

# THE THIN TWEED LINE

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THE RISE OF LITERACY

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# UNDERSTANDING HIGHER EDUCATION

- HIGHER EDUCATION RISES FROM THE DESIRE OF HUMANS TO COMMUNICATE WITH EACH OTHER. THUS TO UNDERSTAND EDUCATION, ONE MUST START OUT BY UNDERSTANDINGS THE HISTORY OF HUMAN COMMUNICATION BEFORE HIGHER EDUCATION ARRIVES ON THE SCENE.
- THE **EDUCATION AND COMMUNICATION PROCESS** IS DYNAMIC AND HAS FOUR STEPS\*. THESE ARE THE ACQUISITION OF NEW KNOWLEDGE, THE MANIPULATION OF THAT KNOWLEDGE TO DISCOVER NEW TRUTHS, THE DISTRIBUTION OF THOSE NEW TRUTHS TO OTHERS, AND THE ARCHIVING OF THOSE TRUTHS IN A MANNER THAT FUTURE THINKERS CAN EASILY ACCESS THEM.

\*Jackson, S. (2000 and 2002). Studying Power and Technology Using Oral History.  
Thesis: University of South Carolina. OCLC# 51765598.

# EVOLUTION OF THE HUMAN SPECIES

- HUMANS, LESSER APES, AND GREAT APES ARE DESCENDED FROM A COMMON ANCESTOR SUCH AS **DRYOPITHECUS**, WHICH LIVED BETWEEN 9 AND 12 MILLION YEARS BP.
- THERE IS NO EVIDENCE OF LANGUAGE USE AT THIS STAGE.
- BY 2 MILLION YEARS BP THE **HOMO** SPECIES HAD DEVELOPED IN THE PLAINS OF AFRICA (**OUT OF AFRICA THEORY**). EARLY HOMINIDS USE TOOLS, BUT NO EVIDENCE YET OF LANGUAGE.
- **HOMO SAPIENS** BECOME THE DOMINATE HOMINID SPECIES BY 250,000 BP.
- **HOMO SAPIENS** MAKES INCREASINGLY SOPHISTICATED TOOLS AND BEGIN TO MIGRATE THROUGH OLD WORLD, NOT REACHING THE AMERICAS UNTIL 20,000 YEARS BP AND THE PACIFIC ISLANDS UNTIL 2,000 YEARS BP.

# LASCAUX CAVE PAINTINGS

DATED AT AROUND 36,000 BP, CAVE PAINTINGS LIKE THESE ARE THE FIRST PROOF OF EXO-GENETIC COMMUNICATION OF INFORMATION. WHILE HOMO SAPIENS WERE LIKELY COMMUNICATING FOR AT LEAST 200,000 YEARS BEFORE THEN, THEY DID NOT LEAVE A RECORD OF THAT COMMUNICATION THAT HAS BEEN FOUND.



# LASCAUX CAVE PAINTINGS

EVIDENCE SHOWS CAVE PAINTERS WERE PAINTING REAL, OBSERVED ANIMALS, NOT FANTASY IMAGES\*.



\*MELANIE PRUVOST ET AL., "GENOTYPES OF PRE-DOMESTIC HORSES MATCH PHENOTYPES PAINTED IN PALEOLITHIC WORKS OF CAVE ART," PNAS, 2011.

# **LASCAUX CAVE PAINTINGS**

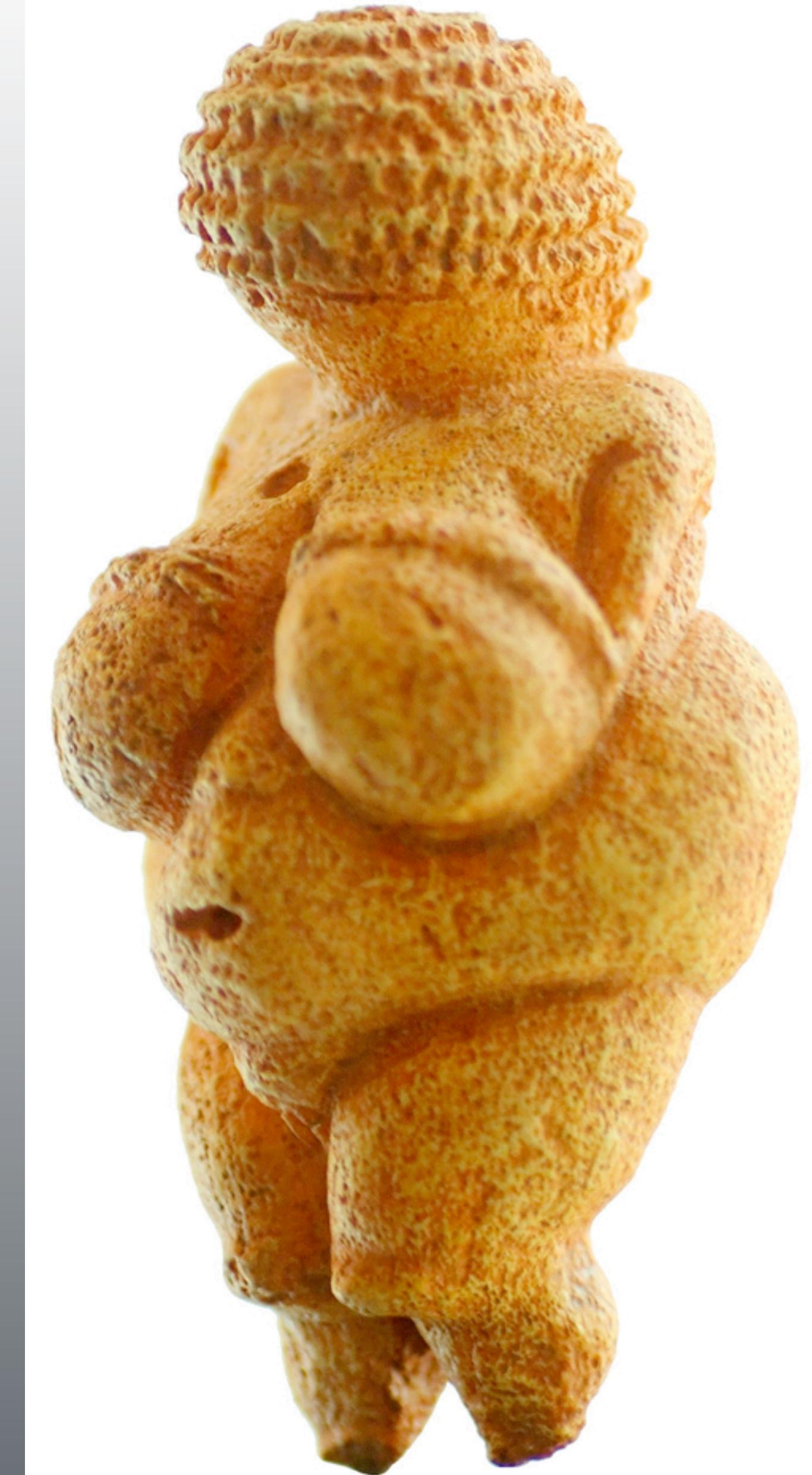
**CHILDREN PARTICIPATING IN  
SOME FORMS OF CAVE  
PAINTING ALONG SIDE  
ADULTS\*. THIS MAKES IT  
MORE LIKELY THAT CAVE  
ART COULD HAVE SERVED  
AS SOME FORM OF PRIMARY  
EDUCATION.**



\*JESSICA COONEY AND LESLIE VAN GELDER

# THE VENUS OF WILLENDORF

THE VENUS WOMAN IS A FIGURE MADE APPROXIMATELY 22,000 YEARS BP. **VENUS FIGURES** REPRESENT ONE OF THE EARLIEST FORMS OF EXTANT PORTABLE HUMAN COMMUNICATION. THE VENUS SHOWN ON THE LEFT WAS CARRIED THROUGH THE LANDSCAPE, EVIDENCE THAT WHERE IT WAS FOUND IS NOT WHERE IT WAS MADE (WILLENDORF LACKS OOLITIC LIMESTONE).



# CRADLES OF CIVILIZATION



The Sitting Bull (Right)  
from Uruk in the Jemdet Nasr  
period (3,000 BCE)

RIGHT

The Palermo Stone (fragment  
of the 5th Dynasty Royal Annals)  
around 2,500 BCE)

LEFT



THE CRADLES OF CIVILIZATION WHERE WRITING FIRST APPEARED.  
THESE ARE **ARCHAIC PERIOD EGYPT (DYNASTIES 1 AND 2)** AND  
THE **JEMDET NASR PERIOD OF SUMER**, BOTH OCCURRING  
EARLIER THAN 3000 BCE.



**EARLIEST WRITING: CUNEIFORM (LEFT) AND  
HIEROGLYPHICS (RIGHT)**

# **THE RISE OF WRITTEN LANGUAGE**

**ACCORDING TO DR. DENISE SCHMANDT-BESSERAT\***  
**WRITING WAS A DEVELOPMENT OF ACCOUNTING SYSTEMS.** SMALL MARKERS REPRESENTING CROPS, PRODUCTS, OR LABOR, WOULD BE BAKED INTO CLAY ENVELOPES, AND A MARKING MADE BY THE MARKERS WOULD BE IMPRESSED INTO THE SIDE OF THE ENVELOPE. EVENTUALLY, THE MARKERS WERE DISCARDED FOR A STYLUS, AND BAKING WAS USED TO FIX THE WORDS, WHICH GAINED COMPLEXITY AS TIME WENT ON.

**CUNEIFORM WAS MERELY A MATH SYSTEM THAT GAINED GRAMMAR AND A VOCABULARY.**

\*How Writing Came About, University of Texas Press 1996

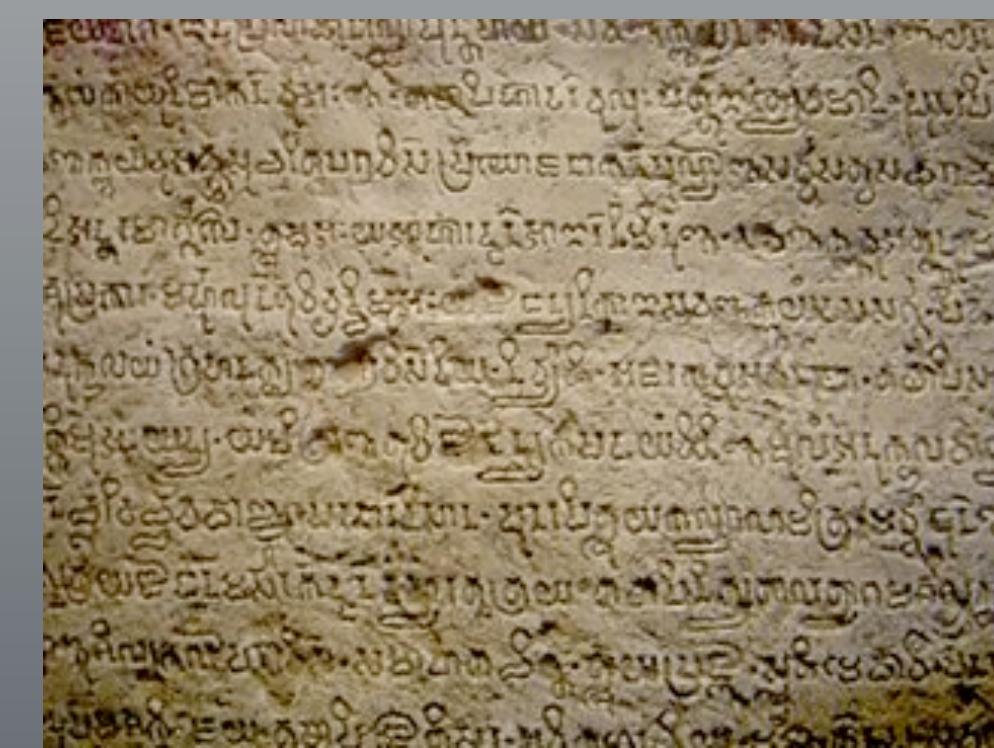
## FAR EAST

ORACLE BONE  
SCRIPT PREDATES  
THE RISE OF  
CLASSICAL  
CHINESE WRITING,  
APPEARING  
AROUND 1400  
BCE.



## INDIA

ANCIENT  
SANSKRIT, USED  
TO PRODUCE THE  
VEDAS, MAY DATE  
TO AS EARLY AS  
1500 BCE.



## AMERICAS

OLMECS DEVELOP  
A WRITING  
SYSTEM AROUND  
650 - 500 BCE,  
THAT WOULD  
LEAD TO THE  
CLASSICAL MAYAN  
WRITINGS.



# **THE IMPORTANCE OF WRITING**

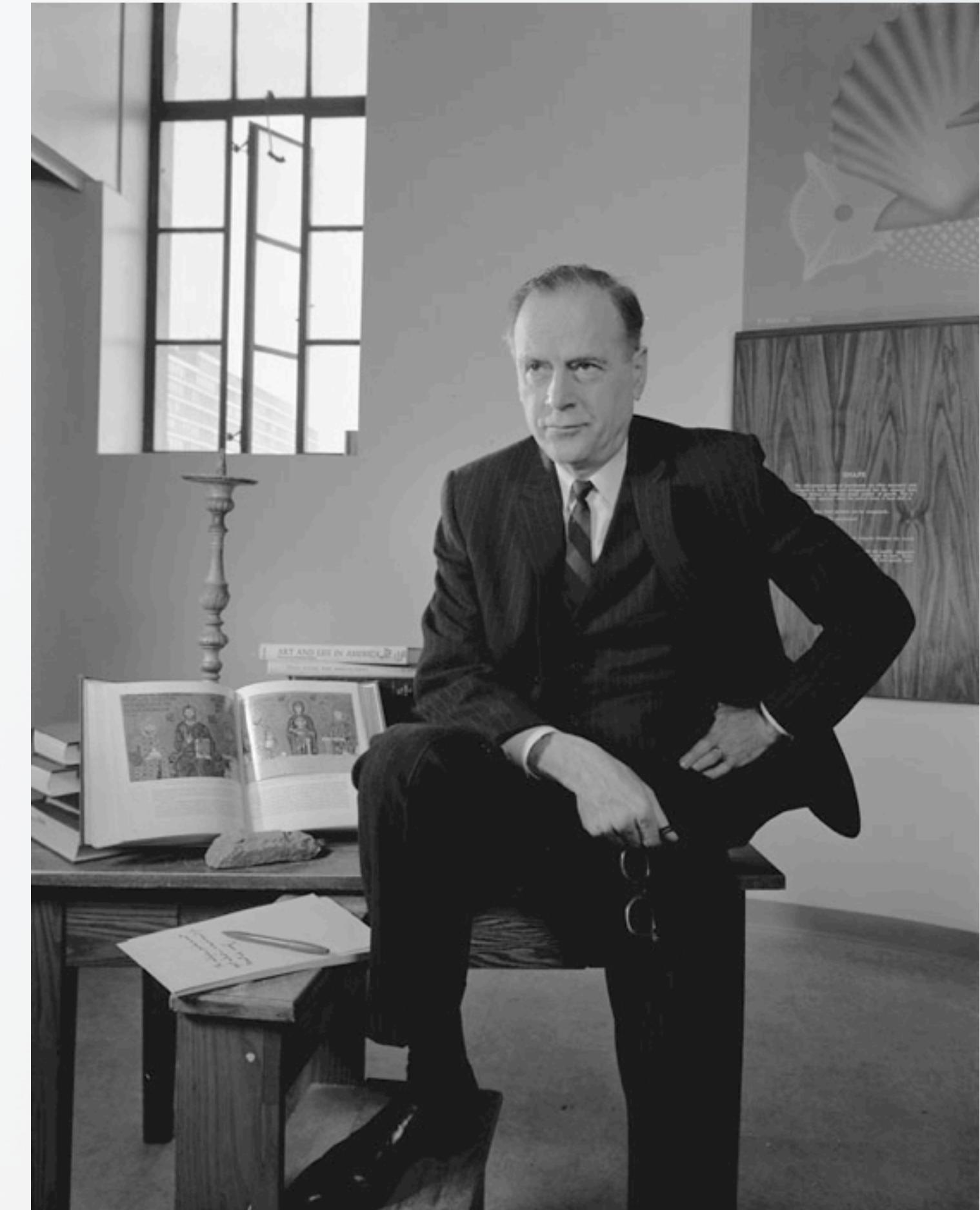
**WRITING REPRESENTS AN ACCURATE METHOD OF RECORDING INFORMATION WITH LESS LOSS OF CONTEXT, AND A HIGHER INFORMATION DENSITY, WHEN COMPARED TO CAVE ART. WRITING, IN THE FORM OF CARVINGS, IS ABLE TO TRANSMIT INFORMATION EASILY ACROSS TIME WHILE PROTECTING THE ORIGINAL MEANING OF THE MESSAGE. WRITING, IN THE FORM OF TEXT ON PAPER OR HIDES, IS EASILY CARRIED THROUGH THE LANDSCAPE, AND INCREASES THE GEOGRAPHIC REACH OF INFORMATION.**

**ONE OTHER KEY ADVANTAGE OF WRITING IS THAT IT CAN BE ACCURATELY COPIED, ALLOWING MANY ACCESS TO THE SAME INFORMATION.**

# THE PORTABILITY OF KNOWLEDGE

DR. HAROLD INNIS, AT THE UNIVERSITY OF TORONTO, DEVELOPED THE THEORY OF **TIME BINDING AND SPACE BINDING MEDIA**. TIME BINDING MEDIA IS DESIGNED TO SURVIVE OVER TIME, LIKE CLAY TABLETS, AND CAN BE USED TO COMMUNICATE INFORMATION FROM GENERATION TO GENERATION. SPACE BINDING MEDIA IS DESIGNED TO MOVE THROUGH SPACE, AND CAN BE USED TO SEND INSTRUCTIONS THROUGH AN EMPIRE, ALLOWING EMPIRES TO GROW LARGER. PAPYRUS SCROLLS ARE SPACE BINDING MEDIA.

INNIS'S THEORY IS KNOWN AS A **THEORY OF TECHNOLOGICAL DETERMINISM**, OR A THEORY WHICH PREDICTS TECHNOLOGY WILL LEAD SOCIAL AND POLITICAL CHANGE.



DR. HAROLD INNIS

**“A SUCCESSFUL EMPIRE...  
REQUIRED ADEQUATE  
APPRECIATION OF THE PROBLEMS  
OF SPACE WHICH WERE IN PART  
MILITARY AND POLITICAL, AND OF  
PROBLEMS OF TIME WHICH WERE  
IN PART DYNASTIC AND  
BIOLOGICAL AND IN PART  
RELIGIOUS.” ~HAROLD INNIS**

**EDUCATION SYSTEMS OF ANY SORT ARE NOT READILY EVIDENT PRIOR TO THE INVENTION OF WRITING. PRE-LITERATE CULTURES DO TRANSMIT INFORMATION THROUGH POEMS, STORIES, AND ART, BUT UNTIL THEY ARE WRITTEN THEY ARE EASILY LOST.**

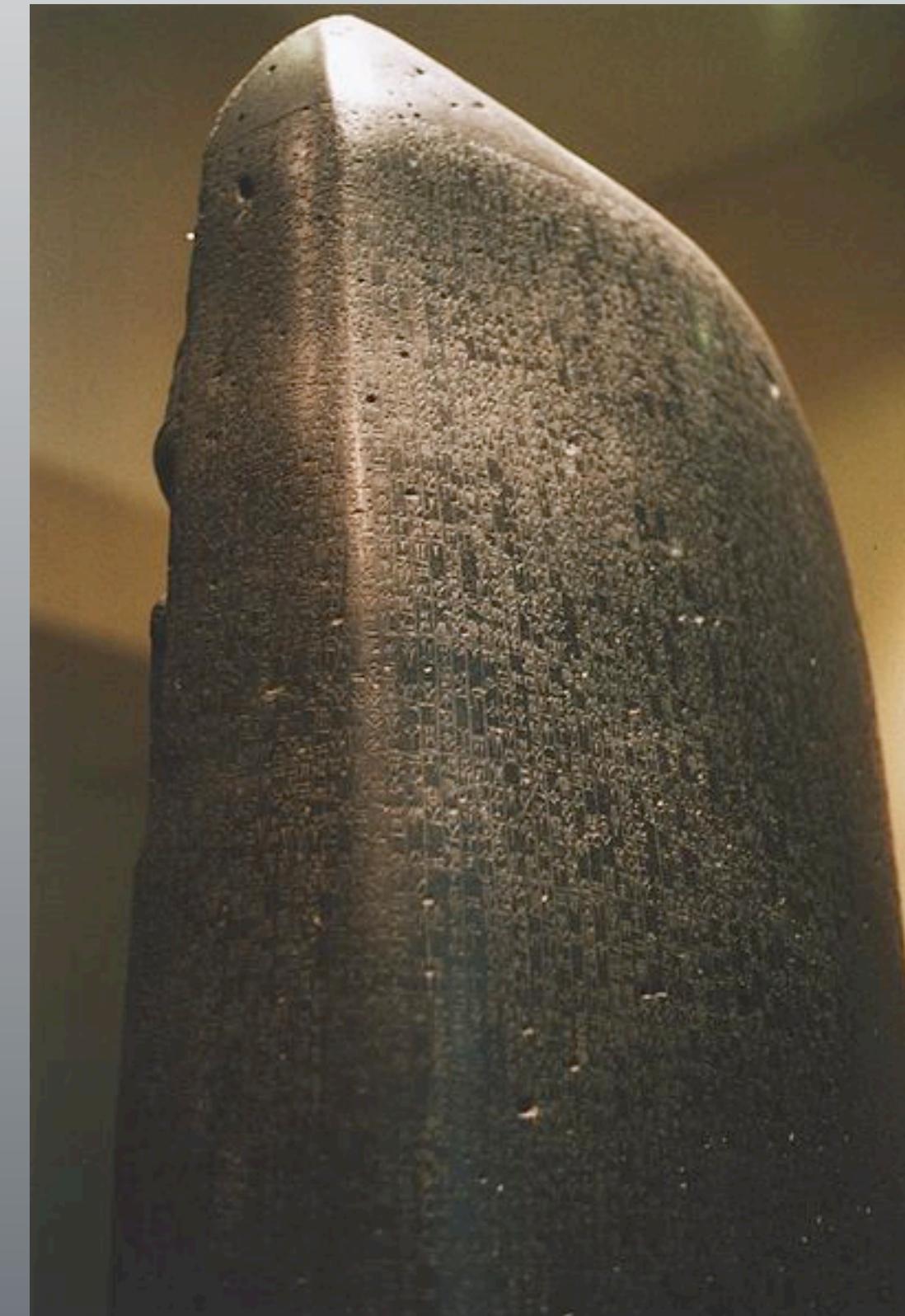
# CODIFIED LAW

- THROUGH-OUT HUMAN EXPERIENCE THERE WILL BE A CONNECTION BETWEEN LAW, RELIGION, GOVERNMENT, AND EDUCATION.
- THE STUDY OF LAW IS OFTEN CONNECTED TO THE RISE OF A LITERATE CLASS AND THE DEVELOPMENT OF EDUCATIONAL SYSTEMS TO EDUCATE INDIVIDUALS IN LEGAL JURISPRUDENCE.
- RELIGION IS ALSO A SIGNIFICANT CATALYST OF EDUCATION.



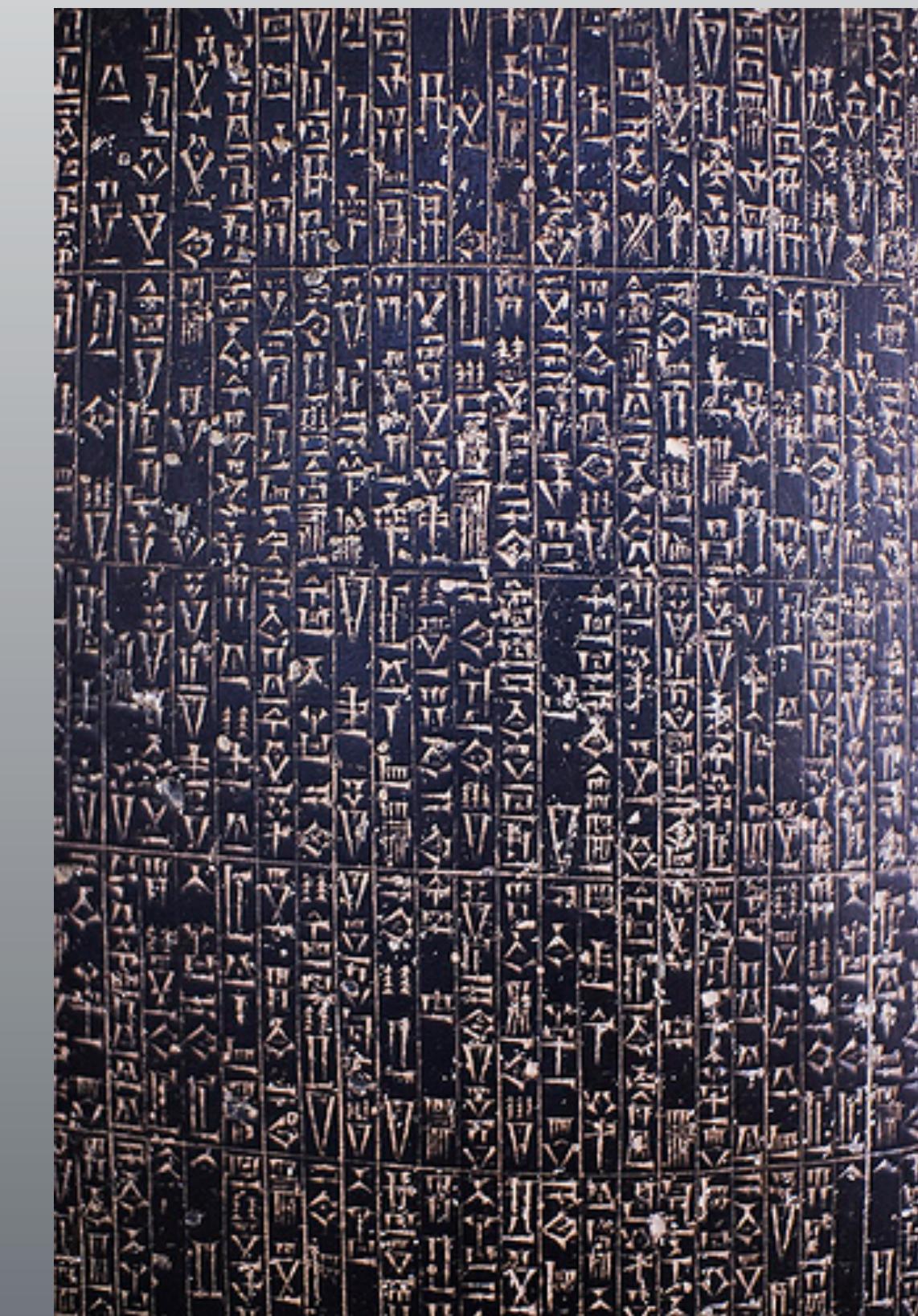
# CODIFIED LAW

- THE CREATION OF LEGAL DOCUMENTS ON PERMANENT CARVED STRUCTURES SUCH AS STELES DEMONSTRATES AN ATTEMPT TO CREATE AN EDUCATION SYSTEM. DEPENDING ON WHO HAD ACCESS AND WHO WAS LITERATE ENOUGH TO READ AND UNDERSTAND THE TEXT, STELES ARE AN EXAMPLE OF PUBLIC EDUCATION PAID FOR BY THE STATE SEEKING AN SET EDUCATIONAL OUTCOME (DISSEMINATION OF LEGAL INFORMATION TO A MASS AUDIENCE).



# CODIFIED LAW

- LEGAL STELE ALSO REPRESENT A FLAW IN ANCIENT EDUCATIONAL THINKING. THE CREATION OF A CARVED OBJECT RECOUNTING LAW ASSUMES AN UNCHANGING WORLD VIEW WITH REGARD TO LEGAL TRUTH. WHEN LEGAL TRUTH CANNOT CHANGE TO ACCOUNT FOR IMPROVED PRACTICES OR CHANGING CONDITIONS (LIKE NEW TECHNOLOGY) THEN LEGAL SCHOLARSHIP BECOMES **SCHOLASTIC** RATHER THAN **DYNAMIC**.





**ANCIENT FLUTE DATED TO BP 35,000.**

**OTHER AREAS OF HUMAN EXPERIENCE COULD HAVE LEAD TO ORGANIZED HUMAN EDUCATION, AND WOULD BECOME IMPORTANT TO HUMAN SCIENTIFIC ADVANCEMENT.**

- \* MUSIC IN THE ANCIENT WORLD IS ATTESTED TO BY INSTRUMENTS NEARLY 35,000 YEARS OLD. MUSIC WOULD LEAD TO ATTEMPTS TO UNDERSTAND SOUND THROUGH THE PROCESS OF MATHEMATICS.
- \* NAVIGATION WOULD LEAD TO ATTEMPTS TO UNDERSTAND STARS AND THE NIGHT'S SKY. THIS WOULD FORM THE FOUNDATION FOR STUDIES IN ASTRONOMY.
- \* AGRICULTURE HAD A SIGNIFICANT AFFECT ON UNDERSTANDINGS OF MECHANICAL ENGINEERING AND LIFE SCIENCES.