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Literatur

Afrika

Schoenbrun 1995

David L. Schoenbrun, *Social Aspects of Agricultural Change between the Great Lakes, AD 500 to 1000*. Azania **29-30** (1995), 270–282.

Scholars who study early fanning communities focus too rarely on social dimensions of agricultural history. Following some recent breakthroughs in this respect, especially Vansina (1990) and Mclntosh (1993), this essay will offer some thoughts on the relations between food systems and socio-political institutions between the Great Lakes. A survey of the agricultural history of the region between Lake Victoria Nyanza and the Kivu Rift,1 from about 500 BC to about AD 1000, forms the background for a presentation of the comparative linguistic and ethnographic evidence for the development of political and healing complexes within that agricultural context. The last two sections carry out these tasks.

Sutton 1995

J. E. G. Sutton, *The Growth of Farming Communities in Africa from the Equator Southwards, proceedings of a conference of the British Institute in Eastern Africa, Newnham College, Cambridge, 4–8 July 1994*. Azania **29-30** (1995), 1–338.

Aktuell

Crotty 2012

Darragh Crotty, Gary Silkstone, Soumya Poddar, Richard Ranson, Adriele Prina-Mello, Michael T. Wilson & J. M. D. Coey, *Reexamination of magnetic isotope and field effects on adenosine triphosphate production by creatine kinase*. PNAS **109** (2012), 1437–1442.

The influence of isotopically enriched magnesium on the creatine kinase catalyzed phosphorylation of adenosine diphosphate is examined in two independent series of experiments where adenosine triphosphate (ATP) concentrations were determined by a luciferase-linked luminescence end-point assay or a real-time spectrophotometric assay. No increase was observed between the rates of ATP production with natural Mg, 24Mg, and 25Mg, nor was any significant magnetic field effect observed in magnetic fields from 3 to 1,000 mT. Our results are in conflict with those reported by Buchachenko et al. [J Am Chem Soc 130:12868–12869 (2008)], and they challenge these authors' general claims that a large (two- to threefold) magnetic isotope effect is "universally observable" for ATP-producing enzymes [Her Russ Acad Sci 80:22–28 (2010)] and that "enzymatic phosphorylation is an ion-radical, electron-spinselective process" [Proc Natl Acad Sci USA 101:10793–10796 (2005)].

radical pair | spin biochemistry

Hore 2012

P. J. Hore, *Are biochemical reactions affected by weak magnetic fields?* PNAS **109** (2012), 1357–1358.

The replication study duplicated as faithfully as possible the conditions of the original experiments. There seems to be no obvious explanation for the irreproducibility of BK's results. There have been at least three other negative replication studies of seemingly robust biological radical pair magnetic field effects.

Amerika

Grobman 2012

Alexander Grobman, Duccio Bonavia, Tom D. Dillehay, Dolores R. Piperno, José Iriarte, & Irene Holst, *Preceramic maize from Paredones and Huaca Prieta, Peru.* PNAS **109** (2012), 1755–1759.

Maize (Zea mays ssp. mays) is among the world's most important and ancient domesticated crops. Although the chronology of its domestication and initial dispersals out of Mexico into Central and South America has become more clear due to molecular and multiproxy archaeobotanical research, important problems remain. Among them is the paucity of information on maize's early morphological evolution and racial diversification brought about in part by the poor preservation of macrofossils dating to the pre5000 calibrated years before the present period from obligate dispersal routes located in the tropical forest. We report newly discovered macrobotanical and microbotanical remains of maize that shed significant light on the chronology, land race evolution, and cultural contexts associated with the crop's early movements into South America and adaptation to new environments. The evidence comes from the coastal Peruvian sites of Paredones and Huaca Prieta, Peru; dates from the middle and late preceramic and early ceramic periods (between ca. 6700 and 3000 calibrated years before the present); and constitutes some of the earliest known cobs, husks, stalks, and tassels. The macrobotanical record indicates that a diversity of racial complexes characteristic of the Andean region emerged during the preceramic era. In addition, accelerator mass spectrometry radiocarbon determinations carried out directly on different structures of preserved maize plants strongly suggest that assays on burned cobs are more reliable than those on unburned cobs. Our findings contribute to knowledge of the early diffusion of maize and agriculture and have broader implications for understanding the development of early preindustrial human societies.

early crops | social complexity

Anthropologie

Bailey 1989

Robert C. Bailey, Genevieve Head, Mark Jenike, Bruce Owen, Robert Rechtman & Elzbieta Zechenter, *Hunting and Gathering in Tropical Rain Forest: Is It Possible?* American Anthropologist **91** (1989), 59–82.

Hunters and gatherers living in tropical forests represent an important part of the total range of variation among contemporary hunting and gathering societies. Studies of tropical forest hunting and gathering peoples have contributed to ourperceptions oftheforaging way oflife. Yet no peoples have ever been directly observed living independently of agriculture in tropical rain forest. This article tests the hypothesis that humans do not exist nor have ever existed independently of agriculture in tropical rain forest. We find no convincing ethnographic evidence and, with the possible exception of Malaysia, no archeological evidence for pure foragers in undisturbed tropical rain forests. Negative evidence cannot be conclusive, but it suggests that we need to carefully reexamine common assumptions concerning the recent history of tropical forest dwellers, the adaptability of preagricultural humans; the geographic and environmental range of hominids,

and the form and consequences ofselection pressures acting on humans in warm, humid environments. The overriding purpose of this article is to stimulate further ecological and archeological research in the neglected tropical forest areas of the world.

Hladik 1993

Annette Hladik & Edmond Dounias, *Wild Yams of the African Forest as Potential Food Resources*. In: C. M. Hladik, A. Hladik, O. F. Linares, H. Pagezy, A. Semple & M. Hadley (Hrsg.), *Tropical Forests, People and Food, Biocultural Interactions and Applications to Development*. Man and the Biosphere 13 (Paris 1993), 163–176.

Plants with tubers hidden below ground in the rain forest merit renewed attention as potential foods for forest people, both past and present.

Most hunter-gatherers presently living in tropical forest obtain their staple starch foods (cultivated tubers, plantain fruits, rice, etc.) through exchange with agriculturalists, but the role that wild tubers might have played in the past as staple starches remains a mystery.

Hladik 2002

C. M. Hladik & P. Pasquet, *The human adaptations to meat eating: a reappraisal*. Human Evolution **17** (2002), 199–206.

HumanEvolution17-199-Manuscript.pdf

In this paper we discuss the hypothesis, proposed by some authors, that man is a habitual meat-eater. Gut measurements of primate species do not support the contention that human digestive tract is specialized for meat-eating, especially when taking into account allometric factors and their variations between folivores, frugivores and meat-eaters. The dietary status of the human species is that of an unspecialized frugivore, having a flexible diet that includes seeds and meat (omnivorous diet). Throughout the various time periods, our human ancestors could have mostly consumed either vegetable, or large amounts of animal matter (with fat and/or carbohydrate as a supplement), depending on the availability and nutrient content of food resources. Some formerly adaptive traits (e. g. the "thrifty genotype") could have resulted from selective pressure during transitory variations of feeding behavior linked to environmental constraints existing in the past.

Key Words: meat eating, hominids, gut allometry, thrifty genotype

Mercader 2002

Julio Mercader, *Forest People: The Role of African Rainforests in Human Evolution and Dispersal*. Evolutionary Anthropology **11** (2002), 117–124.

Conventionally, the African continent has been partitioned in two evolutionary domains. One of them, the rainforest, is home to apes and covers central and West Africa. The other one extends through the woodlands and savannas of East and Southern Africa and has been traditionally perceived as home to humanity. The morphology of early humans is well-adapted to open environments. In addition, food procurement in savannas is known to be easier and more reliable than is provisioning in the rainforest, with its dispersed and cryptic faunal resources and fickle carbohydrates and fat. In the late 1980s, human ecologists and sociocultural anthropologists demonstrated that full-fledged foraging without some agricultural support has been virtually undocumented in tropical forests today or in the recent past. This research portrayed the present-day rainforest ecosystem as an unfriendly environment that is unable to support purely foraging groups, and questioned whether hominids ever lived in it.

Mercader 2008

Julio Mercader, Tim Bennett & Mussa Raja, *Middle Stone Age starch*

acquisition in the Niassa Rift, Mozambique. Quaternary Research **70** (2008), 283–300.

The quest for direct lines of evidence for Paleolithic plant consumption during the African Middle Stone Age has led scientists to study residues and use-wear on flaked stone tools. Past work has established lithic function through multiple lines of evidence and the spatial breakdown of use-wear and microscopic traces on tool surfaces. This paper focuses on the quantitative analysis of starch assemblages and the botanical identification of grains from flake and core tools to learn about human ecology of carbohydrate use around the Niassa woodlands, in the Mozambican Rift. The processing of starchy plant parts is deduced from the occurrence of starch assemblages that presumably got attached to stone tool surfaces by actions associated with extractive or culinary activities. Specifically, we investigate starch grains from stone tools recently excavated in northern Mozambique at the site of Mikuyu; which presumably spans the middle to late Pleistocene and represents similar sites found along the Malawi/Niassa corridor that links East, Southern, and Central Africa. Starch was extracted and processed with a diverse tool kit consisting of scrapers, cores, points, flakes, and other kinds of tools. The microbotanical data suggests consumption of seeds, legumes, caryopses, piths, underground storage organs, nuts, and mesocarps from more than a dozen families. Our data suggest a great antiquity for starch use in Africa as well as an expanded diet and intensification.

Keywords: Africa; Middle Stone Age; Mozambique; Niassa; Starch grains

Biologie

Möllinger 2009

Heribert Möllinger, Rainer Schneider & Harald Walach, *Homeopathic Pathogenetic Trials Produce Specific Symptoms Different from Placebo*. Forschende Komplementärmedizin **16** (2009), 105–110.

Introduction: Homeopathy uses information gathered from healthy volunteers taking homeopathic substances (pathogenetic trials) for clinical treatment. It is controversial whether such studies produce symptoms different from those produced by placebo.

Objective: To test whether homeopathic preparations produce different symptoms than placebo in healthy volunteers.

Methods: Three armed, double-blind, placebo controlled randomised experimental pathogenetic study in 25 healthy volunteers who took either one of two homeopathic remedies, Natrum muriaticum and Arsenicum album in 30CH or identical placebo. Main outcome parameter was the number of remedy-specific symptoms per group.

Results: On average, 6 symptoms typical for Arsenicum album were experienced by participants taking arsenicum album, 5 symptoms typical for Natrum muriaticum by those taking natrum muriaticum, and 11 non-specific symptoms by those in the placebo group. Differences were significant overall (Kruskall Wallis test, $p = 0.0002$,) and significantly different from placebo (Mann-Whitney test, $p = 0.001$).

Conclusion: Homeopathic remedies produce different symptoms than placebo.

Key Words: Homeopathy, Placebo, Double-blind, Randomised controlled trial, RCT, Pathogenetic trial

Walach 2008

H. Walach, H. Möllinger, J. Sherr & R. Schneider, *Homeopathic pathogenetic trials produce more specific than non-specific symptoms: results from two double-blind placebo controlled trials*. Journal of Psychopharmacology **22** (2008), 543–552.

We conducted two parallel, blinded homeopathic pathogenetic trials conducted at two different sites to determine whether symptoms reported by healthy volunteers were significantly different for homeopathic remedies than for placebos. Study 1 used a two-armed design, testing ozone against placebo. Study 2 used a three-armed design, testing ozone and iridium against placebo. We found significantly more remedy-specific symptoms in provers taking ozone or iridium than in provers taking placebo in the three-armed trial and in both trials pooled for ozone and placebo. We, therefore, conclude that homeopathic remedies produce more symptoms typical for a remedy than non-typical symptoms. The results furthermore suggest a somewhat non-classical pattern because symptoms of one remedy appear to be mimicked in the other trial arm. This might be indicative of entanglement in homeopathic systems.
Key words: non-specific symptoms; pathogenetic trial; placebo

Energie

KUGELER 1992

Kurt Kugeler & Rudolf Schulten, *Überlegungen zu den sicherheitstechnischen Prinzipien der Kerntechnik*. (Jülich 1992).

Considerations for the future world economy require a substantial contribution of nuclear energy. However, a new quality of safety is necessary for the future world-wide increased use of nuclear energy, a catastrophe-free nuclear technology is demanded. Catastrophe-free means, that even in case of extreme accidents there is no release of unallowable amounts of radioactive fission products from the reactor plant, the consequences of the accident must be restricted to the area of the reactor plant itself.
To reach this objective it can be tried either by reactor concepts with guaranteed retention and control of the consequences of a molten core inside the reactor containment or by reactor concepts, in which the core melt accident is excluded by natural laws in which the radioactive fission products stay inside the fuel elements in all accidents.
This report treats conditions which are stringent in the latter case. The following 6 conditions must be fulfilled in all cases of accidents: selfacting limitation of the nuclear power production and of the fuel temperature, selfacting after heat removal from the core and the power plant, selfacting receipt of the barriers fuel elements, reactor pressure vessel and reactor containment, independency of the fission product barriers from each other. These are final conditions for the receipt of the integrity of the fuel elements and the retention of the radioactive fission products in the fuel elements. The refered requirements to realize catastrophe-free nuclear technology have to be proved extensively for new reactor concepts.