



An exhibit from the Krapina Neanderthal Museum in Croatia depicts a Neanderthal family before modern humans expanded from Africa and arrived in Europe.

PALAEANTHROPOLOGY

African origins

Jean-Jacques Hublin enjoys a book supporting the idea that modern humans replaced Neanderthals.

The question of when, where and why modern humans emerged is the subject of intense debate, and antagonistic views have sprung up as a result. For many years, supporters of the multiregional hypothesis have suggested that modern populations in Africa, Europe and Asia (the 'Old World') descended from local archaic hominins, such as Neanderthals in Europe or late *Homo erectus* in Asia. Today, the Recent African Origin (RAO) model is more widely accepted. It argues instead that modern humans expanded out of Africa between 100,000 and 50,000 years ago, almost entirely replacing archaic Eurasian humans. The assimilation model falls in between, and implies a high rate of interbreeding between invaders and locals.

Chris Stringer was one of the first promoters of the RAO hypothesis. *The Origin of Our Species* is his latest appraisal of this model. Combining the thrill of a novel with a remarkable depth of perspective, the book offers a panorama of recent developments in palaeoanthropology, including the technical improvements that allow for more accurate dating of the fossil record and more precise reconstructions of past environments. Alongside traditional analyses of bones and stones,

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Stringer guides the reader through the growing complexity of the field, which has recently extended into palaeogenetics, demography, developmental biology, experimental psychology and neurology. By drawing together a broad range of viewpoints, Stringer's original ideas will open up avenues for those who deal with genes, fossils or artefacts.

One may smile when reading how some in the field have associated early humans' first uses of red pigments with female menstruation and Palaeolithic sex strikes. But on crucial biological and behavioural issues, Stringer is careful to be more critical. Supporters of the multiregional or assimilation models were quick to take advantage of last year's sequencing of the Neanderthal genome to emphasize interbreeding between modern humans and Neanderthals. Stringer explains that current palaeogenetic evidence instead supports a scenario of almost complete replacement. The low level of hybridization observed between the two groups probably involved only a handful of interbreeding



The Origin of Our Species
CHRIS STRINGER
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352 pp. £20

events at the time when modern humans first expanded out of Africa. He is also refreshingly politically incorrect when admitting the evolutionary role of intergroup violence in the replacement processes.

The initial version of the RAO hypothesis, presented 30 years ago, proposed that modern humans emerged in a small, sub-Saharan 'Garden of Eden'. Stringer's updated picture imagines genetic contributions of populations from a much broader swathe of the African continent. He also emphasizes the role of random genetic drift, demography and cultural selection in the emergence of modern humans. Yet, in his view, the dramatic expansion that made us the first lone human species on the face of the Earth is no historical accident.

Our biological evolution, particularly that of our brain, is intimately linked to cultural and sociological changes. Neanderthals probably did not see the world as we do, and we replaced them because of our differences. Still, readers may remain unconvinced by some of Stringer's claims, in particular the chronological overlap between the first modern humans and their archaic predecessors in Africa. Whether the emergence of modern humans was sudden or gradual remains unanswered.

Stringer wisely states in his conclusion that science is not about being right or wrong, but about approaching the truth of the natural world. Although he has complied with this philosophy throughout his many writings, one must admit that he has mostly been right since the beginning. ■

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