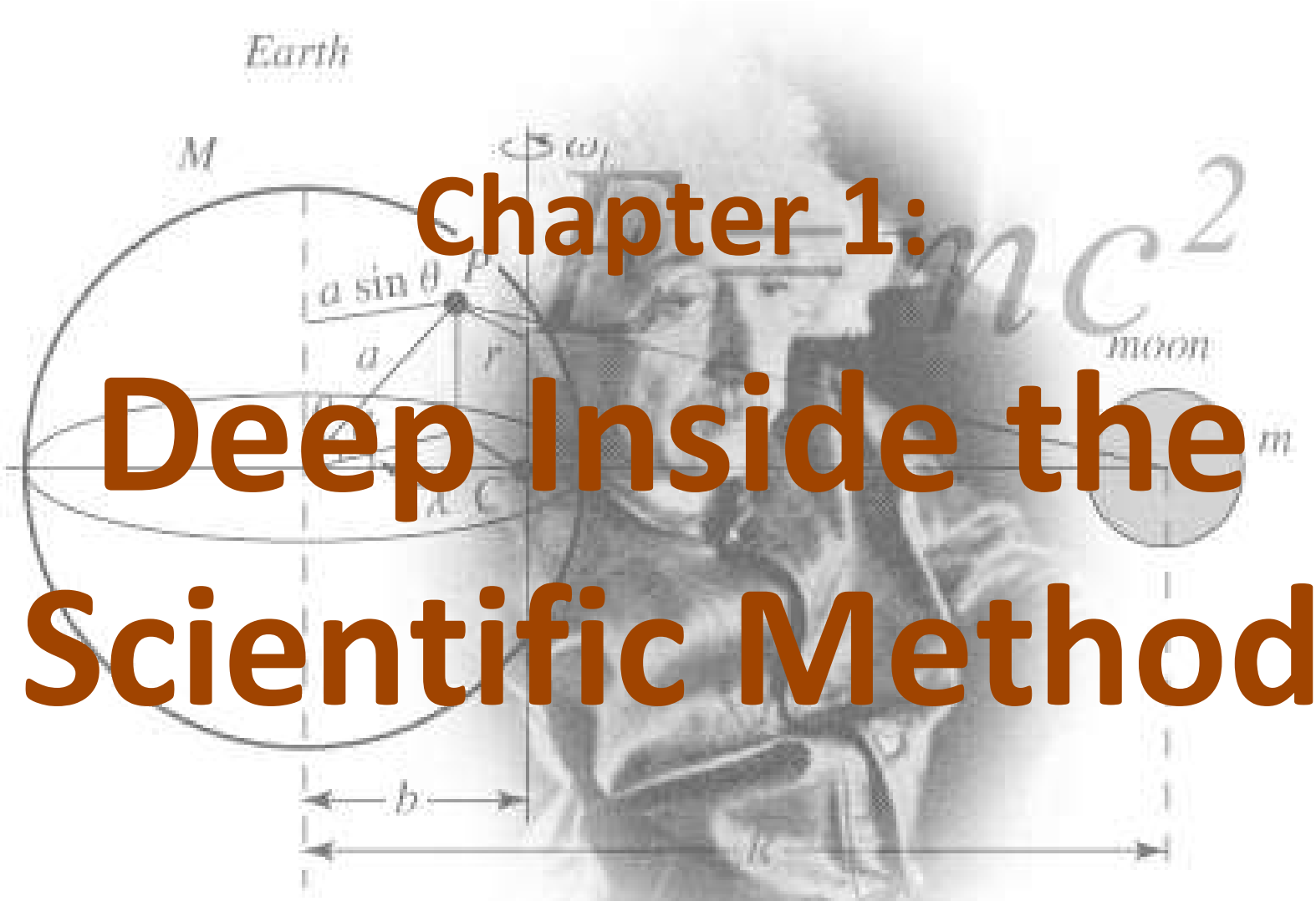


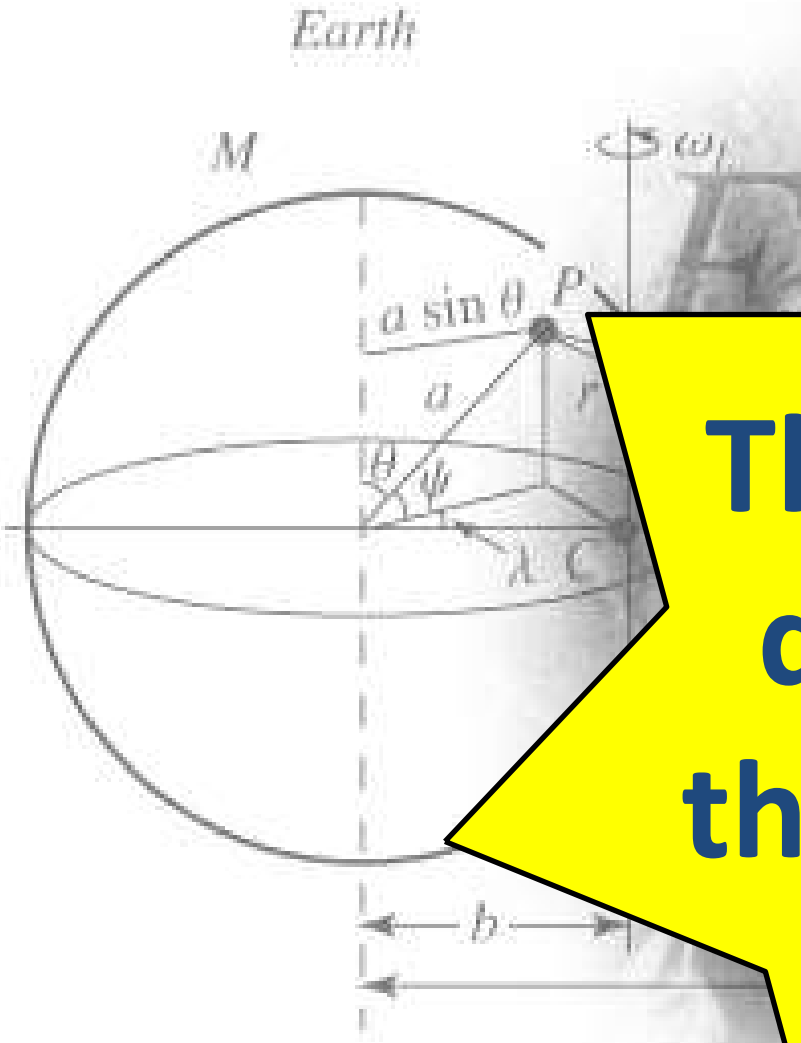
Chapter 1:

Deep Inside the Scientific Method

An Exercise in Counting…

Who Killed Lord Smythe?

What is Physics really????



The science of dealing with the observable universe

Observations:

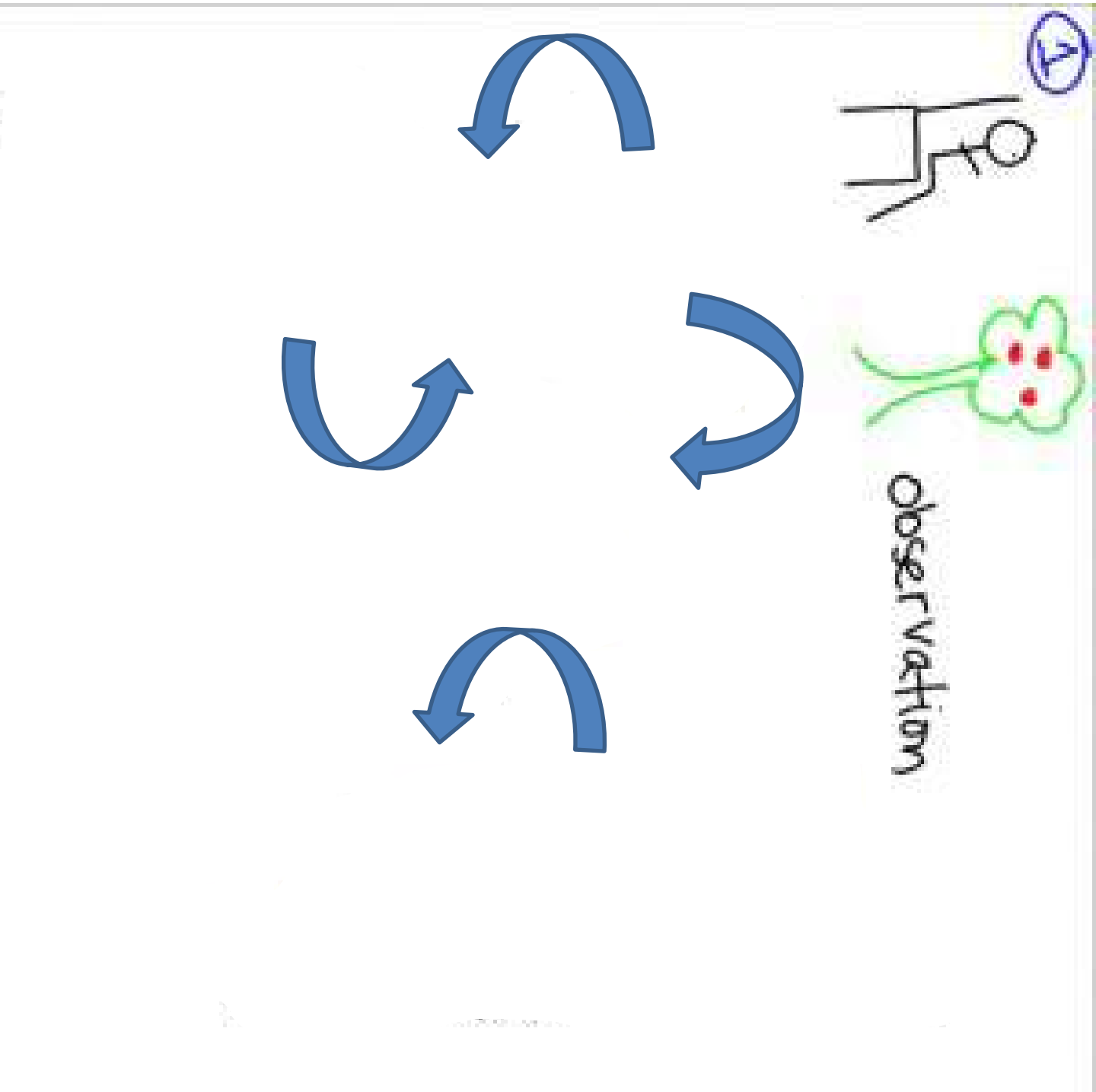
Act of noticing OR perceiving a presumed fact or occurrence.

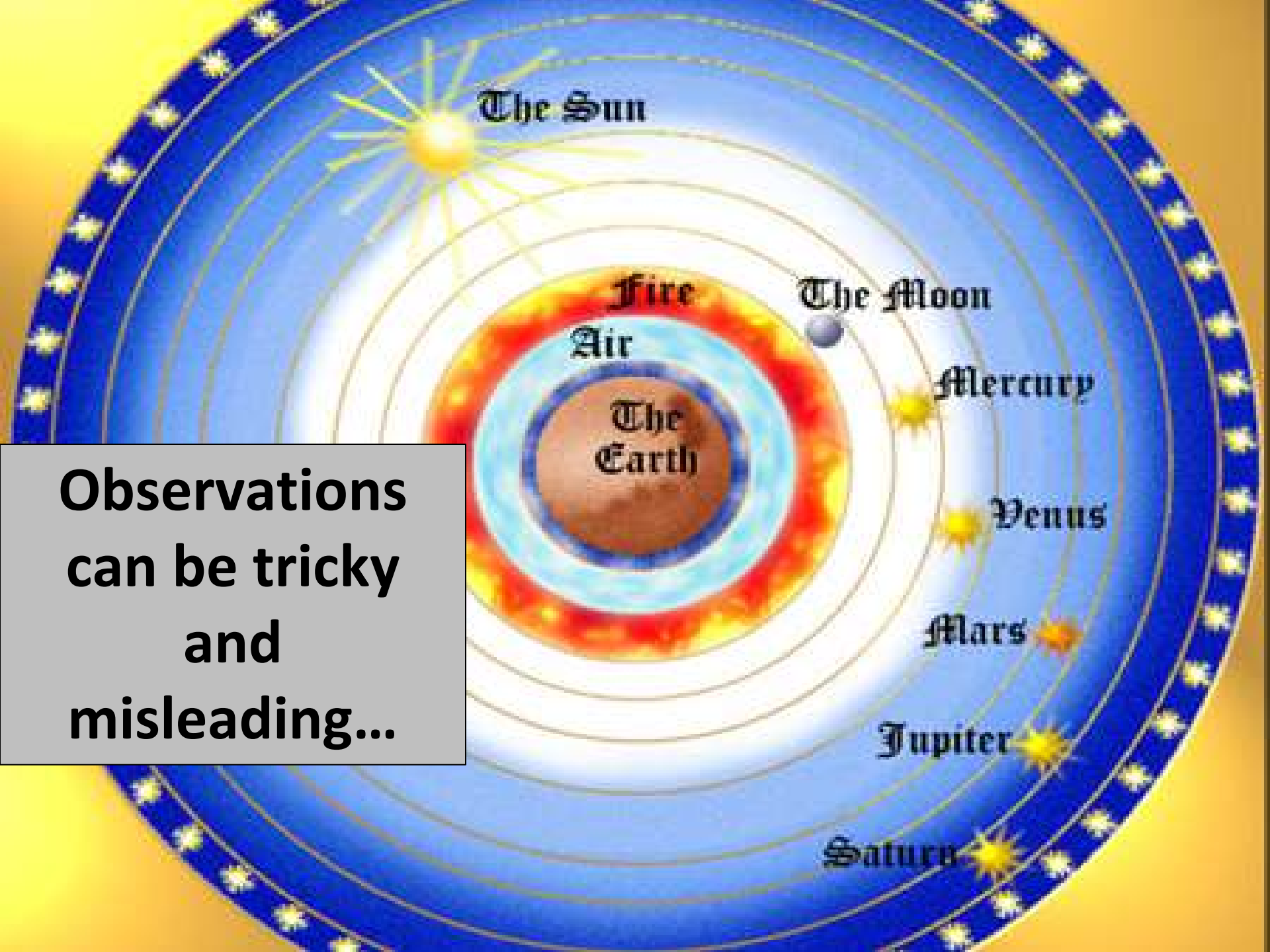
Some **Typical Observations:**

- **Use your senses**
- **Use measurements**
- **Use past/proven knowledge or experiences**
- **Use reasoning/relevance**
- **Use technology (gather data/info)**
- **Use mathematics**


Observations become DATA
once it is written down or recorded

Scientific Method





Observations can be tricky and misleading…


INDEPENDENCE

*Discovered in 1930

Pluto ‘s orbit is nearly 40 times further away than Earth’s.

Pluto ‘s orbit is nearly 285 times longer than Earth’s.

Pluto was able to be discovered and studied based on data

MEASUREMENTS

-Direct vs Indirect

-Qualitative vs Quantitative

(characteristic/comparison) (numerical value/specific scale)

Measurements further Defined by…

ACCURACY AND PRECISION

Accuracy: Relative DISCREPANCY among "accepted" value and measured value

Precision: Relative AGREEMENT among repeated measurements