



PEABODY MUSEUM
of ARCHAEOLOGY & ETHNOLOGY

PRESS RELEASE

What: FREE Lecture and Reception

Where: Geological Lecture Hall, Harvard University, 24 Oxford Street, Cambridge, MA;
Reception follows in the Peabody Museum, 11 Divinity Ave.

When: Thursday, March 20, 2008, 5:30 pm

Contact: 617-496-1027 (public information)

Lecture title: **Diet, Energy, and Evolution**

Lecture by: Leslie Aiello, President, Wenner-Gren Foundation

(Cambridge, March 4, 2008) The Peabody Museum of Archaeology and Ethnology presents **Diet, Energy, and Evolution**. It has now been over a decade since the publication of the Expensive Tissue Hypothesis (ETH) (Aiello & Wheeler, 1995, *Current Anthropology* **36**:199-221), which suggested that there was an inverse relationship between the sizes and energetic costs of the brain and the digestive system. A larger brain would require a correspondingly smaller digestive system in order to maintain a BMR (basal metabolic rate) that was not excessively elevated over Kleiber expectations and a smaller digestive system would only be possible with the adoption of a higher quality diet. The original ETH posited that a relatively small gut and implied dietary change were already features of *Homo ergaster* (c.a. 1.6 mya). It also suggested that the inverse relationship between brain size and gut size was a feature not only of humans but also of the other primates. In the reply to the commentaries following the original article it was also stressed that other features, such as flight in birds, might prove to be energetically limiting in species where the size of the brain is not sufficient to represent an energetic challenge.

The past decade has seen considerable research into both hominin diet and energetics. Evidence from the archaeological context, dentition, postcranial proportions and morphology, carnivore guild turnover and hominin tapeworm genetics is consistent with the incorporation of

increased amounts of animal-derived food in the diet of early members of the genus *Homo*. Research testing the broader implications of the ETH has demonstrated a robust positive correlation between dietary quality and brain size in primates but has also suggested that dietary change may not have been the sole factor that balances the energetic expense of the hominin large brain. How valid is the ETH today? In the context of this new research, the applicability of the ETH to hominin evolution is reassessed.

Speaker

Leslie Aiello is the President of the Wenner-Gren Foundation of Anthropological Research, the largest private foundation devoted to the support of international anthropological research. Her academic interests focus on the evolution of human adaptation as well as on the broader issues of evolutionary theory, life history and the evolution of the brain and cognition. She holds the PhD in human evolution and anatomy from the University of London, where she has also spent the majority of her 30-year academic career as professor of Biological Anthropology (1995–2005), Head of the UCL Anthropology Department (1996-2002), and Head of the UCL Graduate School (2002–2005). She is currently Professor Emerita (Biological Anthropology) and an Honorary Fellow of University College London. Her better known published works include *Human Evolutionary Anatomy* (with M.C. Dean, Academic Press, 1991); “The Expensive Tissue Hypothesis: the brain and the digestive system in human evolution” (with P. Wheeler, *Current Anthropology* 36:199–221) as well as a series of more recent papers on the evolution of language, cooperation, energetics and climate adaptation. She is most recently known for her work on Neanderthal adaptation during the last glacial period.

About the Peabody Museum

The Peabody Museum is among the oldest archaeological and ethnographic museums in the world with one of the finest collections of human cultural history found anywhere. It is home to superb materials from Africa, ancient Europe, North America, Mesoamerica, Oceania, and South America in particular. In addition to its archaeological and ethnographic holdings, the Museum's photographic archives, one of the largest of its kind, holds more than 500,000 historical photographs, dating from the mid-19th century to the present and chronicling anthropology, archaeology, and world culture.

Location: *The Peabody Museum is located at 11 Divinity Avenue in Cambridge. The Museum is a short walk from the Harvard Square MBTA station.*

Hours: 9 AM to 5 PM, 7 days a week. The Museum is closed on Thanksgiving Day, Christmas Eve, Christmas Day, and New Year's Day. Admission is \$9.00 for adults, \$7.00 for students and seniors, \$6.00 for children, 3–18. Free with Harvard ID or Museum membership. The Museum is free to Massachusetts residents Sundays, 9 AM to noon, year round, and Wednesdays from 3 PM to 5 PM (September to May). Admission includes admission to the Harvard Museum of Natural History. The Peabody Museum participates in the City Pass and WGBH programs. For more information call (617) 496-1027 or go online to: www.peabody.harvard.edu.

Media Contact: Pamela Gerardi, Director of External Affairs

Peabody Museum

11 Divinity Ave.

Cambridge, MA 02138

Tel: (617) 496-0099; Fax: (617) 495-7535, gerardi@fas.harvard.edu