

Reading Quiz 0.2 - INTD290 ... Part I

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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 (in 1792), botany (1788), and the arts (1785)

(b) Perú: Mining guild 1780

(c) Venazuela (Caracas): the Academia de Matemáticas (Mathematics Academy, founded in 1760)

(d) Guatemala: the Jardín Botánico (Botanical Garden, established in 1796) and the drawing and mathematics schools (in 1797) were set up by the Sociedad Económica de Amigos del País (Economic Society of Friends of the Country).

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).

This revolution of thought completely changed the way that science was carried out and studied, instead of just holding onto theories and believing them as fact, the introduction of empiricism allowed for real science to be carried out. Empiricism is the idea that knowledge comes from senses or being able to observe something. The ability to use observation specifically from instruments and other tools in science allowed for the creation of physics and calculus from Sir Isaac Newton, it completely revolutionized science and created the scientific method. Scholasticism is the belief in tradition and dogma that the facts are the theories created and not the observations done to prove the theories. By moving past this idea that just everything in the past is correct it actually allowed for humans and knowledge to press forward rather than get stuck in the past.

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?

In common libraries books were more traditional and were more for education reasons rather than the pursuit of modern knowledge. These private scientific libraries allowed for more modern knowledge to be stored and then studied. These collections were so rare as the scientific culture had not fully changed yet to support the new ideas of empiricism and the scientific method, schools and universities were still focused on teaching and studying the traditional methods. One example of the birth of modern science is most likely the government's push towards scientific development for an economic boost. This pushed the America's into the modern scientific age and almost forced this scientific culture to be nationalized.

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?

"The first properly scientific magazine of the American Enlightenment, *Diario Literario de México* (Literary Magazine of Mexico, established in 1768), was published by a citizen of New Spain, José Antonio Alzate y Ramírez." This journal paved the way the popularization of science and scientific culture and opened the door for so many other scientific journal to come after. He focused on almost every topic in scientific culture, i.e. agriculture, mining, geography, and medicine. The next newspaper to appear after the demise of *Diario Literario* was *con Noticias Importantes y Curiosas sobre Física y Medicina* (Flying Mercury, with Important and Curious News about Physics and Medicine), published by José Ignacio Bartolache. It was the first dedicated medical newspaper. With the birth of these newspapers and journals, regular every day newspapers, journals, and magazines began to analyze and discuss scientific material, thus pushing modern scientific culture even further into the societal culture.

3. What was the significance of the debate over mining methods? Who eventually won the debate and why?

With scientific advances new techniques for mining came about but without financial support or the correct education these techniques could not be implemented. The fight between Mexican mathematicians, engineers, politicians, and miners with the mining owners and colonizers ended with new universities being built to train miners and their kids so that mining could be reinvented. While it would take a lot of money and time the outcome of reinventing mining in this way would benefit almost everyone involved more than if mining had been stuck in the past.