

A Lucky Few:

A Critical Review of Clive Finlayson's *The Humans Who Went Extinct*

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Clive Finlayson's popular science book *The Humans Who Went Extinct* does not belie his background as an ecologist. He makes a habit of rejecting many traditional anthropological views in favor of his own theories that rest heavily on arguments based, often solely, on paleoecology. His unique perspective offers novel solutions to old questions about human evolution, expansion, and behavior. He plays particularly close attention to ancient ecological systems and how these systems may have affected early human expansion. His sole focus on this line of evidence coupled with his rejection of many well-accepted ideas may be leading to false conclusions. He's quick to make great leaps about populations of people using only tenuous evidence about ancient environments, which is something his colleagues might find questionable. Still, the book contributes an important new perspective that is actually quite a bit more traditional than one may initially suppose.

Finlayson suggests that anthropologists are too often misguided by modern political boundaries in forming ideas about modern human expansion. He writes that anthropologists "are only now just starting to recover from the negative effects of 'out-of-Africa migration' dogma" (Finlayson 2009:45). The popular out of Africa model argues that a *Homo erectus* population evolved into *Homo heidelbergensis* which later gave rise to *Homo neanderthalensis* to the north and *Homo sapiens* in Africa. *H. sapiens* then would have expanded outward from Africa (Stringer & Andrews 2009:141-3). Since Finlayson seems to reject early on in the book the out of Africa theory one may presume that he's a supporter of the multiregional model, which is the very unpopular view that modern geographically separated humans evolved independently from a widespread *H. erectus* population (2009:140-1). It's not difficult to see why it's an unpopular position. It seems unlikely that dispersed populations of humans would have still been capable of the gene flow necessary to hold the species together (Klein 2009:629). Finlayson makes it clear

that he does not “favour [an] extreme form of multiregionalism;” instead, he argues that interactions among early peoples were far more complex than simple out of Africa or multiregional models might suggest (Finlayson 2009:123). The question of multiregionalism versus out of Africa doesn’t only apply to the more recent expansion of humans out of Africa. It also applies to the earlier spread of *H. erectus*.

Finlayson argues that *Australopithecus afarensis* and its close relatives, which he refers to as “proto-humans,” spread throughout the Eurasian landmass which at the time would have been a hospitable, grassy savannah, as evidenced by the spread of other organisms adapted to a similar habitat, yet he admits that this claim is still speculative (2009:50). This claim may be true, but the limited numbers of fossils of *Australopithecus* that have been discovered have been limited to Africa (Klein 2009:132). Eventually, Finlayson argues, one of these populations evolved into *H. erectus*, somewhere amongst the savannah, and once again spread out across a vast Eurasia (Finlayson 2009:50-4), and once again, he is quick to admit that the lack of fossils makes this view difficult to support. Different populations of increasingly isolated *H. erectus* had to adapt to the pressure of a changing climate (2009:63). Some of these populations went extinct while others, like the one leading up to *H. floresiensis* and the precursor of humans and Neanderthals, *H. heidelbergensis*, endured for much longer.

Richard Klein similarly argues that the Eurasian *H. erectus* or *H. ergaster* gave rise to what he calls “archaic *H. sapiens*” that later went extinct and makes extensive use of several lines of evidence, including fossil morphology, in supporting his argument (Klein 2009:279-80, 302-4). It now seems very likely that *H. erectus* must have been fairly spread out across Eurasia. He must have been at least as far east as Indonesia to have reached the island of Flores where the process of island dwarfing created the hobbit people *Homo floresiensis*, which may have lived as

recently as several thousand years ago. The presence of possible artifacts as old as *H. erectus* in parts of southeast Asia corroborate Finlayson's premise (Klein 2009:383-384).

*H. erectus* would have been well adapted to the mosaic grassland environment of Eurasia. Endurance running and walking were important adaptations that enlarged *H. erectus*'s range and allowed, for example, access to water that would be further honed in later humans (Finlayson 2009:78). One of these populations, isolated by a fragmenting ecosystem, would have led up to moderns and Neanderthals while others led to different peoples that would eventually go extinct.

Finlayson asserts that "moderns" or the people leading up to them occupied the Middle East by approximately 100,000 years ago as evidenced by the fossils found at Skhul and Jebel Qafzeh during a warm interglacial period (2009:67). The next glaciation seems to have pushed the early moderns out of the Middle East at about the same time moderns are supposed to have spread from Africa (2009:72). It is assumed that moderns spread throughout Africa during this period because Neanderthals never managed to reach land south of the Middle East (2009:72). Finlayson rejects arguments for a sudden arrival of humans 50,000 years ago sparked perhaps by a specific genetic mutation; instead, he claims, behaviors associated with later humans only gradually began to emerge (2009:73). This is a clear rebuttal of Klein's theory that more modern types of behaviors appeared very suddenly after a specific genetic mutation that caused a rapid enlarging and possible rewiring, although it's difficult to make such assessments on the basis of fossil evidence, of the brain (Klein 2009:643-5). Klein pays particularly close attention to the seemingly rapid development and the relative sophistication of Later Stone Age (LSA) technology compared to the static Middle Stone Age and Mousterian Traditions. Klein argues that if the only driver for the LSA was environment, then the change in technology would have been gradual, which is precisely the position that Finlayson adopts, yet Klein reasons the change

doesn't appear to be gradual (Klein 2009:645). A common problem throughout *The Humans Who Went Extinct* is its disregard for lines of evidence besides paleoecology, so it goes without saying that Finlayson seems to neglect noticing this piece of evidence. Stringer adopts the intermediate view that the fossil record doesn't seem to show any evidence for radical brain development that occurred 50,000 years ago, but he remains open to the possibility that a gene may be discovered that will support that idea (Stringer 2012:213).

The more recent expansion of "modern" humans out of northeast Africa or Ethiopia towards both western Africa and east to India occurred after about 80,000 years ago when the climate was becoming arid (Finlayson 2009:97-8). Like many of the *H. erectus* populations further north which by this time would be extinct or nearing extinction, earlier modern populations would have become fragmented across Africa. This fragmentation is evidenced today by studies of human genetics. African peoples are more diverse than the rest of the human population (Finlayson 2009:78-80). In part, this is because they have had a greater amount of time to accumulate genetic variations than their counterparts in the rest of the world, who all descended from an Ethiopian population. Finlayson would not likely encounter any disagreements from his colleagues on this point. Stringer, who supports a recent African origin model, professes that there were probably multiple dispersals of people out of northeast Africa as suggested by some interesting recent mtDNA studies. These initial waves of moderns may have mated with Neanderthals and other surviving descendants of *H. erectus* (Stringer 2012:262-8).

In light of recent mitochondrial DNA evidence that quite strongly supports a recent African origin for *H. sapiens*, it has become even more difficult to accept the multiregional argument, yet the multiregional camp still has its constituents in part because of concerns about the veracity of mtDNA studies (Stringer 2012:23-25, Klein 2009:635). The fossil record also

seems to favor an out of Africa model at least according to Klein (Klein 2009:630). Genetic studies offer an unprecedented look at recent human evolution. Y-Chromosome studies suggest an origin of modern humans about 50,000 years ago in Africa, and comparisons with apes suggest that there's less mtDNA variation among geographically diverse humans than there is among ape populations (Klein 2009:635). There is currently a dearth of evidence to confirm that early humans and Neanderthals interbred, but some genetic studies may suggest that they did (Klein 2009:637).

Finlayson reasonably claims that humans were spread throughout Africa and towards India 80,000 years ago until a genetic “bottleneck” event, which shrunk the population of moderns outside of Africa, occurred about 60,000 years ago after the Toba super volcano in Sumatra erupted and the following glaciation (Finlayson 2009:99). It is also possible that this period of global cooling played a significant role in endangering the already dwindling Neanderthal and *H. erectus* populations. Klein points to Greenland ice core samples that reveal that there was a period of rapid temperature oscillations around 30,000 to 60,000 years ago to explain this equivalent “bottleneck” event (Klein 2009:648).

Following the last glacial period, Finlayson says “unconscious island hopping” brought humans from the Indian subcontinent to New Guinea. A small population then made it to Australia where they remained apparently undisturbed (Finlayson 2009:101). The lucky appearance of hospitable grasslands in India that coincided with the disappearance of other grasslands highlights one theme of Finlayson’s book—that so much of human evolution was down to luck (2009:105).

It just so happens that the Neanderthals and the few remaining descendants of *H. erectus* were not so lucky. The Neanderthals were remarkably human. Their skin and hair color,

adaptations for language, and despite popular opinion, they weren't a primitive people adapted to a cold environment (Finlayson 2009:106-117). An increasingly cold and dry climate and changes in the environment unfavorable to Neanderthal's method of close-proximity hunting pushed Neanderthals south (2009:117-119). These conditions and not competition from humans, Finlayson indicates, led to their eventual extinction. Klein and most anthropologists would likely disagree with this assessment. Neanderthals seem to have had physiological adaptations for colder climates, adaptation which Finlayson points out earlier in the book. In addition, there's a plethora of archaeological evidence throughout Europe suggesting that Neanderthals and moderns interacted (Klein: 602-4). Some evidence may even suggest cannibalization (if it may be called that) of Neanderthals by Cro-Magnons (Stringer 2012:101-3). Many anthropologists would be hesitant of Finlayson's claim that competition with moderns played no role in the demise of the Neanderthals. The alternative, he seems to imply, is that the out of Africa model suggests a quick outward spread of humans that quickly and easily displaced the Neanderthals, but this is really a mischaracterization of the out of Africa theory (Finlayson 2009:122-3).

It now seems as though the Neanderthals may not be completely extinct; some of their genes may live on today in modern humans whose ancestors reproduced with populations of Neanderthals. According to Finlayson, genetic evidence suggests that moderns and Neanderthals "did not mix" (2009:141). Meanwhile, Stringer and Klein argue that modern genetic evidence seems to suggest that there's a very real possibility that moderns and Neanderthals interbred although there are still problems especially with issues of contamination (Stringer 2012:263-4, Klein 2009:638-43).

*The Humans Who Went Extinct* is an insightful book that offers new paleoecological arguments about human origins, but Finlayson often fails to present multiple lines of evidence.

Not once does he seem to look to fossil morphology or artifacts—or indeed much of any archaeological evidence—to understand the evolutionary relationships among ancient peoples.

Nonetheless, one of the overarching themes of the book that is a very important takeaway message is that anthropologists shouldn't get caught up in conventions or generalizations. Often anthropologists will argue one extreme argument as if they had to choose one or another. That's simply not so. It's possible for an animal to be a hunter and a scavenger, and it's possible that a combination of the out of Africa theory and multiregionalism is correct. Taxonomic nomenclature shouldn't serve to confuse evolutionary relationships; it should illuminate them. Not all fossil hominins were human ancestors and evolution wasn't some machine working towards producing modern humans. Side-branches of humans arose and eventually went extinct, and human expansion wasn't a simple migration of small populations of people. Luck was one of the most important factors in human origins.

Works Cited

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Earliest 'human footprints' found. Laser scanning was used to plot the exact dimensions of the prints. The earliest footprints showing evidence of modern human foot anatomy and gait have been unearthed in Kenya. "Once the flesh is gone there's a lot of little bones that don't get preserved, so we know very little about the evolution of hands and feet on our ancestors." The footprints were found near Lleret in northern Kenya. The finding is a critical clue for mapping out the evolution of modern humans, both in terms of physiology and also how *H. erectus* fared in its environment. *H. erectus* was a great leap in evolution, showing increased variety of diet and of habitat, and was the first Homo species to make the journey out of Africa.