

Gold has been revered for millennia and its power and beauty continue to enchant us today. As the world runs out of the precious metal, *Emma Crichton-Miller* meets the makers seeking more sustainable sources and shaping the material in their own ways

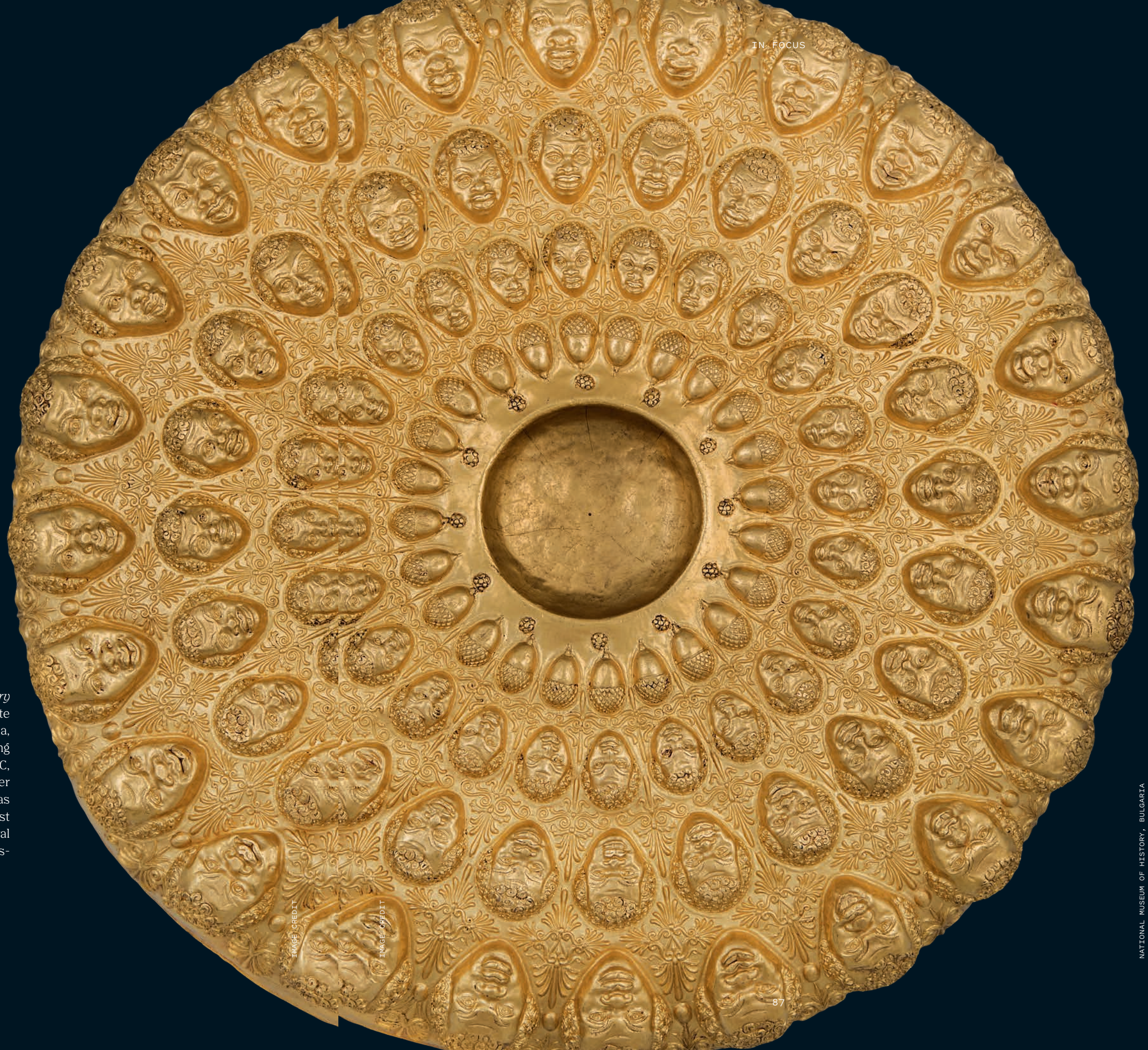
LASTING LUSTRE

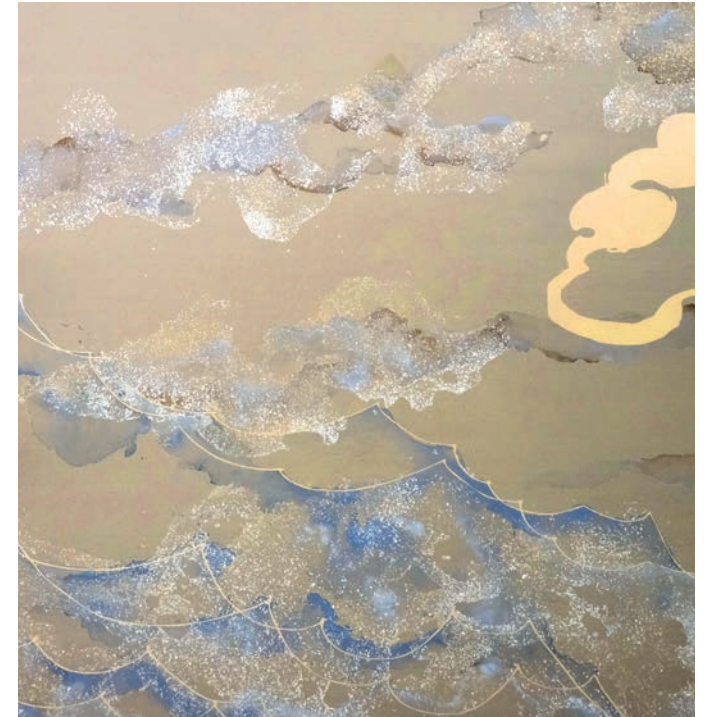




It is little wonder that the centrepiece of the British Museum's recent exhibition, *Luxury and Power: Persia to Greece*, was an astonishing display of gold: the Panagyurishte Treasure. Unearthed in 1949 in Bulgaria, where gold has been mined for millennia, it consists of nine elaborate pieces of skilfully crafted 24 carat gold. These gleaming vessels, weighing 6kg in total, are thought to have been created in the 4th century BC, for the Thracian king, Seuthes III. Gold, power and splendour have been linked ever since the Egyptians first mined the material. Around 550 BC, the association was sealed when gold coins – representations of the wealth they embodied – were first struck on the order of King Croesus of Lydia. The exhibition drove home how central gold's role has been for nations across the western world, not just in providing a measure of wealth and power but in broadcasting their allure.

PREVIOUS: the reverse of a coral branch hair piece by Emea Cole showing the hallmark of Single Mine Origin ABOVE: Goat Rhyton unearthed in 1949 in Bulgaria, and RIGHT: Phiale thought to have been created in 4th century BC, both from the Panagyurishte Treasure





LEFT: bespoke *verre églomisé* artwork by Studio Peascod
 ABOVE: Emma Peascod practises *verre églomisé*, gilding the reverse of a glass sheet to create a mirrored finish

It is not just in the west that gold has been revered. In South America, the Incas believed that gold shone like the sun and so to honour their main god, Inti, they wore it and decorated their temples with it. Contemporary colonial records suggest that pre-Columbian Mesoamerican goldsmiths had mastered the techniques of depletion gilding and lost-wax casting as well as beating, although quantities of these indigenous artefacts were ruthlessly melted by the Spanish and Portuguese into bullion. Meanwhile, the Gold of Africa Museum in Cape Town is testament to the long tradition of goldmining, trading and smithing across the African continent. In particular, royal regalia from the kingdom of Asante, in present-day Ghana, offers conclusive evidence of the place gold played in its civilisation. In Asia, too, the material was valued. In the year 2000, the excavation of more than three tonnes of gold jewellery in the north Indian state of Uttar Pradesh, dated to the early 2000 BC Harappan civilisation of the Indus Valley, revealed the ancient roots of India's continuing love affair with the material. Even in ancient China, where jade and bronze were revered, and gold in limited supply, the metal was used both to enhance the value of objects made from other materials and to adorn the dead.

Besides the sheer beauty of its colour and power to reflect light, it is gold's unique combination of malleability and durability that is fundamental to its appeal. The fact that it neither tarnishes nor corrodes is a metaphor for immortality. And this is perhaps the secret to gold's enduring power, and its eternal appeal to makers today: from Japanese metalsmith Kenji Ito making windows of gold and silver leaf inlay to offset the rugged simplicity of his forged iron forms, to Emma Peascod's *verre églomisé* works with their shimmering mirrored surfaces, to luxury wallpaper manufacturer Fromental using gold leaf in its sumptuous hand-painted gilded wallpapers.



IO: MAAK CONTEMPORARY CERAMICS

ABOVE: iron artworks by Kenji Io with gold and silver inlay
RIGHT: Fromental's wallcovering 'Chinon' is painted using a process inspired by the technique of raised lacquer work





ABOVE: The Royal Mint, which has been striking coins for monarchs since the ninth century, has licensed a process to recover gold from electronic waste

Whereas goldsmiths of the past could take the material's abundance for granted, today's makers face numerous practical and ethical challenges in sourcing and using this precious metal. According to the US Geological Survey, the below-ground stock of gold reserves is currently estimated to be around 50,000 tonnes. It is thought that around 190,000 tonnes of gold has been mined so far in total, although estimates vary. That leaves about 20% still in the ground, reserves estimated to last only until about 2037. Most of it is locked in gold-ore, which can have a yield as low as 1 gram of gold per tonne of ore. Extracting it can involve cyanide solution, zinc dust and mercury. These techniques can harm both people and the environment, though there are more environmentally friendly ones, including the borax method and concentrator centrifuges.

This autumn, at the LAPADA Fair for art and antiques dealers, The Royal Mint will launch a new line of jewellery – the *886 Collection* by Dominic Jones – made of recycled gold recovered from electronic waste. It explains on its website: 'Less than 20% of electronic waste is currently recycled worldwide and 7% sits in disused electronics in your home. This means that gold, silver, copper and other highly valued metals, valued at £45 billion, are mostly discarded as opposed to being collected for treatment and reuse.' It has licensed Canadian technology company Excir's process, which recovers more than 99% of the gold in discarded laptops and mobile phones. Scaled up at its



ABOVE: *Butterfly*, an 18ct gold brooch by jeweller Kayo Saito

site in South Wales, the process will allow The Royal Mint to recover precious metals at room temperature in the UK. Electronic waste is commonly processed at high temperatures in smelters abroad.

The Royal Mint is not the only pioneer. Gold was a new material to Japanese jeweller Kayo Saito, who began to use it in the early 2000s. When she graduated from the Royal College of Art in 2001, her specialism was jewellery made from paper. 'Paper offers a different way to look at value,' she says. 'Being Japanese, I was also deeply connected to it.' Exploring a similar aesthetic in fabric, was the next choice. Precious metal, however, seemed, 'a cheap shot – the metal is its own value'. An opportunity to make work for Goldsmiths' Hall in 2003-4 changed her mind. 'Once I started to use [a precious metal] I loved it, especially gold. The colour seems to glow from inside.' Now just over half her jewellery is in 18 carat gold. Her work is still inspired by the light and flexible properties of paper and fabric, and by the natural world, such as 'the fragility of leaves', she says, 'but I don't copy nature. It is simplified.' Given this debt to nature, she researched using gold that would have least impact on the planet. 'I looked into fair trade gold, but cyanide and mercury are still used,' she says. 'Now I use a company called Umicore, which recycles gold from industry, dentistry and former jewellery. It is not drilling new gold: that is important for me.'



SAITO: PAUL READ PHOTOGRAPHY

ABOVE: Kayo Saito heats a piece of metal in her studio
RIGHT: a pair of gold cuffs by Emefa Cole

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UK-based jeweller Meron Wolde started out using silver, because she says ‘it is the most conductive and reflective’, but she has come to love gold in response to commissions from clients. Wolde also acknowledges the influence of her uncle, who ran a goldsmithing workshop in Asmara, Eritrea, where there is a long tradition of the craft dating back to the arrival of Christianity in the region from the 4th century AD. ‘He used to work with granulation and filigree work, an old silversmithing technique,’ she explains. She was also inspired by the economy of his operation – the scarcity of raw gold and the limited tools: ‘There was always a shortage of raw material so they would recycle. Working with so little becomes environmentally friendly.’ Wolde ensures that the recycled gold she uses is sourced and smelted in the UK, to reduce its carbon footprint. She also uses wooden moulds to shape her warm, organic pieces and a hand-bow drill to pierce the metal. More recently, she has been experimenting with transferring heating techniques she uses for silver to gold to create textured landscapes on the surface of the metal, most effectively done with 9 carat gold

Testifying to the depth and complexity of her relationship with gold, Emefa Cole’s astonishing cast jewellery has a bold, sometimes rugged, sculptural presence. Born in Ghana, which she describes as ‘the land of gold’, she was intrigued from a young age by stories of people finding gold nuggets in dirty rivers, and imbued with a sense that precious metals were the gifts of the earth. Gifts not without dangers, though. ‘Gold is warm, it is magical, it is historically resonant, but it has also caused countless wars,’ she says. She describes children as young as five mining gold in West Africa and those caught doing it illegally being killed by police.

She began her career as a jeweller in London in 2012, after studying at London Metropolitan University’s School of Art, Architecture and Design, originally working with silver and bronze. Lacking conventional tools, she began to carve in wax, before casting using a variety of precious metals, and working the pieces afterwards. This enabled her to work on a larger scale, evoking natural landscape formations. In this way, Cole has made her own version of the wax casting technique that was the foundation of the ancient Asante craftsmanship. Recently she embarked on an apprenticeship with the personal goldsmith of the Asantehene (King of the Asante) in Kumasi. Anxiety about working with gold in 18 carat or higher led her to only use material sourced from West Africa, by the British company Single Mine Origin (SMO). ‘I can trace my gold directly to the people who mine it, in single mines,’ she says. When British actress Michaela Coel wore jewellery exclusively from Cole’s *Worth Their Weight* collection to the Met Gala this year, an accompanying QR code showed the journey of the SMO gold pieces from mine to Met.



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VASE: COURTESY ADRIAN SASSOON, LONDON | RAKE'S PROGRESS: PHOTO GARETH GARDNER



LEFT: Bouke de Vries, *Double Gourd Memory Tower*, 2021

ABOVE: from '*Visions in Porcelain: A Rake's Progress*' at the Soane Museum, 2023

Gold leaf, another way Cole uses the precious metal, is also the material of choice for ceramic artist Bouke de Vries. He is a master of the ancient Japanese mending technique, *kintsugi*. Thirty years ago, de Vries was a leading restorer of broken ancient Chinese and European ceramics. As an aside, he began to experiment with *kintsugi* on his own broken porcelain. 'I like the idea of celebrating damage – showing that it does not need to be negative, that it is part of the object's history,' he says. For *Visions in Porcelain: A Rake's Progress*, de Vries' exhibition this year at the Soane Museum inspired by Hogarth's series of paintings, the artist created a set of porcelain vases, some treated with 24 carat gold leaf. In explaining the work, he sums up the metaphorical power of gold: 'The whole of *A Rake's Progress* is about money and wealth. I think gold is a fantastic material to indicate that.' §