CHAPTER 2- INTELLECTUAL REVOLUTIONS THAT DEFINED SOCIETY

Science is a broad field of study focused on discovering how nature works and using that knowledge to describe what is likely to happen in nature. While the immediate goal of science is to build knowledge of the natural world, that knowledge can be applied in a number of ways.

Science as an idea- It is an assumption that events in the physical world follow orderly cause-and-effect patterns that can understood through careful observation, measurements, and experimentations.

Science as an intellectual activity. It is a possible and testable answer to a scientific question or explanation of what scientists observe in nature.

Science as a body of knowledge. Science is a subject of discipline, a field of study, describe the scientific methods and the importance of observation, experimentation, and models.

Science as a personal and social activity. Important and certain results of science done by human beings to develop better understanding of the world around us is based on the large body of evidence. This will lead to scientific theory as a means to improve life and to survive in life.

In European history the term 'Scientific Revolution' refers to the period between Copernicus and Newton. But the chronological period has varied dramatically over the last 50 years.

Copernican Revolution

Nicolaus Copernicus was an astronomer who proposed a heliocentric system, that the planets orbit around the Sun; that Earth is a planet which, besides orbiting the Sun annually, also turns once daily on its own axis; and that very slow changes in the direction of this axis account for the precession of the equinoxes. In 1543, Nicolaus Copernicus detailed his radical theory of the Universe in which the Earth, along with the other planets, rotated around the Sun. His theory took more than a century to become widely accepted

COPERNICUS THEORY

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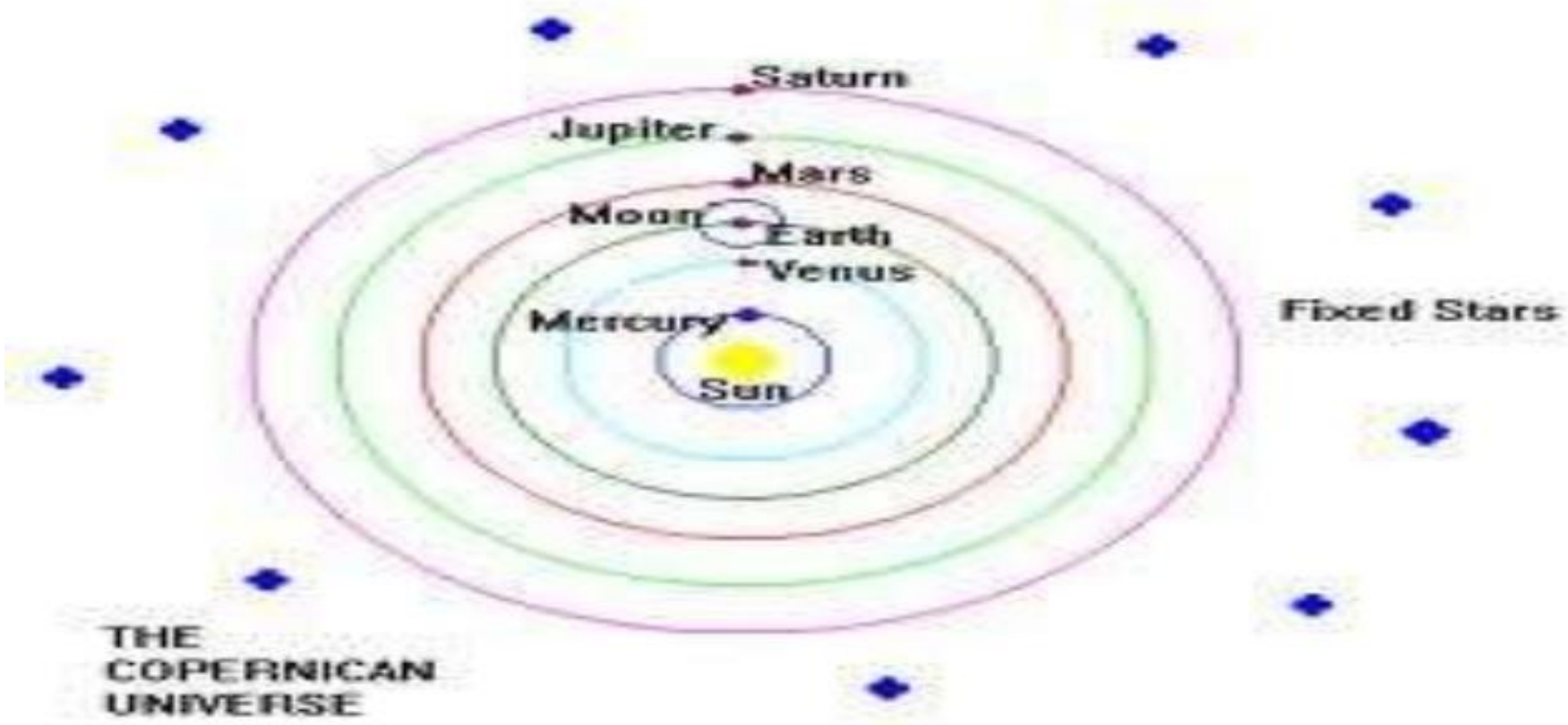


Darwinian Revolution

Darwin's Theory of Evolution is the widely held notion that all life is related and has descended from a common ancestor: the birds and the bananas, the fishes and the flowers -- all related. Darwin's general theory presumes the development of life from non-life and stresses a purely naturalistic (undirected) "descent with modification". That is, complex creatures evolve from more simplistic ancestors naturally over time.

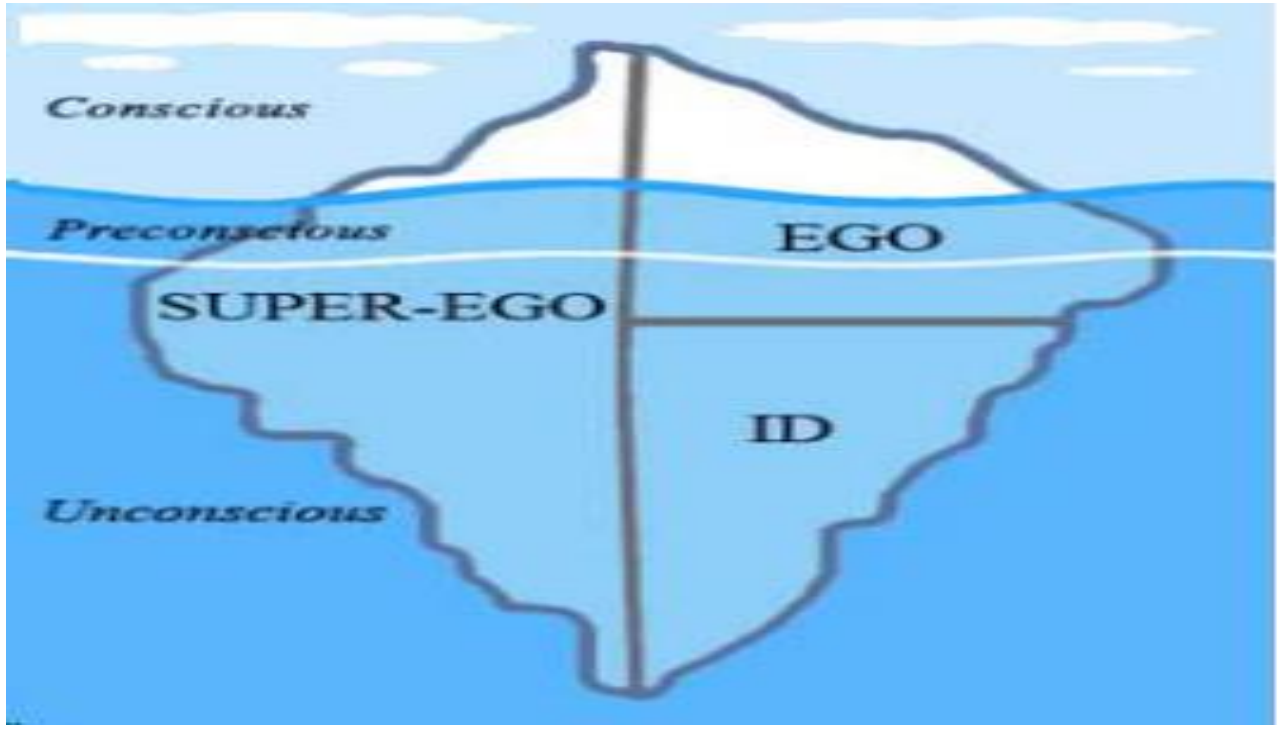
Natural selection acts to preserve and accumulate minor advantageous genetic mutations. Suppose a member of a species developed a functional advantage (it grew wings and learned to fly), its offspring would inherit that advantage and pass it on to their offspring. The inferior (disadvantaged) members of the same species would gradually die out, leaving only the superior (advantaged) members of the species. Natural selection is the preservation of a functional advantage that enables a species to compete better in the wild. Natural selection is the naturalistic equivalent to domestic breeding. Over the centuries, human breeders have produced dramatic changes in domestic animal populations by selecting individuals to breed. Breeders eliminate undesirable traits gradually over time. Similarly, natural selection eliminates inferior species gradually overtime.

Freudian Revolution

According to Freud's psychoanalytic theory, personality develops through a series of stages, each characterized by a certain internal psychological conflict.

Freud's Structure of the Human Mind

According to Freud, our personality develops from the interactions among what he proposed as the three fundamental structures of the human mind: the id, ego, and superego. This theory, known as Freud's structural theory of personality, places great emphasis on the role of unconscious psychological conflicts in shaping behavior and personality. Conflicts among these three structures, and our efforts to find balance among what each of them "desires," determines how we behave and approach the world.



Conflict within the mind: According to Freud, the job of the ego is to balance the aggressive/pleasure-seeking drives of the id with the moral control of the superego.

The Id

The *id*, the most primitive of the three structures, is concerned with instant gratification of basic physical needs and urges. It operates entirely unconsciously (outside of conscious thought). For example, if your id walked past a stranger eating ice cream, it would most likely take the ice cream for itself. It doesn't know, or care, that it is rude to take something belonging to someone else; it would care only that you wanted the ice cream.

The Superego

The *superego* is concerned with social rules and morals—similar to what many people call their ” conscience ” or their “moral compass.” It develops as a child learns what their culture considers right and wrong. If your superego walked past the same stranger, it would not take their ice cream because it would know that that would be rude. However, if both your id *and* your superego were involved, and your id was strong enough to override your superego’s concern, you *would* still take the ice cream, but afterward you would most likely feel guilt and shame over your actions.

The Ego

In contrast to the instinctual id and the moral superego, the *ego* is the rational, pragmatic part of our personality. It is less primitive than the id and is partly conscious and partly unconscious. It's what Freud considered to be the "self," and its job is to balance the demands of the id and superego in the practical context of reality. So, if you walked past the stranger with ice cream one more time, your ego would mediate the conflict between your id ("I want that ice cream right now") and superego ("It's wrong to take someone else's ice cream") and decide to go buy your own ice cream. While this may mean you have to wait 10 more minutes, which would frustrate your id, your ego decides to make that sacrifice as part of the compromise– satisfying your desire for ice cream while also avoiding an unpleasant social situation and potential feelings of shame.

Cradles of Ancient Science

Mesoamerican Contributions to Science

Mesoamerica refers to the diverse civilizations that shared similar cultural characteristics in the geographic areas comprising the modern-day countries of Mexico, Guatemala, Honduras, Belize, El Salvador, Nicaragua, and Costa Rica. Some of the shared cultural traits among Mesoamerican peoples included a complex pantheon of deities, architectural features, a ballgame, the 260-day calendar, trade, food (especially a reliance on maize, beans, and squash), dress, and accoutrements (additional items that are worn or used by a person, such as earspools).

Some of the most well-known Mesoamerican cultures are the Olmec, Maya, Zapotec, Teotihuacan, Mixtec, and Mexica (or Aztec). The geography of Mesoamerica is incredibly diverse—it includes humid tropical areas, dry deserts, high mountainous terrain, and low coastal plains.

Mesoamerica is about…

Aztecs

- Civilizations that produced lasting contributions and influenced future societies.

https://youtu.be/T3fqUXNh7tE - MESOAMERICA

https://youtu.be/68poP5JRDvc- ASIA, MIDDLE EAST, AFRICA