
”SNAKES AND LADDERS” IN THE LOWER AND MIDDLE PALAEOLITHIC: FROM COGNITIVE SURPRISE TO ”SKILL”

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Résumé

Archaeological evidence of Early and Middle Pleistocene behaviour of the genus *Homo*, such as stone hand-axes or traces of fire, shows an uneven spatiotemporal distribution across the Old World between two million and two-hundred thousand years ago. A scientific paradigmatic interpretation can help us to interpret behavioural evolution in early *Homo*. Cognitive surprises, favouring anomalous behavioural propensities to sporadic expression, suffice to explain apparently random ”snakes-and-ladders” appearances and disappearances of Palaeolithic skills in the Early and Middle Pleistocene. The interpretation applies the principle of stationary action, which underpins the universal biophysical *free energy principle*, to self-organising systems at an evolutionary time-scale. Unusual personal attainments, often explained by invoking progressive ascent of evolutionary phylogenetic ”ladders” of cognitive and technical abilities, could be disregarded in a hominin community that failed to imagine or articulate possible advantages for its own survivability. Such failure, as well as diverse fortuitous demographical accidents, could erase from collective memory the recollection of exceptional individual conduct, which disappeared, down an unanticipated ”snake”, so to speak, of the human evolutionary ”puzzle”. The notion of a chaotic, disorganised puzzle discomforts palaeoanthropologists and Palaeolithic archaeologists who often explain it *away* with appeals to accommodative self-fulfilling conjectures thought to be not implausible, e.g., that, probably, separate palaeospecies of *Homo* differentially possessed cognitive abilities that conjecturally underlay the differential presence or absence in the Pleistocene archaeological record of traces of particular behavioural outcomes or skills. However, an alternative methodological perspective, grounded in the fundamental biophysical relationships between organisms and their environments, affords a parsimonious, prosaic, deflationary account for appearances and disappearances of behavioural outcomes and ”skills”. This perspective invokes a methodological paradigm grounded in existential principles, notably the *free energy principle*, that underpin the evolution of living organisms, which have been expounded in innumerable scientific papers by psychiatrist Professor Karl Friston, F.R.S., of University College London where he is Professor of Imaging Neuroscience at the Institute of Neurology and The Wellcome Centre for Human Imaging. The proposal as developed here is that some, at least, of the irregular regularities and regular irregularities of phenomena attributable to *Homo* in the distant Pleistocene record reflect the kinds of plausibly anomalous behavioural outcomes that must have occurred often in a random ”snakes-and-ladders” model of evolution in early members of our genus, regardless of their skeletal palaeospecific taxonomy, who, when faced with cognitive surprises, failed to maintain orthodox behavioural responses

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and, instead, demonstrated a particular neurobiological propensity for exploring unorthodox possibilities. Development of the argument is accompanied by examples drawn from Lower and Middle Palaeolithic sites.

Mots-Clés: Snakes, Ladders, Lower Paleolithic, Middle Paleolithic