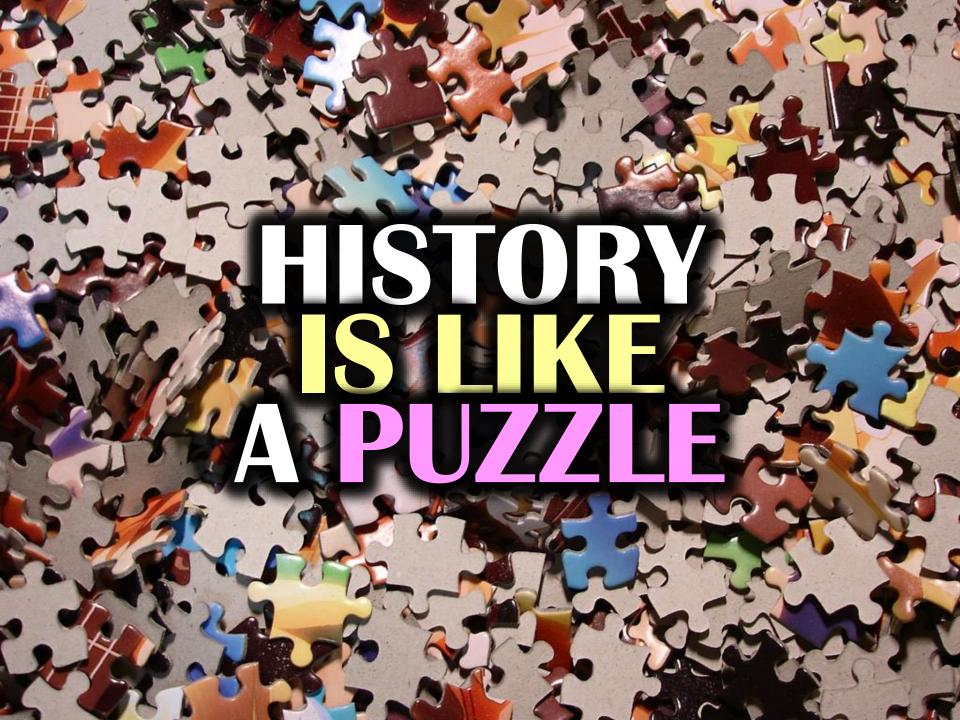
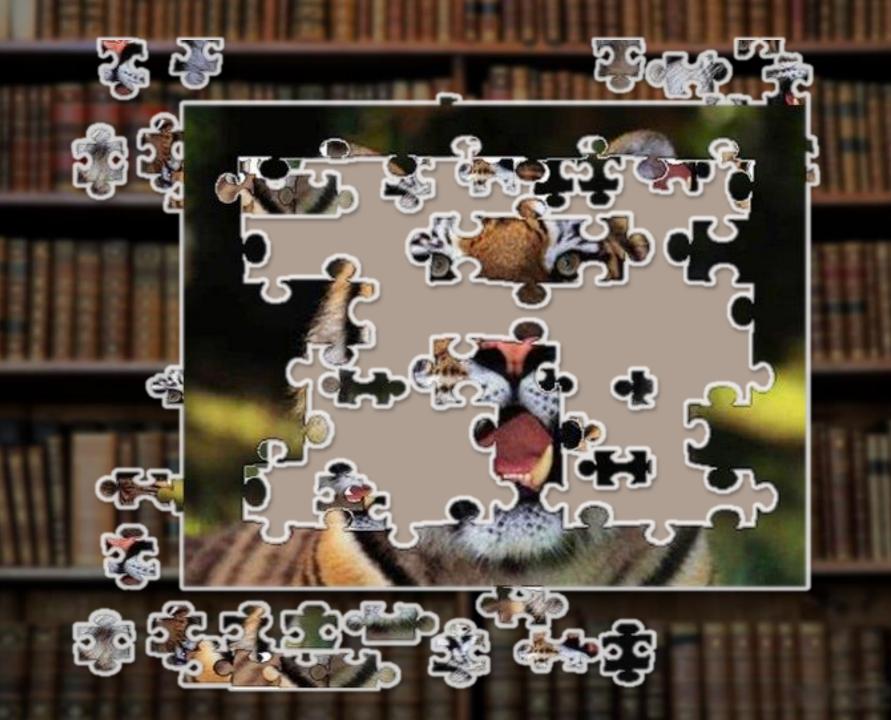


What is History?





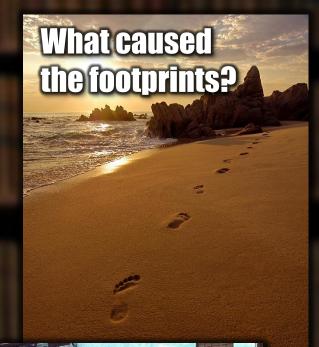


INFERENCE

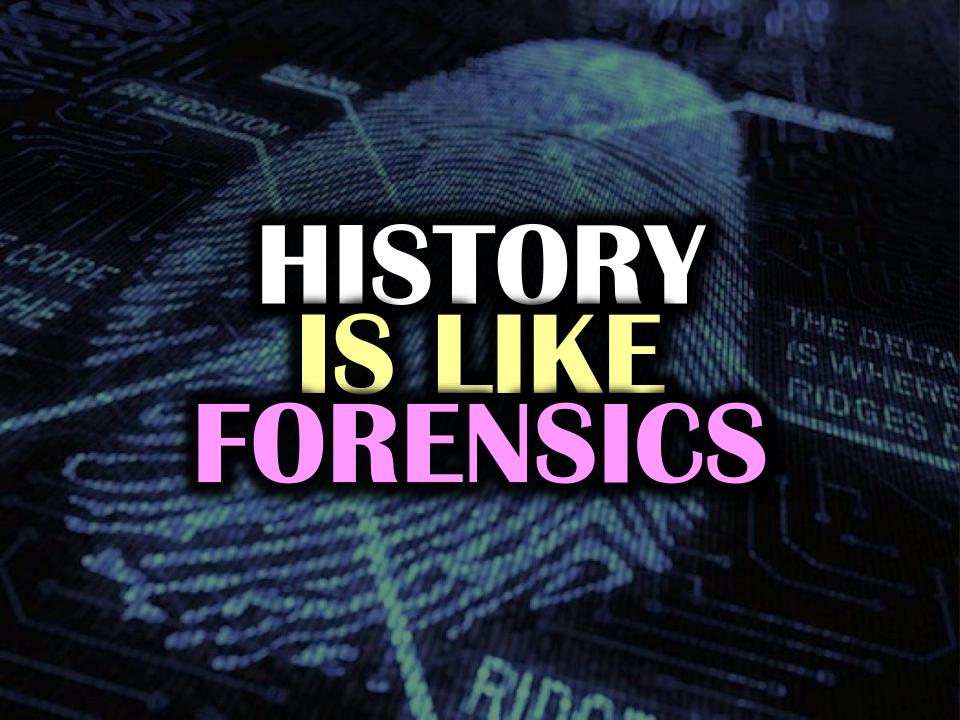
Definition: A logical conclusion or opinion based on the available evidence, our reason & our experiences

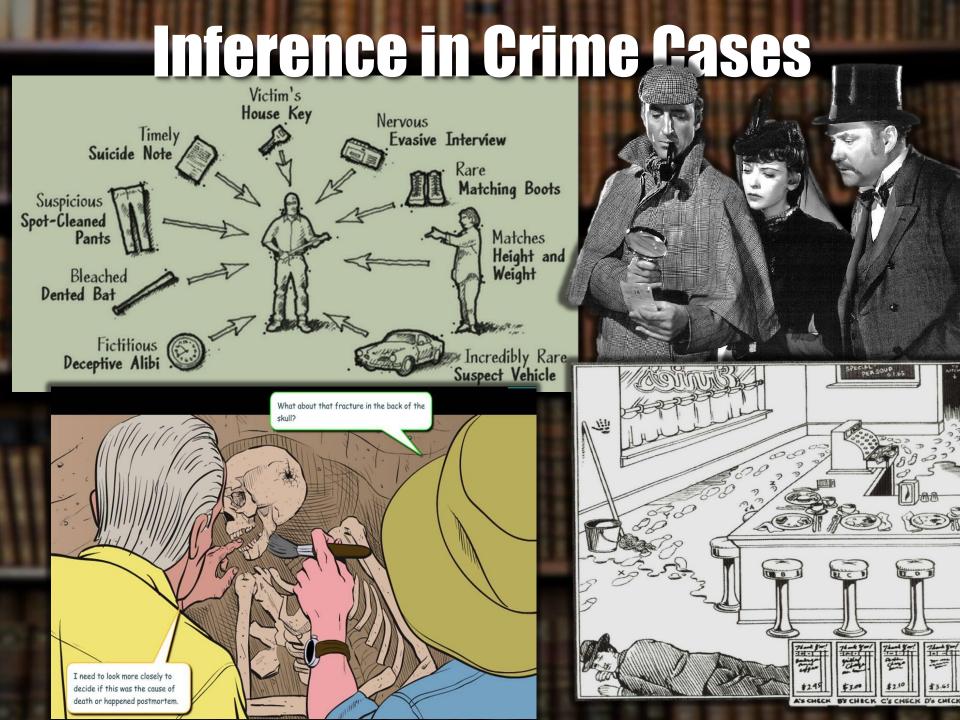
Put another way:
It is filling in the puzzle
pieces you don't have
by using the puzzle

pieces you do have!









BISTORY

What happened?

When did it happen?

Where did it happen?

Who was involved?

FACTS

Why did it happen?

MEANING

Why does it matter?

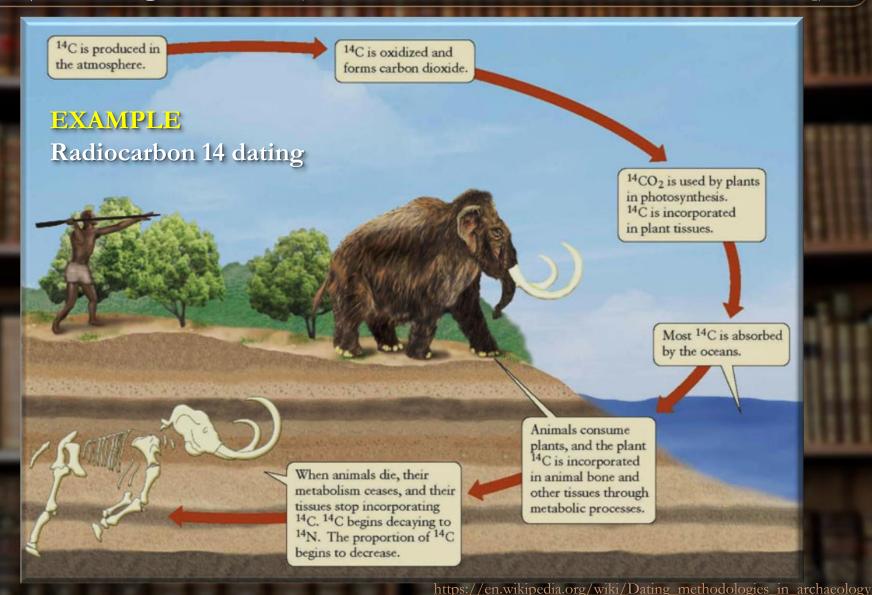
Who's the most important?

How does it shape today?

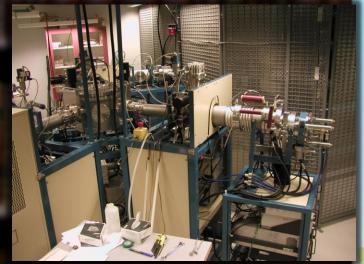
How do we actually date the past?



We can measure the physical, chemical, and life properties of objects to get a date. (Known as Absolute/Chronometric dating)



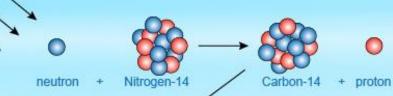
Carbon 14 Dating



Single Stage Accelerator Mass Spectrometer



Cosmic rays from the sun collides with atoms in the upper atmosphere producing energetic neutrons



The energetic neutron collided with a Nitrogen-14 atom to produce a Carbon-14 atom and a proton

The Carbon-14 oxidises to Carbon-14 dioxide and is transported to the lower atmosphere

Plants absorb Carbon dioxide during photosynthesis and take in Carbon-14 in a ratio similar to that of Carbon-14 in the atmosphere

Carbon-14 is taken in by animals and humans through the food chain

The wood from felled trees used for construction or paper manufacture also undergo Carbon-14 decay

When plants and animals die, they stop taking in Carbon-14

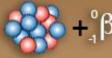
Following death or burial, the unstable Carbon-14 in bones undergo beta decay to form Nitrogen-14



Carbon-14

Beta Decay

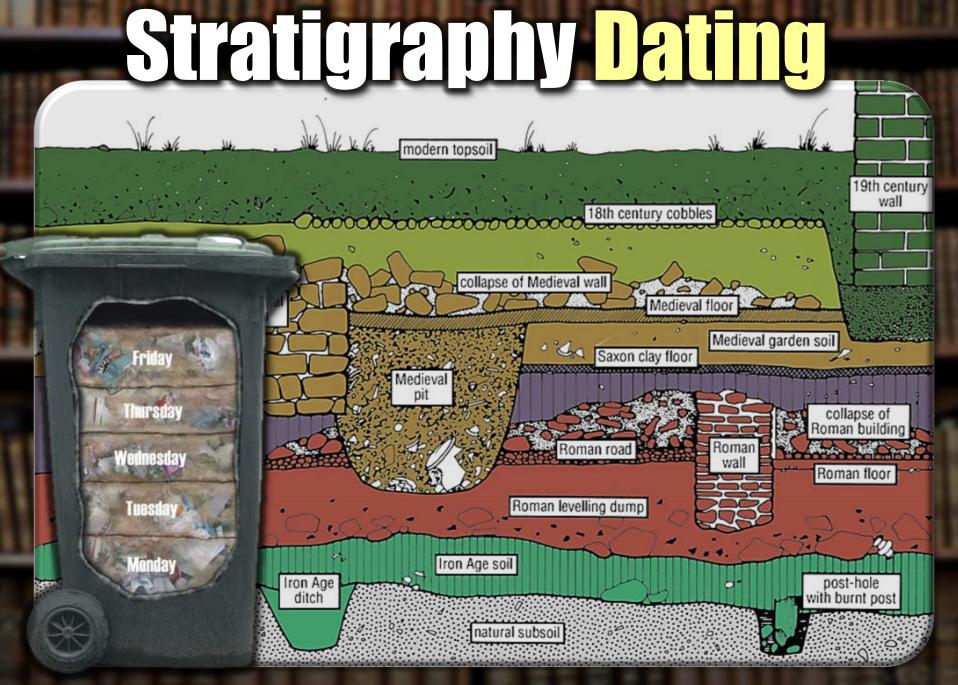
Neutron → Proton + electron (electron leaves the atom with high energy as a beta particle)



Nitrogen-14

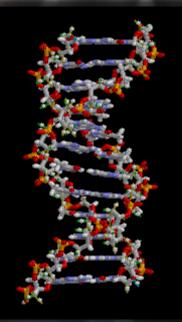
Carbon-14 undergoes beta decay to form Nitrogen-14. Over time the ratio of Carbon-14 to other Carbon atom decreases. Carbon-14 has a half life of 5,730 years. By measuring the amount of Carbon-14 in a sample and comparing it to a fresh sample, scientists can determine its age.

Dass My Frame



DINA Dating





Thermoluminescence

IRRADIATION

LOCAL IONIZING RADIATION INTRODUCES
ELECTRONS TO THE CRYSTAL LATTICE, SOME OF
WHICH ARE TRAPPED AT IMPERFECTIONS AND
'STORED'. SOURCES: AMBIENT ⁴⁰K, ²³⁸U,
²³²TH...

STORAGE

SOME ELECTRONS ARE 'TRAPPED', AS THEY LACK SUFFICIENT ENERGY TO ESCAPE THE LATTICE.

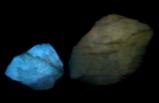
EVICTION

ELECTRONS ARE PROVIDED THE MEANS TO ESCAPE FROM AN OUTSIDE STIMULUS (EG. UV WAVELENGTHS OR HEAT).

THE AMOUNT OF THERMOLUMINESCENCE FROM A HEATED SAMPLE IS USED TO DETERMINE THE NUMBER OF TRAPPED ELECTRONS RESULTING FROM THE ABSORPTION OF ALPHA RADIATION.

(Simplified from Aitken; 1985, 1998) Keizars, 2008





Thermoluminescence

Dating

Quartz Structure looking down c-axis)

ARTIFACT DATING Style of art, architecture, writing, language, pottery... ect

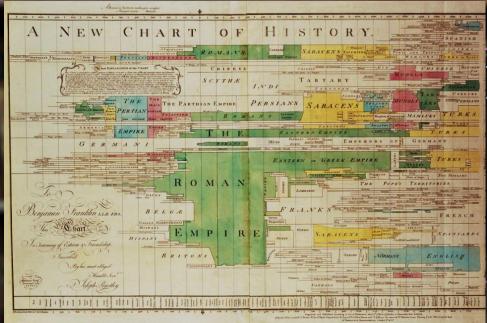


CHRONOLOGY

The sequential arrangement of events

Causation/Continuity & Change





PERIODIZATION

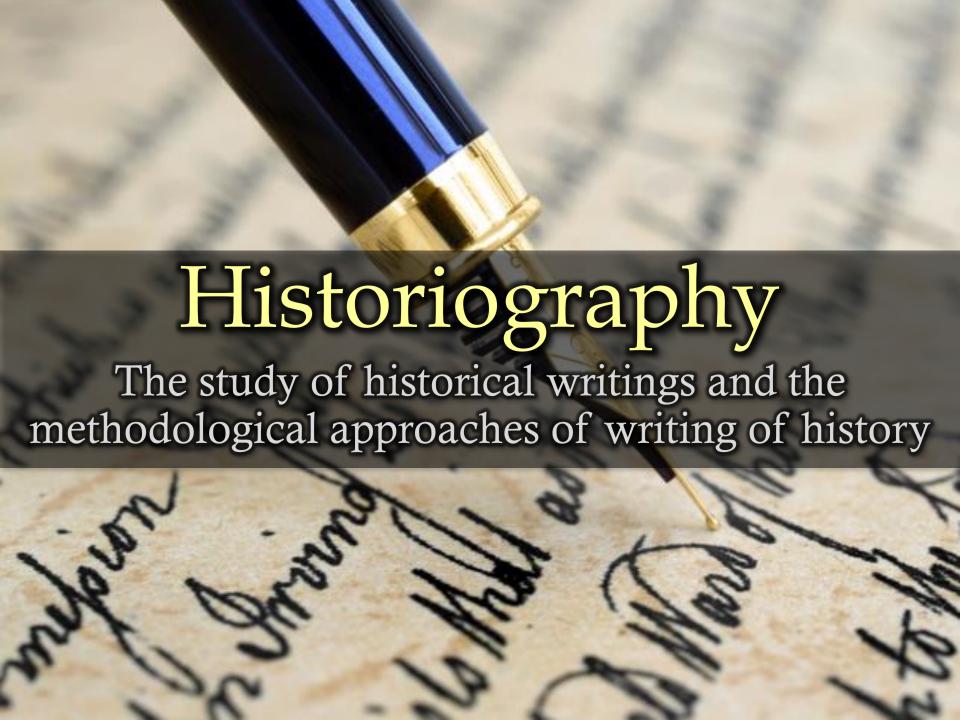
The categorizing of the past

Contextualizing & Interpreting

What fields of study assist the enterprise of historical investigation?







Historical Thinking & Reading Skills Augetioning evidences Close



Questioning evidences trustworthiness

WHO WROTE IT? WHEN.

WHERE, WHY, HOW?



Comparing

Evidences

WORD USAGE. EVIDENCE. CLAIMS. PERSPECTIVES.

Understanding background influences CIRCUMSTANCES.
THEN VERSUS NOW.
BIASES, VALUES, CUSTOMS.





HISTORICAL THINKING SKILLS



DIVERSE FIELDS of STUDY



Why was & wasn't certain evidence used? Is the evidence making a cumulative case?

What explanation is the most probable & justifiable rationally?



What do other scholars have to say? What perspectives are brought to the table?

A FAMOUS HISTORIAN











