Liste erstellt am 2015-04-17

References

Aktuell

Cai 2015

Yongyang Cai, Kenneth L. Judd, Timothy M. Lenton, Thomas S. Lontzek & Daiju Narita, *Environmental tipping points significantly affect the cost-benefit assessment of climate policies*. PNAS **112** (2015), 4606–4611.

Most current cost-benefit analyses of climate change policies suggest an optimal global climate policy that is significantly less stringent than the level required to meet the internationally agreed 2 °C target. This is partly because the sum of estimated economic damage of climate change across various sectors, such as energy use and changes in agricultural production, results in only a small economic loss or even a small economic gain in the gross world product under predicted levels of climate change. However, those cost-benefit analyses rarely take account of environmental tipping points leading to abrupt and irreversible impacts on market and nonmarket goods and services, including those provided by the climate and by ecosystems. Here we show that including environmental tipping point impacts in a stochastic dynamic integrated assessment model profoundly alters cost-benefit assessment of global climate policy. The risk of a tipping point, even if it only has nonmarket impacts, could substantially increase the present optimal carbon tax. For example, a risk of only 5 % loss in nonmarket goods that occurs with a 5 % annual probability at 4 °C increase of the global surface temperature causes an immediate two-thirds increase in optimal carbon tax. If the tipping point also has a 5 % impact on market goods, the optimal carbon tax increases by more than a factor of 3. Hence existing cost-benefit assessments of global climate policy may be significantly underestimating the needs for controlling climate change.

Keywords: climate change | tipping point | ecosystem | carbon tax | relative price effect

Significance: Most current cost-benefit analyses of climate change suggest global climate policy should be relatively weak. However, relatively few studies account for the market or nonmarket impacts of passing environmental tipping points that cause abrupt and irreversible damages. We use a stochastic dynamic model of the climate and economy to quantify the effect of tipping points on climate change policy. We show that environmental tipping points can profoundly alter cost-benefit analysis, justifying a much more stringent climate policy, which takes the form of a higher immediate price on carbon.

Leek 2015

Jeffery T. Leek & Roger D. Peng, *What is the question?* science **347** (2015), 1314–1315.

Mistaking the type of question being considered is the most common error in data analysis.

Anthropologie

DiMaggio 2015

Erin N. DiMaggio et al., *Late Pliocene fossiliferous sedimentary record and the environmental context of early Homo from Afar, Ethiopia.* science **347** (2015), 1355–1359.

s347-1355-Supplement1.pdf, s347-1355-Supplement2.xlsx

Erin N. DiMaggio, Christopher J. Campisano, John Rowan, Guillaume Dupont-Nivet, Alan L. Deino, Faysal Bibi, Margaret E. Lewis, Antoine Souron, Dominique Garello, Lars Werdelin, Kaye E. Reed & J. Ramón Arrowsmith

Sedimentary basins in eastern Africa preserve a record of continental rifting and contain important fossil assemblages for interpreting hominin evolution. However, the record of hominin evolution between 3 and 2.5 million years ago (Ma) is poorly documented in surface outcrops, particularly in Afar, Ethiopia. Here we present the discovery of a 2.84– to 2.58–million-year-old fossil and hominin-bearing sediments in the Ledi-Geraru research area of Afar, Ethiopia, that have produced the earliest record of the genus Homo. Vertebrate fossils record a faunal turnover indicative of more open and probably arid habitats than those reconstructed earlier in this region, which is in broad agreement with hypotheses addressing the role of environmental forcing in hominin evolution at this time. Geological analyses constrain depositional and structural models of Afar and date the LD 350-1 Homo mandible to 2.80 to 2.75 Ma.

Hershkovitz 2015

Israel Hershkovitz et al., *Levantine cranium from Manot Cave (Israel) foreshadows the first European modern humans.* nature **520** (2015), 216–219.

n520-0216-Supplement1.pdf, n520-0216-Supplement2.xlsx

Israel Hershkovitz, Ofer Marder, Avner Ayalon, Miryam Bar-Matthews, Gal Yasur, Elisabetta Boaretto, Valentina Caracuta, Bridget Alex, Amos Frumkin, Mae Goder-Goldberger, Philipp Gunz, Ralph L. Holloway, Bruce Latimer, Ron Lavi, Alan Matthews, Viviane Slon, Daniella Bar-Yosef Mayer, Francesco Berna, Guy Bar-Oz, Reuven Yeshurun, Hila May, Mark G. Hans, Gerhard W. Weber & Omry Barzilai

A key event in human evolution is the expansion ofmodernhumans of African origin across Eurasia between 60 and 40 thousand years (kyr) before present (BP), replacing all other forms of hominins. Owing to the scarcity of human fossils from this period, these ancestors of all present-day non-African modern populations remain largely enigmatic. Here we describe a partial calvaria, recently discovered at Manot Cave (Western Galilee, Israel) and dated to 54.7 ± 5.5 kyr BP (arithmetic mean ± 2 standard deviations) by uranium–thorium dating, that sheds light on this crucial event. The overall shape and discrete morphological features of the Manot 1 calvaria demonstrate that this partial skull is unequivocally modern. It is similar in shape to recent African skulls as well as to European skulls from the Upper Palaeolithic period, but different from most other early anatomically modern humans in the Levant. This suggests that the Manot people could be closely related to the first modern humans who later successfully colonized Europe. Thus, the anatomical features used to support the 'assimilation model' in Europe might not have been inherited from European Neanderthals, but rather from earlier Levantine populations. Moreover, at present, Manot 1 is the only modern human specimen to provide evidence that during the Middle to Upper Palaeolithic interface, both modern humans and Neanderthals contemporaneously inhabited the southern Levant, close in time to the likely interbreeding event with Neanderthals.

Villmoare 2015
Brian Villmoare et al., *Early Homo at 2.8 Ma from Ledi-Geraru, Afar, Ethiopia*. science **347** (2015), 1352–1355.
s347-1352-Supplement.pdf
Brian Villmoare, William H. Kimbel, Chalachew Seyoum, Christopher J. Campisano, Erin N. DiMaggio, John Rowan, David R. Braun, J. Ramón Arrowsmith & Kaye E. Reed
Our understanding of the origin of the genus Homo has been hampered by a limited fossil record in eastern Africa between 2.0 and 3.0 million years ago (Ma). Here we report the discovery of a partial hominin mandible with teeth from the Ledi-Geraru research area, Afar Regional State, Ethiopia, that establishes the presence of Homo at 2.80 to 2.75 Ma. This specimen combines primitive traits seen in early Australopithecus with derived morphology observed in later Homo, confirming that dentognathic departures from the australopith pattern occurred early in the Homo lineage. The Ledi-Geraru discovery has implications for hypotheses about the timing and place of origin of the genus Homo.

Bibel

Bietak 2015
Manfred Bietak, *On the Historicity of the Exodus, What Egyptology Today Can Contribute to Assessing the Biblical Account of the Sojourn in Egypt*. In: Thomas E. Levy, Thomas Schneider & William H. C. Propp (Hrsg.), *Israel's Exodus in Transdisciplinary Perspective, Text, Archaeology, Culture, and Geoscience*. Quantitative Methods in the Humanities and Social Sciences (Cham 2015), 17–37.
The storyline of the Exodus, of a people fleeing from a humiliating slavery, suggests elements that are historically credible. Normally, it is tales of glory and victory that are preserved in narratives from one generation to the next. The salvation from this servitude and misery created a bond among this people of Israel. This chapter attempts to use knowledge of Egyptian historical geography and new archaeological data from Ancient Egypt to identify some of the layers of the biblical Exodus tradition.
This study reviews the available evidence from Egypt on the settlement of "Proto-Israelites" during the later Ramesside period. Such groups are proposed to have settled in Egypt simultaneously with the Proto-Israelites in Canaan. The collective memory of the Proto-Israelites suffering in Canaan under Egyptian oppression and those suffering in Egypt merged in the genesis of Israel's story of origin from the transformation of oral tradition into written text. The later belief in a stay of the Israelites at Tanis/Zoan was inspired by the transfer of archaeological remains from Pi-Ramesse to Tanis and Bubastis.

Faust 2015
Avraham Faust, *The Emergence of Iron Age Israel, On Origins and Habitus*. In: Thomas E. Levy, Thomas Schneider & William H. C. Propp (Hrsg.), *Israel's Exodus in Transdisciplinary Perspective, Text, Archaeology, Culture, and Geoscience*. Quantitative Methods in the Humanities and Social Sciences (Cham 2015), 467–482.

The question of Israel's origins is reexamined within the broader framework of Israel's emergence in the late second millennium BCE. Some methodological difficulties are outlined, and then the author's view of Israel's emergence as an ethnic group in the Iron Age is summarized. A more detailed discussion follows on the possible "origins" of themembers of this group, and especially that of earliest Israel—the group that is mentioned in Merneptah's stele. It appears that while many individuals, families, and groups were involved in the process of Israel's ethnogenesis throughout the Iron Age, and that many of those who eventually became Israelites were of Canaanite origins, the first group was composed mainly of Shasu pastoralists. Other groups, probably including a small "Exodus" group that left Egypt, joined the process, and all were gradually assimilated into the growing Israel, accepting its history, practices and traditions, and contributing some of their own. Traditions and practices that were useful in the active process of Israel's boundary maintenance with other groups were gradually adopted by "all Israel." It appears that the story of the Exodus from Egypt was one such story. The Exodus–Conquest narrative(s), which describes the escape of the Israelites from Egypt, their 40 years' wandering and their conquest and settlement in Canaan, has resulted in a plethora of studies that examine the story as whole, as well as many of its components, in great detail. The present study touches on this thorny issue by attempting to reconstruct the "origin" of the Iron Age Israelites in general and that of Merneptah's Israel in particular, and by reconstructing the development of Israel as an ethnic group. While such a study cannot yield definite answers about the Exodus event, it does allow us to evaluate the possible significance of an Exodus group, and perhaps also the possible mechanisms that enabled the Exodus story to be accepted by the Israelites and to achieve its "national" standing.

Hays 2015

Christopher B. Hays, *Biblical Claims About Solomon's Kingdom in Light of Egyptian "Three-Zone" Ideology of Territory*. In: Thomas E. Levy, Thomas Schneider & William H. C. Propp (Hrsg.), *Israel's Exodus in Transdisciplinary Perspective*, *Text, Archaeology, Culture, and Geoscience*. Quantitative Methods in the Humanities and Social Sciences (Cham 2015), 503–516.

Biblical rhetoric about Solomon's empire shares some significant features with Egyptian royal ideology of territory. Both the Egyptians and the Israelites seem to have thought of their national boundaries in three zones: a well-defended "internal zone" of primary settlements, an "outer zone" of economic interests; and finally an "ideological zone" that was generally not controlled militarily, but rather an idealized expression (indeed an exaggeration) of royal power.

Levy 2015

Thomas E. Levy, Thomas Schneider & William H. C. Propp (Hrsg.), *Israel's Exodus in Transdisciplinary Perspective*, *Text, Archaeology, Culture, and Geoscience*. Quantitative Methods in the Humanities and Social Sciences (Cham 2015).

This volume is the most innovative gathering of thought assembled on the topic of Israel's Exodus from Egypt. In 9 sections, the volume presents papers first presented at Out of Egypt: Israel's Exodus Between Text and Memory, History and Imagination, a conference at the University of California, San Diego, May 31 to June 3, 2013. The transdisciplinary perspective this book takes combines an assessment of past research with current knowledge on the topic and new perspectives for future study. Research from Egyptologists, archaeologists, Biblical scholars,

computer scientists, and geoscientists appears in active conversation throughout the various chapters of this book. The 44 contributions by leading scholars from the United States, Canada, Great Britain, Israel, Germany, Switzerland, and Italy, unite a diverse group of hermeneutic approaches. They pertain to the text and later reception of the Exodus narrative, including its Egyptian and Near Eastern parallels, function as cultural memory in the history of Israel, the interface of the Exodus question with the emergence of Israel and archaeological fieldwork, and exploration of the text's historicity. The historical geography and the environmental events described in the Exodus narrative and related texts receive thorough scientific analysis, reinforcing this volume's transdisciplinary character. An important section is devoted to cyberarchaeology, visualization techniques, and museological presentation of the Exodus.

Maeir 2015

Aren M. Maeir, *Exodus as a Mnemo-Narrative, An Archaeological Perspective*. In: Thomas E. Levy, Thomas Schneider & William H. C. Propp (Hrsg.), *Israel's Exodus in Transdisciplinary Perspective, Text, Archaeology, Culture, and Geoscience*. Quantitative Methods in the Humanities and Social Sciences (Cham 2015), 409–418.

I discuss possible archaeological correlates from the second and first millennia BCE Levant and Egypt—spanning the Middle and Late Bronze Ages, the Iron Age I and II, and the Persian and Hellenistic periods— which may have served as background(s) for the formation, preservation, and transformation of the biblical and extra-biblical Exodus traditions. I will attempt to assess the character and relevance of strands of evidence from diverse periods and contexts and discuss the possible interface, and/ or lack thereof, between these artifactually-based cultural events and the various Exodus narratives as reflected in the biblical texts and traditions.

Noegel 2015

Scott B. Noegel, *The Egyptian Origin of the Ark of the Covenant*. In: Thomas E. Levy, Thomas Schneider & William H. C. Propp (Hrsg.), *Israel's Exodus in Transdisciplinary Perspective, Text, Archaeology, Culture, and Geoscience*. Quantitative Methods in the Humanities and Social Sciences (Cham 2015), 223–242.

The best non-Israelite parallel to the Ark of the Covenant comes not from Mesopotamia or Arabia, but from Egypt. The sacred bark was a ritual object deeply embedded in the Egyptian ritual and mythological landscapes. It was carried aloft in processions or pulled in a sledge or a wagon; its purpose was to transport a god or a mummy and sometimes to dispense oracles. The Israelite conception of the Ark probably originated under Egyptian influence in the Late Bronze Age.

Römer 2015

Thomas Römer, *The Revelation of the Divine Name to Moses and the Construction of a Memory About the Origins of the Encounter Between Yhwh and Israel*. In: Thomas E. Levy, Thomas Schneider & William H. C. Propp (Hrsg.), *Israel's Exodus in Transdisciplinary Perspective, Text, Archaeology, Culture, and Geoscience*. Quantitative Methods in the Humanities and Social Sciences (Cham 2015), 305–315.

This chapter deals mainly with three questions: (1) The literary formation of the book of Genesis: In this regard the chapter interacts with the conference comments and/or contributions of Christoph Berner, Richard Friedman, and Konrad Schmid. (2) It also asks about the origins of the Exodus tradition(s) in the biblical texts by using the texts from Kuntillet Ajrud and comes to similar conclusions as Israel Finkelstein (Chap. 3). (3) It then addresses the question of how much "cultural memory" (see in Chap. 1 and also Chaps. 5 and 31) is contained in the two accounts of Moses' call in regard to the origins of the deity Yhwh and its veneration by seminomadic groups, a question also dealt with in contributions of Thomas Levy and Manfred Bietak.

The non-priestly and priestly stories in Exodus 3:1–4:18 and 6:2–8 agree on the idea that the name of the God of Israel was not revealed to the Hebrews before the time of Moses. In the context of the construction of the Pentateuch both texts underline somewhat differently Moses' role as mediator, who after the fall of Jerusalem becomes a substitute for royal mediation (although the royal image of Moses was already invented in the seventh century BCE). Both texts are not older than the sixth century, but they may preserve the historical memory that Yhwh had not always been the god of "Israel." This older memory can be traced back through texts such as Hosea 12 and the inscription of Kuntillet Ajrud in the monarchic period and perhaps even earlier.

Russell 2015

Stephen C. Russell, *The Structure of Legal Administration in the Moses Story*. In: Thomas E. Levy, Thomas Schneider & William H. C. Propp (Hrsg.), *Israel's Exodus in Transdisciplinary Perspective*, *Text, Archaeology, Culture, and Geoscience*. Quantitative Methods in the Humanities and Social Sciences (Cham 2015), 317–329.

Although Exodus 18:13–26 is set in the period of desert wandering, scholars have generally understood the text as reflecting the social world of the monarchic period. Some locate it more specifically in the time of Jehoshaphat, who, according to 2 Chronicles 19:4–11, appointed local judges and established a high court in Jerusalem. According to this view, Exodus 18:13–26 was composed as an etiology for the system of royal judges attested in 2 Chronicles 19:4–11. I propose that the structure of the legal world envisioned by Exodus 18:13–26 is much more closely paralleled by that assumed in Ezra 7:12–26, where the Persian king Artaxerxes instructs Ezra to appoint judges who know the Mosaic law. As such, and in light of literary-historical considerations, Exodus 18:13–26 is best understood as a postexilic expansion of Exodus 18. The expanded Chapter 18 now serves as a major bridge in the book of Exodus by summarizing the deliverance from Egypt and anticipating the revelation at Sinai.

Schneider 2015

Thomas Schneider, *Modern scholarship versus the Demon of Passover*, *An outlook on Exodus research and egyptology through the lens of Exodus*. In: Thomas E. Levy, Thomas Schneider & William H. C. Propp (Hrsg.), *Israel's Exodus in Transdisciplinary Perspective*, *Text, Archaeology, Culture, and Geoscience*. Quantitative Methods in the Humanities and Social Sciences (Cham 2015), 537–554.

This study presents an example of the problems of Exodus research. Any attempt to trace and contextualize motifs of the narrative is obstructed by the

complexity of the text's history. Exegetical certainties of the 20th century have vanished in the crisis of pentateuchal research and given way to multiple scenarios of text composition and redaction, the interrelationship of major themes, and the provenance and historical context of phenomena mentioned in it. The received text of Exodus 12 describes the last plague brought onto Egypt by Yahweh – the killing of Pharaoh's firstborn son and the firstlings of the country's livestock – by Yahweh or alternatively, his "destroyer" who strikes the Egyptians but spares the homes of the Israelites. Several aspects of the Passover protection ritual have not yet been explained in a satisfactory way. After giving an overview of the intricate exegetical situation, this study proposes a new approach to the text by drawing on parallels from Egyptian rituals which would have been appropriated by the text's authors for the Israelite cause. Particular attention will be given to Pap. Cairo 58027, a ritual for the protection of Pharaoh at night, and rituals aimed at the "Plague of the Year".

Keywords: Exodus 12, Passover, Blood rite, Plague, Killing of the Firstborn, Egyptian rituals, Sakhmet, Egyptian kingship, liminality, demonic ambiguity.

Biologie

Lindenmayer 2015

David B. Lindenmayer, *Continental-level biodiversity collapse*. PNAS **112** (2015), 4514–4515.

Woinarski et al. underscore the rapidity with which a large part of an entire faunal group across a continent can either go extinct or be reduced to such small numbers that they contribute little to key ecological processes. Adequate resourcing for—and implementation of—informed management actions (and proper monitoring of those actions) is essential to prevent even more species being added to lists of extinct animals.

Sheehy 2014

Emma Sheehy & Colin Lawton, *Population crash in an invasive species following the recovery of a native predator, The case of the American grey squirrel and the European pine marten in Ireland*. Biodiversity and Conservation **23** (2014), 753–774.

In Ireland, the UK and Italy, the invasive North American grey squirrel, Sciurus carolinensis, threatens the survival of the Eurasian red squirrel, Sciurus vulgaris, as the effects of competition and disease almost inevitably lead to total replacement of red squirrel populations. However the results of a recent national squirrel survey suggested that the normally invasive grey squirrel had gone into decline in the Irish midlands, which was anecdotally attributed to an increase in European pine marten, Martes martes, range and numbers. This study aimed to quantify changes in squirrel distribution in Ireland and to investigate the role, if any, of the pine marten in red and grey squirrel population dynamics.A distribution survey of the midlands was carried out which confirmed the grey squirrel population has crashed in approximately 9,000 km2 of its former range and the red squirrel is common after an absence of up to 30 years. At landscape level, pine marten and red squirrel abundance were positively correlated, whereas a strong negative correlation between pine marten and grey squirrel presence at woodland level was found to exist. Squirrel demographics were determined by means of live trapping programs which confirmed that the red squirrel in the midlands is now in competitive release and the grey squirrel is present at unusually low density. This study provides the first evidence of a regional grey squirrel population crash and suggests

that European pine marten abundance may be a critical factor in the American grey squirrel's success or failure as an invasive species.

Keywords: Competitive release | Grey squirrel | Hairtube survey | Invasive prey | Live squirrel trapping | Native predator | Pine marten | Population crash | Red squirrel | Sightings survey

Woinarski 2015

John C. Z. Woinarski, Andrew A. Burbidge & Peter L. Harrison, *Ongoing unraveling of a continental fauna, Decline and extinction of Australian mammals since European settlement.* PNAS **112** (2015), 4531–4540.

The highly distinctive and mostly endemic Australian land mammal fauna has suffered an extraordinary rate of extinction (>10 % of the 273 endemic terrestrial species) over the last ≈200 y: in comparison, only one native land mammal from continental North America became extinct since European settlement. A further 21 % of Australian endemic land mammal species are now assessed to be threatened, indicating that the rate of loss (of one to two extinctions per decade) is likely to continue. Australia's marine mammals have fared better overall, but status assessment for them is seriously impeded by lack of information. Much of the loss of Australian land mammal fauna (particularly in the vast deserts and tropical savannas) has been in areas that are remote from human population centers and recognized as relatively unmodified at global scale. In contrast to general patterns of extinction on other continents where the main cause is habitat loss, hunting, and impacts of human development, particularly in areas of high and increasing human population pressures, the loss of Australian land mammals is most likely due primarily to predation by introduced species, particularly the feral cat, Felis catus, and European red fox, Vulpes vulpes, and changed fire regimes.

Keywords: conservation | biodiversity | marsupial | predation | feral animal

Significance: The island continent of Australia harbors much of the world's most distinctive biodiversity, but this review describes an extent of recent and ongoing loss of its mammal fauna that is exceptionally high and appreciably greater than previously recognized. The causes of loss are dissimilar to those responsible for most biodiversity decline elsewhere in the world.

Grabung

Watkins 1989

T. Watkins, D. Baird & A. Betts, *Qermez Dere and the Early Aceramic Neolithic of N. Iraq.* Paléorient **15** (1989), i, 19–24.

Qermez Dere is an early economic neolithic settlement site in the Iraqi Jezirah. Together with Nemrik, reported elsewhere in this volume, Qermez Dere forms the basis of a culture sequence from the end of the epi-palaeolithic to the middle of the 7th millennium B.C. The new site's culture can be seen to relate to the known archaeology of both the N. Zagros and more particularly the N. Levant. The wider implication of Qermez Dere, it is argued, is that it derives from an immediately precedent local epi-palaeolithic culture, suggesting that the cultural process from epi-palaeolithic to later aceramic neolithic was a widespread process in which a large number of interacting and culturally related communities participated over a great geographical range.

Jungpaläolithikum

van Gelder 2015

Leslie van Gelder, *Counting the Children, The role of children in the production of finger flutings in four Upper Palaeolithic caves.* Oxford Journal of Archaeology **34** (2015), 119–138.

Children and young adults are believed to have represented up to 40 per cent of Upper Palaeolithic populations, yet little is known of their engagement in deep caves besides evidence of their hand and footprints. In this study we examine finger flutings, lines drawn with fingers in soft surfaces, in 12 Franco-Cantabrian Upper Palaeolithic caves to look for forensic evidence of unique individuals. We find evidence of children as finger fluters in four caves (El Castillo, Las Chimeneas, Rouffignac and Gargas). We discuss the types, locations and frequency of their flutings, as well as the relationship between their flutings and those made by non-children in the same caves and chambers. The small number of participants calls into question past theories of children's engagement in ritual and initiation in these particular caves.

Kultur

Kendler 2015

Kenneth S. Kendler, Eric Turkheimer, Henrik Ohlsson, Jan Sundquist & Kristina Sundquist, *Family environment and the malleability of cognitive ability, A Swedish national home-reared and adopted-away cosibling control study.* PNAS **112** (2015), 4612–4617.

Cognitive ability strongly aggregates in families, and prior twin and adoption studies have suggested that this is the result of both genetic and environmental factors. In this study, we used a powerful design—home-reared and adopted-away cosibling controls—to investigate the role of the rearing environment in cognitive ability. We identified, from a complete national Swedish sample of male-male siblings, 436 full-sibships in which at least one member was reared by one or more biological parents and the other by adoptive parents. IQ was measured at age 18–20 as part of the Swedish military service conscription examination. Parental educational level was rated on a 5-point scale. Controlling for clustering of offspring within biological families, the adopted siblings had an IQ 4.41 (SE = 0.75) points higher than their nonadopted siblings. Each additional unit of rearing parental education was associated with 1.71 (SE = 0.44) units of IQ. We replicated these results in 2,341 male-male half-sibships, in which, controlling for clustering within families, adoption was associated with a gain of IQ of 3.18 (SE = 0.34) points. Each additional unit of rearing parental education was associated with 1.94 (SE = 0.18) IQ units. Using full- and half-sibling sets matched for genetic background, we found replicated evidence that (i) rearing environment affects IQ measured in late adolescence, and (ii) a portion of the IQ of adopted siblings could be explained by the educational level of their adoptive parents.

Keywords: cognitive ability | environment | adoption | rearing | cosibling control

Significance: Individual differences in cognitive ability result from a complex admixture of genetic and environmental influences. Adopted children are one way to estimate the degree of malleability of cognitive ability in response to environmental change in the context of a scientific design that can control for genetic differences among individuals. Sibling pairs in which one member is adopted away and the other reared by biological parents are a particularly powerful research design. In a large population-based sample of separated siblings from Sweden, we demonstrate

that adoption into improved socioeconomic circumstances is associated with a significant advantage in IQ at age 18. We replicate the finding in a parallel sample of half-siblings.

Shennan 2015

Stephen J. Shennan, Enrico R. Crema & TimKerig, *Isolation-by-distance, homophily, and "core" vs. "package" cultural evolution models in Neolithic Europe.* Evolution and Human Behavior **36** (2015), 103–109.

EvolHumBehav36-103-Supplement1.docx, EvolHumBehav36-103-Supplement2.xls, EvolHumBehav36-103-Supplement3.xlsx, EvolHumBehav36-103-Supplement4.xlsx, EvolHumBehav36-103-Supplement5.zip, EvolHumBehav36-103-Supplement6.zip

Recently there has been growing interest in characterising population structure in cultural data in the context of ongoing debates about the potential of cultural group selection as an evolutionary process. Here we use archaeological data for this purpose, which brings in a temporal as well as spatial dimension. We analyse two distinct material cultures (pottery and personal ornaments) fromNeolithic Europe, in order to: a) determinewhether archaeologically defined "cultures" exhibitmarked discontinuities in space and time, supporting the existence of a population structure, ormerely isolation-by-distance; and b) investigate the extent towhich cultures can be conceived as structuring "cores" or as multiple and historically independent "packages". Our results support the existence of a robust population structure comparable to previous studies on human culture, and showhowthe two material cultures exhibit profound differences in their spatial and temporal structuring, signalling different evolutionary trajectories.

Keywords: Cultural evolution | Population structure | Material culture | Isolation-by-distance | Homophily | Archaeology | Neolithic Europe

Mittelpaläolithikum

Shipman 2015

Pat Shipman, *The Invaders, How humans and their dogs drove Neanderthals to extinction.* (Cambridge 2015).

With their large brains, sturdy physique, sophisticated tools, and hunting skills, Neanderthals are the closest known relatives to humans. Approximately 200,000 years ago, as modern humans began to radiate out from their evolutionary birthplace in Africa, Neanderthals were already thriving in Europe descendants of a much earlier migration of the African genus Homo. But when modern humans eventually made their way to Europe 45,000 years ago, Neanderthals suddenly vanished. Ever since the first Neanderthal bones were identified in 1856, scientists have been vexed by the question, why did modern humans survive while their evolutionary cousins went extinct?

The Invaders musters compelling evidence to show that the major factor in the Neanderthals demise was direct competition with newly arriving humans. Drawing on insights from the field of invasion biology, which predicts that the species ecologically closest to the invasive predator will face the greatest competition, Pat Shipman traces the devastating impact of a growing human population: reduction of Neanderthals geographic range, isolation into small groups, and loss of genetic diversity.

But modern humans were not the only invaders who competed with Neanderthals for big game. Shipman reveals fascinating confirmation of humans partnership with the first domesticated wolf-dogs soon after Neanderthals first began to disappear. This alliance between two predator species, she hypothesizes, made possible an unprecedented degree of success in hunting large Ice Age mammals a distinct and ultimately decisive advantage for humans over Neanderthals at a time when climate change made both groups vulnerable.

Neolithikum

Watkins 1992

Trevor Watkins, *Pushing back the Frontiers of Mesopotamian Prehistory*. Biblical Archaeologist **55** (1992), 176–181.

The most exciting consequence of the discovery of the missing millennia in northern Mesopotamia is the prospect of having a new zone within which to study anew the transition to sedentary village life that took place in the epi-palaeolithic period, and the switch to cultivation and herding that followed in the early neolithic. Until recently the southern Levant, especially the Jordan valley, seemed to have preeminence. Now we can recognize that a practically identical process of cultural evolution took place in precise chronological parallel in northern Iraq. Because of the close cultural parallels, the implication must be that the evolution of large, sedentary and complex societies based on mixed farming took place simultaneously over a very large part of the Near East, a concept in some ways more difficult to contemplate but more challenging to explore.