

# **A History of Science in Latin America (INTD290): Unit 1.1**

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# Review

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## Indigenous and Spanish Colonial Medicine:

1. Indigenous medicine and science
2. Medieval medical theory
  - The four humours
  - Hot/cold, wet/dry
  - Relation to elements, digestion
3. Comparisons of treatments: examples of indigenous science
4. Production of treatments
  - Introduction from indigenous to colonial
  - Production and shipment to Europe

## Connections Activities:

- The base-20 number system of the Maya
- The Quipu of the Inca
- Kepler's Laws

# Outline

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*Comparative medical treatments - chapter 1 content.*

## Chapter 2 content

1. Mining and agriculture in Nueva España
2. Construction of scientific communities
3. The formation of scientific literature and community, importation of scientific texts
4. Catholic religious orders in Latin America
5. Galileo, Kepler, and the Heliocentric system of the world

## Activities

1. Timelines of discoveries and development
2. Geographical illustrations with Google Earth
3. Digital Storytelling on cosmic rays and the solar wind

# Comparitive Medical Treatments

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# Comparitive Medical Treatments

The Nahua must have had intricate systems of medicinal practice:

People	Disease	Cure	Notes
European	<i>Dysentery</i>	Manure with wine vinegar ground pig feet with wine dog urine with wine	Acidic things change microfauna

People	Disease	Cure	Notes
Nahua	<i>Diarrhea</i>	tzipipatli boiled in water atole with chia, tortilla xalxocotl fruit, leaves	herbal things breastmilk to baby

# Comparitive Medical Treatments

The Nahua must have had intricate systems of medicinal practice:

People	Disease	Cure	Notes
European	<i>Broken ribs</i>	Dry ground goat manure baked with wine plastered to ribs	No idea, honestly
People	Disease	Cure	Notes
Nahua	<i>Broken bone</i>	Push then stretched zacacili poultice with splint Cut with obsidian knife Apply iztaczazalic + tememetatl to cut	Bone setting, <i>Ipomoea flowers</i> <i>are entheogens</i>

Notice that the Europeans had metal knives, but did not have the drugs to ease pain and swelling. *Tesoro de medicinas* - Gregorio López.



# Comparative Medical Treatments

1. Father Bernardino de Sahagún compiled dictations from Mexican doctors who dictated it from Nahuatl.
2. Many indigenous manuscripts were censored by the Catholic Church
  - Ipomoea flowers were also used in pagan rituals
  - One effect is the ego dissolution, the feeling that “you” are gone
  - Another example is *salvia divinorum* - Herba de Maria
3. Why is a Catholic priest passing on this knowledge?
4. Similar process for the quipu

## **Side Story: Roald Amundsen and the Netsilik**

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# Side Story - Comparative Medicine and Exploration Done Right

## Professor: launch Google Earth

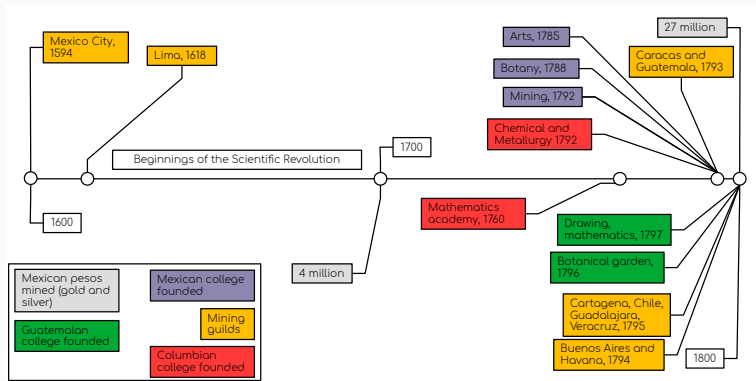
1. The Northwest Passage
2. Scurvy and mistaken cause of tainted food
  - Artic cloudberry - Vikings
  - But those aren't in Canada ... not in winter.
3. Physics and sleds

<https://www.canadiangeographic.ca/article/lessons-northwest-passage-roald-amundsens-experiences-canadian-arctic>

# **Founding of Technical Colleges in Nueva España, Nueva Granada, y Perú**

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# Founding of Technical Colleges



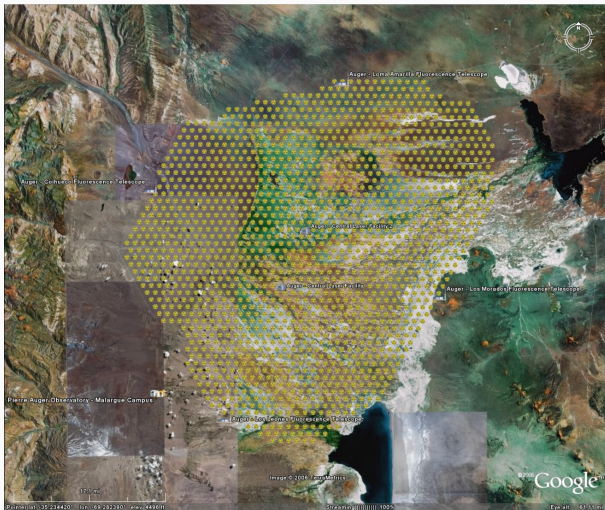
**Figure 1:** A timeline of mining, founding of colleges, and production across several viceroalties.

## **Activity: The Pierre Auger Observatory**

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1. What is a cosmic ray?
2. Review Cherenkov radiation
3. Two techniques for observing them
4. Google Earth

# PAO in Google Earth



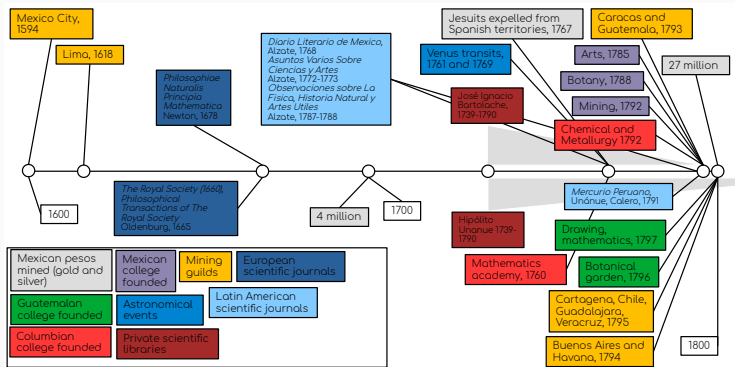
**Figure 2:** The entire PAO detector layout.



# Scientific Community, Journals, Literature

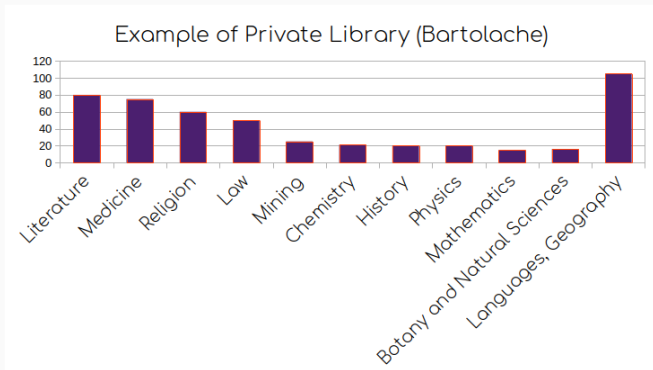
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# Scientific Community, Journals, Literature



**Figure 3:** A timeline of mining, founding of colleges, literary societies, journal publications, across several viceroyalties.

## Scientific Community, Journals, Literature



**Figure 4:** An example of the private library of José Ignacio Bartolache (Guanajuato, 1739 - Ciudad de México, 1790, Nueva España). Compare Bartolache to, for example, Alexander Hamilton or Benjamin Franklin.

More on this library:

- [https://es.wikipedia.org/wiki/Jos%C3%A9\\_Ignacio\\_Bartolache](https://es.wikipedia.org/wiki/Jos%C3%A9_Ignacio_Bartolache)
- Languages: 6
- Scientific works: 177
- Total works: 487
- 36 percent pure science