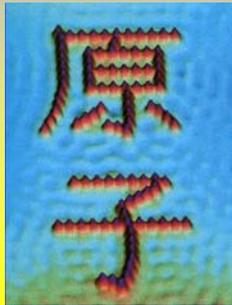
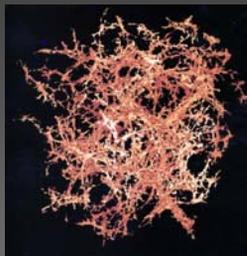


# From ATOMS to the UNIVERSE

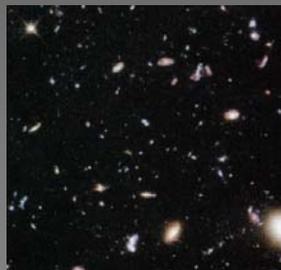
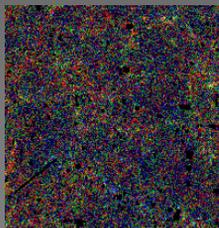
The evolution of philosophical and scientific understanding of the physical world- from Plato & Democritus to Quantum physics



START HERE  
(14 billion yrs ago)



The EARLY UNIVERSE



## The Prehistoric World



Formation of Sun, Earth: 4.7 Gyrs ago

Life began on Earth: 3 Gyrs ago

First marine animal life: 600 Myrs ago

Life on land: 300 Myrs ago

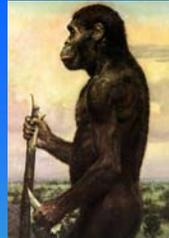
Dinosaurs: 220- 65 Myrs ago

**CENOZOIC ERA:** The age dominated increasingly by mammals begins 65.3 mYrs ago. Many species come and go, including very large land mammals. Huge climatic and geographical changes ensue.



## Early man (I)

The ancestors of modern Humans First appeared some 3 Myrs ago in the African rift valley. They slowly spread across Europe and Asia (but not the Americas or Oceania)



**Australopithecus Africanus (1 Myr)**



**Homo Erectus (500 Kyr)**

**Smilodon (500 Kyr)**



For much of this time life was tough for our ancestors- who were preyed upon by a variety of terrifying birds & mammals. They were omnivores, walked upright and could survive in plain & forest, and slowly evolved tools.



**Neanderthal Man (200 Kyr)**

## Early man (ii)



The last 50 Kyr have been dominated by ice ages and climate fluctuations. In the midst of this turmoil, modern man (*Homo sapiens*) appeared. Some 23 Kyr ago the competition between *Homo Sapiens* & *Homo Neanderthalis* was settled in Europe (although interbreeding took place).

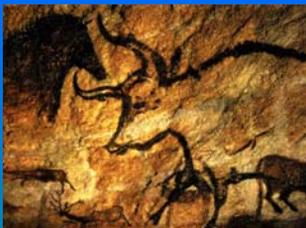


Many of the species most important to Prehistoric man have disappeared in the last 20 Kyr.



Old Stone Age  
(c. 30,000 yrs ago)

## Early man (iii)



In the midst of the ice Prehistoric man was developing tools, and recording in sculpture and paintings what life he was leading.



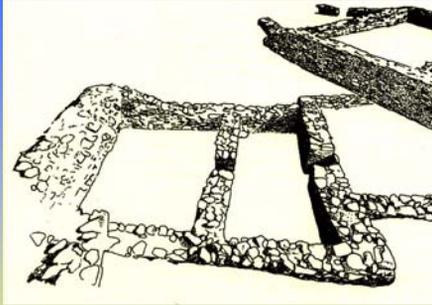
Caves at Lascaux:  
(c. 16 Kyr)

The stone age tools were made from flint or bone, and shaped by chipping.

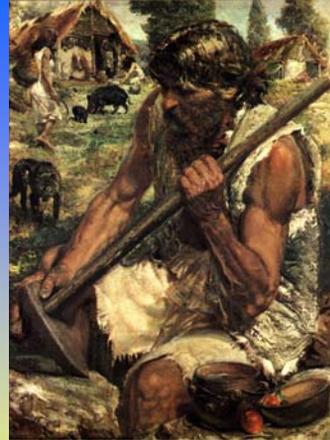
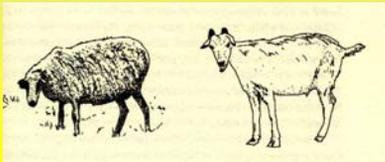


Veronice stone carved sculpture  
(c. 25 Kyr)

## NEOLITHIC -> MYCENEAN (i)



Desklo settlement (c. 10 Kyrns ago)

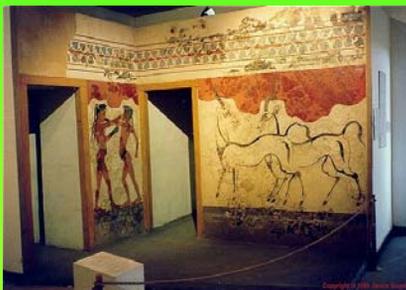


Some 9,000 yrs ago as the last ice age finished, a revolution began- in the form of settlements based around cultivated land (depending on wheat and barley) and on the exploitation of domestic animals.

## NEOLITHIC ->MYCENEAN (ii)



As one moved to the New Stone Age via the Bronze age to early civilisation in the middle East and the mediterranean, a remarkable series of developments unfolded.



Friezes from Akrotiri (c. 1500 BC)

Mycenaen bronze and goldwork (c. 1250 BC)



## Ancient Greece --- LANDSCAPE

After the Mycenaen civilisation fell around 1200 BC, a dark age ensued. Greek and E. Mediterranean city states emerged from this around 800 BC. their world was dominated by a harsh landscape, a favourable climate, and the sea. Trade was all important.



Santorini (Thira)

Near Corinth



Above Delphi



## Ancient Mediterranean - HISTORY

