



Frontispiece 1. Excavation during 2022 of a painted adobe pillar at Pañamarca, in Peru's coastal Ancash region. The mud-brick architectural complex at Pañamarca, located on a rocky outcrop in the lower Nepeña Valley, dates to between AD 550 and 800 and lies in the far south of the Moche world. Current work at the site commenced in 2018, with the aim of documenting the long-term occupation of the site. The 2022 season concentrated on obtaining stratigraphic evidence and building sequences within the monumental area, and the documentation and conservation of painted murals. The presence of locally made pottery and goods imported from the highlands to the east, including textiles and feathers, provides evidence for production and long-distance exchange (photograph © Lisa Treven/Paisajes Arqueológicos de Pañamarca).



Frontispiece 2. Aerial photograph of Каплиця Святого Юра (St George Chapel), citadel, and previously unrecorded graveyard from the twelfth century AD, at Oster, Chernihiv Oblast, Ukraine, April 2023. The standing remains of the twelfth-century brick church are in the background, with infantry defensive trenches along the edge of the mound. These were constructed in March 2022 during the Russian invasion of Ukraine. On-going photogrammetry and field research demonstrates that the 200m of military entrenchments at Oster have destroyed parts of the citadel, the church and extensive early medieval graves. This research is part of a wider international collaborative project between the Archaeological Landscape Monitoring Group, National Taras Shevchenko University of Kyiv, Ukraine, the Institute of Archaeology, the National Academy of Sciences, Ukraine, and the University of Notre Dame, USA (photograph © Ian Kuijt/Archaeological Landscape Monitoring Group).



EDITORIAL

Author demographics

Interest in who writes about the past is not new. Scholars have long sought to understand the choice of subject matter and its treatment through the biography of the author. Unquestionably, however, such interest—or concern—has intensified in recent years. Energised by social media, movements such as #MeToo and Black Lives Matter have focused attention on who gets to control the narrative and who does not. The need for a greater diversity of authors forms an integral part of the (nascent) decolonisation of institutions and of knowledge across all subject areas, from ecology to economics. Within archaeology, recent work has focused on documenting inequalities and the structural barriers preventing the participation of a more representative range of voices. Thomas Panganayi Thondhlana, Edwinus Chrisantus Lyaya & Ezekia Mtetwa, for example, have explored the question of why the study of African archaeometallurgy has been dominated by European and North American archaeologists, finding that unequal power relations and a lack of access to laboratories and funding prevents African archaeologists from progressing in the discipline.¹ Meanwhile, a new study by Peter Mitchell and Jakub Seneši of authorship in the *South African Archaeological Bulletin* draws attention to the marked underrepresentation of African authors in that journal over the past four decades, as well as to the improvements made in recent years.²

Within this wider context, in 2019, the *Antiquity* Trust tasked the editorial team with collating and reporting on author gender statistics in order to establish who publishes with *Antiquity* and whether any actions could be taken to promote equity. The outcome of that work was presented as part of the ‘Documenting demographics in archaeological publications and grants’ session at the 2021 Society for American Archaeology annual meeting and published earlier this year in the *Journal of Field Archaeology*.³ The reader is referred to that article for a full analysis and discussion of the data. Here, however, we provide an overview of some of the headline findings and take the opportunity to provide an update to the underlying dataset.

Most analyses of author gender have focused on published content—the articles that have made it through the peer review process to the printed page. With access to data from the *Antiquity* submissions system dating back to 2015, we chose instead to focus on the gender

¹ THONDHLANA, T.P., E.C. LYAYA & E. MTETWA. 2022. The politics of knowledge production: training and practice of archaeological science in Africa. *African Archaeological Review* 39: 461–77. <https://doi.org/10.1007/s10437-022-09491-9>

² MITCHELL, P.J. & J. SENEŠI. 2022. Trends in Southern African Archaeology 1980–2019: changing publication patterns in the *South African Archaeological Bulletin*. *South African Archaeological Bulletin* 77: 127–39.

³ HANSCAM, E. & R. WITCHER. 2023. Women in *Antiquity*: an analysis of gender and publishing in a global archaeology journal. *Journal of Field Archaeology* 48: 87–101. <https://doi.org/10.1080/00934690.2022.2143896>

of authors listed on submitted manuscripts. At the time of data collection, 2020 was the most recent full year available, giving six years' worth of submissions data. As we detail in the *JRA* article, we collated details about the gender presentation of almost 5000 authors from 78 countries (readers are referred to the original article for discussion of the methods and acknowledgement of genders other than male and female). We then tracked the progress of each submission through the peer review and editorial decision-making processes to assess whether rejection or acceptance was independent of author gender. Overall, we found that 35 per cent of all named authors across the six-year census period were women. This gives a ratio of approximately one female author for every two male authors.

Breaking down the figures to look at specific categories of submissions, we found the ratio of 1:2 to be relatively consistent. Focusing on the gender of the first-named author, for example, we found 35 per cent were women, while 33 per cent of solo-authored submissions were by women. While the underrepresentation of female authors was already apparent from our day-to-day handling of manuscripts, the consistency of the statistics was not. Equally unexpected was the discovery that this ratio also held for peer reviewers (noting that those who accepted the invitation to review are not necessarily the same as those originally invited). Finally, cross-referencing the manuscripts against editorial decisions revealed that those decisions were made in direct proportion to the gender distribution of the submitted papers (i.e. that decisions are independent of author gender). Consequently, as observed by several other studies that we discuss in the *JRA* article, the uneven gender balance of published articles is a reflection of what is submitted.

Why, then, do women submit fewer papers and what can be done to increase the number and achieve a more equitable publication record? The former is not a new question; indeed, it was raised more than 30 years ago in the pages of this journal⁴ and elsewhere. Depressingly, most of the answers set out then remain unchanged today; some of those reasons are societal and will not be changed by archaeologists alone, but there is still scope to act, and in the *JFA* article we discuss some of the strategies we are pursuing to support and attract more submissions from female authors and a more diverse range of authors generally. These include writing workshops for early career researchers (often disproportionately female) to demystify the journal publishing process and to provide mentoring for manuscript development, moving to double-anonymous peer review, showcasing the work of early career researchers via social media, and ensuring that equal numbers of female and male respondents are invited to participate in debate features. While none of these strategies will achieve parity in submissions in the short term, they provide some practical first steps which should lead to better representation of female authors in the pages of *Antiquity* in the medium term. Other aspects of the data explored in the *JFA* article include issues around team authorship and the hitherto neglected international context of author gender in archaeological publishing.

As noted above, the original data collection covered 2015 to 2020. Thanks to the efforts of Eve Jackson and Ellen Kendall, we have subsequently collated a further two years' worth of data. For 2021–2022, women comprise 36 per cent of named authors on submitted

⁴ GILCHRIST, R. 1991. Women's archaeology? Political feminism, gender theory and historical revision. *Antiquity* 65: 495–501. <https://doi.org/10.1017/S0003598X00080091>



Figure 1. Author gender as listed on manuscripts submitted to *Antiquity*, comparing 2015–2020 with 2021–2022, grouped by all named authors; first-named author; solo author; first-named author on papers with two (joint) or three plus authors (team).

manuscripts, just above the average of the 2015–2020 dataset at 35 per cent (Figure 1). Similarly, in 2021 and 2022, the combined percentage of female first-author manuscripts (including all solo, joint and team-authored papers with a female first author) rose by one percentage point to 36 per cent. Breaking down this group of submissions reveals some diversity of trends. Of papers with a single author, those written by women fell from 32 per cent in 2015–2020 to 28 per cent in 2021–2022. In fact, this category had fallen as low as 26 per cent in 2020 and in the *JFA* article we speculated that this decline—which was out of line with other trends, such as an increase in female first-authored submissions in the same year—might reflect the particular impact of COVID-19 on those women writing solo-authored papers (often concentrated in specific, non-lab-based sub-disciplinary areas). The 2021–2022 figures show only a modest recovery of this category of paper.

As before, it is worth cautioning that solo-authored papers are a small subset of the whole and therefore subject to greater random interannual variation. Nonetheless, there may be an emerging—and unwelcome—pattern of fewer submissions solo-authored by women. Conversely, the percentages both of jointly authored and team-authored papers with a female first author increased in 2021–2022, with the latter in particular jumping from 31 per cent to 39 per cent. The 2021–2022 data therefore complement those presented in the *JFA* article, demonstrating a generally consistent picture of approximately one woman for every two men, with a worrying confirmation of fewer female solo-authored submissions and a welcome increase in team-authored papers with a female first author.

As we discuss in more detail in the *JFA* article, team authorship, often with 10 or more named authors, raises some interesting questions in relation to author contribution and gender. In the sciences, it is traditionally the last-named author that is the most senior, but use of this convention in archaeological publishing is mixed. In this context, over the next year we are planning changes to our submissions system to incorporate the use of Contributor Roles Taxonomy, or CRediT. This scheme introduces a high-level taxonomy of different roles, from project conceptualisation through to writing, that individual contributors can claim during the submission process to ensure proper recognition of their work, with details included in the published article. Another change to the submission system, implemented from the start of 2023, will greatly assist with the work of monitoring author gender in the future. As part of a wider publishing industry initiative to promote inclusion and diversity, authors will be asked at the point of submission to respond to a series of standardised questions about gender and ethnic background. This will improve the efficiency and accuracy of data collection going forward; importantly, this information will be held entirely separately from the rest of an author's submission and will only be available to the editorial team in aggregate form at the end of each year. This, and the other various initiatives mentioned above and in the *JRA* article, form part of our commitment to collate, make available and act upon the evidence for inequities in archaeological publishing, and archaeology more generally.

Author gender in this issue

It is worth reiterating that the analysis discussed above relates specifically to research submissions rather than published articles, even if the latter are shown to be a representative sample of the former. Currently, there is no comprehensive study of the gender of published *Antiquity* authors. Figure 2 therefore offers a snapshot of the historical trend by sampling one volume per decade, starting in 1990, showing the gender split for all listed authors and first-named authors. As will be clear, the overall trend from 1990 to 2020 shows an improvement, but progress has been slow and inconsistent. Recognising that the gender balance of any individual published issue, or even volume, will demonstrate some variation around the mean, how does the current issue hold up to the longer-term trends? Of the 81 named authors on the 12 research articles and two debate pieces featured in this issue, 37 are female, some 46 per cent of the total; whilst still short of parity, this is notably higher than the historical average. Focusing on first authors, 50 per cent are female, again far higher than the historical average and, indeed, at parity.

There is, however, among the articles in this issue one that is both unusual in its authorship and which has a significant influence on these statistics. The article by Laura Coltofean-Arizancu and colleagues is notable because 11 of the 12 authors are women. Team-authored articles with a preponderance of male authors are not unusual, but those with a majority of female authors are comparatively rare (though, we should also note the article by Augusta McMahon and colleagues in this issue), and no published article over recent years comes close to a ratio of 11:1. The particular author profile of the article by Coltofean-Arizancu *et al.* is perhaps to be understood in relation to its origins in the work of the 'Archaeology and Gender in Europe' (AGE) research group, as well as in relation to its subject matter: harassment, abuse, bullying and intimidation. If, to assess the influence



Figure 2. Author gender of articles published in *Antiquity* in 1990, 2000, 2010 and 2020 compared with the current issue, including and excluding the article by Coltofean-Arizancu *et al.*

of this particular article on the statistics, it is omitted from this issue's figures, the numbers of authors shift to 26 women and 43 men, the equivalent of 38 per cent female authors—returning us to a figure closer to the ratio of one woman for every two men (though the female first-authored articles are at 46 per cent).

Regardless of whether we include or exclude the article by Laura Coltofean-Arizancu and colleagues in this snapshot of authorship, the subject matter of their research moves us firmly from abstract figures to the real-life experiences of harassment, assault, bullying and intimidation, or HABI. Here, the authors report some of the results of a Europe-wide survey to document the prevalence and impact of HABI in archaeological environments, whether in the field, laboratory or classroom, based on more than 1000 responses. In total, 72 per cent of the survey participants identified as women and, of these, fully 88 per cent reported at least one experience of HABI; among male respondents and those identifying as 'other' (e.g. non-binary or queer), 67 per cent reported at least one such experience. These shocking headline figures, supported by a detailed statistical analysis, lead the authors to conclude that HABI is endemic in European archaeology, being experienced by individuals of all genders and age groups, in multiple countries and in a variety of settings. As with documenting statistics for publishing demographics, the results might not be what we want or hope to find but collating and publicising these figures is a critical first step to eradicating these behaviours through open discussion, policy making and culture change—both institutional and personal.

Coltofean-Arizancu and colleagues emphasise that it is not only women who experience HABI. Nonetheless, it is easy to imagine some link between the underrepresentation of

women in archaeological publications and an environment in which HABI is endemic, especially if women might be more likely than men to leave the profession as a result. Wider societal change will be needed to transform the broader structural barriers that obstruct women and other groups from fuller participation, but as archaeologists we have agency, whether calling out inappropriate behaviours or supporting the development of early career researchers; these are simple and effective actions that we can all take.

Antiquity Prize and Ben Cullen Prize 2023

Each year, the *Antiquity* Trust recognises the two best articles published in the previous volume through the award of the *Antiquity* Prize and the Ben Cullen Prize. To identify this year's winners, a shortlist of articles published in 2022 was drawn up by our editorial advisory board and the *Antiquity* Trustees and Directors then cast their votes. The winner of this year's *Antiquity* Prize is Anastasiia Stupko-Lubczynska for her article on 'Masters and apprentices at the Chapel of Hatshepsut: towards an archaeology of ancient Egyptian reliefs', published in the February issue and featured on that issue's cover. Setting aside the traditional art-historical approach to ancient Egyptian art, the author adopts a *chaîne opératoire* method to assess the wall reliefs of the Chapel of Hatshepsut at Deir el-Bahari in Thebes. The analysis reveals the sequence of the artists' work, from the preparation of the wall surface through to the final touches of the master sculptor's hand. As well as the sequence and organisation of work, the approach also sheds light on elusive considerations, such as the role of apprentices.

Meanwhile, the Ben Cullen Prize goes to Julia Best, Sean Doherty, Ian Armit, Zlatozar Boev, Lindsey Büster, Barry Cunliffe, Alison Foster, Ben Frimet, Sheila Hamilton-Dyer, Tom Higham, Ophélie Lebrasseur, Holly Miller, Joris Peters, Michaël Seigle, Caroline Skelton, Rob Symmons, Richard Thomas, Angela Trentacoste, Mark Maltby, Greger Larson and Naomi Sykes for their article, 'Redefining the timing and circumstances of the chicken's introduction to Europe and north-west Africa', published in the August issue. Using new radio-carbon dates on chicken bones from presumed early contexts across Europe and north-west Africa, the authors demonstrate that most of these bones are later than the dates suggested by their stratigraphic contexts. They conclude that chickens did not arrive in Europe until the first millennium BC; they also identify a consistent time-lag between the introduction of these animals and their widespread human consumption, suggesting that these birds were initially regarded as exotica, only later becoming the source of protein so widely consumed today.

Pleasingly, the two winning articles demonstrate something of the breadth of archaeology as a subject that makes it so fascinating, adopting very different approaches to their respective topics. In the context of the above statistics on publishing demographics, they coincidentally also provide examples of contrasting modes of authorship—a solo author and a team. Our congratulations to all the winning authors!

Epicentre and crossroads

The explosive eruption in early 2022 of the underwater Hunga volcano in the Tonga archipelago was the world's most powerful volcanic event since that of Krakatoa in 1883,

and by far the largest explosion recorded by modern instruments.⁵ Mercifully, the number of those killed or injured was small, but damage to the infrastructure and environments of nearby islands was extensive, with tsunamis spreading across the Pacific and volcanic ash circling the world.

The Hunga eruption stands out, within living memory, for its size and power, but is nothing unusual when viewed on a multi-millennial scale. The 3.66-million-year-old footprints pressed into the volcanic ash at Laetoli in the Rift Valley signal the start of a long coexistence of hominins and volcanoes; indeed, the emergence of *Homo sapiens* has been linked with significant volcanic activity in that region some 200 000 years ago.⁶ Within the Holocene, one of the largest documented volcanic events was the Akahoya super-eruption of the Kikai Caldera, off the southern coast of the island of Kyushu. Dated to 5300 years ago, the event devastated a vast region of the southern Japanese archipelago. In this issue, Junzo Uchiyama and colleagues examine the evidence for the impact of the eruption on the island of Tanegashima. Prior to the event, the Jōmon foragers who occupied the island drew on a broad subsistence base, including hunting, fishing and the gathering of tree nuts, making use of a variety of ecological niches. The eruption devastated Tanegashima, extinguishing human and animal life, and leaving the island unoccupied for several centuries. Eventually, people began to recolonise Tanegashima, but this was a damaged ecosystem and new subsistence strategies were necessary; with no game animals and limited plant foods available, the settlers focused on the shoreline, especially estuaries, exploiting foods such as shellfish and kudzu. Population levels, however, remained low and did not rise significantly until the mid fourth millennium BC, some 2000 years after the original eruption. This long post-disaster recovery questions the simplistic framing of ‘resilience’ as a process of rebounding, unchanged, to a previous state; instead, Jōmon communities are shown to have been constantly changing and adapting, and developing new states of being, long before the eruption and long after.

Meanwhile, two articles in this issue direct our attention to the importance of the southern shores of the Caspian Sea as a space for the emergence and spread of novel food production practices. Donna de Groene, Hassan Fazeli Nashli and Roger Matthews present new zooarchaeological evidence from Hotu Cave for the management and domestication of sheep/goats at the Epipalaeolithic–Neolithic transition. Gazelle, along with seal and deer, dominate faunal assemblages from the Epipalaeolithic levels; in turn, these species were almost entirely replaced by sheep/goat at the start of the eighth millennium BC. It is currently not possible to ascertain whether the marked shift towards caprines represents the introduction of domesticated animals—perhaps alongside people—from the Zagros Mountains to the west or, alternatively, the exploitation of locally available wild sheep and goats. A high proportion of bones from perinatal animals, however, suggests that, at the very least, animals were being actively managed during the Early Neolithic, the cave possibly being used to shelter pregnant females.

⁵ MATOZA, R.S. *et al.* 2022. Atmospheric waves and global seismoacoustic observations of the January 2022 Hunga eruption, Tonga. *Science* 377: 95–100. <https://doi.org/10.1126/science.abo7063>

⁶ HUTCHISON, W. *et al.* 2016. A pulse of mid-Pleistocene rift volcanism in Ethiopia at the dawn of modern humans. *Nature Communications* 7: 13192. <https://doi.org/10.1038/ncomms13192>

Rolling forward 6000 years to the Bronze Age, new archaeobotanical evidence points to the very same region as a crossroads for the globalisation of food crops. Following domestication in East Asia, broomcorn millet and rice spread west across Eurasia while wheat and barley, domesticated in South-west Asia, spread east. The timings and geographical routes by which these crops travelled, however, continue to be debated. Documenting new archaeobotanical evidence of broomcorn millet dating to the end of the third millennium BC, and rice by the late first millennium BC, Yunshi Huang and colleagues argue in favour of a ‘southern’ dispersal route, across the Iranian Plateau. Nonetheless, the spread of these crops must have involved different mechanisms, because rice requires specific growing conditions that are found only intermittently, at oases, along this route. Hence, while broomcorn millet may have dispersed in an organic fashion, from one community to the next, rice—and the knowledge about how to cultivate it—must have ‘leapfrogged’ longer distances to the next suitable niche, a more complex process that perhaps explains its later dispersal.

Also in this issue

Other articles in this issue feature new radiocarbon dates with which to address old chronological conundrums. Mario Pino and Tom Dillehay return to Monteverde II in southern Chile, corroborating previous early dates for the site and reinforcing the evidence for the presence of humans in South America by the end of the Late Pleistocene. Meanwhile, Virginia Herrmann and colleagues tackle the long-running and thorny debate around the dating of the Middle Bronze Age Near East. Competing regional chronological frameworks based on texts, pottery and radiocarbon dates differ by as much as a century and a half. Here, Bayesian modelling of new radiocarbon and ceramic evidence from Zincirli in Türkiye link destruction of the site with the hand of the Hittite king Hattusili I, in the later seventeenth century BC. This identification, in turn, lends support to the so-called Middle Chronology, pointing towards a convergence of the competing dating frameworks across Anatolia, the Levant and Mesopotamia, and hinting at a possible resolution of the debate.

Among the other articles on offer, we feature a newly discovered megalithic structure at Antequera in Andalusia (García Sanjuán *et al.*) and results of recent fieldwork at the early Mesopotamian city of Lagash (McMahon *et al.*). We have studies of the impressive horses included in an elite chariot burial in Bronze Age China (Chengrui Zhang *et al.*), of the disposal of medical waste in Renaissance Rome (Boschetti *et al.*) and of museum prehistory displays (Felicity McDowall). The issue is also seasoned with an article on the experimental archaeology of salt production in the Carpathian Basin (Valerii Kavruk, Dan Lucian Buzea & Anthony Harding) and served up with a final helping of the Stonehenge calendar debate (Magli & Belmonte; Darvill). Our cover image, showing an aerial view of a pre-Hispanic ceremonial centre at Waskiri, near the Bolivia-Chile border (Pablo Cruz *et al.*), comes from one of six new Project Gallery articles linked with this issue, all available online at: www.cambridge.org/core/journals/antiquity/latest-issue. Along with the book reviews section, we trust that this diverse mix offers something of interest for all.

Postscript

Professor Dame Rosemary Cramp, 1929–2023

As this editorial went into production, we learned of the passing of Professor Dame Rosemary Cramp. Rosemary was a pioneering archaeologist of the Anglo-Saxon world, directing excavations at the double monastery site of Monkwearmouth-Jarrow, and founding and directing the publication of the monumental, multivolume *Corpus of Anglo-Saxon Stone Sculpture*. For most of her long career, Rosemary was based in Durham—the current home of *Antiquity*—where she effectively founded the Department of Archaeology, acting as head of department for nearly two decades and retaining an active role thereafter; she was also the first female professor to be appointed at the university, in 1971.

From her base in Durham, Rosemary held a host of influential positions, including serving on the Royal Commission on the Ancient and Historical Monuments of Scotland, as a Trustee of the British Museum, and as President of both the Council for British Archaeology and the Society of Antiquaries of London. Through her fieldwork, research and teaching, Rosemary also nurtured the careers of innumerable archaeologists, who will, no doubt, in due course bring forward many tributes and memories (despite an abundance of ripe material, featuring a veritable who's who of British archaeology, Rosemary was adamant about not publishing a memoir). In all these ways and more, Rosemary was the very definition of a 'trov-welblazer'. The statistics presented above on the underrepresentation of women in archaeological publishing in the early twenty-first century serve only to highlight Rosemary's achievements in the twentieth century. Not that her contributions ceased with retirement, for she continued to work on the *Corpus* and other projects for another 30 years. Asked in a 2019 interview, "Have you enjoyed your life in archaeology?", the then 89-year-old Rosemary replied, "Yes, I have—and I still am enjoying it".⁷

ROBERT WITCHER
1 June 2023, Durham

⁷ CRAMP, R. 2019. Rosemary Cramp: interview. *British Academy Review* 35: 26–33. Available at: <https://www.thebritishacademy.ac.uk/publishing/review/35/british-academy-review-35-rosemary-cramp-interview/> (accessed 1 May 2023).