

A. Anatomists/Taxonomists meet the apes:

1. Nicolas Tulp examines a (probable) chimpanzee, 1641
2. Edward Tyson dissects a chimpanzee, 1699.
3. Middle 1700's: Carolus Linneaus creates mammalian order, "Primates"; includes humans.
4. 1848: Richard Owen describes the anatomy of the gorilla.
--Later, controversy with T. H. Huxley ensued over fine points of brain anatomy: human compared to gorilla.

B. The antiquity of humanity—early discoveries:

1. 1797: John Frere locates worked stone implements in gravels, 12 feet below surface, at Hoxne in Sussex, England.
2. 1820's: several British antiquarians and geologists excavate British caves: stone tools associated with extinct Pleistocene megafauna.

1823: William Buckland publishes *Reliquiae Diluvianae*.
3. 1840's-50's: Boucher des Perthes excavates worked flints in Amiens region, Somme River Valley.
4. Evidence to date summarized by Charles Lyell in 1863, in *Geological Evidences of the Antiquity of Man*.

--rejected animal ancestry for humans, to disappointment of Darwin...

C. Initial speculation based on comparative biology:

1. Huxley, 1863: *Man's Place in Nature*.
--comparative anatomy approach
--Discussed the Neanderthal fossils.
2. Ernst Haeckel, 1868: *The History of Creation*.
Phrase, "ape-men" (pithecanthropines) coined.
3. Darwin, 1871: *The Descent of Man*.
--emphasis on the evolution of a moral sense.

D. Fossil hominids and human origins: history of discoveries:

1. 1830's & 40's: Neanderthal crania discovered in Belgium and Gibraltar; but not understood.
2. 1856: Feldhofer Neanderthal discoveries made:
skull + postcranials recovered from Feldhofer Cave, in Neander Valley, near Dusseldorf, Germany. Cranial capacity > 1200 cc. Age of remains was uncertain at that time.
3. 1879: cave art at Altamira, Spain, discovered.
4. 1885: Neanderthal skulls of clear antiquity discovered at Spy in Belgium.
5. Eugene Dubois, 1890's: Trinil, central Java.
--acting under inspiration of Ernst Haeckel.
--discovery of "*Pithecanthropus*" *erectus*.
--Trinil 1 (skullcap) estimated capacity at 940 cc.
--these remains recently dated: approx. 1 million yrs.
6. 1908: Neanderthal skeleton at La Chapelle-aux-saints discovered. Bowed femur & damaged dentition lead Marcellin Boule to interpret Neanderthals as brutish, apelike.
7. 1908-1915: Piltdown fraud perpetrated.
8. Davidson Black (Canadian) and Wen-Chung Pei excavate near Beijing, 1920's-1930's. Zhoukoudian locality, etc.
--specimens originally classified as *Sinanthropus pekinensis*.
--early materials lost during WWII !!
9. Taung skull discovered. Described by Raymond Dart (1925).
--1st molars just erupting; juvenile < 10 yrs.
--braincase around 400-440 cc.
--foramen magnum located ventrally indicating bipedalism.
--Dart classified as *Australopithecus africanus*.
--anatomy contradicted accepted dogma; hence ignored.
10. 1930's: Work by G.H.R. Von Koenigswald & others in Java.
--Solo River locality: 11 hominid skulls + some postcranials.
--1939: Von Koenigswald and Franz Weidenreich synonymize *Sinanthropus* with *Pithecanthropus*.

11. Late 1930's: Leaky family begins to work in Olduvai Gorge, East Africa.
12. Late 1930's: Robert Broom, together with J. T. Robinson, begins to collect australopithecine remains from Transvaal caves. New taxa include *Paranthropus robustus*.
 - postcranial remains indicate bipedality.
 - to date, all remains of *A. africanus* have been obtained from NE South Africa.
13. 1946-47: Raymond Dart supported by W. E. Le Gros Clark.
14. Late 1940's: 1st remains of *Homo ergaster* recovered in S. Africa, but given other names...
15. 1950: Ernst Mayr argues that all Asian "pithecanthropines" should be lumped under *Homo*: thus the taxon *H. erectus* is created.
16. 1959: Mary Leakey discovers "Zinj" (*Zinjanthropus boisei*).
 - possibly associated with stone tools, at Olduvai Gorge.
 - Now considered *Paranthropus boisei*;
 - dated to 1.75 million yrs.
17. 1960: Jonathan Leakey discovers new hominid. With further collecting, named "*Homo habilis*". ("handy man").
 - cranial capacity larger than australopithecines: 600-800 cc
 - associated with Oldowan tool industry. Decides Zinj was not the tool-maker.
 - John Napier later studies hand morphology; decides capable of power grip.
 - At present *H. habilis* is dated between 2.3 and 1.7 million yrs.
18. 1960's: *Homo erectus* remains collected in Lantian province, China; and Vertesszollós, Hungary.
19. Late 1950's & 1960's: Neanderthals "rehabilitated", especially by C. Loring Brace of the Univ. of Michigan.
 - Regarded as a race of modern humans.
20. Around 1970: C. K. Brain decides that accumulations of australopithecine remains in S. African caves were the result of animal predation—not human habitations!

21. Late 1960's, 1970's: excavations in Afar Depression of S. Ethiopia. 1974: Don Johanson announces discovery of "Lucy", creates taxon *Australopithecus afarensis*. Later, collected from other localities in the E. African Rift.: Omo, Koobi Foor, W. Turkana. Remains known now are collectively dated between 4.0 and 2.9 million yrs.
22. Early 1970's: *Homo ergaster* (African form similar to *H. erectus*) remains discovered east of Lake Turkana in Kenya—in deposits 2 million years old, also containing robust australopithecines.
 - one skeleton is extremely pathological; claim made that altruistic care was being practiced here...
23. 1976: Laetoli, Tanzania bipedal trackway discovered. 3.5 million yrs. old. Mary Leaky assigns skeletal remains in beds to *Homo*.
24. 1984: juvenile *H. ergaster* (KNM-WT-15000) located west of Lake Turkana by Kamoya Kimeu of Kenya National Museum. Skeleton ("Nariokotome boy") tall and nearly complete.
25. 1980's and 1990's: Lots of disagreement over taxonomy of African australopithecines. Many of the original genera are now lumped into *Australopithecus*, as seven species which overlapped in time. Stature between 1.2 and 1.5 meters; cranial capacity between 350 and 600 cc. ; extremely sexually dimorphic; probable ape-like social life.
 - A. africanus* now dated between 3 and 2.4 million yrs.
26. 1980's Lewis Binford and others begin to question status of Neanderthals again. Arguments with Milford Wolpoff, others.
27. 1994: new taxon discovered in Afar Depression of Ethiopia south of Hadar. Christened *Ardipithecus ramidus*. Earliest member of the Hominidae. Dated at >5.0 to 4.4 million yrs. Very apelike; probably bipedal; elbow joint could lock to aid in tree-climbing.
28. 2001: Michel Brunet and team working in central Chad discover small ape-like hominid, 6 m. a.: *Sahelanthropus*. Relationships and postcranial anatomy still unknown.