**Chapter 3**

*Chapter Summary*

Humans evolved from hominin ancestors in Africa over missions of years, appearing in the fossil record as an “upright ape” some 6 million years ago. Bipedal locomotion was the earliest defining attribute of hominins. Brain size or intelligence, as measured by cranial capacity, evolved later. *Sahelanthropus*, *Orrorin*, and *Ardipithecus* are among the candidates for the designation “oldest hominin.” *Australopithecus anamensis* stood and walked upright 4.2 million years ago and may have been ancestral to later hominins. We know when bipedalism evolved from multiple lines of evidence. Why it evolved is another question. Bipedalism was advantageous in many ways. Walking on two feet allowed for greater energy efficiency in hunting and scavenging. It also allowed for long-distance running, and the ability to cover great distances. With hands freed, hominins could carry tools and provision their families with food. *Australopithecus afarensis* was about the size of a modern chimpanzee, with a chimpanzee-sized brain, but with the bipedal locomotion of a human. The fossil record indicates a number of different species evolved from *Australopithecus afarensis* around 2.5 million years ago. This punctuated change was associated with an environmental change in Africa marked by worldwide cooling. *Homo habilis* had a brain size larger than any ape’s. With its larger brain, *Homo habilis* produced what were probably the first stone tools, known today as Oldowan technology. The level of planning and forethought this required reflects the greater intelligence of *Homo habilis* – among the earliest known species of the Genus Homo.