



FRAMING

PSEUDOARCHAEOLOGY

THIS GUY



The background of the image is a golden-brown color with a textured, slightly mottled appearance. It features faint, embossed hieroglyphs in an ancient Egyptian style. The hieroglyphs are arranged in vertical columns and include symbols such as lotus flowers, birds, and other traditional motifs. The overall aesthetic is that of an ancient Egyptian wall or papyrus scroll.

ANCIENT
ALIENS
THE SERIES



FORENSIC
GEOLOGIST?

Lost city of Atlantis believed found off Spain

Archaeologists and geologists use imagery to find site ravaged by tsunami

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msnbc.com staff and news service reports updated 3/14/2011 2:05:47 PM ET

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NORTHAMPTON, Mass. — A U.S.-led research team may have finally located the lost city of Atlantis, the legendary metropolis believed swamped by a tsunami thousands of years ago, in mud flats in southern Spain.

"This is the power of tsunamis," head researcher Richard Freund told Reuters.

"It is just so hard to understand that it can wipe out 60 miles inland, and that's pretty much what we're talking about," said Freund, a professor at the University of Hartford who led an international team searching for the true site of Atlantis.

To solve the age-old mystery, the team analyzed satellite imagery of a suspected submerged city just north of Cadiz, Spain. There, buried in the vast marshlands of the Dona Ana Park, they believe that they pinpointed the ancient, multiringed



An artist's conception shows the city of Atlantis as it has been envisioned in legend.

National Geographic

Science news from NBCNews.com

Cosmic rays may spark Earth's



PSEUDOARCHAEOLOGY

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Radical interpretations about the past from outside of the scholarly archaeological community. Typically reject the accepted scientific and analytical methods of the discipline

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archaeology is...

**THE SCIENTIFIC STUDY OF HUMAN
SOCIETY THROUGH MATERIAL CULTURE**

archaeology is...

THE SCIENTIFIC STUDY OF HUMAN
SOCIETY THROUGH MATERIAL CULTURE

archaeology is...

**THE SCIENTIFIC STUDY OF HUMAN
SOCIETY THROUGH MATERIAL CULTURE?**

material culture is...

**PHYSICAL MANIFESTATIONS OF
HUMAN CULTURAL ACTIVITY**











3 GOALS OF ARCHAEOLOGY

- ① **DEVELOP CHRONOLOGY:** answers who, why, & how
- ② **RECONSTRUCT PAST LIFEWAYS:** answers what & how
- ③ **EXAMINE CULTURE PROCESS & CHANGE:** answers why

COMMON MISCONCEPTION









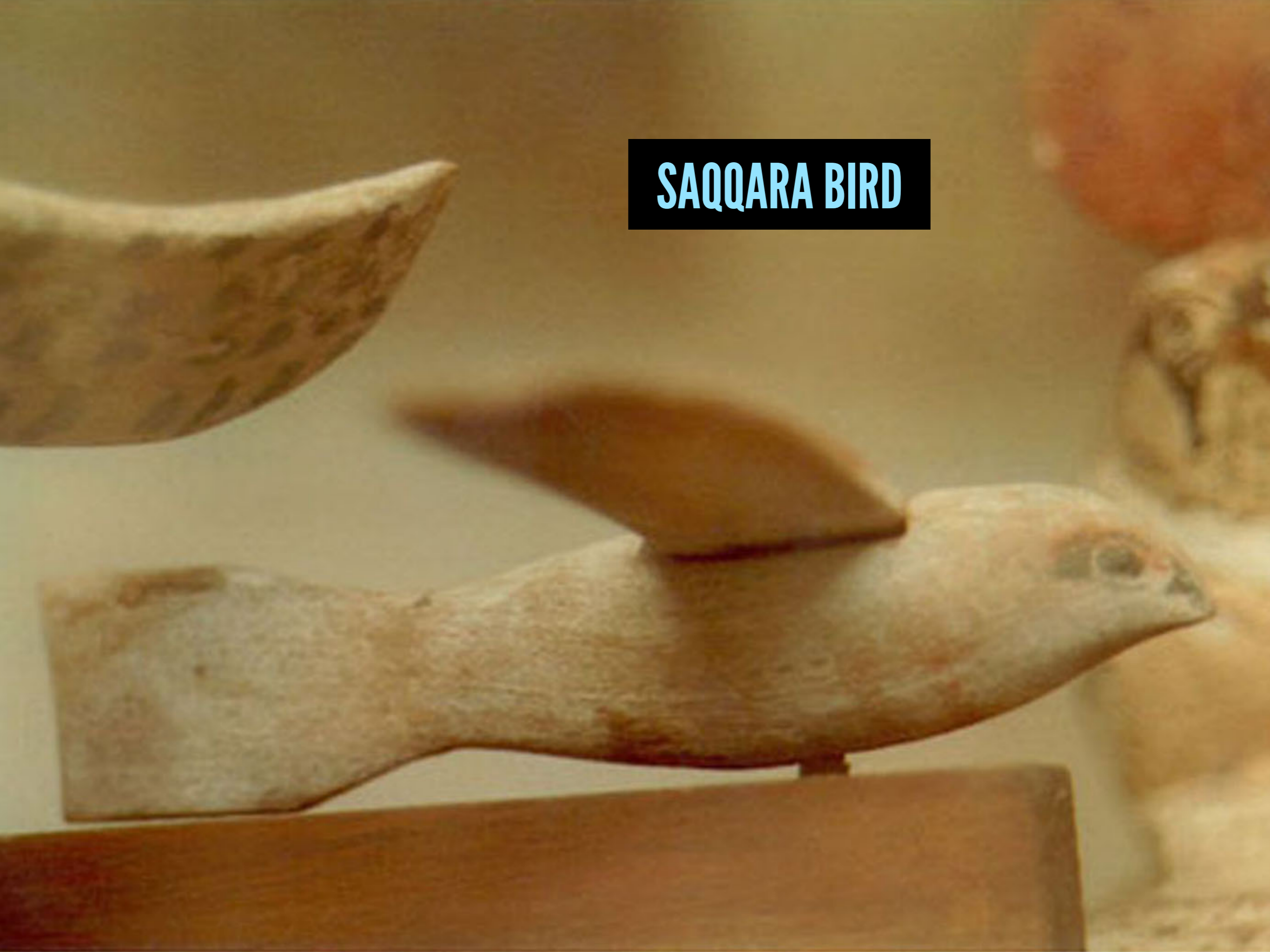
it isn't about the

ARTIFACTS



BALLBEK

SAQQARA BIRD





QUIMBAYA ARTIFACTS

it's about the...

CONTEXT

CONTEXT

Not only the physical location of an artifact (for instance), but its relation (in time and space) to other things (artifacts, structures, features, etc)






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**THE SCIENTIFIC STUDY OF HUMAN
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SOCIETY THROUGH MATERIAL CULTURE**

An archaeological excavation site with workers and scientific equipment. In the foreground, two people are seated at a table with a printer and other equipment. In the background, several workers are visible, some wearing hats and work clothes, engaged in excavation work. The site is surrounded by earthen walls and sandbags.

STEP BACK, WE'RE
DOING SCIENCE!

YOU HEARD THE
MAN...**SCIENCE!**

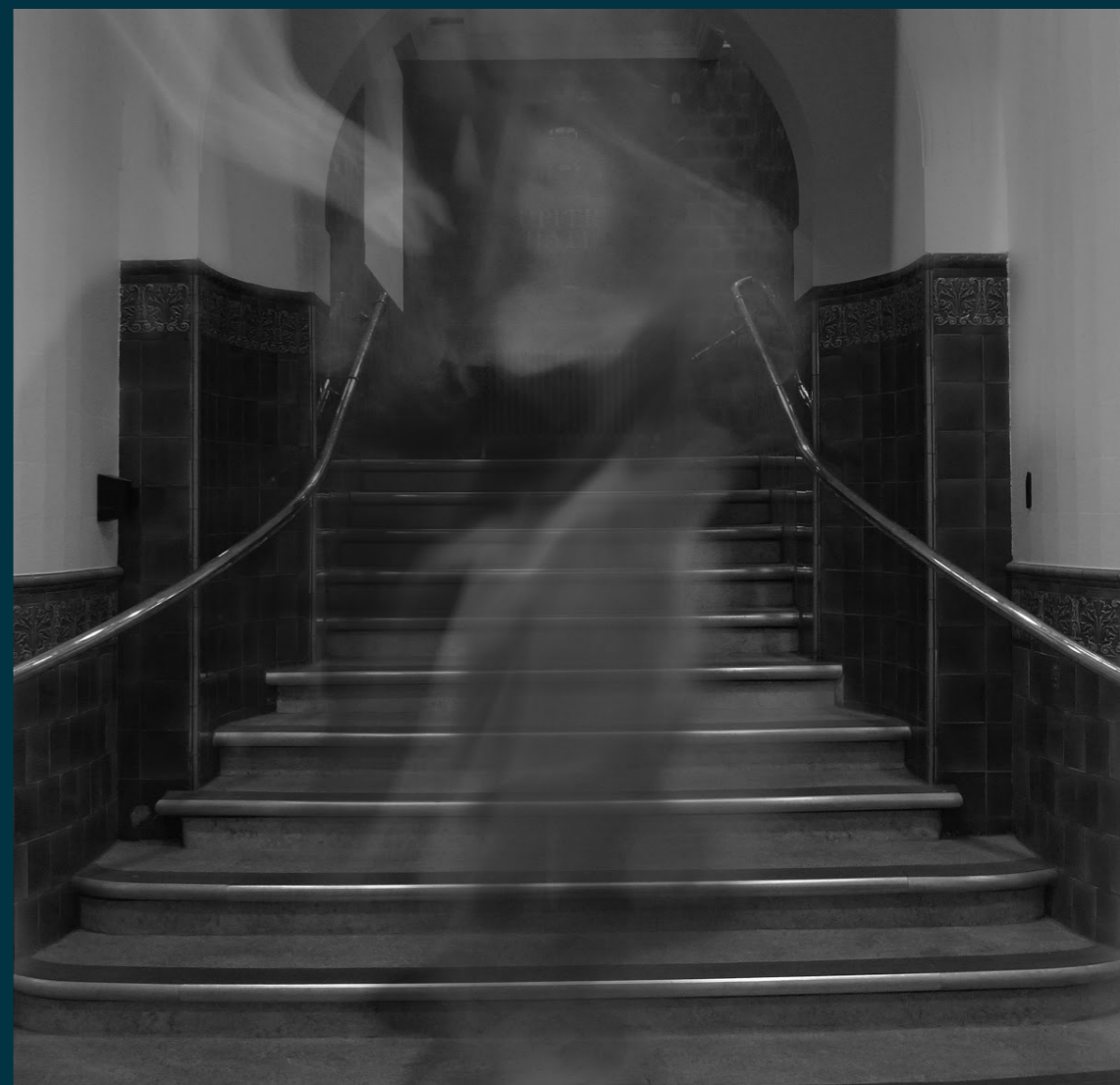
SERIOUSLY

SO WHAT

before we move on, we need to...

DRAW SOME BOUNDARIES

pseudoscience vs. science; archaeology vs pseudoarchaeology



1

CLAIM THAT PHENOMENA ARE SCIENTIFICALLY PROVEN (OR SOMEHOW SCIENTIFICALLY BASED)

2

CLAIMS MAKE STATEMENTS ABOUT THE HUMAN PAST, HUMAN EVOLUTION, ETC.

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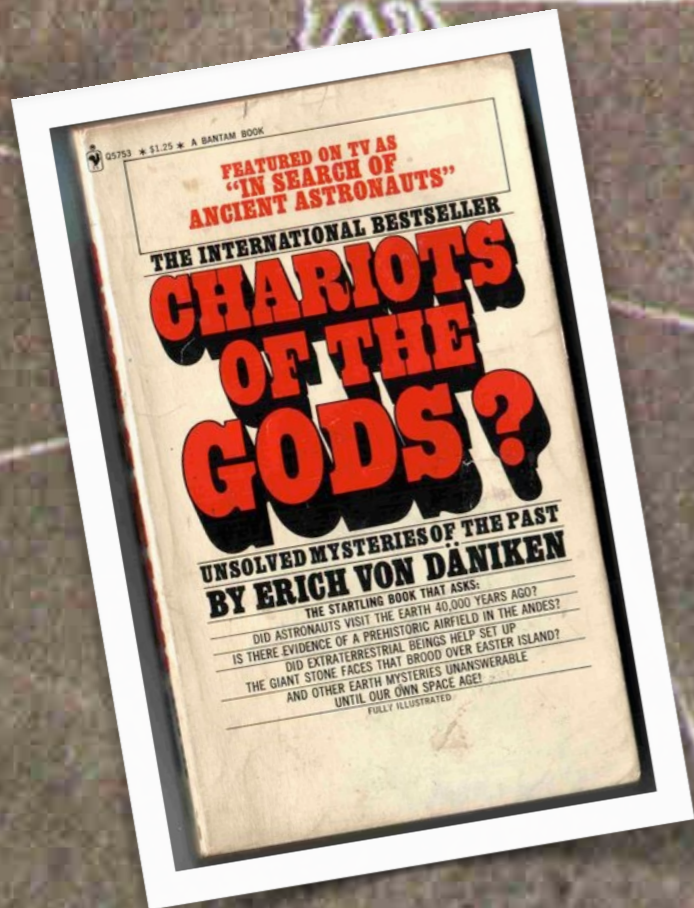
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ANCIENT ASTRONAUTS



LOST CONTINENTS



AGE OF THE

SPHINX



SECRET KNOWLEDGE OF THE PYRAMIDS



BIBLICAL

LITERALISM



NATIONALIST ARCHAEOLOGY



ASSESSING A CLAIM

PSEUDOARCHAEOLOGY TOOLKIT



1

Where is the particular claim or discovery presented?

Is it an article in a peer reviewed scholarly journal where other members of the field have the opportunity to assess the validity of the claim? A widely respected magazine with science advisors on staff? Or is it found on an anonymous website with no attributable source?

2

Who is making the claim? a trained scientist. More importantly, is it a scientist or researcher trained in archaeology, anthropology, or a closely related field? Remember, a scientist skilled in an unrelated field may be just as incapable as a non-scientist to comment on an archaeological discovery or interpretation.

3

How does the person announcing the discovery, making the claim, or interpreting the results of the study “know?” Do they follow standard models of scientific thinking? Or does the claimant assert that their knowledge is the result of revelation or intuition, and that no proof is needed. Do they argue that the claim is “obvious?”

4

Are other experts consulted, and how do they respond to the claims being made? Are other scientists convinced? Are other scientists unsure, skeptical, but intrigued?

5

Are confirming data presented? Are the fantastical artifacts presented unique, one of a kind objects, or are archaeologists able to confirm the validity of these by finding additional examples?

6

Is enough information presented for you to make an informed decision concerning the validity of what is **being asserted**? Or, instead, are you left with important questions that the report does not address?

WHY?

MOTIVATIONS

- ① **MONEY:** the public's interest in archaeology is so great that people are willing to pay
- ② **FAME:** desire to have to oldest site or a previously unknown artifact
- ③ **NATIONALISM:** pseudoarchaeology proving or supporting nationalistic claims
- ④ **RELIGION:** pseudoarchaeology to proving or supporting ideological claims
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PUBLIC PERCEPTION
OF
SCIENTISTS

MAD SCIENTISTS



NERD SCIENTISTS



TOP SECRET

SCIENCE!

what it is and why its awesome

**? HOW DO WE REALLY
KNOW WHAT WE KNOW**

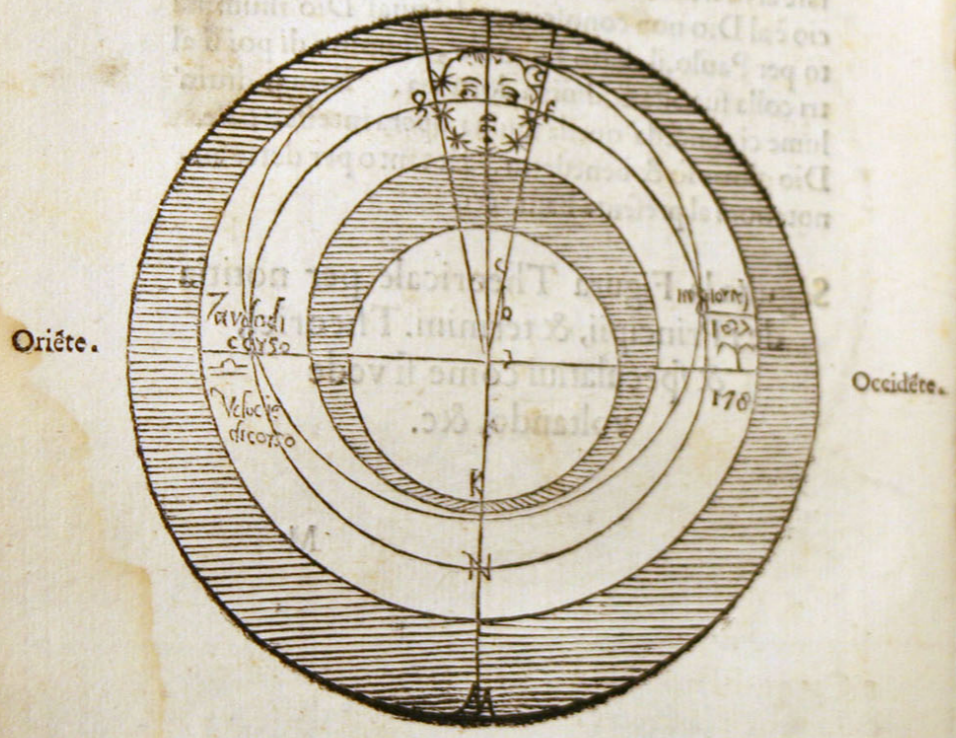
EPISTEMOLOGY

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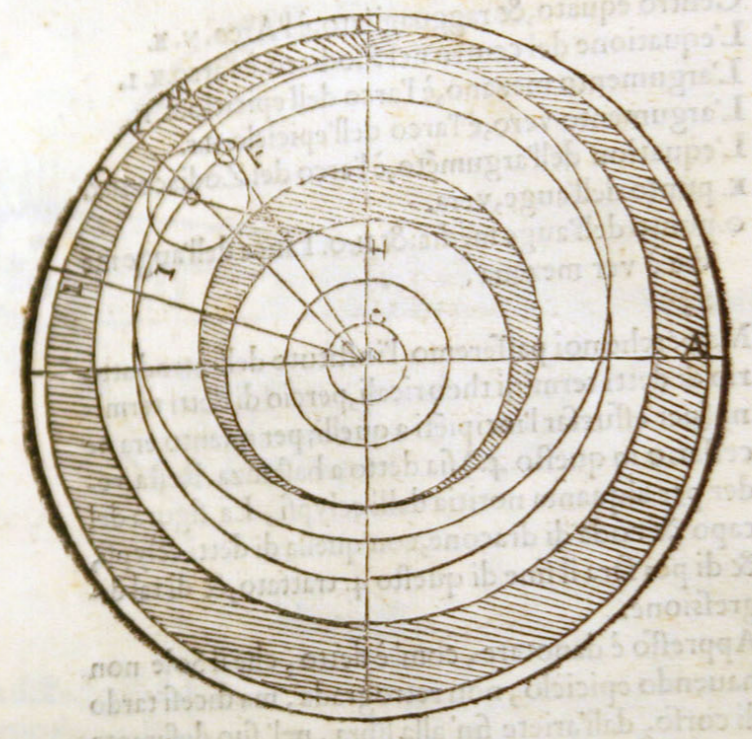
- ① **BROADLY DEFINED: THE STUDY OF KNOWLEDGE**
- ② **HOW DO WE KNOW WHAT WE KNOW?**
- ③ **WHAT DO WE KNOW?**
- ④ **HOW DO WE DIFFERENTIATE BETWEEN FACT AND FANTASY, MEANINGFUL FROM THE MEANINGLESS**

BELIEF AND KNOWLEDGE

CHANGES

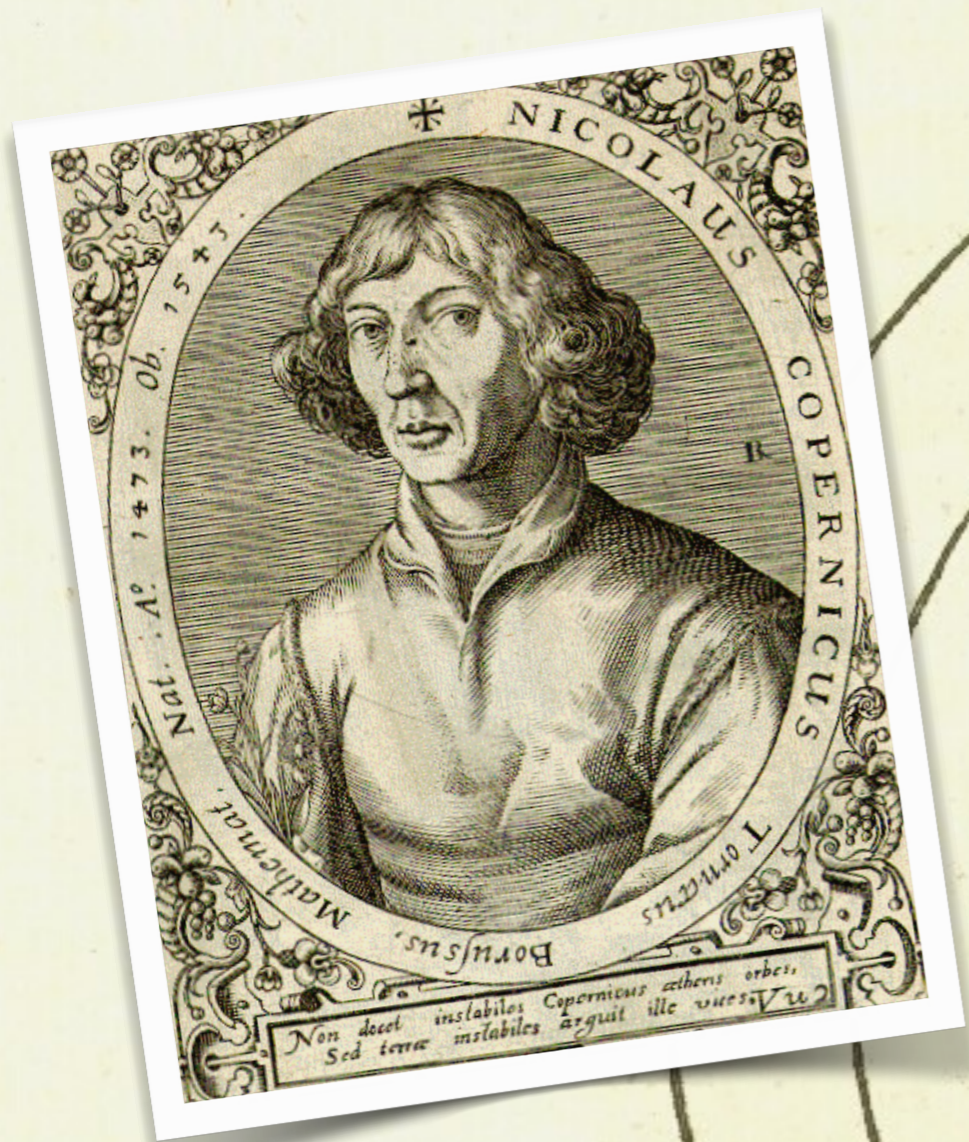


- A. Centro del mondo.
- B. Centro del deferente.
- C. Centro del Equante.
- D. e. f. g. Epiciclo, colli altri 6. Pianeti
- E. Statione prima.
- F. Statione seconda.
- F. e. g. Arco della direttione.
- G. d. f. Arco della Retrogradatione.
- E. g. d. f. Corpo solare.
- A. E. linea dell'auge, dell'orbe che
- porta l'epiciclo.
- A. K. linea dell'opposto dell'auge detta
- L. M. Conuesso delorbe che porta
- l'auge delcentrico.
- E. I. Concauo del dett'orbe.
- E. I. & D. K. Conuesso & concauo
- delorbe.
- E. K. Circulo Equante.
- E. Auge del Epiciclo.
- D. Opposto della detta auge.

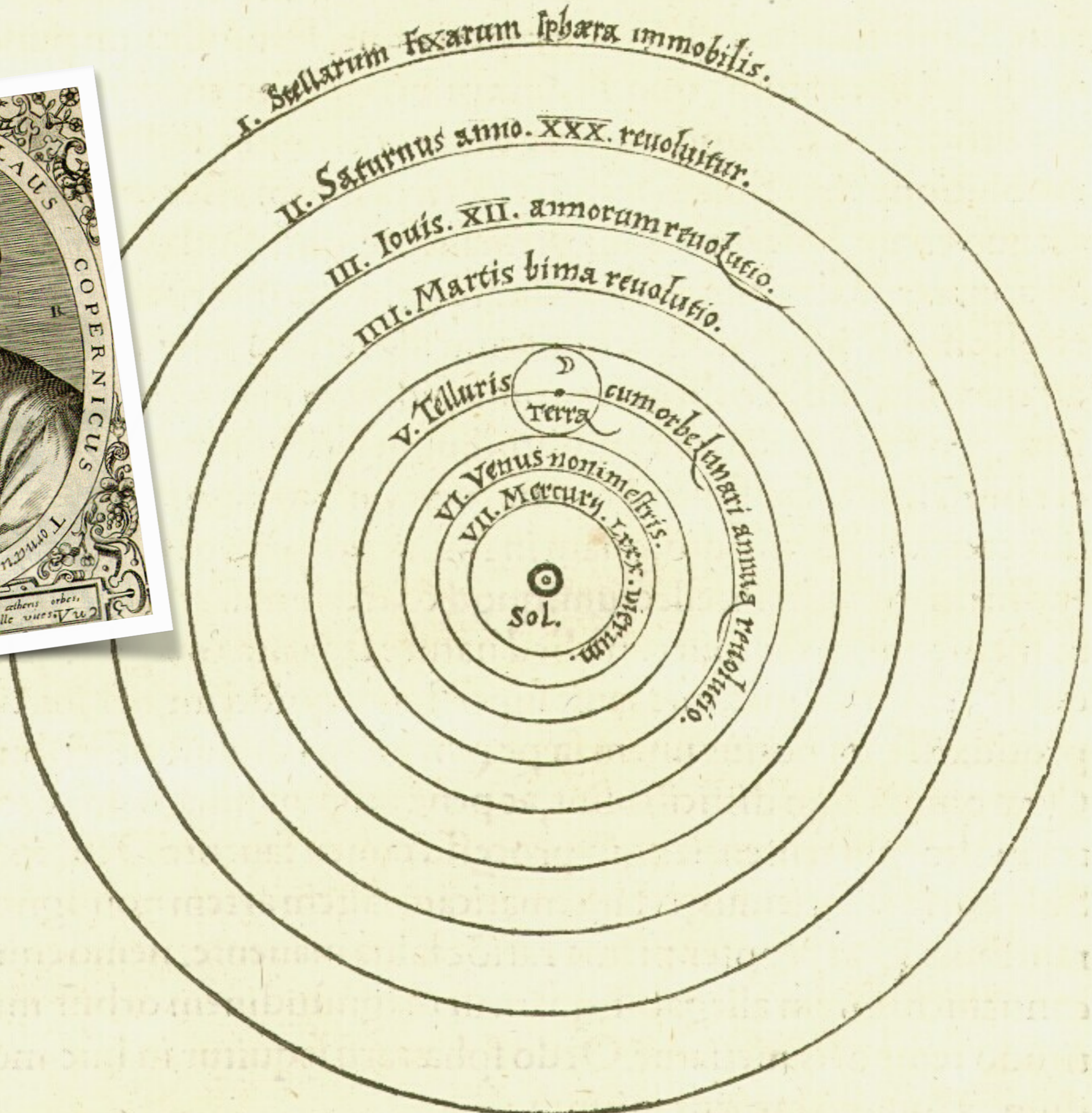


- D. Centro del mondo.
- C. Centro del deferente.
- H. Centro del Equante.
- H. g. i. f. Epiciclo.
- Eclitica l'estremo circulo.
- B. N. linea dell'auge.
- G. Auge media, dell'epi-
ciclo.
- H. Auge vera dell'epiciclo.
- A. Principio dell'ariete.
- A. N. Auge nella seconda si-
gnificatiõe, del'arco A. N.
- D. L. Linea del mezo moto.
- A. N. L. Arco del mezo moto.
- D. K. Linea del vero moto
dellepiciclo.
- A. N. K. Vero moto dell'epi-
ciclo.

Johannes de Sacrobosco, *Tractatus de Sphaera* (1472)



Nicolaus Copernicus



what exactly is the point here?

**WHAT WE KNOW (AND WHAT WE THINK WE KNOW)
CHANGES OVER TIME DUE TO THE EVOLUTION OF
THE WAYS IN WHICH WE COLLECT INFORMATION
AND MAKE CONCLUSIONS.**

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COLLECT INFORMATION ?

DIRECTLY THROUGH PERSONAL OBSERVATION

people tend to think that obtaining firsthand information (what they observe themselves) is always the best way - unfortunately, most people are poor observers

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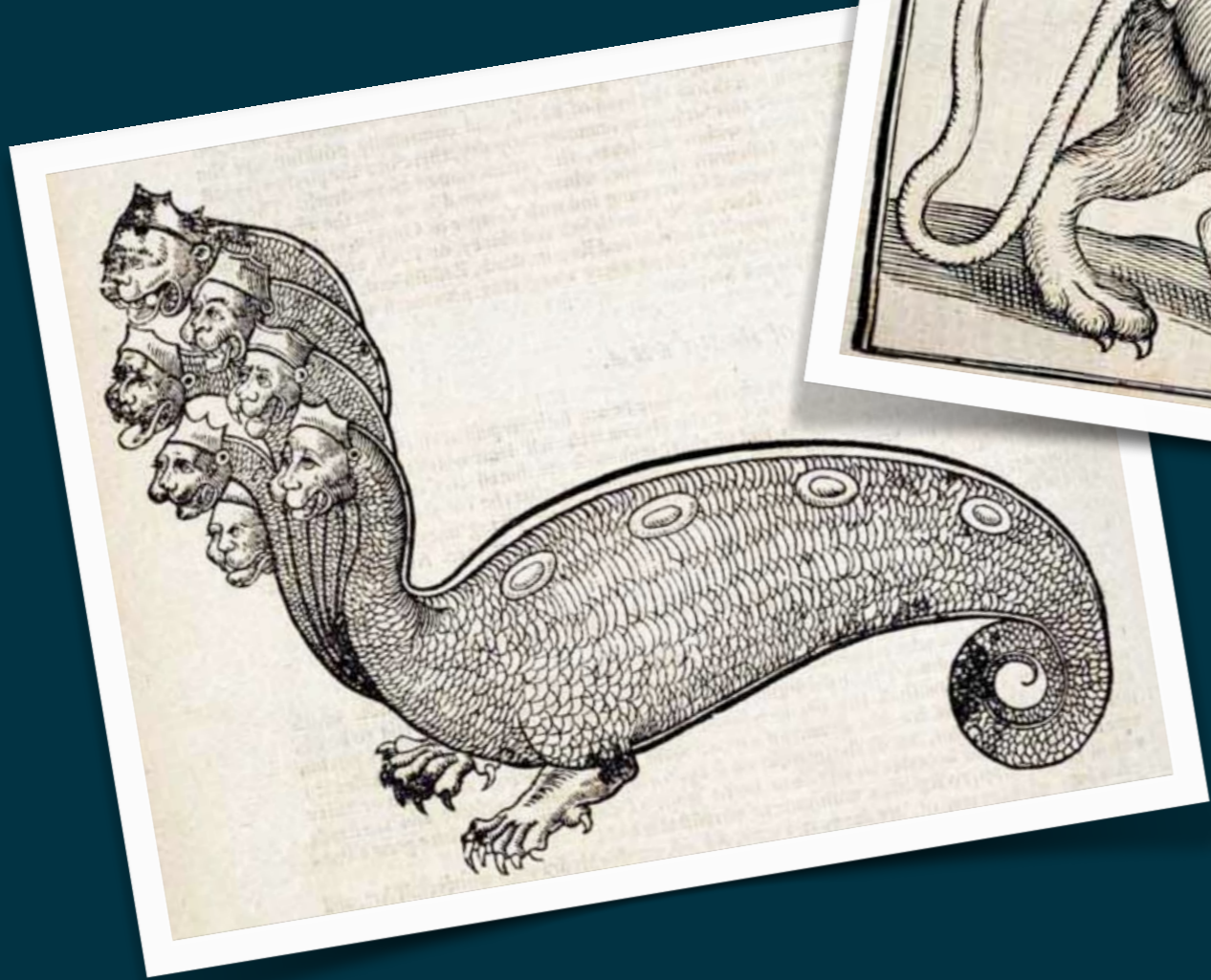
INDIRECTLY THROUGH SECONDARY SOURCES

Even more problematic - must rely on on the quality of someone else's observations. How did they obtain the information in the first place. What are their motives for providing the information? Do they have an agenda?

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SCIENCE!

what it is and why its awesome

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what it is and **why** its awesome

WHAT IS SCIENCE?

Science is a process of understanding the world around us (past or present, seen or unseen) through the application of logical thought

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THE ASSUMPTIONS OF SCIENCE

- ① THERE IS A REAL UNIVERSE WHICH IS KNOWABLE
- ② THE UNIVERSE OPERATES ACCORDING TO UNDERSTANDABLE RULES
- ③ THE UNIVERSE'S RULES ARE IMMUTABLE
- ④ THESE RULES CAN BE DISCERNED, STUDIED, AND UNDERSTOOD BY PEOPLE THROUGH OBSERVATION, RESEARCH, AND EXPERIMENTATION

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SCIENTIFIC REASONING

INDUCTION (INDUCTIVE REASONING)

arguing from specifics to generalities. Developing generalities (eventually hypotheses) based on observed phenomena.

DEDUCTION (DEDUCTIVE REASONING)

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SCIENTIFIC METHOD

- ① Observe (collect data)
- ② Generate hypothesis (explanation for what has been observed)
- ③ Predict specific things that must be true if the hypothesis is valid
- ④ Test the hypothesis through experimentation
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ANALYSIS

EXCAVATION



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THEORY

A well-substantiated, unifying explanation for a set of verified, proven hypotheses. "Fact" is also used in a wider sense to mean any theory for which there is overwhelming evidence.

AN OPINION IS NOT THE SAME AS THEORY

AN IDEA IS NOT THE SAME AS A THEORY

AN OPINION IS NOT THE SAME AS A FACT




*Last Week Tonight with John Oliver: Climate Change
Season 1, Episode 3, HBO*

*SOOOO...DO YOU
KNOW WHAT IS GOING
ON HERE?*

UMMMM...



A man with dark, wavy hair, wearing a dark suit jacket, a light-colored shirt, and a patterned tie, is shown from the chest up. He is looking slightly to his right with a neutral expression. The background is a dark, out-of-focus scene with many small, colorful lights (yellow, blue, green) and some larger, bright yellow streaks, suggesting a night-time setting with city lights or a festive atmosphere. A white speech bubble with a black border is positioned in the upper right corner of the image, containing text.

SEE? THE ARCHAEOLOGIST
DOESN'T KNOW...THE TRUTH
IS OBVIOUSLY ALIENS

logical fallacy

ARGUMENT FROM IGNORANCE

Asserts that a proposition is true because it has not yet been proven false (or vice versa). A type of false dichotomy in that it excludes a third option - there is insufficient investigation and therefore insufficient information to prove the proposition satisfactorily to be either true or false.

logical fallacy

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**When archaeologists say “we
don’t know,” it doesn’t mean
the pseudoarchaeological
idea is valid or validated**

SCIENCE
ALWAYS
CHANGES

(and always makes mistakes)

DIFFUSION & HYPERDIFFUSION

DIFFUSION

social change in past cultures was explained through diffusion - the concept that cultural items (ideas, styles, religions, technologies, languages) spread from one culture to another



EGYPT

MESOPOTAMIA

4th Millennium BC



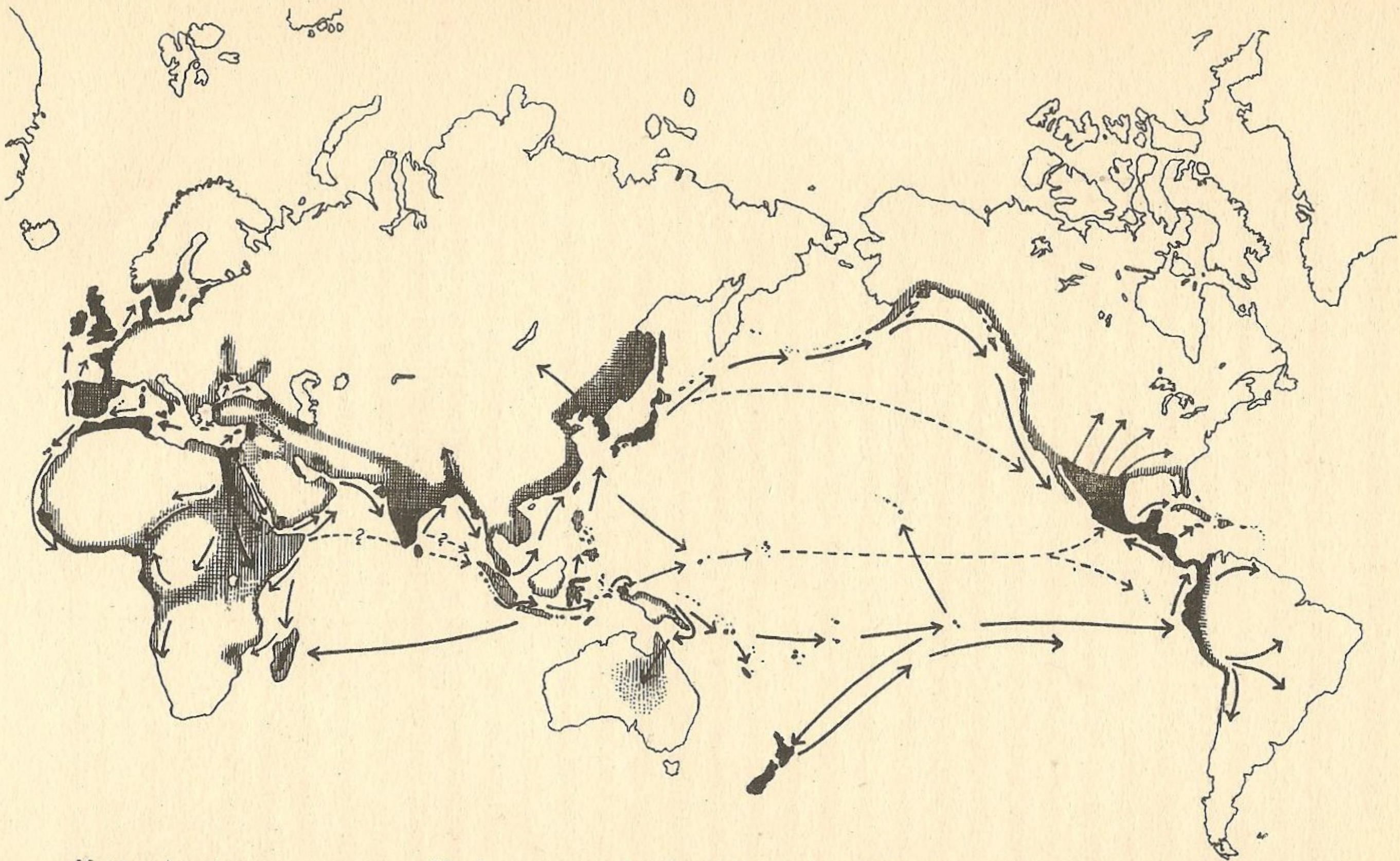


MESOPOTAMIA

EGYPT

HYPERDIFFUSION

The notion that all major cultural innovations and societies derive from one (usually lost) ancient state, nation, civilization, etc.



Map 2.—An attempt to represent roughly the areas more directly affected by the "heliolithic" culture-complex, with arrows to indicate the hypothetical routes taken in the migrations of the culture-bearers who were responsible for its diffusion.



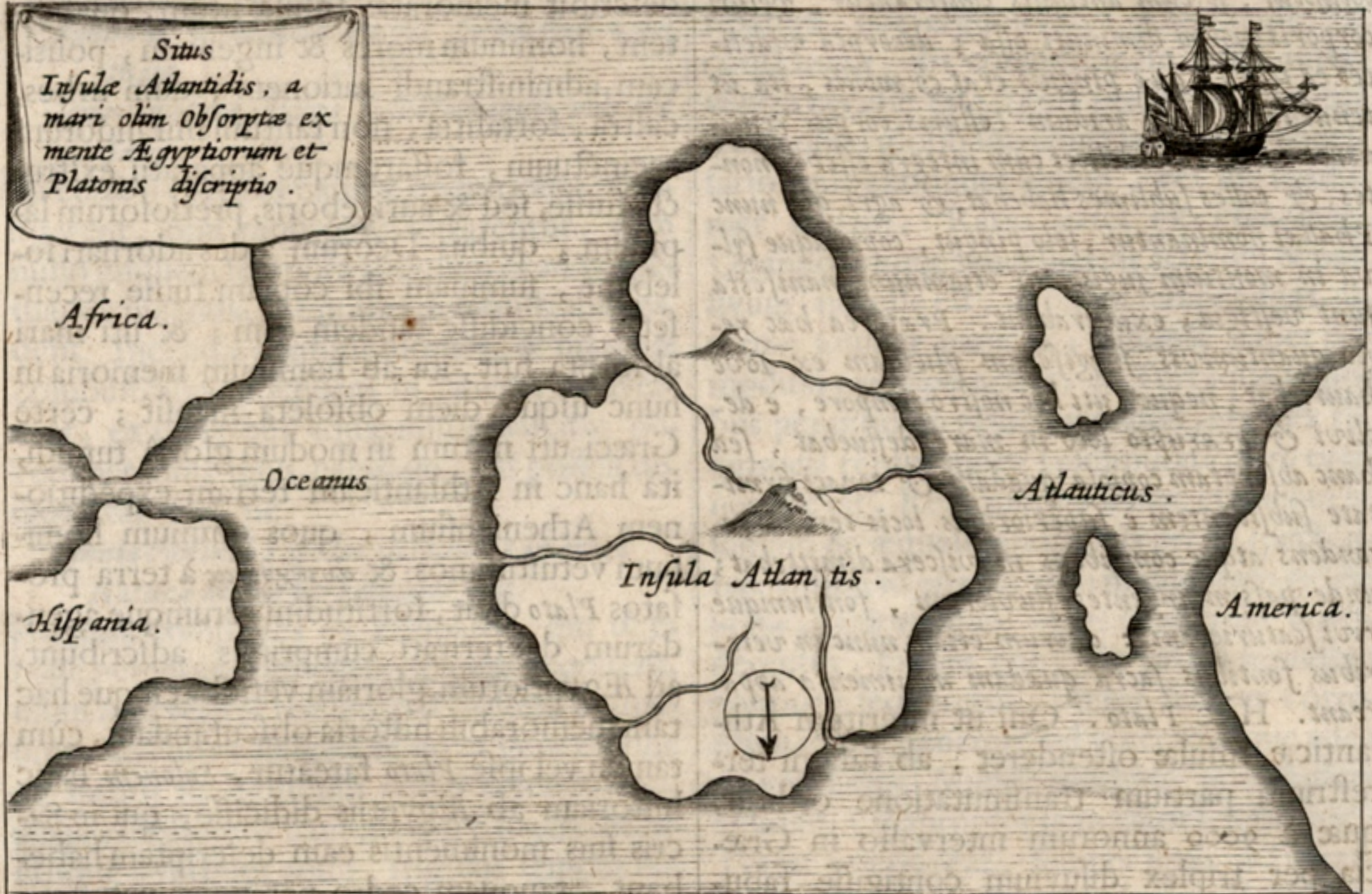






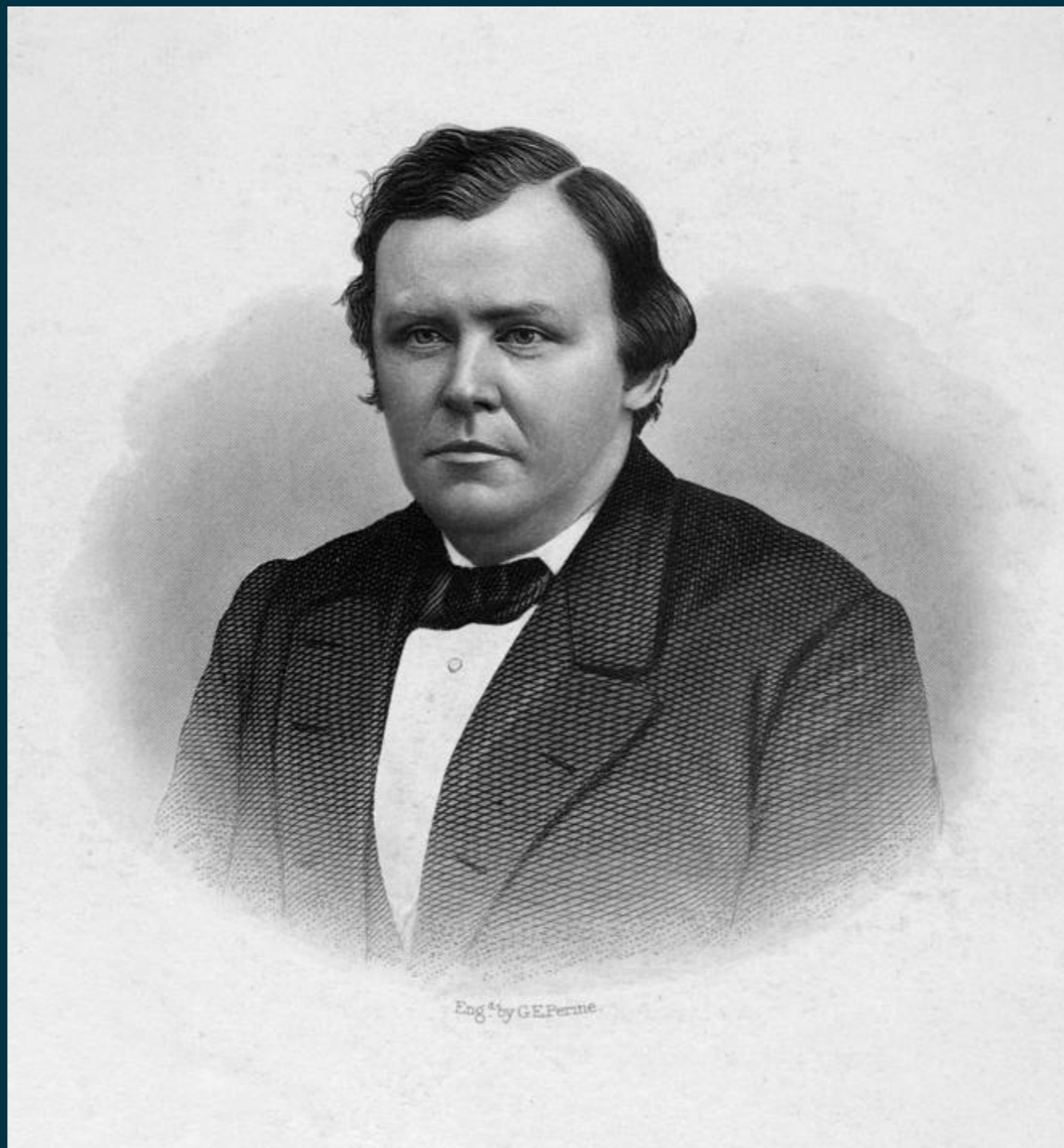
Veteres de ea referunt, ejus sane nomen autem non esse dixerim, quam qui Canariis, Afo-ribus & Flandricis, cæterisque in Oceano Athlantico superstitis Insulis comprehen-

horum montium, vallium, planitiarumque profundioribus locis, motu terræ abforptis, atque in eorum locum Oceano succenturiato.

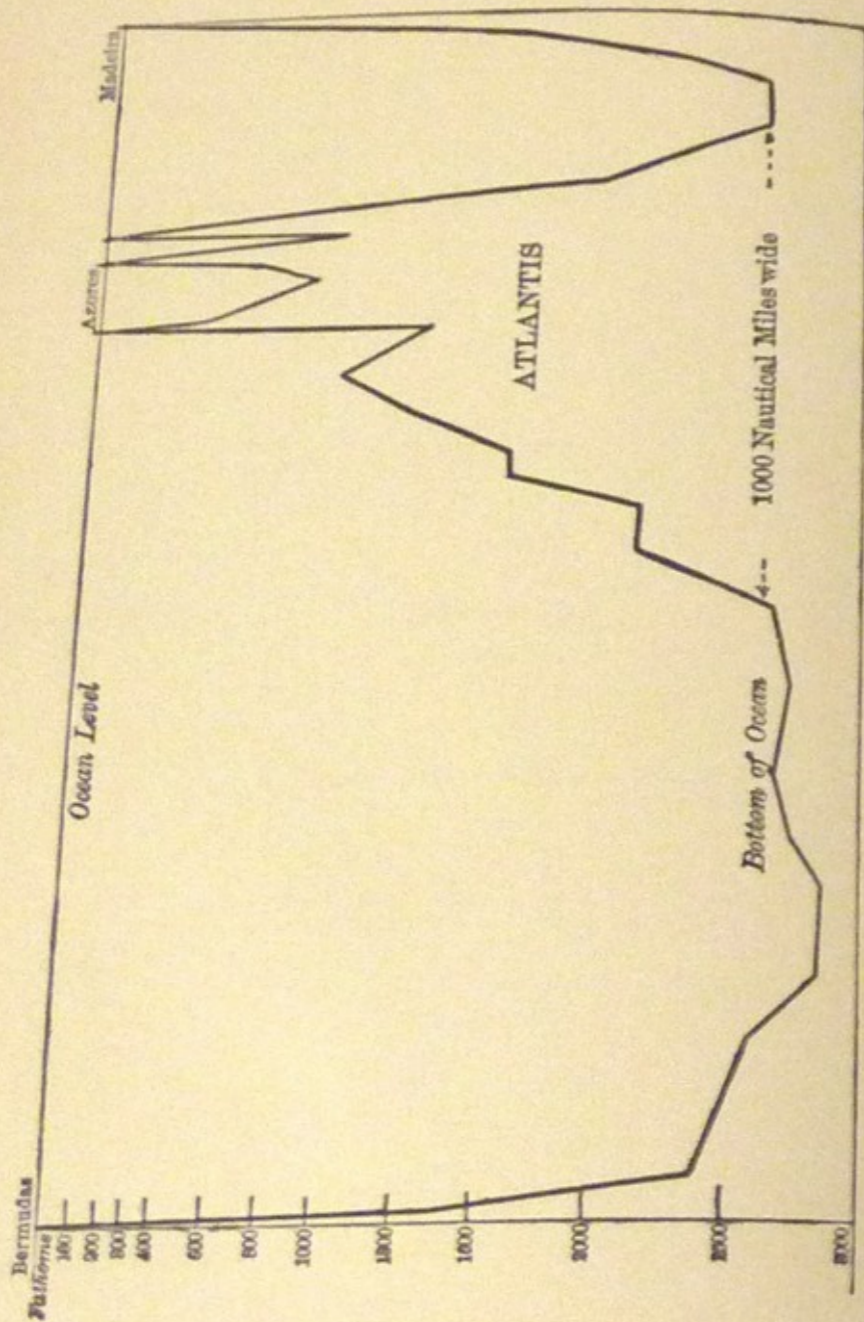


Sunt nonnulli, qui hanc terræ Continen-

ad apicem planitie conspicuum, ex qua



IGNATIUS DONNELLY



THE PROFILE OF ATLANTIS,
As revealed by the deep-sea soundings of H. M. ship "Challenger" and the U. S. ship "Thetis."

ATLANTIS:

THE ANTEDILUVIAN WORLD.

BY
IGNATIUS DONNELLY.

ILLUSTRATED.

*The world has made such comet-like advance
Lately on science, we may almost hope,
Before we die of sheer decay, to learn
Something about our infancy; when lived
That great, original, broad-eyed, sunken race,
Whose knowledge, like the sea-sustaining rocks,
Hath formed the base of this world's fluctuous lore.*"

FESTUS.

NEW YORK AND LONDON:
HARPER & BROTHERS, PUBLISHERS,

WHAT IS THE PUNCHLINE

BUILDING A TOOLKIT TO ADDRESS PSEUDOARCHAEOLOGY



- ① UNDERSTAND THE RHETORIC OF PSEUDOARCHAEOLOGY**
- ② KNOW HOW TO ASSESS A PSEUDOARCHAEOLOGICAL CLAIM**
- ③ UNDERSTAND THE FUNDAMENTALS OF ARCHAEOLOGY**
- ④ UNDERSTAND THE FUNDAMENTALS OF SCIENCE**
- ⑤ BE ABLE TO ARTICULATE FUNDAMENTAL PROBLEMS WITH PSEUDOARCHAEOLOGY IDEOLOGY**

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THE END