

## References

### Afrika

SKOGLUND 2017

Pontus Skoglund et al., *Reconstructing Prehistoric African Population Structure*. [Cell](#) **171** (2017), 59–71.

Pontus Skoglund, Jessica C. Thompson, Mary E. Prendergast, Alissa Mittnik, Kendra Sirak, Mateja Hajdinjak, Tasneem Salie, Nadin Rohland, Swapan Mallick, Alexander Peltzer, Anja Heinze, Iñigo Olalde, Matthew Ferry, Eadaoin Harney, Megan Michel, Kristin Stewardson, Jessica I. Cerezo-Román, Chrissy Chiumia, Alison Crowther, Elizabeth Gomani-Chindebvu, Agness O. Gidna, Katherine M. Grillo, I. Taneli Helenius, Garrett Hellenthal, Richard Helm, Mark Horton, Saioa López, Audax Z.P. Mabulla, John Parkington, Ceri Shipton, Mark G. Thomas, Ruth Tibesasa, Menno Welling, Vanessa M. Hayes, Douglas J. Kennett, Raj Ramesar, Matthias Meyer, Svante Pääbo, Nick Patterson, Alan G. Morris, Nicole Boivin, Ron Pinhasi, Johannes Krause & David Reich

We assembled genome-wide data from 16 prehistoric Africans. We show that the anciently divergent lineage that comprises the primary ancestry of the southern African San had a wider distribution in the past, contributing approximately two-thirds of the ancestry of Malawi hunter-gatherers  $\approx 8,100$ – $2,500$  years ago and approximately one-third of the ancestry of Tanzanian hunter-gatherers  $\approx 1,400$  years ago. We document how the spread of farmers from western Africa involved complete replacement of local hunter-gatherers in some regions, and we track the spread of herders by showing that the population of a  $\approx 3,100$ -year-old pastoralist from Tanzania contributed ancestry to people from northeastern to southern Africa, including a  $\approx 1,200$ -year-old southern African pastoralist. The deepest diversifications of African lineages were complex, involving either repeated gene flow among geographically disparate groups or a lineage more deeply diverging than that of the San contributing more to some western African populations than to others. We finally leverage ancient genomes to document episodes of natural selection in southern African populations.

In Brief: The prehistory of African populations is explored by genome-wide analysis of 16 human remains providing insight into ancestral lineages, admixture, and genomic adaptations.

#### Highlights:

- Genome-wide analysis of 16 African individuals who lived up to 8,100 years ago
- Forager populations related to southern African San were once widespread in eastern Africa
- Comparison of ancient and modern Africans reveal recent genomic adaptations
- Evidence for a divergent human lineage contributing to western Africans

### Aktuell

HAINMUELLER 2017

Jens Hainmueller et al., *Protecting unauthorized immigrant mothers improves their children's mental health*. [science](#) **357** (2017), 1041–1044.

Jens Hainmueller, Duncan Lawrence, Linna Martén, Bernard Black, Lucila Figueroa, Michael Hotard, Tomás R. Jiménez, Fernando Mendoza, Maria I. Rodriguez, Jonas J. Swartz & David D. Laitin

The United States is embroiled in a debate about whether to protect or deport its estimated 11 million unauthorized immigrants, but the fact that these immigrants are also parents to more than 4 million U.S.-born children is often overlooked. We provide causal evidence of the impact of parents' unauthorized immigration status on the health of their U.S. citizen children. The Deferred Action for Childhood Arrivals (DACA) program granted temporary protection from deportation to more than 780,000 unauthorized immigrants. We used Medicaid claims data from Oregon and exploited the quasi-random assignment of DACA eligibility among mothers with birthdates close to the DACA age qualification cutoff. Mothers' DACA eligibility significantly decreased adjustment and anxiety disorder diagnoses among their children. Parents' unauthorized status is thus a substantial barrier to normal child development and perpetuates health inequalities through the intergenerational transmission of disadvantage.

## KRAUS 2017

Michael W. Kraus, Julian M. Rucker & Jennifer A. Richeson, *Americans misperceive racial economic equality*. [PNAS 114 \(2017\), 10324–10331](#).

The present research documents the widespread misperception of race-based economic equality in the United States. Across four studies ( $n = 1,377$ ) sampling White and Black Americans from the top and bottom of the national income distribution, participants overestimated progress toward Black–White economic equality, largely driven by estimates of greater current equality than actually exists according to national statistics. Overestimates of current levels of racial economic equality, on average, outstripped reality by roughly 25% and were predicted by greater belief in a just world and social network racial diversity (among Black participants). Whereas high-income White respondents tended to overestimate racial economic equality in the past, Black respondents, on average, underestimated the degree of past racial economic equality. Two follow-up experiments further revealed that making societal racial discrimination salient increased the accuracy of Whites' estimates of Black–White economic equality, whereas encouraging Whites to anchor their estimates on their own circumstances increased their tendency to overestimate current racial economic equality. Overall, these findings suggest a profound misperception of and unfounded optimism regarding societal race-based economic equality—a misperception that is likely to have any number of important policy implications.

**Keywords:** economic inequality | racial disparities | socioeconomic status | racial stratification | motivated perception

**Significance:** Race-based economic inequality is both a defining and persistent feature of the United States that is at odds with national narratives regarding progress toward racial equality. This work examines perceptions of Black–White differences in economic outcomes, both in the past and present. We find that Americans, on average, systematically overestimate the extent to which society has progressed toward racial economic equality, driven largely by overestimates of current racial equality. Notably, White Americans generated more accurate estimates of Black–White equality when asked to consider the persistence of race-based discrimination in American society. The findings suggest a profound misperception of and misplaced optimism regarding contemporary societal racial economic equality—a misperception that is likely to have important consequences for public policy.

## LU 2017

Ziyang Lu, Martin H. Klein Schaarsberg, Xiaojue Zhu, Leslie Y. Yeo, Detlef Lohse & Xuehua Zhang, *Universal nanodroplet branches from confining the Ouzo effect*. *PNAS* **114** (2017), 10332–10337.

pnas114-10332-Supplement1.mp4, pnas114-10332-Supplement2.mp4, pnas114-10332-Supplement3.mp4, pnas114-10332-Supplement4.mp4, pnas114-10332-Supplement5.mp4, pnas114-10332-Supplement6.mp4

We report the self-organization of universal branching patterns of oil nanodroplets under the Ouzo effect [Vitale S, Katz | (2003) *Langmuir* 19:4105–4110]—a phenomenon in which spontaneous droplet formation occurs upon dilution of an organic solution of oil with water. The mixing of the organic and aqueous phases is confined under a quasi-2D geometry. In a manner analogous to the ramification of ground stream networks [Devauchelle O, Petroff AP, Seybold HF, Rothman DH (2012) *Proc Natl Acad Sci USA* 109: 20832–20836 and Cohen Y, et al. (2015) *Proc Natl Acad Sci USA* 112:14132–14137] but on a scale 10 orders of magnitude smaller, the angles between the droplet branches are seen to exhibit remarkable universality, with a value around  $74 \pm 2^\circ$ , independent of the various control parameters of the process. Numerical simulations reveal that these nanodroplet branching patterns are governed by the interplay between the local concentration gradient, diffusion, and collective interactions. We further demonstrate the ability of the local concentration gradient to drive autonomous motion of colloidal particles in the highly confined space, and the possibility of using the nucleated nanodroplets for nanoextraction of a hydrophobic solute. The understanding obtained from this work provides a basis for quantitatively understanding the complex dynamical aspects associated with the Ouzo effect. We expect that this will facilitate improved control in nanodroplet formation for many applications, spanning from the preparation of pharmaceutical polymeric carriers, to the formulation of cosmetics and insecticides, to the fabrication of nanostructured materials, to the concentration and separation of trace analytes in liquid–liquid microextraction.

**Keywords:** Ouzo effect | nanodroplet | branch patterns | diffusive growth | diffusiophoresis

**Significance:** The phenomenon of spontaneous nanodroplet formation termed the “Ouzo effect” is the basis for many processes, from preparation of pharmaceutical products, to formulation of cosmetics and insecticides, to liquid–liquid microextraction. This work attempts to disentangle the effects of concentration gradients from the extrinsic mixing dynamics by spatiotemporally following the nanodroplet formation from the Ouzo effect confined in a quasi-2D geometry. We observe striking universal branch structures of the nucleating droplets under the external diffusive field, analogous to the ramification of stream networks in large scale, and the enhanced local mobility of colloidal particles driven by the concentration gradient emerging from the development of the branch patterns. We further demonstrate that these nanodroplets can be exploited for single-step nanoextraction and detection.

## WADMAN 2017

Meredith Wadman, *Documents detail gender-related tensions at Salk, Internal study implies institute favored big labs run by men*. *science* **357** (2017), 741–742.

Excluding the principal investigators, the labs run by the four women had an average of three scientists per laboratory. The 20 male professors had an average of 12.5 per laboratory. The women, however, won more per capita NIH funding: an average of \$ 195,000 for each staff scientist, not counting themselves. Their male counterparts raised about \$ 95,000 in NIH funds per staff scientist.

## WHEELER-DUBAS 2017

Maria Wheeler-Dubas, *How I found my outreach niche*. [science](#) **357** (2017), 838.

He was 15, though behaviorally and developmentally he was about 5 years younger. Anticipating our visit, he had printed out fact sheets about various sea creatures from an online encyclopedia. Now, he eagerly showed the slightly crumpled pages to us—a group of biology graduate students visiting his school for a science day. It was a chance for him and his fellow students, all foster children with difficult histories, to forget some of their troubles while exploring the science of living things. They loved it. The experience was as rewarding for me as it was for them. Remembering how excited that boy was to “talk biology” with us helped affirm my decision to make science outreach a focus of my career. Doing so turned out to be harder than I imagined, but nothing would have stopped me from wanting to share the excitement of learning about the natural world.

## Biologie

## MELIN 2017

Amanda D. Melin, Kenneth L. Chiou, Emily R. Walco, Mackenzie L. Bergstrom, Shoji Kawamura & Linda M. Fedigan, *Trichromacy increases fruit intake rates of wild capuchins (*Cebus capucinus imitator*)*. [PNAS](#) **114** (2017), 10402–10407.

[pnas114-10402-Supplement1.xlsx](#), [pnas114-10402-Supplement2.xlsx](#), [pnas114-10402-Supplement3.xlsx](#)

Intraspecific color vision variation is prevalent among nearly all diurnal monkeys in the neotropics and is seemingly a textbook case of balancing selection acting to maintain genetic polymorphism. Clear foraging advantages to monkeys with trichromatic vision over those with dichromatic “red-green colorblind” vision have been observed in captive studies; however, evidence of trichromatic advantage during close-range foraging has been surprisingly scarce in field studies, perhaps as a result of small sample sizes and strong impacts of environmental or individual variation on foraging performance. To robustly test the effects of color vision type on foraging efficiency in the wild, we conducted an extensive study of dichromatic and trichromatic white-faced capuchin monkeys (*Cebus capucinus imitator*), controlling for plant-level and monkey-level variables that may affect fruit intake rates. Over the course of 14 months, we collected behavioral data from 72 monkeys in Sector Santa Rosa, Costa Rica. We analyzed 19,043 fruit feeding events within 1,602 foraging bouts across 27 plant species. We find that plant species, color conspicuity category, and monkey age class significantly impact intake rates, while sex does not. When plant species and age are controlled for, we observe that trichromats have higher intake rates than dichromats for plant species with conspicuously colored fruits. This study provides clear evidence of trichromatic advantage in close-range fruit feeding in wild monkeys. Taken together with previous reports of dichromatic advantage for finding cryptic foods, our results illuminate an important aspect of balancing selection maintaining primate opsin polymorphism.

**Keywords:** sensory ecology | opsin genes | color vision | frugivory | platyrrhine

**Significance:** Color vision variation is prevalent among neotropical monkeys. Captive studies indicate that trichromacy should confer a fruit feeding advantage. This hypothesis, however, has yet to be supported by field studies. We collected behavioral and genetic data from 72 capuchins and analyzed ca. 20,000 fruit intake events across 27 plant species. Controlling for plant species and phenological condition, we find that trichromats eat reddish, conspicuous fruits more quickly than

do dichromatic (red-green colorblind) groupmates. We demonstrate an advantage of trichromacy for consuming fruit among wild monkeys. Previous research has revealed dichromatic advantage for cryptic tasks; our results suggest fruit foraging plays an important role in the maintenance of primate opsin polymorphism via balancing selection.

#### PEDDADA 2017

Shyamal Peddada, *Seasonal change in the gut*. [science](#) **357** (2017), 754–755.

The gut microbiome of Hadza hunter-gatherers changes with the season.

#### SMITS 2017

Samuel A. Smits et al., *Seasonal cycling in the gut microbiome of the Hadza hunter-gatherers of Tanzania*. [science](#) **357** (2017), 802–806.

Samuel A. Smits, Jeff Leach, Erica D. Sonnenburg, Carlos G. Gonzalez, Joshua S. Lichtman, Gregor Reid, Rob Knight, Alphaxard Manjurano, John Changalucha, Joshua E. Elias, Maria Gloria Dominguez-Bello & Justin L. Sonnenburg

Although humans have cospeciated with their gut-resident microbes, it is difficult to infer features of our ancestral microbiome. Here, we examine the microbiome profile of 350 stool samples collected longitudinally for more than a year from the Hadza hunter-gatherers of Tanzania. The data reveal annual cyclic reconfiguration of the microbiome, in which some taxa become undetectable only to reappear in a subsequent season. Comparison of the Hadza data set with data collected from 18 populations in 16 countries with varying lifestyles reveals that gut community membership corresponds to modernization: Notably, the taxa within the Hadza that are the most seasonally volatile similarly differentiate industrialized and traditional populations. These data indicate that some dynamic lineages of microbes have decreased in prevalence and abundance in modernized populations.

## Isotope

#### MAKAREWICZ 2017

Cheryl A. Makarewicz, Benjamin S. Arbuckle & Aliye Öztan, *Vertical transhumance of sheep and goats identified by intra-tooth sequential carbon ( $\delta^{13}\text{C}$ ) and oxygen ( $\delta^{18}\text{O}$ ) isotopic analyses: Evidence from Chalcolithic Köşk Höyük, central Turkey*. [Journal of Archaeological Science](#) **86** (2017), 68–80.

Vertical transhumance is a crucial animal management strategy that provides livestock with fresh pasture on a seasonal basis while simultaneously expanding the scale of landscape usage by the pastoralist component of complex agro-pastoralist societies. Here, we explore the use of vertical transhumance in Anatolia during the Early and Middle Chalcolithic periods (6200–4500 cal BC), a time of socio-political transformation that presaged the rise of early state level societies in the region supported by a pronounced intensification in the exploitation of domesticated sheep and goats for their wool – a valuable commodity. We examine the carbon (d13C) and oxygen (d18O) composition of sequentially sampled tooth enamel from Chalcolithic sheep and goats from Kosk Hoyuk. The pattern of inverse cyclical isotopic variation characterized by high summer season d18O values coincident with low d13C values suggests livestock were moved to moist, high elevation pastures supporting 13C-depleted graze during the summer months or supplied with 13C-enriched fodder during the winter months. Interindividual variation in absolute

d18O values and the amplitude of intra-tooth oxygen isotopic change reflects either differences in the spatial location of pastures, differences in the relative contribution of 18O enriched leaf water to caprine body water, or a combination of both. The incorporation of pasturing strategies involving vertical transhumance into livestock management systems, in conjunction with zooarchaeological evidence for increasing pastoral specialization and wool production at Kosk Hoyuk, suggests an intensification of smallstock production that provided important economic support for increasingly complex political landscapes.

Keywords: Carbon isotope | Oxygen isotopes | Transhumance | Animal management

## Kultur

SCOTT 2017

James Scott, *Against the grain, A deep history of the earliest states*. (New Haven 2017).

Why did humans abandon hunting and gathering for sedentary communities dependent on livestock and cereal grains, and governed by precursors of today's states? Most people believe that plant and animal domestication allowed humans, finally, to settle down and form agricultural villages, towns, and states, which made possible civilization, law, public order, and a presumably secure way of living. But archaeological and historical evidence challenges this narrative. The first agrarian states, says James C. Scott, were born of accumulations of domestications: first fire, then plants, livestock, subjects of the state, captives, and finally women in the patriarchal family—all of which can be viewed as a way of gaining control over reproduction.

Scott explores why we avoided sedentism and plow agriculture, the advantages of mobile subsistence, the unforeseeable disease epidemics arising from crowding plants, animals, and grain, and why all early states are based on millets and cereal grains and unfree labor. He also discusses the “barbarians” who long evaded state control, as a way of understanding continuing tension between states and nonsubject peoples.

## Kupfer

HAUSTEIN 2008

Mike Haustein & Ernst Pernicka, *Die Verfolgung der bronzezeitlichen Zinnquellen Europas durch Zinnisotopie, Eine neue Methode zur Beantwortung einer alten Frage*. [Jahresschrift für mitteldeutsche Vorgeschichte](#) **92** (2008), 387–417.

In central Europe the earliest evidence for the use of tin bronze dates to about 2200 BC. While there is some evidence for prehistoric copper mining, e.g. in the Alps, the provenance of the contemporary tin is still an unsolved problem. This work deals with a new approach to trace the ancient tin via tin isotope signatures. In connection with the research on the Nebra Sky Disc fifty tin ores from the Ore Mountains region were investigated. The possible applications of this method in archaeology are assessed and the results are discussed in terms of the provenance of the Sky Disc tin.

Seit etwa 2200 v. Chr. ist der Gebrauch der Bronze, einer Legierung des Kupfers mit Zinn, für Mitteleuropa belegt. Während es in dieser Region einige Nachweise für prähistorischen Kupferbergbau – wie z. B. in den Alpen – gibt, liegt

die Herkunft des frühen Zinns noch völlig im Dunkeln. Obwohl die “Frage des Zinns” schon seit mehr als einem Jahrhundert diskutiert wird, sind alle bisherigen Antworten nie aus dem Bereich der Spekulation herausgetreten, da schlüssige Beweise bisher von keiner Seite vorgelegt werden konnten. Im Zusammenhang mit den Forschungen zur Himmelscheibe von Nebra, dem bislang wohl berühmtesten Bronzeartefakt aus dieser Zeit, wurde die Entwicklung eines archäometrischen Verfahrens zur Herkunftsbestimmung des Zinns auf der Grundlage von Zinnisotopen Verteilungsmustern vorangetrieben. Die derzeit vorliegenden Daten gestatten eine Einschätzung der Anwendbarkeit des Verfahrens, wobei auch bereits erste konkrete Schlüsse zur Herkunft des Zinns der Himmelscheibe gezogen werden können.

#### RADIVOJEVIĆ 2017

Miljana Radivojević, Thilo Rehren, Shahina Farid, Ernst Pernicka & Duygu Camurcuoğlu, *Repealing the Çatalhöyük extractive metallurgy, The green, the fire and the ‘slag’*. *Journal of Archaeological Science* **86** (2017), 101–122.

The scholarly quest for the origins of metallurgy has focused on a broad region from the Balkans to Central Asia, with different scholars advocating a single origin and multiple origins, respectively. One particular find has been controversially discussed as the potentially earliest known example of copper smelting in western Eurasia, a copper ‘slag’ piece from the Late Neolithic to Chalcolithic site of Catalhöyük in central Turkey. Here we present a new assessment of metal making at Çatalhöyük based on the re-analysis of minerals, mineral artefacts and high-temperature materials excavated in the 1960s by J. Mellaart and first analysed by Neuninger, Pittioni and Siegl in 1964. This paper focuses on copper-based minerals, the alleged piece of metallurgical slag, and copper metal beads, and their contextual relationship to each other. It is based on new microstructural, compositional and isotopic analyses, and a careful re-examination of the fieldwork documentation and analytical data related to the c. 8500 years old high-temperature debris at Çatalhöyük. We re-interpret the sample identified earlier as metallurgical slag as incidentally fired green pigment, which was originally deposited in a burial and later affected by a destructive fire that also charred the bones of the interred body. We also re-confirm the contemporary metal beads as made from native metal. Our results provide a new and conclusive explanation of the previously contentious find, and reposition Çatalhöyük in a new narrative of the multiple origins of metallurgy in the Old World.

Keywords: Metallurgy | Slag | Copper minerals | Pigments | Çatalhöyük | Anatolia

## Methoden

#### BINTLIFF 2011

John Bintliff, *The death of archaeological theory?* In: JOHN BINTLIFF, MARK PEARCE (Hrsg.), *The Death of Archaeological Theory?* Oxbow Insights in Archaeology 1 (Oxford 2011), 7–22.

But let us not lose sight of the crucial warning of Clarke and Binford: first bring in a broad range of explanatory models – but the heart of their theory Machine lies in the next, essential stage – the skillful comparison of each with the properties of the archaeological data.

1. Introduction (John Bintliff and Mark Pearce)
2. The Death of Archaeological Theory? (John Bintliff)

3. A New World Perspective on the ‘Death’ of Archaeological Theory (Kent V. Flannery and Joyce Marcus)
4. Theory, Fashion, Culture (Mark Pluciennik)
5. Theory in Central European Archaeology: Dead or Alive? (Alexander Gramsch)
6. Theory does not die it changes direction (Kristian Kristiansen)
7. Have Rumours of the ‘Death of Theory’ been exaggerated? (Mark Pearce)

#### DOMÍNGUEZ-RODRIGO 2017

Manuel Domínguez-Rodrigo et al., *Use and abuse of cut mark analyses, The Rorschach effect*. [Journal of Archaeological Science](#) **86** (2017), 14–23.

Manuel Domínguez-Rodrigo, Palmira Saladié, Isabel Cáceres, Rosa Huguet, José Yravedra, Antonio Rodríguez-Hidalgo, Patricia Martín, Antonio Pineda, Juan Marín, Clara Gené, Julia Aramendi & Lucia Cobo-Sánchez

A series of experimental cut marks have been analyzed by eleven taphonomists with the goal of assessing if they could identify similarly 14 selected microscopic variables which would identify those marks as cut marks. The main objective was to test if variable identification could be made scientifically; that is, different researchers using the same method and criteria making the same assessment of each variable. This experiment shows that even in researchers trained in the same laboratories and following the same protocols divergences in the perception of each variable are significant. This indicates that mark perception and interpretation is a highly subjective process. If this basic analytical stage is subjective, subjectivity permeates to a greater degree the higher inferential stages leading from mark identification to reconstruction of butchering behaviors based on mark frequencies, mark anatomical distribution, actor-effector-trace processes, and statistical interpretations of the stochastic mark-imparting butchering processes. Here, we emphasize that the use of bone surface modifications for behavioral interpretations remains a non-scientific endeavor because of lack of independent replicability of criteria and processes, divergences in how variables are selected and used and epistemologically flawed analogs. This constitutes a major call to taphonomy to engage in more scientific (i.e., objective) approaches to the study of bone surface modifications for taphonomic inference elaboration.

Keywords: Taphonomy | Cut marks | Analogy | Bone surface modifications | Microscopy

## Politik

#### HARRIS 2017

Celia B. Harris, Amanda J. Barnier, John Sutton & Tasneem Khan, *Social Contagion of Autobiographical Memories*. [Journal of Applied Research in Memory and Cognition](#) (2017), preprint, 1–9. DOI:10.1016/j.jarmac.2017.07.006.

We modified the social contagion of memory paradigm to track whether details mentioned during social interaction are transmitted to later individual recall for personal, autobiographical memories. Participants recalled four autobiographical events. A week later, participants described these events to a confederate, who described scripted “memories.” They then summarised each other’s recall. When summarising participants’ memories, confederates inserted two specific new details. Finally, participants recalled the events individually. We scored final individual recall for suggested contagion (new details inserted by confederates) and unsuggested contagion (new details consistent with confederates’ scripted memories but



not suggested). We found social contagion for autobiographical memories: at final recall, 30 % of participants recalled at least one suggested detail. Notably, at final recall, 90 % of participants recalled at least one unsuggested detail from confederates' scripted memories. Thus, social interaction, even if fairly minimal, can result in the transmission of specific details into memory for personal, autobiographical events.

**General Audience Summary** In social contagion experiments, participants remember alongside a confederate who behaves like a participant but actually is working for the experimenter. They view slides depicting household scenes (e.g., kitchen). Next, they take turns to recall items from the scenes, during which the confederate mentions incorrect items. Later, when participants recall alone they sometimes remember the incorrect items as if they had really seen them. In our study, we tested whether these findings extend beyond simple material learned in the experiment to personal memories from participants' lives: do they pick up and incorporate details mentioned by other people? In our study, people recalled four personal events like a birthday party. A week later, they described these events to a confederate, who in turn described scripted memories. The participant and the confederate then summarised each other's recall, but when the confederate summarised the participant's memories, they inserted two new details. Later, when participants remembered alone, we found social contagion for autobiographical memories: within their memories of the events, 30 % of participants recalled at least one of the inserted details, and 90 % recalled details from the confederate's scripted memory. This research shows how even fairly superficial social interactions can influence what we remember.

**Keywords:** Social contagion | Autobiographical memory | Social influence | Social memory

## Story or Book

### MOOERS 2017

Arne Mooers, *Adapting to the Anthropocene*. [science](#) **357** (2017), 878.

A provocative treatise argues that, for many species, the era of extinction may be all right.

*Inheritors of the Earth. How Nature Is Thriving in an Age of Extinction*. Chris D. Thomas. PublicAffairs, 2017. 308 pp.

The sparrow thrives in human habitats; you are now just as likely to feed one under a café table in San Juan as in Sevastopol. But thus has it always been: Species come and go from place to place as circumstances and opportunities arise. The alpacas that we associate with the South American Andes are actually North American camels that invaded when the two continents joined some 3 million years ago.

The idea that speciation is on the rise is provocative. The amount of movement between locales must be just right, and it is an open question whether humans have inadvertently produced such a Goldilocks effect. But the book's real controversy follows. Thomas ends by arguing that, because biodiversity change is natural and because human behavior is ultimately the product of natural selection, human-induced biodiversity gains and losses are also natural. That aside, the inevitability (and pace) of global change demands the sort of fresh thinking that is found in *Inheritors of the Earth*.