

**GREAT APE PLANNING ABILITIES - A REVIEW AND FUTURE AVENUES**

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The few studies conducted on great ape planning for future motivational states have revealed new insights in great ape cognition, which are reviewed together with suggestions of future avenues in this new novel field. Planning for a possible future has been regarded as exclusive to humans, however recent studies, published by our group as well as by others', have seriously questioned that view. The implications are far reaching, even approaching questions of phenomenal consciousness – a topic regularly avoided in comparative cognition due to its considerable methodological problems. Nonetheless, most questions remain unanswered. A systematic approach is now needed to disentangle the similarities and differences between human and great ape foresight. We propose a methodology based on varying the domains in which great ape planning should be tested. Such as the social domain (competitive and cooperative contexts) and the physical domain (spatial and causal contexts). Within these domains systematic variation should be applied to the number of planning steps as well as to the numbers of possible planning objectives (the ability to compare different of possible futures mentally). We also suggest that these studies should be conducted on all species of great apes along with the lesser apes in order to make a more precise phylogenetic reconstruction of foresight abilities.

Keywords: planning, mental time travel, episodic cognition, prospection