

levels of the Pleistocene. This has led to distinctive biogeographical zones which are defined by Wallace's Line of 1876 and its modification by Huxley (the furthest extent of Asian faunal complexes), Weber's Line and, furthest to the east, Lydekker's Line (the furthest extent of Australian faunas). Wallacea comprises the islands lying between the lines of Wallace-Huxley and Lydekker, thus effectively straddling the Eurasian and Australian continental plates (Map).

The distribution of both floras and faunas across this region reflects the geographical conditions profoundly. Sumatra, Borneo, Java, and Bali, accessible from the Asian mainland during periods of low sea level, display a rich diversity in both the present and the Pleistocene past. The islands east of Lydekker's Line are occupied by Sahul species (e.g., monotremes), while birds of paradise and the cassowary extend west to Weber's Line. The cuscus even reached Timor and Celebes (perhaps transported by humans), and cockatoos made it as far west as Borneo and Lombok. Several species were introduced by man from the west: the dog, which reached Australia perhaps 4000 years ago, the pig, and probably the macaque all crossed Wallace's barrier. So did a variety of small mammals, mostly Muridae, but including *Trachypithecus auratus*. In other words, the faunal influence gradually decreases from each side, with the various water barriers acting as a series of ecological filters in both directions. The effectiveness of these filters is even more pronounced in the flora.

The two most impressive colonizers, however, were proboscideans and humans. Elephants are known to be superb long-distance swimmers and might have travelled in herd formation (which would have provided a viable breeding population after landfall), helped by their buoyancy in saltwater. Humans, however, are thought to have required rafts or boats in order to travel as colonizing parties. Several fossil species of Stegodontidae and elephants are found in Wallacea, including on Celebes (three species; Groves 1976), Flores (Hooijer 1957; Verhoeven 1958), Timor (Verhoeven 1964; Glover 1969), and other islands east of Flores, even on Ceram and Irian Jaya (Hantoro 1996), and in the Philippines (on Luzon and Mindanao; Koenigswald 1949).

On the whole, however, the ability of land fauna to occupy the Wallacean islands was severely limited ever since this chain of islands had risen from the sea. In contrast to the large islands west of Wallace's Line, with their highly diversified Asian faunas throughout the Quaternary, the deepwater islands have been characterized by distinctive en-

demism for their entire history, including a trend towards dwarfism among the larger mammals and rapid speciation. Rafting on floating vegetation was generally limited to small mammals (Diamond 1977, 1987).

According to current archaeological consensus, humans have occupied Java (and presumably Bali, which was connected to Java at various times during the Pleistocene) since the first known emergence of *H. erectus* in the region. They never crossed Wallace's Line (between Bali and Lombok) until fully modern people arrived in the region (from Africa, presumably) and introduced new technology, shortly before the first known occupation of Australia. Bartstra et al. (1991) argue that Wallace's Line was first crossed by humans about 50 ka ago. Swisher et al. (1994) have provided what they term precision dating for the earliest appearance of *H. erectus* on Java at about 1.8–1.6 Myr, which coincides with the species' first appearance in Africa. The recent report of what appears to be a mandible of *H. habilis* or *ergaster* from Longgupo Cave in central China at 1.9–1.8 Myr has added considerable fuel to the debate between multiregionalists and those who favour the repeated dispersion of hominid species from Africa, because, especially in conjunction with the early dates from Java, it raises the possibility that even *H. erectus* did not evolve exclusively in Africa (Huang et al. 1995). Here, however, more evidence is required as the fragmentary fossil from Longgupo Cave cannot be reliably identified and has also been suggested to be of a pongid. Finally, we have Swisher et al.'s (1996) dating evidence which is said to suggest that *H. erectus* survived on Java well into the Upper Pleistocene.

These and other exciting recent developments in palaeoanthropology sometimes result from data which are rather more tentative than their advocates may imply. For instance, the very late dates for Javan *H. erectus* (53–27 ka) by Swisher et al. (1996) are squarely contradicted by unpublished dates Christophe Falguères has secured for this material (in the order of 300 ka), and they are rejected by senior Indonesian specialists who withdrew their names from the paper before its publication (Dayton 1996). Moreover, the claim that the Ngandong hominids are *H. erectus* is very tenuous, they are much more similar to Australian modern humans. Other data are in need of independent verification before we should allow them to be incorporated in elaborate hypotheses of hominid evolution, and yet every time some new "sensational" result is disseminated we witness a rush of "experts" seeking to outdo one another in