

FIGURE 1. Map showing the geographical extent of Middle Earth. N = northern Middle Earth, a region that was colonized by humans from the core or southern Middle Earth; with a cool climate and short winter daylength this part of Middle Earth was always harder for humans to live in than southern Middle Earth. S = southern Middle Earth, a region of relatively continuous human presence, punctuated by periods when deserts or rainforests created barriers. Ellipse marks core Middle Earth which is defined in this book as the cauldron of human evolution.



FIGURE 2. Griffon vultures feasting on a carcass, typifying the boom-or-bust world of species, including humans, dependent on patchily distributed resources in space and time.



FIGURE 3. The human habitat: trees/open-spaces/water.

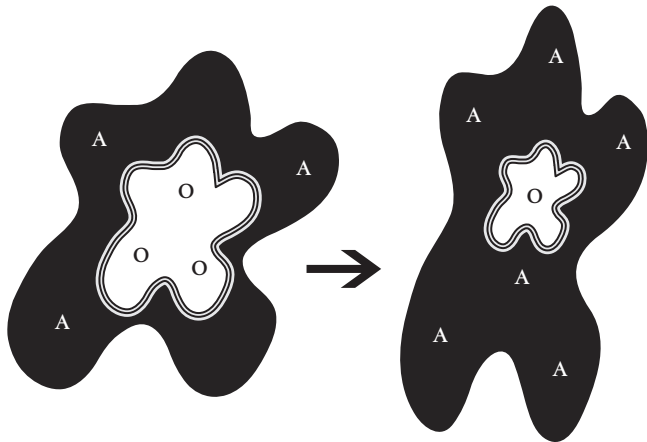


FIGURE 4. How technologies can coexist, survive, and disappear. The figure shows a first scenario in which Oldowan (O) and Acheulian (A) coexist in a humid environment. The Acheulian exists only on the drier, peripheral environments where its portability allows its makers mobility in search of scattered water resources. In the second scenario, climate has become more arid and the Acheulian dominates large areas, the Oldowan becoming severely restricted.

## THE IMPROBABLE PRIMATE

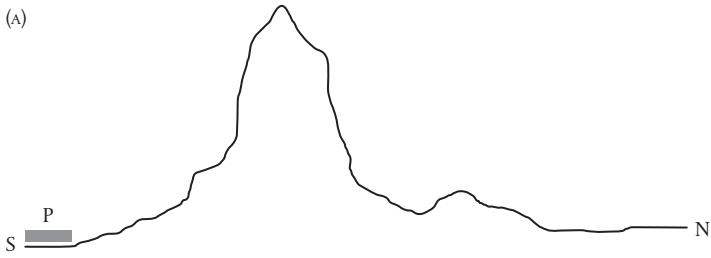


FIGURE 5A. Sequence showing how the Himalayan launchpad works: 5a and 5b show an initial, tropical population; 5c and 5d show the population having dispersed up mountain slopes, during a cool and arid phase, in search of humid locations. Comparable climatic environments are available, but are disconnected and empty, to the north; 5e and 5f show a cooling that brings the climatic belt and humans down the hills. The belt to the north spreads south and merges with the altitude band allowing humans to spread; 5g and 5h show a subsequent warming with the belts once again separated from each other. This time humans occupy the altitude and latitude belts. Once in the latitude belt, human populations (P) can spread horizontally across large areas of land while those in the south are confined to their mountain refuges.

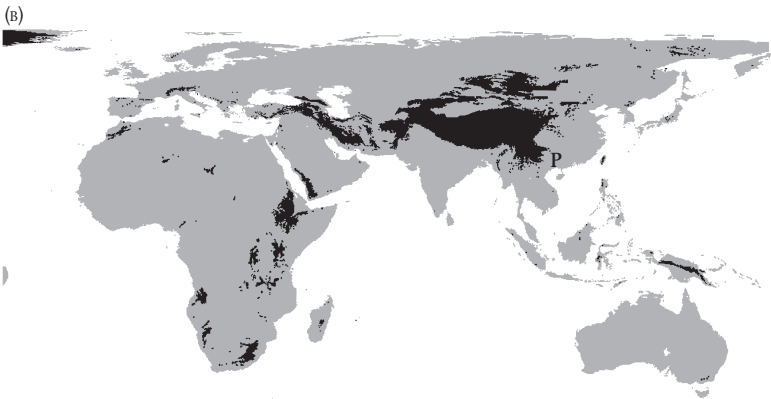


FIGURE 5B. Continued

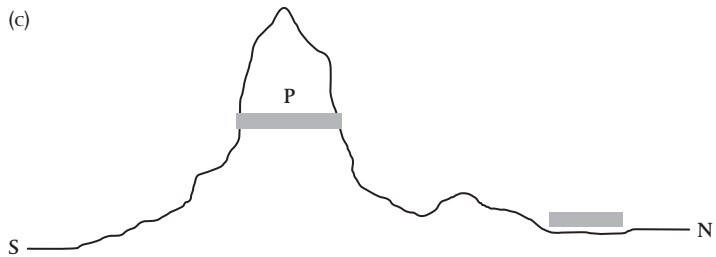


FIGURE 5C. Continued

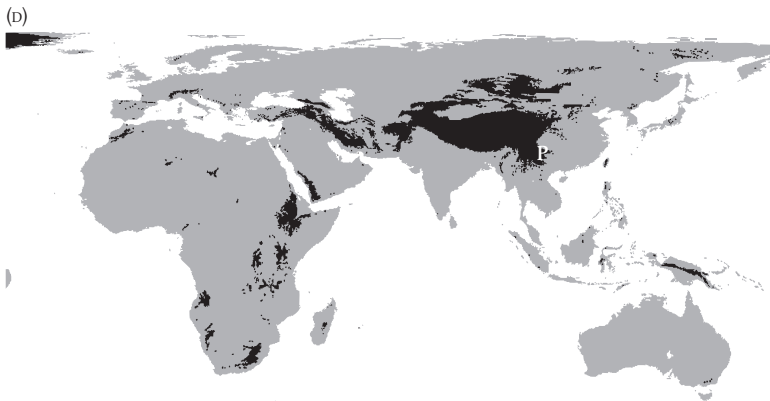


FIGURE 5D. Continued

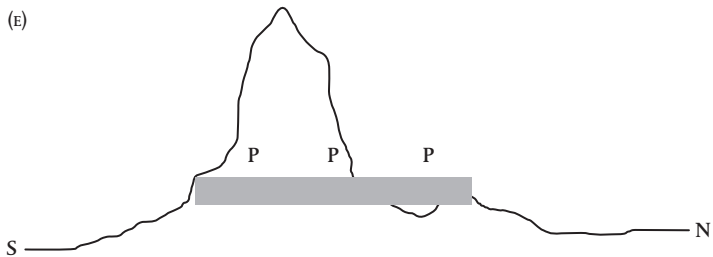


FIGURE 5E. Continued

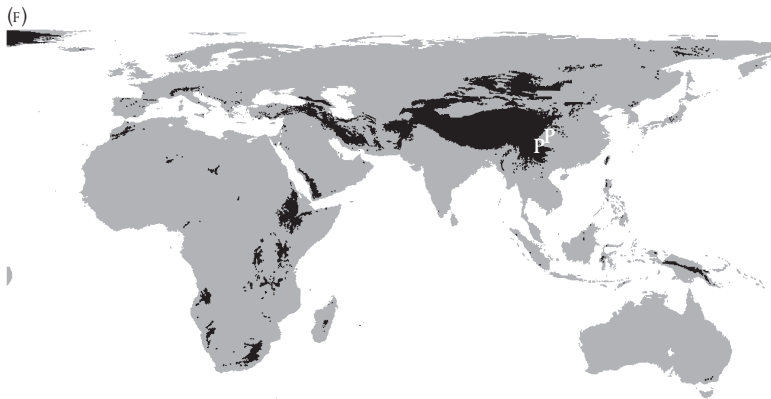


FIGURE 5F. Continued

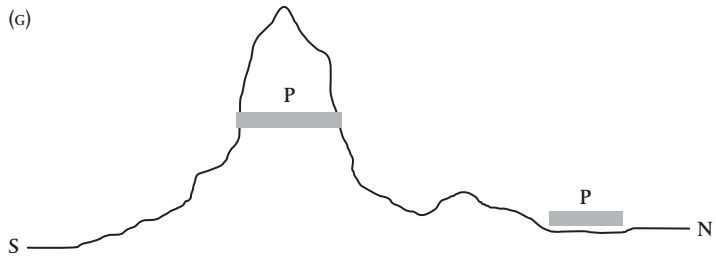


FIGURE 5G. Continued

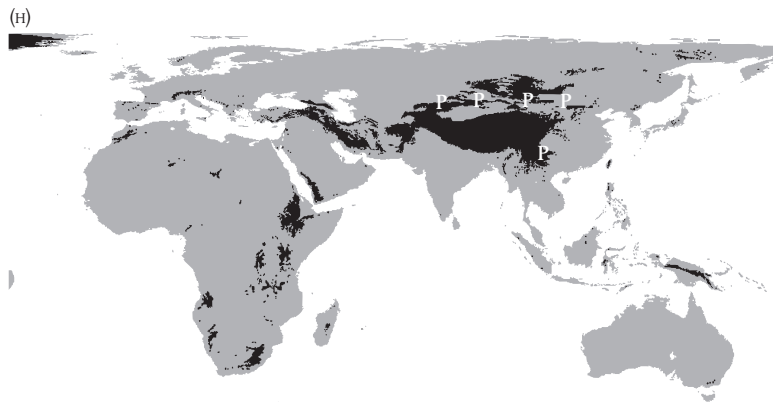


FIGURE 5H. Continued



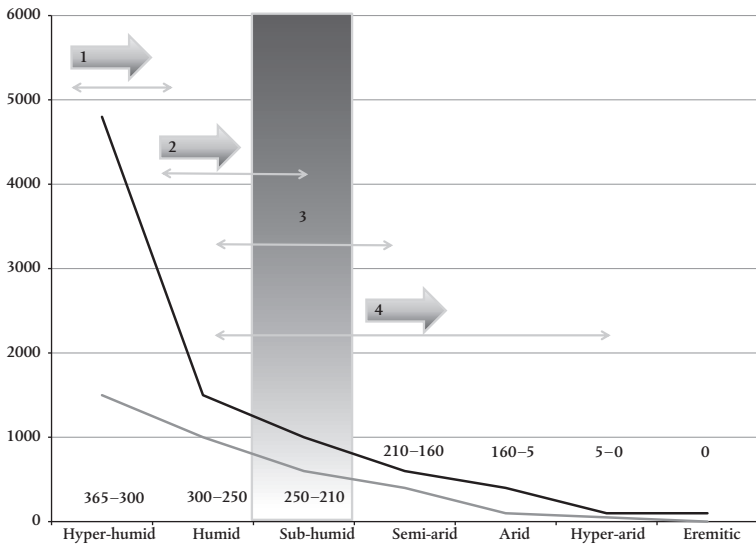


FIGURE 6. The Water Optimization Model. The x-axis shows the range of humidity regimes available to humans. The y-axis shows annual rainfall (mm) with the black line showing the maximum and the grey line the minimum annual rainfall for each humidity category. The numbers above each category indicate the typical number of days of rain/year in that category. Arrow 1 represents the climatic shift of the earliest hominids around 7–6 million years ago with the double arrow indicating the range of climates tolerated; arrow 2 represents a later trend corresponding to the australopithecines; the bar numbered 3 indicates the optimal human habitat, already observable at 1.8 million years ago, with the double arrow indicating the range of tolerance; arrow 4 shows the progressive shift of humans after 1.8 million years ago towards increasingly arid climates while keeping sub-humid as optimal and amplifying their tolerance (double arrows) in the process.