

BBC Radio 4 - 8 May 2007

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Transcript by Ron Scott (with several corrections submitted by Gary Hines) of the BBC interview with Dr. Toomas Kivisild:

BBC Interviewer: 22 minutes past 7, all modern humans are descended from a small band of settlers who left the African plains about 70,000 years ago. That's according to new research from Cambridge University's Dept. of Biological Anthropology, Dr. Toomas Kivisild is its co-author. Dr. Kivisild, good morning to you. How have you come to this conclusion?

Dr. Kivisild: Good morning, we've studied native Australian aborigines and populations of New Guinea, and we wanted to know whether these people also derived from the same common founding lineages as to Europeans and Asians, and the answer is definitely yes, and we can also rule out the recently discussed hypothesis that there has been a largescale migration during the last 10,000 years particularly from the Indian subcontinent. Our genetic data do not seem to support this conclusion.

BBC Interviewer: So, let's just deal with the aboriginal question, first of all. The idea that modern humans evolved in East Africa has always been countered by what was thought to be the uniqueness of Australia's aborigines. Are you saying now that you have evidence that that's not the case, that actually the aborigines as well as all other humans evolved from a small area in East Africa?

Dr. Kivisild: Exactly, that is the theory of the complete replacement we are talking about, and this is what our data confirm, and there have been several other studies, although at different levels of molecular resolution, coming to the same conclusion as well.

BBC Interviewer: So, take us back 70,000 years then. What happened to that group of early humans in East Africa? Where did they go from there?

Dr. Kivisild: Well, we cannot be exact about route or even with the timing of the 70,000 ... that's very approximate ... we would rather be more confident with boundaries of 50 to 70,000, but as we don't see much internal structure within the trees built from populations of South Asia or Australia or Europe, we tend to think that the migration was relatively rapid. We tried to estimate that it took approximately 5,000 years to get from South Asia to Australia, and therefore we are thinking about coastal migration, which makes such rapid dispersal possible.

BBC Interviewer: What happened to other humans such as Neanderthals? Did these humans coming from Africa interbreed with them, or what?

Dr. Kivisild: As far as we've been looking at two loci.... this is maternally inherited mitochondrial DNA and the Y-chromosome which goes paternally, the answer has been no. There is no direct evidence that Neanderthals in Europe or the Homo Erectus lineages in Australia would have contributed to the modern human gene pool, but we cannot be absolutely

sure that there is no evidence in the nuclear genome which represents more than 90% of our genetic heritage.

BBC Interviewer: Dr. Toomas Kivisild, thank you very much.