

## **1. HISTORICAL CONTEXT OF ASTRONOMY WITHIN SCIENCE**

Science is human culture's most widely acclaimed attempt to discover truth. As a paradigm, science makes some common sense assumptions about the nature of the universe, and then uses the evidence of the senses combined with logical reasoning to create and test specific models.

Historically, Science was pursued in its entirety, under the title of Natural Philosophy, modern science is subdivided into the following broad categories:

### **Physics**

The study of the interplay of Space, Time, Matter and Energy in the most basic way possible. Physics deals with the simplest systems in the most rigorous way.

### **Chemistry**

The study of the composition, structure, properties, and reactions of substances. Chemistry relies on physics, especially atomic physics to determine the nature and properties of atomic elements . Using this information as a basic building block, Chemistry strives to understand the behavior of (relatively) simple molecular compounds.

### **Biology**

The study of living organisms, including their structure, functioning, evolution, distribution, and interrelationships. Biology draws on the results of chemistry, the simplest substances relevant to living organisms are among the most complex substances dealt with in chemistry.

### **Geology**

The Study of the origin, structure, history and composition of the Earth. Geology draws heavily on Physics and Chemistry.

### **Astronomy**

The scientific study of individual celestial bodies, and of the universe as a whole. Astronomy is often considered to be a branch of Physics. The difficulties in observing celestial bodies are such that data can be processed in as rigorous a fashion as is common in physics.

Interest in Astronomy arose from the practical necessity of predicting the seasons and from the desire to emulate the regularity of the stars in human affairs.

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## Historical and Philosophical Context

- Repetitious diurnal patterns form the basis of human psychology and aesthetics
- Lunar and Yearly cycles natural time keeping units
- Constancy and unapproachability supports concepts of Deity and Objectivity
- Stars were used as directional aids by early nomads
- Constellations as mnemonic devices
- Navigation for seafaring peoples (Polynesians)
- Advances in prediction led to funding for Astronomy and Astrology, In ancient times Astronomers were well compensated to observe and catalogue stars in the vain hope that improvements in the ability to predict the positions of stars and planets would lead to improvements in the ability to predict the outcomes of human events.