Before the Dawn
Nicholas Wade

Evolution is alive and well, and dwelling among humans

Nicholas Wade, who makes his living as a writing, has pulled together all the threads of contemporary scientific thought about human evolution.

The science of DNA analysis has progressed with amazing rapidity over the last decade, confirming, correcting and filling in the details outlined by pioneers in human migration such as Stanford's Luigi Cavalli-Sforza. The most powerful tools at the moment are analysis of the Y-chromosome, which is heritable only from the father, and mitochondrial DNA, heritable from the mother. Both are subject to small mutations from generation to generation. The time at which populations quit interbreeding can be fairly accurately determined by which mutations they share and which they don't. Scientist Spenser Wells' "The Journey of Man" does an excellent job of describing the science. Wade does so with fewer words and less depth, and brings Wells' work up to date. Wells thought Europeans and East Asians parted company in the heart of the Russian steppes; Wade has Europe being populated by a more southerly route.

Wade's human timeline has us becoming "anatomically modern" 100,000 years ago, acquiring language sometime thereafter, with a pioneer group of 150 or so individuals emigrating out of Africa to displace Neanderthals and other archaic humans around 50,000 years ago. These timelines are later than other writers have posited. It raises the question, what is language? Wade sees it as the essential tool for communicating culture: the acquired knowledge, toolmaking skills, religion and social skills that made it possible for humankind to transcend the hunter-gatherer style of life.

His discussion of linguistic paleontology, and its ties with paleoanthropology, the ways in which people and languages moved and morphed, shows the benefit of coming at a problem from several angles. Languages evolve rapidly. Wade retraces the established schools of thought on linguistics, the work done on the evolution of Indo-European languages, and some more controversial theories that examine commonalities among all the world's languages and attempt to establish the dates at which language groups diverged. The tool of choice is Bayesian Maximum Likelihood Estimation statistics, a technique that examines every possible way a group of events could be assembled to meet some given constraints (i.e., Japanese and Chinese had to have split after man left Africa; man was in the Americas by 12,000 BC; the root of the word "one" remains the same in a language for an average of 20,000 years) and finds the most likely scenario that fits all of the data points... a technique that has blossomed with the availability of powerful desktop computers over the past decade.

Though he quotes Stephen Pinker throughout, Wade does not get into the neural wiring required for language, the stuff of Pinker's "The Language Instinct" and "The Blank Slate." Given the complexity of the human language apparatus, I am confident there was a lot going on with language earlier than Wade would have us believe.

Give Wade credit for courage. To acknowledge that Darwinian selection has continued unabated, even increased, since the advent of agriculture is tempting the demons of political correctness. Wade out and says it: high levels of abstract intelligence would not have enjoyed selective advantage in hunter-gatherer societies. In large communities, however, the abilities to manage stored riches and to focus the labor of many individuals on community projects became essential. His most interesting case is of the Jews, citing some work published late last year. Ashkenazi Jews were forbidden to own property for roughly the eight centuries between 900 and 1700. They had to make their living as merchants, moneylenders and other types of professionals, occupations that demanded very high brainpower. To an even greater extent than others in Europe, they endured ongoing persecution. See Wikipedia's Timeline of Jewish History. Wade cites two researchers at BYU who have a compelling thesis that four sphingolipid genetic diseases suffered by the Ashkenazim, while fatal to individuals who inherit two recessive genes, confer higher intelligence on those who inherit just one. The scientific community has been harsh on previous writers such as Jensen and Lynn, Murray and Herrnstein who have dared associate cognition with race or ethnicity. Cavalli-Sforza and others spent careers dancing around the issue, and Pinker himself has dodged it with exquisite delicacy. That Wade writes so directly is a sign perhaps not that the topic has become respectable, but simply that the elephant in the living room can no longer be ignored.