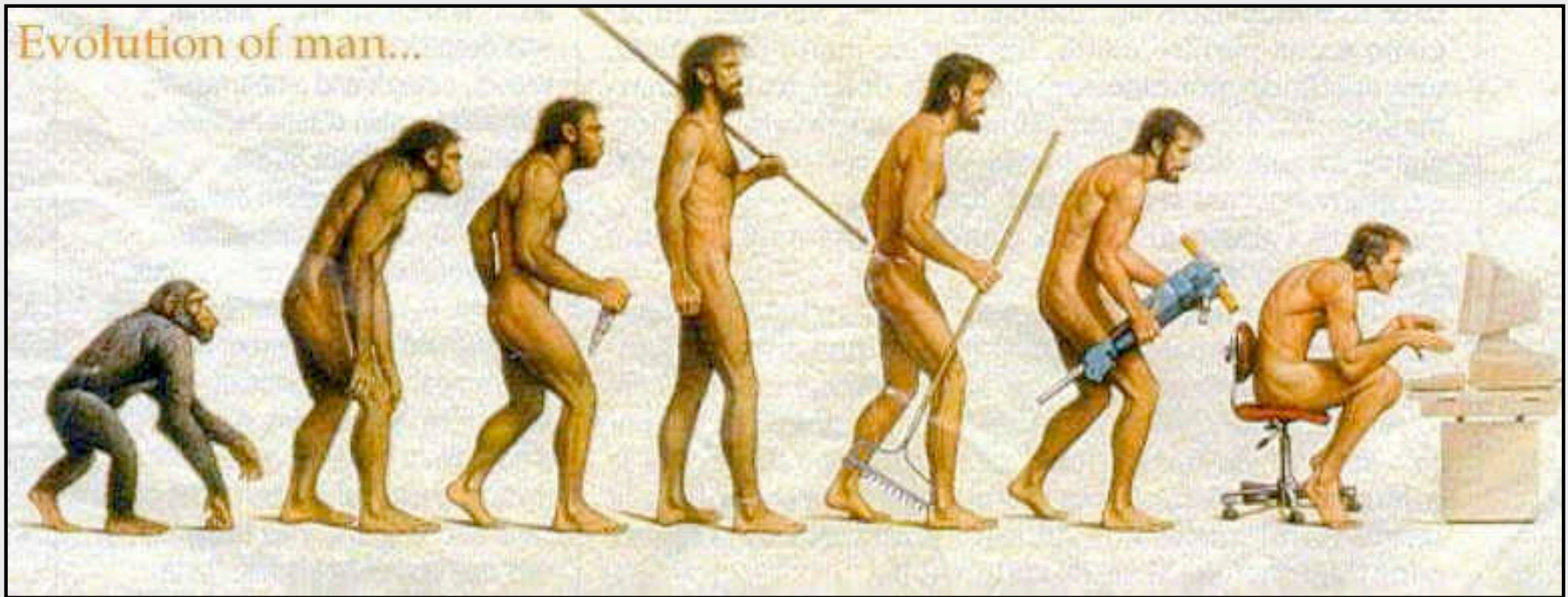


How to get a date:

establishing chronologies (relative and absolute)



change **CHANGE** *change* *change* *change* *change*

Later than last week (relative)

March 3, 2010 (absolute)

Temporal, or chronological, order

- **Relative dating**
 - lining things up (before, after)
 - ‘it is all relative’

- **Absolute dating**
 - chronometric dating
 - actual chronological date assigned
 - allows measurement of ‘how much’ time has passed between two points

Expression of Absolute Dates (culturally specific!)

- **B.C./A.D.**
(Before Christ, *Anno Domini*)
- **Islamic calendar**
from A.D. 622 (the Hegira, Mecca to Medina)
- **B.C.E./C.E.**
(Before Common Era, Common Era)
- **B.P.**
(Before Present)

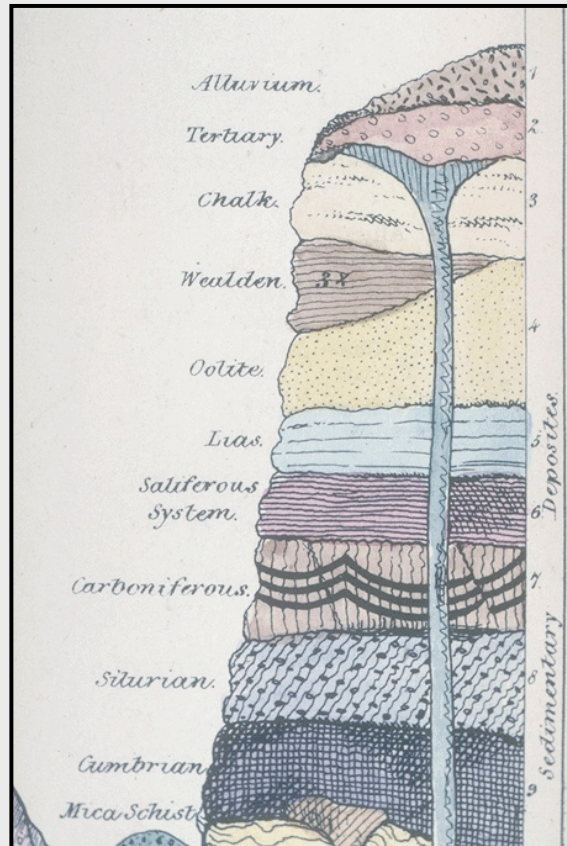
Relative Dating

Principle of stratigraphic succession

Law of 'superposition'

(the
lower
you
go,
the
older
you
get)

Important concepts
in geology too



Relative Dating

Principle of stratigraphic succession

Law of 'superposition'

(the
lower
you
go,
the
older
you
get)



Typology

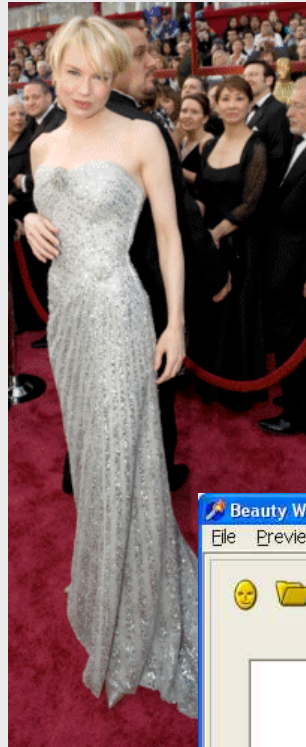
- Artifact ***classification*** into types on the basis of certain similarities...
 - Pots vs. baskets
 - Fine ceramics vs. cooking wares
(multiple typologies possible!)
- Assumes products of a given place and time have a recognizable style
- **Styles** tend to change through time, but gradually...

Unchanging...



Constantly changing...

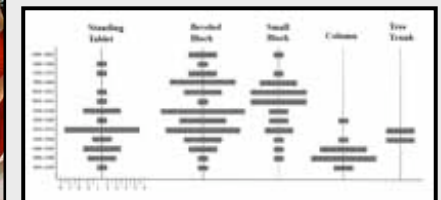
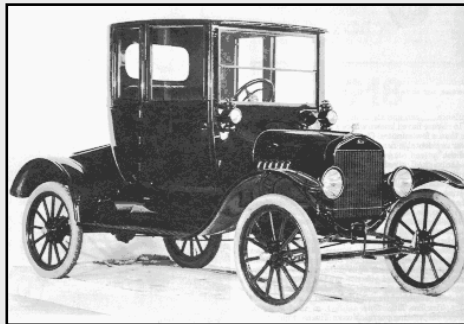
Unchanging...



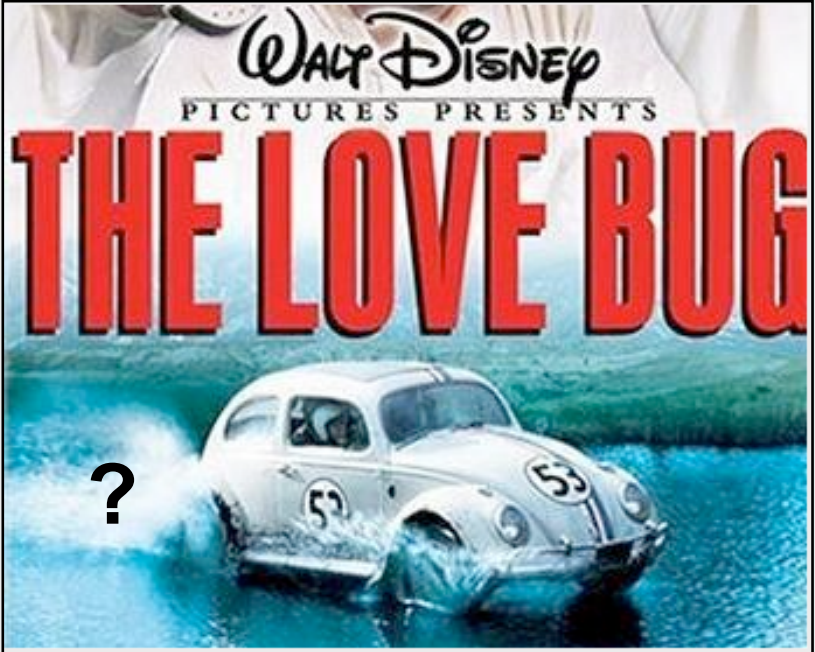
Constantly changing...

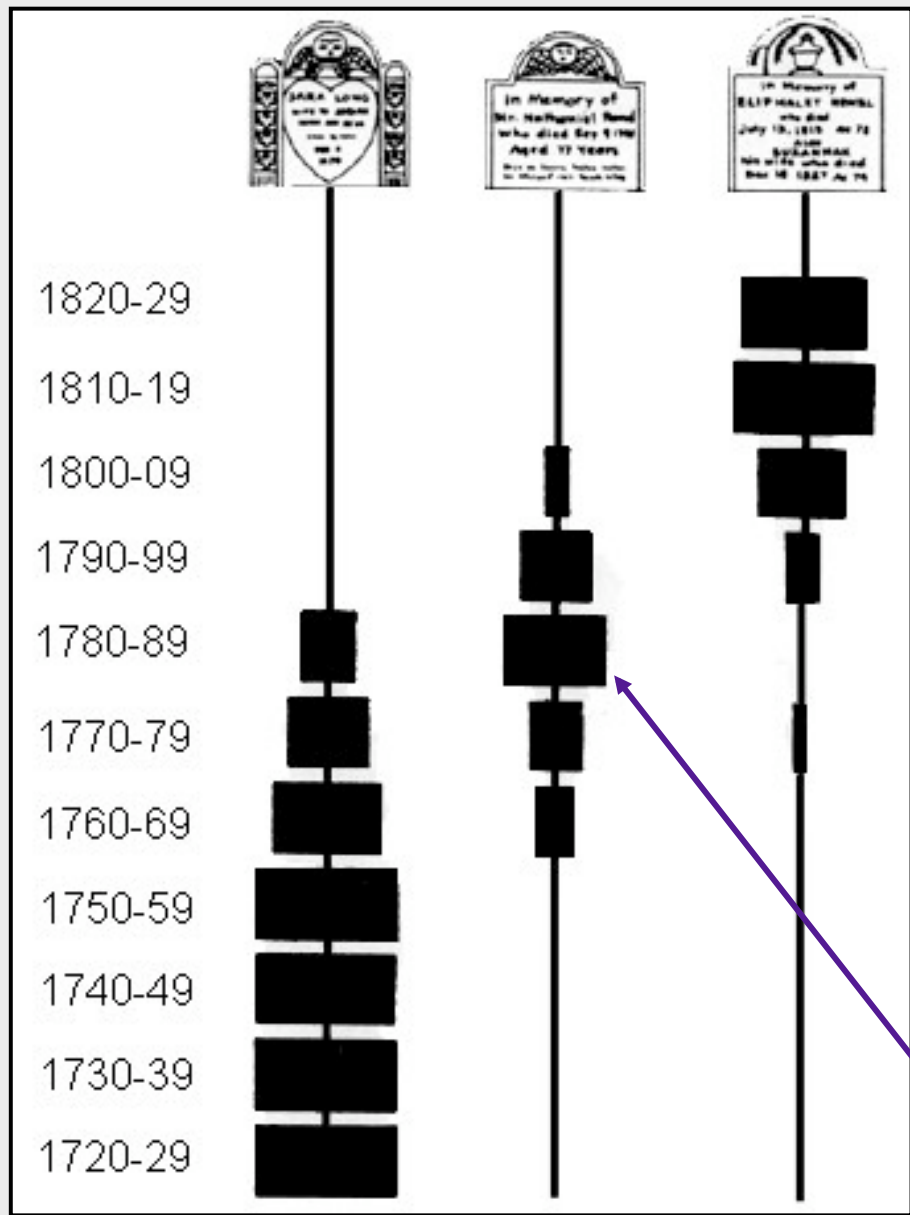
Seriation

- Relative dating method involving arranging archaeological materials into a presumed chronological sequence based on cultural and stylistic change
- As long as items are gathered from the same cultural tradition, archaeologists assume that stylistic change occurs relatively gradually over time
- By tracing similarities and differences in styles and by measuring the *relative popularity* of these differing styles, one can reconstruct a relative sequence (battleship curve)



Seriation



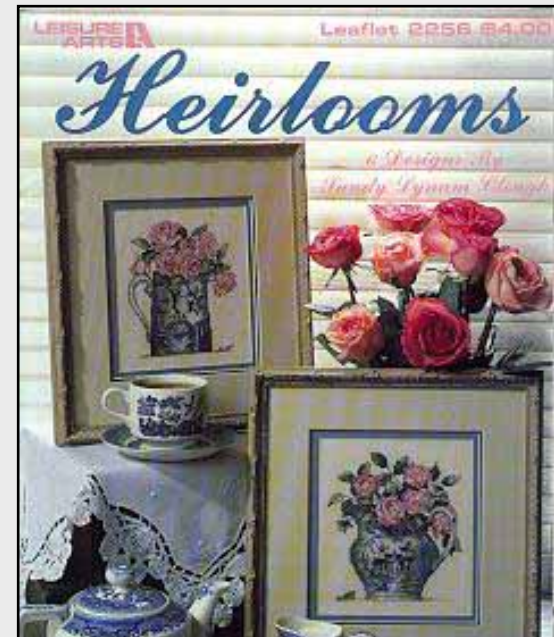
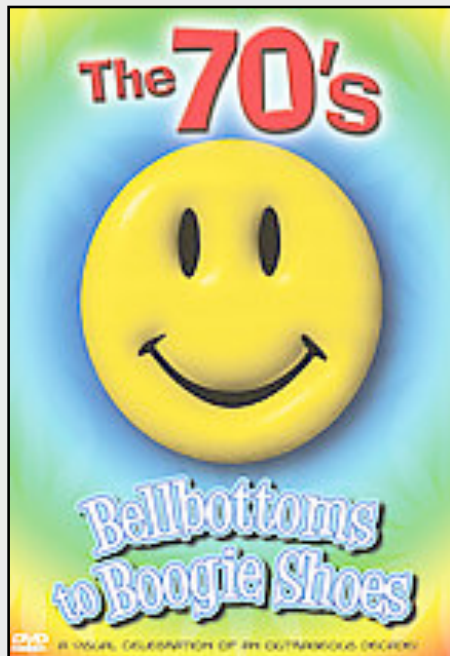


James Deetz
seriation studies in
New England graveyards
Death's head
Cherub
Willow and urn

'battleship curves'

Problems?

- Heirlooms
- Archaism ('retro' looks)



(actually a serious issue)

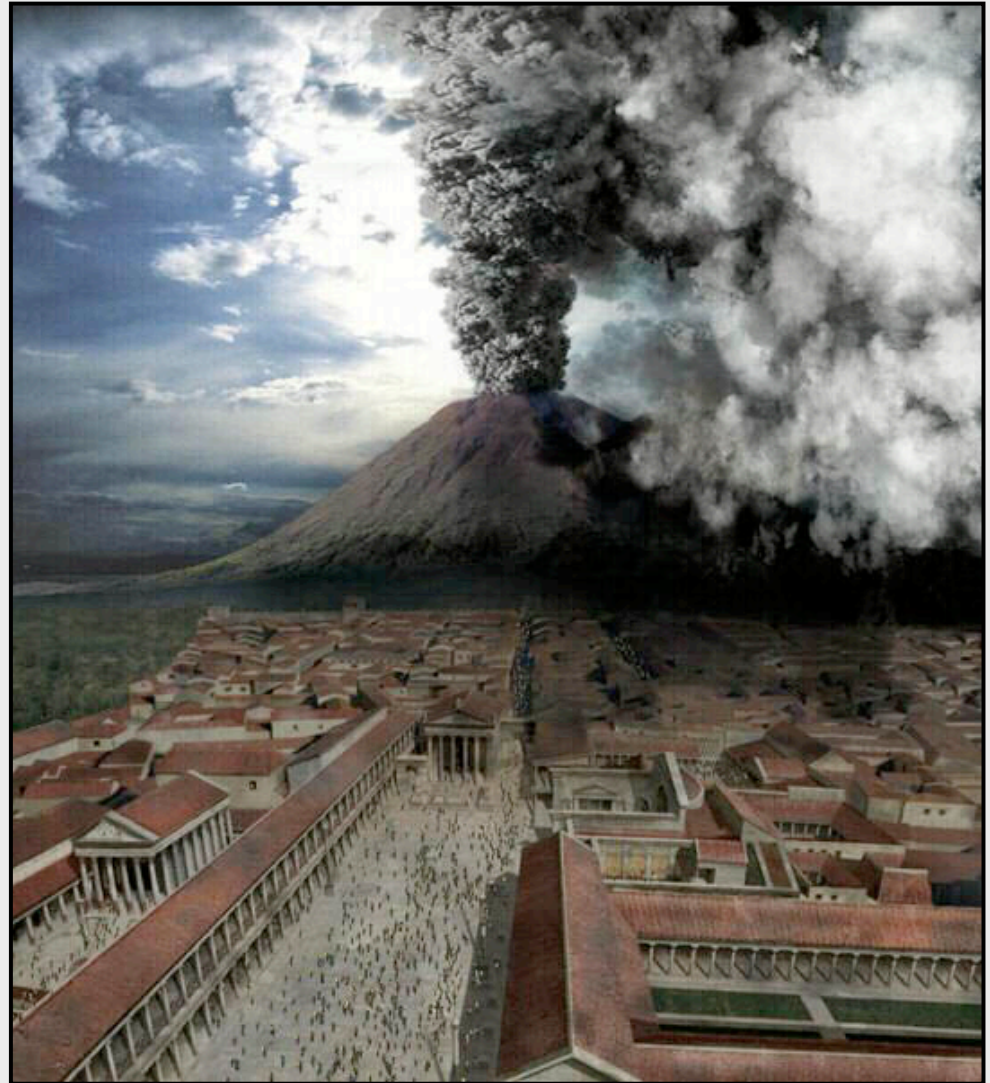
Absolute dates

Pompeii

24 August A.D. 79

24 August 79 CE

(or 1st century CE)



Absolute dates

Pompeii: historic testimony
(Pliny the Younger)



Rhode
Island
Hall
time
capsule



- **Terminus ante quem (T.A.Q.)**

Date before which...

- **Terminus post quem (T.P.Q.)**

Date after which...



19 B.C.



if coin above, or below, floor...

Absolute dating techniques (to know)

- **Annual cycles:**
varves, tree rings
- **Radioactive clocks:**
radiocarbon dating
- **Trapped electron dating methods:**
thermoluminescence;
electron spin resonance

Most relevant to study of ancient world (back up to ca. 50,000 years)

Annual cycles:

varves

tree rings (dendrochronology)

sensitive vs. complacent trees

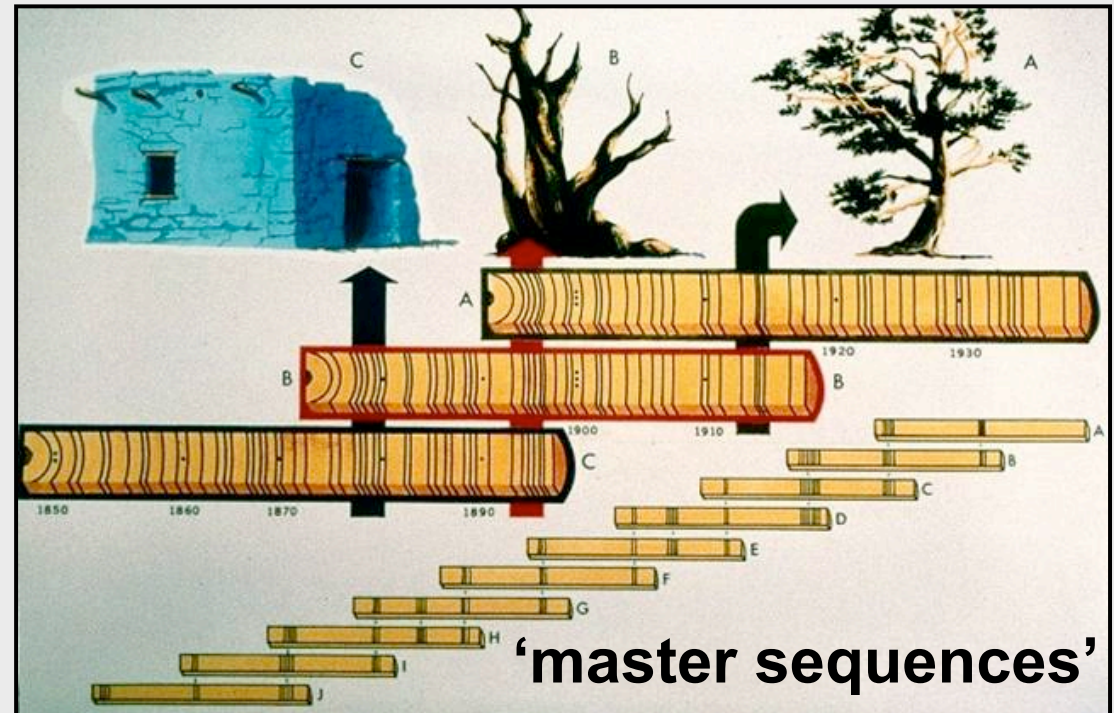


bristlecone pine

back ca. 8000 years

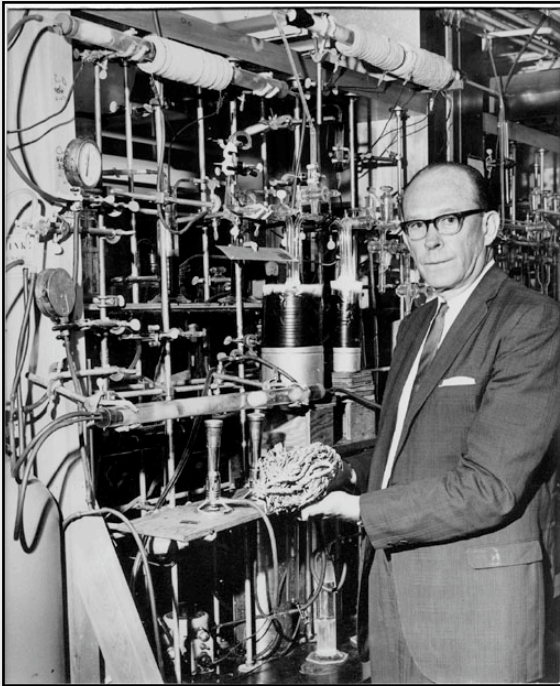


Irish bog oak



'master sequences'

Radioactive clocks: radiocarbon, or carbon-14, or ^{14}C dating



Willard Libby



**Colin
Renfrew**

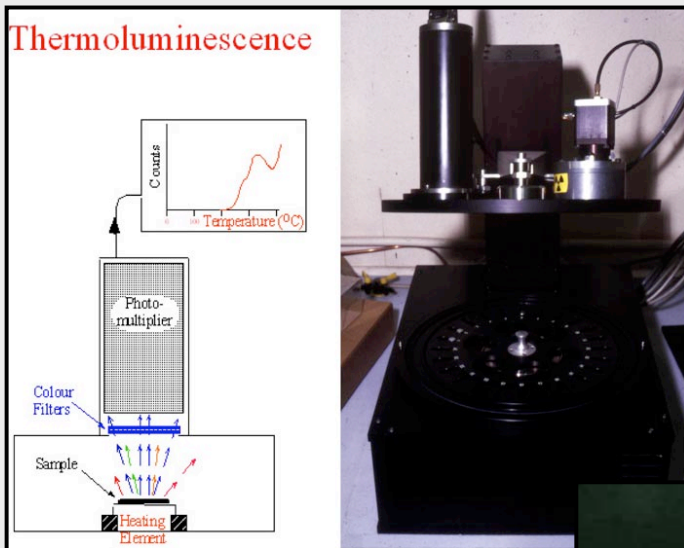
First and Second Radiocarbon Revolutions



...the single most
useful method of dating
for the archaeologist...

good for back some
50,000 years

Trapped electron dating methods: thermoluminescence; electron spin resonance



	<p>#34</p> <p>Date: Tang Dynasty (c. 618-906 AD) Medium: Glazed pottery Subject: Standing horse Size: 19 3/4" TL tested</p> <p>A beautiful sancai glazed standing horse with painted saddle</p> <p>Among the desirable features on glazed Tang horses are a turned neck and an open mouth. This classic horse displays well-controlled glazing, and is in remarkable condition.</p>
	<p>#40 & #784</p> <p>Date: Tang Dynasty (c. 618-906 CE) Medium: Painted pottery Subject: Horse and Groom Size: horse (#40) approximately 17" H and 19" L, groom (#784) 15 3/4" H TL tested</p> <p>A rare model of a "grazing horse" with a painted foreign groom</p> <p>This delightful sculpture is among the most unusual of all the Tang</p>



TL = 'art sleuth'

Tang horse as seen on
Ebay, etc...should date to (c. 618-906 AD)