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Literatur

Aktuell

Batty 2013

Michael Batty, *A Theory of City Size*. science **340** (2013), 1418–1419.
A theory explaining how the attributes of cities scale with city size may help to inform urban planning.

Bettencourt 2013

Luís M. A. Bettencourt, *The Origins of Scaling in Cities*. science **340** (2013), 1438–1441.
s340-1438-Supplement.pdf
Despite the increasing importance of cities in human societies, our ability to understand them scientifically and manage them in practice has remained limited. The greatest difficulties to any scientific approach to cities have resulted from their many interdependent facets, as social, economic, infrastructural, and spatial complex systems that exist in similar but changing forms over a huge range of scales. Here, I show how all cities may evolve according to a small set of basic principles that operate locally. A theoretical framework was developed to predict the average social, spatial, and infrastructural properties of cities as a set of scaling relations that apply to all urban systems. Confirmation of these predictions was observed for thousands of cities worldwide, from many urban systems at different levels of development. Measures of urban efficiency, capturing the balance between socioeconomic outputs and infrastructural costs, were shown to be independent of city size and might be a useful means to evaluate urban planning strategies.

Qiu 2013

Jane Qiu, *Monsoon Melee*. science **340** (2013), 1400–1401.
The rhythms of life across South Asia depend on the Indian monsoon. Climate scientists are locking horns over the cause of the summer deluges
In a series of papers, the most recent of which appeared in February in Scientific Reports, the two scientists argue that Tibet is irrelevant to the Indian monsoon. Instead, they say the monsoon is caused by a "barrier effect": the Himalayas blocking cold, dry winds from the north. In a global climate model, the duo showed that the Himalayas alone could generate a monsoon pattern that is largely similar to that pattern predicted when the Tibetan Plateau is included. When the mountain ranges were absent, they ended up with much lower energy in the air over northern India and got a weaker monsoon.
Others have leapt to the defense of the plateau heating hypothesis. The heat and moisture that give the air high energy levels over northern India, Webster says, come from the warm ocean near the equator. This depends on a big temperature difference between the equator and the elevated terrain in a midlatitude swath of Asia, Tibet included, which sets up the winds that blow inland. The high energy of air over northern India "is a result, rather than the cause, of the monsoon," Webster says.

Rietveld 2013

Cornelius A. Rietveld, Peter M. Visscher, Daniel J. Benjamin, David Cesarini, Philipp D. Koellinger et al., *GWAS of 126,559 Individuals*

Identifies Genetic Variants Associated with Educational Attainment. science **340** (2013), 1467–1471.
s340-1467-Supplement.pdf
A genome-wide association study (GWAS) of educational attainment was conducted in a discovery sample of 101,069 individuals and a replication sample of 25,490. Three independent single-nucleotide polymorphisms (SNPs) are genome-wide significant (rs9320913, rs11584700, rs4851266), and all three replicate. Estimated effects sizes are small (coefficient of determination R2 ≈ 0.02 %), approximately 1 month of schooling per allele. A linear polygenic score from all measured SNPs accounts for ≈2 % of the variance in both educational attainment and cognitive function. Genes in the region of the loci have previously been associated with health, cognitive, and central nervous system phenotypes, and bioinformatics analyses suggest the involvement of the anterior caudate nucleus. These findings provide promising candidate SNPs for follow-up work, and our effect size estimates can anchor power analyses in social-science genetics.

Wolf 2013

E. T. Wolf & O. B. Toon, *Hospitable Archean Climates Simulated by a General Circulation Model.* Astrobiology (2013), preprint, 1–18. DOI:10.1089/ast.2012.0936.
Evidence from ancient sediments indicates that liquid water and primitive life were present during the Archean despite the faint young Sun. To date, studies of Archean climate typically utilize simplified one-dimensional models that ignore clouds and ice. Here, we use an atmospheric general circulation model coupled to a mixedlayer ocean model to simulate the climate circa 2.8 billion years ago when the Sun was 20 % dimmer than it is today. Surface properties are assumed to be equal to those of the present day, while ocean heat transport varies as a function of sea ice extent. Present climate is duplicated with 0.06 bar of CO2 or alternatively with 0.02 bar of CO2 and 0.001 bar of CH4. Hot Archean climates, as implied by some isotopic reconstructions of ancient marine cherts, are unattainable even in our warmest simulation having 0.2 bar of CO2 and 0.001 bar of CH4. However, cooler climates with significant polar ice, but still dominated by open ocean, can be maintained with modest greenhouse gas amounts, posing no contradiction with CO2 constraints deduced from paleosols or with practical limitations on CH4 due to the formation of optically thick organic hazes. Our results indicate that a weak version of the faint young Sun paradox, requiring only that some portion of the planet's surface maintain liquid water, may be resolved with moderate greenhouse gas inventories. Thus, hospitable late Archean climates are easily obtained in our climate model.
Keywords: Early Earth | Atmosphere | Habitability

Anthropologie

Baab 2013

Karen L. Baab, Kieran P. McNulty & Katerina Harvati, *Homo floresiensis Contextualized, A Geometric Morphometric Comparative Analysis of Fossil and Pathological Human Samples.* PLoS ONE **8** (2013), e69119. DOI:10.1371/journal.pone.0069119.
The origin of hominins found on the remote Indonesian island of Flores remains highly contentious. These specimens may represent a new hominin species, Homo floresiensis, descended from a local population of Homo erectus or from an earlier

(pre-H. erectus) migration of a small-bodied and small-brained hominin out of Africa. Alternatively, some workers suggest that some or all of the specimens recovered from Liang Bua are pathological members of a small-bodied modern human population. Pathological conditions proposed to explain their documented anatomical features include microcephaly, myxoedematous endemic hypothyroidism ("cretinism") and Laron syndrome (primary growth hormone insensitivity). This study evaluates evolutionary and pathological hypotheses through comparative analysis of cranial morphology. Geometric morphometric analyses of landmark data show that the sole Flores cranium (LB1) is clearly distinct from healthy modern humans and from those exhibiting hypothyroidism and Laron syndrome. Modern human microcephalic specimens converge, to some extent, on crania of extinct species of Homo. However in the features that distinguish these two groups, LB1 consistently groups with fossil hominins and is most similar to H. erectus. Our study provides further support for recognizing the Flores hominins as a distinct species, H. floresiensis, whose affinities lie with archaic Homo.

BAUMAN 2013

M. D. Bauman, A.-M. Iosif, P. Ashwood, D. Braunschweig, A. Lee, C. M. Schumann, J. van de Water & D. G. Amaral, *Maternal antibodies from mothers of children with autism alter brain growth and social behavior development in the rhesus monkey*. Translational Psychiatry **3** (2013), e278. DOI:10.1038/tp.2013.47.

NTranslatPsychiat03-e278-Supplement.doc

Antibodies directed against fetal brain proteins of 37 and 73 kDa molecular weight are found in approximately 12 % of mothers who have children with autism spectrum disorder (ASD), but not in mothers of typically developing children. This finding has raised the possibility that these immunoglobulin G (IgG) class antibodies cross the placenta during pregnancy and impact brain development, leading to one form of ASD. We evaluated the pathogenic potential of these antibodies by using a nonhuman primate model. IgG was isolated from mothers of children with ASD (IgG-ASD) and of typically developing children (IgG-CON). The purified IgG was administered to two groups of female rhesus monkeys (IgG-ASD; n=8 and IgG-CON; n=8) during the first and second trimesters of pregnancy. Another control group of pregnant monkeys (n=8) was untreated. Brain and behavioral development of the offspring were assessed for 2 years. Behavioral differences were first detected when the macaque mothers responded to their IgG-ASD offspring with heightened protectiveness during early development. As they matured, IgG-ASD offspring consistently deviated from species-typical social norms by more frequently approaching familiar peers. The increased approach was not reciprocated and did not lead to sustained social interactions. Even more striking, IgG-ASD offspring displayed inappropriate approach behavior to unfamiliar peers, clearly deviating from normal macaque social behavior. Longitudinal magnetic resonance imaging analyses revealed that male IgG-ASD offspring had enlarged brain volume compared with controls. White matter volume increases appeared to be driving the brain differences in the IgG-ASD offspring and these differences were most pronounced in the frontal lobes.

BRAUNSCHWEIG 2013

D. Braunschweig et al., *Autism-specific maternal autoantibodies recognize critical proteins in developing brain*. Translational Psychiatry **3** (2013), e277. DOI:10.1038/tp.2013.50.

D. Braunschweig, P. Krakowiak, P. Duncanson, R. Boyce, R. L. Hansen, P. Ashwood, I. Hertz-Picciotto, I. N. Pessah & J. van de Water

Autism spectrum disorders (ASDs) are neurodevelopmental in origin, affecting an estimated 1 in 88 children in the United States. We previously described ASD-specific maternal autoantibodies that recognize fetal brain antigens. Herein, we demonstrate that lactate dehydrogenase A and B (LDH), cypin, stress-induced phosphoprotein 1 (STIP1), collapsin response mediator proteins 1 and 2 (CRMP1, CRMP2) and Y-box-binding protein to comprise the seven primary antigens of maternal autoantibody-related (MAR) autism. Exclusive reactivity to specific antigen combinations was noted in 23 % of mothers of ASD children and only 1 % of controls. ASD children from mothers with specific reactivity to LDH, STIP1 and CRMP1 and/or cypin (7 % vs 0 % in controls; P<0.0002; odds ratios of 24.2 (95 % confidence interval: 1.45–405)) had elevated stereotypical behaviors compared with ASD children from mothers lacking these antibodies. We describe the first panel of clinically significant biomarkers with over 99 % specificity for autism risk thereby advancing our understanding of the etiologic mechanisms and therapeutic possibilities for MAR autism.

Datierung

Scuderi 2013

Louis A. Scuderi & Peter J. Fawcett, *Holocene environmental change resets lichen surface dates on Recess Peak glacial deposits in the Sierra Nevada, California*. Quaternary Research (2013), preprint, 1–9. DOI:10.1016/j.yqres.2013.05.009.

Development of an accurate chronology for glacial deposits in the Sierra Nevada has long been problematic given the lack of suitable organic material for radiocarbon dating. Lichenometry initially appeared promising as ages showed an increase from cirque headwalls to down-canyon moraines. However, while Recess Peak lichen age estimates range from 2 to 3 ka, recent work shows these deposits to be at least 10 ka older. Here,we present evidence for a late Holocene reset of Recess Peak lichen ages by significant post-depositional climate change. Following late-Pleistocene deposition of Recess Peak moraines, warming through the mid-Holocene allowed forests to advance into shallow basins eliminating local inverted tree lines. This produced a partial canopy where shading killed the original post-Pleistocene crustose lichen colonies. Late-Holocene cooling resulted in forest retreat from these basins as alpine tree line fell. Lichens then recolonized the re-exposed Recess Peak deposits. We conclude thatwhile Recess Peak lichen ages are accurate towithin the dating uncertainty of the technique, existing lichen ages actually date the timing of post-mid-Holocene cooling and recolonization, and not the original emplacement of these deposits. Thus, applications of Lichenometry should consider post-depositional environmental change when interpreting the meaning of these dates.

Klima

Brigham-Grette 2013

Julie Brigham-Grette et al., *Pliocene Warmth, Polar Amplification, and Stepped Pleistocene Cooling Recorded in NE Arctic Russia*. science **340** (2013), 1421–1427.

s340-1421-Supplement.pdf

Julie Brigham-Grette, Martin Melles, Pavel Minyuk, Andrei Andreev, Pavel Tarasov, Robert DeConto, Sebastian Koenig, Norbert Nowaczyk, Volker Wennrich,

Peter Rosén, Eeva Haltia, Tim Cook, Catalina Gebhardt, Carsten Meyer-Jacob, Jeff Snyder & Ulrike Herzschuh
Understanding the evolution of Arctic polar climate from the protracted warmth of the middle Pliocene into the earliest glacial cycles in the Northern Hemisphere has been hindered by the lack of continuous, highly resolved Arctic time series. Evidence from Lake El'gygytgyn, in northeast (NE) Arctic Russia, shows that 3.6 to 3.4 million years ago, summer temperatures were ≈8°C warmer than today, when the partial pressure of CO2 was ≈400 parts per million. Multiproxy evidence suggests extreme warmth and polar amplification during the middle Pliocene, sudden stepped cooling events during the Pliocene-Pleistocene transition, and warmer than present Arctic summers until ≈2.2 million years ago, after the onset of Northern Hemispheric glaciation. Our data are consistent with sea-level records and other proxies indicating that Arctic cooling was insufficient to support large-scale ice sheets until the early Pleistocene.

Gronenborn 2008
Detlef Gronenborn, *Klimainduzierte Umweltkrisen und ihre soziopolitischen Auswirkungen auf prähistorische Gesellschaften, Quellenkritische Überlegungen anhand von Beispielen aus dem Neolithikum.* In: Falko Daim, Detlef Gronenborn & Rainer Schreg (Hrsg.), *Strategien zum Überleben – Umweltkrisen und ihre Bewältigung, Tagung des Römisch-Germanischen Zentralmuseums, 19./20. September 2008.* RGZM – Tagungen 11 (Mainz 2011), 111–127.
Based on the current anthropogenic global climate change the effects of climate fluctuations during the two major phases of the Neolithic expansion (Early Neolithic/Upper Neolithic) are discussed. The theoretical basis is that short-term climate anomalies had considerable effects on Neolithic societies and resulted in sociopolitical and economic reorganizations. These processes are examined on different levels of temporal resolution both for the Early and the Upper Neolithic. Furthermore, the problems and pitfalls of a palaeoclimatologically informed archaeology are discussed for the southern Central European landscapes. Finally it becomes clear that archaeology – due to the recent widespread neglect of climate-oriented approaches – may contribute only little to the current debate on climate change.
Ausgehend vom aktuellen anthropogenen Klimawandel wird die Auswirkung von Klimafluktuationen während der zwei mitteleuropäischen Expansionsphasen der Landwirtschaft (Altneolithikum/Jungneolithikum) diskutiert. Theoretische Grundlage ist die Annahme, dass kurzfristige Klimaanomalien für die neolithischen Gesellschaften krisenhafte Folgen hatten und soziopolitische wie wirtschaftliche Reorganisationen nach sich zogen. Diese Vorgänge werden auf verschiedenen zeitlichen Auflösungsniveaus für das Alt- wie auch das Jungneolithikum diskutiert. Neben den bislang möglichen Aussagen werden auch die Probleme einer paläoklimatologisch informierten Archäologie in den Landschaften des südlichen Mitteleuropa behandelt. Abschließend wird deutlich, dass die Archäologie aufgrund bisheriger Versäumnisse in der Behandlung klimaorientierter Fragestellungen bislang wenig zur aktuellen Diskussion beitragen kann.

Kultur

Cartmill 2013
Erica A. Cartmill et al., *Quality of early parent input predicts child vocabulary 3 years later.* PNAS **110** (2013), 11278–11283.

Erica A. Cartmill, Benjamin F. Armstrong III, Lila R. Gleitman, Susan Goldin-Meadow, Tamara N. Medina & John C. Trueswell
Children vary greatly in the number of words they know when they enter school, a major factor influencing subsequent school and workplace success. This variability is partially explained by the differential quantity of parental speech to preschoolers. However, the contexts in which young learners hear new words are also likely to vary in referential transparency; that is, in how clearly word meaning can be inferred from the immediate extralinguistic context, an aspect of input quality. To examine this aspect, we asked 218 adult participants to guess 50 parents' words from (muted) videos of their interactions with their 14- to 18-mo-old children.We found systematic differences in how easily individual parents' words could be identified purely from this socio-visual context. Differences in this kind of input quality correlated with the size of the children's vocabulary 3 y later, even after controlling for differences in input quantity. Although input quantity differed as a function of socioeconomic status, input quality (as here measured) did not, suggesting that the quality of nonverbal cues to word meaning that parents offer to their children is an individual matter, widely distributed across the population of parents.
language acquisition | word learning | SES | (dyslexia)

Gardner 2013

Peter M. Gardner, *Understanding Anomalous Distribution of Hunter-Gatherers, The Indian Case*. Current Anthropology **54** (2013), 510–513.
Given the region's long history of civilization, a claim that India is home to 25 % of the world's present-day and recent hunter-gatherers seems both unlikely and counterintuitive. Research on seven South Indian foraging cultures reveals, however, that three accommodating aspects of Hindu culture may have served to protect them from assimilation pressure until the twentieth century. First, because they are a source of valued forest trade goods, they can be viewed as yet another occupational specialist group within the larger system. Second, unlike true aliens, they are considered to be kindred peoples who need merely to give lip service to Hindu notions of propriety. Third, due to several of their practices, they are seen as being pure by analogy with simple, forest-dwelling Hindu ascetics. Accepted and valued by Hindus for what they are, there has been minimal pressure to draw the hunter-gatherers into the larger society as any other kind of specialist.

Gerardi 2013

Kristopher Gerardi, Lorenz Goette & Stephan Meier, *Numerical ability predicts mortgage default*. PNAS **110** (2013), 11267–11271.
Unprecedented levels of US subprime mortgage defaults precipitated a severe global financial crisis in late 2008, plunging much of the industrialized world into a deep recession. However, the fundamental reasons for why US mortgages defaulted at such spectacular rates remain largely unknown. This paper presents empirical evidence showing that the ability to perform basic mathematical calculations is negatively associated with the propensity to default on one's mortgage. We measure several aspects of financial literacy and cognitive ability in a survey of subprime mortgage borrowers who took out loans in 2006 and 2007, and match them to objective, detailed administrative data on mortgage characteristics and payment histories. The relationship between numerical ability and mortgage default is robust to controlling for a broad set of sociodemographic variables, and is not driven by other aspects of cognitive ability. We find no support for the hypothesis that numerical ability impacts mortgage outcomes through the choice of the mortgage

contract. Rather, our results suggest that individuals with limited numerical ability default on their mortgage due to behavior unrelated to the initial choice of their mortgage.
foreclosure | consumer finance | subprime loans | limited rationality

Kitayama 2013

Shinobu Kitayama, Lucian Gideon Conway III, Paula R. Pietromonaco, Hyekyung Park & Victoria C. Plaut, *Ethos of Independence Across Regions in the United States, The Production–Adoption Model of Cultural Change*. American Psychologist **65** (2013), 559–574.
Contemporary U.S. culture has a highly individualistic ethos. Nevertheless, exactly how this ethos was historically fostered remains unanalyzed. A new model of dynamic cultural change maintains that sparsely populated, novel environments that impose major threats to survival, such as the Western frontier in the United States during the 18th and 19th centuries, breed strong values of independence, which in turn guide the production of new practices that encourage self-promotion and focused, competitive work. Faced with few significant threats to survival, residents in traditional areas are likely to seek social prestige by adopting existing practices of other, higher status groups. Because of both the massive economic success of the frontier and the official endorsement of the frontier by the federal government, eastern residents of the United States in the 18th and 19th centuries may have actively adopted the frontier practices of independence, thus incorporating the frontier ethos of independence to form the contemporary U.S. national culture. Available evidence is reviewed, and implications for further research on cultural change are suggested.
Keywords: U.S. regions, independence and interdependence, cultural change, individualism

Kitayama 2013

Shinobu Kitayama & Ayse K. Uskul, *Culture, Mind, and the Brain: Current Evidence and Future Directions*. Annual Review of Psychology **62** (2013), 419–449.
Current research on culture focuses on independence and interdependence and documents numerous East-West psychological differences, with an increasing emphasis placed on cognitive mediating mechanisms. Lost in this literature is a time-honored idea of culture as a collective process composed of cross-generationally transmitted values and associated behavioral patterns (i.e., practices). A new model of neuro-culture interaction proposed here addresses this conceptual gap by hypothesizing that the brain serves as a crucial site that accumulates effects of cultural experience, insofar as neural connectivity is likely modified through sustained engagement in cultural practices. Thus, culture is "embrained," and moreover, this process requires no cognitive mediation. The model is supported in a review of empirical evidence regarding (a) collective-level factors involved in both production and adoption of cultural values and practices and (b) neural changes that result from engagement in cultural practices. Future directions of research on culture, mind, and the brain are discussed.
Keywords: neuro-culture interaction, cultural values and practices, independence/interdependence, individualism/collectivism, neuro-plasticity, gene-culture interaction

Kroll 2013

Judith F. Kroll & Rhonda McClain, *What bilinguals tell us about culture, cognition, and language*. PNAS **110** (2013), 11219–11220.

In the last 25 years, cognitive scientists have come to see that using more than one language is a natural circumstance of human experience, not an exceptional condition that produces disordered speaking or thinking.

Malafouris 2013

Lambros Malafouris, *The brain-artefact interface (BAI), A challenge for archaeology and cultural neuroscience*. Social Cognitive and Affective Neuroscience **5** (2013), 264–273.

Cultural neuroscience provides a new approach for understanding the impact of culture on the human brain (and vice versa) opening thus new avenues for cross-disciplinary collaboration with archaeology and anthropology. Finding new meaningful and productive unit of analysis is essential for such collaboration. But what can archaeological preoccupation with material culture and long-term change contribute to this end? In this article, I introduce and discuss the notion of the brain–artefact interface (BAI) as a useful conceptual bridge between neuroplastisty and the extended mind. I argue that a key challenge for archaeology and cultural neuroscience lies in the cross-disciplinary understanding of the processes by which our plastic enculturated brains become constituted within the wider extended networks of non-biological artefacts and cultural practices that delineate the real spatial and temporal boundaries of the human cognitive map.

Keywords: Cognitive archaeology; material culture; brain–artefact interface; extended mind; plasticity

Zhang 2013

Shu Zhang, Michael W. Morris, Chi-Ying Cheng & Andy J. Yap, *Heritage-culture images disrupt immigrants' second-language processing through triggering first-language interference*. PNAS **110** (2013), 11272–11277.

For bicultural individuals, visual cues of a setting's cultural expectations can activate associated representations, switching the frames that guide their judgments. Research suggests that cultural cues may affect judgments through automatic priming, but has yet to investigate consequences for linguistic performance. The present studies investigate the proposal that heritage-culture cues hinder immigrants' second-language processing by priming first-language structures. For Chinese immigrants in the United States, speaking to a Chinese (vs. Caucasian) face reduced their English fluency, but at the same time increased their social comfort, effects that did not occur for a comparison group of European Americans (study 1). Similarly, exposure to iconic symbols of Chinese (vs. American) culture hindered Chinese immigrants' English fluency, when speaking about both cultureladen and culture-neutral topics (study 2). Finally, in both recognition (study 3) and naming tasks (study 4), Chinese icon priming increased accessibility of anomalous literal translations, indicating the intrusion of Chinese lexical structures into English processing. We discuss conceptual implications for the automaticity and adaptiveness of cultural priming and practical implications for immigrant acculturation and second-language learning.

bilingual | cultural psychology | cognitive activation | cross-language interference

Mittelpaläolithikum

Pettitt 2013

Paul B. Pettitt, *The Neanderthal dead, Exploring mortuary variability in Middle Palaeolithic Eurasia*. Before Farming **2002** (2013), i, 4: 1–19.

Recent discussions about Neanderthal mortuary behaviour have tended to polarise around opinions that they did, or did not, bury their dead. Gargett, in particular, has forwarded a largely unconvincing critique of Neanderthal burial, but most scholars agree that at least some Neanderthals, at some times, treated the dead body. This article demonstrates that Neanderthal mortuary activity was a real phenomenon that requires exploration and interpretation and examines the nature and extent of variability in mortuary behaviour. In the later Middle Pleistocene Neanderthals may have been caching the dead in unmodified natural surroundings. After 70 ka BP some Neanderthal groups buried infants, or parts of them, in pits, infants and adults in shallow grave cuttings and indulged in primary corpse modification and subsequent burial. It may have been on occasion too that certain enclosed sites served as mortuary centres, and that their function as such was perpetuated in the memory of Neanderthal groups either through physical grave markers or social tradition. In all it would seem that at least in some Neanderthal groups the dead body was explored and treated in socially meaningful ways.
Keywords: Neanderthals, burial, Middle Palaeolithic, Eurasia

Neolithikum

Kerig 2005

Tim Kerig, *Grenzen ziehen: Zur Chronologie regionaler und sozialer Unterschiede im hessischen Altneolithikum.* In: Detlef Gronenborn & Jörg Petrasch (Hrsg.), *Die Neolithisierung Mitteleuropas, Internationale Tagung, Mainz 24. bis 26. Juni 2005.* RGZM – Tagungen 4 (Mainz 2010), 465–476.

The Linear Band Pottery Culture (LBK) of Hesse is one of the classical research fields of Central-European Neolithic studies and has gained new attention in the last few years. The percentages of lithic raw materials at the single sites allow to reconstruct the flow of the raw material along interregional communication networks (fig. 2). especially the hindered or inhibited exchange of silex between neighbouring settlement areas is astonishingly clear: already in earliest LBK times networks develop, which reach into the non-Neolithic west and into the Neckar area respectively (fig. 1). it is possible to contrast the lithic networks with the stylistic groupings of pottery (fig. 3): The multivariate statistical method detrended correspondence analysis (DCA) is used to show the chronology of pottery styles on the first axis and their local groupings on the second axis. A measure of similarity is introduced to compare contemporary pottery assemblages. Overlaying the raw material networks with stylistic groupings of pottery shows situations in which the boundaries of both match each other. These frontier situations represent zones of inhibited exchange between neighbouring areas – pointing to social change also manifested in massacres as well as in earthworks of that time.

Die hessische Bandkeramik gehört zu den klassischen Schwerpunkten mitteleuropäischer Neolithforschung und hat in den letzten Jahren wieder verstärkt an Beachtung gewonnen. Ausgehend von den prozentualen Häufigkeiten lithischer Rohmaterialien an einzelnen Fundorten lässt sich die Weitergabe dieser Rohmaterialien und damit das zu Grunde liegende interregionale Kommunikationsnetzwerk rekonstruieren (Abb. 2). insbesondere grenzen der Silexweitergabe zwischen benachbarten Siedlungsgebieten werden erstaunlich deutlich. Bereits in ältestbandkeramischer Zeit entstehen Netzwerke, die einerseits in den noch nicht neolithisierten Westen und andererseits in das südlich gelegene Neckargebiet reichen (Abb. 1). Diesem Befund werden keramische Stilgruppen gegenkartiert (Abb. 3): Das Verfahren der detrendeten Korrespondenzanalyse (DCA) erlaubt es hier, auf der ersten Achse

Zeit und auf der zweiten regionale Stilausprägung darzustellen. ein Abstandsmaß wird eingeführt, mit dessen Hilfe die stilistische Ähnlichkeit zwischen Keramikinventaren angegeben werden kann. Kommunikationsnetzwerke und Stilgruppen werden so zueinander in Beziehung gesetzt. “Grenzsituationen” sind deutlich zu erkennen. Die dargestellten Grenzen räumlicher Verteilungen archäologischen Materials sollen dabei weniger als grenzen zwischen territorialen gebilden verstanden werden: Der zunehmend gehemmte Austausch zwischen benachbarten Siedlungen wird als indiz sozialer Umwälzungen gewertet, wie sie sich auch in Massakern und in der Anlage bandkeramischer erdwerke manifestieren.

Weninger 2013

Bernhard Weninger & Lee Clare, *Societal Reactions to Abrupt Climate Change (6600–6000 calBC) in West Asia*. In: Harvey Weiss (Hrsg.), *Abrupt Climate Change and Societal Collapse*. (2013), preprint.

Recent advances in palaeoclimatological and meteorological research combined with new radiocarbon data from Western Anatolia and Southeast Europe lead us to the formulation of a new hypothesis for the temporal and spatial dispersal of Neolithic lifeways from their core areas of genesis. This new hypothesis, which we term the Abrupt Climate Change (ACC) Neolithisation Model, also incorporates numerous insights from modern vulnerability theory. We focus here on the Late Neolithic (Anatolian terminology), which is followed in the Balkans by the Early Neolithic (European terminology). From high-resolution 14C-case studies, we infer an initial (very rapid) west-directed movement of early farming communities out of the Central Anatolian Plateau towards the Turkish Aegean littoral. This move is exactly in-phase (decadel-scale) with the onset of ACC-conditions (≈6600 calBC). Upon reaching the Aegean coastline, Neolithic dispersal comes to a halt. It is not until some 500 years later, i.e. at the close of cumulative ACC and 8.2 ka calBP Hudson Bay cold conditions, that there occurs a second abrupt movement of farming communities into Southeast Europe, as far as the Pannonian Basin. The spread of early farming from Anatolia into eastern Central Europe is best explained through conscious and unconscious mitigation by Neolithic communities of biophysical and social vulnerability to natural (climate-induced) hazards.

Religion

Hayden 2013

Brian Hayden, *Hunting on Heaven and Earth, A Comment on Knight*. Current Anthropology **54** (2013), 495–496.

Moreover, among some contemporary groups like the !Kung San, it is not certain that animals are even viewed as having souls. [...] In fact, from my ethnographic work, this seems highly dubious, since I and others have found that from 10 % to 20 % of traditional community members do not even believe in spirits, much less in the ability to influence them. Ontological skepticism is much more widespread in traditional communities than most traditional ethnographies acknowledge, although people may outwardly acquiesce to others' expressions of belief and conform to ritually required praxis.