

References

Aktuell

COHEN 2023

Jon Cohen, *Companies hoard COVID-19 vaccines, stalling future research.* *science* **380** (2023), 1001–1002. DOI:10.1126/science.adj1033.

Developing better products requires comparisons with existing shots that Pfizer and Moderna won't allow.

Anthropologie

GIBBONS 2023

Ann Gibbons, *Was this extinct human the first gravedigger—and artist?* *science* **380** (2023), 996–997.

Anthropologists hail new Homo naledi fossils but doubt spectacular claims of intentional burial and art.

LASISI 2023

Tina Lasisi et al., *Human scalp hair as a thermoregulatory adaptation.* *PNAS* **120** (2023), e2301760120.

[pnas120-e2301760120-Supplement.pdf](#)

Humans are unique among mammals in having a functionally naked body with a hair-covered scalp. Scalp hair is exceptionally variable across populations within Homo sapiens. Neither the function of human scalp hair nor the consequences of variation in its morphology have been studied within an evolutionary framework. A thermoregulatory role for human scalp hair has been previously suggested. Here, we present experimental evidence on the potential evolutionary function of human scalp hair and variation in its morphology. Using a thermal manikin and human hair wigs at different wind speeds in a temperature and humidity-controlled environment, with and without simulated solar radiation, we collected data on the convective, radiative, and evaporative heat fluxes to and from the scalp in relation to properties of a range of hair morphologies, as well as a naked scalp. We find evidence for a significant reduction in solar radiation influx to the scalp in the presence of hair. Maximal evaporative heat loss potential from the scalp is reduced by the presence of hair, but the amount of sweat required on the scalp to balance the incoming solar heat (i.e., zero heat gain) is reduced in the presence of hair. Particularly, we find that hair that is more tightly curled offers increased protection against heat gain from solar radiation.

Keywords: Homo | human evolution | hair | thermoregulation

Tina Lasisi, James W. Smallcombe, W. Larry Kenney, Mark D. Shriver, Benjamin Zydney, Nina G. Jablonski & George Havenith

Significance: The evolution of human scalp hair might be explained by thermoregulation pressures experienced in hot and arid environments. Bipedal posture and a hairless body may have necessitated the development of scalp hair to minimize heat gain from solar radiation, particularly in hominins with large brains. We used a thermal manikin and human-hair wigs to examine this thermoregulatory hypothesis. We confirm that scalp hair reduces heat gain from solar radiation and find

an effect of hair morphology. Our results show that tightly curled hair provides the most effective protection for the scalp against solar radiation, while minimizing the need for sweat to offset heat gain.

Bibel

BERLIN 2023

Andrea M. Berlin, *The Rise of the Maccabees*. [Biblical Archaeology Review](#) **49** (2023), ii, 32–39.

And what of the Hasmoneans? What do the archaeological remains tell us about their rise? The brutal events of the late 140s left broad regions with abandoned settlements and broken networks. It is exactly inside this moment that Simon retakes the Akra in Jerusalem—an event that, considering how factionalized and otherwise occupied the competing Seleucid forces were, may now be seen as more opportunistic than organized. Yet, although much of the territory throughout this region now lay vacated, neither Simon nor his son and successor John Hyrcanus moved into it. In fact, the initial act revealed by archaeology is that it took some 20 years—almost a full generation—before we see a Hasmonean kingdom that extended beyond the immediate environs of Judea itself.

THOMAS 2023

Zachary Thomas & Erez Ben-Yosef, *David and Solomon's Invisible Kingdom*. [Biblical Archaeology Review](#) **49** (2023), ii, 40–45.

Although rare, powerful nomadic kingdoms are certainly known to history. Indeed, if we widen our historical and geographical perspective, we find the well-known empire of the Mongol nomads created by Genghis Khan in the 13th century. From the Near East, we have the Middle Bronze Age kingdom of Mari along the Euphrates, which was composed of a dynamic mix of sedentary people and pastoral nomads, often within the same tribal groups.

Does all this mean there is no way for archaeology to uncover David and Solomon's "invisible" nomadic kingdom? The archaeological sciences may provide some hope.

Biologie

TRAVIS 2023

John Travis, *How a geneticist led an effort to free a convicted serial murderer*. [science](#) **380** (2023), 1096–1097.

"Science has been heard," says Carola Vinuesa after mother jailed for killing her four kids was pardoned and released.

Neolithikum

HUMPHREY 2023

Louise Humphrey & Abdeljalil Bouzouggar, *Onset of farming in north-west Africa traced*. [nature](#) **618** (2023), 460–461.

Genomic data from bones and teeth found at archaeological sites across Morocco paint a picture of how Neolithic farmers and pastoralists spread into northwest Africa that is more complex than previously thought.

SIMÕES 2023

Luciana G. Simões et al., *Northwest African Neolithic initiated by migrants from Iberia and Levant*. [nature](#) **618** (2023), 550–556.

n618-0550-Supplement.pdf

In northwestern Africa, lifestyle transitioned from foraging to food production around 7,400 years ago but what sparked that change remains unclear. Archaeological data support conflicting views: (1) that migrant European Neolithic farmers brought the new way of life to North Africa^{1–3} or (2) that local hunter-gatherers adopted technological innovations^{4,5}. The latter view is also supported by archaeogenetic data⁶. Here we fill key chronological and archaeogenetic gaps for the Maghreb, from Epipalaeolithic to Middle Neolithic, by sequencing the genomes of nine individuals (to between 45.8- and 0.2-fold genome coverage). Notably, we trace 8,000 years of population continuity and isolation from the Upper Palaeolithic, via the Epipalaeolithic, to some Maghrebi Neolithic farming groups. However, remains from the earliest Neolithic contexts showed mostly European Neolithic ancestry. We suggest that farming was introduced by European migrants and was then rapidly adopted by local groups. During the Middle Neolithic a new ancestry from the Levant appears in the Maghreb, coinciding with the arrival of pastoralism in the region, and all three ancestries blend together during the Late Neolithic. Our results show ancestry shifts in the Neolithization of northwestern Africa that probably mirrored a heterogeneous economic and cultural landscape, in a more multifaceted process than observed in other regions.

Luciana G. Simões, Torsten Günther, Rafael M. Martínez-Sánchez, Juan Carlos Vera-Rodríguez, Eneko Iriarte, Ricardo Rodríguez-Varela, Youssef Bokbot, Cristina Valdiosera & Mattias Jakobsson

Physik

ANANTHASWAMY 2023

Anil Ananthaswamy, *Double trouble, Two slits, many questions*. [nature](#) **618** (2023), 454–456.

On the 250th anniversary of Thomas Young’s birth, an experiment he devised is still challenging our ideas of material reality.

KELLY 2023

Patrick L. Kelly et al., *Constraints on the Hubble constant from supernova Refsdal’s reappearance*. [science](#) **380** (2023), 1029.

s380-1029-Supplement.pdf

The gravitationally lensed supernova Refsdal appeared in multiple images produced through gravitational lensing by a massive foreground galaxy cluster. After the supernova appeared in 2014, lens models of the galaxy cluster predicted that an additional image of the supernova would appear in 2015, which was subsequently observed. We use the time delays between the images to perform a blinded measurement of the expansion rate of the Universe, quantified by the Hubble constant (H_0). Using eight cluster lens models, we infer $H_0 = 64.8 \pm 4.4 \pm 4.3$ kilometers per second per megaparsec. Using the two models most consistent with the observations, we find $H_0 = 66.6 \pm 4.1 \pm 3.3$ kilometers per second per megaparsec. The observations are best reproduced by models that assign dark-matter halos to individual galaxies and the overall cluster.

Patrick L. Kelly, Steven Rodney, Tommaso Treu, Masamune Oguri, Wenlei Chen, Adi Zitrin, Simon Birrer, Vivien Bonvin, Luc Dessart, Jose M. Diego, Alexei

V. Filippenko, Ryan J. Foley, Daniel Gilman, Jens Hjorth, Mathilde Jauzac, Kai-sey Mandel, Martin Millon, Justin Pierel, Keren Sharon, Stephen Thorp, Liliya Williams, Tom Broadhurst, Alan Dressler, Or Graur, Saurabh Jha, Curtis McCully, Marc Postman, Kasper Borello Schmidt, Brad E. Tucker & Anja von der Linden

Politik

THOMAS 2023

Daniel Robert Thomas & Laila A. Wahedi, *Disrupting hate, The effect of deplatforming hate organizations on their online audience*. [PNAS 120 \(2023\), e2214080120](#).

[pnas120-e2214080120-Supplement.pdf](#)

How does removing the leadership of online hate organizations from online platforms change behavior in their target audience? We study the effects of six network disruptions of designated and banned hate-based organizations on Facebook, in which known members of the organizations were removed from the platform, by examining the online engagements of the audience of the organization. Using a differences-in-differences approach, we show that on average the network disruptions reduced the consumption and production of hateful content, along with engagement within the network among periphery members. Members of the audience closest to the core members exhibit signs of backlash in the short term, but reduce their engagement within the network and with hateful content over time. The results suggest that strategies of targeted removals, such as leadership removal and network degradation efforts, can reduce the ability of hate organizations to successfully operate online.

Keywords: hate speech | deplatforming | social networks | leadership removal

Significance: How does removing the leadership of online hate organizations from online platforms change behavior in their target audience? We study the effects of six network disruptions of designated and banned hate-based organizations on Facebook, in which known members of the organizations were removed from the platform, by examining the online engagements of the audience of the organization. We show that on average, the network disruptions reduced the consumption and production of hateful content, along with engagement within the network among audience members. The Results suggest that strategies of targeted removals, such as leadership removal and network degradation efforts, can reduce the ability of hate organizations to successfully operate online.