

Carry on walking!

March 31 2007

The next time you are struggling to carry your bags home from the supermarket just remember that this could, in fact, be the reason you are able to walk upright on two legs at all! How we have evolved to walk on two legs remains a fundamental but, as yet, unresolved question for scientists. A popular explanation is that it is our ability to carry objects, particularly children, which forced early hominins onto two legs.

Dr Johanna Watson (University of Manchester) will present work supporting this theory on Saturday 31st March 2007 at the Society for Experimental Biology's Annual Meeting in Glasgow.

Researchers looked at the energy expended when walking whilst carrying a 10kg load. Importantly, the distribution of the weight varied in each instance. Female participants, of child bearing age (20-30 years old) were assessed walking at a constant speed carrying either a symmetric load, in the form of a weighted vest or a 5kg dumbbell in each hand, or carrying an asymmetric load, which was a single 10kg weight carried in one hand, or a mannequin infant on one hip.

Results indicated that when carrying an evenly spread load humans are actually more efficient at carrying than most mammals but carrying awkward loads, such as an infant on one side of the body, uses much more energy. However this sort of carrying would have been inevitable once early hominins lost the ability to cling on with their feet. “The high energetic cost of carrying an asymmetric load, suggests that infant carrying would need to generate significant benefits elsewhere in order to be selected for,” says Dr Watson.

This work is part of a larger project, run by Dr Bill Sellers at the University of Manchester, which also uses computer simulations to try to understand evolutionary processes, particularly the way in which we and other animals move.

Future plans are to extend this study to assess the energy cost of carrying in great apes which will be very tricky indeed. Computer models of early hominins carrying will also be built to try and evaluate whether their body shape and posture - long arms and short legs - would have made them noticeably better or worse at carrying than ourselves. This will help to build up a picture of how we evolved to walk to two legs.

Source: Society for Experimental Biology

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