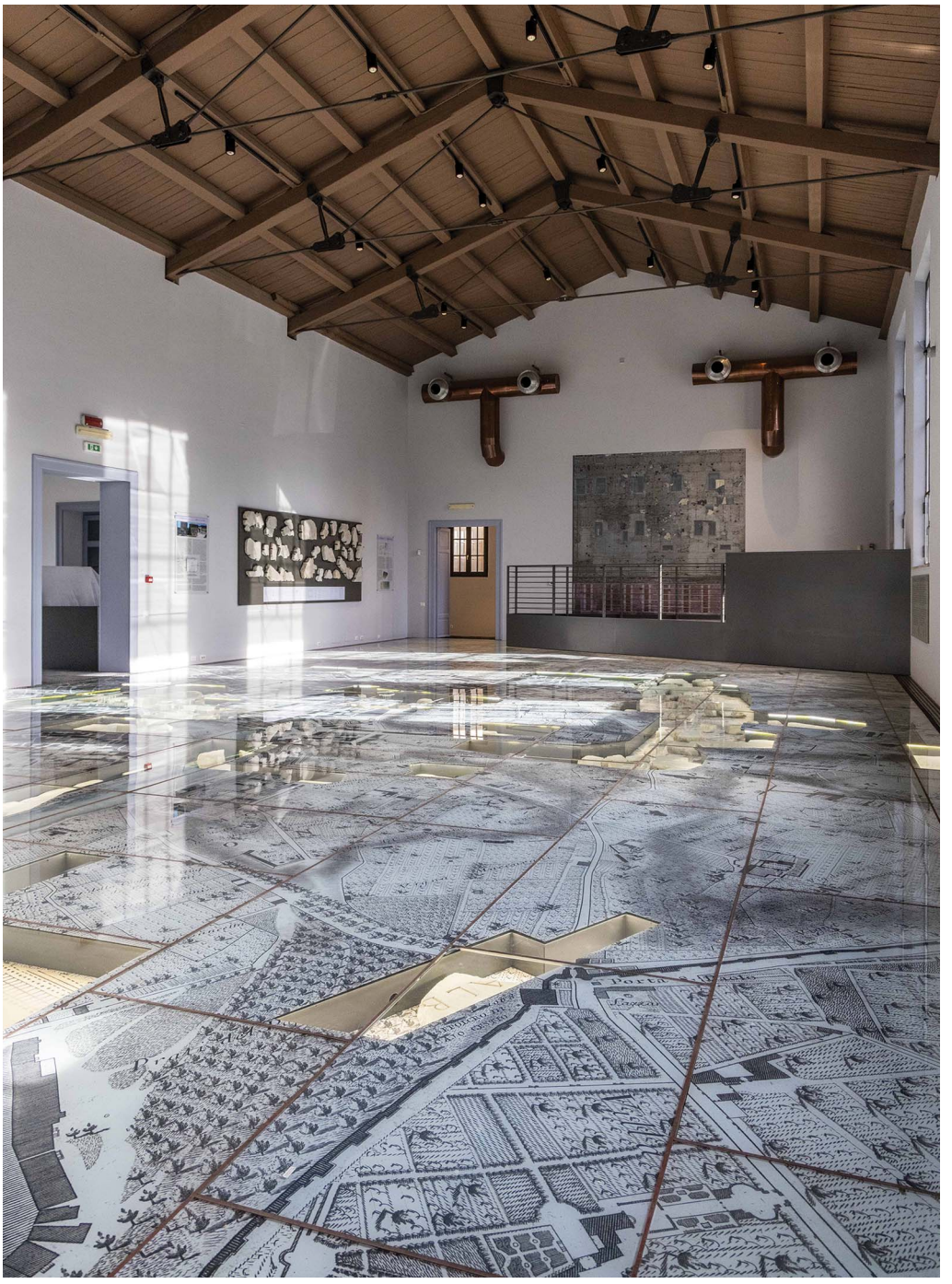
Frontispiece 1. Aerial view of excavations at the sanctuary of Artemis Amarysia at Amarynthos, Euboea, Greece, in 2023. Ongoing investigations by Swiss and Greek archaeologists have revealed the complete plan of a temple dating to the seventh century BC. The building is unusual for several reasons including its apsidal form, large size (34m in length) and the presence of altars inside, rather than in front of, the temple. Finds of votive offerings include ceramic vessels, weapons, jewellery, a faience Bes figurine and a small ivory sculpture of a female head in Egyptian style. The temple was partially destroyed by fire and restored in the sixth century BC before being replaced by a new building by the end of that century. Photograph © ESAG 2023.



Frontispiece 2. Interior of the newly opened Forma Urbis Museum in Rome, January 2024. The Forma Urbis is a monumental plan of ancient Rome, measuring 18 × 13m, carved on white marble slabs and originally displayed on a wall inside the Temple of Peace. The plan dates to the early third century AD and documents the city, at a scale of approximately 1:240, including buildings, monuments and gardens. The 250 or so surviving fragments are now displayed beneath a glass floor, superimposed on Giovanni Battista Nolli's 1748 map of Rome. The museum forms part of the new Parco Archeologico del Celio and is the first time all the extant pieces of the plan have been displayed together for more than a century. Photograph © Sovrintendenza Capitolina ai Beni Culturali.

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EDITORIAL

A tale of two conferences

If 2023 was hot—indeed, the hottest year on record[1]—the deal closed at COP28 in Dubai last December was lukewarm. Certainly, there was welcome progress, particularly a new 'loss and damage' fund to support developing countries exposed to the effects of climate change, and new attention to greenhouse gas emissions from agriculture and to the negative impacts of heat on human health. But, despite needing to almost halve emissions by 2030 (compared to 2019 levels) in order to limit global warming to 1.5°C, delegates from nearly 200 countries could agree only to 'transition away' from fossil fuels rather than commit to ending their use altogether.[2] A step in the right direction no doubt, but also a formula compatible with the ongoing opening of new oil and gas fields.

As the proceedings wrapped up in Dubai, two archaeology conferences assembled, one at either end of Eurasia: the Fifth Shanghai Archaeology Forum (SAF; 15–17 December) and the Theoretical Archaeology Group (TAG) at the University of East Anglia in Norwich (UEA; 18–20 December). The longer established of the two is TAG; founded in 1979, the annual meeting focuses on archaeological theory and attracts a strong postgraduate and early-career researcher demographic. In contrast, the biannual SAF meeting is a comparatively new kid on the block, starting in 2013 and skipping 2021 due to Covid-19 restrictions, so that 2023 is the fifth instalment. The Forum also adopts a very different format from TAG: a big-budget, invite-only summit of, in general, more senior scholars from around the world, combining a mission to address contemporary societal issues with a glitzy awards ceremony. *Antiquity* attended both conferences: the Deputy Editor at TAG in Norwich and the Editor at the SAF. Given the events' distinct formats and funding, discussing the two together risks comparing chalk and cheese. Yet, as both took the theme of climate change as their principal focus, it may be useful to reflect on some of the similarities and differences—with the important caveat that it is only possible to be in one place at a time, so that my observations about TAG are reliant on the submitted abstracts and on updates from colleagues who attended. For the same reason, and because readers may be less familiar with the SAF, there is more emphasis on the Shanghai event here.

The Forum is hosted by the Chinese Academy of Social Sciences (CASS) and the Shanghai Municipal People's Government, and organised by the CASS Institute of Archaeology, Shanghai Municipal Bureau of Cultural Heritage Administration, Shanghai Academy and Shanghai University. The 200 or so invited delegates from 40 countries were welcomed with speeches by the Mayor of Shanghai, China's Vice Minister for Culture and Tourism, and the CASS President, and were left in no doubt about the importance attached to the event and to archaeology more generally in China today. As noted in previous editorials, the political patronage of, and funding for, archaeological research and museums in China is very different from that currently available in most other parts of the world. President

[1] https://www.theguardian.com/environment/2024/jan/09/2023-record-world-hottest-climate-fossil-fuel
[2] https://unfccc.int/news/cop28-agreement-signals-beginning-of-the-end-of-the-fossil-fuel-era

Xi Jinping has repeatedly emphasised the importance of archaeology and cultural heritage for the Chinese state. In this context, Marie Louise Stig Sørensen and colleagues have recently discussed "the explicit presentation of the archaeologist as hero" at some Chinese sites and museums (Figure 1).[3]

Following the opening speeches, representatives of the projects selected for prizes were invited to present their research and to receive their awards (more on which below). The second day of the Forum moved on to the archaeology of climate change and social sustainability. Presentations included a call for the mobilisation of archaeology, as the most relevant discipline of the social sciences and humanities, to address the challenges of the Anthropocene (Çiler Çilingiroğlu). Other speakers covered the full spectrum of archaeology's many subdisciplines, from environmental sciences through to using responses to climate stress in the past to evoke empathy with, and action on behalf of, future generations (Koji Mizoguchi). In repositioning archaeology as a future-focused, problem-orientated discipline, many speakers called for further transdisciplinary collaboration, including better student training (Peter Biehl). Among the research showcased, Eduardo Neves presented the 'Amazônia Revelada: Mapeando Legados Culturais' (Amazon Revealed: Mapping Cultural Legacies) project, which is using LiDAR to detect archaeological sites across the southern Amazon basin. This is an area where deforestation has been particularly intensive over the past 20 years. The identification of pre-colonial settlements, roads and geoglyphs across vast areas should trigger the relevant cultural heritage protection laws to curtail further deforestation in these areas, helping to preserve the region's biocultural heritage and support wider efforts to tackle climate change and environmental degradation.[4]

The afternoon of Day 2 was devoted to a plenary session on recent advances in Chinese archaeology, featuring new work at well-known sites such as Erlitou, Shimao and Yinxu, as well as projects at new and lesser-known sites ranging from shipwrecks and coastal archaeology to the excavation of a Tang Dynasty fire beacon on the Silk Road into Central Asia. Day 3 of the Forum returned to the theme of climate change, with six parallel sessions addressing diverse periods and regions. The speed of current climate change and its impact on cultural heritage was readily apparent and prompted some radical suggestions. Based on work in Svalbard, for example, Vibeke Martens posed the question of whether the consensus position of leaving archaeological deposits safely buried for future generations is still tenable when preservation conditions have been destabilised by rising temperatures and oxygen levels; might archaeologists instead now have a responsibility to excavate and store vulnerable archaeological materials before they are lost forever? Such a shift of emphasis from the targeted collection of limited data for immediate analysis to the harvesting of large archives for future analysis echoes a recent call by a coalition of scientists (including several SAF participants) for a comprehensive 'Earth Archive' of LiDAR scans of the entire land surface of the planet.[5] The aim would be to preserve a record of the Earth's cultural and ecological heritage,

[3] Sørensen, M.L.S, Guohua Yang, Junting Lyu, Miao Yang, Shiting Lin & Lila Janik. 2023. The museological celebration of archaeology and archaeologists: reflections from a recent field trip to China. *CHRC Bulletin* November 2023: 2–6.
[4] https://amazoniarevelada.com.br (accessed 15 January 2024).
[5] Fisher, C. *et al.* 2022. Creating an Earth Archive. *Proceedings of the National Academy of Sciences USA*, 119(11), e2115485119. https://doi.org/doi:10.1073/pnas.2115485119

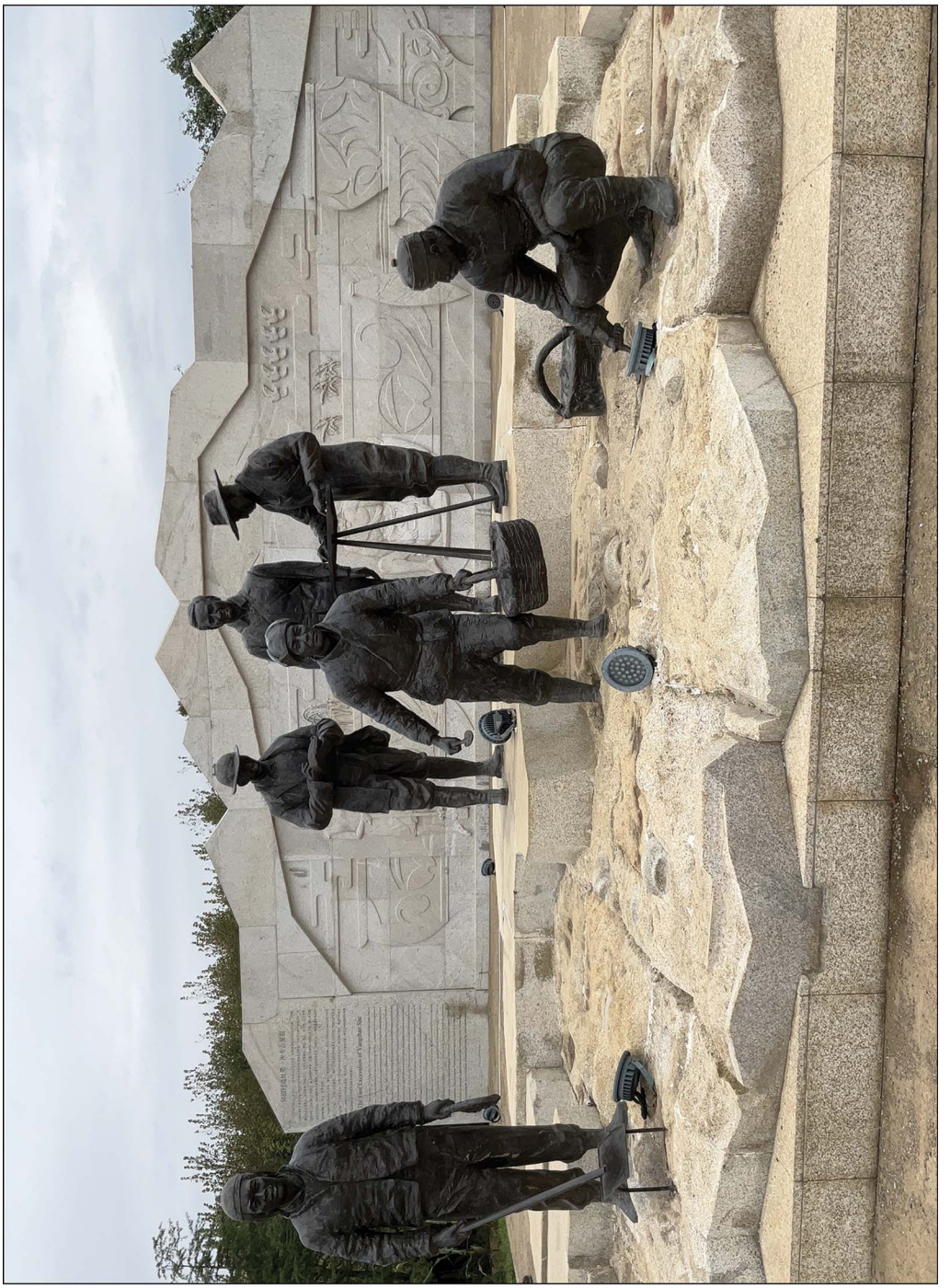

Figure 1. Statues of archaeologists in action at the Neolithic site of Yangshao (Henan Province) marking the centenary of the 1921 excavations that initiated the scientific study of the Neolithic period in China. Photograph: Marie Louise Stig Sørensen.

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providing scientists of the present and future with a baseline record of the planet as it is today, starting with those regions most exposed to climate change.

The final day of the gathering saw delegates either visiting some of the cultural highlights of Shanghai or braving a long drive in blizzard conditions to visit Changzhou Museum and the nearby Neolithic site at Sanxingcun. By the time delegates arrived at the latter, the ongoing excavations were buried under a blanket of snow; the journey was amply compensated, however, by the opportunity to examine at close quarters some of the wealth of ceramic, bone and jade finds recovered during the 2023 season.

After four packed days of scholarly sessions and cultural events, the Forum delegates headed home.[6] Meanwhile, at UEA in Norwich, TAG was getting underway. Many readers will be familiar with TAG, both because the former has chalked up more than 40 annual meetings, and has several international chapters, and because of *Antiquity*'s long-standing connections with the conference (including hosting the TAG archive, www.antiquity.ac.uk/TAG). For many years, the Antiquity Trust has also sponsored the TAG keynote lectures. In 2023, the plenary session was addressed by Joanne Clarke speaking on 'Archaeology, heritage and climate change: how recent research is influencing international policy agendas' and by Kristina Douglass on 'Knowledge co-production, climate and archaeology'.[7]

As at the SAF, some TAG sessions focused directly on the conference theme of climate change and others less so or not at all. Among the former were sessions addressing 'Grief for the past and for the future: heritage, climate, and decolonisation', 'Climate justice and new animism in archaeology' and 'Societal resilience to rapid climate change'. Echoing calls at the SAF for better training, a whole TAG session was devoted to the teaching and learning of archaeology for tackling global challenges, and, amplifying the call at the SAF for empathy with future generations, another session addressed 'Place, climate and health: archaeology, therapy and well-being'. Similarly, the session on 'Past responses to climate and environmental change through the lens of mythology' resonated with Tim Pauketat's SAF presentation on the religious cults that spread across Mesoamerica and North America during the Medieval Climatic Optimum.[8] In addition, TAG also considered developer-led archaeology with calls to address its enabling role in extraction and construction through a session on decolonising practice and a 'speculative design workshop' intended to collaboratively devise a sectorial response to climate change.

Reading through the TAG abstracts, I certainly wished that I'd been able to attend the conference to gain a fuller sense of the range of discussion and debate. Still, even based on a partial view of proceedings, there seem to be some broad areas of similarity and difference with the research featured at the SAF. Both meetings dealt with big and ambitious questions, and both featured sustained calls for inter- or transdisciplinarity in order to address challenges

[6] My thanks to the Forum for the invitation to participate at this year's meeting, and to the organisers and the many student helpers for their logistical skills and warm welcome.

[7] Some of Kristina Douglass and colleagues' work on Madagascar, using palaeoclimate data, ceramic assemblages and oral histories to reconstruct the social networks used to manage social and environmental stresses, featured in the October 2023 issue: Davis, D.S. *et al.* Social networks as risk-mitigation strategies in south-west Madagascar. *Antiquity* 97: 1296–312.

[8] See Pauketat, T.R. 2023. *Gods of Thunder: how climate change, travel, and spirituality reshaped precolonial America*. Oxford: Oxford University Press.

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ill-served by traditional institutional structures. Many of the climate scenarios presented were depressing, even alarming, but both meetings leaned towards hope rather than pessimism. Speakers addressed many shared themes including stewardship, risk, response, adaptation and sustainability; some additional issues, perhaps more apparent at TAG, included anxiety, loss and the need for a regenerative archaeology. Certainly, the works of Gilles Deleuze, Donna Harraway *et al*. were not overtly discussed in Shanghai, where presentations were more likely to cite the works of multi-author, collaborative projects published in *Nature*, *PNAS* and *Science Reports*, or to refer to the work of the Intergovernmental Panel on Climate Change or the UN's Sustainable Development Goals (SDGs). The abstracts, at least, for the TAG session 'Archaeology can save the future in Africa' also featured fewer references to theoretical works and a stronger emphasis on issues such as food security and addressing the SDGs. With my own specialist (Roman archaeology) hat on, there appears to have been little discussion at either conference of the archaeology of ancient empires, such the Roman, Persian or Han. If one were seeking lessons from the past about the impact of globalising colonial regimes that straddle multiple ecotones and push up against and beyond sustainable ecological limits, these would surely be powerful examples.

Summing up, and grossly generalising, one meeting offered a venue for chewing over exciting new ideas, often using experimental formats, and emphasising how we might use the past to radically rethink the future from the bottom up; the other meeting put stronger emphasis on innovative scientific techniques, the application of methods at large, sometimes continent-spanning scales, reporting the results of major research projects and seeking to use the "completed experiments of the past"[9] to shape practical solutions to specific problems. To what extent either of these general approaches to archaeological research contributes to a better future, however, will depend in large part on the effectiveness of our communication with policymakers. More broadly, as the outcome of COP28 illustrated, learning lessons and forging these alternative futures in practice will also require politicians to overcome national self-interests and international disagreements. These barriers are often embedded in a reluctance or inability to change, with greater investment in protecting particular versions of the past and maintaining current lifestyles than in realising alternative futures. Here, surely, is a distinct role for archaeology, helping to document and explain how earlier societies successfully reconciled the competing demands of past, present and future. In other words, to ensure that the *environmental* lessons of the past are learned we first need to learn the *social* lessons of the past. Indeed, this is also a conclusion of one of the SAF Research Award winners. Sander van der Leeuw's research emphasises the synergies of archaeology, sustainability science and complex systems, including the importance of recognising that "sustainability is a social and societal issue, rather than an environmental one".[10]

[9] Dugmore, A. & T.H. McGovern. 2013. 37 'Clumsy solutions' and 'elegant failures': lessons on climate change adaptation from the settlement of the North Atlantic islands, in K. O'Brien, L. Sygna & J. Wolf (ed.) *A changing environment for human security: transformative approaches to research, policy and action*, 435–51. London: Routledge, p.435.

[10] Van der Leeuw, S. 2020. *Social sustainability, past and future: undoing unintended consequences for the Earth's survival*. Cambridge: Cambridge University Press. Reviewed by Claire Nesbitt 2020. New Book Chronicle. *Antiquity* 94: 1111–19. https://doi.org/10.15184/aqy.2020.129

Prizes and awards

An integral part of the SAF is the awarding of prizes for notable field discoveries and for major research projects including theoretical or methodological developments, lab-based research and synthetic accounts (completed between 2019 and 2023). As in previous years, an international advisory panel was invited to put forward worthy recipients, resulting in 131 nominations, 40 of which were shortlisted and 19 of which were selected for prizes: nine Field Discovery Awards and 10 Research Awards.

The 2023 Research Awards recognised a diverse range of projects, from the monumental 12-volume *Centennial History of Chinese Archaeology (1921–2021)* to cutting-edge developments in molecular archaeology providing insights into the human microbiome and answering questions unimagined just 10 years ago let alone 100. On sustainability, winning projects examined the extraordinary scale of population supported across the Greater Angkor region, and drought-induced conflict at the Maya Postclassic city of Mayapan. Other awardees were three projects on the peopling of Europe, North America and South America, and two projects working on high-resolution chronologies of climate and environmental change across the North Atlantic islands and at Neolithic and Bronze Age lakeside settlements in the western Balkans.

The Field Discovery Awards recognised recent work on the early monumental structures at Aguada Fénix, Mexico, and the Pre-Pottery Neolithic structures at Karahantepe—one of a growing number of contemporaneous sites in the Şanlıurfa region of south-eastern Turkey, including Göbeklitepe and Sayburç.[11] There were also awards for discoveries at the Tripillia mega-sites, an early Harappan cemetery in Gujarat, early cave art in Sulawesi dating to at least 44kya, and two projects in Amazonia: one documenting painted rock art panels and their 'libraries' of plants and animals, and the other using LiDAR to map pre-Hispanic low-density urbanism in Bolivia (Figure 2).

Another Field Discovery Award recognised the recent investigations at Sanxingdui, the capital of the Shu state. More than 17 000 finds from six newly excavated sacrificial pits include jades, ivory, silks and bronzes. The latter demonstrate many similarities with the bronze objects of other contemporaneous Chinese cultures, including the Shang, but also unique traits including human figures and masks.[12] Some of the star finds from the latest excavations were on show at the Shanghai University Museum, displayed alongside bronze sculptures by Rodin. The 'Glory of Bronze Civilization: A Dialogue between Sanxingdui and Auguste Rodin across Space and Time' exhibition (13 December 2023 to 1 February 2024) was organised to coincide with the Forum and to mark the sixtieth anniversary of the establishment of diplomatic relations between China and France. A fascinating exhibition, though it was undoubtedly the astonishing objects fashioned by the Shu craftspeople rather than Rodin's works that monopolised the interest of the SAF delegates during an after-hours viewing!

[11] Özdoğan, E. 2022. The Sayburç reliefs: a narrative scene from the Neolithic. *Antiquity* 96: 1599–1605. https://doi.org/10.15184/aqy.2022.125

[12] Li, Yingfu, Tian Qiu, Jianbo Guo & Yuniu Li. 2023. New discoveries at the Sanxingdui Bronze Age site in south-west China. *Antiquity* 97: e4. https://doi.org/10.15184/aqy.2022.150

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Figure 2. The winners of the Field Discovery Awards at the Fifth Shanghai Archaeological Forum, December 2023. Photograph: SAF.

A final Field Discovery Award recognised recent work at Kalambo Falls, Zambia, and the identification of wooden structural features dated by luminescence to at least 476 ± 23 kyr ago.[13] Archaeologists have long recognised that taphonomic processes skew understanding of early hominin activity towards stone tools and fossil bones;[14] still, the recovery of serendipitously preserved wooden objects never fails to remind us of this limitation—and of the richness of these past material worlds. At nearly 500 000 years old, the two interlocking logs, and various other wooden finds, recovered at Kalambo are far earlier than the handiwork of our own species, raising important questions about the cognitive and technological capacities of our closest cousins.

Back at TAG, meanwhile, another prize was on offer. Lord Colin Renfrew was the first recipient of the inaugural prize for Outstanding Contribution to Archaeological Theory in recognition of his wide-ranging and sustained work on archaeological theory over the past 50 years. Rounding off this roll call of recent prizes we should also record that former *Antiquity* editor Caroline Malone was awarded the 2023 Christiane and Jean Guilaine Foundation Prize in recognition of her research on human-environment interactions, citing her work on the Neolithic and Bronze Age of Italy and Malta (Figure 3). Congratulations all!

[13] Barham, L. *et al.* 2023. Evidence for the earliest structural use of wood at least 476,000 years ago. *Nature* 622: 107–11. https://doi.org/10.1038/s41586-023-06557-9

[14] Adams, M. 2022. *The Museum of the Wood Age*. London: Head of Zeus; for wooden finds from a much more recent Palaeolithic site, see in this issue: Koivisto, S., J. Suomela & M. Lempiäinen-Avci. 2024. Artisans of the Stone Age: the utilisation of plant- and wood-based raw materials at the wetland site of Järvensuo 1, Finland. *Antiquity Project Gallery* 97. https://doi.org/10.15184/aqy.2023.180

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Figure 3. Former Antiquity *editor Caroline Malone receives the Christiane and Jean Guilaine Foundation Prize at the Académie des Inscriptions et Belles-Lettres, Paris, September 2023. Photograph: Guilaine Foundation.*

In this issue

Several articles in the current issue pick up on the continent-spanning themes presented at the SAF. The upsurge of archaeological interest in millets has undoubtedly been fuelled by the ability to detect C4-plant consumption using isotope analyses. But millets have captured wider attention because of their resilience, demanding little rainfall and typically none of the irrigation, artificial fertilisers or pesticides required by other cereals. In the context of climate change and the search for more sustainable crops, millet's capital has therefore soared. In West Africa, for example, there is renewed interest in fonio[15] and India recently used its presidency of the G20 to promote awareness with a millet-based summit lunch as part of the UN's "international year of millet".[16] These benefits were presumably also obvious in the distant past as demonstrated by the speed with which millet cultivation spread far beyond its centres of domestication. In this issue, Hunt and colleagues examine Eurasian food globalisation, tracking the westward journey of broomcorn millet from northern China into Central Asia and eventually into the far west of Europe. In Neolithic China, millet was prepared by boiling or steaming whole grains of 'sticky' varieties using distinctive ceramic vessels. As cultivation spread west into Central China, cooking methods and associated material culture travelled in tandem. However, millet continued to spread into western China, while the culinary practices and cooking vessels did not. Here, the authors present grain starch genotype and phenotype data from broomcorn millet samples from Bronze Age and early historical western China, hundreds of kilometres beyond the 'culinary boundary' between boiling/steaming and grinding/baking. None of the grains sampled for the present article is of the sticky variety indicating that, as millet moved west, selective pressures led to changes in the cereal's properties as it decoupled from traditional cooking practices and was incorporated into local cuisines. Being interconnected across vast distances and open to new ideas, plants, animals and material cultures did not mean swallowing the whole package. Fusion foods are nothing new.

[15] https://www.theguardian.com/environment/2023/jul/06/fonio-beer-climate-friendly-grain
[16] https://www.theguardian.com/world/2023/sep/10/pasta-risotto-ravioli-humble-millet-parades-its-versatility-in-delhi-for-g20

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Also addressing material with significance for Eurasian connections, Bayarsaikhan and colleagues present new archaeological discoveries from western and northern Mongolia, dating to the fourth and fifth centuries AD, including a wooden frame saddle and an iron stirrup. The finds indicate that Mongolian groups were early adopters of these technologies, helping to explain the dramatic expansion of nomadic hegemony across the steppe that connected the far east and far west of Eurasia. Moving to South America, this issue features a special section reporting on the 'Geospatial Platform for Andean Culture, History and Archaeology' (GeoPACHA). Using a 'federated' approach, with multiple teams and individual researchers feeding into an overarching digital platform, the initiative has analysed remotely sensed data for archaeological sites across a vast swathe of Peru. Steven Wernke, Parker Van Valkenburgh and colleagues open the special section with an introduction to the GeoPACHA project. Five related articles then demonstrate how the platform has been used to address specific research questions about sites such as *pukaras* (hilltop fortifications) and pastoralism, as well as the role of new technologies such as Convolutional Neural Networks. Combined with the Amazônia Revelada project and the prize-winning work to map pre-Hispanic sites in Bolivia (see above), South America is emerging as a hotspot of remotely sensed geospatial archaeological research.

Other content in this issue includes the first detailed analysis by the excavators of a bronze hand inscribed with a rare text recovered from the Iron Age hillfort at Irulegi in northern Spain. Mattin Aiestaran and colleagues demonstrate that the hand—probably a ritual object once nailed to the entrance of a building—features a dedication to a deity expressed in Vasconic, a Palaeohispanic language with tentative links to Basque. We also have articles comparing modern-day Georgian winemaking with ancient Roman viniculture and explorations of the formation of chiefdoms in Tonga and social inequality at eighteenth/nineteenth-century urban sites in southern Africa. Readers will also find six new Project Gallery articles (available online) and a selection of book reviews including two review articles of recent volumes on the themes of collapse and migration. As ever, if you would like to see your own research featured in *Antiquity*, full details of how to submit a manuscript or contact the team can be found at https://antiquity.ac.uk. We look forward to hearing from you!

Robert Witcher
Durham, 1 February 2024

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