Liste erstellt am 2011-01-23

Literatur

Aktuell

Huang 2011

Li Huang, Adam D. Galinsky, Deborah H Gruenfeld & Lucia E. Guillory, *Powerful Postures Versus Powerful Roles: Which Is the Proximate Correlate of Thought and Behavior?* Psychological Science **22** (2011), 95–102.

Iacopino 2011

Vincent Iacopino, Scott A. Allen & Allen S. Keller, *Bad Science Used to Support Torture and Human Experimentation*. science **331** (2011), 34–35.
Despite prior U.S. recognition of "enhanced interrogation" techniques as torture, science was misrepresented to support their use.

Macilwain 2011

Colin Macilwain, *University cuts show science is far from saved*. nature **469** (2011), 133.
Scientific leaders have been too quick to praise the reprieve for research money, says Colin Macilwain. The slashing of teaching funds will do real damage. Students are not customers of a university; they are its very soul. The idea that research will prosper while teaching and learning decay is a dangerous fallacy.

Anthropologie

Balter 2011

Michael Balter, *Was North Africa the Launch Pad for Modern Human Migrations?* science **331** (2011), 20–23.
A growing number of researchers suspect that long-neglected North Africa was the original home of the modern humans who first trekked out of the continent.

DeSilva 2011

Jeremy M. DeSilva, *A shift toward birthing relatively large infants early in human evolution*. PNAS **108** (2011), 1022–1027.
pnas108-01022-Supplement.pdf
It has long been argued that modern human mothers give birth to proportionately larger babies than apes do. Data presented here from human and chimpanzee infant:mother dyads confirm this assertion: humans give birth to infants approximately 6 % of their body mass, compared with approximately 3 % for chimpanzees, even though the female body weights of the two species are moderately convergent. Carrying a relatively large infant both pre- and postnatally has important ramifications for birthing strategies, social systems, energetics, and locomotion. However, it is not clear when the shift to birthing large infants occurred over the course of human evolution. Here, known and often conserved relationships between adult brain mass, neonatal brain mass, and neonatal body mass in anthropoids are used to estimate birthweights of extinct hominid taxa. These estimates are resampled with direct measurements of fossil postcrania from female hominids, and also compared with estimates of female body mass to assess when human-like infant:mother mass ratios (IMMRs)

evolved. The results of this study suggest that 4.4-Myr-old Ardipithecus possessed IMMRs similar to those found in African apes, indicating that a low IMMR is the primitive condition in hominids. Australopithecus females, in contrast, had significantly heavier infants compared with dimensions of the femoral head (n = 7) and ankle (n = 7) than what is found in chimpanzees, and are estimated to have birthed neonates more than 5 % of their body mass. Carrying such proportionately large infants may have limited arboreality in Australopithecus females and may have selected for alloparenting behavior earlier in human evolution than previously thought.
climbing | hominin | Homo | cooperative breeding

Williams 2008

Lawrence E. Williams & John A. Bargh, *Experiencing Physical Warmth Promotes Interpersonal Warmth*. science **322** (2008), 606–607.
s322-0606-Supplement.pdf
"Warmth" is the most powerful personality trait in social judgment, and attachment theorists have stressed the importance of warm physical contact with caregivers during infancy for healthy relationships in adulthood. Intriguingly, recent research in humans points to the involvement of the insula in the processing of both physical temperature and interpersonal warmth (trust) information. Accordingly, we hypothesized that experiences of physical warmth (or coldness) would increase feelings of interpersonal warmth (or coldness), without the person's awareness of this influence. In study 1, participants who briefly held a cup of hot (versus iced) coffee judged a target person as having a "warmer" personality (generous, caring); in study 2, participants holding a hot (versus cold) therapeutic pad were more likely to choose a gift for a friend instead of for themselves.

Isotope

Sherwood 2011

Owen A. Sherwood, Moritz F. Lehmann, Carsten J. Schubert, David B. Scott & Matthew D. McCarthy, *Nutrient regime shift in the western North Atlantic indicated by compound-specific δ^{15}N of deep-sea gorgonian corals*. PNAS **108** (2011), 1011–1015.
pnas108-01011-Supplement.pdf
Despite the importance of the nitrogen (N) cycle on marine productivity, little is known about variability in N sources and cycling in the ocean in relation to natural and anthropogenic climate change. Beyond the last few decades of scientific observation, knowledge depends largely on proxy records derived from nitrogen stable isotopes (d15N) preserved in sediments and other bioarchives. Traditional bulk d15N measurements, however, represent the combined influence of N source and subsequent trophic transfers, often confounding environmental interpretation. Recently, compound-specific analysis of individual amino acids (d15N-AA) has been shown as a means to deconvolve trophic level versus N source effects on the d15N variability of bulk organic matter. Here, we demonstrate the first use of d15N-AA in a paleoceanographic study, through analysis of annually secreted growth rings preserved in the organic endoskeletons of deep-sea gorgonian corals. In the Northwest Atlantic off Nova Scotia, coral d15N is correlated with increasing presence of subtropical versus subpolar slope waters over the twentieth century. By using the new d15N-AA approach to control for variable trophic processing, we are able to interpret coral bulk d15N values as a proxy for nitrate source and, hence, slope water source partitioning. We conclude that the persistence of the warm, nutrient-rich regime since the early 1970s is largely unique in the context of the last approximately 1,800 yr. This evidence suggests that nutrient variability in this region is coordinated with recent changes in global climate

and underscores the broad potential of d15N-AA for paleoceanographic studies of the marine N cycle.
compound-specific isotope analysis | deep-sea corals | nitrogen cycle | North Atlantic Oscillation | stable N isotopes

Klima

Kok 2011

Jasper F. Kok, *A scaling theory for the size distribution of emitted dust aerosols suggests climate models underestimate the size of the global dust cycle*. PNAS **108** (2011), 1016–1021.

pnas108-01016-Supplement.pdf

Mineral dust aerosols impact Earth's radiation budget through interactions with clouds, ecosystems, and radiation, which constitutes a substantial uncertainty in understanding past and predicting future climate changes. One of the causes of this large uncertainty is that the size distribution of emitted dust aerosols is poorly understood. The present study shows that regional and global circulation models (GCMs) overestimate the emitted fraction of clay aerosols (<2 μm diameter) by a factor of ≈2-8 relative to measurements. This discrepancy is resolved by deriving a simple theoretical expression of the emitted dust size distribution that is in excellent agreement with measurements. This expression is based on the physics of the scale-invariant fragmentation of brittle materials, which is shown to be applicable to dust emission. Because clay aerosols produce a strong radiative cooling, the overestimation of the clay fraction causes GCMs to also overestimate the radiative cooling of a given quantity of emitted dust. On local and regional scales, this affects the magnitude and possibly the sign of the dust radiative forcing, with implications for numerical weather forecasting and regional climate predictions in dusty regions. On a global scale, the dust cycle in most GCMs is tuned to match radiative measurements, such that the overestimation of the radiative cooling of a given quantity of emitted dust has likely caused GCMs to underestimate the global dust emission rate. This implies that the deposition flux of dust and its fertilizing effects on ecosystems may be substantially larger than thought.
direct radiative forcing | scale invariance | aeolian saltation | dust storms | wind erosion