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References

Aktuell

Damian 2015

Rodica Ioana Damian & Brent W. Roberts, *Settling the debate on birth order and personality*. PNAS **112** (2015), 14119–14120.

We know from past research that it is difficult for observers to detect personality differences that are smaller than one standard deviation in size (14). The largest birth-order effects we could find were on the order of a 10th of a standard deviation, with the average effect being equivalent to a 25th of a standard deviation. Even if the difference turns out to be statistically significant, it fails to reach a level that parents, relatives, siblings, or friends could notice.

Rohrer 2015

Julia M. Rohrer, Boris Egloff & Stefan C. Schmukle, *Examining the effects of birth order on personality*. PNAS **112** (2015), 14224–14229.

This study examined the long-standing question of whether a person's position among siblings has a lasting impact on that person's life course. Empirical research on the relation between birth order and intelligence has convincingly documented that performances on psychometric intelligence tests decline slightly from first-borns to later-borns. By contrast, the search for birth-order effects on personality has not yet resulted in conclusive findings. We used data from three large national panels from the United States (n = 5,240), Great Britain (n = 4,489), and Germany (n = 10,457) to resolve this open research question. This database allowed us to identify even very small effects of birth order on personality with sufficiently high statistical power and to investigate whether effects emerge across different samples. We furthermore used two different analytical strategies by comparing siblings with different birth-order positions (i) within the same family (within-family design) and (ii) between different families (betweenfamily design). In our analyses, we confirmed the expected birthorder effect on intelligence. We also observed a significant decline of a 10th of a SD in self-reported intellect with increasing birth-order position, and this effect persisted after controlling for objectively measured intelligence. Most important, however, we consistently found no birth-order effects on extraversion, emotional stability, agreeableness, conscientiousness, or imagination. On the basis of the high statistical power and the consistent results across samples and analytical designs, we must conclude that birth order does not have a lasting effect on broad personality traits outside of the intellectual domain.

Keywords: birth order | personality | Big Five | within-family analyses | siblings

Significance: The question of whether a person's position among siblings has a lasting impact on that person's life course has fascinated both the scientific community and the general public for >100 years. By combining large datasets from three national panels, we confirmed the effect that firstborns score higher on objectively measured intelligence and additionally found a similar effect on self-reported intellect. However, we found no birth-order effects on extraversion, emotional stability, agreeableness, conscientiousness, or imagination. This finding contradicts lay beliefs and prominent scientific theories alike and indicates that the development of personality is less determined by the role within the family of origin than previously thought.

Bibel

Mazar 2006

Eilat Mazar, *Did I Find King David's Palace?* Biblical Archaeology Review **32** (2006), i, 16–27, 70.

In short, Kenyon did not consider the possibility that David's palace would have lain beyond the fortification line outside the city. She knew that by David's time, the city had already been settled for two thousand years and had been surrounded by a wall for nearly a thousand years. The city was already very cramped. Nevertheless, Kenyon put David's palace inside the city.

To my mind, however, choosing a site for his palace adjacent to the northern side of the Jebusite fortress would have been a very logical step for someone who was already planning a northern expansion of the city—an expansion for the Temple on what was to become the Temple Mount, for which David bought land from Araunah the Jebusite (2 Samuel 24:18– 25). In peaceful times, the palace inhabitants would not be exposed to danger, and in the unlikely event of a threatening military assault, such as a Philistine offensive, the palace could be abandoned and the occupants could descend to the stronghold within the barricaded city. And in fact that is what 2 Samuel 5:17 (and the chapter generally) refers to when it says that David went down to the fortress to protect himself against the Philistines, who attacked after he had been crowned king of all Israel.

Yadin 1976

Yigael Yadin, *The Megiddo Stables.* In: Frank Moore Cross (Hrsg.), *Magnalia Dei, the mighty acts of God, Essays on the Bible and archaeology in memory of G. Ernest Wright.* (Garden City 1976), 249–252.

Biologie

Dijk 2015

Derk-Jan Dijk & Anne C. Skeldon, *Human sleep before the industrial era.* nature **527** (2015), 176–177.

A quantitative study of sleep patterns in three pre-industrial societies implies that our natural sleep duration is close to seven hours, and that sleep cycles are determined by environmental temperature as well as the light–dark cycle.

Yetish 2015

Gandhi Yetish et al., *Natural Sleep and Its Seasonal Variations in Three Pre-industrial Societies.* Current Biology **25** (2015), 2862–2868.

CurrBiol25-2862-Supplement1.pdf, CurrBiol25-2862-Supplement2.xlsx, CurrBiol25-2862-Supplement3.pdf

Gandhi Yetish, Hillard Kaplan, Michael Gurven, Brian Wood, Herman Pontzer, Paul R. Manger, Charles Wilson, Ronald McGregor & Jerome M. Siegel

Highlights

- Preindustrial societies in Tanzania, Namibia, and Bolivia show similar sleep parameters
- They do not sleep more than "modern" humans, with average durations of 5.7–7.1 hr
- They go to sleep several hours after sunset and typically awaken before sunrise
- Temperature appears to be a major regulator of human sleep duration and timing

How did humans sleep before the modern era? Because the tools to measure sleep under natural conditions were developed long after the invention of the electric devices suspected of delaying and reducing sleep, we investigated sleep in three preindustrial societies [1–3]. We find that all three show similar sleep organization, suggesting that they express core human sleep patterns, most likely characteristic of pre-modern era Homo sapiens. Sleep periods, the times from onset to offset, averaged 6.9–8.5 hr, with sleep durations of 5.7–7.1 hr, amounts near the low end of those industrial societies [4–7]. There was a difference of nearly 1 hr between summer and winter sleep. Daily variation in sleep duration was strongly linked to time of onset, rather than offset. None of these groups began sleep near sunset, onset occurring, on average, 3.3 hr after sunset. Awakening was usually before sunrise. The sleep period consistently occurred during the nighttime period of falling environmental temperature, was not interrupted by extended periods of waking, and terminated, with vasoconstriction, near the nadir of daily ambient temperature. The daily cycle of temperature change, largely eliminated from modern sleep environments, may be a potent natural regulator of sleep. Light exposure was maximal in the morning and greatly decreased at noon, indicating that all three groups seek shade at midday and that light activation of the suprachiasmatic nucleus is maximal in the morning. Napping occurred on <7 % of days in winter and <22 % of days in summer. Mimicking aspects of the natural environment might be effective in treating certain modern sleep disorders.

Grabung

Loud 1948

Gordon Loud (Hrsg.), *Megiddo II, Seasons of 1935–39*. University of Chicago Oriental Institute Publications 52 (Chicago 1948).

Klima

Mann 2015

Daniel H. Mann, Pamela Groves, Richard E. Reanier, Benjamin V. Gaglioti, Michael L. Kunz & Beth Shapiro, *Life and extinction of megafauna in the ice-age Arctic*. PNAS **112** (2015), 14301–14306.

Understanding the population dynamics of megafauna that inhabited the mammoth steppe provides insights into the causes of extinctions during both the terminal Pleistocene and today. Our study area is Alaska's North Slope, a place where humans were rare when these extinctions occurred. After developing a statistical approach to remove the age artifacts caused by radiocarbon calibration from a large series of dated megafaunal bones, we compare the temporal patterns of bone abundance with climate records. Megafaunal abundance tracked ice age climate, peaking during transitions from cold to warm periods. These results suggest that a defining characteristic of the mammoth steppe was its temporal instability and imply that regional extinctions followed by population reestablishment from distant refugia were characteristic features of ice-age biogeography at high latitudes. It follows that long-distance dispersal was crucial for the long-term persistence of megafaunal species living in the Arctic. Such dispersal was only possible when their rapidly shifting range lands were geographically interconnected. The end of the last ice age was fatally unique because the geographic ranges of arctic megafauna became permanently fragmented after stable, interglacial climate engendered the spread of peatlands at the same time that rising sea level severed former dispersal routes.

Keywords: ice age | megafauna | extinction | paleoecology | mammoth steppe

Significance: Understanding species extinction is a major concern today, and past extinctions provide valuable lessons. Numerous mammal species became extinct in the Arctic at the end of the ice age, but it is unclear why. By comparing numbers of dated bones with climate records, we find that megafaunal species, like mammoth, horse, and bison, experienced boom and bust cycles during the ice age as they tracked rapid climate changes. For these species to persist, long-distance dispersal was necessary. Their extinction on the North Slope occurred as the ice age ended, because rising sea level severed dispersal routes and spreading peat simultaneously degraded range quality. This finding suggests that arctic mammals can be resilient to environmental changes but only if their habitats remain widely interconnected.

Kultur

Alesina 2011

Alberto Alesina, Paola Giuliano & Nathan Nunn, *Fertility and the Plough*. American Economic Review **101** (2011), 499–503.

This paper has provided evidence that the form of agriculture traditionally practiced—intensive plough agriculture versus hoe agriculture—affected historic norms and preferences about fertility, and that these norms persist, affecting observed fertility around the world today.

We find a negative correlation between historic plough use and total fertility rates today across countries and among first- and second-generation immigrants in the US. We argue that the explanation for this result lies in the fact that children (like women) are less useful for plough agriculture. The plough requires strength and obviates the need for weeding, a task particularly suitable for women and children. Therefore, where plough agriculture was practiced, the cost of having children may have been lower (because women were more confined to the home), but the benefit of children was also lower (since they were less useful in agriculture). We also show that, consistent with this explanation, societies that historically used the plough were also more likely to have a preference for fewer children.

Craig 2015

Oliver E. Craig et al., *Feeding Stonehenge, Cuisine and consumption at the Late Neolithic site of Durrington Walls*. Antiquity **89** (2015), 1096–1109.

Oliver E. Craig, Lisa-Marie Shillito, Umberto Albarella, Sarah Viner-Daniels, Ben Chan, Ros Cleal, Robert Ixer, Mandy Jay, Pete Marshall, Ellen Simmons, Elizabeth Wright & Mike Parker Pearson

The discovery of Neolithic houses at DurringtonWalls that are contemporary with the main construction phase of Stonehenge raised questions as to their interrelationship. Was Durrington Walls the residence of the builders of Stonehenge? Were the activities there more significant than simply domestic subsistence? Using lipid residue analysis, this paper identifies the preferential use of certain pottery types for the preparation of particular food groups and differential consumption of dairy and meat products between monumental and domestic areas of the site. Supported by the analysis of faunal remains, the results suggest seasonal feasting and perhaps organised culinary unification of a diverse community.

Keywords: UK | Stonehenge | Neolithic | feasting | isotopic lipid residue analysis | public and | private consumption

Mathematik

Gallagher 2015

Elizabeth M. Gallagher, Stephen J. Shennan & Mark G. Thomas, *Transition to farming more likely for small, conservative groups with property rights, but increased productivity is not essential*. PNAS **112** (2015), 14218–14223.

pnas112-14218-Supplement.pdf

Theories for the origins of agriculture are still debated, with a range of different explanations offered. Computational models can be used to test these theories and explore new hypotheses; Bowles and Choi [Bowles S, Choi J-K (2013) Proc Natl Acad Sci USA 110(22):8830–8835] have developed one such model. Their model shows the coevolution of farming and farming-friendly property rights, and by including climate variability, replicates the timings for the emergence of these events seen in the archaeological record. Because the processes modeled occurred a long time ago, it can be difficult to justify exact parameter values; hence, we propose a fitting to idealized outcomes (FIO) method to explore the model's parameter space in more detail. We have replicated the model of Bowles and Choi, and used the FIO method to identify complexities and interactions of the model previously unidentified. Our results indicate that the key parameters for the emergence of farming are group structuring, group size, conservatism, and farming-friendly property rights (lending further support to Bowles and Choi's original proposal). We also find that although advantageous, it is not essential that farming productivity be greater than foraging productivity for farming to emerge. In addition, we highlight how model behaviors can be missed when gauging parameter sensitivity via a fix-all-but-one variation approach.

Keywords: Neolithic revolution | simulation | agent-based modeling | fitting to idealized outcomes | property rights

Significance: The Neolithic revolution was one of the most influential events in human history, but why and how it occurred are still not fully understood. To try to infer what may have happened, mathematical models have been developed. We describe and implement a method of parameter space exploration when ideal outcomes of a model are known. This method is applied to a published agent-based model for the Neolithic transition, revealing previously unidentified parameter interactions, sensitivities, and complexities. Our results highlight the importance of group structuring, group size, conservatism, and farming-friendly property rights, for the switch to farming around 12,000 years ago. We also find that, although advantageous, it is not essential that farming productivity is greater than foraging productivity.

Neolithikum

Bentley 2015

R. Alexander Bentley, Michael J. O'Brien, Katie Manning & Stephen Shennan, *On the relevance of the European Neolithic*. Antiquity **89** (2015), 1203–1210.

In terms of Neolithic society and technology, the relatively low-level, fluctuating populationsmay have resulted in founder effects (Shennan 2000). The related archaeological discussion of population size and cumulative culture (Henrich 2004; Powell et al. 2009; Shennan 2011b; Bentley & O'Brien 2012) is echoed by a new economic theory that twentyfirst century populations will lead new technologies, which are capable of keeping pace with environmental demands (Malakoff 2013).

This, in turn, feeds back into the origins of inequality. Social memory, which was so resilient in Neolithic societies (Hodder & Cessford 2004), may leave legacies in modern populations, such as the suggestion that millennia of rice agriculture in China brought about more holistic and collective social norms than the wheat-intensive Neolithic of Europe (Talhelm et al. 2014), or that norms associated with the prehistory of plough-use continue to affect modern fertility (Alesina et al. 2011).

Archaeology is increasingly playing a significant role in these debates as we begin to learn from the early agricultural societies where so many trends began. The role of people in changing global environments and climate has become an issue of massive concern. Human diets have never been subject to closer scrutiny, and the links between genetic patterns and subsistence practices are becoming ever clearer. The consequences of a human population that is heading towards ten billion members are unknown. Will a new equilibrium be reached, or will we see a repeat of the boom-and-bust patterns visible in prehistory but on a much larger scale because of the strength of global interconnections? Are we doomed to ever-greater inequality as a result of the increased concentration of resources in fewer hands? The continuing relevance of the Neolithic has never been more apparent.

Roffet-Salque 2015

Mélanie Roffet-Salque et al., *Widespread exploitation of the honeybee by early Neolithic farmers*. nature **527** (2015), 226–230.

n527-0226-Supplement.pdf

Mélanie Roffet-Salque, Martine Regert, Richard P. Evershed, Alan K. Outram, Lucy J. E. Cramp, Orestes Decavallas, Julie Dunne, Pascale Gerbault, Simona Mileto, Sigrid Mirabaud, Mirva Pääkkönen, Jessica Smyth, Lucija Šoberl, Helen L. Whelton, Alfonso Alday-Ruiz, Henrik Asplund, Marta Bartkowiak, Eva Bayer-Niemeier, Lotfi Belhouchet, Federico Bernardini, Mihael Budja, Gabriel Cooney, Miriam Cubas, Ed M. Danaher, Mariana Diniz, László Domboróczki, Cristina Fabbri, Jesus E. González-Urquijo, Jean Guilaine, Slimane Hachi, Barrie N. Hartwell, Daniela Hofmann, Isabel Hohle, Juan J. Ibáñez, Necmi Karul, Farid Kherbouche, Jacinta Kiely, Kostas Kotsakis, Friedrich Lueth, James P. Mallory, Claire Manen, Arkadiusz Marciniak, Brigitte Maurice-Chabard, Martin A. Mc Gonigle, Simone Mulazzani, Mehmet Özdoğan, Olga S. Peric, Slaviša R. Peric, Jörg Petrasch, Annemarie Pétrequin, Pierre Pétrequin, Ulrike Poensgen, C. Joshua Pollard, François Poplin, Giovanna Radi, Peter Stadler, Harald Stäuble, Nenad Tasic, Dushka Urem-Kotsou, Jasna B. Vukovic, Fintan Walsh, Alasdair Whittle, Sabine Wolfram, Lydia Zapata-Peña & Jamel Zoughlami

The pressures on honeybee (Apis mellifera) populations, resulting from threats by modern pesticides, parasites, predators and diseases, have raised awareness of the economic importance and critical role this insect plays in agricultural societies across the globe. However, the association of humans with A. mellifera predates post-industrial-revolution agriculture, as evidenced by the widespread presence of ancient Egyptian bee iconography dating to the Old Kingdom (approximately 2400 bc)1. There are also indications of Stone Age people harvesting bee products; for example, honey hunting is interpreted from rock art2 in a prehistoric Holocene context and a beeswax find in a pre-agriculturalist site3. However, when and where the regular association of A. mellifera with agriculturalists emerged is unknown4. One of the major products of A. mellifera is beeswax, which is composed of a complex suite of lipids including n-alkanes, n-alkanoic acids and fatty acyl wax esters. The composition is highly constant as it is determined genetically through the insect's biochemistry. Thus, the chemical 'fingerprint' of beeswax provides a reliable basis for detecting this commodity in organic residues preserved at archaeological

sites, which we now use to trace the exploitation by humans of A. mellifera temporally and spatially. Here we present secure identifications of beeswax in lipid residues preserved in pottery vessels of Neolithic Old World farmers. The geographical range of bee product exploitation is traced in Neolithic Europe, the Near East and North Africa, providing the palaeoecological range of honeybees during prehistory. Temporally, we demonstrate that bee products were exploited continuously, and probably extensively in some regions, at least from the seventh millennium cal bc, likely fulfilling a variety of technological and cultural functions. The close association of A. mellifera with Neolithic farming communities dates to the early onset of agriculture and may provide evidence for the beginnings of a domestication process.

Story or Book

Scharl 2015

Silviane Scharl, *Prehistoric copper mining in Europe*. Antiquity **89** (2015), 1249–1250.

William O'Brien. Prehistoric copper mining in Europe: 5500–500 BC. 2015. xix+345 pages, 130 b&w illustrations, 3 tables. Oxford: Oxford University Press; 978-0-19-960565-1 hardback £85.

[...] requiring expertise across such diverse disciplines as geology and mining as well as archaeology; [...] Given that research on copper mining and metallurgy cannot progress without such a broad and integrated perspective, it is no surprise that this is the approach adopted by O'Brien in this comprehensive book.

Further topics such as the evidence for child labour or severe environmental impacts are critically reviewed. In relation to the latter, substantial woodland clearance is not recorded and the evidence for impact on vegetation is restricted to a local scale.

This is the first book to tackle the subject matter on this scale and few are better qualified to have undertaken this task than O'Brien with his longstanding experience in the investigation of copper mines. His hope that this book will bring the topic of copper mining into the mainstream of research on prehistoric Europe will not be misplaced. This book is to be recommended both to archaeologists and to academics in related disciplines.