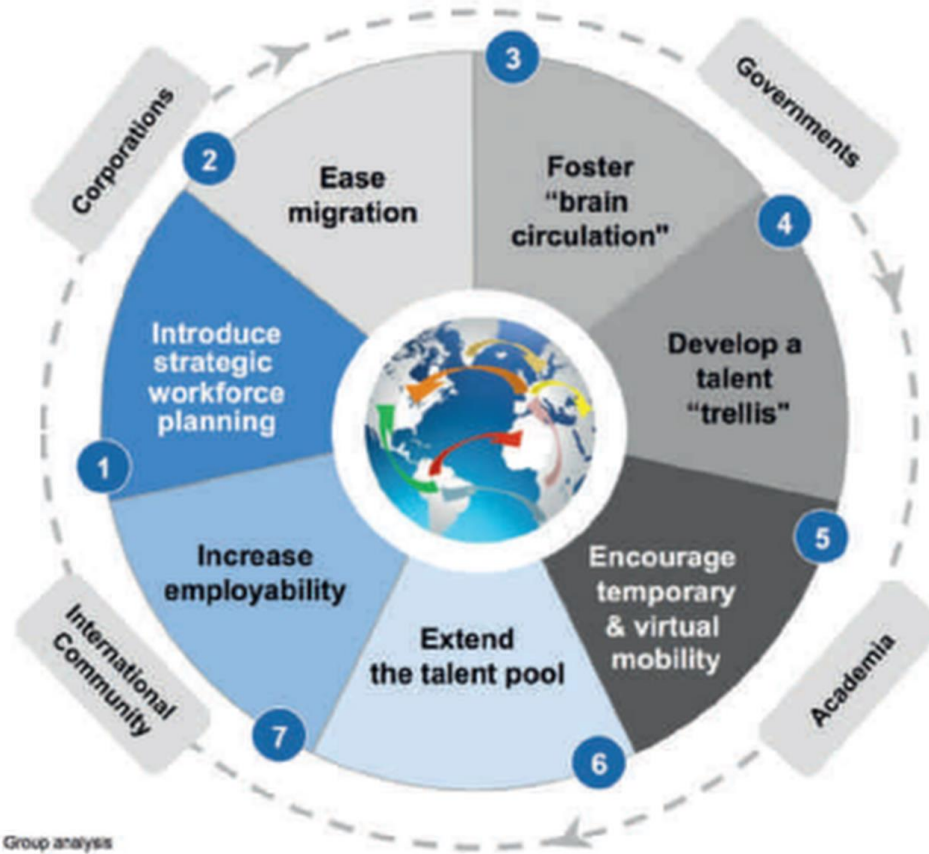
Movement of talent: migration



http://www.thoughtleaders.nz/post/perspectives/talent_migration_leveraging_young_skilled_and_connected_diasporas/169

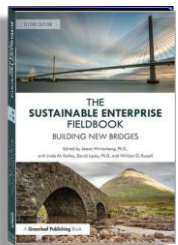
Migration of talent

Exhibit 7: Seven Responses to the Global Talent Risk



Source: The Boston Consulting Group analysis

http://www3.weforum.org/docs/PS_WEF_GlobalTalentRisk_Report_2011.pdf



People are social beings We congregate

One of the oldest discovered city
in the world: **Göbekli Tepe**



Shown within Turkey

- Show map of Turkey
- Show map of Near East
- Show map of Eastern Mediterranean
- Show all

Location **Örencik, Şanlıurfa Province, Turkey**

Coordinates  **37°13'23"N 38°55'21"E**

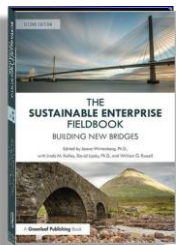
Type **Sanctuary**

History	
Founded	10th millennium BCE
Abandoned	8th millennium BCE
Periods	Pre-Pottery Neolithic A to B

From hunting and gathering to climate change
driven agriculture?

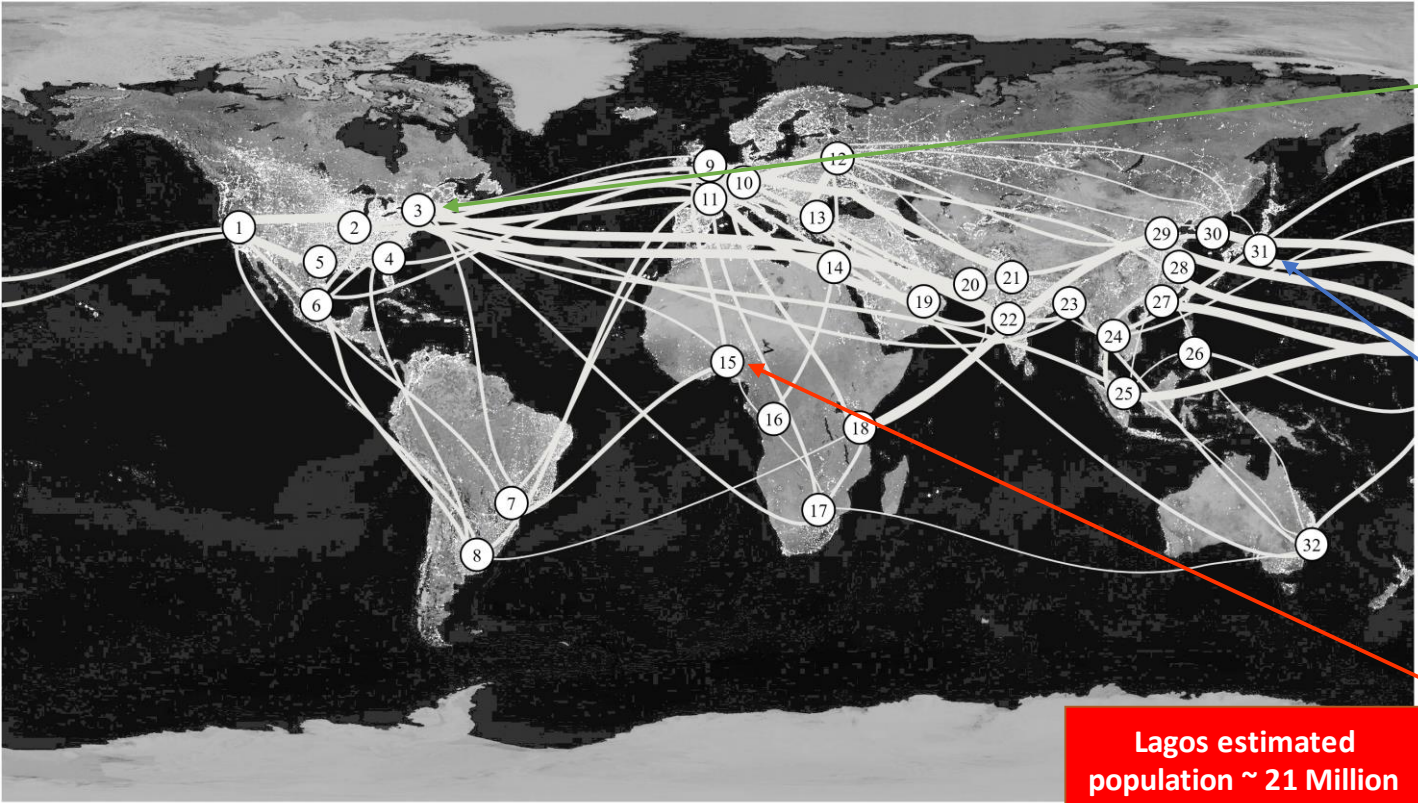


https://en.wikipedia.org/wiki/G%C3%B6bekli_Tepe



Megacities

Northeast megalopolis population ~ 55 Million

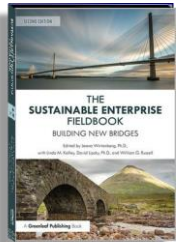


Lagos estimated population ~ 21 Million

Connected emerging megacities	
1. San Francisco – Los Angeles – Vancouver – San Diego	17. Johannesburg
2. Chicago – Toronto	18. Nairobi -Dar es Salam
3. Boston – New York – Washington DC	19. Abu-Dubai
4. Atlanta – Miami	20. Karachi
5. Dallas – Ft. Worth – Houston	21. Greater Delhi
6. Mexico City	22. Mumbai – Pune
7. Sao Paulo – Rio de Janeiro	23. Dhaka
8. Buenos Aires	24. Bangkok
9. London	25. Singapore – Jakarta
10. Rhine – Ruhr	26. Manila
11. Paris	27. Pearl River Delta
12. Moscow	28. Shanghai – Nanjing
13. Greater Istanbul	29. Beijing - Tianjin - Hebei
14. Cairo	30. Seoul
15. Lagos – Benin City	31. Tokyo -Osaka - Kobe
16. Kinshasa	32. Sydney

Taiheiyō Belt population ~ 100 Million

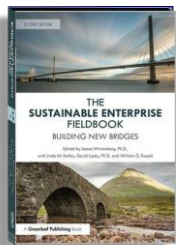
Table 7.1 Connected emerging megacities



Developing megacities connect
From rapidly growing urban areas to megacities
 55% (4.2B) of the world's population live in cities

Northeast megalopolis

Taiheiyō Belt

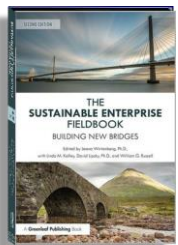


You are here

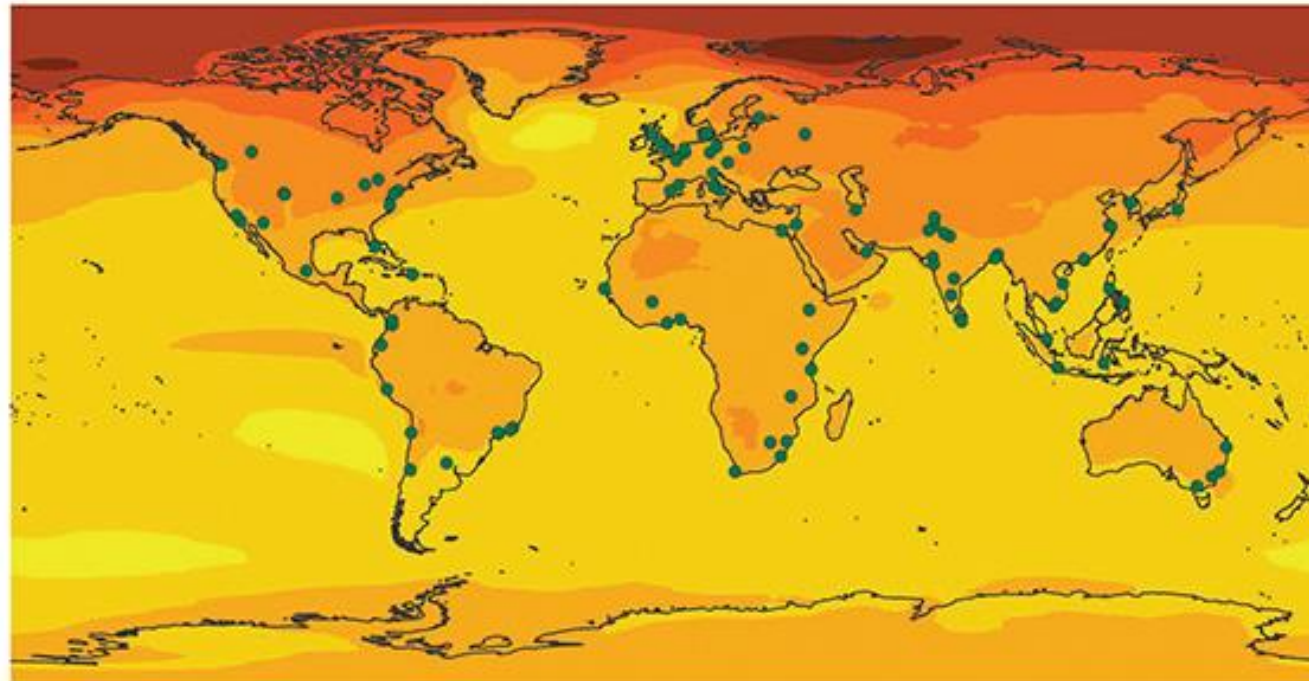
NASA - http://visibleearth.nasa.gov/view_detail.php?id=1438

Social challenges of megacities

Discussion



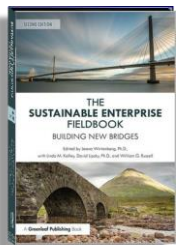
Megacities with climate change by 2050?



Temperature Change (°C)



<https://www.sas.upenn.edu/lps/node/1478>

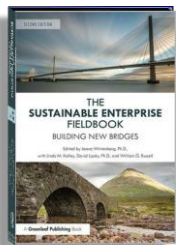


Geopolitical

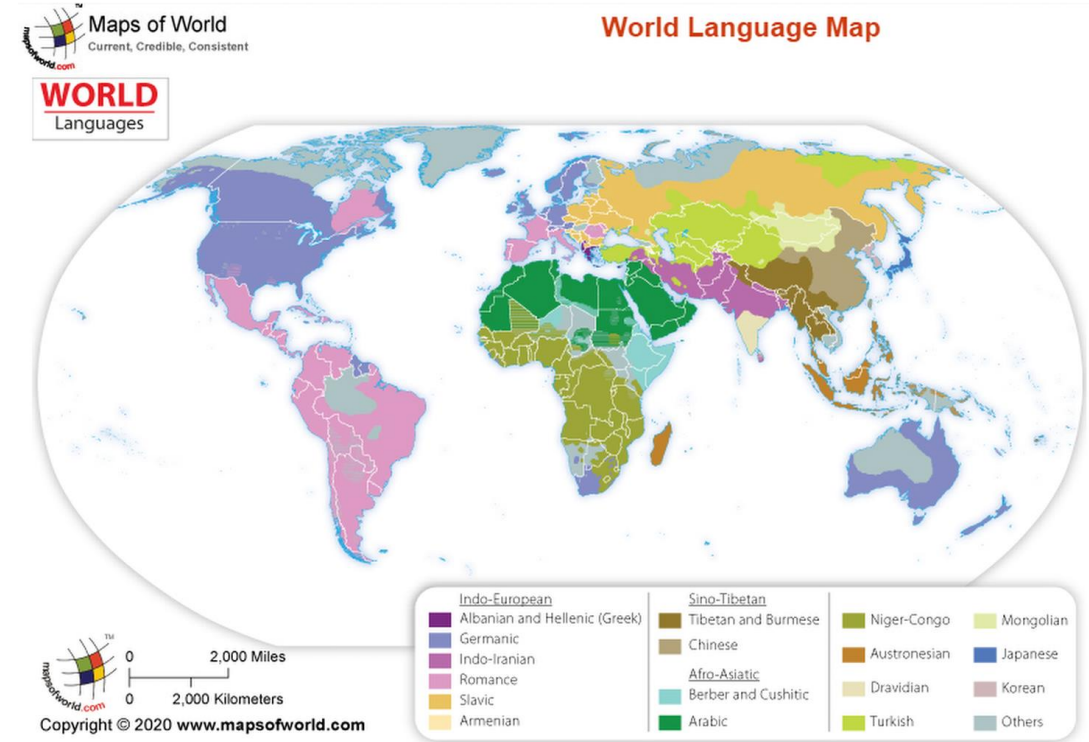
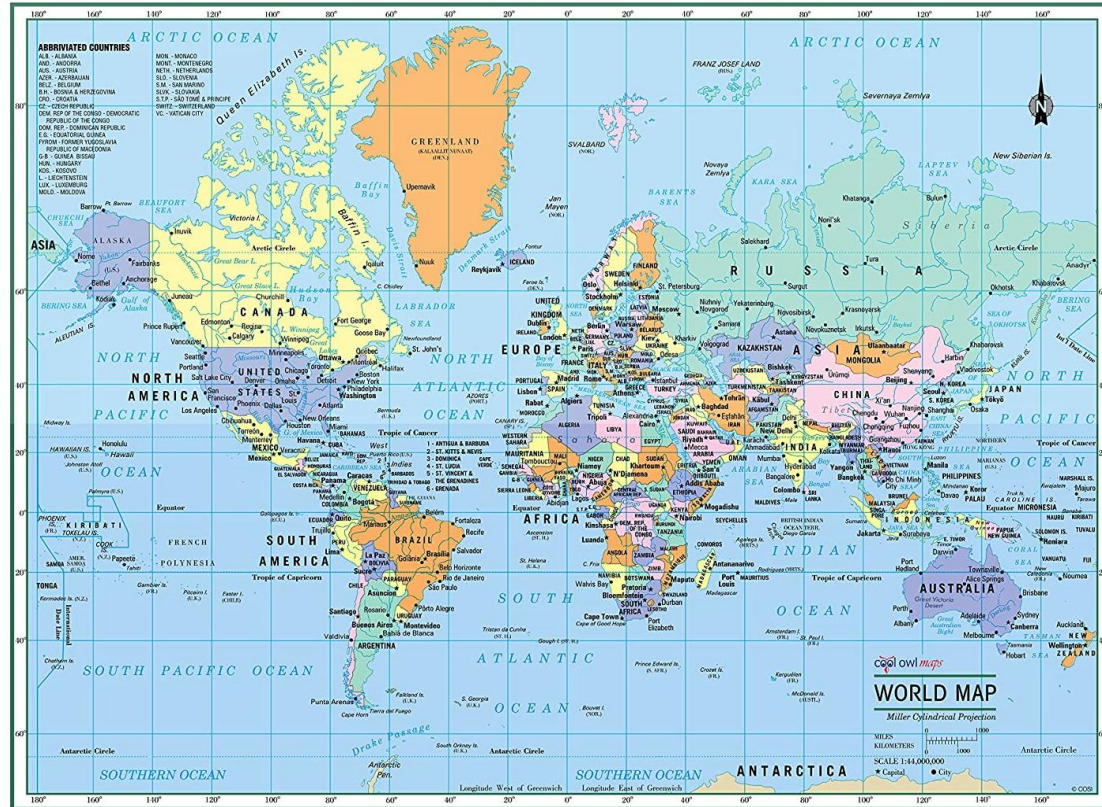
Global + Local



Copyright 2016. V.G. Axelrod, J. Harmon, L.M. Kelley, W.G. Russell, and J. Wirtenberg. *Six lenses for sustainable globalization*

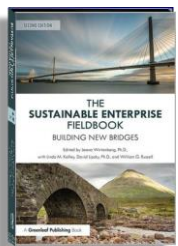


Geo + political: maps, boundaries, and functions



<https://www.amazon.com/WORLD-Wall-Political-Color-Poster/dp/B00T8MLWDA>

<https://www.mapsofworld.com/world-language-map.htm>

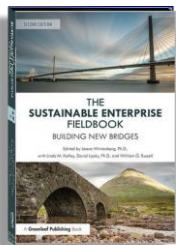


Nations change

- Neolithic Age rise of City States ~ 12,000 b.c.e.
- Empires ~ 4000 b.c.e to 20thC as aggregates of territories
- 1648 – The Peace of Westphalia ended the Thirty Years War and recognized sovereignty over territories in Europe
- 1775 to 1816 – the rise of Nation States
- 1959 – United States added Alaska and Hawaii as States



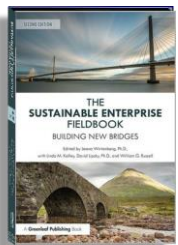
https://commons.wikimedia.org/wiki/Atlas_of_European_history#/media/File:Europe_1848_map_en.png



Cities change

New York City

- 1624 – First Dutch settlement, New Amsterdam on the southern tip of the island of **Manhattan**
- 1664 – British Army conquered and renamed the settlement New York
- 1897 – **Queens**, settled in 1635, was incorporated into New York City
- 1898 – The **Bronx**, settled in 1639, became a Borough of New York City
- 1898 – **Brooklyn**, settled in 1645, was consolidated into New York City
- 1898 – **Staten Island** (the Borough of Richmond until 1975), settled by Clovis culture people 16,000 b.c.e., and by the Dutch in 1661



Regional consortia in the U.S. 2020

West Coast, April 2020

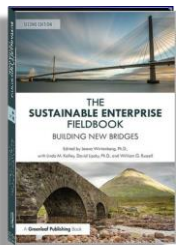
California, Oregon, Washington, plus Nevada, Colorado

- Coordinated release of stay-at-home orders
- Sharing of medical equipment

East Coast, April 2020

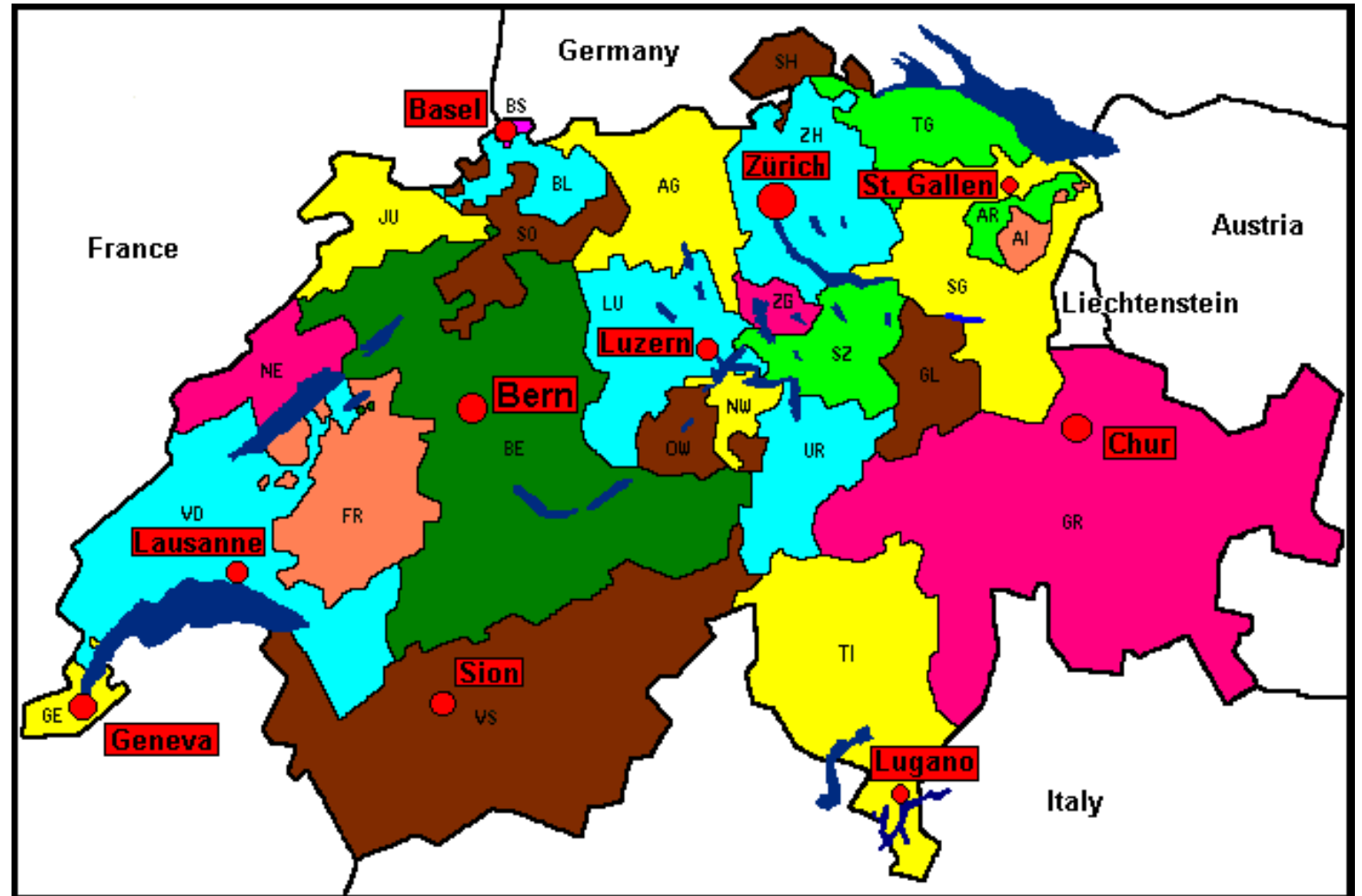
New York, Massachusetts, Rhode Island, New Jersey, Delaware, Maryland, Pennsylvania

- Purchasing Personal Protective Equipment, ventilators, and other medical equipment
- Coordinated staged reopenings and lifting of the stay-at-home orders

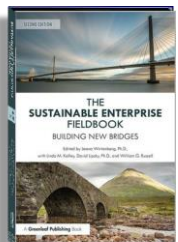


Swiss Confederacy

- Since 1848, a federal republic of autonomous Cantons that are administrative divisions
- Multi-language: Swiss-German, Swiss-French, Swiss-Italian, Swiss-Romanish
- 1291 three cantons to join together to defend the peace
- Switzerland has a sense of unity from diversity

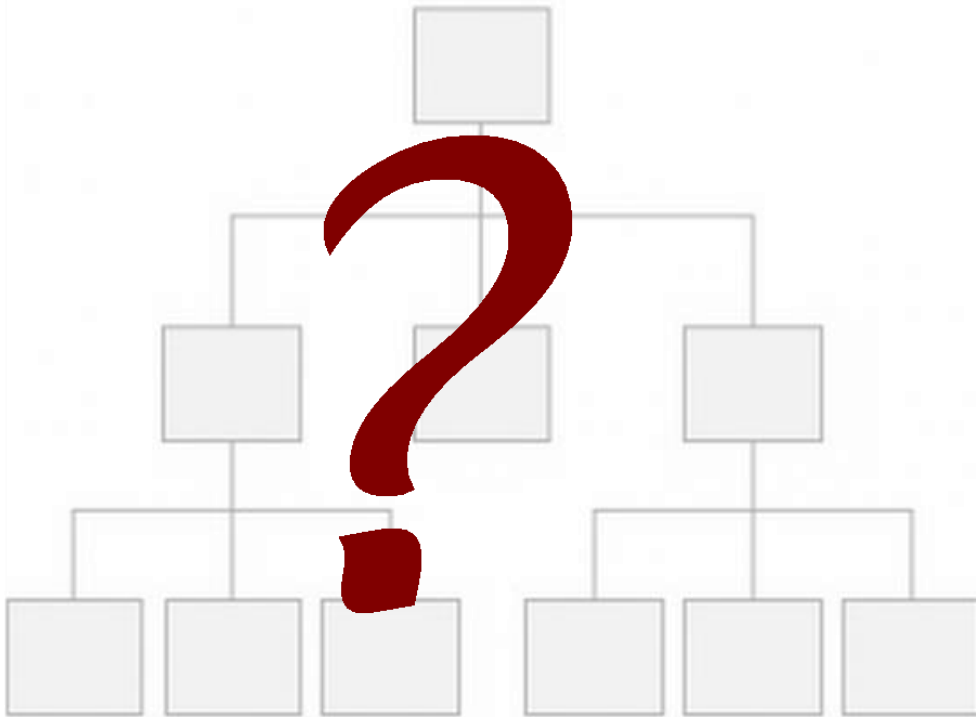


<https://www.about.ch/cantons/index.html>

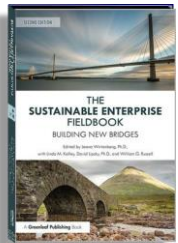


Social groups organize

Vertical: benefits and drawbacks?



Horizontal: benefits and drawbacks?



The future of security and sustainability

World Economic Forum's Global Survey of top executives

- Terrorism, foreign and domestic

- Physical
 - Social
 - Environmental

- Digital, cyber

- Money and finance
- Energy
- Navigation

- Human rights

- Equity
- Food-Water-Air-Energy
- Health
- Shelter
- Education

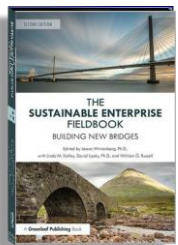
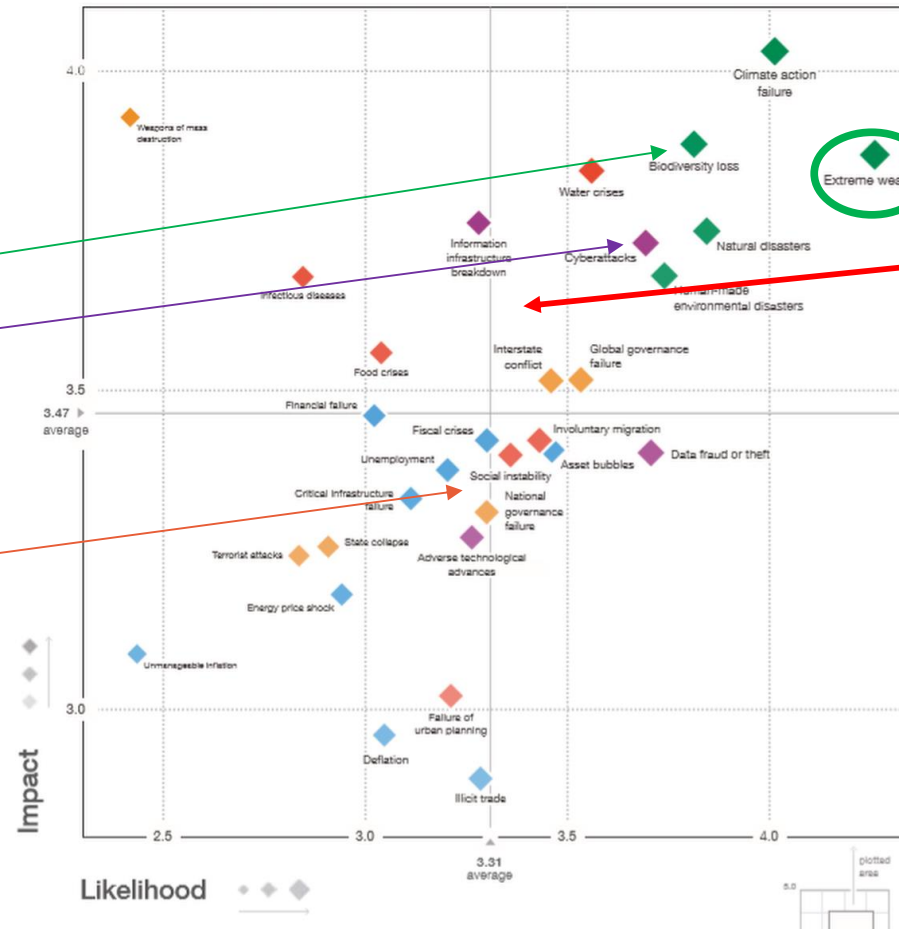


Figure II: The Global Risks Landscape 2020 Issued January 15, 2020



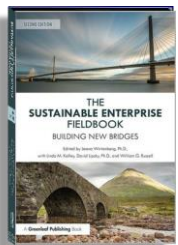
February 2020

- ✓ Infectious disease
- ✓ Fiscal crises
- ✓ Unemployment
- ✓ Global governance failure
- ✓ Interstate conflict
- ✓ Information infrastructure breakdown
- ✓ Food crises

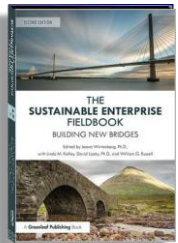
<https://www.weforum.org/reports/the-global-risks-report-2020>

Transitioning to a sustainable future, what are we sustaining?

Question remains



Reflections on today?



Thank you for being here!

Preparation for **Session 5**, Local and Global.

Research local activities that relate to sustainability looking through 6 lenses

Berkshire • Bennington • Rensselaer • Columbia • Litchfield • Franklin • Hampshire • Hampden

