

Reading Quiz 0.2 - INTD290 ... Part I

Dr. Jordan Hanson - Whittier College Dept. of Physics and Astronomy

January 15, 2021

1 How to Submit this Assignment

Once you answer the questions, take a picture of your work and convert it to a PDF. Submit the PDF to the assignment link on Moodle.

2 Hispanic America's Historical Dynamics

1. The author lays out the central argument of the chapter in this section, which is the connection between merchant guilds, the domestic economy, and the constitution of enlightenment institutions. Please list some of the institutions, like colleges and botanical gardens (think of these as research institutes), mining guilds and corporations, etc. Give the dates, organized by country below:

(a) México: Schools of mining and botany (1788), School of arts(1785)

(b) Perú: Laboratorio Químico-Metalúrgico(Chemicometallurgical laboratory, 1792), tribunal de minería

(c) Venezuela (Caracas): Academia de matemáticas (1760)

(d) Guatemala: Jardín Botánico(botanical garden, 1796), sociedad económica de amigos de país(economic society of Friends of the country, 1797)

3 Modern Scientific Culture

1. Discuss the significance of *empiricism*, or the use of observations from instruments, on scientific culture. How was this different from Scholasticism? (Feel free to look up the definitions of these terms).

In religious matters and scholasticism, many people rely on the advice and guidance of their religious leaders in deciding on the correct way to lead their lives. Empiricism on the other hand believes that knowledge comes only or primarily from sensory experience. For example: Empiricist's "use of mathematics for expressing experimental results led to quantification and to the use of reasoning with regard to empirical data. The abandonment of theories traditionally regarded as true without any proof led to new hypotheses and concepts.

4 Hispanic American Scientific Culture

1. Notice the discussion of *Scientific Libraries*. Discuss the significance of the formation of private scientific libraries in Enlightenment period Hispanic America. What does the existence of these collections of new, modern books tell us about scientific culture at the time? Why were these books not in common libraries? What are a few other examples of the birth of modern scientific culture that more private than public or nationalized?

The private libraries were expressions of the concerns of Hispanic Americans who supported Enlightenment ideals. Since Europe did not favor the modernization and followed mostly the scholasticism, they imposed many restrictions on books and "importation of books and pedagogy in general were subjected to Inquisitorial censorship and dedicated to the transmission of established knowledge and the propagation of faith. " People needed modern knowledge and therefore created private libraries where they held modern scientific works, which was different from the traditional libraries in universities which prohibited those types of works.

2. Notice the discussion of *Scientific and Technical Journals*. Give several examples of scientific and technical journals emerging in the culture. When were they created and what did they cover?

First Journal: Diario Literario de Mexico (1768)- spreading the new science and making it popular

Mercurio Volante, con noticias importantes y curiosas sobre física y medicina. -Jose Ignacio (1772-1773)- The author was writing not for the specialists, but for masses, this journal also contained notes praising experimental physics and Newton's discoveries.

Asuntos varios sobre Ciencias y artes-1772-1773 – Art journal

3. What was the significance of the debate over mining methods? Who eventually won the debate and why?- European scientists arrived to Mexico to introduce a new method for processing silver, which they thought was superior to the mining methods of Mexico. But it turned out that methods discovered by Bartolome de Medina in Pachuca (Mexico) called patio was superior to the European methods. It is an example that shows that science in Latin America was on a good level. The patio process was used as early as in 17th century by Americans.

