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“Language at 70.000 BP: Evidence from sea-crossings”

One of the main questions regarding the problem of language origin is the evaluation of the time window during which our communication system evolved from a “simple” system dealing with “here and now” type of information to a much more sophisticated system able to transmit information about decontextualized situations (e.g. past or planned actions).

Since “language does not fossilize”, it is extremely difficult to obtain relevant data on time period associated with the emergence of language from direct fossil analysis. Data on larynx height can at best give information on physical abilities for producing speech sounds but not about cognitive abilities associated with language. Data from endocasts can provide indirect information about brain organization (e. g. lateralization) but these data are difficult to interpret and often controversial.

In this paper we propose to investigate another type of evidence: the level of sophistication of our communication system inferred from the cognitive achievements of our ancestors. More specifically, using a computer model taking into account variations in sea level over the last 100.000 years, we will show that the peopling of Australia and the Andaman islands implied sea-crossings of at least 100 kilometers. We will argue that these intentional crossings (from the East Asian continent to the Andaman islands and to Australia) are not conceivable without a sophisticated language necessary for planning and succeeding in such a dangerous adventure.

By taking into account genetic (mitochondrial DNA and Y chromosome) and archeological data (i.e. Mungo man in Australia), we will incorporate our results within the framework of the “Out of Africa” theory of Homo sapiens dispersal and conclude that language must have existed by at least 70.000 BP.