Welcome

Introduction & course structure

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McGill University is located on land which has long served as a site of meeting and exchange amongst Indigenous peoples, including the Haudenosaunee and Anishinabeg nations. McGill honours, recognizes and respects these nations as the traditional stewards of the lands and waters on which we meet today.

https://www.mcgill.ca/fph/welcome/traditional-territory

see also:

Chelsea Vowel. "Beyond Territorial Acknowledgments." Âpihtawikosisân (blog), September 23, 2016. https://apihtawikosisan.com/2016/09/beyond-territorial-acknowledgments/.

Introductions

If you haven't already, please take a moment to fill out the (brief!) introductory questionnaire, available on Teams or at https://forms.office.com/r/PGuPKGVRqM

Attending in person

⋮ Wearing of masks is not required, but is greatly appreciated while in the classroom

⋮ If you have any symptoms of COVID-19 or have been in contact with someone who has tested positive for COVID-19 you please stay home (this will not affect your grade in this course)

⋮ It is up to us to make a safe and welcoming learning environment for everyone!

Class period: hybrid lecture–seminar

- Readings and small-group discussions are the foundation of the course

- Most classes will begin with ~20 minutes of lecture (streamed and recorded), followed by ~60 minutes of structured, small-group discussion

Small-group discussions

- Groups of 4-5 students, membership fixed starting Sept. 19
- Discussions will focus on drafting responses to 5 or 6 discussion questions
- Each of 9 discussion worksheets will span 1–3 class periods (see syllabus for details)
- Instructor and TA will rotate through groups during class
- Groups may work outside of class (e.g. online), but you are not expected to spend more than ~1 hour per class period covered

Forming a group

- Groups will have fixed membership starting September 19
- Before then, use the "Group sign-up" tab on teams to sign up for one team
  (maximum 5 members per team)
- Use these first couple of weeks to find group members who have similar preferences to your own (online/offline, language, ...)

  E.g. "Peter McMahan (strongly prefer online meetings)"

Peer assessment

⋮ Peer assessment will be used:
(a) to adjust group discussion grades and
(b) for final project assessment

⋮ With peer assessment, multiple other students assess your work.

⋮ Provides more feedback on your work than would otherwise be possible.

Course tools

Microsoft Teams: hub of class activity

- **Why Teams?**
  Teams provides integrated recording and accessibility features, class discussion, and much better collaboration features than Zoom/MyCourses
- Remote participation (lectures and discussions)
- Groups have private channels
- Class-wide discussions/questions
- Students can use existing McGill accounts
- ***BUT***, *Teams has a clunky interface, and learning how to use it can be awkward*

Syllabus is online

- Available at https://soci325.netlify.app (or through the "Syllabus" tab in the "General" channel on Teams)
- Contains *schedule, assignments, assessment,* and other important information
- Updated with **links to slides** and any schedule changes regularly

SOCI 325: Sociology of Science

Location	Arts Building, room 150 and online through Microsoft Teams
Time	Fall 2023, Tuesday and Thursday 2:35-3:55pm
Instructor	Peter McMahan (peter.mcmahan@mcgill.ca)
Office hours	TBA
Teaching Assistant	Sarah Badr
Syllabus	https://soci325.netlify.app

Description STS (an acronym for either "science and technology studies" or "science, technology, and society," depending on who is asked) is a diverse field spanning research across the social sciences, humanities, and physical sciences. This course aims to give students a window into STS, adopting a specifically *sociological* viewpoint. The discipline of sociology has a distinctive perspective on the nature of knowledge and scientific institutions, and the course content will explore theories and applications of this perspective.

The course is structured as a hybrid of lectures and seminars. Most of the classes will begin with a short presentation by the instructor, but the bulk of the class time will be spent in small-group discussions. Group work will consist of structured discussions of the course readings in the context of broad themes and theories introduced throughout the semester. The success of the course therefore relies on students' engaged readings of the assigned texts.

Expectations Students are expected to (1) closely read the assigned texts, (2) participate in group discussions and worksheets, (3) submit three discussion questions, (4) complete peer evaluations, and (5) complete a final poster presentation. Each of these expectations is detailed below.

Reading
The assigned readings are the core of the course material, and students are expected to carefully and critically read each assignment *before* class. To facilitate students' engagement with the reading and to help prevent students from falling behind, we will use the online tool *Perusall* for all required readings. *Perusall* is a reading platform in which students annotate texts collaboratively alongside one another. More information on how *Perusall* works and how it is integrated into the course is available here.

Perusall for online reading

- Collaborative reading environment
- Annotate the course readings in groups of ~20
- Ask questions, respond, discuss
- **To *register* for this class's Perusall**, find the pinned announcement on Teams
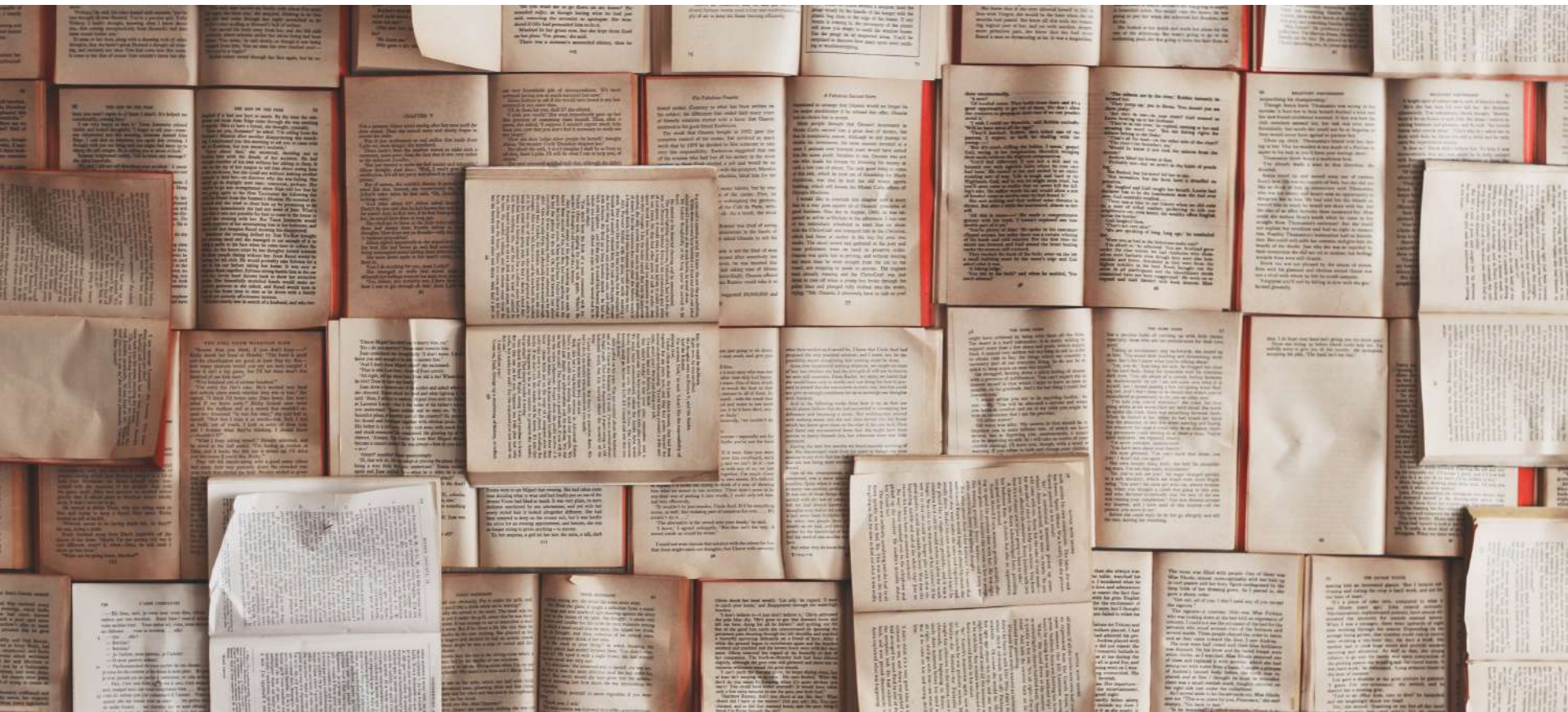
Assessment

Reading

Group discussions

Discussion questions

Final project

- Reading accounts for **10% of final grade**
- All readings are done through Perusall
- All scores are either 0 or 1
  (Perusall will tell you the maximum score is 3, but that is not the case for this class)
- Lowest **four** reading scores dropped at the end of the semester
- Details on scoring linked from syllabus: https://soci325.netlify.com/pages/perusall.html
- **If you did the reading on time, but did not get credit, message me to fix the score (really!)**
  (I may respond to messages slowly, but I *will* respond)

ASSESSMENT

Reading

Group discussions

Discussion questions

Final project

- Discussion worksheets, completed in groups, account for **32.5% of final grade** (30% for worksheet scores, 2.5% for completing peer assessment)
- Turned in through Teams by midnight of the day indicated on the schedule
  E.g. discussion worksheet 5, covering material from Oct 24 and Oct 26, is due by midnight Oct 27
- Responses are marked on a 10-point scale, applied to each group-member's grade
  (see syllabus for rubric)
- Midway though the semester, there will be a round of peer assessment on group participation that *will not affect final score*
- At the end of the semester, there will be another round of peer assessment on group participation that *will be used to adjust final score by up to 10%*

Reading

Group discussions

Discussion questions

Final project

⋮ Each student is responsible for submitting **three** discussion questions over the course of the semester, contributing **20% to the final grade**.

⋮ Topics will be assigned randomly at the end of the second week.

⋮ Each is marked on a 10-point scale based on the *engagement* and *originality* of the question.

⋮ For each discussion, the instructor may pick some discussion questions to use in class. *Submissions that are used in class receive an automatic 10/10.*

Reading

Group discussions

Discussion questions

Final project

⋮ Each student will create a poster to be presented at the end of the semester, contributing a total of **37.5% to the final grade**.

⋮ *Topics must be submitted by Oct 3*, for 5% of final grade.

⋮ Each poster will be assessed by 4 other students, contributing 30% to the final grade.

⋮ Each student will be responsible for assessing 4 posters, worth 2.5% of the final grade.

⋮ Details of the poster project (themes, topics, etc) will be discussed in class.

ASSESSMENT

A note on "generative AI"

- Large language models (ChatGPT, Google Bard, etc.) can generate convincingly fluid text.

- **Turning in text written by an LLM *as your own work* is a violation of McGill's policy on plagiarism**.

- LLMs can be a useful tool for generating ideas and structuring arguments *only if the output is regarded with a sharply critical eye*. Generally, I do *not* recommend them for academic work.

 *Never* rely on an LLM to provide factually correct information!

- Keep in mind: LLMs are inherently exploitative in terms of data acquisition, resource consumption, and labour practices.

Sociology of science

"STS"

- "**S**cience and **T**echnology **S**tudies"
  or
  "**S**cience, **T**echnology, and **S**ociety"
- Science and technology as the *object* of study
- Spans many academic disciplines:
  anthropology, history, sociology, philosophy, …

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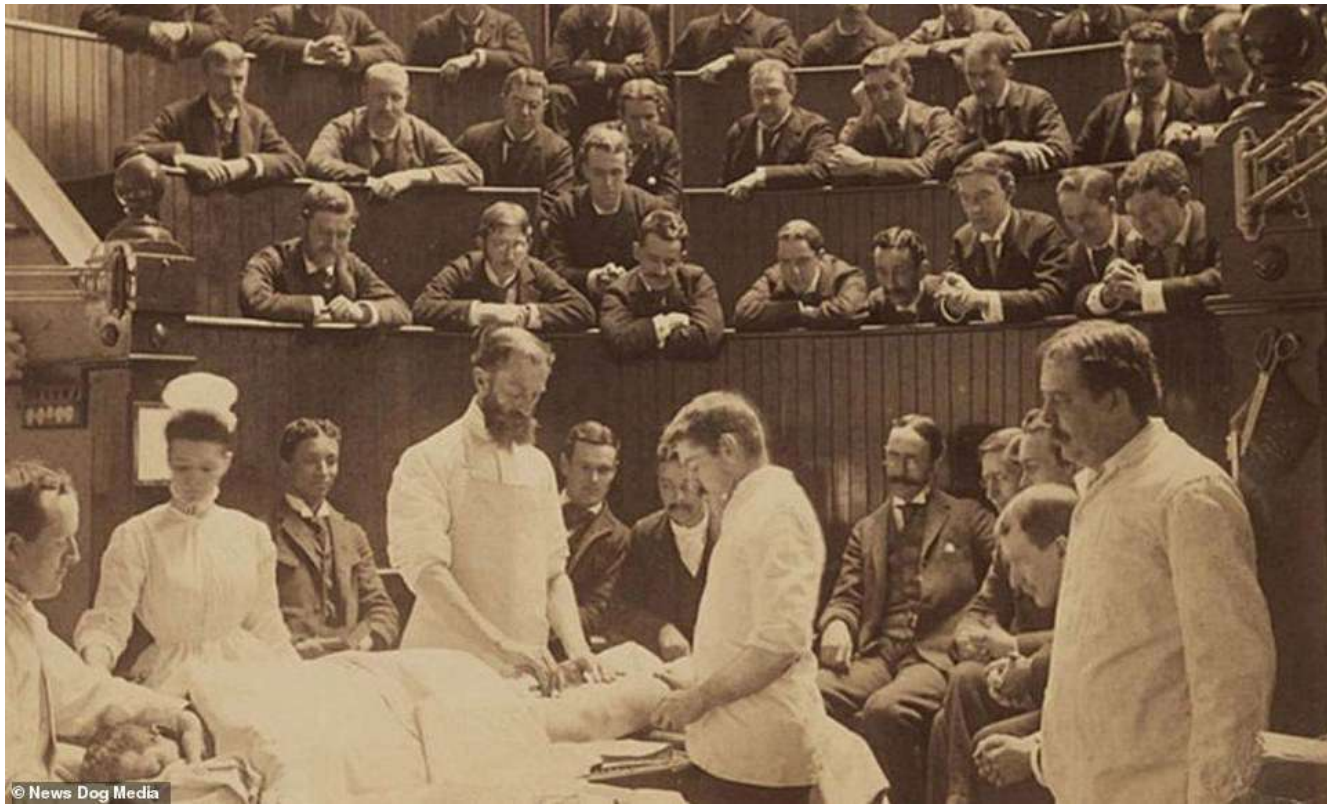
There is a sociology of everything. You can turn on your sociological eye no matter where you are or what you are doing. Stuck in a boring committee meeting … you can check the pattern of who is sitting next to whom, who gets the floor, who makes eye contact, and what is the rhythm of laughter (forced or spontaneous) or of pompous speechmaking. Walking down the street, or out for a run, you can scan the class and ethnic pattern of the neighborhood, look for lines of age segregation, or for little pockets of solidarity. Waiting for a medical appointment, you can read the professions and the bureaucracy instead of old copies of National Geographic. Caught in a traffic jam, you can study the correlation of car models with bumper stickers or with the types of music blaring from radios. There is literally nothing you can't see in a fresh way if you turn your sociological eye to it. Being a sociologist means never having to be bored.

Collins, Randall. 1998. "The Sociological Eye and Its Blinders."
Contemporary Sociology 27(1):2–7

Sociological approach to STS

- **C. Wright Mills (1959):
  The Sociological Imagination**
  - Understand individuality in its social context
  - See the general in the particular
  - See the strange in the familiar
- **For sociology of *science*, this means**
  - Individual scientists, theories, observations, inventions should not be studied in isolation, but in their social and historical contexts.
  - The practices, beliefs, norms, and expectations of the scientific community should be seen as examples of general social processes.
  - Things that are seen as normal in the production of science should be questioned.
- E.g. *women in science* (see Hird 2011)

Critical focus of the sociology of science

⋮ *Skepticism* toward the image of science as the ideal, pure, modern, rational search for knowledge

⋮ Recognition that science, like any institution, is *messy*

⋮ Bound to structures of economic, social, cultural *power*

⋮ Does **not** deny the reality of scientific knowledge

Plato and Aristotle in the marketplace of ideas

Course themes

Theme 1: *Scientific outcomes are social*

⋮ The discoveries, inventions, publications, and ideas produced by scientists are **not outside** of society.

⋮ Scientific discoveries are guided by social processes.

⋮ Scientific discoveries have social implications.

⋮ The meaning and implications of scientific ideas depends on social context.
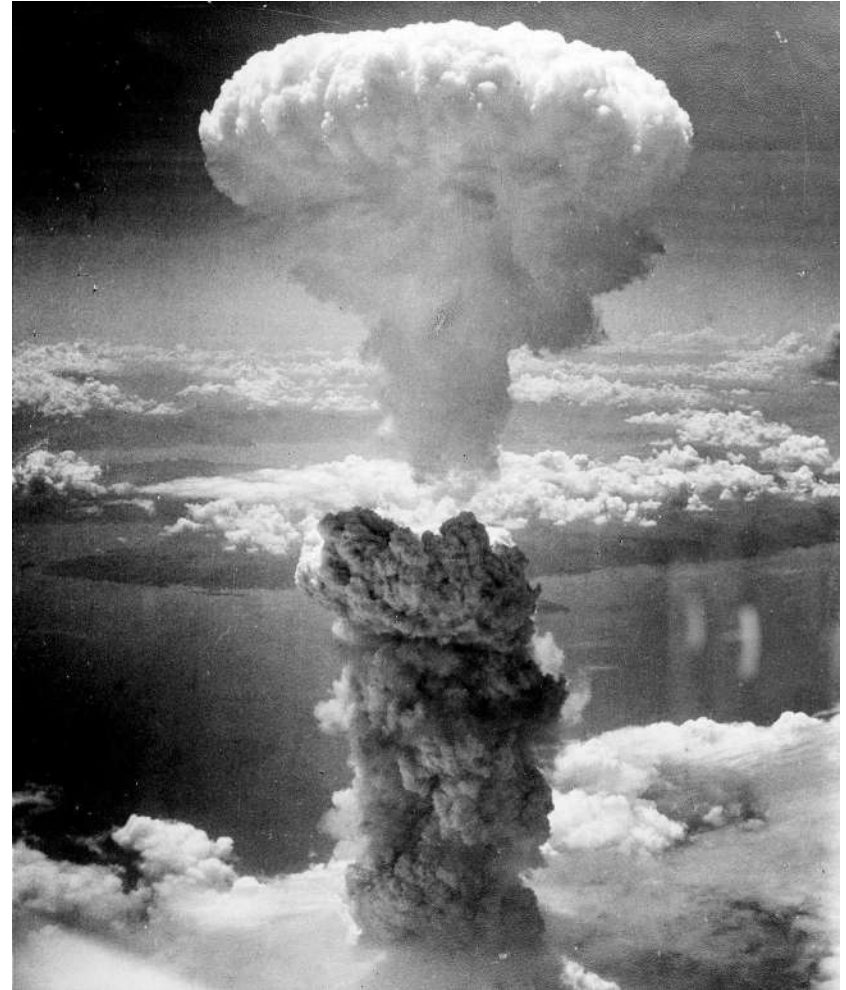
Mushroom cloud over Nagasaki resulting from atomic bomb dropped by the U.S. in 1945

Theme 2: *Scientific practice is social*

- Science is done **by scientists** in social settings.
- Scientists live in diverse social contexts that influence their behavior, expectations, beliefs, ideals, …
- Laboratories and other research institutions are themselves social settings.
- **Doing science** involves interacting with other scientists, funding agencies, political entities, and non-scientists.

Theme 3: *Science aligns with power*

- Science is **not neutral**.
- Scientific questions, practices, and findings tend to align with prevailing power structures.
- The veneer of objectivity in science can reinforce oppressive dynamics along racial, gender, economic, disability, and geographic lines.
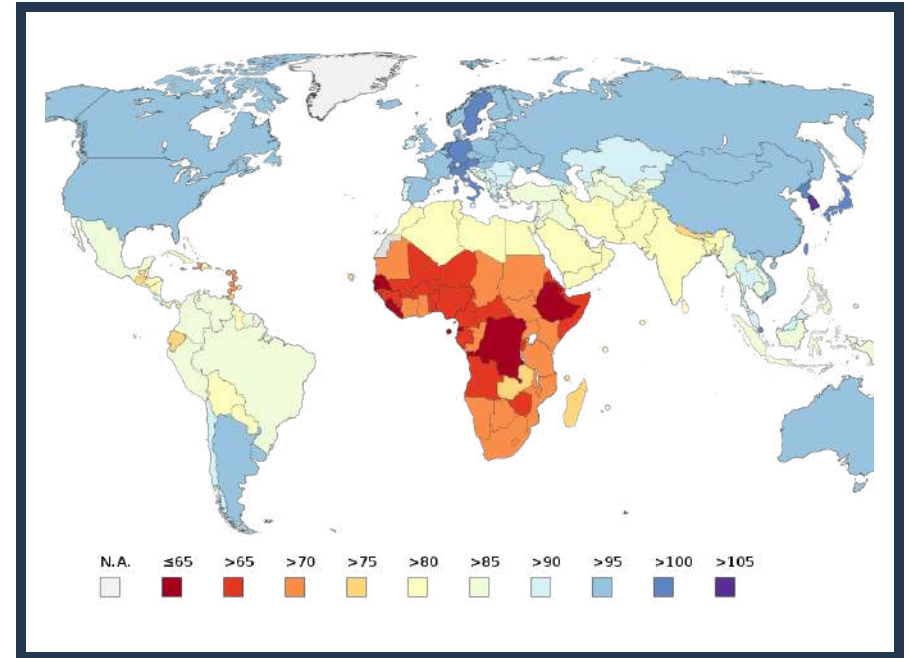
Map of "IQ estimates" from Richard Lynn and Tatu Vanhanen (2006). (*note that this representation has been thoroughly debunked*)

Theme 4: *The history of science is a social history*

⋮ The meaning of 'science' has changed over time, and those changes trace historical patterns.

⋮ The history of Western science is inextricable from the European enlightenment and European colonialism.

⋮ Contemporary science reflects our current historical moment.

Theme: Scientific outcomes are social

Required:

- **Hird (2011)**
  Science, Technology, and the Sociological Imagination
- **Benjamin (2019)**
  Engineered Inequity: Are Robots Racist?

Image credit

[Photo](#) by Ryan Remiorz/ The Canadian Press via AP

Screenshot from "Dancing with the Stars (ABC), via the [Baltimore Sun](#)

Screenshot from [Office Space (1999)](#)
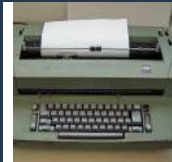

Photo by [Patrick Tomasso](#) on [Unsplash](#)

[Photo](#) by Wikimedia user [Etan J. Tal](#)

Image from News Dog Media, via [Daily Mail](#)

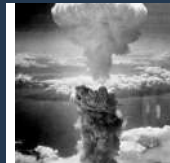Detail of Raphael's *The School of Athens*, via [Wikimedia](#)

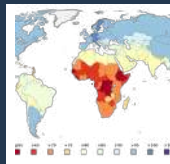Photo via [Wikimedia](#)

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