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Literatur

Aktuell

Bailey 2012

Drew H. Bailey, Andrew Littlefield & David C. Geary, *The codevelopment of skill at and preference for use of retrieval-based processes for solving addition problems: Individual and sex differences from first to sixth grades.* Journal of Experimental Child Psychology **113** (2012), 78–92.

The ability to retrieve basic arithmetic facts from long-term memory contributes to individual and perhaps sex differences in mathematics achievement. The current study tracked the codevelopment of preference for using retrieval over other strategies to solve single-digit addition problems, independent of accuracy, and skilled use of retrieval (i.e., accuracy and reaction time [RT]) from first to sixth grades inclusive (N = 311). Accurate retrieval in first grade was related to working memory capacity and intelligence, and it predicted a preference for retrieval in second grade. In later grades, the relation between skill and preference changed such that preference in one grade predicted accuracy and RT in the next grade as RT and accuracy continued to predict future gains in preference. In comparison with girls, boys had a consistent preference for retrieval over other strategies and had faster retrieval speeds, but the sex difference in retrieval accuracy varied across grades. Results indicate that ability influences early skilled retrieval, but both practice and skill influence each other in a feedback loop later in development and provide insights into the source of the sex difference in problem-solving approaches.

Keywords: Arithmetic | Memory retrieval | Skill | Sex differences | Mathematics achievement | Practice

Summary by Science Daily

In a University of Missouri study, girls and boys started grade school with different approaches to solving arithmetic problems, with girls favoring a slow and accurate approach and boys a faster but more error prone approach. Girls' approach gave them an early advantage, but by the end of sixth grade boys had surpassed the girls. The MU study found that boys showed more preference for solving arithmetic problems by reciting an answer from memory, whereas girls were more likely to compute the answer by counting. Understanding these results may help teachers and parents guide students better.

Chalder 2012

Melanie Chalder et al., *Facilitated physical activity as a treatment for depressed adults: randomised controlled trial.* British Medical Journal **344** (2012), e2758.

Melanie Chalder, Nicola J. Wiles, John Campbell, Sandra P. Hollinghurst, Anne M. Haase, Adrian H. Taylor, Kenneth R. Fox, Ceire Costelloe, Aidan Searle, Helen Baxter, Rachel Winder, Christine Wright, Katrina M. Turner, Michael Calnan, Deborah A. Lawlor, Tim J. Peters, Deborah J. Sharp, Alan A. Montgomery and Glyn Lewis

Objective To investigate the effectiveness of facilitated physical activity as an adjunctive treatment for adults with depression presenting in primary care.

Design Pragmatic, multicentre, two arm parallel randomised controlled trial.

Setting General practices in Bristol and Exeter.

Participants 361 adults aged 18-69 who had recently consulted their general practitioner with symptoms of depression. All those randomised had a diagnosis of an episode of

depression as assessed by the clinical interview schedule-revised and a Beck depression inventory score of 14 or more.
Interventions In addition to usual care, intervention participants were offered up to three face to face sessions and 10 telephone calls with a trained physical activity facilitator over eight months. The intervention was based on theory and aimed to provide individually tailored support and encouragement to engage in physical activity.
Main outcome measures The primary outcome was self reported symptoms of depression, assessed with the Beck depression inventory at four months post-randomisation. Secondary outcomes included use of antidepressants and physical activity at the four, eight, and 12 month follow-up points, and symptoms of depression at eight and 12 month follow-up.
Results There was no evidence that participants offered the physical activity intervention reported improvement in mood by the four month follow-up point compared with those in the usual care group; adjusted between group difference in mean Beck depression inventory score -0.54 (95 % confidence interval -3.06 to 1.99; P=0.68). Similarly, there was no evidence that the intervention group reported a change in mood by the eight and 12 month follow-up points. Nor was there evidence that the intervention reduced antidepressant use compared with usual care (adjusted odds ratio 0.63, 95 % confidence interval 0.19 to 2.06; P=0.44) over the duration of the trial. However, participants allocated to the intervention group reported more physical activity during the follow-up period than those allocated to the usual care group (adjusted odds ratio 2.27, 95 % confidence interval 1.32 to 3.89; P=0.003).
Conclusions The addition of a facilitated physical activity intervention to usual care did not improve depression outcome or reduce use of antidepressants compared with usual care alone.

Fawcett 2012

Tim W. Fawcett & Andrew D. Higginson, *Heavy use of equations impedes communication among biologists*. PNAS **109** (2012), 11735–11739.
pnas109-11735-Supplement.xlsx
Most research in biology is empirical, yet empirical studies rely fundamentally on theoretical work for generating testable predictions and interpreting observations. Despite this interdependence, many empirical studies build largely on other empirical studies with little direct reference to relevant theory, suggesting a failure of communication that may hinder scientific progress. To investigate the extent of this problem, we analyzed how the use of mathematical equations affects the scientific impact of studies in ecology and evolution. The density of equations in an article has a significant negative impact on citation rates, with papers receiving 28 % fewer citations overall for each additional equation per page in the main text. Long, equation-dense papers tend to be more frequently cited by other theoretical papers, but this increase is outweighed by a sharp drop in citations from nontheoretical papers (35 % fewer citations for each additional equation per page in the main text). In contrast, equations presented in an accompanying appendix do not lessen a paper's impact. Our analysis suggests possible strategies for enhancing the presentation of mathematical models to facilitate progress in disciplines that rely on the tight integration of theoretical and empirical work.
impact factor | mathematical formula | mathematical literacy | theoretical biology

Gervais 2012

Sarah J. Gervais, Theresa K. Vescio, Jens Förster, Anne Maass & Caterina Suitner, *Seeing women as objects: The sexual body part recognition bias*. European Journal of Social Psychology (2012) preprint, 1–11. DOI:10.1002/ejsp.1890.
Objectification theory suggests that the bodies of women are sometimes reduced to their sexual body parts. As well, an extensive literature in cognitive psychology suggests that

global processing underlies person recognition, whereas local processing underlies object recognition. Integrating these literatures, we introduced and tested the sexual body part recognition bias hypothesis that women's (versus men's) bodies would be reduced to their sexual body parts in the minds of perceivers. Specifically, we adopted the parts versus whole body recognition paradigm, which is a robust indicator of local versus global processing. The findings across two experiments showed that women's bodies were reduced to their sexual body parts in perceivers' minds. We also found that local processing contributed to the sexual body part recognition bias, whereas global processing tempered it. Implications for sexual objectification and its underlying processes and motives are discussed.

Gowaty 2012

Patricia Adair Gowaty, Yong-Kyu Kim & Wyatt W. Anderson, *No evidence of sexual selection in a repetition of Bateman's classic study of Drosophila melanogaster*. PNAS **109** (2012), 11740–11745.

We are unique in reporting a repetition of Bateman [Bateman AJ (1948) Heredity (Edinb) 2:349-368] using his methods of parentage assignment, which linked sex differences in variance of reproductive success and variance in number of mates in small populations of Drosophila melanogaster. Using offspring phenotypes, we inferred who mated with whom and assigned offspring to parents. Like Bateman, we cultured adults expressing dramatic phenotypes, so that each adult was heterozygous-dominant at its unique marker locus but had only wild-type alleles at all other subjects' marker loci. Assuming no viability effects of parental markers on offspring, the frequencies of parental phenotypes in offspring follow Mendelian expectations: one-quarter will be doublemutants who inherit the dominant gene from each parent, the offspring from which Bateman counted the number of mates per breeder; half of the offspring must be single mutants inheriting the dominant gene of one parent and the wild-type allele of the other parent; and one-quarter would inherit neither of their parent's marker mutations. Here we show that inviability of double-mutant offspring biased inferences of mate number and number of offspring on which rest inferences of sex differences in fitness variances. Bateman's method overestimated subjects with zero mates, underestimated subjects with one ormore mates, and produced systematically biased estimates of offspring number by sex. Bateman's methodology mismeasured fitness variances that are the key variables of sexual selection.

genetic parentage | monogamy

Köhler 2012

Meike Köhler, Nekane Marín-Moratalla, Xavier Jordana & Ronny Aanes, *Seasonal bone growth and physiology in endotherms shed light on dinosaur physiology*. nature **487** (2012), 358–361.

n487-0358-Supplement.pdf

Cyclical growth leaves marks in bone tissue that are in the forefront of discussions about physiologies of extinct vertebrates1. Ectotherms showpronounced annual cycles of growth arrest that correlate with a decrease in body temperature and metabolic rate; endotherms are assumed to grow continuously until they attain maturity because of their constant high body temperature and sustainedmetabolic rate1,2. This apparent dichotomy has driven the argument that zonal bone denotes ectotherm-like physiologies, thus fuelling the controversy on dinosaur thermophysiology and the evolution of endothermy in birds and mammal-like reptiles1-4. Here we show, from a comprehensive global study of wild ruminants from tropical to polar environments, that cyclical growth is a universal trait of homoeothermic endotherms. Growth is arrested during the unfavourable season concurrently with decreases in body temperature, metabolic rate and bone-growth-mediating plasma insulinlike growth factor-1 levels, forming part of a plesiomorphic

thermometabolic strategy for energy conservation. Conversely, bouts of intense tissue growth coincide with peak metabolic rates and correlated hormonal changes at the beginning of the favourable season, indicating an increased efficiency in acquiring and using seasonal resources. Our study supplies the strongest evidence so far that homeothermic endotherms arrest growth seasonally, which precludes the use of lines of arrested growth as an argument in support of ectothermy. However, high growth rates are a distinctive trait of mammals, suggesting the capacity for endogenous heat generation. The ruminant annual cycle provides an extant model on which to base inferences regarding the thermophysiology of dinosaurs and other extinct taxa.

Machinist 1983

Peter Machinist, *Assyria and its image in the First Isaiah*. Journal of the American Oriental Society **103** (1983), 719–737.

In the past 150 years, the native Assyrian sources on the Neo-Assyrian empire have become so voluminous that scholars, quite naturally, have concentrated on them to describe the history and character of the empire. But how did that empire appear to its contemporaries from their sources? What contributions can such perspectives make to our understanding of the ways in which the empire functioned? This study will initiate an answer to these questions by examining one principal outside source for the Neo-Assyrian empire, the Hebrew Bible. After a brief overview of all the relevant Biblical texts, the paper will focus on one portion of the corpus, the First Isaiah, in order to ascertain: (1) the picture of the Assyrian state presented in that prophet, and (2) the origin of that picture.

Mattson 2012

Mark P. Mattson, *Evolutionary aspects of human exercise—Born to run purposefully*. Ageing Research Reviews **11** (2012), 347–352.

This article is intended to raise awareness of the adaptive value of endurance exercise (particularly running) in the evolutionary history of humans, and the implications of the genetic disposition to exercise for the aging populations of modern technology-driven societies. The genome of Homo sapiens has evolved to support the svelte phenotype of an endurance runner, setting him/her apart from all other primates. The cellular and molecular mechanisms underlying the competitive advantages conferred by exercise capacity in youth can also provide a survival benefit beyond the reproductive period. These mechanisms include up-regulation of genes encoding proteins involved in protecting cells against oxidative stress, disposing of damaged proteins and organelles, and enhancing bioenergetics. Particularly fascinating are the signaling mechanisms by which endurance running changes the structure and functional capabilities of the brain and, conversely, the mechanisms by which the brain integrates metabolic, cardiovascular and behavioral responses to exercise. As an emerging example, I highlight the roles of brain-derived neurotrophic factor (BDNF) as a mediator of the effects of exercise on the brain, and BDNF's critical role in regulating metabolic and cardiovascular responses to endurance running. A better understanding of such 'healthspan-extending' actions of endurance exercise may lead to new approaches for improving quality of life as we advance in the coming decades and centuries.

Keywords: Adaptive advantage | Competition | Endurance | Energy intake and expenditure | Evolution | Learning and memory

Moritz 2012

Max A. Moritz, *Wildfires ignite debate on global warming*. nature **487** (2012), 273.

As temperatures soar, forests blaze and houses burn, the media and public may be forced to face up to the reality of a changing climate, says Max A. Moritz.

Climate change is not the only explanation. As usual, the conservative end of the political spectrum (including climate-change deniers) tends to blame environmental groups for opposing projects to thin forests, arguing that harvesting timber could have averted the devastating fires or mitigated their effects. Another argument focuses on the fact that we increasingly build homes in fire-prone ecosystems, including those that experience high-intensity fires as a natural event. The latest fires in the interior west leave several open questions, and sometimes 'all of the above' is the best scientific explanation. Fire hazard can increase sharply after suppression of natural fires in dry forests of ponderosa pine, so the lack of active forest management (including prescribed fires) is indeed a potential culprit there.

Noble 2011

Emily E. Noble, Charles J. Billington, Catherine M. Kotz, & ChuanFeng Wang, *The lighter side of BDNF*. American Journal of Physiology – Regulatory, Integrative and Comparative Physiology **300** (2011), R1053–R1069.

Brain-derived neurotrophic factor (BDNF) mediates energy metabolism and feeding behavior. As a neurotrophin, BDNF promotes neuronal differentiation, survival during early development, adult neurogenesis, and neural plasticity; thus, there is the potential that BDNF could modify circuits important to eating behavior and energy expenditure. The possibility that "faulty" circuits could be remodeled by BDNF is an exciting concept for new therapies for obesity and eating disorders. In the hypothalamus, BDNF and its receptor, tropomyosin-related kinase B (TrkB), are extensively expressed in areas associated with feeding and metabolism. Hypothalamic BDNF and TrkB appear to inhibit food intake and increase energy expenditure, leading to negative energy balance. In the hippocampus, the involvement of BDNF in neural plasticity and neurogenesis is important to learning and memory, but less is known about how BDNF participates in energy homeostasis. We review current research about BDNF in specific brain locations related to energy balance, environmental, and behavioral influences on BDNF expression and the possibility that BDNF may influence energy homeostasis via its role in neurogenesis and neural plasticity.

food intake; body weight; ventromedial hypothalamus; paraventricular nucleus; brain-derived neurotrophic factor

Osborn 2012

Kaitlynn A. Osborn, Brandon C. Irwin, Nikolaus J. Skogsberg & Deborah L. Feltz, *The Köhler Effect: Motivation Gains and Losses in Real Sports Groups*. Sport, Exercise and Performance Psychology (2012) preprint, 1–12. DOI:10.1037/a0026887.

Two investigations aimed to document motivation gains and losses (the Köhler effect and social-loafing effects) in real-life group work. Specifically, using archival data, motivation changes were analyzed from individual to additive group competition in collegiate swim, and high school track and field relays. Results showed that inferior group members had significantly greater motivation gains than noninferior teammates in preliminary and final swim races. Motivation gains also were significantly higher in the final compared to the preliminary race. Similar results were replicated with the track and field athletes with the weakest member of the team showing larger difference scores from individual to group competition compared to middle-ranked and higher-ranked teammates. On the whole, both studies provide ecological support for the Köhler effect, and that inferior team members showed the greatest motivation gains. No significant differences were found to support social-loafing effects within the same groups, but performances of superior group members tended to be slower.

Keywords: Köhler effect, social facilitation, social loafing

Padian 2012

Kevin Padian, *A bone for all seasons*. nature **487** (2012), 310–311.

Because mammals have such high metabolic rates, it has long been thought that their growth is invulnerable to seasonal variation. But their bones turn out to contain annual lines, just as those of cold-blooded animals do.

Do annual growth lines always reflect environmental stress? To explore this question, one group of researchers kept a colony of pygmy lemurs under constant conditions of food and temperature, but varied the light regime to reflect annual periodicity. They then took a subset of the animals and changed the light regime to a 10-month cycle. The bones of both groups deposited growth lines, but the subset did so every 10 instead of every 12 months, falsifying the hypothesis that stress was involved, and instead suggesting the influence of an internal response to light cues, perhaps mediated by the pineal gland in the brain. So, whereas the rhythms of annual growth cycles in vertebrates may originally have reflected environmental stress, it seems that these rhythms have become ingrained in the genes, even in the absence of stress.

Shtulman 2012

Andrew Shtulman & Joshua Valcarcel, *Scientific knowledge suppresses but does not supplant earlier intuitions*. Cognition **124** (2012), 209–215.

Cognition124-209-Supplement.pdf

When students learn scientific theories that conflict with their earlier, naïve theories, what happens to the earlier theories? Are they overwritten or merely suppressed? We investigated this question by devising and implementing a novel speeded-reasoning task. Adults with many years of science education verified two types of statements as quickly as possible: statements whose truth value was the same across both naïve and scientific theories of a particular phenomenon (e.g., "The moon revolves around the Earth") and statements involving the same conceptual relations but whose truth value differed across those theories (e.g., "The Earth revolves around the sun"). Participants verified the latter significantly more slowly and less accurately than the former across 10 domains of knowledge (astronomy, evolution, fractions, genetics, germs, matter, mechanics, physiology, thermodynamics, and waves), suggesting that naïve theories survive the acquisition of a mutually incompatible scientific theory, coexisting with that theory for many years to follow.

Keywords: Naive theories | Knowledge representation | Conceptual change | Science education

Tang-Martínez 2012

Zuleyma Tang-Martínez, *Repetition of Bateman challenges the paradigm*. PNAS **109** (2012), 11476–11477.

It is impossible to overestimate the impact that Bateman's 1948 paper has had on theoretical and empirical studies of sexual selection and, by extension, also on the study of parental investment theory, evolution of mating systems, evolution of sexual dimorphism, and male-female differences in sexual behavior. In fact, the study by Bateman is a foundational paper and has served as a cornerstone and underpinning for vast areas of behavioral ecology. Bateman's ideas and conclusions, codified as "Bateman's principles" by Arnold, have helped to define what we mean by sexual selection and how best to measure it. So-called "Bateman gradients" are routinely used to estimate the strength of sexual selection and which sex is more subject to selection. Although Bateman's results have been repeatedly questioned since the 1980s, there had been no known attempt to replicate his study.

Replication is a critical part of the scientific process because it can lead to the refutation of results that cannot be repeated. It is interesting that for more than 60 y, Bateman's

ideas served as a paradigm and were accepted fairly uncritically without any known attempts at replication.

TUGENDHAFT 2012

Aaron Tugendhaft, *How to Become a Brother in the Bronze Age: An Inquiry into the Representation of Politics in Ugaritic Myth*. Fragments **2** (2012), 89–104.

Fragments02-089-Comment1.pdf, Fragments02-089-Comment2.pdf

The article argues that a scene from the thirteenth-century B.C. Ugaritic Baal Cycle in which the goddess Anat announces to Baal that he has been offered a palace like his brothers' can be best understood in reference to the contemporary international political practice of fellow Bronze Age kings calling each other "brother." By depicting Baal as having "become a brother," the poem provides a means for its audience to compare a god's exploits in a poem to recent political events on the ground and to thereby reflect upon the nature of "brotherhood" as a marker of political legitimacy. In reading the poetic text against works attesting to Late Bronze Age political practice, the article not only offers an innovative method for studying Ugaritic poetry but also raises broader questions about the relationship between poetry and politics that have bearing on the study of ancient literature more generally.

Amerika

JENKINS 2012

Dennis L. Jenkins et al., *Clovis Age Western Stemmed Projectile Points and Human Coprolites at the Paisley Caves*. science **337** (2012), 223–228.

s337-0223-Supplement.pdf

Dennis L. Jenkins, Loren G. Davis, Thomas W. Stafford Jr., Paula F. Campos, Bryan Hockett, George T. Jones, Linda Scott Cummings, Chad Yost, Thomas J. Connolly, Robert M. Yohe II, Summer C. Gibbons, Maanasa Raghavan, Morten Rasmussen, Johanna L. A. Paijmans, Michael Hofreiter, Brian M. Kemp, Jodi Lynn Barta, Cara Monroe, M. Thomas P. Gilbert & Eske Willerslev

The Paisley Caves in Oregon record the oldest directly dated human remains (DNA) in the Western Hemisphere. More than 100 high-precision radiocarbon dates show that deposits containing artifacts and coprolites ranging in age from 12,450 to 2295 14C years ago are well stratified. Western Stemmed projectile points were recovered in deposits dated to 11,070 to 11,340 14C years ago, a time contemporaneous with or preceding the Clovis technology. There is no evidence of diagnostic Clovis technology at the site. These two distinct technologies were parallel developments, not the product of a unilinear technological evolution. "Blind testing" analysis of coprolites by an independent laboratory confirms the presence of human DNA in specimens of pre-Clovis age. The colonization of the Americas involved multiple technologically divergent, and possibly genetically divergent, founding groups.

Anthropologie

LACHANCE 2012

Joseph Lachance et al., *Evolutionary History and Adaptation from High-Coverage Whole-Genome Sequences of Diverse African Hunter-Gatherers*. Cell (2012) preprint, 1–13. DOI:10.1016/j.cell.2012.07.009.

Cell2012-preprint-Supplement1.pdf, Cell2012-preprint-Supplement2.xlsx, Cell2012-preprint-Supplement3.xlsx, Cell2012-preprint-Supplement4.xlsx, Cell2012-preprint-Supplement5.xlsx
Joseph Lachance, Benjamin Vernot, Clara C. Elbers, Bart Ferwerda, Alain Froment, Jean-Marie Bodo, Godfrey Lema, Wenqing Fu, Thomas B. Nyambo, Timothy R. Rebbeck, Kun Zhang, Joshua M. Akey and Sarah A. Tishkoff
To reconstruct modern human evolutionary history and identify loci that have shaped hunter-gatherer adaptation, we sequenced the whole genomes of five individuals in each of three different hunter-gatherer populations at >60× coverage: Pygmies from Cameroon and Khoesan-speaking Hadza and Sandawe from Tanzania. We identify 13.4 million variants, substantially increasing the set of known human variation. We found evidence of archaic introgression in all three populations, and the distribution of time to most recent common ancestors from these regions is similar to that observed for introgressed regions in Europeans. Additionally, we identify numerous loci that harbor signatures of local adaptation, including genes involved in immunity, metabolism, olfactory and taste perception, reproduction, and wound healing. Within the Pygmy population, we identify multiple highly differentiated loci that play a role in growth and anterior pituitary function and are associated with height.

Noakes 2012

Timothy Noakes & Michael Spedding, *Run for your life*. nature **487** (2012), 295–296.
Humans evolved to run. This helps to explain our athletic capacity and our susceptibility to modern diseases, argue Timothy Noakes and Michael Spedding.

Pontzer 2012

Herman Pontzer, David A. Raichlen, Brian M. Wood, Audax Z. P. Mabulla, Susan B. Racette & Frank W. Marlowe, *Hunter-Gatherer Energetics and Human Obesity*. PLoS ONE **7** (2012), e40503. DOI:10.1371/journal.pone.0040503.
Western lifestyles differ markedly from those of our hunter-gatherer ancestors, and these differences in diet and activity level are often implicated in the global obesity pandemic. However, few physiological data for hunter-gatherer populations are available to test these models of obesity. In this study, we used the doubly-labeled water method to measure total daily energy expenditure (kCal/day) in Hadza hunter-gatherers to test whether foragers expend more energy each day than their Western counterparts. As expected, physical activity level, PAL, was greater among Hadza foragers than among Westerners. Nonetheless, average daily energy expenditure of traditional Hadza foragers was no different than that of Westerners after controlling for body size. The metabolic cost of walking (kcal kg-1 m-1) and resting (kcal kg-1 s-1) were also similar among Hadza and Western groups. The similarity in metabolic rates across a broad range of cultures challenges current models of obesity suggesting that Western lifestyles lead to decreased energy expenditure. We hypothesize that human daily energy expenditure may be an evolved physiological trait largely independent of cultural differences.

Ward 2012

Carol V. Ward, William H. Kimbel, Elizabeth H. Harmon, Donald C. Johanson, *New postcranial fossils of Australopithecus afarensis from Hadar, Ethiopia (1990–2007)*. Journal of Human Evolution **63** (2012), 1–51.
Renewed fieldwork at Hadar, Ethiopia, from 1990 to 2007, by a team based at the Institute of Human Origins, Arizona State University, resulted in the recovery of 49 new

postcranial fossils attributed to Australopithecus afarensis. These fossils include elements from both the upper and lower limbs as well as the axial skeleton, and increase the sample size of previously known elements for A. afarensis. The expanded Hadar sample provides evidence of multiple new individuals that are intermediate in size between the smallest and largest individuals previously documented, and so support the hypothesis that a single dimorphic species is represented. Consideration of the functional anatomy of the new fossils supports the hypothesis that no functional or behavioral differences need to be invoked to explain the morphological variation between large and small A. afarensis individuals. Several specimens provide important new data about this species, including new vertebrae supporting the hypothesis that A. afarensis may have had a more human-like thoracic form than previously appreciated, with an invaginated thoracic vertebral column. A distal pollical phalanx confirms the presence of a human-like flexor pollicis longus muscle in A. afarensis. The new fossils include the first complete fourth metatarsal known for A. afarensis. This specimen exhibits the dorsoplantarly expanded base, axial torsion and domed head typical of humans, revealing the presence of human-like permanent longitudinal and transverse arches and extension of the metatarsophalangeal joints as in human-like heel-off during gait. The new Hadar postcranial fossils provide a more complete picture of postcranial functional anatomy, and individual and temporal variation within this sample. They provide the basis for further in-depth analyses of the behavioral and evolutionary significance of A. afarensis anatomy, and greater insight into the biology and evolution of these early hominins.
Keywords: Bipedalism | Afar | Foot | Limbs | Axial skeleton | Pliocene hominins

Judentum

Jenei 2009

Peter Jenei, *Circumcision and Baptism in culture: the "plausibility" of Judeo-Christian ritual symbols in changing cultural contexts*, *Delivered at PThU-DRHE 4th Symposium: Baptism – Traditional Concepts and Emerging Questions, Kampen, 14–18. May, 2009.* (Unpublished 2009). <http://www.academia.edu/attachments/25303739/download_file> (2012-07-31).
Examining circumcision and baptism within the framework of Berger's concept of the plausibility structure it is possible to observe certain motifs regarding the relationship between religion and culture:
1. We could see that religions under formulation are in a privileged position to pick up cultural elements easily from surrounding plausibility structure. Filling it with original meaning won't make their plausibility structures differing due to the common frame.
2. Religions in an evolved state are no more in a position to easily change central beliefs and practices even if their plausibility highly differs from the overall plausibility structure.
3. The changing of the overall plausibility structure pushes sub-structures into an unfavorable position where the price of their survival is a heavy decline of their plausibility.
Following Berger's depiction of nowadays secular society – which is definitely a differing plausibility structure compared to the Christian one – we must admit that Christianity in the Western society faces with the challenges depicted above under conclusions 2 and 3. At the same time there still remains another side to the story. In a postmodern society and pluralist culture everything is plausible even if relatively plausible. The question for the Judeo-Christian tradition is not the plausibility anymore but whether to whom will it seem to be plausible ...

Klima

Dutton 2012

A. Dutton & K. Lambeck, *Ice Volume and Sea Level During the Last Interglacial*. science **337** (2012), 216–219.

s337-0216-Supplement1.pdf, s337-0216-Supplement2.xlsx

During the last interglacial period, ≈125,000 years ago, sea level was at least several meters higher than at present, with substantial variability observed for peak sea level at geographically diverse sites. Speculation that the West Antarctic ice sheet collapsed during the last interglacial period has drawn particular interest to understanding climate and ice-sheet dynamics during this time interval. We provide an internally consistent database of coral U-Th ages to assess last interglacial sea-level observations in the context of isostatic modeling and stratigraphic evidence. These data indicate that global (eustatic) sea level peaked 5.5 to 9 meters above present sea level, requiring smaller ice sheets in both Greenland and Antarctica relative to today and indicating strong sea-level sensitivity to small changes in radiative forcing.

Fall 2011

Souleymane Fall, Anthony Watts, John Nielsen-Gammon, Evan Jones, Dev Niyogi, John R. Christy & Roger A. Pielke Sr., *Analysis of the impacts of station exposure on the U.S. Historical Climatology Network temperatures and temperature trends*. Journal of Geophysical Research **116** (2011), D14120. DOI:10.1029/2010JD015146.

JGeophysRes116-D14120-Supplement.zip

The recently concluded Surface Stations Project surveyed 82.5 % of the U.S. Historical Climatology Network (USHCN) stations and provided a classification based on exposure conditions of each surveyed station, using a rating system employed by the National Oceanic and Atmospheric Administration to develop the U.S. Climate Reference Network. The unique opportunity offered by this completed survey permits an examination of the relationship between USHCN station siting characteristics and temperature trends at national and regional scales and on differences between USHCN temperatures and North American Regional Reanalysis (NARR) temperatures. This initial study examines temperature differences among different levels of siting quality without controlling for other factors such as instrument type. Temperature trend estimates vary according to site classification, with poor siting leading to an overestimate of minimum temperature trends and an underestimate of maximum temperature trends, resulting in particular in a substantial difference in estimates of the diurnal temperature range trends. The opposite-signed differences of maximum and minimum temperature trends are similar in magnitude, so that the overall mean temperature trends are nearly identical across site classifications. Homogeneity adjustments tend to reduce trend differences, but statistically significant differences remain for all but average temperature trends. Comparison of observed temperatures with NARR shows that the most poorly sited stations are warmer compared to NARR than are other stations, and a major portion of this bias is associated with the siting classification rather than the geographical distribution of stations. According to the best-sited stations, the diurnal temperature range in the lower 48 states has no century-scale trend.

Litt 2012

Thomas Litt, Christian Ohlwein, Frank H. Neumann, Andreas Hense & Mordechai Stein, *Holocene climate variability in the Levant from the Dead Sea pollen record*. Quaternary Science Reviews **49** (2012), 95–105.

qsr49-0095-Supplement1.doc

The Dead Sea, located at the deepest place on continent and between the subtropical Mediterranean zone and the desert, reflects in its water composition and levels, and sedimentary records the hydrological conditions in the southern Levant region. Temporal variations in rainfall and temperatures of the Holocene Levant are reconstructed here from pollen data recovered from a sediment core drilled at the Ein Gedi shore, applying a novel biome model based on Bayesian statistics. Our results suggest that the regionwas arid and warm in the early Holocene period (≈10–6.5 ka cal BP), wetter and colder in the mid Holocene (6.3–3.3 ka cal BP), and drier and warmer in the late Holocene (≈3.2 ka cal BP to present). These periods comprise multi-centennial climate cycles that are characterized by rapid changes in temperature and precipitation reflecting Sea Surface Temperature (SST) and atmospheric conditions over the Atlantic Ocean. The pollen record responds within a short time interval to the climate conditions and marks rapid shifts from Mediterranean to desert environmental conditions and back in the southern Levant region.We also evaluate our results in the light of possible disturbances of the natural vegetation, e.g. the possibility of forest decrease, since the Neolithic.
Keywords: Holocene | Paleoclimatology | Near East | Palynology | Quantitative cilmate reconstructions

Story or Book

Tang 2012
Grace Tang, *White Lies*, *A helping hand*. nature **487** (2012), 400.