



FIGURE 10.13.

A number of animals exhibit tool-using behavior. A chimpanzee is shown here brandishing a stick as a weapon. Chimpanzees also use sticks to dig for termites, and baboons use sticks to immobilize scorpions. (From *In the Shadow of Man* by Jane Van Llawick-Goodall. Copyright © by Hugo and Jane Van Llawick-Goodall. Reprinted by permission of Houghton Mifflin.)

modern chimpanzee than that of a modern human.

The molecular clock places the hypothetical divergence of humans from chimpanzees at 4.5 to 5 million years ago. If this is true, then Lucy, between 3 and 3.5 million years old, could be the ancestor of chimps and gorillas or of humans, but *not* of both lines. And if Lucy is the ancestor of humans, then what fossil species is common to both apes and man? There is no other candidate now that *Ramapithecus* has been eliminated.

Are there modern equivalents of Lucy? Not exactly, but there is evidence that *A. afarensis* (Lucy) may be the ancestor or close relative of the rare pygmy chimpanzee that lives today in the forests of Zaire in Africa. Comparisons by Andrienne Zihlman of the University of California at Santa Cruz between Lucy and the pygmy chimp, show that they are almost identical in cranial capacity, height, and overall body size.¹⁵

Further, Jeremy Dahl of the Yerkes Regional Primate Research Center of Emory University in Atlanta has frequently observed pygmy chimps walking on two feet and standing upright.¹⁶ Since Lucy's major tie to the human line is based on bipedality and upright posture, it could be that she rightly belongs in the ancestry of the pygmy chimpanzee she so closely resembles morphologically.

Was Lucy a true hominid? There is currently a dispute in anthropological circles as to whether Lucy was in fact a true hominid (walked upright as her primary means of locomotion). Scientists from the State University of New York at Stony Brook believe that Lucy's anatomical features indicate she was an adept climber and walked upright more like a toddler than a human older child or adult.¹⁷ Some features, specifically her short hindlimbs and curved toes, are indicative of a posture and gait reminiscent of bipedal chimpanzees.¹⁸

In summary, it appears that there are too many unsettled questions to claim with any degree of scientific certainty that Lucy is the ancestor of the human race. In fact, based on the evidence uncovered to date, it appears that *A. afarensis* (as represented by Lucy) is the missing link in the chain leading to modern chimpanzees.

Where does this potential new "missing links for apes" hypothesis leave us in the search for human ancestors? There are two major possibilities:

- Both humans and apes are descended from a common ancestor.
- Humans are uniquely created and therefore do not appear in the ancient fossil record.