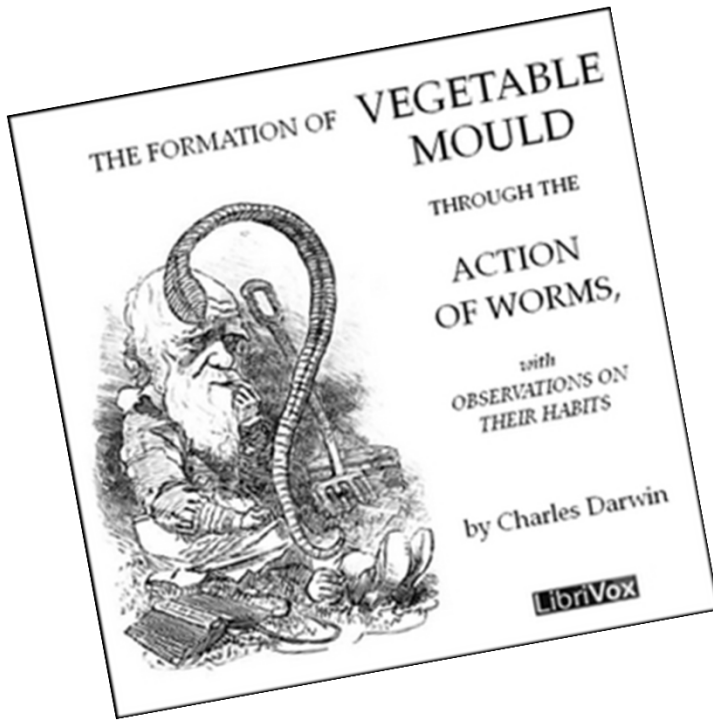


No, SCIENCE IS NOT EUROCENTRIC!

Jim Clark

Department of Psychology
University of Winnipeg
Winnipeg Manitoba
Canada
North America
Earth



12th Annual International Conference on Social Sciences
ATINER 2025

- Yahya Jammeh: Former President of
Gambia
 - Herbal cure for HIV/AIDs: white robe, prayer
beads, ...
 - Revealed by ancestors in a dream
 - Family history of African herbalism
 - Army colonel, no medical training



- Science
 - Empirical studies to determine efficacy
 - Explain by naturalistic theory (e.g., virus, ...)
 - Conclusion transcends culture, independent of researcher
identity (ξένος, Xenos)

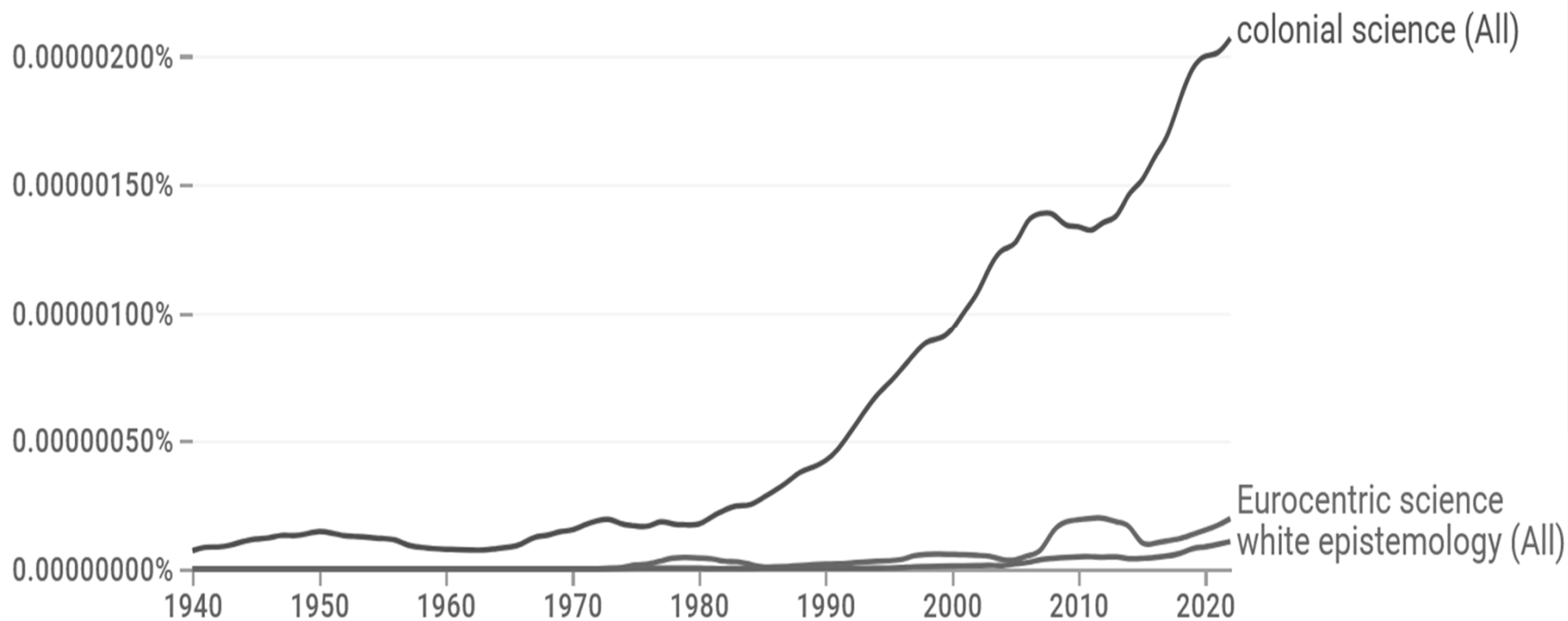
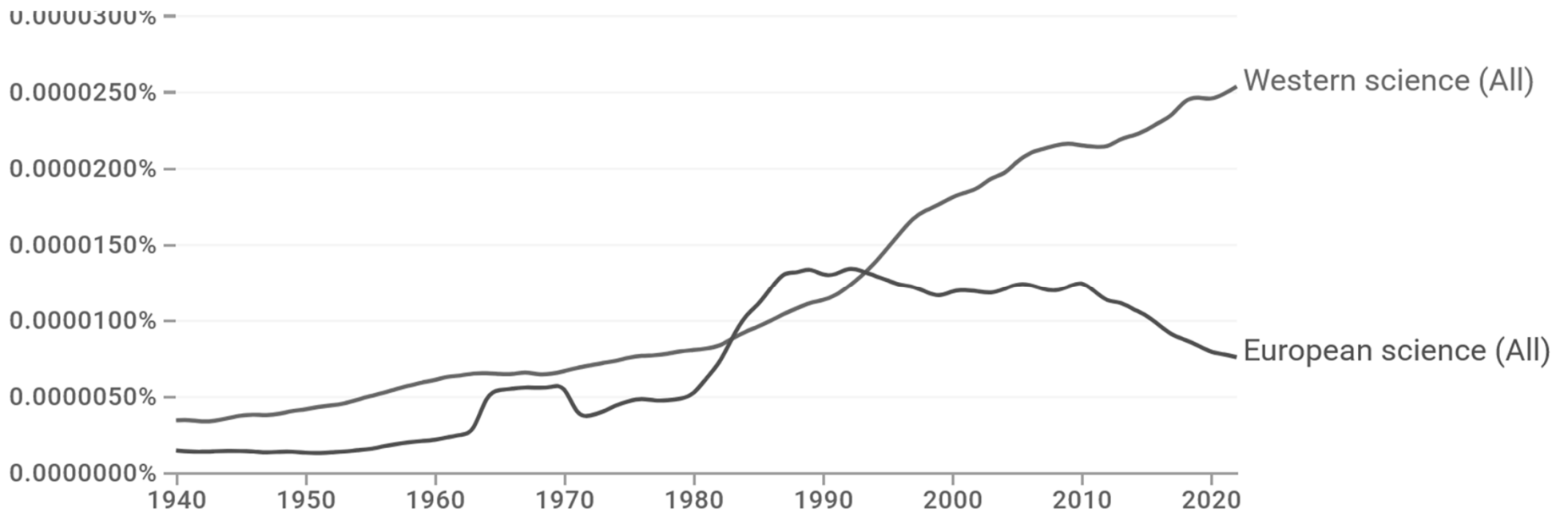
ETHNOCENTRIC VIEWS OF SCIENCE

3

- “School science conventionally teaches **Eurocentric or Western science.**” (Aikenhead & Elliot, 2010)
- Critical race theory analyzes “... **white epistemology** in psychological science ... and how scientific racism has been possible in the pursuit of knowledge.” (Teo, 2022)
- “... the **colonial sciences** ... generated ideas of ... a hierarchy ... with **European knowledges** at the top.” (Menon, 2022)
- Colorado “refers to traditional Native knowledge ... as ‘Native science’ ... to place [it] on par with **Western science.**” (Knudston & Suzuki, 1992).

Prevalence?

4

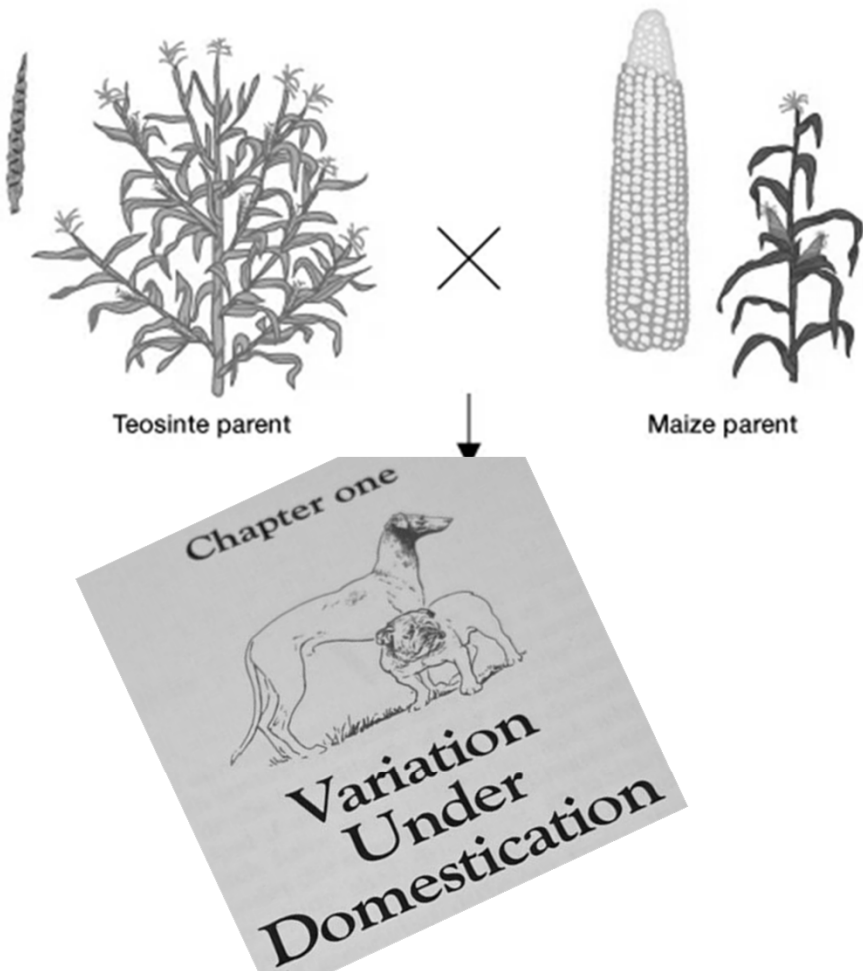


**SCIENCE IS
NOT
EUROCENTRIC!**

- Roots in many cultures
- Helped unify Europe
- Adopted internationally
- Benefits sought universally
- Challenged traditional beliefs
- Questioned by many in West?

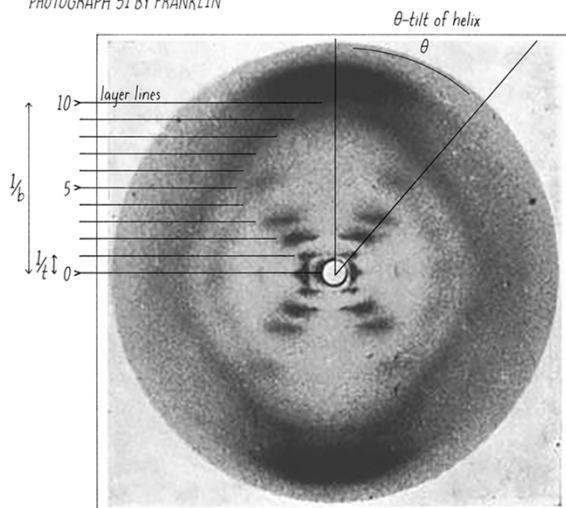
ROOTS IN MANY CULTURES

- Early models focused on proximal factors (“Europe”)
 - “Scientific Revolution”
- Later enriched history of distal factors (“Global”)
 - “Scholars now see the European breakthrough to modernity as the last decisive development in a long series of advances that stretch far back in time and cover much of Eurasia.” (Dawson, 2003)
 - Long evolutionary period with roots in many cultures (Montgomery & Kumar, 2016; Poskett, 2023)

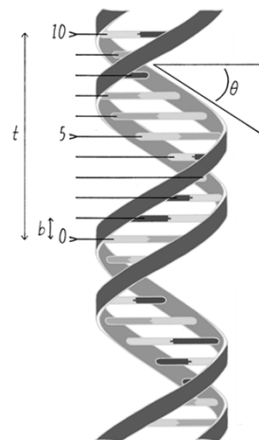


- Science builds on pre-scientific knowledge
 - Humans globally demonstrate remarkable ability to observe and control their environments
 - e.g., selective breeding of Maize/Corn in MesoAmerica
- Darwin
 - Genetic Science

PHOTOGRAPH 51 BY FRANKLIN



b -distance between bases
 t -distance for one complete turn of helix



HELPED UNIFY EUROPE

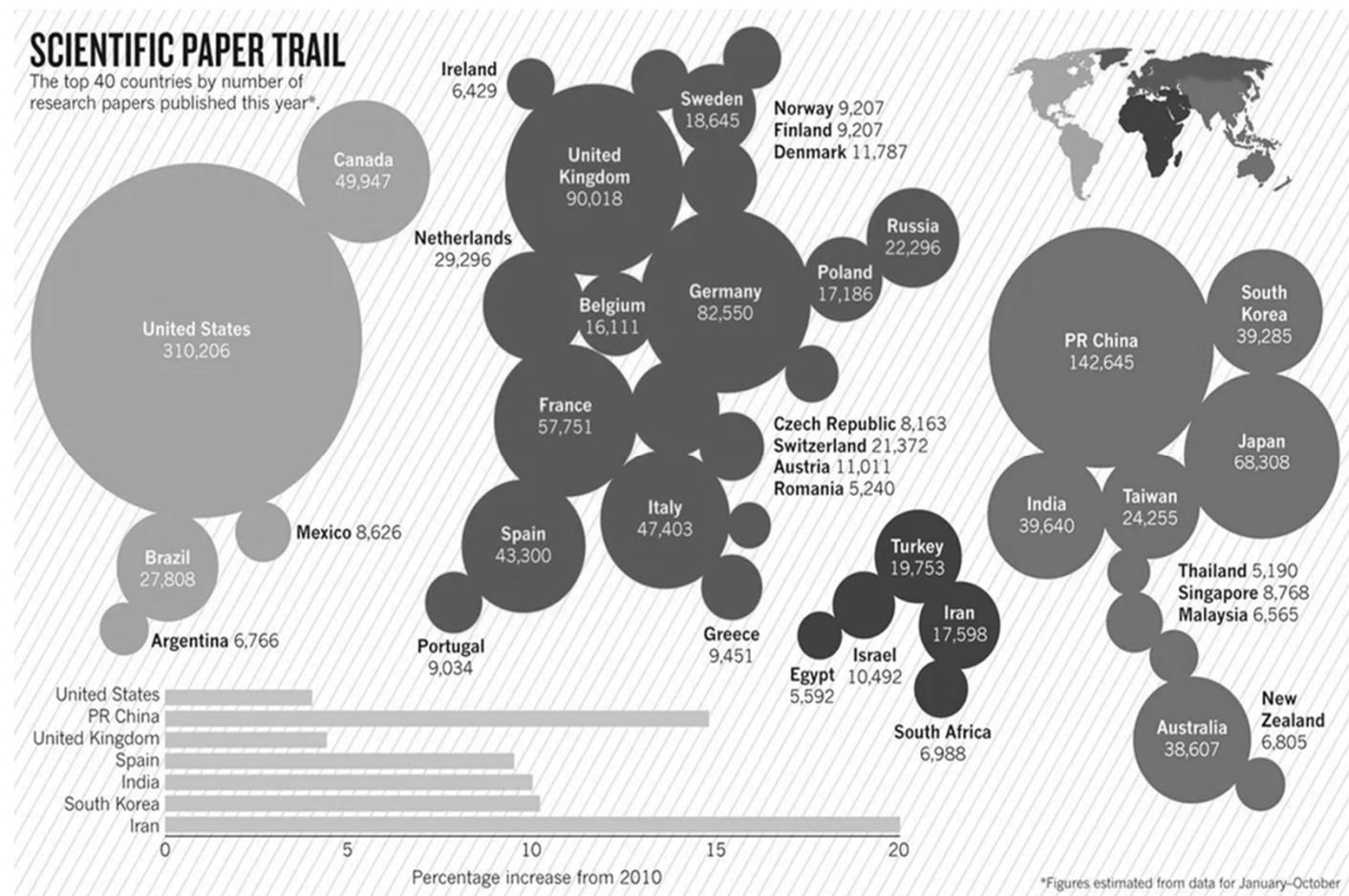
8

- “Europe” not a coherent entity, fragmented
 - Distinct Ethnicities, Languages, Religions, ...
 - Conflicts: e.g., 30 Years War (1618-1648)
- Scientific “international” correspondence
 - Kepler letters to scientists in Germany, Italy (including Galileo), Austria, Czech, Netherlands, UK, France, Belgium, Poland
 - Latin a lingua franca (Latinus Scientificus)
- Philosophical Transactions published by The Royal Society of England (1665 to today)
 - Henry Oldenburg, Editor & Publisher: multilingual German, personal contacts in multiple countries
- Science as unifying force
 - Science → Europe rather than Europe → Science

ADOPTED INTERNATIONALLY

9

- Science served similar unifying framework globally
- Darwin: 15,000 letters “with around 2,000 people from all around the world and all walks of life” (Cambridge Digital Library)
- Publications



• Collaborations

- Higher coupling distance = more distant relationship (Okamura, 2023, A half-century of global collaboration in science and the '**Shrinking World**'.)

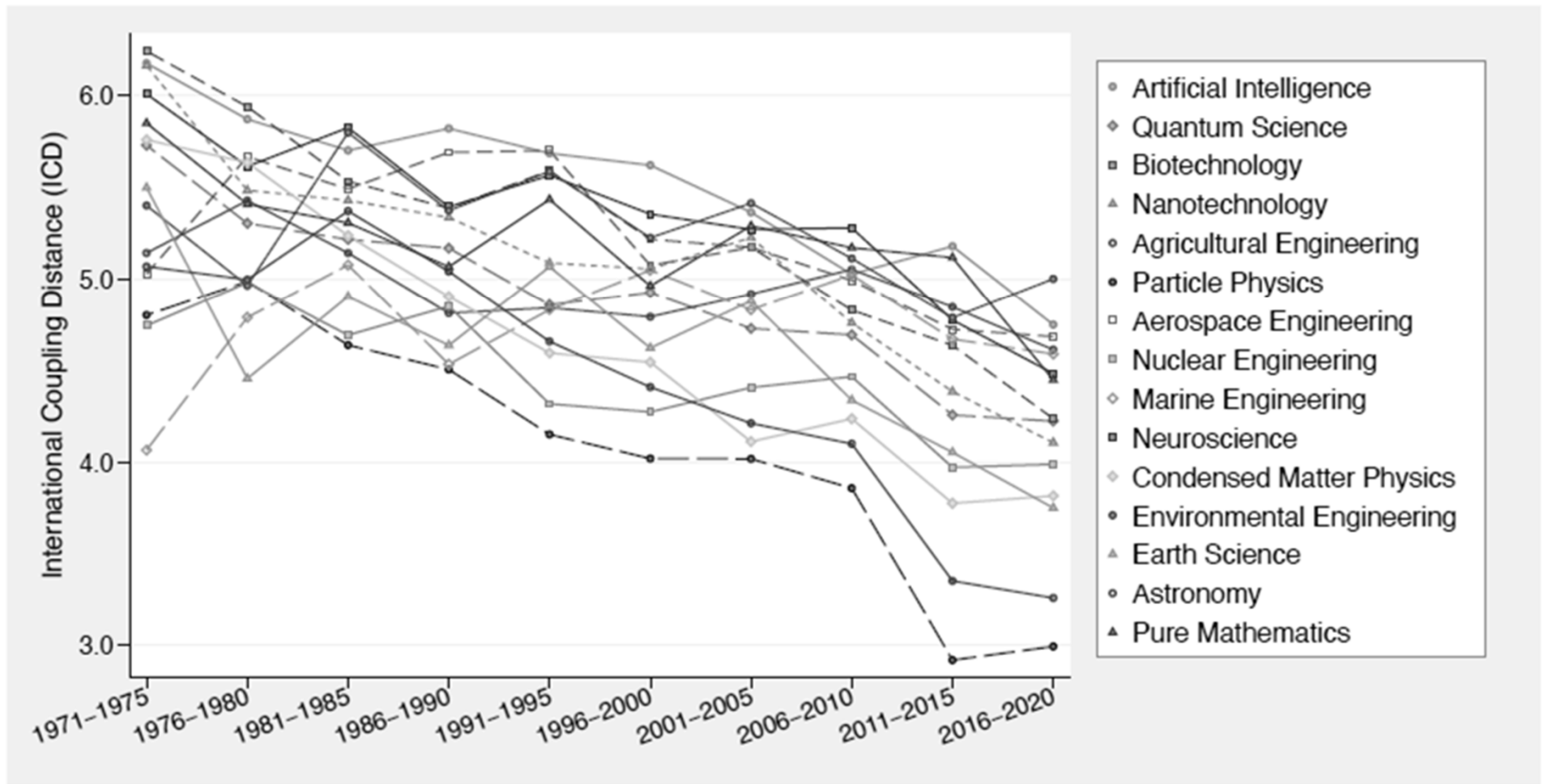


Figure 5 | ‘Shrinking World’: Change in the level of International Coupling Distance (ICD).

Sci-Hub Use

11

country		number of articles			
1	 China	<u>22,233,980</u>	11	 Mexico	<u>592,096</u>
2	 Russia	<u>18,213,408</u>	12	 South Korea	<u>553,882</u>
3	 United States	<u>9,252,020</u>	13	 Netherlands	<u>534,312</u>
4	 Brazil	<u>4,430,611</u>	14	 Singapore	<u>506,227</u>
5	 India	<u>1,931,254</u>	15	 Canada	<u>411,308</u>
6	 Indonesia	<u>1,031,144</u>	16	 Turkey	<u>410,188</u>
7	 Germany	<u>992,052</u>	17	 Malaysia	<u>406,724</u>
8	 France	<u>852,438</u>	18	 Japan	<u>384,975</u>
9	 United Kingdom	<u>754,163</u>	19	 Vietnam	<u>377,675</u>
10	 Iran	<u>638,497</u>	20	 Philippines	<u>290,846</u>

BENEFITS SOUGHT UNIVERSALLY

12



- Indigenous Populations
 - Modern “tools”
- Critics of science
 - Devices, Internet, ...
- Unequal Access
 - e.g., Science-based healthcare

SCIENCE & TRADITIONAL BELIEFS

- Science Challenges Traditional Beliefs & Practices
 - Blood-letting
 - ...
- “World” NOT Intuitive
 - “... world ... is not constructed on a common-sensical basis ... science requires ... awareness of the pitfalls of 'natural' thinking. ... lay theories are highly unreliable.” (Wolpert, 1992, *The Unnatural Nature of Science*)

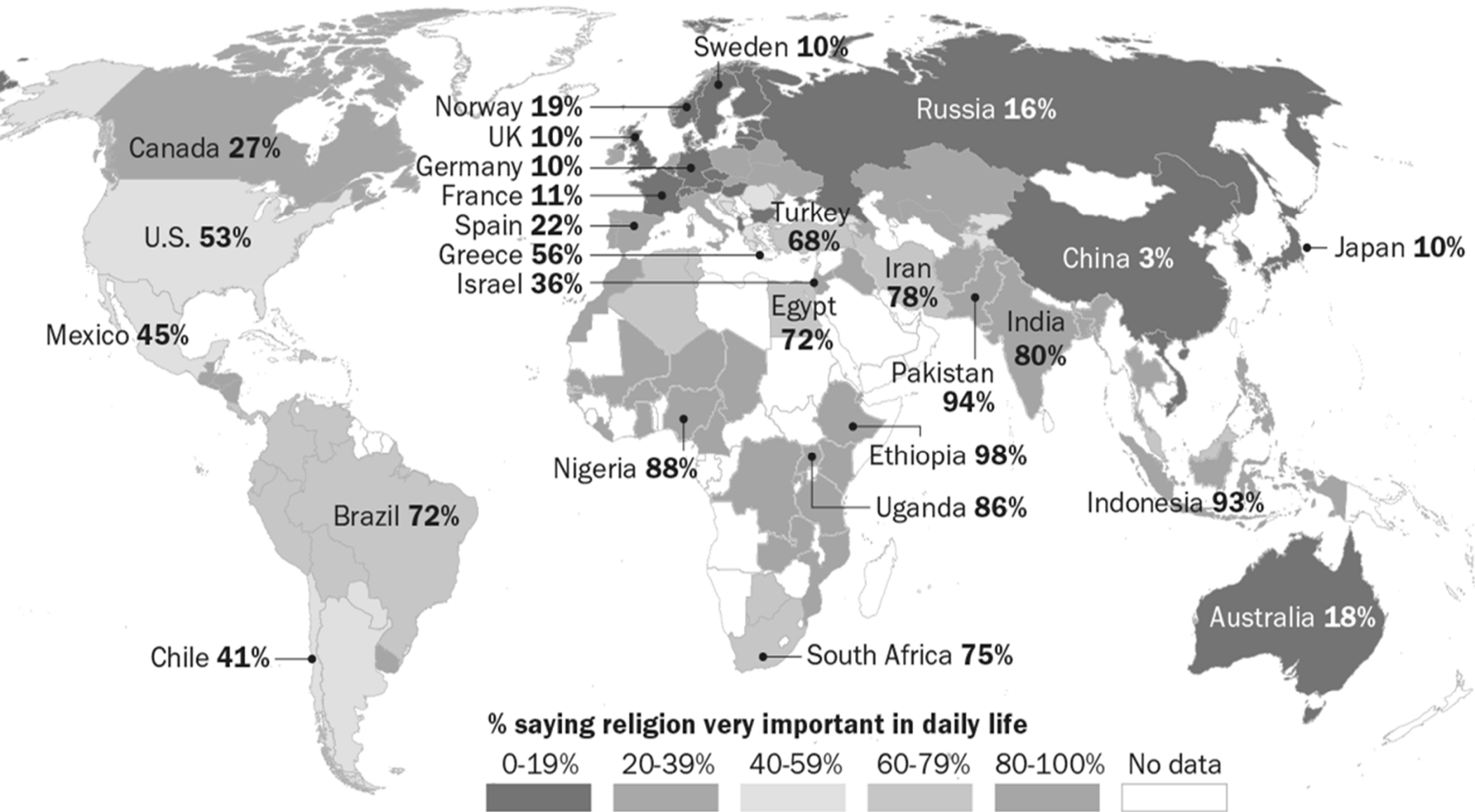


- Supranatural beliefs especially vulnerable?
 - Universal before science, even in west: Religious wars
 - Science provides alternative worldview: e.g., evolution vs creationism
- Science & Religion Incompatible?



Religion Very Important in Lives

15



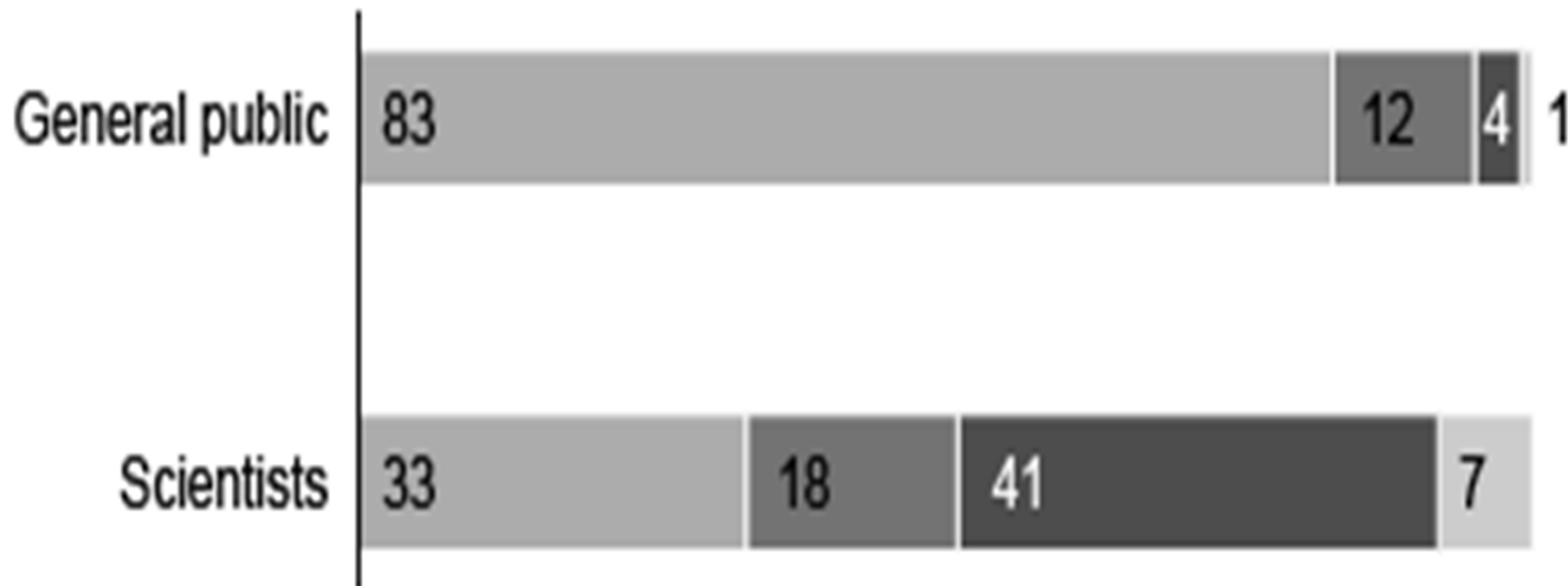
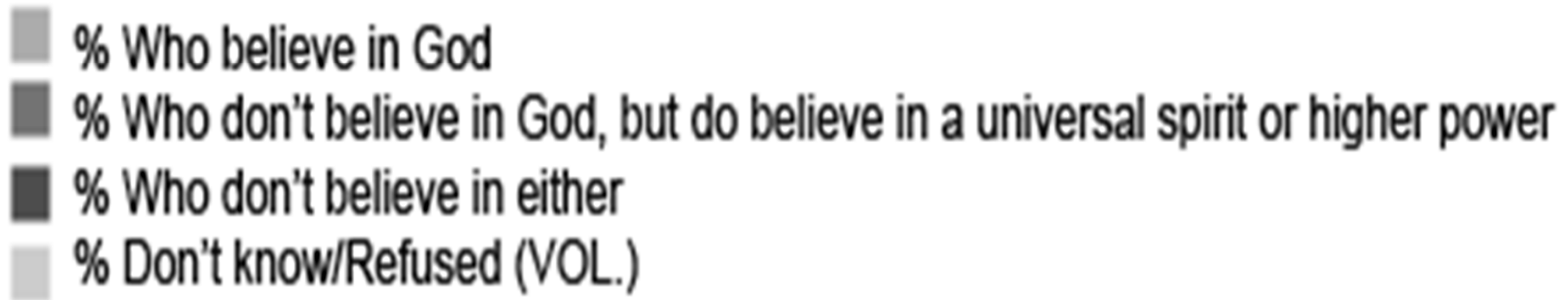
"The Age Gap in Religion Around the World"

PEW RESEARCH CENTER

Religious Belief of Scientists

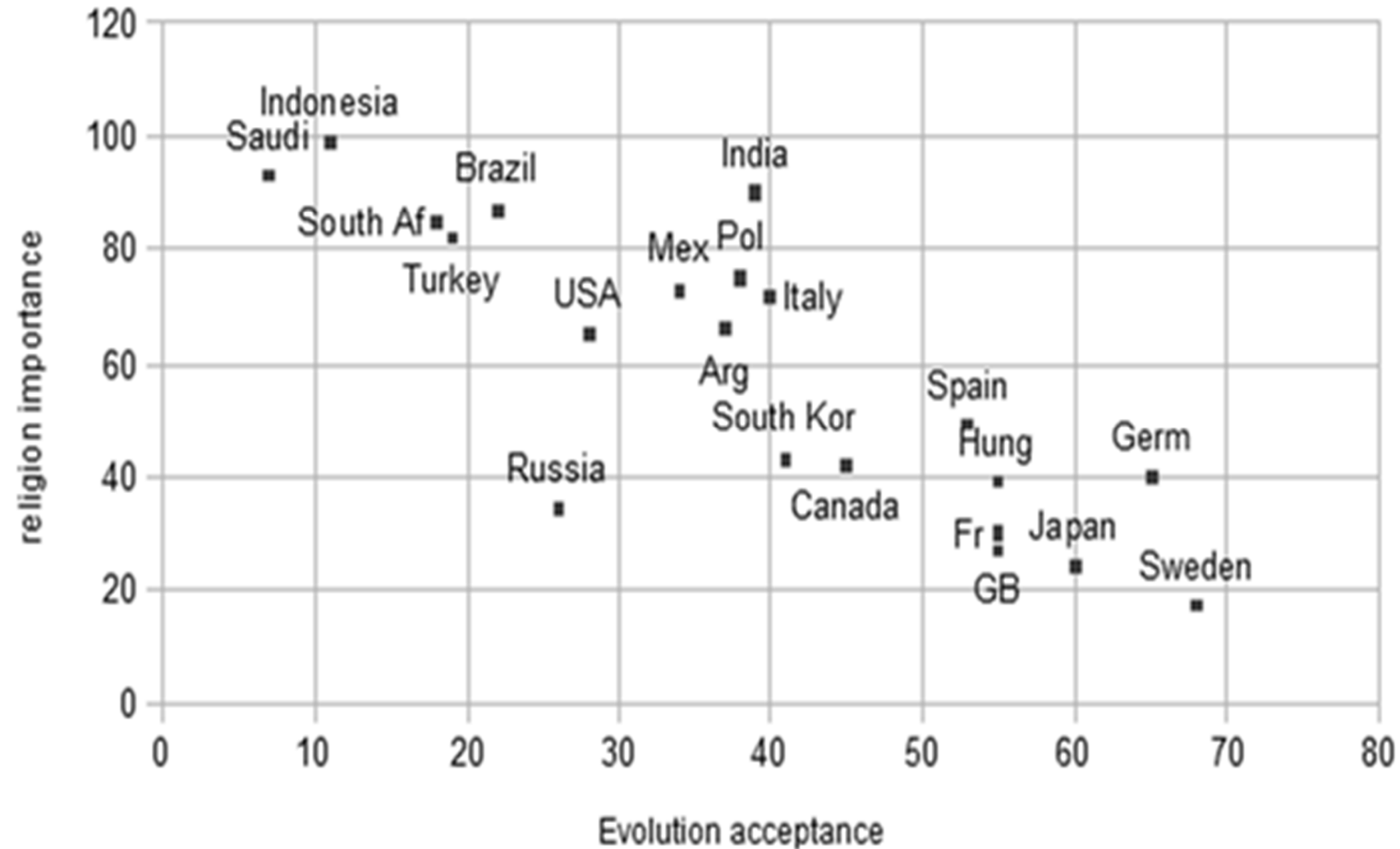
16

Religious Belief Among the General Public and Scientists

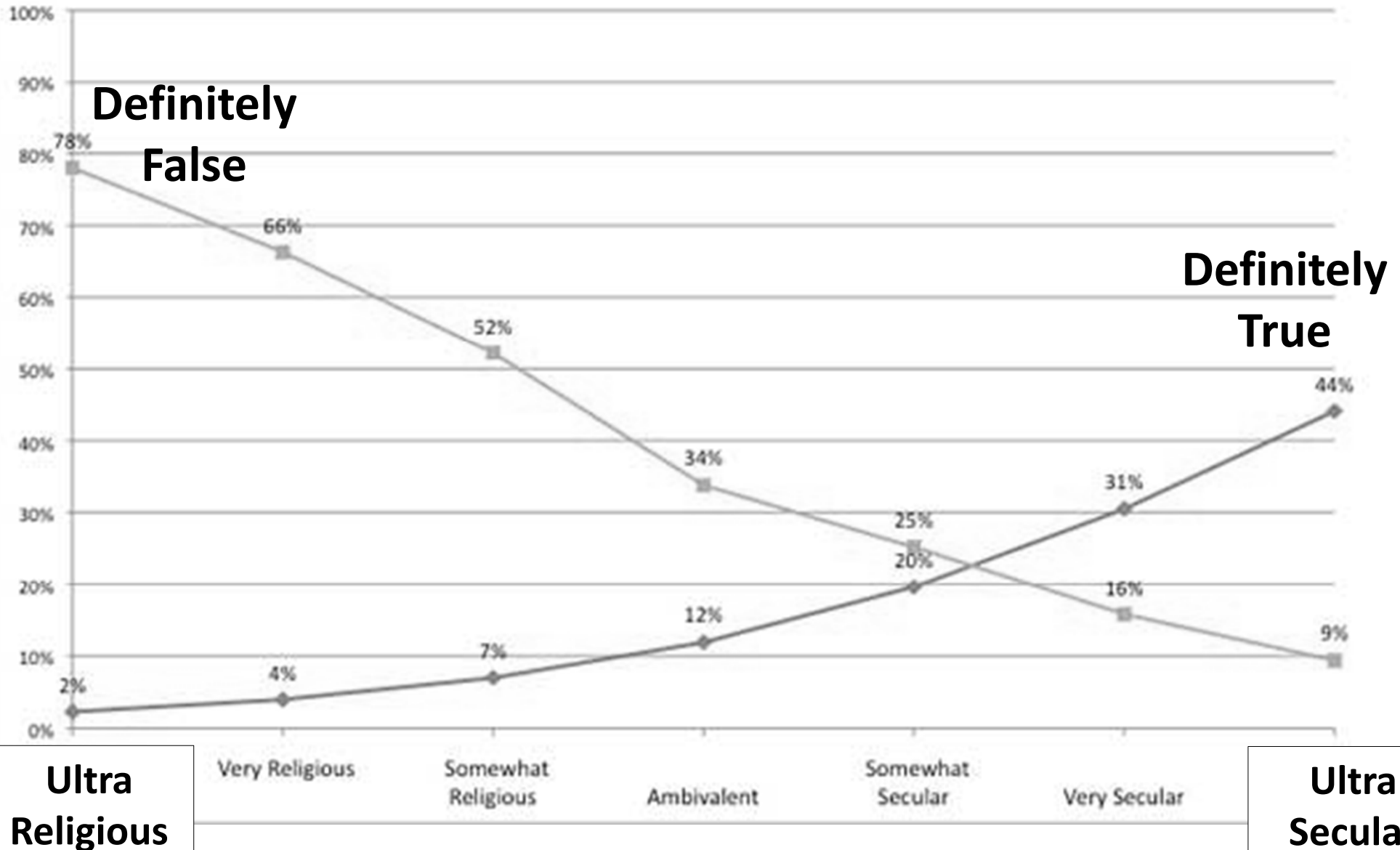


Nations

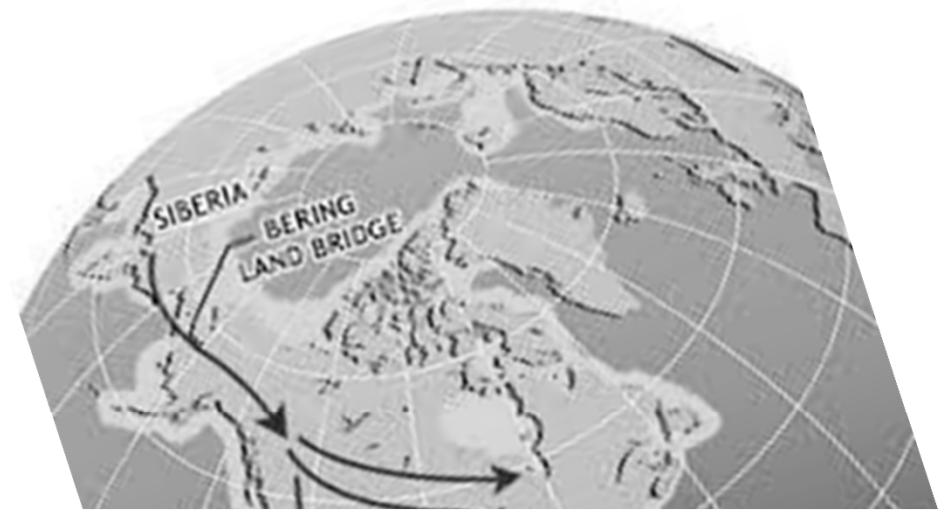
17



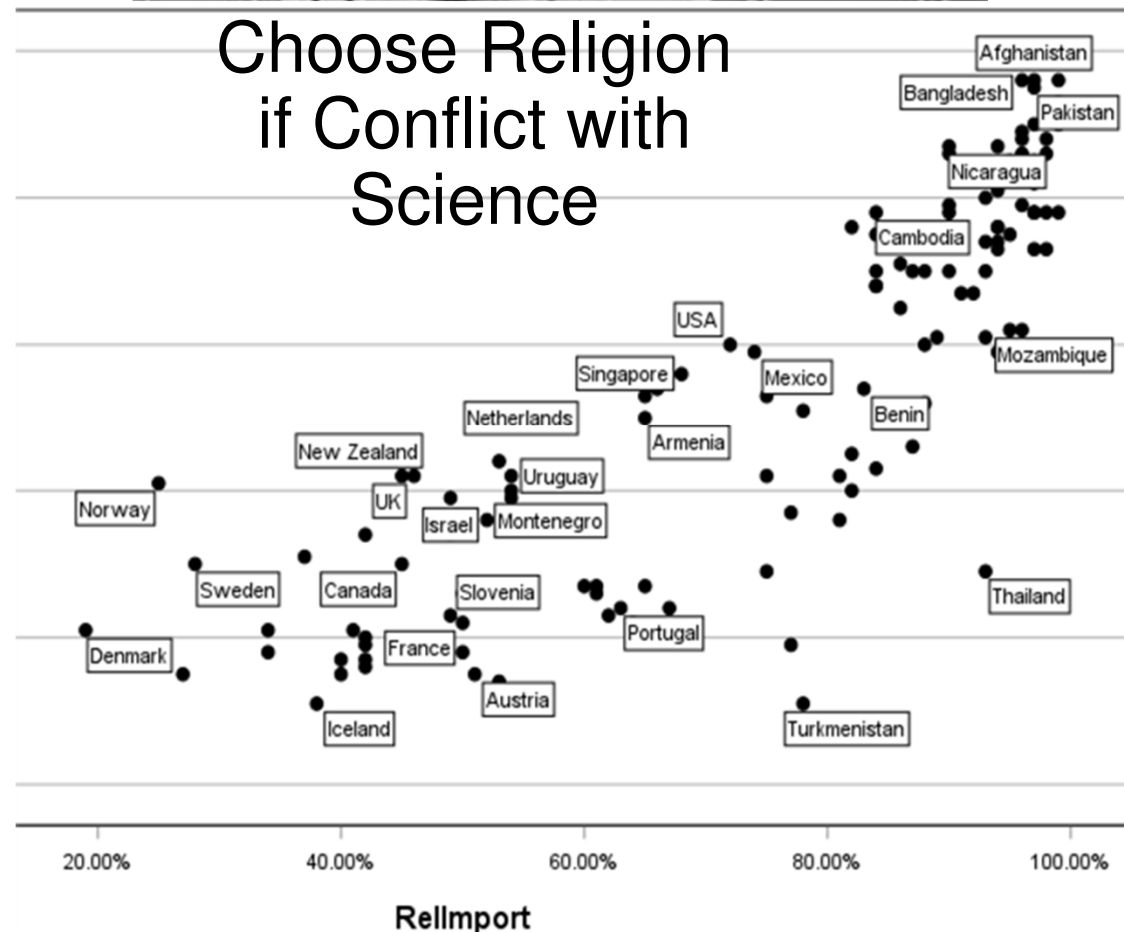
Accept or Reject Evolution by Religiosity



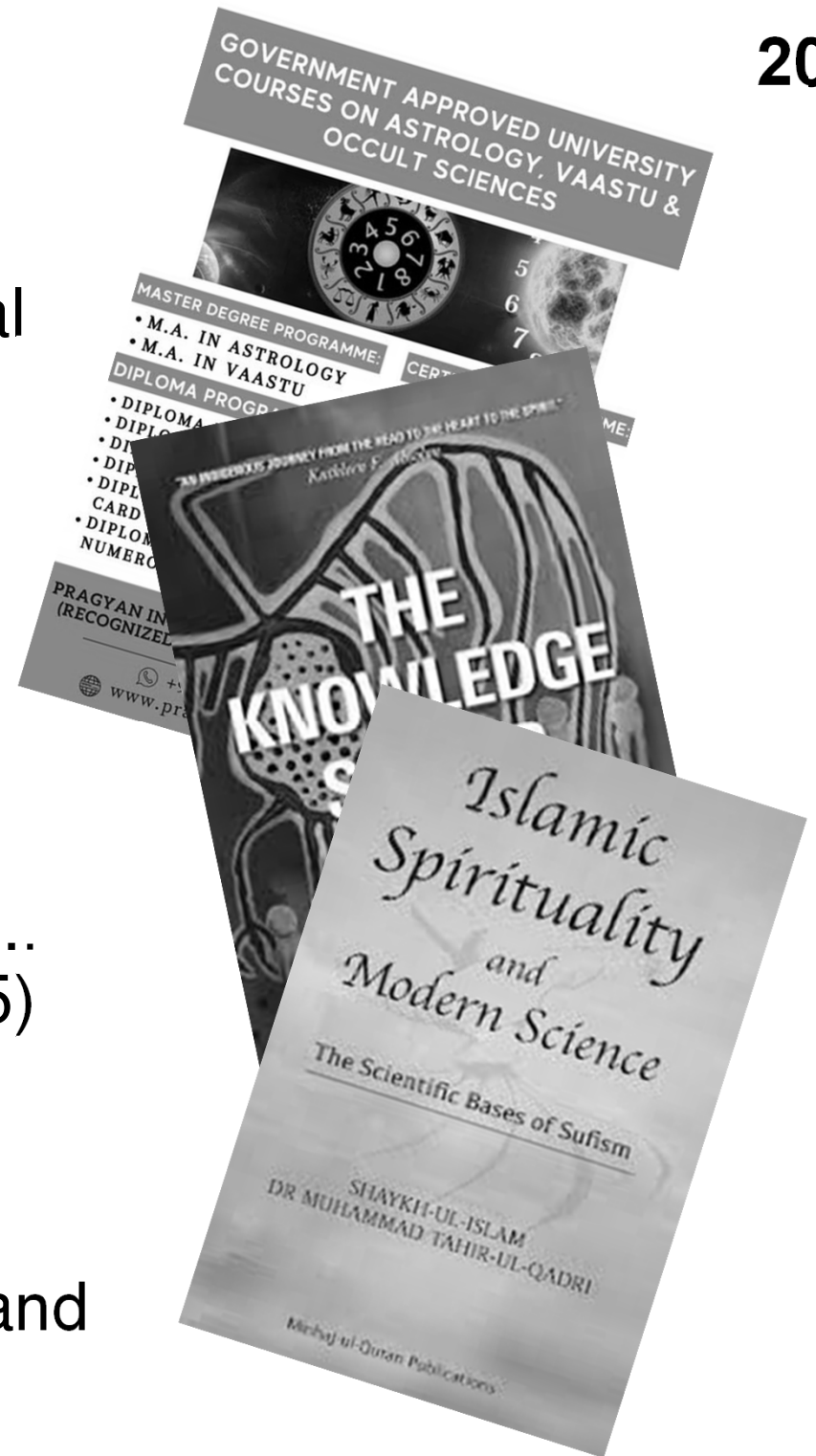
- Choose Traditional Belief or Science when Conflict?
- "There's a real feeling that we've been here forever ... The Bering Strait theory makes logical sense, but ... the traditional belief ... comes first." (quoted in Johnson, 1996)
- Religion



Choose Religion
if Conflict with
Science

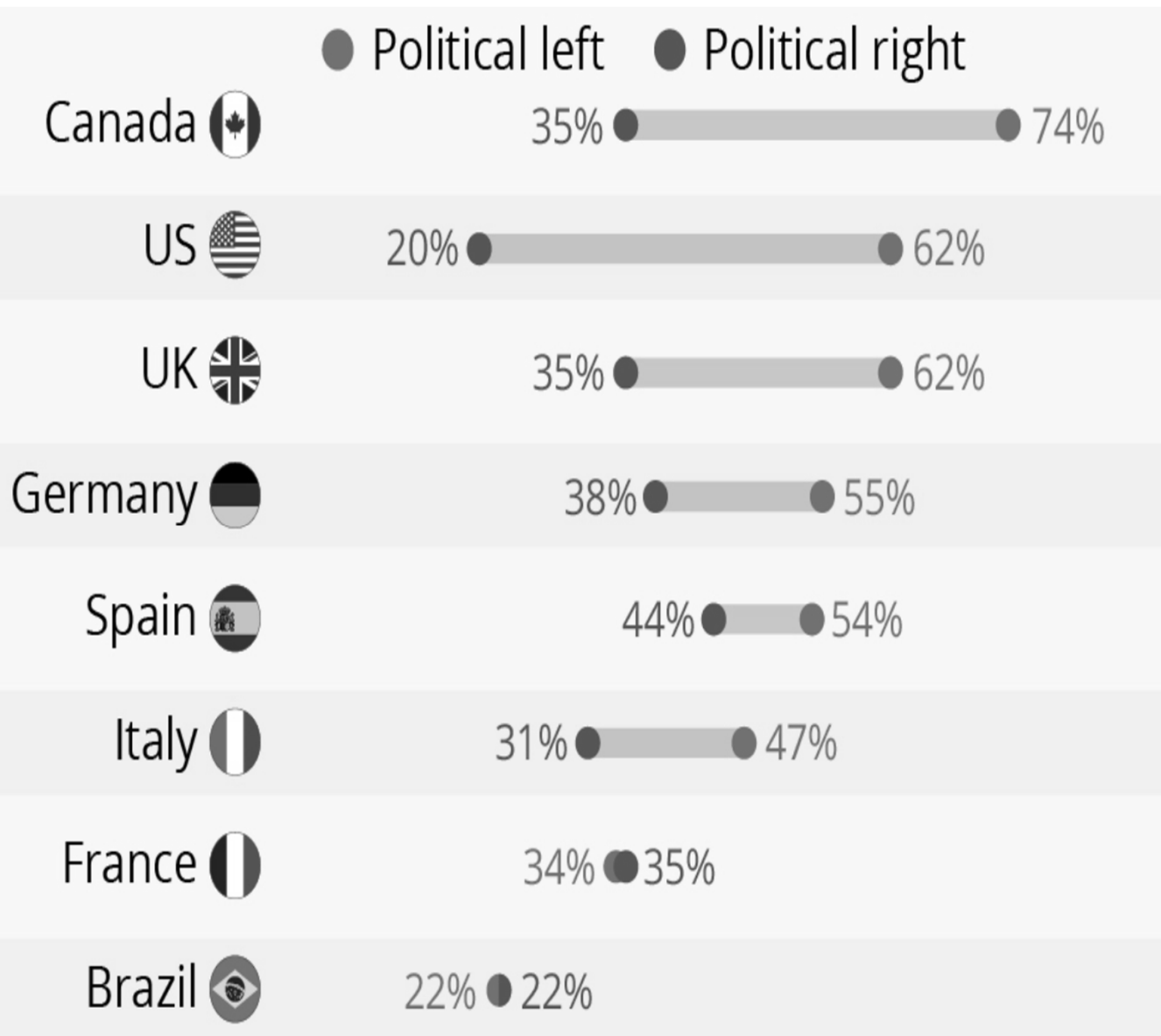


- In contrast to science, Ethno Epistemics
 - Confirm and promote traditional beliefs: Reactionary
 - Vedic “Sciences” and “... university-level courses in astrology.” (Ruparelia, 2006)
 - “In most Indigenous epistemologies, knowledge is ... **spiritual** ...” (Marsh et al, 2015)
 - Journal of Islamic Sciences “... dedicated to ... renewed ... relationship with the **spiritual** and intellectual traditions of Islam.”



QUALIFIED SUPPORT FOR SCIENCE IN WEST

21



- If Eurocentric, expect very high level of trust in science in West
- But, science NOT universally valued, including in west
- Trust in scientists (Statista, 2019)

CONCLUSIONS

22

- In contrast to Ethno Epistemics,
- Science is NOT Eurocentric
 - Roots in many cultures
 - Helped unify Europe
 - Adopted internationally
 - Benefits sought universally
 - Challenged traditional beliefs
 - Questioned by many in West?
- Science is Universal

Thanks for Listening!

Science knows no country,
because knowledge belongs
to humanity, and is the torch
which illuminates the world.

Louis Pasteur

