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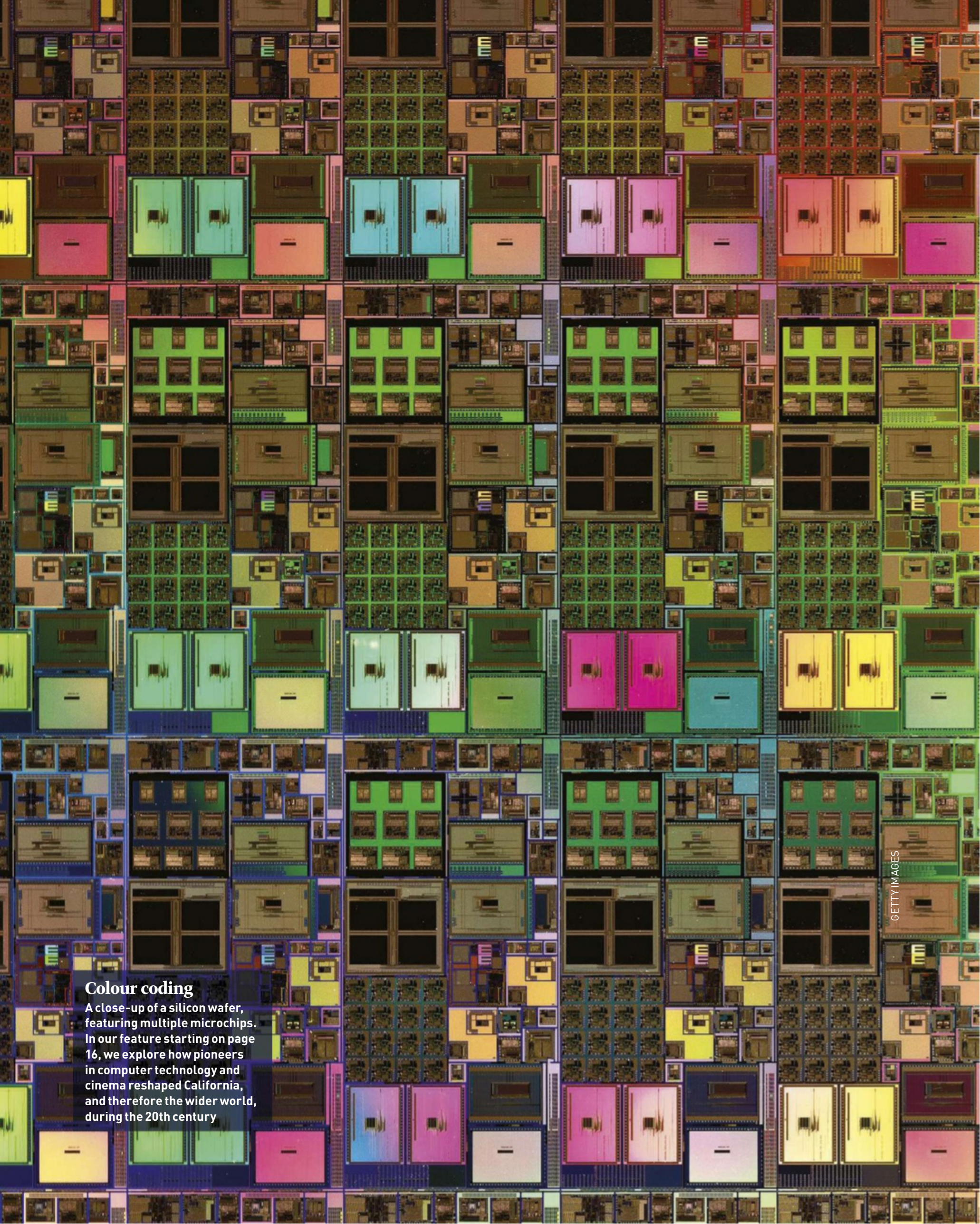

GETTY IMAGES

Colour coding

A close-up of a silicon wafer, featuring multiple microchips. In our feature starting on page 16, we explore how pioneers in computer technology and cinema reshaped California, and therefore the wider world, during the 20th century

Reading about seismic events of the past is one thing; living through them turns out to be quite another.

As I write this at the end of March, nations around the globe are struggling to cope with the consequences – social, economic, political and, most of all, medical – of the coronavirus outbreak. Given the exponential spread and severity of the pandemic, it's hard to predict the situation you'll be experiencing when you read this a month from now. We've always endeavoured to place the headlines within their historical context, so I spoke to Laura Spinney, author of a major history of the 1918 flu pandemic, about **what that contagion can teach us today**. You can read her thoughts on page 12, and hear the full interview on our podcast at *historyextra.com/podcast*.

Given how distressing the headlines continue to be, though, a full issue of pandemic coverage felt excessive. So within these pages you'll find the usual mix of places, times, and people: **the pioneers who forged California** (page 16); the ways in which we still feel the influence of **ancient Rome in the 21st century** (page 28); and **Shakespeare's surprising impact on American history** (page 6). It's a reminder that, for good or for ill, everything is connected. Indeed, this issue's Long Read suggests that the kinds of global links through which the coronavirus has spread **existed as far back as AD 1000**. That's on page 55.

Thanks to this issue's writers and illustrators, and to the entire magazine team, who made sure this issue went to press in the most trying of circumstances. And to you, for reading: I hope that you and the ones that you love are, and remain, as safe and well as is possible.

Matt Elton
Editor
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BBC World Histories

BBC World Histories explores the history behind the headlines, and offers fresh perspectives on our global past

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CONTENTS *Features*

Cars crowd a parking lot at Venice Beach, Los Angeles in 1952. From page 16, Ian Scott explores the psychology of the Californian dream – and the social and economic factors powering its evolution through the 20th century

16
Golden state of mind ✪
BY IAN SCOTT

California's 20th century, from Hollywood to Silicon Valley, shaped the western world – but, away from the bright lights, darker episodes unfolded

25
What California dreams are made of
BY LAURENCE GRISSELL

The producer of a new BBC Radio 4 documentary series introduces the characters who forged this most aspirational of states

THE BIG QUESTION

28
What did the Romans ever do for us? ✪

Seven experts debate the lasting legacy of the ancient empire, from government and food to humour and home comforts

36
A time of bandits
BY ANTONIO MELECHI

Was the notorious shepherd-bandit of Sardinia's turbulent past a Mediterranean Robin Hood, a nationalist hero or simply a common criminal?

THE LONG READ

55
The global millennium ✪
BY VALERIE HANSEN

Five centuries before Columbus crossed the Atlantic, trade networks began to circle the globe. They may offer lessons for today

64
Britain's nuclear past ✪
BY GORDON MURRAY

In the 1950s, British tests of atomic explosives exposed thousands to dangerous levels of radiation – with consequences that continue to reverberate in 2020

✪ On the cover

COVER ILLUSTRATION BY **DAVIDE BONAZZI**

GETTY IMAGES

THE BRIEFING

6 **In Focus:** *James Shapiro* explores Shakespeare's influence on US attitudes to ethnicity, immigration and gender ✪

10 **History Headlines:** Discoveries and developments in the world of history

12 **Viewpoint:** *Laura Spinney* on the lessons to be learned from past pandemics ✪

REGULARS

44 **A Year in Pictures:** 1945 *by Richard Overy* ✪

62 **Extraordinary People:** Melisende of Jerusalem *by Natasha Hodgson*

98 **Snapshot:** Witness the final journey of assassinated US senator Robert F Kennedy

CULTURE

72 **Interview:** *Toby Green* discusses the precolonial history of west Africa, and argues for new perspectives in understanding the continent's past

82 **Agenda:** The latest books, radio and television, plus the best virtual museums

JOURNEYS

86 **Wonders of the World:** Karnak, Egypt *by Paul Bloomfield*

90 **Footsteps:** Trace the 18th-century Bougainville expedition, whose crew included the first known woman to circumnavigate the globe *by Glynis Ridley*

French botanist and circumnavigator Jeanne Baret. Read her story from page 90

BRIDGEMAN/MARY CREGAN/PETE DADDS–PENGUIN BOOKS

Expert voices from the world of history

Davide Bonazzi

Born in Bologna, Bonazzi has provided the cover illustration for *BBC World Histories* since its launch in 2016. His brief this issue – to depict today's world growing from ancient Roman civilisation – accompanies our Big Question feature on **page 28**, and comes as Italy tackles the coronavirus pandemic's devastating impact.

Toby Green

"The idea that Africa was somehow cut away from global processes is an enduring one," says Green, the author of *A Fistful of Shells*, a critically acclaimed history of west Africa. On **page 72**, he discusses the enduring legacy of global trade with the African continent, and explains why we need to shift our view of its role in world history.

Valerie Hansen

We often think of globalisation as a modern phenomenon, but the world of a thousand years ago was far more interconnected than we might believe. That's the view of Yale history professor Hansen, author of our Long Read piece on **page 55**. "The events of AD 1000 are too often neglected in Eurocentric narratives," she says.

Shushma Malik

"Perhaps the greatest debt the British system of government owes to Rome is the idea that not everyone's vote should count equally," suggests Malik, lecturer in classics at the University of Roehampton, on **page 30**. It's a provocative idea, part of our exploration of the continuing influence of ancient Rome on the modern world.

James Shapiro

There are few figures as strongly associated with Englishness as William Shakespeare. Yet Shapiro – author of new book *Shakespeare in America* – argues that the playwright also had a defining influence on the history of the United States. Discover the reasons why in our article starting on **page 6**.

Laura Spinney

The author of *Pale Rider: The Spanish Flu of 1918 and How It Changed the World* shares her thoughts on how that pandemic compares with the current coronavirus crisis, on **page 12**. "There are many aspects of a pandemic that don't change over time, and those are the ones that speak to our most ancient fears," she says.

The Briefing

The history behind today's news

"In many ways Shakespeare speaks more clearly and directly to American preoccupations than to English ones"

James Shapiro explores how Shakespeare's works have reflected and informed attitudes in the United States since independence

Tackling issues
Othello (Chris Butler) grapples with Iago (Danforth Comins) in a 2019 American Repertory Theater production of Shakespeare's tragedy – a play that's "a litmus test of American values and attitudes", says James Shapiro

THE AMERICAN REPERTORY THEATER © NATASHA MOUSTACHE

African-American actor Ira Aldridge, pictured in 1826. When he played Othello the previous year, he became probably the first black actor to perform Shakespeare in London

Shakespeare's work spoke to Elizabethan preoccupations – but in many ways he speaks more clearly and directly to American preoccupations than to English ones. America embraced Shakespeare as its national poet even after the US broke with England in 1776, and he's never really had a rival as the writer that everyone in the nation reads. One of the things I learned while writing my new book *Shakespeare in a Divided America* is that America's Shakespeare is not England's or Britain's Shakespeare. Certain plays, such as *Othello*, take on a distinctive political and social meaning here that they don't in England, and works such as *Twelfth Night* matter in terms of class in the UK in a way they don't in the US.

An 18th-century painting depicting a *Twelfth Night* scene. Such works "matter in terms of class in the UK in a way that they don't in America", argues Shapiro

The link between William Shakespeare and the United States goes back to pre-revolutionary times. Indeed, Hamlet's famous lines 'To be or not to be' were appropriated both by those who wanted to get rid of the British and by defenders of the British in America. The second US president, John Adams, grappled directly with Shakespeare, rewriting a speech from *Henry V* to show how a foreign power might use its influence to ensure a sympathetic president. Shakespeare becomes a way for Americans to engage with social and political issues that are not easily spoken about or confronted: race, immigration. Time and again in American history, his work has been a way of speaking to those concerns.

***Othello* really is a litmus test of American values and attitudes towards race and miscegenation,** and has been for our entire history. [African-American actor] Ira Aldridge played Othello on the London stage in the 1820s, but over a century would pass before Paul Robeson could do the same on Broadway. During the antebellum era, it was one of the most popular plays in the theatres of the slave-holding American south, where many people named their slaves Othello. So it has been, and continues to be, a lightning rod for differences about race, colour-blind casting and miscegenation in American culture.

[Sixteenth president] Abraham Lincoln was the finest reader of Shakespeare in US history, bar none. He had access to only a few books, but one of those was a Shakespeare-infused reader that his stepmother brought when she moved into their log house on the prairie. While president during the Civil War, Lincoln memorised great Shakespearean passages and spent much of his life reciting them to anyone who would listen. They became central to his intellectual and emotional life. A result of this love of the theatre was that his assassin, John Wilkes Booth, knew just where to find him on that fateful April night in 1865: at

BRIDGEMAN

"These issues have long been with us, even if they are buried beneath the surface – and Shakespeare allows us to see them"

US president Abraham Lincoln (centre) after the battle of Antietam in 1862, during the American Civil War. Lincoln memorised Shakespeare's work during the conflict

An illustration of Ulysses S Grant, who played *Othello*'s Desdemona while serving in the Mexican-American War

GETTY IMAGES/MARY CREGAN

Ford's Theatre, where he shot Lincoln in the back of the head. Booth then leapt on to the stage and reportedly shouted: *"Sic semper tyrannis"* – 'thus always with tyrants', the state motto of Virginia – imagining himself to be an American Brutus. The whole episode just shows how Shakespeare is fully woven into the story of American political history.

We are really bad in America about talking about gender, and Americans keep turning to Shakespeare's work to help them negotiate and unpack its issues. This goes back to the mid-19th century, when a notion of aggressive manliness – a desire to take whatever you can grab – supplanted a quiet, earnest, sober English model. This had implications for how you performed Shakespeare: no man could really play Romeo all that effectively, for instance, because in the words of the play he has to be 'effeminate' at times.

The reverse happened when much of the US Army mustered for the Mexican-American War (1846–48). While they were waiting to fight, officers decided to build a theatre and stage Shakespeare. They had to find a man to play Desdemona in their first production, *Othello*, and picked a slim, girlish officer named Ulysses S Grant – who, as they all acknowledged, turned out to look great in a dress. So one of my favourite moments in American history is when the future hero of the Union forces in the Civil War, and the future president of the United States, saw the world through the eyes (and the dress) of a white woman in love with a black man. Again and again, Shakespeare enables us to see how these complicated issues of gender work.

In truth, before writing this book I had no idea that Shakespeare shaped American political discourse right back to its very formative days. Like most Shakespeare professors, I'm an Anglophile and my attention has always been focused on Shakespeare's era. So a lot of this material was fresh to me and, I think, will be fresh to many other people too. It will force us not only to grapple with the different ways in which Shakespeare matters but will also, I think, force Americans to grapple with the reality that the problems we are facing in this country do not stem from one political leader but are baked into our nation's history. These issues have long been with us, even if they are buried beneath the surface – and Shakespeare allows us to see them.

James Shapiro is Larry Miller Professor of English and Comparative Literature at Columbia University. His new book is *Shakespeare in a Divided America* (Faber, 2020)

History Headlines

❶ NUNAVUT CANADA
Brush with the past

Recovered artefacts including a brush retaining strands of human hair may shed light on the last days of an ill-fated mission through the Northwest Passage. HMS *Erebus* and HMS *Terror* became icebound in Arctic Canada in 1846; two years later, all 128 members of the expedition led by Sir John Franklin were dead. More than 350 objects retrieved from the sunken *Erebus* by underwater archaeologists are now yielding clues about life on board. Among the objects being studied are a lieutenant's epaulettes and a lump of sealing wax bearing a sailor's fingerprint.

A brush with strands of human hair is among the artefacts retrieved from the wreck of HMS *Erebus* in Arctic Canada

❷ PARIS FRANCE
Imperial return requested

French historians have requested the return of the remains of Napoleon III, last emperor of France, as part of a post-Brexit deal. Exiled in England after defeat in the Franco-German war of 1870–1, Napoleon III died in Kent in 1873, and his remains were interred at St Michael's Abbey, Farnborough. "He was a very, very great man," French popular historian Dimitri Casali, leading calls for the return, reportedly said. "It's very important for France to have the body of Napoleon III."

Napoleon III of France. French historians are calling for the return of his remains

❸ MITHOLZ SWITZERLAND
Explosive news

A village in the Bernese Oberland may be evacuated for over 10 years after authorities reassessed the risks of an explosion at a Second World War munitions depot. During that conflict, neutral Switzerland boosted its army and arsenals, and a large stockpile of ammunition was stored in an underground depot at Mitholz, about 30 miles south of Bern. An explosion there killed nine people in 1947, but 3,500 tonnes of ammunition remains buried. Now the defence ministry has determined that it poses an unacceptable risk to inhabitants, who may need to be evacuated – though preparation for that process may take at least a decade.

Mitholz ammunition depot in 1949

❹ EASTER ISLAND CHILE
Sacred statue wrecked

One of Easter Island's famous *moai* – giant stone figures – has been largely destroyed after a pickup truck hit and damaged the statue and its *ahu* (platform) in early March. Some 1,000 *moai* were carved on the remote Polynesian island, known as Rapa Nui by its indigenous people between AD 1250 and 1500.

The statues are considered sacred – representing deified ancestors – and locals reacted angrily to the crash, calling for more rigorous controls on vehicles and tourism.

The pickup truck that wrecked a *moai* statue on Easter Island

PARKS CANADA AGENCY./GETTY IMAGES/REUTERS

WORDS **PAUL BLOOMFIELD**

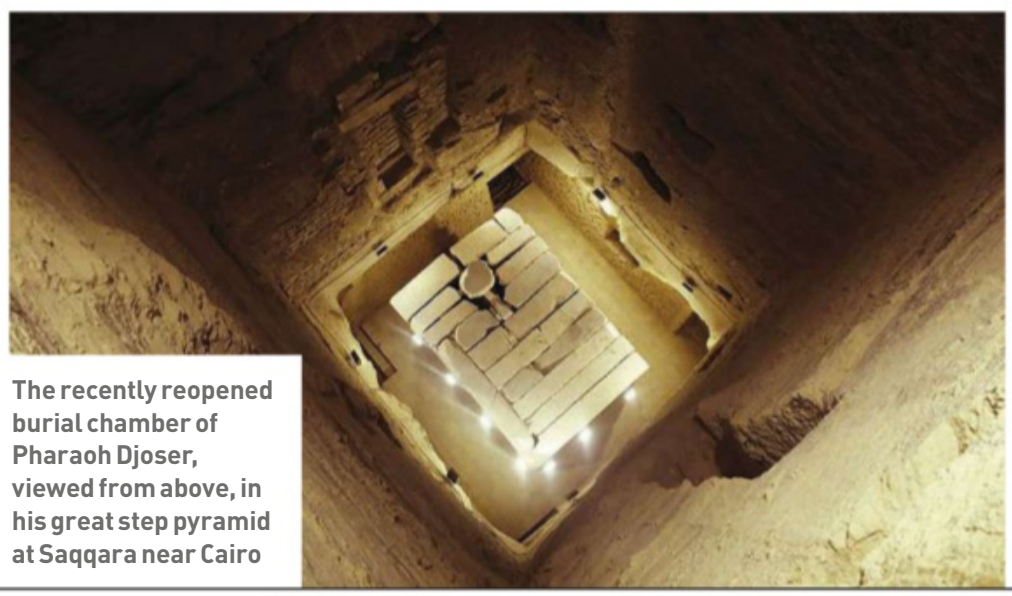
5 XI'AN CHINA
Remains of the bray

Analysis of donkey bones found in the tomb of a Tang-dynasty noblewoman indicates that the ass was her mount for games of polo. When the tomb of Cui Shi, a high-status woman who died in AD 878 in the imperial capital Chang'an (now Xi'an), was excavated in 2012, it contained the bones of various animals, including three donkeys. Based on size and analysis of computerised tomography scans, experts at the Shaanxi Provincial Institute of Archaeology now suggest that the animals were ridden by Cui during games of polo – and may have been ritually sacrificed so that she could continue playing in the afterlife.

A ceramic donkey made during the Tang dynasty (AD 618–907). Analysis of donkey bones found in the tomb of ninth-century Chinese noblewoman Cui Shi suggest that these animals were used as polo mounts

6 LESOTHO
So-shell network

Hunter-gatherers may have exchanged gifts to foster cooperation as long as 33,000 years ago, new research suggests. Some beads crafted from ostrich eggshells found in caves in Lesotho were made over 180 miles away. The practice of gift-giving between populations in Africa may have evolved during the Stone Age in response to sharp climate fluctuations, creating a sense of unity across groups.



REUTERS/GETTY IMAGES

The recently reopened burial chamber of Pharaoh Djoser, viewed from above, in his great step pyramid at Saqqara near Cairo

7 SAQQARA EGYPT
Steps in time

The 14-year restoration of what's believed to be Egypt's earliest pyramid was completed in March. The 62.5-metre-high, six-stepped stone funerary monument of Djoser (reigned c2650–c2575 BC), at the Saqqara necropolis south of Cairo, was a departure from earlier *mastabas* (flat-topped tombs). The pyramid was damaged during a 1992 earthquake, requiring major repairs to avert the risk of collapse.

View-point

Lessons from past pandemics

Devastating diseases have swept across and between continents before. **Laura Spinney** talks to **Matt Elton** about how the current crisis recalls historical outbreaks

Laura Spinney is a journalist and author of *Pale Rider: The Spanish Flu of 1918 and How it Changed the World* (Jonathan Cape, 2017)

At the time of writing, the coronavirus COVID-19 continues to dominate headlines worldwide. Why are we so afraid of pandemics?

I think it's something very primitive in us. We've had to deal with epidemics of infectious disease – plagues, to use a more ancient and Biblical kind of term – since we settled down in semi-permanent settlements and started farming, about 10,000 or 12,000 years ago. Infections that adapted to big groups of densely living people, known as crowd diseases, evolved in parallel with us as we adopted those new, more sedentary lifestyles.

So a kind of arms race between these microorganisms and humans has been ongoing for a very long time. They know us very well and unfortunately, because they're small and they reproduce much faster, they tend to be a step ahead. They can just mutate and adapt, and they're wherever we don't want them to be before we can do anything about it. We're seeing that again now. There are many aspects of a pandemic that don't change over time, and those are the ones that speak to our most ancient fears.

Is comparing modern outbreaks with particular pandemics from history helpful?

I do think it's a useful exercise, but I don't know why we immediately rush to pick the worst possible example. Given that the so-called 'Spanish Flu' – or, as it should be more accurately known, the 1918 Flu – was pretty much forgotten for most of the last century, even though it killed a staggering 50 to 100 million people, the fact that everybody's talking about it now is somewhat ironic. We have had three flu pandemics since 1918, and none of them killed more than about four million people. Perhaps 575,000 people may have died in the 2009 outbreak of H1N1 flu – considerably fewer than in any other pandemic. There are other kinds of disease, other leagues of pandemics that we could be comparing the current pandemic with – but we're not.

How have social forces changed since earlier pandemics – for example, has the role of organised religion diminished?

I think so, and that has positive and negative aspects to it.

Let's start with the positive. In 1918, doctors had nothing in their medicine cabinets to offer apart from aspirin. In fact, in terms of conventional medicine, the people who were most useful were nurses – they could make the difference between life and death by keeping patients warm and hydrated and so on. But because doctors really had nothing to offer – though in many cases were nevertheless very brave, working on the front line and falling sick in droves themselves and often dying – others had to step into the breach. Very often those people were priests, nuns and others from the various faiths.

On the negative side, because organised religion was much more

powerful, it could have a nefarious effect on messaging. For many, the community leader was also the religious leader, the source of information people looked to for guidance on how to live through this terrible thing. You would hope that leaders and influencers would reinforce public health messages, but that didn't always happen.

Take as an example Zamora, in north-western Spain, which was – and, in fact, still is – a very pious Catholic town. In 1918, it had a very charismatic, very influential bishop who, at the height of the pandemic that autumn, ordered his flock into the churches to pray for forgiveness for their sins, which he insisted caused this terrible divine punishment. So everybody crowded into the churches and lined up to kiss the relics of St Roch, the patron saint of pestilence and plagues, in turn, one after another. Zamora subsequently recorded one of the highest death rates from that flu in the whole of Spain, if not in the whole of Europe.

Today, the effect of religion can be seen, but it's marginal. There are reports of people in the Iranian holy city of Qom licking the shrine defiantly. And we hear that some of the early clusters in South Korea centred on churches. But, generally speaking, organised religion has had a much less significant effect.

The 1918 flu was largely forgotten for most of the last century, though it killed 50 to 100 million people

The disease causing the 1918 pandemic was dubbed 'Spanish Flu'. What did that say about attitudes to other countries?

When that flu first manifested itself in the northern hemisphere in spring 1918, the world was still at war. The belligerent nations – including the US, Britain and France – already had flu within their boundaries but kept that information out of their newspapers. Effectively, they were censoring information about the outbreak, which they later stated was a measure intended to protect morale. So their populations weren't necessarily aware that there was flu in their midst.

Spain, on the other hand, was neutral in the war, and didn't censor its press, so when the first cases were

Men in Alberta, Canada, in 1918. Like many today, they donned face masks, hoping to avoid contracting the flu virus that swept around the globe that year

diagnosed there in spring 1918, they were reported. Hence it seemed to the world – including to the Spanish and to people in other countries already infected – that this disease was rolling out from Madrid. The king of Spain, Alfonso XIII, was among those early cases; he recovered, but his infection greatly increased visibility of the disease locally and internationally.

Of course, the name Spanish Flu was unhelpful. One of the few certainties we have about that pandemic is that it didn't start in Spain, though we don't know definitely where it did originate. The Spanish felt – and to a great degree were – stigmatised by it. In 2015, the WHO issued guidelines on how to name a disease, and I think the motivation was mainly to avoid this kind of stigmatisation.

Think about AIDS: initially it was called 'gay-related immune deficiency', which stigmatised the homosexual community – unhelpfully for everybody, including heterosexuals: nobody thought about how it might be being transmitted in that community.

And in 2009, the H1N1 flu was initially called swine flu, which was also unhelpful. The Egyptian government ordered the slaughter of the country's pigs, mainly owned by the minority Coptic Christians, whose local economy was wiped out in one stroke. By the time it was detected in humans, it was being transmitted from one person to another, so killing the pigs made no difference. In fact, that 'swine flu' was given to pigs by humans in 1918, and retransmitted from pigs to humans in 2009.

This outbreak is not the Chinese Flu, it's not the Pangolin Flu, it's COVID-19 – which may sound mundane but it'll do the job.

What do responses in various parts of the world now tell us about historical situations or pandemics in those countries?

Well, one thing about which experts are absolutely clear is that imposing a set of public health measures on a population is not the best way. If possible, get people to comply with you voluntarily. To do that, two things are needed. The first is that people must be properly informed about the threat they face, so that they understand why you're asking them to do these things, restricting their normal lives in certain ways. And the second is they have to trust that the authorities are acting in their collective interest. If that trust isn't there when the pandemic breaks out, it's too late to build it.

Look, for example, at the case of South Africa in 1918. As in many other countries, when the epidemic arrived, doctors and scientists scrambled to produce a vaccine (though those they developed were uniformly useless, targeting bacteria, not the virus). A nationwide vaccination campaign was launched, and white South Africans dutifully lined up to get the vaccine, but black South Africans basically boycotted it. The predominantly white doctors had never shown much interest in their health before, and they couldn't understand why they were doing so now. Rumours circulated in the black population that the doctors were trying to kill them with these long needles.

That's a very clear and graphic illustration that without trust in the authorities, if you don't believe that the doctors coming towards you in their white coats are acting in your interest, you will not do what they want – not voluntarily, at least.

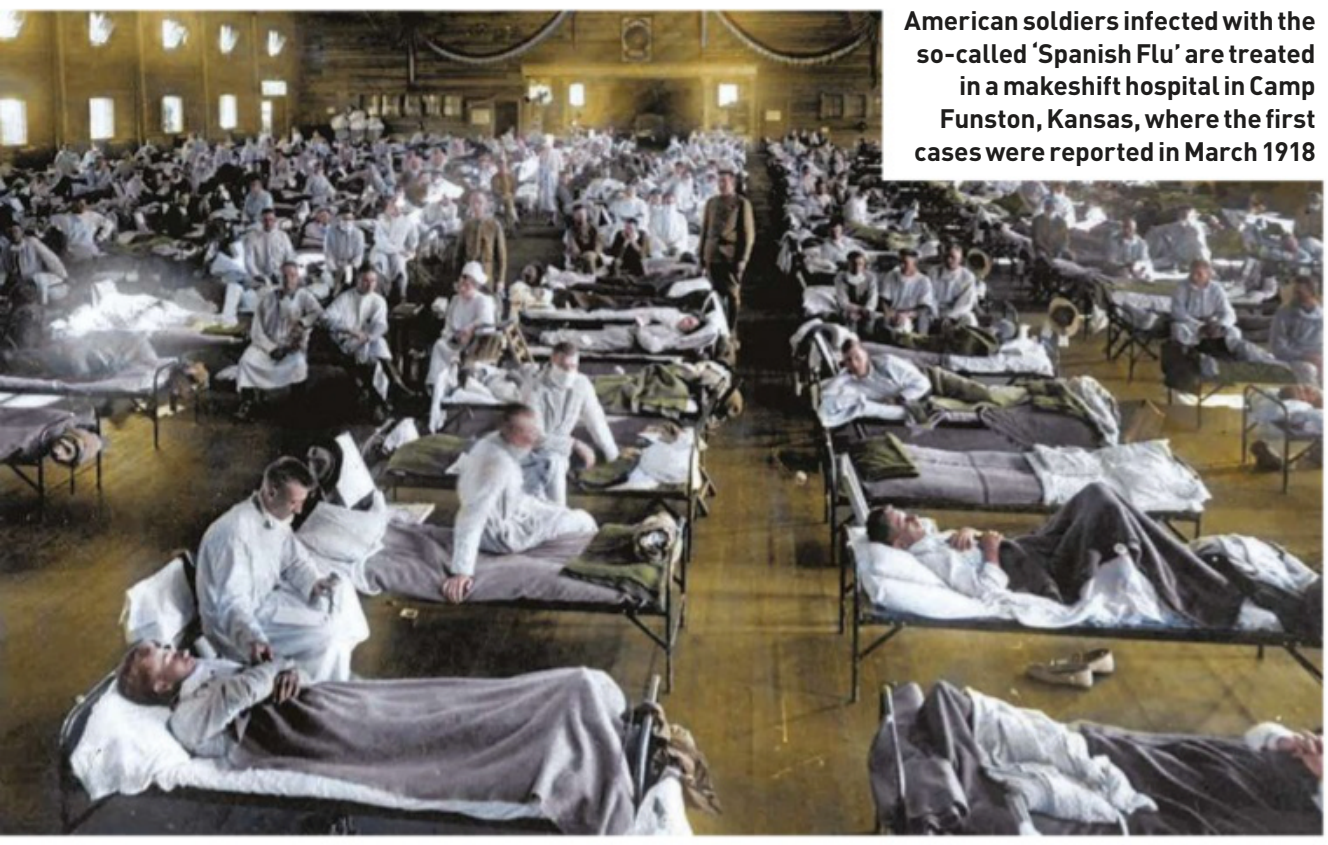
We may have to rethink how we fund and adapt our health systems for a different kind of population

Finally, what lessons should we learn from the past – and why don't we learn them?

We go through a cycle of panic and complacency. We panic when the outbreak first happens, when we should think calmly and rationally and do what the experts tell us to do. Then, when the pandemic is over, we immediately forget

ALAMY

Workers disinfect the Masumeh Shrine in Qom, Iran in February 2020. Worshippers reportedly continued to lick the shrine after the recent outbreak



American soldiers infected with the so-called 'Spanish Flu' are treated in a makeshift hospital in Camp Funston, Kansas, where the first cases were reported in March 1918

GETTY IMAGES/MARY EVANS

about it and become complacent again, and don't do any of the long-term things that the experts ask us to do.

When the WHO declared the global health emergency on 30 January, it repeated a message it's been saying for a long time: that we need to invest long-term in better health infrastructure in the poorer parts of the world, because when a pandemic strikes, we are only as safe as the least-safe place. When the pandemic passes – which of course it will, eventually – will we remember to follow that advice? I very much hope so.

There are other things we should take on board and discuss when the pandemic has passed, so that they're not weaknesses in future. The first is the fake news problem. A lot of young people have cited as an issue the fact that good information is behind paywalls, whereas fake news is free. Older generations were used to paying for news, but that's not the expectation with the internet generation. So we desperately need a new business model. We've been talking about that for a while in news circles, but I think this pandemic has really thrown into relief how important it is that we have ways to disseminate quality information, and that people know which is which.

This pandemic is also showing up weaknesses in various national health systems. In the United States, lots of people have been excluded from testing and from care. [That doesn't apply] just for this pandemic, of course, but the current situation is highlighting that issue, because a lot of people have not had access to COVID-19 testing when they needed it. You can't control an outbreak of a disease if you don't know who's got it and who they've been in contact with.

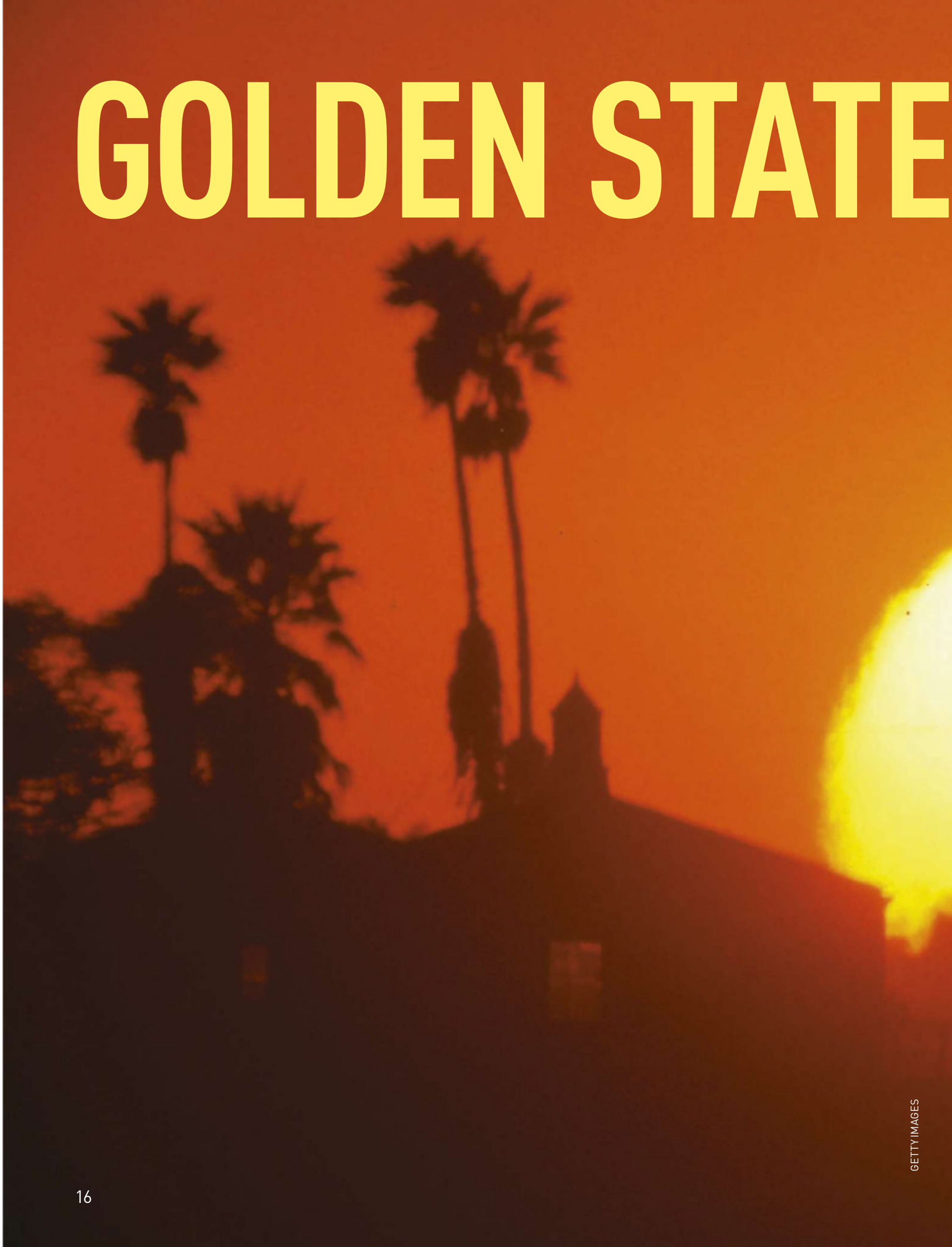
Europe has more socialised medical healthcare systems (which, by the way, were fruits of the 1918 pandemic). These tend to be paid for indirectly by taxes or national insurance schemes, with healthcare free at the point of delivery. So, in theory, anyone can get tested for COVID-19, assuming that the tests are available.

The problem is that our health systems are completely overloaded, and are arguably no longer fit for purpose. They were built for much smaller, much younger populations, and they are struggling to support older, bigger populations. So we may have to rethink how we fund our health systems and how we adapt them, going forward, for a different kind of population.

DISCOVER MORE

Hear more of Laura Spinney's analysis of the current pandemic at *historyextra.com/podcast*

GOLDEN STATE



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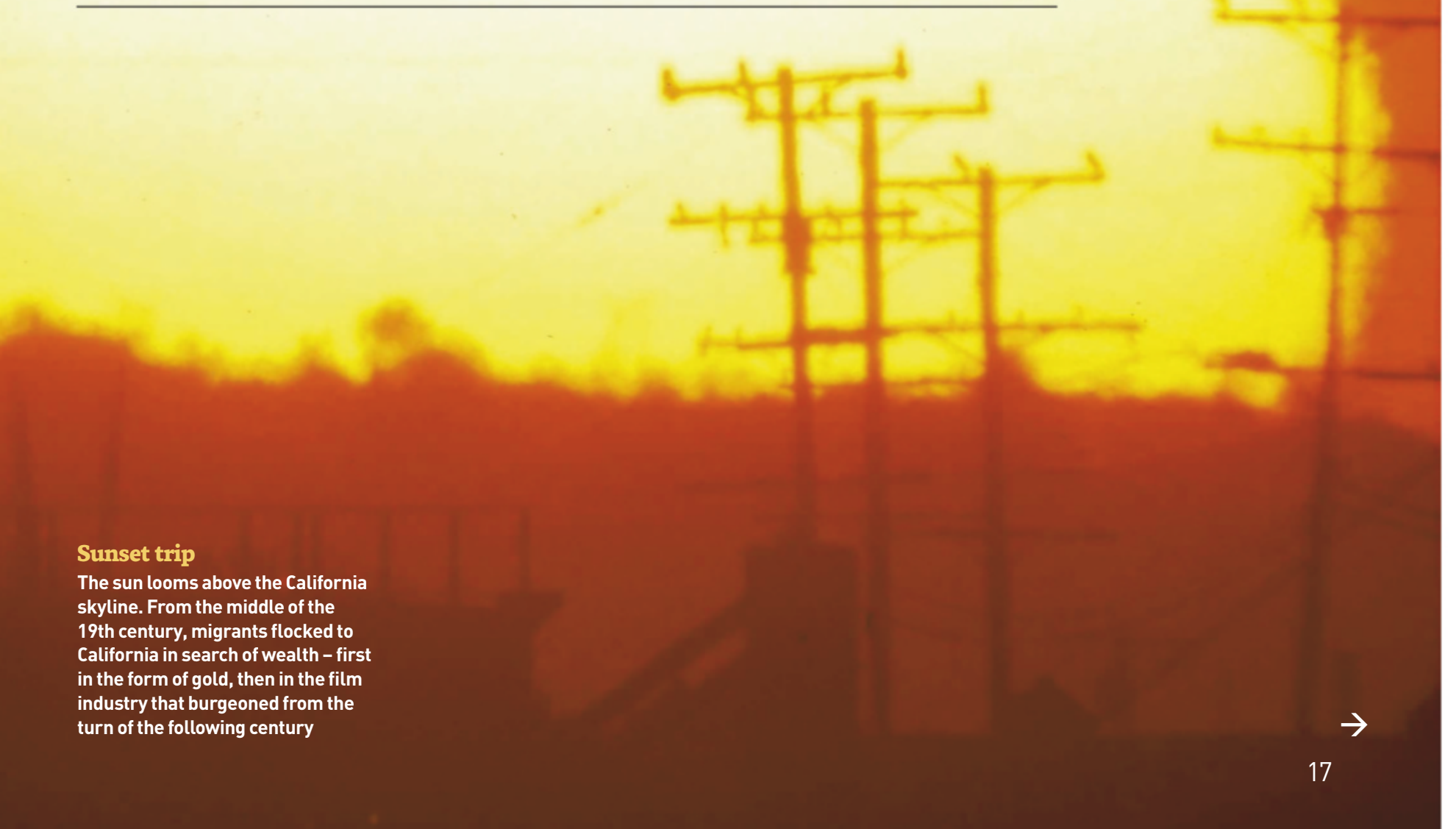
OF MIND

California's allure is based on the power of the imagination, epitomised in the global mind's eye by the Hollywood sign. Yet as **Ian Scott** reveals, the California story hasn't always had a happy ending for those who bid for a starring role

ACCOMPANIES THE BBC RADIO 4 SERIES **THE CALIFORNIAN CENTURY**



Sunset trip
The sun looms above the California skyline. From the middle of the 19th century, migrants flocked to California in search of wealth – first in the form of gold, then in the film industry that burgeoned from the turn of the following century

Survivors roam the wreckage of San Francisco after the earthquake of 18 April 1906 which killed an estimated 3,000 people and changed the face of California

In the late 1940s, a Los Angeles newspaper declared that California was "an unarticulated collection of factors looking for a common denominator". Around the same time one of the state's great chroniclers, Carey McWilliams, coined the phrase "the great exception" to describe a place that was subdivided by north and south, by newcomers and carpetbaggers, and by a rural hinterland distinct from its metropolitan centres. This was the California of the mid-20th century: a state not yet fully formed or organically unified, yet one powerful and influential enough to claim a regional identity all of its own, separate from its other western neighbours.

How had this California come to be, nearly a century since its incorporation into the Union – and from where was unity expected to emerge as the century progressed? It was California's exceptionalism that in time promoted its harmony, and both of these traits were consolidated by the global achievements of two industries: Hollywood and Silicon Valley.

Imagining the future

The Californian playwright Luis Valdez recently expounded the maxim that "the future belongs to those [in the state] who can imagine it". California was a place of ideas: somewhere for outsiders who harboured dreams of fame and fortune, and who knew what the future might look like in the Golden State.

Novelist James Houston couched these projections in similar terms. Separating out California – the place on the map – from the place in the mind was never an easy thing to do, he cautioned: "the beguiling attraction of California lives right there, in that interplay". It invites invention from the people living there and perpetuates myths about the places they inhabit. Houston's reasoning for why the physical and cerebral California are near inseparable is that "the legends actually came first". California could be imagined as the future long before it established itself in the present. Understanding that interplay was part of the reason for the success of cinema and, later, computing and high technology.

In the early years of the 20th century, California wasn't quite the 'El Dorado' it would eventually come to represent. Labour disputes bedevilled the state, progressive reformers and robber-baron capitalists were sometimes equally vilified, and anti-immigration rhetoric abounded amid a political culture in flux. In 1906, the earthquake that hit San Francisco with devastating effect not only ruptured that city – destroying many of its oldest buildings and established businesses – but also formed a break with the past. The California of the 20th century was literally, as well as metaphorically, not going to look like the state of the 19th century.

Los Angeles profited immensely from San Francisco's misfortune. With a new port and railroad terminus bringing in tourists and migrants in equal measure, the city was being led into its imagined future by the patrons of the new 'boosterism' – most prominent among them Harrison Gray Otis and Harry Chandler, proprietors of the *Los Angeles Times*, who strove to boost LA's image By 1910, California's population had already reached 2.3 million and would hit 3.4 million a decade later, many of those flocking to LA in search of work and the chance of riches that booming businesses including film, oil and real estate afforded.

Hollywood came first, though that suburb of Los Angeles was not the film industry's initial home. Seeking a rural backwater with consistent sunshine as the location for a film studio, in 1908 director Francis Boggs of the Selig Film Company moved out west, to the area known as Edendale (a historical area a little north of downtown LA). At that time, the film community held very little glamour or credibility in the US. Film folk arriving in Los Angeles were not well received by the city's patrons; seen as transient and disreputable, actors and directors were regarded as

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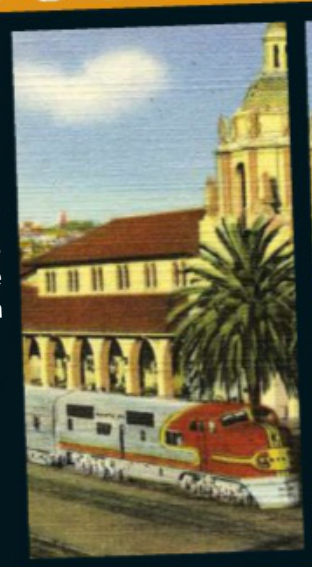
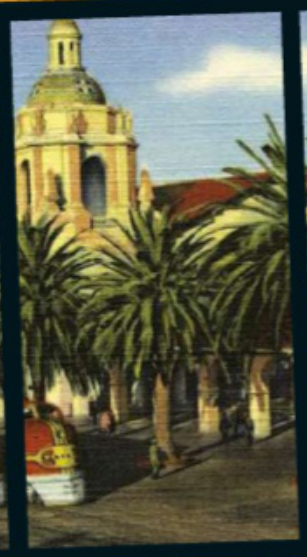
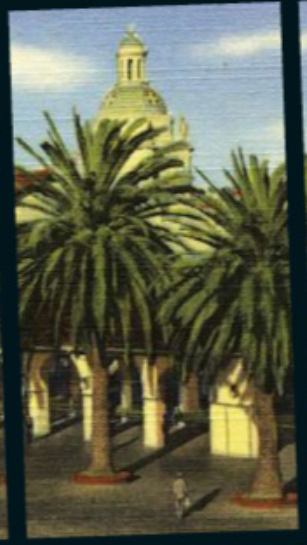
Tour cars in Los Angeles, 1910. Following the San Francisco quake, Los Angeles became even more attractive to people and industry, drawing the lion's share of tourists and migrants

Palm trees, golden sun, Spanish revival architecture: a postcard from c1940 exemplifies the attributes of California that captured the public imagination





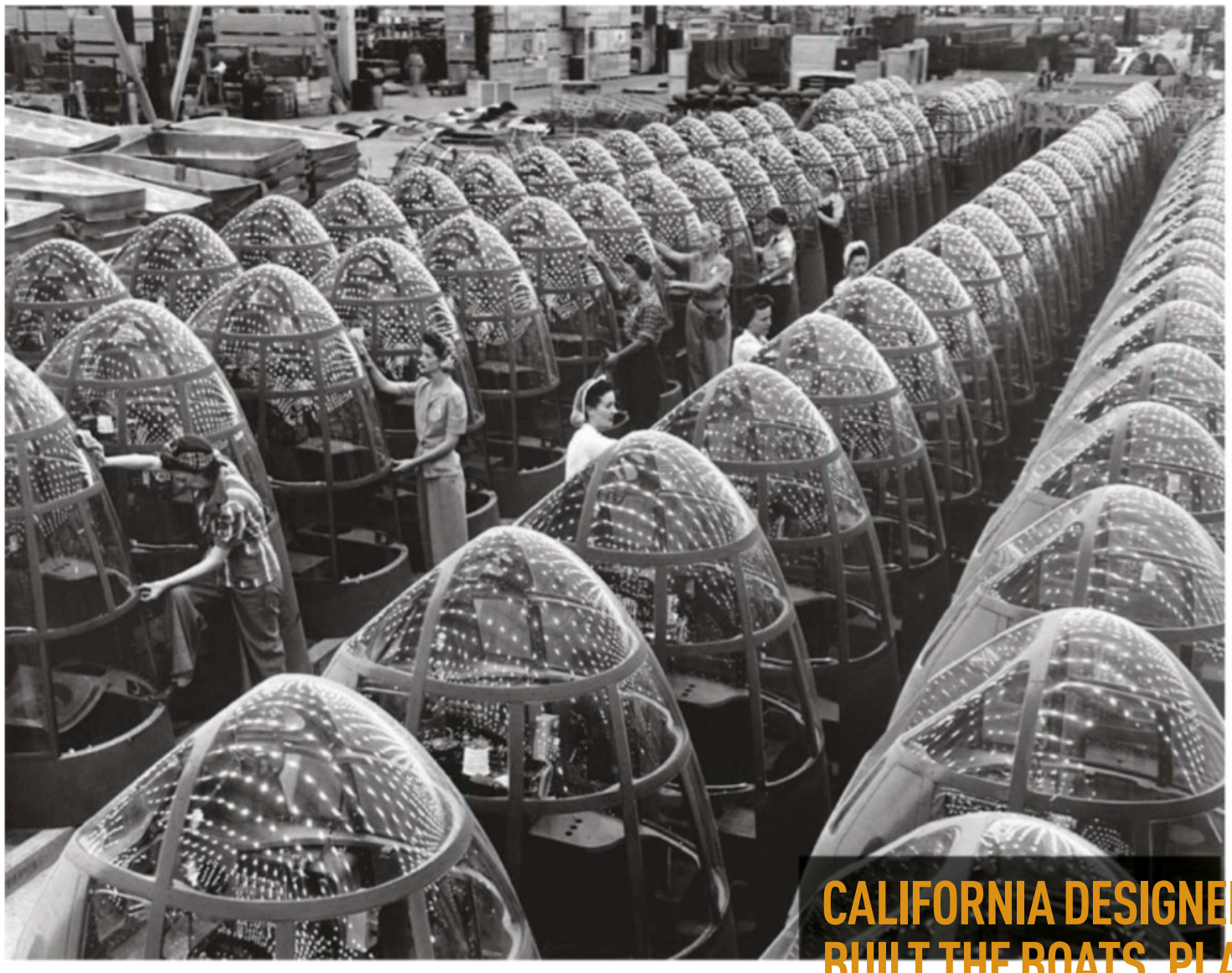


THE CALIFORNIA OF THE 20TH CENTURY WAS LITERALLY, AS WELL AS METAPHORICALLY, NOT GOING TO LOOK LIKE THE STATE OF THE 19TH CENTURY

A film crew on set in Hollywood in the early 20th century. With a dry climate and near-continuous sunshine, Los Angeles was the ideal location for a nascent film industry that was initially reliant on natural light

BRIDGEMAN/GETTY IMAGES

Hollywood heavyweights Mary Pickford, DW Griffith, Charlie Chaplin and Douglas Fairbanks, pictured on the day in 1919 when they founded the United Artists studio



Women inspect transparent nose cones for A-20 bombers produced at the Douglas Aircraft Company's factory in Long Beach, California during the Second World War. The state was at the forefront of military technological innovation even before the outbreak of the conflict

CALIFORNIA DESIGNED AND BUILT THE BOATS, PLANES AND TANKS THAT POWERED US MILITARY ACTION IN THE SECOND WORLD WAR

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Extras queue at Paramount Pictures in hope of being picked for work on a film in the 1920s. Initially seen as disreputable, the movie industry quickly became recognised as a boon for the burgeoning Los Angeles

The landmark house in west Los Angeles, built by Charles and Ray Eames in 1949. Their design work captured the spirit of postwar California

some kind of itinerant circus troupe. Over the course of a decade, however, as the movies gained popularity, civic leaders changed their minds, coming to believe that the burgeoning studios had invested in their idea of expanding the city and consolidating the power of the Southland, greater Los Angeles.

While others scoffed at the city's hubris, the film industry reaped the benefits. Boggs and William Selig's Film Company fitted in perfectly with this notion of a place where reinvention was forever possible, and at that pivotal point at the turn of the 1910s, they were in a great position to take advantage. But then their world came crashing down.

On 27 October 1911, Boggs was shot dead on a film set by a disgruntled employee. Coincidentally, the reinvention of the American film industry began on the same day: David Horsley, a British ex-pat from County Durham, opened his own film studio, Nestor, on the corner of Sunset Boulevard and Gower Street in the neighbouring suburb of Hollywood. Nestor paved the way for Hollywood's ascendancy, and Edendale lost out. Selig faded after Boggs's murder, and the company went out of business in 1918.

Today, Francis Boggs merits barely a footnote in the history of motion pictures. Yet he shot the first complete movie in California and, over the course of more than 100 silent films, documented the infancy of west-coast cinema and the pull of Los Angeles – of California – for those seeking a better life. Palm trees, Spanish revival architecture, urban expanse and breathtaking natural wilderness: the state was presented as an Edenic paradise where the sun always shone and every day offered new possibilities.

This view of California captured by those early film pioneers became the default vision – one that survives to this day, and which remains a shorthand for the Hollywood lifestyle. Even those living far beyond its borders know what California is like because it devours our senses and demands our attention on an almost daily basis. If you like movies, music, TV, novels and more, you can't fail to have had that vision of the Golden State's sprawling cityscapes and spectacular vistas imprinted on your imagination.

Innovation for the nation

Underneath the façade, California is so much more. The state that pioneered rural agribusiness and invested in heavy industry was also the one that conceived much cutting-edge technology and innovation. The origins of the state's military industrial complex emerged in the late 1930s, so the latest research and development here was making its mark before US involvement in the Second World War. California designed and built the boats, planes and tanks that powered US military action – an alignment of forces, people and machinery the likes of which the world had never before seen.

When the war was over, California simply kept fighting – a new battle against communism, at home and abroad. From the backlots of Hollywood to the streets of Hanoi, here was a menace that (the US government believed) had to be stopped, and California prosecuted the fight in its own inimitable way – creating a "Cold War campus", as Roger Lotchin dubbed it. Investment in science and technology made the future – and, potentially, the end of the world – arrive that much more quickly as the legacy of wartime atomic research and development helped consolidate the ever-expanding campuses of the Universities of California and Stanford, Caltech (California Institute of Technology) and other learning establishments.

Technological investment changed the face of California, and at the same time fused the state's cultural insouciance toward anything as serious as nuclear Armageddon. The 'Birth of the Cool' in California actualised a belief that, among other things, jazz music, photography and the architecture and design of Charles and Ray Eames could soothe the senses and →

William Shockley (seated) and colleagues work on semiconductors at Bell Labs in 1948. The company he founded after leaving Bell was among the first in Santa Clara's 'Silicon Valley'

make mass culture hip and vital, whatever the threats to the future of the planet. As the apocalyptic glow of nuclear weapons lit up the southern California sky from the test site in adjacent Nevada in the 1950s, everybody gathered down at the atomic café to talk about Miles Davis, Dave Brubeck and James Dean. Meanwhile, coolness rejected some things, embraced lots of others and accepted the California of the 1950s as a place going through profound changes. "Coolness reflect[ed] the culture of a society based, in part, upon a rejection of Elsewhere," recalled state historian Kevin Starr, insisting it was "an evolution of its sensibility".

California's sensibility might have been cool, but its hard-nosed business ethos and material capacity was built on the US military's need to be able to wage war wherever, and for whatever needs of defence and security, the country deemed necessary. In 1948, the Department of Defence spent $100 million on aircraft; in 1953 that figure had soared to $7 billion. During the 1950s, California received over $50 billion in defence spending contracts – twice as much as any other state.

The beneficiaries of such largesse were scientists and inventors such as Edward Teller – who had worked on the Manhattan Project and then helped establish the University of California Radiation Laboratory at Livermore, an hour away from Berkeley – and William Shockley. The latter was a troubled but brilliant man, a physicist and electrical engineer who, like Boggs before him, saw California's future fully mapped out. Born in London but raised in Palo Alto, near San Francisco, Shockley worked in the Pentagon during the war but, unlike Teller, returned to civilian life thereafter. Seeking a replacement for the valves used in everything from radio and radar to telephones and the newly emerging television sets, Shockley replaced the gas in the tubes with metal – germanium acting as a semiconductor – and suddenly the transistor, and miniature technology, was a reality.

Shockley quit his job at Bell Labs, found an investor and set up business in the Santa Clara Valley south-east of San Francisco which, till then, had been known for little more than growing apricots. It was the most prophetic choice he ever made: a bold experiment was underway in Santa Clara.

Stanford University owned acres and acres of spare land, and the institution had the radical idea of leasing that land to technology companies – what we might today call 'start-ups'. The Stanford reputation lured the best brains, and the companies attracted money; large firms arrived, including defence behemoths such as the plane manufacturer Lockheed.

Shockley's company went to work on Stanford's land, believing that the future of semiconductors involved another material that was far, far more effective than germanium: silicon. The Shockley Semiconductor Laboratory effectively gave birth to Silicon Valley. Shockley had seen the future, but he couldn't see the way it was all about to collapse around him. His breakthrough with semiconductors was really a team effort, but he was not a man to share credit; his manner was arrogant, cantankerous and even paranoid. The manufacturing process he instigated was flawed, and the fellow scientists he recruited eventually walked out on him. Their timing was perfect. Shockley's was not.

Hot chips

Sputnik launched in 1957, firing the starting pistol on the space race – which needed semiconductor technology. The exiles from Shockley's lab included Robert Noyce, who co-founded semiconductor developer Fairchild and in 1968, with fellow Shockley defector Gordon Moore, Intel – today best known for producing many of the world's computer processors.

Silicon Valley set about making Santa Clara its permanent home. Shockley had won a Nobel Prize in 1956, but never recovered from the fragmentation of his company; later in life

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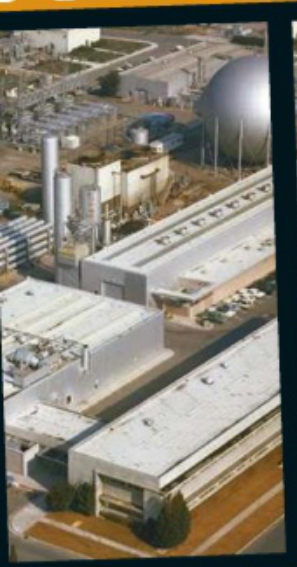
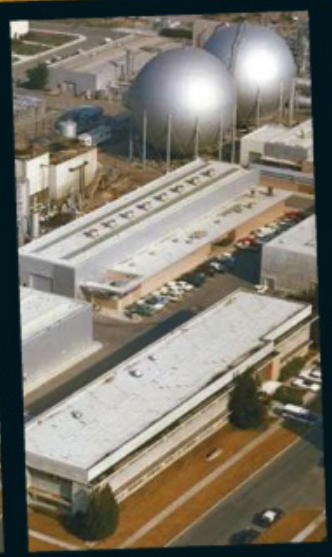




Nasa's Ames Research Center, 1977. The US space agency was among many organisations to set up in Silicon Valley

Apple founders Steve Jobs and Steve Wozniak in 1977 at the West Coast Computer Faire, where they introduced the Apple II – one of the first successful home computers

ROBERT NOYCE, TOGETHER WITH GORDON MOORE, FOUNDED INTEL – TODAY BEST KNOWN FOR PRODUCING MANY OF THE WORLD'S COMPUTER PROCESSORS

Silicon Valley luminary Robert Noyce, pictured with a diagram of a microchip, c1960s

The Hollywood sign and the Apple logo have both become emblematic of the success story told about California

he turned to the hugely controversial topic of eugenics, which had its own contentious history in California.

Shockley paved the way for Fairchild and Intel, but also for later and bigger names: Wozniak, Jobs, Gates. Silicon Valley became not just America's home of technology, but the world's. Boggs had the same effect on movies. The film community he was shaping in the 1900s gained global influence once characters such as actors and producers Mary Pickford and Douglas Fairbanks, director DW Griffith and auteur Charlie Chaplin – who together founded United Artists in 1919 – showed up.

Boggs and Shockley might have been decisive figures in the California story, but instead they've been relegated to the margins. Their histories were built on inspiration, prophecy and then tragic demise.

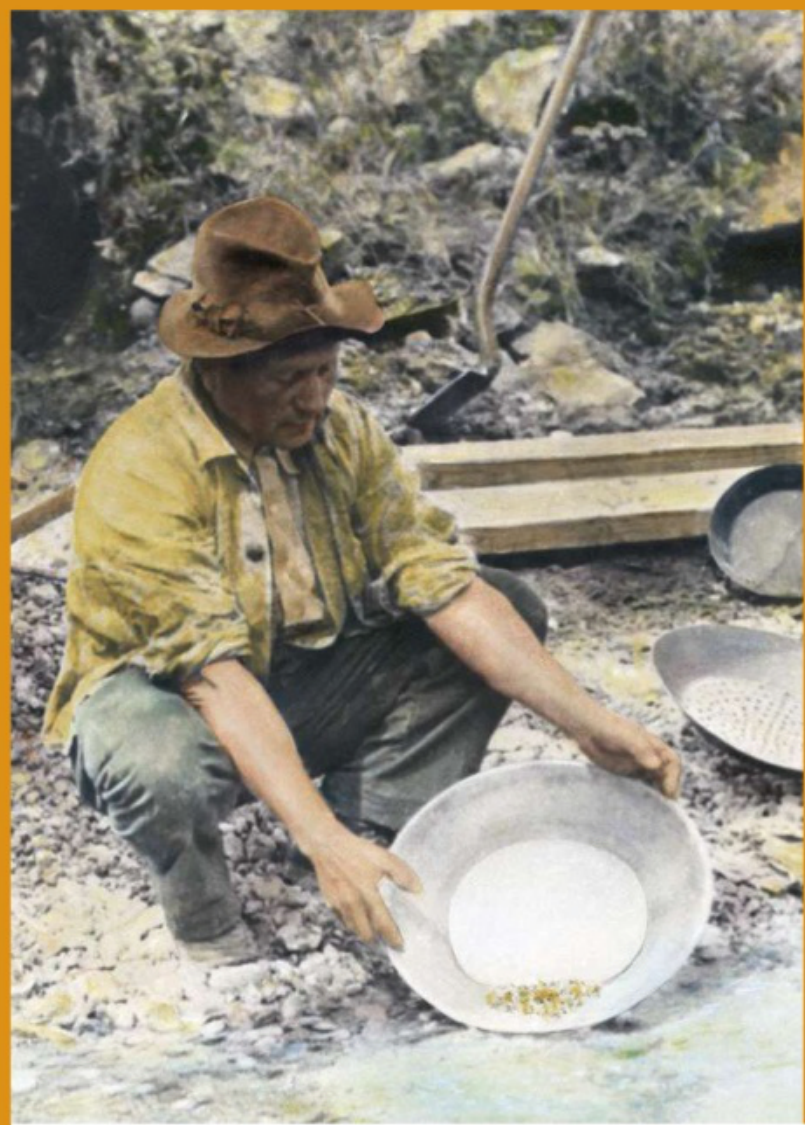
We all feel that we know something about California, its presence burned into our minds by such potent symbols as the Hollywood sign and the Apple logo. Yet, despite this perception, the historian Jeff Lustig argues that California "has always proved to be a difficult place to comprehend". Boggs and Shockley brought to life ideas that helped create the place called California, yet both failed to see how volatile and impermanent the future could be.

California has always been that sort of place. Seen as a magical setting that holds the answers to age-old questions about how we live our lives, the kind of environment we'd like to inhabit and the dreams we wish to fulfil, the story of Francis Boggs, William Shockley and the industries they shaped informs a vision of riches and ruin that has made, and continues to make, California captivating and exceptional.

Ian Scott is senior lecturer in American studies at the University of Manchester, and an advisor on the BBC Radio 4 series *The Californian Century*

The Big Sur coast south of San Francisco. California has long been seen as "the kind of environment we'd like to inhabit", says Ian Scott

DREAMSTIME/GETTY IMAGES



LEFT: **A late 19th-century gold prospector. The accumulation of wealth in California began with the 1848 gold rush** RIGHT: **The 1996 San Francisco Pride Celebration. Many people were drawn to the city by a sense of openness to relationships perceived elsewhere as non-normative**

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WHAT CALIFORNIA DREAMS ARE MADE OF

***Laurence Grissell**, producer of the BBC Radio 4 series* The Californian Century, *talks to Matt Elton about the ideas and characters behind the programmes*

Can we identify the historical roots of California's 20th-century success?

In a sense, it all started with the gold rush of the mid-19th century, which created much of the wealth that made possible so many other things later on. That's an interesting way of looking at California – at the accumulation of capital through the past 100, 150 years. It started with the gold rush, then came the advent of Hollywood and, at around the same time, the oil boom.

This accumulation of wealth continued through the Second World War, when California produced many of the aircraft, ships and armaments used to fight – 10% of the whole US war budget was spent in the state. And from the 1950s to the 1980s and into the present day, there was the development of Silicon Valley. So you can see these sedimentary layers of wealth that, notwithstanding all the creativity and ingenuity involved, made so much possible in the state.

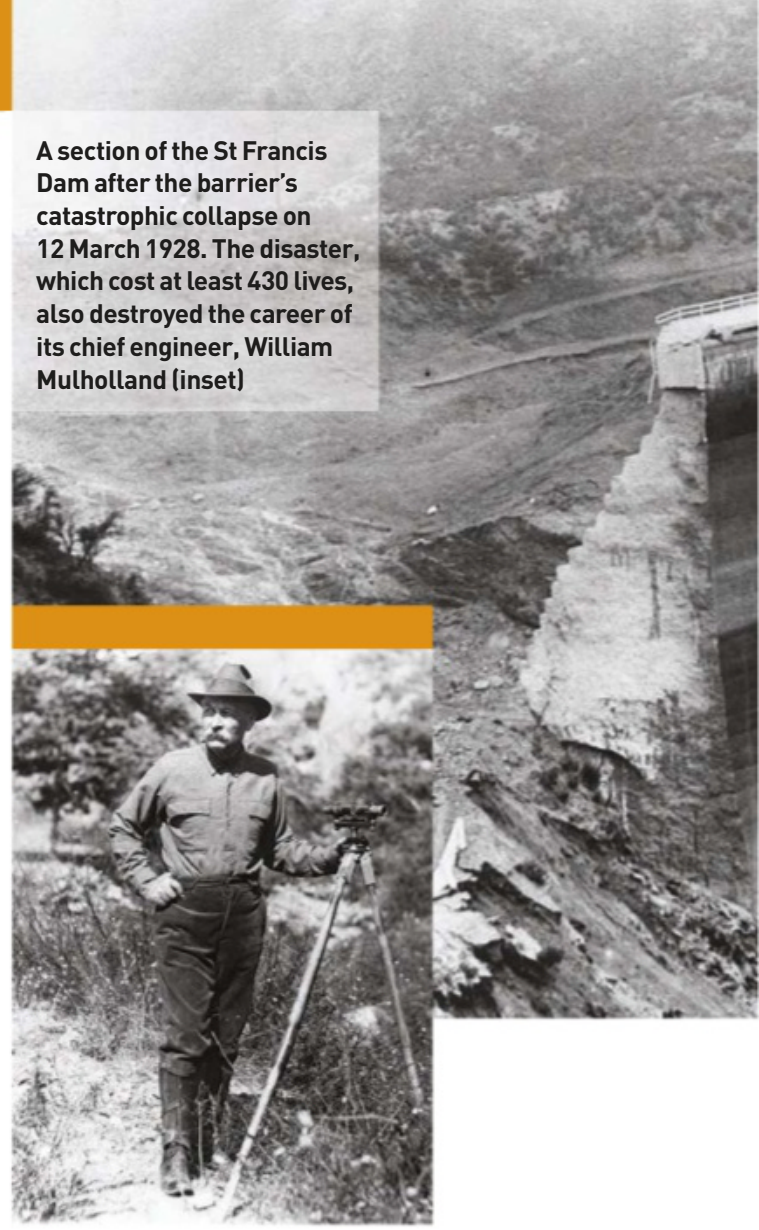
As the state grew wealthier, it attracted many people who wanted to start new lives or escape old ones...

There was a sense of a blank slate, of starting afresh. As Jerry Brown – the

longest-serving governor of California, whom I was lucky enough to interview – said, we have to remember that these people were arriving on the west coast really having no idea what awaited them: it was the great unknown. What they came to was a landscape that was exploited, shaped, refashioned and turned into gold – sometimes in a literal way, at other times in a metaphorical way.

Going hand in hand with that was an open-mindedness – or an openness, anyway – to different ways of living. Some people migrated from other parts of the United States looking for religious freedom, and there was an openness to different forms of religion. And as we explore in a number of episodes, that was also mirrored in an openness to what one might call non-normative relationships, particularly in San Francisco, that perhaps wasn't manifest on the east coast of the US, or indeed in the Old World.

A gold miner in California, c1852. Arrivals to the state looked for riches – but also a blank slate, a fresh start



A section of the St Francis Dam after the barrier's catastrophic collapse on 12 March 1928. The disaster, which cost at least 430 lives, also destroyed the career of its chief engineer, William Mulholland (inset)

What did you discover about the experiences of indigenous people and other minority groups?

We were keen to explore the widespread racism that was evident through much of the state's history. Of course, that racism is in no way unique to California or to the United States. But I felt that you couldn't tell this story without looking at African-Americans and Mexican-Americans, trying to represent their experiences.

When one looks at California, the temptation is to emphasise the big success story – and obviously there is a big success story to tell. But this is a state that is very well practised at mythologising itself, and I wanted to counter some of that in a balanced way, by telling some of the other narratives. Because many of those people who were building the state – quite literally, laying the railroads, building the roads, farming the fields – were treated very badly.

Even so, it may have been better than what they'd faced before arriving. Though California was deeply segregated, and though African-Americans and Mexican-Americans were treated extremely badly, they had opportunities there that were not available, for instance, in the southern United States.

Did you encounter alternative views?

One of the most interesting conversations for me was my interview with Jerry Brown. He took office as state governor in the 1970s, taking over from Ronald Reagan, and then held the position again in the 2010s, following Arnold Schwarzenegger's tenure. He's not afraid to question the orthodoxies. Like much of the capitalist world, California is built on the assumption of continual economic growth. Brown asked whether, looking into the next century, it's possible that California can continue to grow as it has done, in terms of population growth but also in terms of economic growth.

In a sense, the past 100 years of Californian history have been about unfettered growth. Brown, though, is saying that the state can't keep on growing forever – it has to accept that there are limits, particularly in the environmental context. In the mid-19th century, California was all about exploiting its environment, and it created vast wealth from doing so. But that involved throwing cyanide into the water to yield gold, as one of our contributors put it. Brown's view is that times have changed, and that the next 100 years cannot be about that kind of exploitation – that California has to limit its growth.

You introduce other figures such as William Mulholland, who re-shaped the landscape to make this kind of wealth creation possible.

Mulholland is an interesting character I'd never heard of before. Of course, I knew the name from Mulholland Drive, but I didn't really know who he was – yet without him there would be no Los Angeles. The city is basically in a desert, so the only way that it was going to be able to grow was if it got water from somewhere – and that somewhere was in Owens Valley, which had a river fed by run-off from the Sierra Nevada.

The plan was to divert that river, and build an aqueduct that would carry the water over 230 miles down to Los Angeles. Between 1908 and 1913, Mulholland and his team embarked on the construction of what I believe was the biggest and longest aqueduct that

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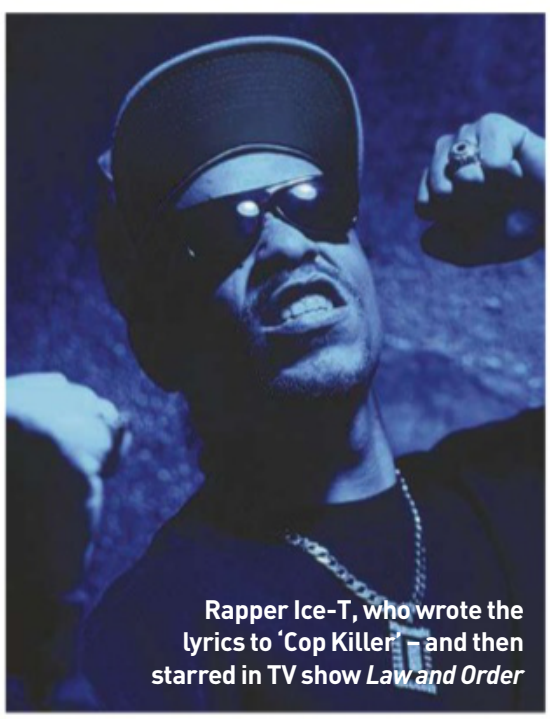
Dianne Feinstein, pictured in 1978 after she unexpectedly became mayor of San Francisco



Rapper Ice-T, who wrote the lyrics to 'Cop Killer' – and then starred in TV show *Law and Order*

SHUTTERSTOCK/GETTY IMAGES

Times have changed: the next 100 years cannot be about that kind of exploitation – California has to limit its growth

had been built up to that point, which enabled Los Angeles to grow.

Of course, there were casualties of this scheme: the farmers of Owens Valley, who had essentially been conned out of their water. Once the water was diverted, their land turned to dust. And it was Mulholland who engineered it.

Mulholland was an ingenious figure, but ultimately his reputation was destroyed in 1928 when the St Francis Dam, which he had also built, collapsed – with catastrophic consequences: it's been estimated that at least 430 people died. It was an ignominious end to Mulholland's glittering career.

The series also highlights strong Californian women. Which of them most captured your imagination?

One of the more unexpected characters in the series is Dianne Feinstein, now a senator for California. She succeeded George Moscone as mayor of San Francisco when he and Harvey Milk, the first gay city supervisor [councillor], were assassinated in 1978. A lot of people know about Harvey Milk from the 2008 movie, in which he was played by Sean Penn, but the story that hadn't been told was that of the woman who took over from Moscone. Feinstein was forced very abruptly to step up as mayor after these two brutal killings, which of course occurred just after the Jonestown Massacre in Guyana, in which 1,000 people – many from the San Francisco Bay area – died. So that was a tough job, taking over the mayorship at that time, and a really worthwhile story to tell. Also, Feinstein is a centrist, and you don't often hear stories about centrist politicians, or certainly less than about divisive figures from the right or the left – who divide people rather than bring people together. In a sense, that was Feinstein's role in this very, very difficult period of San Francisco's history.

Ice-T is another intriguing voice...

Yes, he is – arguably the original gangster rapper. And I don't think you need to know anything about gangster rap in order to get something out of that episode, because what Ice-T represents is the paradox and the contradictions of California. Here's a guy who, with his band Body Count, made a record called 'Cop Killer'. It was released in 1992, the year after the horrific beating of Rodney King by Los Angeles police and the LA riots – or the LA rebellion, as some people call it – that followed. So Ice-T made one of the most controversial records of all time, but then went on to play a cop in a TV series called *Law and Order*.

What do you think the future holds for California?

Many people I interviewed think that the next 100 years are not going to be anywhere near as easy as the past 100 – that the state cannot continue exploiting its landscape in the same way that it has over the past century. The idea they expressed is that we've done the easy stuff, and now the hard stuff begins.

Another point is that California has been built on migration – from elsewhere in the United States but also from elsewhere in the world. Today, more people are leaving California than are settling there. So for a state that was built on migration, I think that poses an existential question.

DISCOVER MORE

The Californian Century is available online at *bbc.co.uk/sounds/series/m000fp5h*

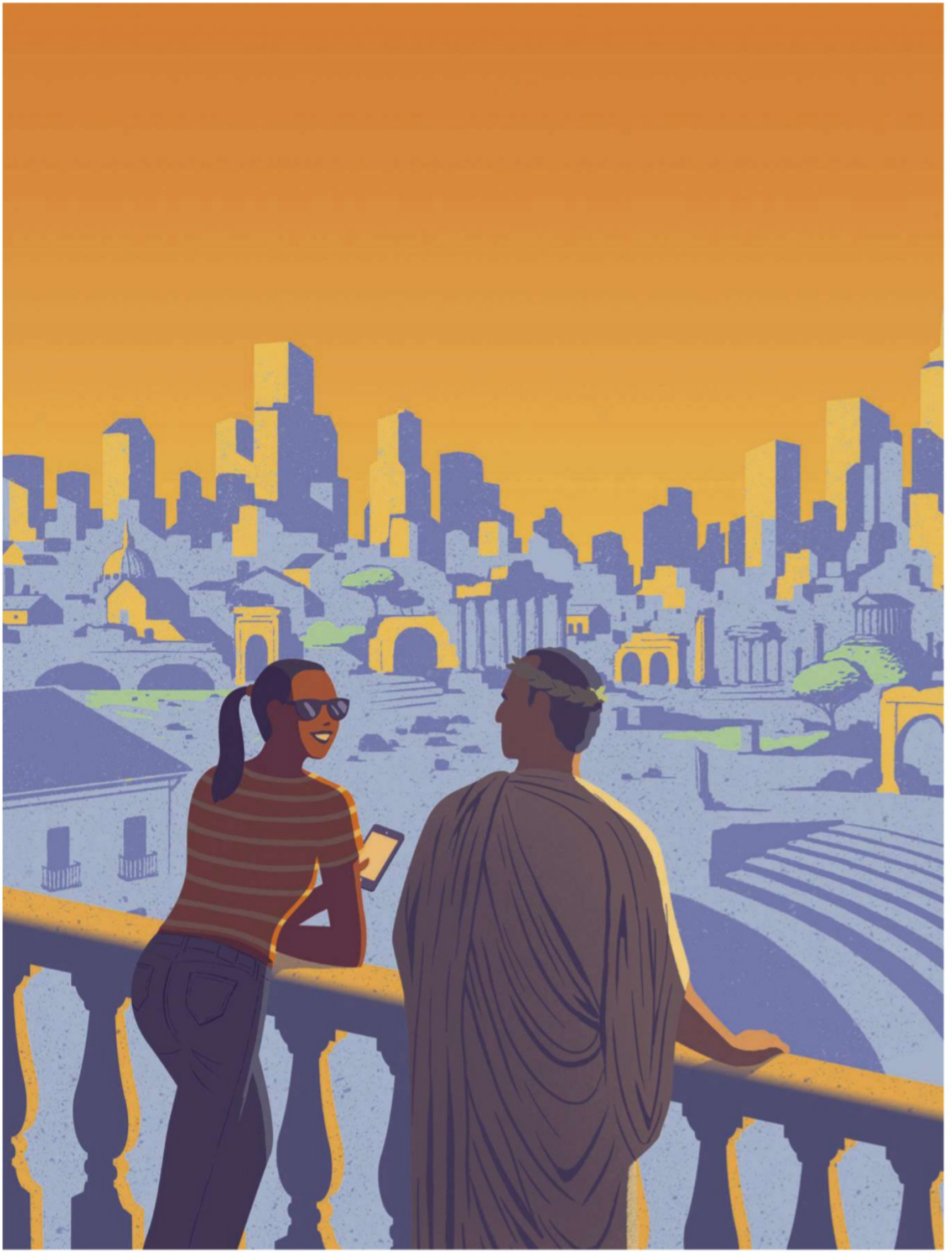


ILLUSTRATION BY **DAVIDE BONAZZI**

What have the Romans ever done for us?

Two millennia ago, the Roman empire swept through Europe, extending its reach around the Mediterranean through the Middle East, north Africa and Britain. Seven experts discuss the enduring legacies of Roman expansionism, including humour, food and government

GOVERNMENT

"The British system of government owes a debt to Rome – the idea that not everyone's vote should count equally"

Shushma Malik

The system of government we call democracy today would have been unrecognisable as such in ancient Athens. Rather, the idea of electing a representative to carry out the will of the people shares more with the Roman 'mixed constitution'. Athenians chose their representatives by lot. The Romans, like us, favoured elections that could showcase the wealth and talents of the individuals standing. The Romans also established the idea of an appointed upper house – their senate, similar to the British House of Lords.

In Rome, by the third century BC, citizens had established a system in which three modes of rule – monarchy, aristocracy, democracy – combined to govern the state. As described by the second-century BC historian Polybius, the monarchical element comprised two consuls: magistrates elected annually who led the Romans out to war and who occupied the leading position in the senate. The aristocracy was the senate itself, of which elected or former magistrates (c44 men) were just a small part of the unelected whole (c300–600 men). Senators proposed and debated laws, which could not be passed without the support of the people – the democratic element of the 'mixed constitution'.

Perhaps the greatest debt the British system of government owes to Rome, however, is the idea that not everyone's vote should count equally. Roman male citizens (women could not vote) were divided into groups called 'centuries' to vote, with the wealthiest minority in society making up 98 centuries, and the poorest, most populous section of society having 35; the other 60 centuries were allotted to those of middling wealth, giving a total of 193 voting groups. The idea of wealth influencing eligibility to vote was pervasive over the following millennia. In Britain, not until the 20th century was suffrage awarded to non-property-owning men, shortly followed by women. In the 19th century, more British prime ministers sat in the House of Lords than in the House of Commons.

Rome's mixed constitution, then, provided the model for British 'democracy' for centuries – a system centred on seniority, elections and restrictions on the vote.

Shushma Malik is lecturer in classics at the University of Roehampton

IMPERIALISM

"The justification of imperialism was framed through a message of global peace"

Hannah Cornwell

Globalisation seems a modern phenomenon. The framework for an interconnected world, the contraction of relative distances and speed of communications between communities is, however, a distinctive product of Roman imperialism. Historically, empires and hegemonies existed before Rome held sway over the Mediterranean, but the means through which it maintained its empire and generated an imperial ideology has provided a model for later western powers to shape their own imperial world views. The justification of imperialism was framed through a message of global peace.

The Roman concept of a worldwide peace – the so-called *pax Romana* – expressed the dynamics of power between Rome and her subjects. The Roman historian Tacitus articulated such a concept in a speech of the general Cerialis, addressing Gallic leaders in AD 69: "For it is not possible to have calm among nations without arms, nor arms without military wages, nor military wages without taxes." Here, imperial and military justification foregrounds peace as the overarching value of the Roman empire to all who participated in it. Yet peace had a price: Rome demanded a necessary buy-in, in order to maintain a militarily protected interconnected world.

The stability Roman imperial rule brought should not be underestimated. A tombstone from South Shields, written in both Latin and Palmyrene (a western Aramaic language), commemorates a woman from southern Britain named Regina, a freed slave and, later, wife of a Palmyrene (Syrian) man named Barates. This single monument gives us a brief insight into identity, mobility, inclusivity and participation in the Roman world. The global aspects of that empire reveal many similarities to our modern, interconnected world. The benefits of world peace are undeniably important for stable economies and societies. Nevertheless, we should also reflect on how Rome provided other world powers with a justification of empire and colonialism, perhaps most notably reflected in the *pax Britannica* of the 19th century and the *pax Americana* of the 20th, and ask whose peace it is.

Hannah Cornwell is lecturer in ancient history at the University of Birmingham, and author of *Pax and the Politics of Peace: Republic to Principate* (Oxford University Press, 2017)

ANTONIO PALMIERI

A wall painting from the house of Julia Felix in Pompeii depicts a bowl of fruit. "The Romans brought about 50 new foods to Britain, including apples, pears, coriander, fennel and walnuts," says Erica Rowan

BRIDGEMAN/TRUSTEES OF TEH BRITISH MUSEUM

A copy of a tombstone found at South Shields commemorating Regina, a formerly enslaved woman from Britain who married a Palmyrene (Syrian) – an insight into mobility and inclusivity in the Roman world

FOOD & DRINK

"Southern Spain and much of northern Tunisia and Libya were transformed by the mass production of olive oil"

Erica Rowan

Food was of great importance to the Romans. We have an abundance of literary and archaeological evidence in the form of satires and dramas, storage vessels and plant remains that shows they frequently thought about, talked about, traded and experimented with food. It was not just essential for survival, but a tool with which to show status, to communicate values and beliefs, and to create a sense of connectivity within a vast empire. It was this attitude, this curiosity and this dedication to food that helped shape our modern foodscape – in particular, the range of ingredients with which we cook today.

Although both olive oil and wine were already popular in the Greek world, the Romans spread production methods for both around the Mediterranean, and vines as far north as they would grow. The countryside of what's now Spain, northern Tunisia and Libya were transformed into centres of mass production of olive oil. Following the Roman conquest of the northern provinces of Europe, vineyards were planted in regions we now know as Germany and central and northern France.

The Romans were also intensely curious about new and foreign foods. Hand in hand with the expansion of their empire into the east (now Greece and Turkey) and south (Egypt) came an increase in the number of ingredients available in their lands. Some items, such as peaches, had been known to the Greeks, but it was the Romans who again grew and traded them across Europe and north Africa, and made peaches, cherries, chickens and black pepper regular components of their diet. The Romans not only grew and consumed a wide range of foods in Italy, but also went to great lengths to introduce ingredients to newly conquered territories. To Britain they brought about 50 new foods, including apples, pears, coriander, fennel and walnuts. When the Romans left Britain in the fifth century AD, these foodstuffs stayed behind – and we enjoy them to this day.

Erica Rowan is lecturer in classical archaeology at Royal Holloway University of London, and author of F*ood and Diet in Republican and Imperial Roman Italy*, due to be published by Bloomsbury this year

HUMOUR

"We aren't Romans, but to find comedy in both mundane and profound situations is, like Rome, eternal"

Carey Fleiner

The Romans didn't invent humour, but their distinctive witty stamp still resonates in modern western society. 'Biggus Dickus' – the comically named character played by Graham Chapman in Monty Python's *Life of Brian* – has been part of our cultural landscape for 40 years, and he has a venerable pedigree. The Romans revelled in joke names: Gnaeus Cornelius Scipio earned the cognomen Asina – 'Ass' – after his calamitous showing at the battle of Lipara in 260 BC (despite this, he went on to have a successful career in politics!). Remember Boaty McBoatface? [Playwright] Plautus was cranking out the super superlative in 210 BC, writing "*occisissumus sum omnium qui vivent*": Deady McDeadson of Deadville (literally, "I'm the most dead of all dead men who've lived!").

Comedy allowed the Romans to let down their conservative hair and blow off steam. Jibes from their satirists chime with anyone who's been stuck in traffic or crowds: the poet Martial moans about his block of flats being so close to the neighbours' that he can reach through the window and touch their building; the poet Horace's holiday was partly ruined when he drank the local water and suffered a dicky tummy.

Sarcasm threw shade on the powerful then as now. Tacitus records how, after defeat by Agricola's Roman forces at the battle of Mons Graupius, the Caledonian chieftain Calgacus scolded the conquerors for their greed in destroying what little their victims possessed – and then expected the vanquished to be grateful, recounting how "[the Romans] level green fields, leave a desert in their wake, and yet call it 'peace'".

Humour doesn't always translate well: the passage of time thwarts contextual understanding, and puns stumble against the language barrier. We aren't Romans – their world comes to us through two millennia-worth of cultural baggage – but to find comedy in both mundane and profound situations is, like Rome, eternal. The farce – bedroom or political – the fool, and the folly of arrogance still resonate, still shape, still make us giggle.

Carey Fleiner is senior lecturer in history at the University of Winchester. Her latest book is *A Writer's Guide to Ancient Rome* (Manchester University Press, 2020)

HOME COMFORTS

"The Romans very much shaped our expectations of what comfortable living should be"

Daisy Dunn

You need only look around your home to appreciate just how much the Romans shaped modern life in Britain and beyond. The contribution they made to our everyday experience is so all-encompassing that we risk taking it for granted. Glance at the calendar on your wall, or the concrete beneath your house, and the importance of their legacy is revealed.

Food would not be nearly so colourful today had it not been for the Romans. They enlivened the relatively simple British diet with a wide range of fruit and vegetables, including dates from Judaea, pepper from India, cherries, cabbage, carrots, asparagus, globe artichokes, turnips and shallots. Dishes were prepared using utensils that prefigure our own – indeed, it is difficult to distinguish a Roman colander from its 21st-century counterpart.

The Romans also introduced to Britain a new culture of dining. Wealthy homeowners took their cue from the senators and elites of Italy, and built for themselves ornate *triclinia* – dining rooms with three couches upon which to recline – akin to those discovered in the villas of Pompeii and Herculaneum. They similarly commissioned lavish mosaics for their floors; those at Bignor Roman Villa in West Sussex are particularly splendid.

Beneath these floors they engineered an early form of underfloor heating. Near Bignor is Fishbourne Roman Palace, the largest residential villa of the period found in the UK to date, which contains a fine example of a hypocaust, its floor raised on columns of tiles so that hot air from a furnace could circulate and penetrate the rooms above. The Romans, famous also for their aqueducts, very much shaped our expectations of what comfortable living should be.

Romans may even have influenced our predilection for certain pets. The Normans are usually credited with introducing the rabbit to Britain, but the identification of a rabbit bone at Fishbourne last year suggests that it might rather have been the Romans who did so. Rabbits were probably kept as pets at first, and bred for food only later.

Daisy Dunn is a historian, journalist and author of books including *In The Shadow of Vesuvius: A Life of Pliny* (William Collins, 2019)

HORST FRIEDRICHS

Pontius Pilate (Michael Palin) fails to grasp why centurion John Cleese (left) sniggers at the name of Biggus Dickus (Graham Chapman, right) in Monty Python's *Life of Brian*. "Biggus Dickus has been part of our cultural landscape for over 40 years, and he has a venerable pedigree," says Carey Fleiner

GETTY IMAGES/ALAMY

A mosaic depicting the mythical Trojan Ganymede being abducted by Zeus in the form of an eagle. Lavish mosaics such as this, created at Bignor Roman Villa in West Sussex, reflected the aspirations of homeowners in Britain who took their cue from the properties of wealthy Romans in Italy

A Christian is executed on a wheel by Roman soldiers in a fresco in Dionysiou Monastery on Mount Athos, Greece. From the crucifixion of Christ to the persecution of early Christians and then conversion to the faith of the emperor Constantine, the empire's changing relationship with Christianity was key to the evolution and transformation of the Roman world, argues Tom Holland

GETTY IMAGES/ALAMY

A first-century-AD fresco from Herculaneum depicts a woman holding a stylus and wax tablet – a predecessor of the codex (book with separate folding leaves). That format had been demanded as a replacement for long scrolls by Julius Caesar, shown in a 15th-century marble sculpture. "The codex took centuries to fully take off as a fashion, but the results were momentous," says Catherine Nixey

RELIGION

"Christianity is the most enduring legacy of antiquity – and the index of its transformation"

Tom Holland

I doubt that a single day has gone by since the first publication of Virgil's great epic when someone, somewhere, has not studied the *Aeneid*. Europeans – not to mention their descendants planted on continents undreamed of by the Caesars – have never forgotten ancient Rome. Its history has always been interpreted, and reinterpreted, in the light of the world's convulsions. From Charlemagne to Mussolini, autocrats in western Europe have consistently looked for inspiration in the primal example of Augustus. Conversely, the English, American and French revolutions were all consciously inspired by the model of the Roman Republic. Variants of Latin continue to be spoken across the globe. Roman roads, urbanism, law: all still underpin the very fabric of large stretches of contemporary Europe. Not for nothing does the word 'civilisation' itself derive from Latin.

Yet appearances can be deceptive. Precisely because the Roman world can seem so similar to our own, it is easy to be fooled into thinking that the resemblances are much closer than they actually are. We are separated from the empire of the Caesars by the effects of two seismic convulsions. The first of these – the most obvious – was the utter implosion of the western half of the empire. One striking measure of this is that even today it determines how everyone in the west instinctively understands the notion of empire. What rises must fall. This seems to most of us almost as much a law in the field of geopolitics as it is in physics. Every western country that has ever won great power status for itself has lived with a consciousness of its own mortality.

The second convulsion – less obvious, but perhaps even more profound in its effects – was the emergence of Christianity. This cuckoo in the Roman nest is at once the most enduring legacy of classical antiquity and the index of its utter transformation. The surest tracemarks of the way in which ancient Rome shaped the modern world derive – by a paradox typical of Christianity – not from the great cultural and political achievements of the empire, but from its torturing to death of an obscure provincial.

OLIVIA BEASLEY

Tom Holland is a writer and broadcaster. His books include *Rubicon: The Triumph and Tragedy of the Roman Republic* (Little, Brown, 2003)

BOOKS

"The codex has been described as the most important invention in book-making before the printing press"

Catherine Nixey

How much are you enjoying this article? Lots? Or perhaps you are (perish the thought) tiring of ancient Rome. Perhaps you are even wondering whether the next page might hold a period that is more exciting, more modern, more relevant – the Victorians, say, or the Edwardians. Perhaps your finger has already started to move past this paragraph and down, down to the bottom right-hand corner of the page to turn it.

But stop. No other period in history could be as remotely relevant to what you are doing as you read this. Because that surpassingly simple act – of turning a page – is one of the most important and, perhaps, most overlooked debts that we owe that empire. Because every time you flick from one page of print to another you are performing an act made possible only by the design brilliance of the Romans.

And, like so much in Roman history, it was Julius Caesar who, so the story goes, started it. Caesar is a man known for divisions. He famously wrote that Gaul was divided into three parts, and he divided the Roman state with a bitter civil war. He should also be remembered for a less bloody but, in the end, more momentous split. Whereas previous generals wrote continuously along a scroll, Caesar had his scrolls split into parts, then reassembled. Therefore, as Suetonius records, he "seems to have been the first to reduce... documents to pages and the form of a notebook".

It was such a simple change – and had a precedent in the wax tablets used by schoolchildren – but the results were momentous. Scrolls were cumbersome, long (Pliny the Elder mentions one 6–8 metres in length) and tricky to unroll. The 'codex', as the book form is called, allows a reader to access any part with ease, almost instantaneously. It took centuries to fully take off as a fashion, but the results were momentous.

The codex has been described, without exaggeration, as the most important invention in book-making before the printing press. It quite literally opened up knowledge to readers and, centuries later, it is still enabling you to turn this page. Which you are now welcome to do.

Catherine Nixey is a journalist and classicist, author of *The Darkening Age: The Christian Destruction of the Classical World* (Macmillan, 2017)

A TIME OF

GETTY IMAGES

BANDITS

Strange and wonderful
Clockwise from top left: the tower of San Giovanni, built by Spanish colonisers around the turn of the 17th century; a Sardinian bandit captured in 1901; Cala Luna, one of many beaches popular with Italian and international tourists; rural women carry shotguns in a mountain village, c1908

The island of Sardinia, politically part of Italy but with a distinct language and culture, has a historical reputation for insurrection and lawlessness. **Antonio Melechi** explores the origins and legacy of the notorious shepherd-bandits of the mountains

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In the early 1920s, DH Lawrence set out on a short tour of Sardinia, coming to Italy's second-largest island to discover somewhere "outside the circuit of civilisation". On arriving, it seemed to the author that he was in some "strange and wonderful" land. The Sards he encountered seemed equally wild and inscrutable, rousing in him an "uneasy sense of blood-familiarity". Sardinia engendered a primal response – perhaps unconsciously reflecting its turbulent past.

Lying in the centre of the western Mediterranean, Sardinia is as close to Africa as it is to Italy. Control of the island passed from Carthage to Rome in ancient times, then to Pisa and Spain during the Middle Ages, before falling into the possession of the dukes of Savoy (in what's now south-east France and north-west Italy) in the early 18th century. Too inaccessible to become a staging post for Grand Tourists on their rounds of classical Europe, Sardinia received its first British adventurers in the mid-19th century, when the island was described in travelogues such as John Tyndale's *Island of Sardinia* (1849). What Tyndale discovered was a richly forested, mountainous island of 9,000 square miles, with "a want of roads and transport" and a largely rural and illiterate population of some 600,000.

As Tyndale traversed the length of the island on horseback, he was struck by the Sard language – Latinate but heavily influenced by Greek, Spanish and Catalan – and intrigued by the palimpsest of Christian and pagan traditions. Up in the mountains he faced the prospect of encountering *fuoriusciti* (bandits and outlaws); down in the valleys, malaria was rife. At every turn, poverty was a tinderbox to conflict. Villages were riven by vendettas. Highland shepherds and lowland farmers were in perpetual conflict. And while foreign investors were buying up large estates, speculating on the arrival of the railways, the dukes of Savoy were sending military attachments to deal with riots against laws demanding the enclosure and division of common lands.

Sardinia's principal mountain ranges, particularly the Gennargentu massif in the central south, formed a natural blockade against its serial colonisers, and the uplands long remained immune to encroaching laws and strictures. This spirit of independence and communitarianism, rooted in the ancient tradition of *transumanza* – seasonal migratory shepherding – led the Romans to christen the region the *Civitates Barbariae*, a land of unpacifiable highlanders. In AD 594, Pope Gregory I observed that they lived "like irrational animals, ignorant of the truth of God and worshipping wood and stone".

In towns of the mountainous central eastern region known as the Barbagia, overshadowed by the granite peaks of the Gennargentu, the legal edicts imposed by the Aragonese in the 14th century, and by the Savoyards at the beginning of the 18th, held little currency. Personal and communal rights were here dictated by rules of pastoral law known as the *codice barbaricino*. Besides covering the theft of livestock and resources from neighbouring towns and villages, the unwritten code specified the conditions under which individuals or groups could seek retribution. Insisting on proportionality in dealing with enemies, it maintained that a cattle thief could be avenged by cutting off his ear, and that a perjurer could be wounded with a single slash of the mouth. Its paramount shibboleth was '*sangue chiama sangue*': blood calls for blood.

The paramount shibboleth of the pastoral law of Sardinia's mountains was '*sangue chiama sangue*': blood calls for blood

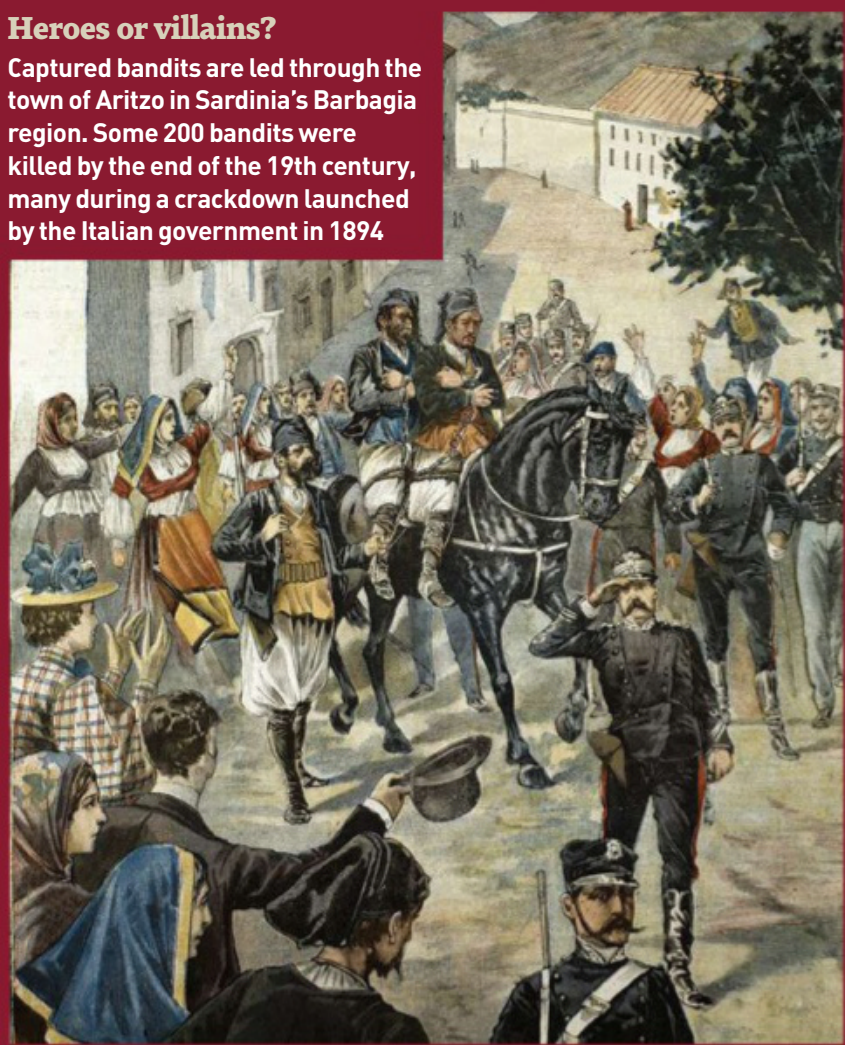
The contents of Sardinia's first legal constitution, the Carta de Logu (1392), suggest that banditry had existed in the Barbagia and surrounding regions throughout the Middle Ages, but it was not until the arrival of the Spanish that the fur-clad shepherds known as *Sardi peliti* came into open conflict with their colonial masters. Making desperate attempts to curb the tide of outlawry, the Spanish banned beards and carnival masks – the enemy had to be seen at all times – and circulated lists of bandits, detailing the crimes of these 'enemies of country and state'. The most dangerous could be killed with impunity, others arrested and traded for a bounty.

Dangerous disguise
A traditional wooden carnival mask of the Barbagia region. Spanish colonisers banned such masks to prevent bandits from hiding their identities

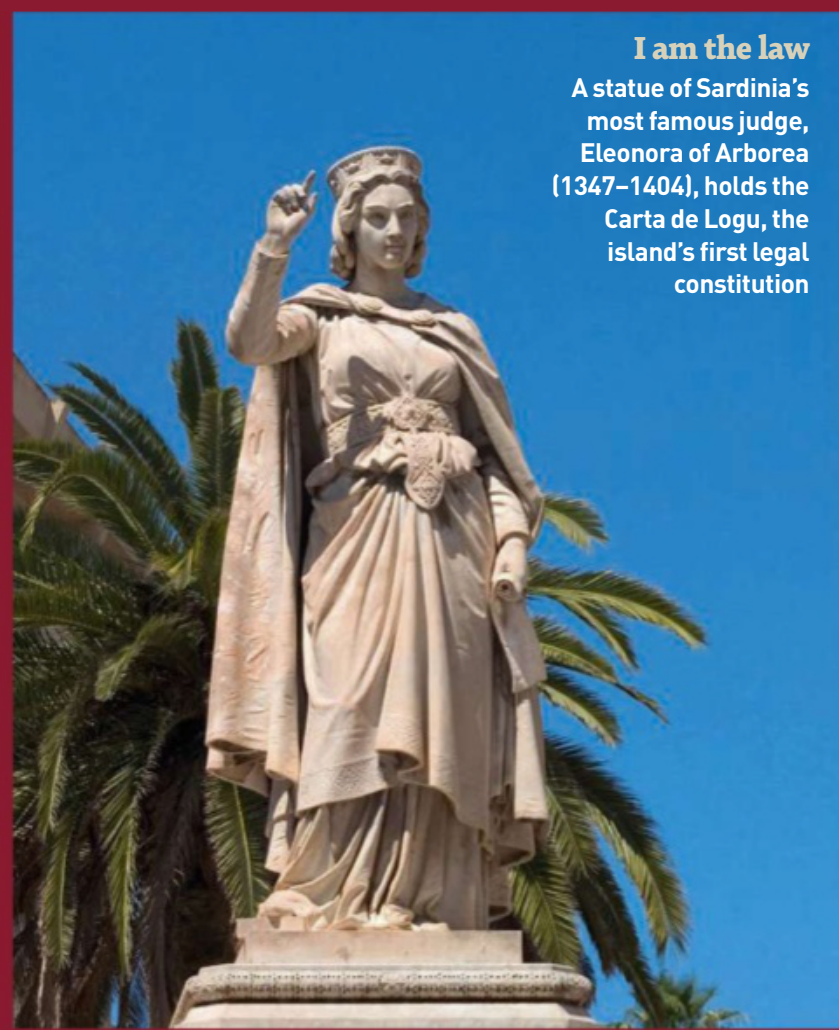
AKG IMAGES

Savage nature

The Savoyards considered the mountain shepherds their racial inferiors. A report published in 1834, during protests against enclosure, placed the people of the rural Barbagia on the first rungs of human development, suggesting that their savage, feral nature rendered them incapable of living in civil society. The intransigent highlanders were similarly abused after Victor Emmanuel was proclaimed king of a unified Italy in 1861. Weeks after unification, Paolo Mantegazza, Italy's most renowned physician,



Heroes or villains?
Captured bandits are led through the town of Aritzo in Sardinia's Barbagia region. Some 200 bandits were killed by the end of the 19th century, many during a crackdown launched by the Italian government in 1894



I am the law
A statue of Sardinia's most famous judge, Eleonora of Arborea (1347–1404), holds the Carta de Logu, the island's first legal constitution

Wild life
A fur-clad shepherd tends his flock in Sardinia's western hills, 1952. When anthropologist Franco Cagnetta visited the island's mountain regions that year, he encountered scenes that had changed little over the previous century

BRIDGEMAN/AKG IMAGES/ALAMY

Big game
A Sardinian bandit, pictured in 1900. Six years earlier, in 1894, Italian authorities declared a state of emergency on the island, sending military and police to lead a '*caccia grossa*' – big game hunt – for bandits

Honest bandit?
A mural in the town of Oliena depicts Giovanni Corbeddu Salis, one of the most famous brigands of the late 19th century. Though renowned locally as a peacemaker, Corbeddu and his men also committed violent crimes

Ridge of sighs
The Gennargentu massif, south of Orgosolo, soars to more than 1,800m and forms a natural barrier to would-be colonisers. The inhabitants of this rugged land adhered to a harsh code of justice

GETTY IMAGES/ALAMY/AKG IMAGES

stood up in parliament and denounced the hill shepherds as the scourge of Sardinia.

Over the following decades, as the abolition of common lands resulted in the wholesale loss of grazing lands, enmities deepened. Nuoro, the island's poorest area, was the worst affected, and in 1868 shepherds from across that region ransacked regional offices, destroying records of common land transferred to private ownership.

The production of Pecorino cheese rose sharply in this period, discovering new export markets, but the pastoral soon went from boom to bust, triggering a sharp rise in homicide, kidnapping and bandit activity across the highlands. In 1894, when the coastal town of Tortoli-Arbatax was attacked and looted in a bandit raid, the Italian government declared a state of emergency, sending military and police to lead a '*caccia grossa*' – big game hunt – for bandits. Before the century was out, almost 200 fugitives had been killed by the military police in Sardinia, and some 70 *carabinieri* fell victim to violence during the war on banditry.

While troops went on the hunt for mountain bandits, the government commissioned the criminologist Alfredo Niceforo to study the native population. Having taken cranial measurements of hundreds of residents in the so-called 'delinquent zone', Niceforo and his caliper-wielding colleagues declared that region's population to be an evolutionary throwback. In his 1897 report, Niceforo recommended a programme of ethnic cleansing, implying – a contemporary critic of colonialism suggested – that Sardinia's shepherd bandits be tackled "with iron and with fire, condemned to death like the 'inferior races' of Africa and Australia".

Mainland politicians failed to grasp that history, not heredity, explained the resurgence of banditry. As the Sardinian-born political theorist Antonio Gramsci (1891–1937) later observed, the problem of law and order in his homeland was an inchoate class struggle: a conflict that was "mixed up with banditry, blackmail, burning forests, laming livestock, kidnapping women and children, with attacks on the municipality". Age-old traditions of banditry had evolved into a "form of basic terrorism", aimed at the growing nexus of state power, usury and foreign investment.

When the anthropologist Franco Cagnetta arrived in the town of Orgosolo in 1952, he saw scenes much the same as those witnessed a century earlier. The town was ring fenced with military police. Locals suspected of crime were subject to curfew and internment without legal recourse, and spies were paid to inform on the local population. There was, Cagnetta observed, still no justice for the poor in Orgosolo. '*Su connutu*', remained their forlorn lament: back to the old ways.

Fearsome avengers

Many of Sardinia's most famous and revered fallen bandits are today memorialised in their hometowns, remembered not only as victims of the *mano pesante* – the heavy hand of the state – but as fearsome avengers, friends of the poor and oppressed.

By the 1950s there was still no justice for the poor. '*Su connutu*', remained their forlorn lament: back to the old ways

Thanks in part to Eric Hobsbawm's pioneering study *Primitive Rebels* (1959), these shepherd-bandits have been incorporated into a neglected fraternity of rebels and freedom fighters that includes the Andalusian *bandolero*, the Brazilian *cangaço* and the Southern Ukrainian Makhnovists. According to Hobsbawm, these "social bandits" were products of traditional societies absorbed into larger economies and systems of law. The relative isolation of Sardinia's hillside towns and their fierce parochialism had helped make them Europe's last outpost of social banditry.

The exact status of the social bandit was, however, not always clear. On the roadside approach to the hillside town of Oliena, for example, stands a four-metre-tall mural of Giovanni Corbeddu Salis (1844–98), a shepherd with a rifle and an Old-Testament beard. Probably the most famous of the 200 or so bandit leaders who were active in the Barbagia in the late 19th century, Corbeddu and his entourage occupied a mountain cave on the steep spurs of Mount Uddè, where the townsfolk would come to settle disputes. Though local folklore makes much of his reputation as an 'honest bandit', a peacemaker who was always ready to help the needy, Corbeddu was also a rifle-for-hire, paid to rob, wound or damage property.

Whatever the truth behind these and other bandit legends, it's easy to see why the most impoverished towns would regard the shepherd-bandit as, above all, *unu fizu de malasorte* – a son of misfortune. As fugitive bandit Pasquale Tandeddu confided in a letter to Cagnetta, his homeland was under siege, his people divided. "I hate the life of the outlaw, but I would a hundred times sooner be dead than in the galleys," he wrote. Months later, Tandeddu was shot and killed by unknown assailants – one more victim of a conflict that was almost as old as the hills.

At the turn of the 20th century, Sardinia's political landscape underwent a dramatic transformation. The stirrings of nationalism could be felt in demonstrations in the island's cities such as Cagliari and Sassari, giving birth to the battle cry →

Moor support
Protesters demonstrate against a US military base at Santo Stefano in 2005. Sardinian nationalism, evident in the 'Four Moors' flag of the island, has infused various political and social causes in recent decades

Separatist ambitions
Radical leftist publisher Giangiacomo Feltrinelli (left), pictured with Fidel Castro in 1964. The Milanese 'agitprop millionaire', who supported the Cuban leader's regime, attempted to recruit bandits to bolster ill-fated efforts to transform Sardinia into the 'Cuba of the Mediterranean'

Nemesis of Mussolini
Emilio Lussu, anti-Fascist leader of the Sardinian Action Party, which garnered significant support in the 1920s

SHUTTERSTOCK/GETTY IMAGES/AKG IMAGES

After Fascism fell, with no prospect of independence, crime, banditry and radical politics became increasingly intertwined

of "continentals into the sea". In provincial politics, socialist voices were also beginning to implore the landless peasantry to mobilise. These strands came together in the wake of the First World War, as ex-combatants from across the island formed a national association that in turn spawned the Sardinian Action Party, Italy's first ethno-regionalist party, in 1921. The party's message of 'Sards First, then Italians' became the rallying cry of peasants, miners and ex-soldiers, and in the regional elections held during its first year of existence, under the leadership of Emilio Lussu, it won a formidable 36% of the popular vote.

Any hope of independence was dashed by the rise of Fascism. While Lussu and other radical socialists remained vigorously opposed to any alliance with Mussolini's imperial and anti-democratic mission, the conservative wing of the Sardinian Action Party was lured into an alliance, having been given assurances that autonomy would be forthcoming. In the meantime, Mussolini's de facto dictatorship created an ever more centralised state machinery, and sent its most vocal political opponents, Lussu included, into internal exile.

Crime and politics intertwined

After the fall of Fascism, the separatist movement re-emerged in the form of the *Lega Sarda*, but with no prospect of independence being delivered by ballot box – and no sign of "the economic and social renaissance of the island" promised by the mainland's regional developers – crime, banditry and radical politics became increasingly intertwined.

In 1967, during this period of ferment, the Milanese publisher and so-called 'agitprop millionaire' Giangiacomo Feltrinelli made his first visit to Sardinia. An enthusiastic supporter of Castro and a generous friend to other insurgents in the developing world, Feltrinelli was on political reconnaissance. Could the island's beleaguered separatist movement be fused with the extra-parliamentary left? Might the ragged banditry of the mountainous Barbagia form a guerrilla vanguard, staging a coup d'état to finally wrestle Sardinia from its mainland masters?

Feltrinelli sensed that a spontaneous uprising was already underway. In the northern foothills of the Gennargentu, the radical publisher joined with shepherds and youth groups to protest against the proposed construction of a Nato military complex on the grazing lands of Pratobello, near Orgosolo, also lending his support to local opposition to the creation of a national park that would take custodianship of the land away from hunters and shepherds.

Buoyed by the success of the Pratobello opposition, Feltrinelli then held a series of clandestine meetings with fugitive bandit Graziano Mesina. A native of Orgosolo who had kidnapped several wealthy industrialists and recently escaped from prison, Mesina seemed to Feltrinelli to be the best candidate to lead Sardinia's 'pre-proletariat' towards the bright new dawn of independence.

Feltrinelli's plans to bankroll the transformation of Sardinia into the 'Cuba of the Mediterranean' came to nothing. Mesina was re-arrested in March 1968, and in 1972 Feltrinelli was killed by a bomb that he and other members of the left-wing paramilitary Gruppi d'Azione Partigiana (Partisan Action Groups) were attempting to detonate on the mainland. Yet the island remained a hotbed of revolutionary leftism, and from 1978 the newly formed *Barbagia Rossa* terrorist group began an incendiary campaign, staging attacks on military and police installations. Over the following decade, the kidnapping of landowners and industrialists, ransomed for huge amounts, became the one economic windfall to uniquely benefit the post-peasant towns of the Barbagia.

Sardinian separatism staged an electoral comeback in the early 1980s, when the Action Party made unexpected inroads in regional elections. However, the renaissance was short-lived: over the coming decades, the separatist movement became increasingly factionalised, with a dozen or so different pro-independence parties typically sharing around 20% of the vote in regional elections. Demands for true territorial autonomy were dealt a further blow when Italy's ruling Christian Democrats began to partially support demands for statutory reform and self-determination in the 1990s.

The splintering of the independence movement led many nationalists to abandon the rhetoric of sovereignty and self-rule in favour of a cultural nationalism focused on questions of language and identity. As well as succeeding in prompting official recognition of the Sards as "the largest linguistic minority in Europe", the so-called 'neo-Sardists' have in recent years revitalised grassroots interest and investment in the pastoral folklore and pre-Christian history that had beguiled Lawrence and other British travellers.

'*Su connutu*' – back to the old ways – is today no longer the cry of the dispossessed: it is the celebration of a long history with deep roots.

Antonio Melechi is honorary research fellow at the University of York

GETTY IMAGES

Casualty of war

A US marine is buried at sea from the attack transport ship USS *Hansford* during the American invasion of Iwo Jima in February 1945. A large American fleet carried landing craft, vehicles and three divisions of marines across the Pacific, delivering them to the beaches on this island on 19 February following three days of heavy US bombardment of Japanese positions. Despite that preparation before landing, Iwo Jima was captured only after five weeks of bitter fighting, on 26 March.

A YEAR IN PICTURES

1945

The end of the war and a world order in transition

The end of the Second World War in Europe was a cause for celebration in the UK and United States, but conflict continued to rage in Asia. **Richard Overy** explores the events and characters that marked this pivotal year around the globe

The end is nigh

Workmen rig up loudspeakers in Trafalgar Square, central London, in early May 1945, in readiness for an anticipated speech by King George VI marking the end of the war in Europe. News of the German surrender had emerged on 7 May, shortly after it was signed, but the end to the war was officially announced the following day, which was named VE Day by Winston Churchill. "The evil-doers," proclaimed the prime minister, "lie prostrate before us."

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Cementing Saudi ties

King Ibn Saud of Saudi Arabia meets US President Franklin D Roosevelt (right) aboard the USS *Quincy* in the Suez Canal on 14 February 1945. The president was en route back to the US from the Yalta Conference where he, Churchill and Stalin had discussed the final stages of the war and the coming peace. By this point, Roosevelt was already very ill – he died less than two months later – but was determined to cement American ties in the Middle East, which had previously been dominated by British imperial interests.

Another barrier broken

Commander Thomas Gayford inducts five women into the US Navy Nurse Corps on 8 March 1945, among them Phyllis Mae Dailey (second from right), the first black nurse admitted to the navy following changes in its recruitment policies. The US Navy had resisted admitting African-Americans and women in the early stages of the war, but by the end of the conflict all American military services included a women's branch, and employed African-American men and women, albeit in limited numbers.

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Picasso 45.

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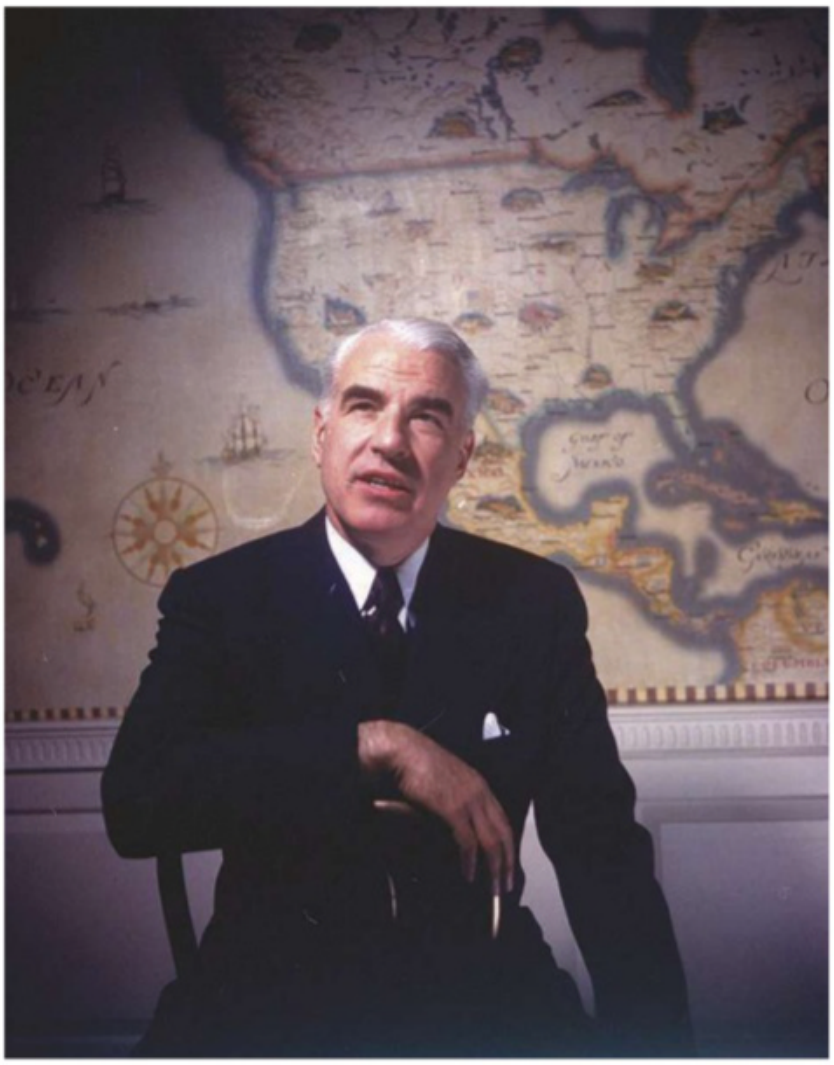
Art of war

Pablo Picasso's *The Charnel House*, painted in 1944–5. The Spanish artist's graphic commentary on the horrors of conflict may have been inspired by images of the German concentration camps, or by the violence of the earlier Spanish Civil War. The painting, which echoes his more-famous Guernica, also seems to symbolise destruction from aerial bombing, while his choice of a monochromatic palette reflects contemporary photographs of war. Initially called *The Massacre*, it seems this piece was never completed, for reasons that, again, are unclear.

Those left behind

Food is distributed to inmates at a camp for displaced persons in Germany at the end of the war. Millions of people had been transported from all over Europe by the Nazi regime to power its forced labour programme, working in agriculture or in the production of weapons. Many returned home quickly after the fall of Berlin in May 1945, but by that summer some 227 centres in Europe still held 1.8 million men, women and children. The last camps remained operational until 1957.



Uniting nations

Edward Stettinius, US Secretary of State, pictured in 1945. That May, he led his country's delegation at the United Nations Conference on International Organization in San Francisco. Stettinius, who presided over the proceedings, was faced by arguments with the Soviet Union, the UK and France over the provisions of the UN Charter. Finally he succeeded in steering the 50 nations present to agreement on the founding and operation of the new body, and the Charter was signed on 26 June. The site of the UN headquarters remained contentious, though agreement was eventually reached to base it in New York.

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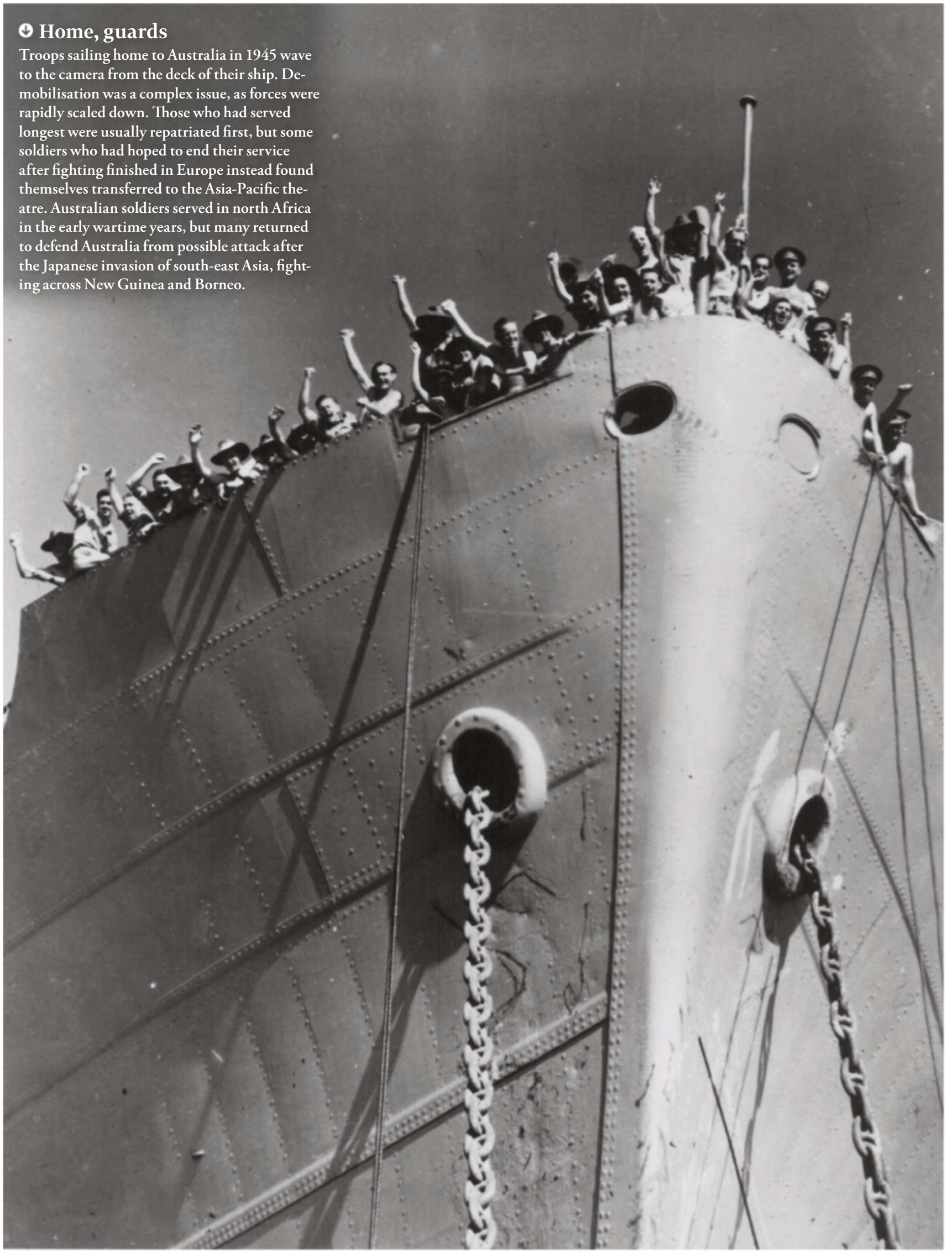
Atomic aftermath

A Japanese woman and child pictured among the ruins of Hiroshima in December 1945, four months after the US Air Force dropped an atomic bomb codenamed 'Little Boy' on the city on 6 August. The final death toll of the attack has never been accurately determined, because thousands died many years later from conditions linked to radiation exposure. A second atomic bomb, dubbed 'Fat Man', was dropped by the US on Nagasaki three days later. The morality of these bombings, and their role in triggering Japanese surrender on 14 August 1945, have been hotly debated ever since.



Home, guards

Troops sailing home to Australia in 1945 wave to the camera from the deck of their ship. Demobilisation was a complex issue, as forces were rapidly scaled down. Those who had served longest were usually repatriated first, but some soldiers who had hoped to end their service after fighting finished in Europe instead found themselves transferred to the Asia-Pacific theatre. Australian soldiers served in north Africa in the early wartime years, but many returned to defend Australia from possible attack after the Japanese invasion of south-east Asia, fighting across New Guinea and Borneo.

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Insurgency in Indonesia

British tanks roll down a street in Jakarta (formerly known as Batavia) in September 1945. After the war in the Pacific ended with Japanese surrender in August, British forces were sent to help the Dutch colonial administration re-establish rule in the Indonesian archipelago. They found themselves in the firing line of a massive insurgency, under the leadership of Sukarno, fighting for independence from the Dutch empire. In November 1945, the port city of Surabaya was almost obliterated by British naval and artillery fire and aerial bombing in response to attacks on British imperial forces.

Future face of Kenya

Kenyan independence leader Jomo Kenyatta, pictured at the Fifth Pan-African Congress he helped to organise in Manchester in October 1945. Dozens of delegates, who included African-Americans campaigning for civil rights as well as African figureheads such as Kwame Nkrumah (future president of Ghana), used the congress as a platform to demand that the British speed up the process of granting independence to African colonies. Over the decades following the Second World War, the empire splintered, and by 1967 more than 20 former British territories were independent. Kenyatta became Kenya's first president when the country became a republic in 1964.

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Richard Overy is professor of history at the University of Exeter, and editor of *The Times Complete History of the World* (William Collins, 2015)

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For more on the events of 1945, read a feature in the May issue of *BBC History Revealed* and the special supplement in the May issue of *BBC History Magazine*

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THE LONG READ

The global millennium

The year AD 1000 was far more globalised than we might think – and may offer lessons for today's interconnected world

BY VALERIE HANSEN

A 10th-century silver coin minted in a Danish settlement. The arrival of Norse explorers in North America around AD 1000 was part of a trend of globalisation at that time

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Globalisation is a phenomenon that defines and challenges the modern world. Trade, technology, culture, conflict: today, all span continents and hemispheres. And the roots of this global connectedness stretch back much further than we might imagine.

A new system of global pathways formed in the year 1000, following the arrival of Vikings in what's now north-eastern Canada. Trade goods, people and ideas moved along these newly discovered routes. Globalisation affected both those who went to new places (traders, explorers, slaves) and those who stayed at home (who experienced religious change, riots, and onerous labour conditions to produce goods for overseas markets).

There's no single historiographical view of when globalisation began but, rather, two dominant paradigms: one locates the start of globalisation in the late 1970s, the other much earlier, around 1500. The seventies witnessed the full flowering of globalisation, notably in terms of the outsourcing of manufacturing and the ease of travel. And around the turn of the 16th century, Columbus and da Gama (and, a little later, Magellan) tied together the world in a way that hadn't occurred before.

Yet it was events five centuries earlier that made the changes of 1500 possible – events that are too often neglected in Eurocentric narratives. If you focus your gaze only on the mid-Atlantic, then of course 1492 seems to mark the beginning of Europe's contact with other parts of the world. But a global view reveals that such contacts started much earlier – in fact, around the year 1000.

The world of a millennium ago was, of course, very different from our own. Transport involved walking or riding or sailing or rowing. Communication was slow. Yet while there were no factories that produced goods with powered machines, mass manufacturing was far more prevalent than we might imagine possible. In China, at that time the world's leading manufacturer, factories were capable of producing several thousand ceramic pots in a single firing in kilns fuelled by wood or sometimes coal or coke. With a total population of 100 million, or 40% of the global population, China had a vast labour force.

This world was not capitalist in any sense that we understand today. Then, merchants, who made and sold things, were among the wealthiest groups in society, and no stock market yet existed. Also, whereas after 1500 power was concentrated in Europe, which was beginning to explore and exploit other regions,

A Cizhou bowl made in China during the Northern Song Dynasty (960–1127), when China was the world's leading manufacturer of ceramics

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It was events five centuries earlier that made the changes of 1500 possible – events too often neglected in Eurocentric narratives

A reconstructed Norse building at L'Anse aux Meadows National Historic Site, Newfoundland, where Viking expeditions made a small encampment around AD 1000

in 1000 there were multiple power centres around the planet. Before the boom in European economic and political power beginning with the era of the Crusades, around 1100, the continent lagged far behind the Islamic world and China in terms of knowledge, influence and commerce. The peoples of different regions were much more balanced in their technology and wealth, so in that sense it was much more like our world today than the world of five centuries later. Of course, human beings are all similar. People then were like us today, and reacted in the same ways: some were frightened by unfamiliar things, while some were curious about new opportunities.

In the late 10th century, Vikings crossed the north Atlantic from Scandinavia, sailing to Iceland, on to Greenland and then to North America – to the island that is now Newfoundland, and possibly to what today is Quebec province in Canada and the state of Maine in the US.

Two types of sources provide information about these voyages. The first takes the form of oral narratives written down in Icelandic in the 13th and 14th centuries – accounts passed down through families from one generation to the next, about ancestors' accomplishments. Many historians are sceptical about the accuracy of those accounts, and some hold them to be entirely fictitious, with no basis in actual historic events. I believe that they contain useful historical information about the north Atlantic voyages, not least because, in 1960, the Icelandic Sagas enabled the Norwegian researchers Anna Stine and Helge Ingstad to locate the places to which the Vikings had sailed.

The second type of source takes the form of archaeological materials. The archaeological site discovered by the Ingstads at L'Anse aux Meadows, on the northern tip of Newfoundland, proves that the Norse crossing of the north Atlantic occurred around the year 1000 – part of a pivotal wave of globalisation.

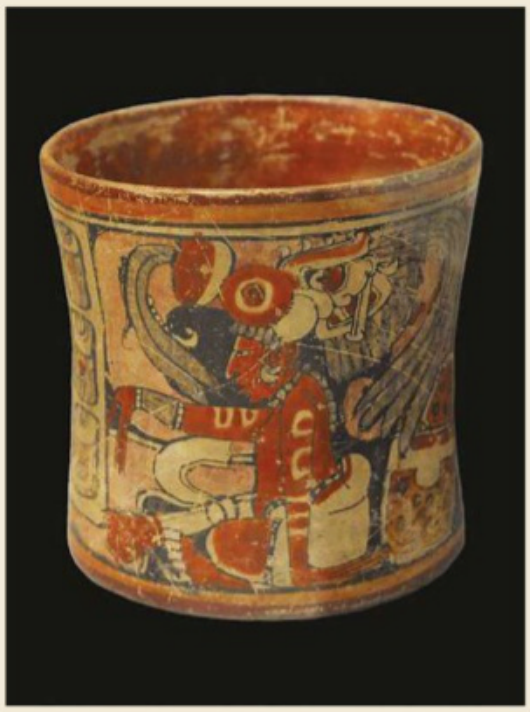
Around the year 1000, then, people were on the move. But why?

When the global population reached 250 million, around the 10th century, the world reached a tipping point that prompted people to leave their home regions and go to new places. Developments in agriculture played a part, fuelling population growth and freeing a portion of the populace from having to work the land. In the agricultural centres of western Europe, in southern China and in the Islamic world, particularly the area around modern Iraq, innovation increased agricultural productivity; the same was probably true in the Maya heartland in what's now Mexico.

ALAMY

Yet there were no technological breakthroughs sparking this age of exploration. The Vikings crossed the Atlantic in sailboats with oars, and there's no evidence that they had the benefit of any navigational instruments: they would have used stars and tides to plot their course, and realised that the presence of birds indicates proximity to land. The same would have been true for the ancestors of the modern inhabitants of Malaysia – the Malayo-Polynesians – who crossed the Pacific, and for Chinese navigators sailing the Indian Ocean (though they began to use magnetic compasses around this time).

Sea travel, though, was only one aspect of the integration of different regions. Overland routes were opening up across Africa and Eurasia, and also in the Americas. We have no written documents from the Maya from the year 1000 – the last Maya inscriptions are from around 900. But archaeological evidence indicates contact around that time between the great Mayan cities on the Yucatán peninsula and peoples of the American south-west, in what's now New Mexico, Utah, Arizona and Colorado. The Maya had figured out how to process cacao beans to produce a rather bitter unsweetened chocolate drink consumed as a stimulant; archaeological evidence suggests that Maya chocolate reached New Mexico, and that turquoise from that region was exported to the Maya heartlands.



A Maya vessel made c600–900 AD, used for drinking a bitter chocolate drink. Archaeological evidence suggests that the Maya traded chocolate as far north as what's now New Mexico

AKG IMAGES

What's clear, then, is that the Europeans of the late 15th and 16th centuries didn't create the great trade networks from scratch, but instead plugged into and connected existing networks. Already in 1000, trade routes spanned North America, some connecting to the Andean region in South America. When Columbus arrived in the Caribbean on his fourth voyage in 1502, his expedition encountered a huge Maya trade canoe, described by his son as being as big as a galley (perhaps 20 metres long), loaded with goods that were circulating between Mexico and the Caribbean islands.

At around the same time, the Portuguese accessed a similar network that was already functioning in west Africa. The 11th-century scholar Al-Bakri, based in Al-Andalus (what's now Andalucía, southern Spain), wrote a detailed account of African trade routes and the conversion of local rulers to Islam. Importantly, he outlined a triangular trade demonstrating the complex networks. European goods such as textiles and beads were traded for gold and slaves in the Mediterranean ports of north Africa, then carried overland to salt mines in the Sahara, where they were traded for salt. Caravans carried the salt south to exchange for gold and slaves, which they transported to the Mediterranean to complete the triangle. So Africa was connected by trade to the Mediterranean, and also to the Islamic world east of Africa.

Along with trade goods, ideologies and faiths were travelling between continents at a time when what we now call the 'world religions' gained traction. Islam, Roman Catholicism and Eastern Orthodoxy, Hinduism and Buddhism variously appealed to the rulers of smaller countries aiming to consolidate power, having dispatched rivals and won key battles. Information about great powers reached these rulers, whose people may have worshipped local deities; they frequently chose to adopt one or other of the large religions in order to ally with a leader of a foreign power.

Hagia Sophia in Constantinople (now Istanbul). In the late 10th century, Prince Vladimir of the Kievan Rus' converted to Eastern Orthodoxy, reputedly in response to descriptions of this great basilica

GETTY IMAGES

Archaeological evidence shows that, in the year 1000, Chinese ceramics were manufactured and shipped overseas in huge quantities

The example of Grand Prince Vladimir, ruler of the Kievan Rus' – a realm spanning much of eastern Europe and stretching into modern Russia – makes the point particularly well. By 987, he was ruling a Slavic people who followed pagan beliefs, worshipping at shrines to local deities. Having come to power through a complicated series of events (including killing a half-brother), he recognised the need to find a glue to hold his people together, and sent fact-finding missions to his neighbours to learn about Roman Catholicism, Eastern Orthodoxy and Islam. Weighing the pros and cons of each, he decided to adopt Eastern Orthodoxy – reportedly in response to his envoys' description of a monumental building, probably the church of Hagia Sophia in Constantinople (now Istanbul), a technological marvel comparable to today's architectural wonders. In fact, Vladimir's decision showed that he recognised the strength of the Byzantine empire, his most powerful neighbour. That kind of pragmatic, rather than spiritual, decision based on a need to consolidate power was the norm, with long-lasting and far-reaching consequences.

One exception, which highlights the rationale behind the decisions taken by other rulers, was that of the Khazars. This central Asian people adopted Judaism in the eighth century; the question of why they chose that faith is much debated, and indeed we're not absolutely sure that they did. We know that some Khazar rulers minted copies of Islamic coins declaring that Allah is the sole God – but reworded the language on the coins to say that Moses, not Muhammad, was his messenger. They probably made this decision to avoid having to choose either Eastern Orthodoxy – the religion of their neighbours to the west, the Byzantine empire – or Islam, thereby avoiding siding with one great power and antagonising the other.

With international trade came competition, of the kind we today associate with globalisation. Archaeological evidence from shipwrecks shows that Chinese ceramics, which were being produced in the thousands in great manufacturing centres, were also being shipped overseas in huge quantities. Two pots excavated in the Iranian town of Shush, the site of ancient Susa, demonstrate the impact of this trade. By examining the colour of the clay and the glaze used, art historians have determined that one of the pieces is a Chinese export, the other a local copy. The locally produced example is nowhere near as advanced as the Chinese piece.

Such Chinese celadon pottery pieces can be almost translucent, ranging in colour from a bright white to blue-green, and were the iPhones of their day: high-tech and

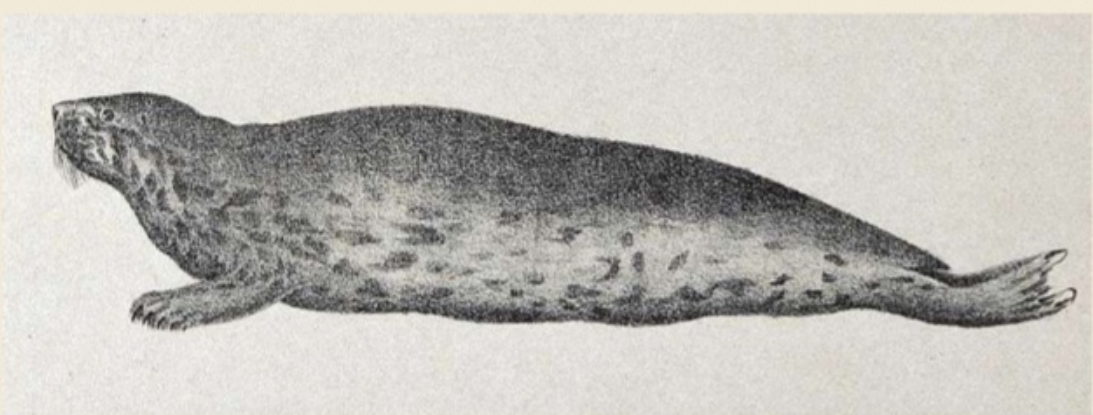
desired by all. Fired at an extremely high temperature, they were very hard, with glaze that melted to glass, and were very easy to clean. Comparison of those two vessels shows that potters in China and the Middle East were competing for market share, and that the Middle Eastern potters didn't have as good a product. Despite efforts to emulate the Chinese techniques, they never figured out how to fire at the high temperatures the Chinese had achieved. As a result, a surprising number of Chinese ceramics have been found as far away as the east African coast. You would expect to find mostly pots from the Middle East, because that region was so much closer to Africa than China – but the presence of Chinese ceramics shows that the Chinese retained significant market share in Africa.

Differences between regions were relatively small, so even minor advances in technology could have a significant impact

As traders carried ceramics huge distances, they also transported slaves. The ongoing demand for slaves in Constantinople (modern Istanbul), Baghdad, Cairo and other cities resulted in the forced movement of more than ten million people from Africa, eastern Europe and central Asia, hundreds of years before the trans-Atlantic slave trade began. Indeed, so many slaves were transported from eastern Europe that the English word 'slave' is derived from Slav.

In the world of 1000, then, differences between regions were relatively small – so even minor advances in technology could have a significant impact, as the Vikings in Greenland discovered. The Norse who settled southern Greenland from the 10th century may not have realised that the Thule people, who had arrived in northern Greenland having slowly moved east from Alaska across what's now northern Canada, were pushing into southern Greenland. The development that enabled this expansion was a technological breakthrough that allowed the Thule to hunt seals year round, and so to outcompete the Norse.

The Thule people's seal-hunting technique was simple: dig a hole in the ice, hold a feather above the water and wait till the feather moves, indicating a seal breathing under the water. At this point, technology came into play: a harpoon with a detachable tip. A speared animal such as a seal could escape at a faster speed than the people hunting it could follow. But by using a detachable harpoon tip tethered to a float, the hunters could follow the wounded animal until it died, then locate and retrieve it. It was a groundbreaking innovation – yet one that the Norse,

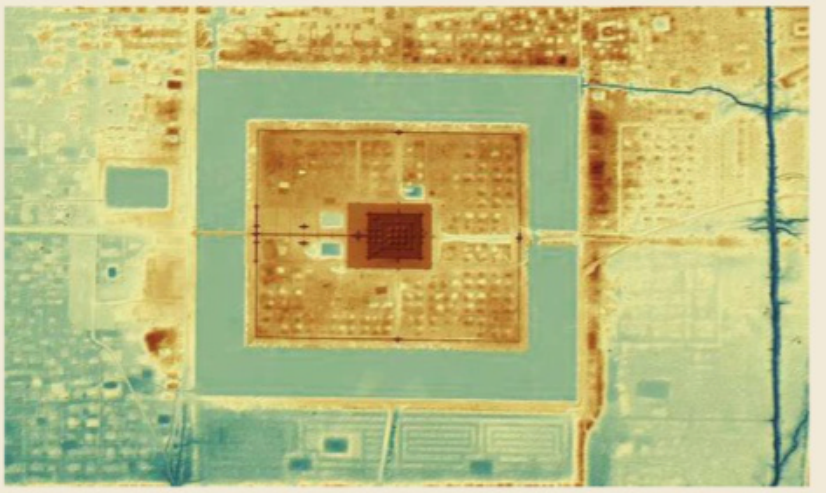


A historic illustration of a seal. The development of the detachable harpoon tip gave Thule people an advantage over the Norse when hunting seals in Greenland

WELLCOME IMAGES

who were competing with the Thule in southern Greenland, didn't adopt. The result was that during the 14th century the Norse colonies failed, and by the early 15th century the Norse had pulled out of Greenland, leaving it to be occupied entirely by the Thule – the ancestors of today's Inuit peoples.

By then, the technological differences among regions, which hadn't been that obvious in 1000, became more pronounced. By 1500, because of the invention of the cannon and the musket, conflicts between the Europeans and other peoples became vastly one-sided, with an impact still felt today.



A Lidar image of Angkor Wat in Cambodia reveals patterns of land use hidden beneath vegetation – one example of how modern technology is transforming the study of history

Technology, too, is reshaping our understanding of history today, not least in improving our knowledge of the world beyond Europe in the past. We know about the export of chocolate from the Maya to Chaco Canyon in modern New Mexico from chemical analysis of residues in ceramics – a kind of analysis that wasn't possible 50 years ago. And we have a sense of the huge scale of Angkor in Cambodia from the use of Lidar technology, an aerial surveying technique using lasers that enables archaeologists to reconstruct settlements and identify buildings on the ground without having to excavate. In this way, we're learning how globalisation has evolved, and realising that the world has been dealing with these kinds of issues for much longer than previously thought.

Today, anti-globalisation movements are active in various parts of the world – but resentment against foreign traders profiting at the expense of local people is not new. In the late ninth century, foreign merchants in Guangzhou, China were targeted, with tens of thousands of Arabs and Persians massacred. In 996, Cairo residents rioted in protest at Italian traders, a phenomenon repeated in Constantinople with the 'massacre of the Latins' (Italians) in 1182.

What lessons can we draw from this novel view of the year 1000? Certainly, the consequences of various actions are instructive. Accounts tell of some Norse explorers who, encountering the local people in today's Canada at that time, killed them without even talking to them. Others tried to communicate, despite not sharing a common language, and attempted to trade. There's no question that those who tried to learn about others and reach some accommodation with them prospered, compared with those who acted defensively or aggressively. True, globalisation didn't benefit everyone who experienced it. But those who remained open to the unfamiliar did much better than those who rejected anything new. That was true in the year 1000 – and it's just as true today.

Valerie Hansen is Stanley Woodward Professor of History at Yale University, where she teaches Chinese and world history. Her latest book is *The Year 1000: When Explorers Connected the World – and Globalization Began* (Viking, 2020)

ALAMY

Melisende of Jerusalem (c1109–61)

POWERFUL CRUSADER QUEEN

In a fractured region and a violent era, one woman secured control of a crusader kingdom. **Natasha Hodgson** introduces the determined heiress of a holy city

In the tumultuous environment of the medieval Middle East, one woman negotiated formidable military and political obstacles to rule the object of so many men's desire: Jerusalem. In maintaining her grip on the throne, she faced challenges from neighbouring Muslim powers, her husband and even her own son. She was a powerful figure in her own right yet, unlike contemporaries such as the Empress Matilda or Eleanor of Aquitaine, few people have heard of Queen Melisende.

Godfrey of Bouillon had been named the first ruler of the Kingdom of Jerusalem in July 1099 after a European army took the holy city (and massacred its citizens) during the First Crusade. Surviving under a year, he was succeeded by his brother, Baldwin of Boulogne; in 1118, another Baldwin (of Bourcq, Count of Edessa) took the throne as Baldwin II.

Melisende was born around 1109, eldest daughter of Baldwin II and Morfia, a Greek Orthodox Armenian. When Baldwin became king of Jerusalem, he moved his wife and four daughters to the holy city. He campaigned exhaustively and was captured twice by Muslim forces; during his second captivity, when Melisende was in her teens, Morfia headed negotiations for his release.

After her mother died, probably in October 1126, Melisende was designated the royal heir, destined for a strategic marriage. An embassy was sent to invite the rich and powerful noble Fulk V, Count of Anjou and Maine, to become her husband, and they married in 1129. At first the marriage seemed harmonious, producing an heir. But at Baldwin's death in 1131 he made an unusual stipulation: that Fulk, Melisende and their son (also Baldwin) were to jointly inherit the throne. Had Melisende's father been worried that she might be pushed aside by Fulk, thus bypassing the family line?

The early years of Fulk's reign indicate that this may have been a sensible concern. Charter evidence shows that Melisende was excluded from important decisions in the kingdom, and the contemporary English chronicler Orderic Vitalis recorded how Fulk aggravated the local nobility by appointing "Angevin strangers" to positions of authority. Matters came to a head when one of Melisende's close supporters, Hugh of Jaffa, rebelled against the king. There were accusations of an affair with the queen, and one of Fulk's knights tried to assassinate Hugh. Though Fulk denied involvement, Melisende was furious about the attack and – according to the chronicles of William of Tyre – Fulk feared for his life, believing himself threatened by partisans of the queen.

Cowed by Melisende's rage, Fulk seems to have had a change of heart. He incorporated the queen into his rule, consulting her on the business of the realm and issuing charters jointly. During this period, the famous Melisende Psalter, a richly decorated personal prayer book fit for a queen, was commissioned – possibly by Melisende herself, or by Fulk as a gift. The artwork on the psalter contains elements of eastern and western styles, giving a flavour of the multicultural nature of life in Jerusalem at this time. The royal couple also embarked on a substantial building programme across the kingdom, including major works on the Church of the Holy Sepulchre, at the traditionally accepted site of Christ's crucifixion and burial.

In 1143, Fulk was killed in a hunting accident and Melisende inherited jointly with her son Baldwin III, then aged 13. She ruled the kingdom skilfully, according to William of Tyre, but by the early 1150s her son was chafing at the bit, egged on by his faction at court. He wanted sole authority, yet his grandfather's legacy meant that Melisende had a shared right to the throne. He challenged his mother in public and then, at a meeting of the high court in 1152, demanded that they divide the kingdom between them. Fighting erupted, and Baldwin bombarded his mother in the citadel at Jerusalem. After peace was negotiated and Melisende agreed to cede full power to Baldwin, he soon reconciled with his mother and sought her advice. She performed occasional roles in government until her death in 1161.

Melisende's queenship represented the apogee of royal power in 12th-century Jerusalem. She negotiated with the Muslim ruler of Damascus and defended 'second generation' Latin settlers against new arrivals from the west; her dual heritage led her to support Orthodox monasteries and Syriac Christians, too. The psalter attributed to her provides tantalising evidence of a woman in power in a multicultural society.

Natasha Hodgson is senior lecturer in history at Nottingham Trent University

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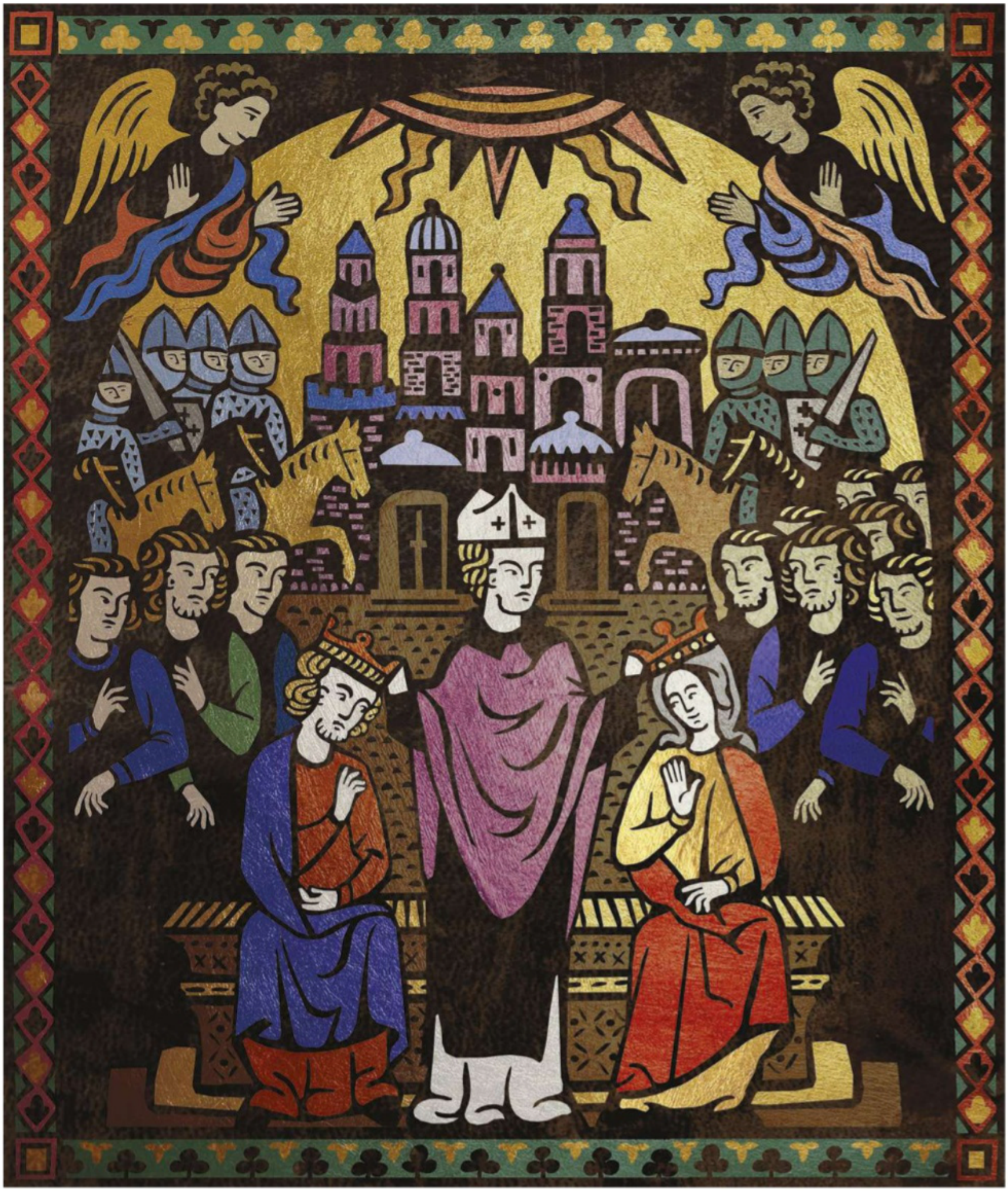
Hear Natasha Hodgson discuss Melisende on **In Our Time** at: *bbc.co.uk/sounds/play/m000bg2y*



Born to rule

Daughter of a crusading count, Melisende was destined to rule the kingdom of Jerusalem. Facing down the efforts of her own husband, Fulk, to exclude her from the throne, she oversaw an era of building, improved diplomacy and cultural development, and represented the zenith of royal power in the Holy City

ILLUSTRATION BY **LYNN HATZIUS**

Cloud judgement
A mushroom cloud created by a hydrogen bomb blast rises over the Pacific after a British test near Christmas Island (now Kiritimati) in November 1957

GETTY IMAGES

British nuclear tests conducted in the 1950s exposed many thousands of servicemen to high levels of radiation. **Gordon Murray** explores the poisonous legacy of the euphemistically named High Explosive Research programme

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"We were ordered to kill the birds which had been injured by the explosion. Some were still flying around, but they were blind, as their eyes had been burned out. We used pickaxe handles to kill the birds. I did not like doing this, but we had no choice because of the terrible condition they were in."

On 7 November 2019, during routine Scottish parliamentary proceedings, Member of the Scottish Parliament George Adam read out this piece of shocking testimony from a long-time friend, Ken McGinley. It is just one of many horrific anecdotes to emerge from Britain's secret nuclear history, many of which are being told by the British Nuclear Test Veterans Association, representing men sent to build explosive devices and to carry out and witness Britain's nuclear bomb tests.

"We are talking about a state that took young men in national service from one side of the world to the other and dropped a nuclear bomb on them to see how that worked out, how it affected them and how they could function on a nuclear battlefield, of all things," Adam commented in his introductory remarks in the Scottish parliament at Holyrood. "That →

seems to be complete madness to us. It feels barbaric in the 21st century, and it seems almost unbalanced for a state to do that. Who in the 1950s honestly thought that it was a good idea to drop a bomb on people? It is not as if the horrors of Hiroshima had not been seen, or what could happen was not known. However, those young servicemen were used as guinea pigs by an uncaring and distant government."

Those men's story has never been fully told, yet the repercussions of those events are still being felt today, passed on between generations. Between 1952 and 1958, the British government tested nuclear bombs at various sites in Australia and the south Pacific islands. Many thousands of servicemen were involved, serving a variety of functions in building and maintaining the sites. However, many of these men feel that their main function was to witness and be exposed to the blasts, and to live among the fallout – to be part of an experiment on a huge scale in which they (and, later, their descendants) were to be subjects.

The story of the nuclear tests and their aftermath is a narrative of terrifying apocalyptic traumas, sudden deaths, slow declines, cancers, musculoskeletal disintegration, dreadful birth defects, paranoia, conspiracy theories and chronic pain, all undercut with a strange, intangible relationship with change that may or may not be taking place in the body at the chromosomal level.

From 1945, a war-weary and impoverished United Kingdom sought to reposition itself in the global order. This was partly a response to a new perception of potential future military threats, but more importantly an effort to maintain its status as a great power and a major player on the (pre-Nato) world stage. In many ways, the destructive power of nuclear weapons was less important than their metaphorical power, underlining the scientific, technological and organisational capabilities of the nations that possessed them.

The desire of the British government to develop nuclear weapons in the early years of the Cold War intensified as it became increasingly evident that, despite initial collaboration, the United States was unwilling to share military intelligence or scientific knowledge born out of the Manhattan Project and the bombing of Hiroshima and Nagasaki. By 1949, too, the Soviet Union had developed a nuclear capability. So High Explosive Research – the British project to develop atomic bombs – became a priority for three consecutive prime ministers: Clement Attlee, Winston Churchill and Anthony Eden.

In 1950, Attlee approached his Australian counterpart Robert Menzies to request permission to use the Montebello Islands, off the north-west coast of Australia, for nuclear tests. Menzies willingly acceded, and later also agreed to the use of sites in South Australia for testing. UK tests were later conducted in the mid-Pacific, on Kiritimati (formerly Christmas Island, then part of the British Gilbert and Ellice Islands Colony) and Malden Island. The first test in Montebello in

THE STORY OF THE NUCLEAR TESTS IS A NARRATIVE OF APOCALYPTIC TRAUMAS, CANCERS, BIRTH DEFECTS, PARANOIA, CONSPIRACY THEORIES AND CHRONIC PAIN

1952 yielded the equivalent of 25 kilotons of TNT; less than six years later, during the Christmas Island tests, bombs were detonating at over 3 megatons of TNT.

Over six years, a series of bombs developed by British scientists were tested in these various locations in Australia and the Pacific islands. They were suspended by balloons, stored on ships, dropped by aeroplanes and detonated over sea and land. The tests involved more than 22,000 British military personnel as well as men from Australia, New Zealand and the Fijian Islands (then a British colony). The success of the British High Explosive Research programme and later research is open to debate; although it played a huge part in the game of scientific catch-up with the United States and the Soviet Union, the detonated yields of British weapons did not match those of the other players. When, in 1958, the 'special relationship' between the UK and US was resumed, including sharing of information on weapons technology, it was perhaps a result of heightened American fears of Soviet space-race domination following the launch of Sputnik 1 the previous year, rather than recognition of Britain's burgeoning arsenal of high explosive weaponry.

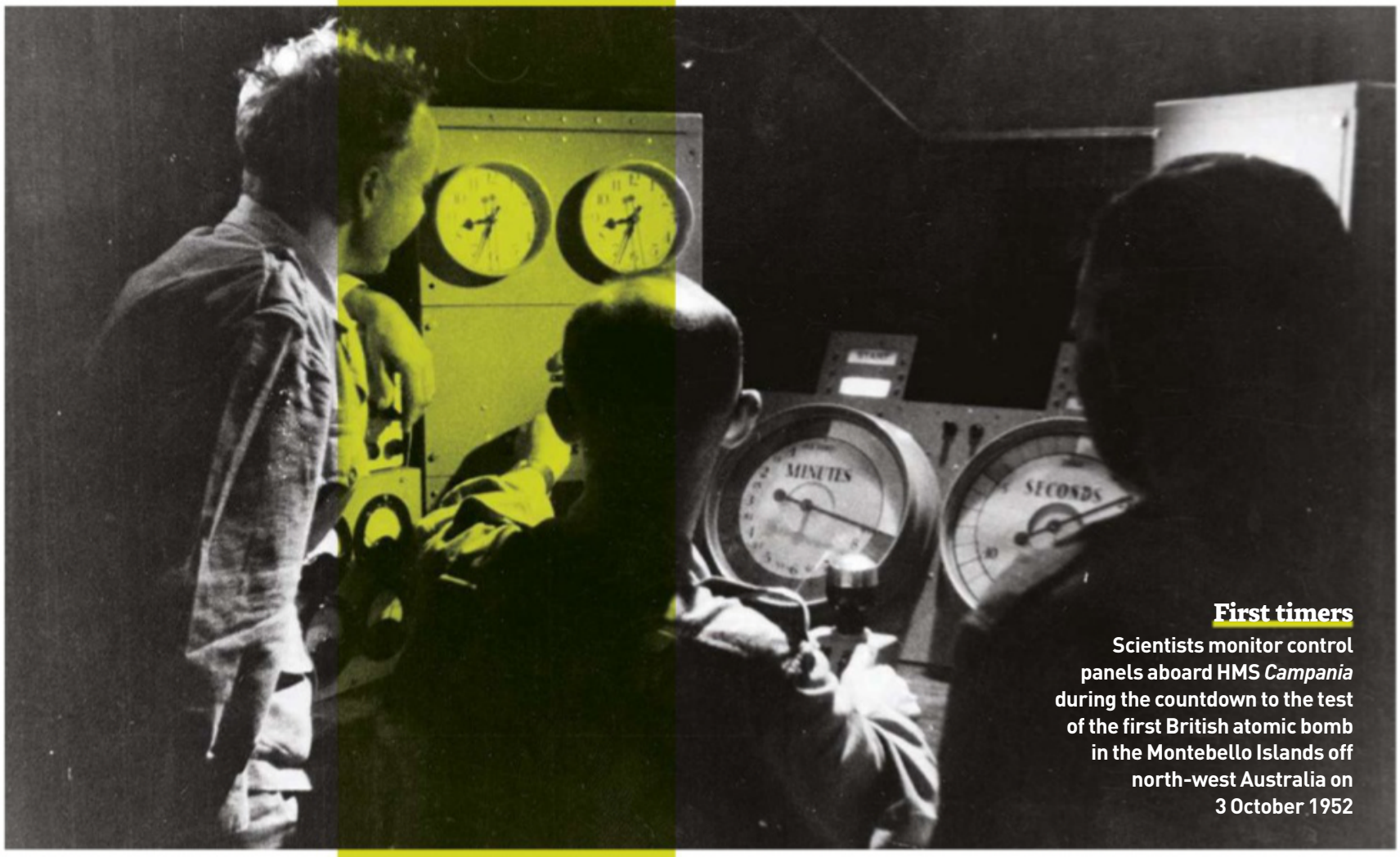
All journeys yield a story. Those of the British nuclear veterans include many individual anecdotes that begin by travelling across the world on a secret mission to what they expected would be a tropical paradise. There are stories of high jinks, strange sights and the foundation of lifetime friendships as roads were laid, runway strips built, towers erected. But there are also darker accounts tales.

Doug Hern, a veteran of the Grapple Tests at Christmas Island, was interviewed for the BBC Four Arena documentary *A British Guide to the End of the World*. He described how, after each blast, "we saw what looked like Catherine wheels spiralling… and it turned out they were actually birds on fire."

Veterans recounted being told to swim down to the seabed, wearing just trunks, to collect radioactive fragments; at the surface, they handed those pieces to scientists wearing lead-lined

Witness protection

A participant in nuclear tests at Maralinga, South Australia, wears protective clothing and carries a camera in a plastic bag. Many men involved in the tests felt that they were being used as guinea pigs to study the after-effects of the blasts



First timers

Scientists monitor control panels aboard HMS *Campania* during the countdown to the test of the first British atomic bomb in the Montebello Islands off north-west Australia on 3 October 1952

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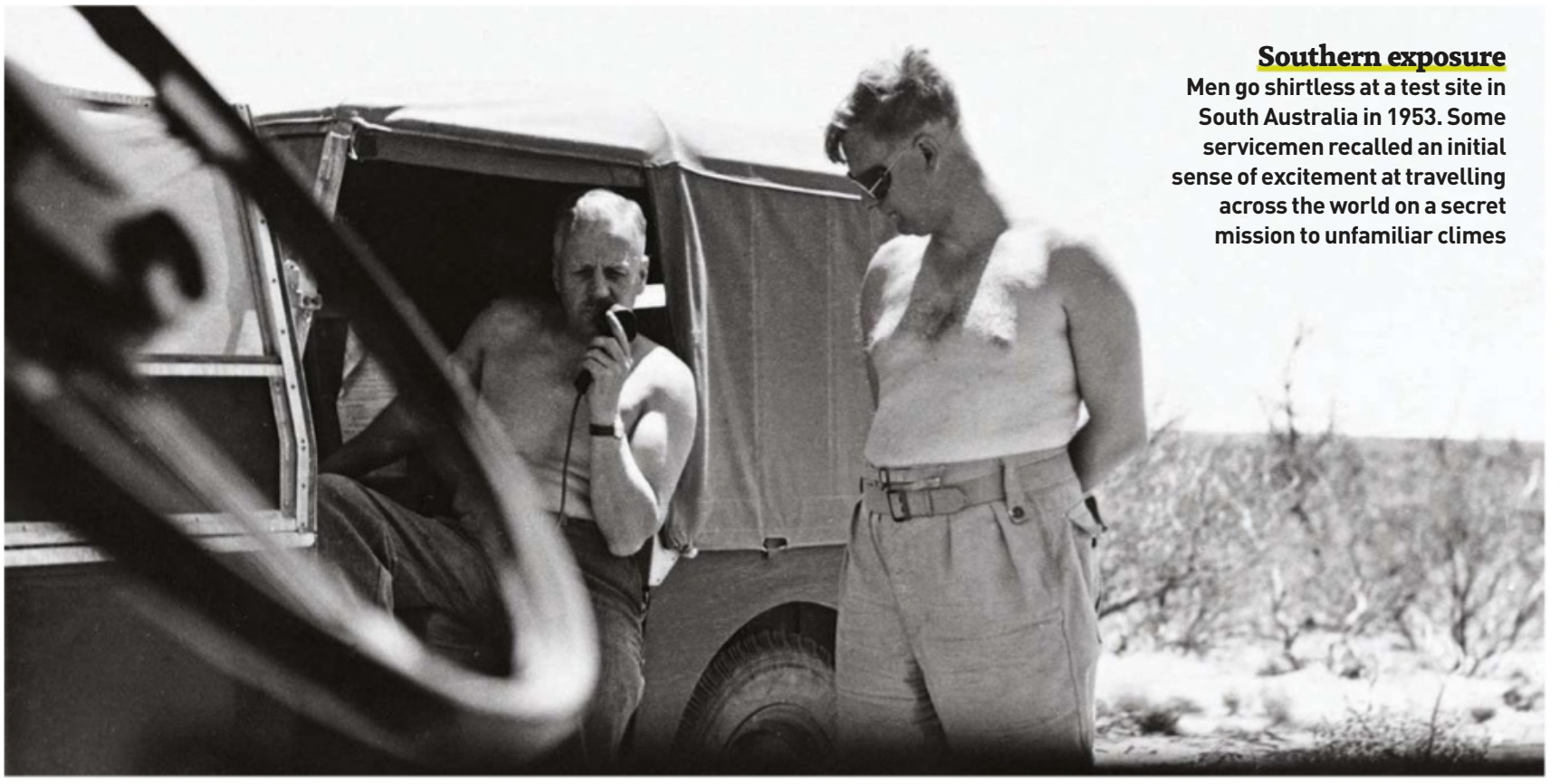


Southern exposure
Men go shirtless at a test site in South Australia in 1953. Some servicemen recalled an initial sense of excitement at travelling across the world on a secret mission to unfamiliar climes

suits and masks, who took the debris with long pincers before placing it in lead boxes. During research for the new BBC Radio 4 programme *Archive on 4: After The Fallout*, I came across numerous accounts of people washing radioactive dust from land vehicles or planes that had flown through mushroom clouds. John Walden, who served at Maralinga in South Australia, described this: "…in their khaki shorts, bare-chested, they've got big, thick khaki socks on, and boots. And what they do is they first of all swab the aircraft down of dust but then climb on the wing that is hot through radioactivity and, as their bum is sliding along, so they're scrubbing off […] So there is every opportunity both from their hands and from their breath to ingest, and from their knees gripping and their bum as it slides along the wing, to become radioactive themselves […] Here were chaps who were made radioactive cleaning radioactive aeroplanes."

There is, however, one aspect of most veterans' stories that tallies: the experience of the moment of a bomb blast. During all of the tests, whether on sea or on land, the veterans were told to face away from the site of detonation and press their hands into their eyes. As the countdown ended and the bomb exploded, each man felt an incredible and indescribable sensation of heat passing slowly through their body, and each saw their own bones as though in an X-ray. Hern described how: "The flash seems to come through the back of your head, you could see the bones in your fingers, through your closed eyes – bearing in mind the light was not in front of you, it was behind you… and the heat was already coming through your body. It was that hot, I felt that it wouldn't take that much more for me to combust."

Shortly afterwards came the shockwave, then the fierce wind blasting debris across the surface of the land, then the black, filthy rain. But the abiding memory was of each man seeing his own bones through his flesh, like a flash photograph of the horror polarised and burnt onto the retina.

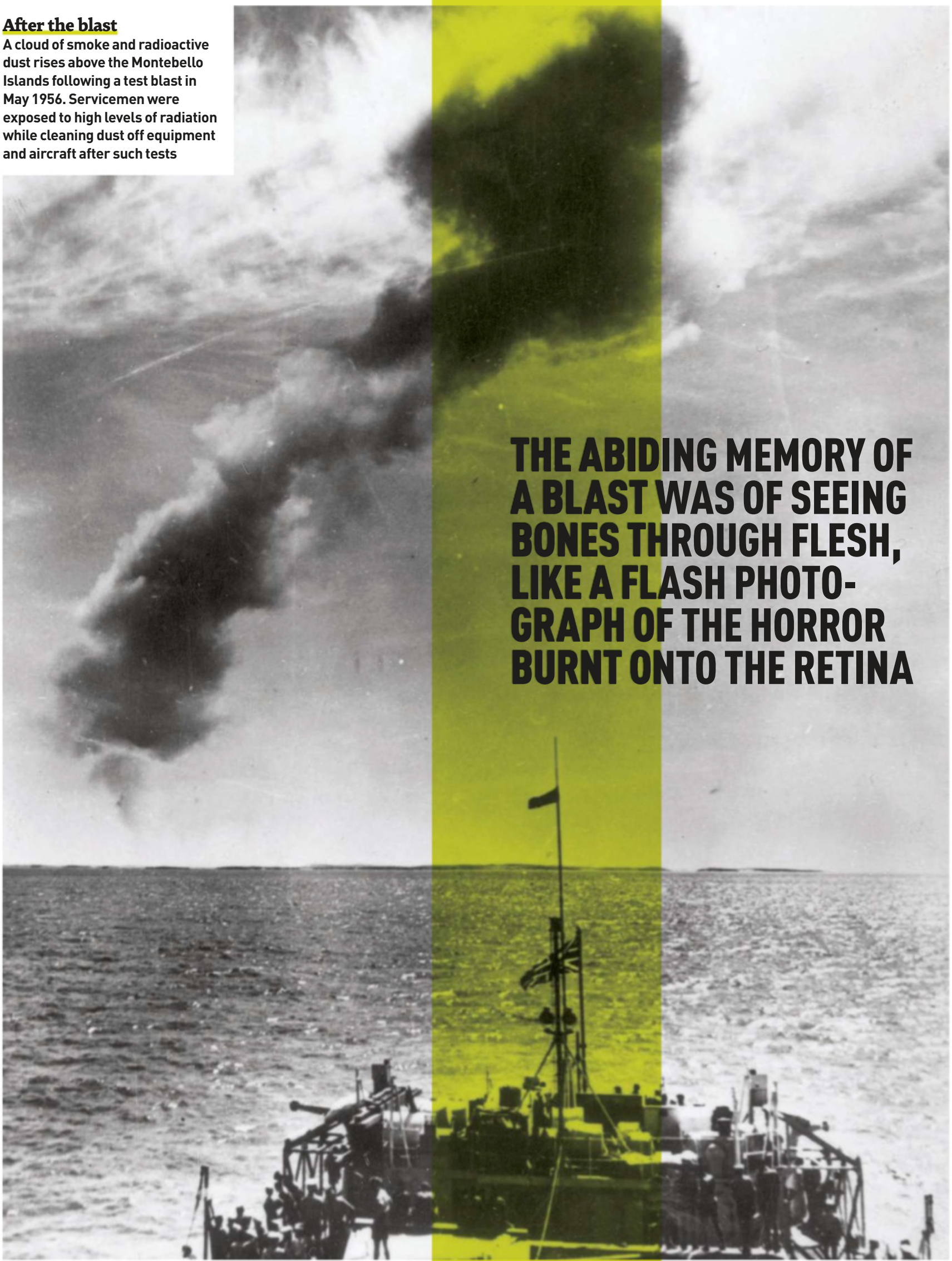
It is hard to pinpoint the moment when veterans began to understand that the effects would be long-term. Pilots vomited after flying through the mushroom cloud. Soldiers noticed burns on their bodies after the blast. Men became ill after eating the same fish that boffins sent away for analysis. All could be easily diagnosed as short-term effects, to be remedied and forgotten once back at home. Even there, when young men – reunited with their families, perhaps back on civvy street – became ill, developing lymphomas or other cancers, or even died at a young age, it would be seen as unfortunate, even tragic. But they had no reason to suspect that the same issues might be affecting a large number of the thousands of other men who had worked on the experiments.

For many, alarm bells started ringing when these young men started families. The proportion of children with physical ailments born to nuclear veterans has never been conclusively quantified, but some agencies suggest that one in every four was affected by birth defects or serious health conditions. Certainly, by the early 1980s large numbers of men recognised the physical repercussions of the tests on which they'd worked in Australia and the Pacific, and that they needed to come together to speak

A decorative pennant commemorating British tests, codenamed 'Grapple', of thermonuclear bombs over Christmas Island (now Kiritimati) in the central Pacific

BRIDGEMAN/ NAA: AD457,P302-516

After the blast
A cloud of smoke and radioactive dust rises above the Montebello Islands following a test blast in May 1956. Servicemen were exposed to high levels of radiation while cleaning dust off equipment and aircraft after such tests



THE ABIDING MEMORY OF A BLAST WAS OF SEEING BONES THROUGH FLESH, LIKE A FLASH PHOTOGRAPH OF THE HORROR BURNT ONTO THE RETINA

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Measuring the impact
Servicemen test radiation levels on Christmas Island after a bomb test in 1957. The following year, the 'special relationship' between the UK and United States resumed, and British tests in Australia and the Pacific ceased

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NUCLEAR VETERANS LIVE IN AN UNCANNY HINTERLAND – IN A BODY AND A WORLD THAT SEEM BOTH STRANGE AND FAMILIAR

out. Around 1984, the British Nuclear Test Veterans Association (BNTVA) was formed and the campaign for understanding, recognition and compensation began.

The journey towards understanding, recognition and compensation for the veterans has been staggered and laboured. The BNTVA campaigned for a compensation payment of £25 million, to respond to the health and well-being needs of its members, but the British Ministry of Defence (MOD) has refused to accept a causal link between exposure to radiation during the tests and subsequent ill health of the men involved or their descendants. After a series of judgments, appeals and counter-appeals, in 2012 the UK Supreme Court finally ruled for the MOD and against the BNTVA. The fight continued, though, and in 2014, then prime minister David Cameron formally recognised the contribution made by the nuclear veterans. The following year, chancellor George Osborne announced in his March budget that an Aged Veterans Fund would be established, to which the nuclear veterans would have access. The nuclear community is split over whether this was an acceptable outcome, providing reasonable compensation in the face of such intergenerational suffering; the BNTVA continues to fight for further recognition and compensation. One result, though, was the establishment of the Nuclear Community Charity Fund backing research into the intergenerational effects of exposure,

Making the case for compensation
Members of the British Nuclear Test Veterans Association stand outside the High Court in London in January 2009, during the organisation's campaign to secure compensation from the British government

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with work largely undertaken at Brunel University, as well as helping provide support for those affected.

British nuclear veterans represent just one of many groups impacted. Serving personnel from other nations who worked on nuclear bomb tests, including the US and New Zealand, launched similar (but often more successful) campaigns for compensation. Those most deeply affected, of course, have been Australia's Indigenous communities who lived near test sites. Some of their experiences were investigated by the Australian Royal Commission into the tests in 1984–85, but otherwise have been little heard or recognised.

In 2006, American anthropologist Joseph Masco, borrowing from Freud, coined the term 'nuclear uncanny' to describe the local and national psyche following nuclear bomb testing in New Mexico. In Freud's definition, the 'uncanny' comes from an intangible sense that something is both strange and familiar at the same time. Nuclear veterans and their descendants inhabit bodies in which changes may have taken place at the chromosomal level; they live in an uncanny hinterland, in a body and a world that seem both strange and familiar. Modern parlance commonly refers to anxiety, angst or worry, but the 'nuclear uncanny' is more particular: it is a constant feeling that something is not quite right. For most, the science that may shine a light on the reality of this chromosomal transformation is inaccessible, so the feeling that 'things just aren't quite right' becomes an embodied state of being.

The veterans involved in these tests were among a very small, unique group to have witnessed the detonation of a nuclear bomb, and there is much to learn from them. More than 60 years after the last British test in the Pacific, the number of surviving veterans is diminishing, and their stories are fading from the public eye. Journalists, academics and, more recently, artists and dramatists have worked to keep the nuclear tests, and the men who served on them, in the collective consciousness. Indeed, it was as a theatre-maker that I first began to collaborate with the BNTVA in finding ways to tell their story.

As the global nuclear stakes shift and turn towards a new immediacy, we must reflect on our own peacetime nuclear history and the community formed through the legacy of those distant tests – the men, and their descendants, who must live with the 'nuclear uncanny'. We must ensure that their story continues to be told, offering them one thing they never asked for: exposure.

Gordon Murray is senior lecturer in drama at the University of Winchester

DISCOVER MORE

Listen to the BBC Radio 4 programme **Archive on 4: After the Fallout,** featuring witness accounts and dramatic sections written by Gordon Murray, at: *bbc.co.uk/programmes/m000gdtx*

The Conver-sation

"West African societies weren't cut off from global developments – they were influenced by them and were influencing them"

Toby Green talks to **Matt Elton** about his book, *A Fistful of Shells*, exploring the impact of trade between Europe and west Africa on the African continent's modern history

PETE DADDS–PENGUIN BOOKS

Toby Green, author of *A Fistful of Shells*, an award-winning history of west Africa. "A lot of the problems experienced in western states are very comparable to contemporary problems in African states," he argues

"Slavery is a fundamental part of how African history evolved, but it needs to be put into its proper context"

Matt Elton: What myths commonly held in the west about the African continent and its people do we need to dismantle?

Toby Green: One of the myths that has arisen in the past couple of centuries is that Africa is somehow disconnected from history and played no part in the global historical process. It's a curious myth, because we know that Africa was connected to parts of Asia at least 1,000 years ago. From AD 1200 onward, annual caravans of pilgrims from Africa travelled to Mecca, and west Africa was well known in Europe before the Portuguese began to sail down the Atlantic coast in the 15th century. Yet the idea that Africa was somehow cut away from global processes is an enduring one.

I think another factor influencing attitudes to Africa in the west is the history of slavery. Now, slavery is, of course, a fundamental aspect of the African past – as it is of many histories in the world. But the comparison I would draw is that if we were writing a history of Germany and focused only on the Nazis, without looking at some of the beautiful works of music and philosophy that Germany produced, we'd be missing out something quite important. Similarly, if we were to write a history of Africa and focus just on slavery, ignoring aspects of family life, daily life, music and art – which is what a lot of the history taught about Africa has done – we'd be missing out a huge amount.

In my book *A Fistful of Shells*, I ask the question: "What were people thinking about on the Gold Coast [now Ghana] in the 17th century?" And, of course, they weren't thinking just about slavery – they were thinking about what they were going to eat that night, what fashions were in, how their neighbours were doing their hair, and so on. Of course, slavery is a fundamental part of how African history evolved, but it needs to be put in its proper context, and that's one of the things that the book also tries to do.

How helpful or unhelpful is it for us to consider Africa as a single unit in this respect?

Of course, Africa is not a country, as the line goes. On the other hand, there are commonalities within and across Africa. One of the difficult things in writing about the African past is that there are so many ideas that exist about that past. The racialised idea of Africa as a sort of homogenous area, which emerged through the history of slavery, clearly has to be dispelled: east Africa has a very different cultural hinterland from west Africa, for instance. My book is about west Africa; if it were about east Africa, it might instead look at Indian Ocean connections to Indonesia, China or India, which just don't apply to west Africa.

So, on one level, there are clear differences that have to be taken into account. On the other hand, one of the key ways in which I look at the west African past in this book is through the history of money and economic inequality. That's something that *does* bind together aspects of the African historical experience, particularly since the 18th century.

One of the things that people in all parts of Africa have in common today is a relationship with the global north, for instance, and those kinds of aspects do create a shared community. So looking at Africa homogenously without understanding differences within it is a big problem – but, in the same way that historians write histories of Europe or America, it's problematic to say that you can't look at commonalities across a large historical region.

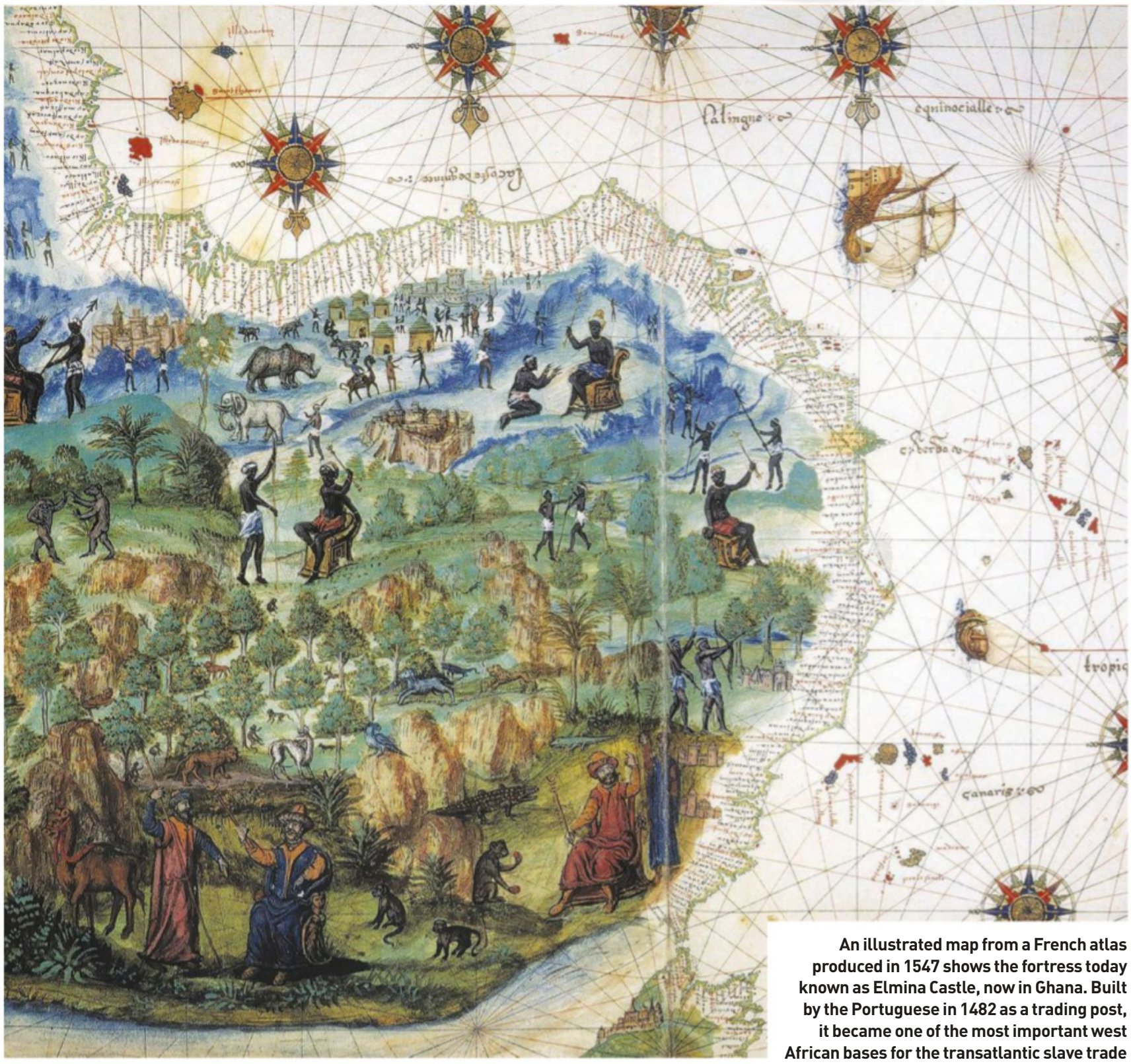
Mansa Musa, the hugely wealthy 14th-century emperor of Mali, depicted in the Catalan Atlas (1375)

ALAMY

How global was west Africa before the arrival of Europeans?

That's a very important question, and the answer is that it was reaching to quite distant parts of the world. Mansa Musa, emperor of Mali in the 14th century, had slaves at court who came from what became the Ottoman empire. There were migrants coming from Spain and setting in Timbuktu in the same

Bronze gold-weights created in the Ashanti region of what's now Ghana in the 17th or 18th century. Long-distance trade involving gold pre-dated the arrival of Europeans in west Africa



An illustrated map from a French atlas produced in 1547 shows the fortress today known as Elmina Castle, now in Ghana. Built by the Portuguese in 1482 as a trading post, it became one of the most important west African bases for the transatlantic slave trade

ALAMY

"African history is an important subject: it forces us to examine what history is, how we think about it, and how it's developed"

period. There were also deeper connections through the Middle East: traders came from what's now Iraq and Iran to trade in some of the oases in the Sahara in today's Niger and northern Nigeria.

In that sense, it's quite important to break down what we think of as 'west Africa'. Parts of the region – for example, areas of northern Nigeria and the Sahara – were quite globally connected and had quite a broad experience of the Islamic world, while other parts weren't. This is one of the cases in which it's good to be specific about where we're talking about.

What kind of commodities were being traded in this period?
Gold was an important trading item. Gold from the Mali empire was, essentially, the financial basis of the north African and Mediterranean part of the Islamic world known by Muslims as the Dar al-Islam. Some coins in Spain, for instance, were minted with gold from west Africa. Other key commodities included horses, dyes, wax – a lot of the wax used to produce candles in churches at that time came from west Africa – and enslaved people: there was an important trans-Saharan slave trade from before the 11th century.

You write that "it's hard not to be brought up short by the almost total failure of mainstream historians to take African kingdoms and their history seriously". Why do you think that is?
History emerged as an academic subject in the 18th century as a form of nation-building, an exercise in nationalism. It was an attempt to create a kind of national myth to replace the religious myths that, after the Enlightenment, people no longer believed in so much. And that national process, in Britain and most of Europe, went with the rise of colonialism, and a certain perception of other parts of the world. The idea of thriving, dynamic parts of the world with their own independent histories of global interactions and so on didn't fit in with that perception.

That element of the past still doesn't cohere with the way in which history as a subject has evolved over the past 200 years. It's a tough nut to crack. But one very interesting thing about the African past is the way in which the rise of the civil rights movement in the United States has fundamentally changed the way in which it's addressed. The evolution of African history as a discipline, and of Black Studies as an academic subject, in the US in the 1960s coincided with that era of civil rights action, and then percolated through to the rest of the English-speaking academy. But history itself, as a subject, is still quite impervious to that change. There are, of course, very good historians of Africa in many countries in the west, but they're often still slightly sidelined from the mainstream. This is one of the reasons that African history is an important subject for young people to learn, because it really forces us to examine what history is, how we think about it, and how it's developed.

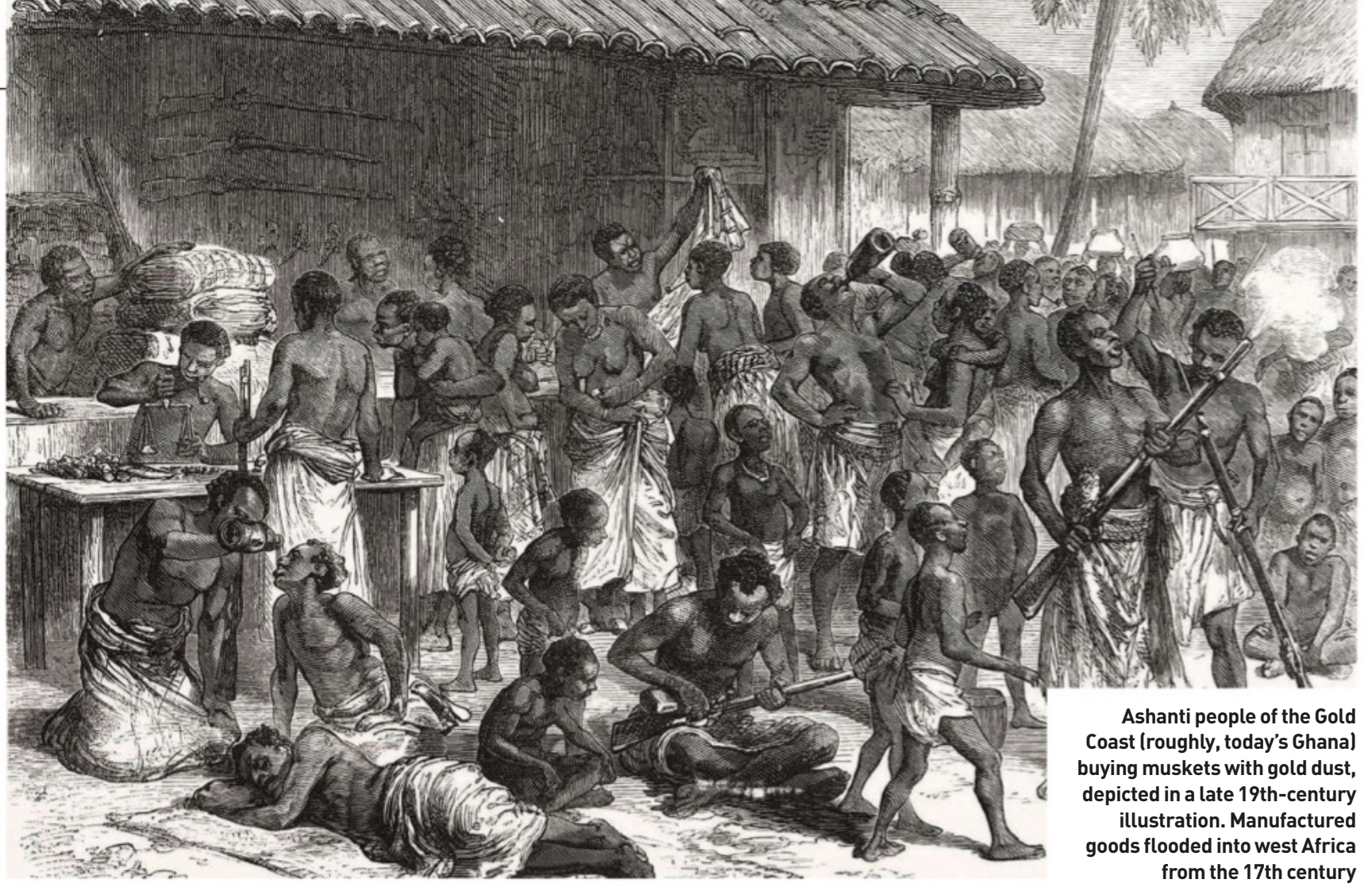
Returning to the arrival of Europeans in west Africa, how did that change the lives of people in the region?
The first thing to say is that it was a slow process. One of the easy traps to fall into, when you're dealing with quite long historical periods, is to collapse time. You can say, for instance, that the Portuguese arrived on the Senegal river in 1444, and by 1497 they were in Mozambique. But that took 50 years, which is a long time.

Initially, the Portuguese who travelled to west Africa mostly dropped dead fairly quickly. There's one wonderful source that quotes the king of the Gold Coast as saying: "there haven't been very many Portuguese arriving so far, but most of those that have are absolutely disgusting and smell".

I think what changed was the commercial orientation of west Africa. The region's traditional commercial axes were across the Sahara, but suddenly it had commercial access to the Atlantic coast. That created

A 16th-century bronze depicting a Portuguese warrior, created in the Benin empire in what's now Nigeria

BRIDGEMAN



Ashanti people of the Gold Coast (roughly, today's Ghana) buying muskets with gold dust, depicted in a late 19th-century illustration. Manufactured goods flooded into west Africa from the 17th century

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the opportunity for some areas to negotiate between different trading routes, and for peoples on the coast who had previously been marginalised from mainstream economic life to become more powerful and important. Subtly, over a long period of time, all of this created a vital shift from the Sahara towards the coast. Whereas in the 16th century most of Africa's economic life was in the interior, by the 20th century most of the capital cities were on the west African coast.

Another fundamental change took place in daily material life. There were substantial imports of all kinds of textiles from Europe and India, as well as manufactured items such as copper pans and mirrors. There was just lots more *stuff*. To go back to my point about what people were thinking about in the 17th century, they were probably interested in all of the new material objects and fashions that were arriving.

Also, of course, the increase in trade produced more active markets, more wealth and more wealthy traders. As some of these traders became richer and more powerful, more inequality developed, which created broader social and political changes over time. Again, all of this was a very slow process: for the first 150 years or so, it didn't seem as if there was much change. But then, as the importation of these products became more intensive, and as the volume of trade increased, the changes became more and more significant.

You mentioned that slavery existed before the transatlantic slave trade. How did European demand affect that situation?

For the first 100 or 150 years, from the 1440s to the 1580s or thereabouts, the transatlantic slave trade would still have been less strong in terms of numbers compared with the trans-Saharan slave trade. What was different was the role of slaves once they reached their destination. A lot of the captives involved in the trans-Saharan trade were women and children, whereas a larger number of the captives shipped across the Atlantic were young men. That was because of the needs of economic production in the New World, in mines and in plantations. So there's a very important gendered aspect to this issue: two-thirds of the captives who crossed the Atlantic were male, which changed the demographics in the New World but also in west Africa. Research by the historian John Thornton showed that, for example, gender ratios on the Angolan coast became much more skewed because of the transatlantic slave trade's gendered demands.

One of the main themes in your book is economic inequality, particularly in the exchange of economic value. Can you explore that concept a little more?

The pattern started when Europeans started arriving with currencies that were already in use in west Africa. Today, we might not think of what they were bringing as 'money', but I make a comparison to bitcoin: if I give you a bitcoin, and you're prepared to accept it, then that's a financial transaction. Important currencies in use in west Africa at that time included shells – often cowries – copper, iron and cloth. If you look at the items traded by Europeans over the first two centuries of the transatlantic slave trade, almost all of them were objects of one kind or another that were used as currencies. Importantly, these currencies weren't used only in Africa:

The shells of cowries – a kind of sea snail – used as currency in west Africa when European traders first arrived from the 15th century. Cowries were also used as money in China

cowries were used in China at that time, copper was used as a coin in Portugal, and so on. These were global currencies.

Classical economic theory posits that if you import a lot of money but don't import manufactured goods that can be bought with that money, it tends to lead to inflation. So these currencies lost value. In the same period, Africa's major exports were gold (from the Gold Coast) and captives, whose labour was used to produce economic value in the New World. So there was an imbalance in terms of accumulated value, in terms of what Africa was importing, in terms of their currencies – which were depreciating economically over time – and in terms of what they were exporting, which was accumulating value outside Africa.

By the 18th century, things were beginning to change. There was a big gold strike in Brazil, which meant that the gold exports from west Africa were no longer so significant. And, at the same time, more manufactured goods began to be imported into west Africa, rather than just currencies. So inflation wasn't so significant in the 18th century – but by that time the cumulative impact of two centuries of inflationary pressures meant that exports weren't as competitive. The net effect was that Africa received a high volume of imported manufactured goods from Europe and India, while the manufacturing base in west Africa was declining. This had a major impact in the cumulative economic inequality between Africa and the west over the next three centuries.

Are there examples that illuminate these economic processes?

The best example is probably the Kingdom of Kongo. It was one of the most important kingdoms in west and west-central Africa in the 15th and 16th centuries and, through its links with the Portuguese, one of the first to have a sustained diplomatic and economic relationship with Europe. Its major currency was a shell known as the *nzimbu* that, traditionally, had been fished on the island (actually a sandspit) of Luanda – now capital of Angola, but at the time controlled by Kongo. When the Portuguese captured Luanda in 1575, it was essentially as if someone had captured the national bank. They took control of the currency supply – and, not only that, they started importing huge numbers of *nzimbu* shells from Brazil. This created a huge inflation of *nzimbu* in Kongo, alongside an increase in the transatlantic slave trade in the kingdom. The Trans-Atlantic Slave Trade Database (*slavevoyages.org*) shows that around 45% of all captives involved in that trade came from the Kongo region, so this is a very clear case study of the relationship between economic value on the one hand and the transatlantic slave trade on the other.

Your book explores the fact that we know a lot about how the slave trade affected America and the west, but not so much about how it affected west Africa, and Africa more generally. How did it destabilise that region?

Whatever structures were in place when the transatlantic slave trade really began to intensify were disrupted. Some small kingdoms became more powerful, some large kingdoms collapsed, and new patterns – of import, of economies, of societies – were created. The cumulative inequalities – not only between Africa and the wider world, but also within Africa itself – led to a series of revolutions from the early 18th to mid-19th century that overthrew some of the powerful, entrenched aristocracies that had emerged.

How did this revolutionary period lead to increasingly authoritarian regimes?

In my book, I compare the process of state-building in west Africa to the processes that were happening in other parts of the western hemisphere in the same period. In Africa, you had the rise of what historians of Europe call the 'fiscal military state': a clear relationship between a growing army and the need to provide a tax base for that army and, therefore, the need for a growing state. You see a similar process in Europe at the same time. And, of course, that process goes with a great rise in political violence and warfare. In my view, it was actually part of a structurally connected process of state-building between Africa and Europe. These processes were happening in Africa just as they were in other parts of the world. To come back to where we began this conversation, west African societies weren't cut off from

ALAMY

"Cumulative inequalities – between Africa and the wider world, and within Africa itself – led to a series of revolutions"

global developments – they were connected to them, influenced by them and influencing them.

So reinserting Africa into this wider history is not to undermine or diminish the importance of what was happening locally, but instead to say that these phenomena were part of global trends at certain points in time?

Yes. One of the problems with being a historian of west Africa is that by emphasising some things, other things that are also important receive less emphasis. My book emphasises west Africa's global relationships over a very long period of time, because this is very important in changing the way in which many people might view the African past. However, that's not to say that the local experiences of global trade weren't also being felt through local idiom. So there are chapters in the book that deal with, for example, the ways in which religious views, gender patterns and kinship patterns were changing. All of those are fundamental to understanding experiences of exposure to global trade in west Africa.

An example of this is the use of melegueta pepper, which was one of the first items the Portuguese traded for in west Africa in the late 15th century, before they'd reached India – so before the spice trade had been routed through Portugal to the rest of Europe. Huge volumes of this pepper were traded up to the end of the 17th century.

In the Republic of Benin, the melegueta pepper is now associated with malicious supernatural practices. This is clearly something that has evolved over time: you wouldn't export huge volumes of an item which had such malign associations. So this demonstrates a transformation in belief – but also the way in which that trade became associated with bad outcomes.

Staying with the idea of belief, what role did Islam play in African history, particularly into the 19th century?

Islam is clearly one of the major religions – if not *the* major religion – in west Africa. It was important in the 15th century, but it was largely a religion for political and trading elites, rather than a popular religion. One of the reasons that it then grew so dramatically is because conversion to Islam conferred protection from slavery – Muslims couldn't enslave other Muslims.

It also offered an opportunity for revenge, which by the late 18th and early 19th century was very important. In northern Nigeria, for example, a lot of people who had been slaves converted to Islam and were able to attack the land of people who had been slave owners. So Islam offered both a form of protection and a kind of opportunity.

It also offered, importantly, a global connection that didn't come through the Atlantic trade – to north Africa, Mecca, Iraq and other parts of the Middle East. Given the disruption coming through the Atlantic trade, that was also important.

What shadows did these various factors cast over the 20th and 21st centuries in Africa?

Clearly, there is the economic issue of the relationship of capital to Africa and its long-term impact. But another issue is the idea of ethnicity, which a lot of political scientists identify as being one of the driving forces of Africa's political problems. Actually, the idea of ethnicity in Africa was largely constructed in the late 19th century as a result of interaction between simplistic colonial categorisations and the opportunities that some Africans found to reshape identities accordingly.

"History in west Africa is an oral genre. You may not find the nitty-gritty of dates, but what you will find is how history was experienced and what mattered to people"

Hear more of Toby's thoughts on our podcast

historyextra.com/podcasts

A black slave draws water from a well in a 15th-century illustration (probably from Egypt). Conversions to Islam in west Africa were in part driven by the fact that Muslims could not enslave other Muslims

BRIDGEMAN

The 'state' is another example. A lot of western discourse suggests that the political problems in Africa often derive from corruption and the concentration of power in one person's hands. But I would instead suggest that one of the reasons the state is a problematic construct in contemporary Africa is the historical relationship of the state to the slave trade. The revolutions and overthrow of the corrupt aristocracies that led the slave trade in Africa were part of a wider, enduring process of people not trusting state power.

Those are just two examples of possibly erroneous western interpretations of issues in Africa. I'm trying to show that the idea of looking at Africa as a 'problem' to be solved by outside interests or thinkers is itself a problem.

The west is currently experiencing its own problem with nation states. Can we draw any lessons from Africa?

Yes, we certainly can. As you suggest, a lot of the problems experienced in western states are very comparable to contemporary problems in African states. One of the reasons people don't trust the state, or are suspicious of the status quo, in many parts of Africa is the huge gulf in equality between the top 1–2% and the rest. That's also a part of the political transformations we're living through in the west, so clearly there's a need to understand where these kinds of roads lead.

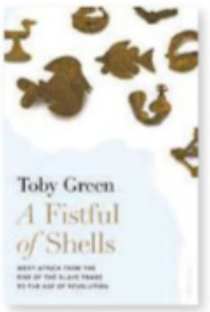
In what ways would you encourage readers to look differently at this region of Africa?

I think people who aren't African often feel a bit reticent about looking at the African past, precisely because the west has had such a negative impact upon it. But I think what's required is simply an open conversation and an awareness of the significance of this topic – not only for the African past but for the global past.

One of the big problems in university history courses, for example, is the lack of students from minority backgrounds, and that's because the subject doesn't speak to them at school; African history is not discussed. We need to have far more open discussions – and an understanding that it's fine to disagree about things. Discussing these issues, which are so fundamental not just to the African past but to the global past and identities today, could play an important role in creating more inclusive discussions about a whole range of topics.

ABOUT THE AUTHOR

Toby Green is senior lecturer in Lusophone African history and culture at King's College London. His latest book is *A Fistful of Shells: West Africa From the Rise of the Slave Trade to the Age of Revolution* (Allen Lane, 2019)



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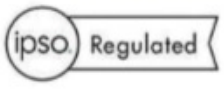

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Agenda

EXHIBITIONS, TV, FILMS AND MORE

GETTY IMAGES

VIRTUAL VIRTUOSI

This c1510–15 work by Renaissance artist Piero di Cosimo depicts Greek hero Perseus slaying the sea monster Cetus and freeing the beautiful princess Andromeda – who, inevitably, became Perseus's wife. Displayed in the Uffizi Gallery, Florence, it's among works now available to view online as institutions find new ways to bring history to the public during the coronavirus outbreak. Other online galleries and virtual tours have been set up by New York's Met Museum, the Louvre in Paris and the Jewish Museum Berlin. There are very few upsides to the current pandemic, but the chance to view some of global history's finest creations without the queues (and from the comfort of your own home) is, perhaps, one.

For details of more online exhibitions, see *historyextra.com/article-type/visit*

LOST CIVILISATIONS

If surveying historical treasures via web browser doesn't appeal (see previous page), you can always return to the tried-and-trusted medium of the book. The forthcoming *Forgotten Peoples of the Ancient World* is a fascinating, elegantly presented tour of cultures that have often been overlooked in previous histories of the distant past. Philip Matyszak's new guide roams a vast sweep of time, from early civilisations of 2700 BC all the way through to the siege of Rome in AD 550. Some names may be familiar (the Dorians, the Vandals, the Samaritans); the stories of others, such as the pre-Iranian Elamites, could be fresh personal discoveries. All are explored via artefacts, maps and photographs of surviving traces.

Forgotten Peoples of the Ancient World
by Philip Matyszak (Thames & Hudson, 288 pages, £24.95, published 21 May)

The Apollo 13 command module is retrieved from the Pacific Ocean on 17 April 1970. Listen to the HistoryExtra podcast exploring how catastrophe was averted during this dramatic lunar mission

A bronze head, believed to depict King Sargon of Akkad, dating from c2300 BC

BRIDGEMAN/GETTY

PICK OF THE PODCASTS

As podcasts exploded in popularity in recent years, the stream of listening material has become such a torrent that it can be hard to keep up. When you have time between the demands of such things as work or childcare, then, here are some highlights from our own History Extra podcast, now available four times a week.

As James Shapiro discusses in our feature on page 6, Shakespeare's words have been surprisingly influential on the course of American history. He explores these ideas in more depth in a podcast episode that was released in March. Some of the contemporary issues he touches on – racism and the legacy of slavery – also recur in Susan Neiman's fascinating consideration of the ways in which violent past events manifest in the present, both in the US and in Germany.

Another force with a long, troubling legacy, the British empire, is spotlighted in Priyamvada Gopal's look at the various rebellions against colonial rule that erupted through its history. And in an episode marking the 50th anniversary of the aborted Apollo 13 mission in April, Thomas Ellis tells the full, perilous story of that fateful lunar expedition.

Listen to all of these episodes and more on the **HistoryExtra podcast:** *historyextra.com/podcast*

FOOD FOR THOUGHT

With supermarkets a focus of public anxiety during the current crisis, the issue of food supply has hit headlines in a way that it hasn't for decades. It's therefore an apposite time to look back at the delicacies people enjoyed when grocery shopping wasn't as convenient as it is today. Our website features a collection of historical recipes, including these *Dulcia domestica*, combining dates, wine and honey and taken from an ancient Roman cookbook. Other creations to enjoy – vicariously, if not necessarily in practice – include a Russian Easter sweetbread.

Browse our collection of historical recipes: *historyextra.com/tag/recipes*

Dulcia domestica, a sweet treat enjoyed in ancient Rome – one of many historical recipes on our website

SCREEN TIME

As museums, galleries and cinemas around the world temporarily close their doors, now is a great time to catch up on the small-screen history highlights you may have missed in recent months

Whether there's a box-set you've always been meaning to start, or you've recently signed up for an on-demand service, the enforced domesticity brought about by the current pandemic offers the chance to catch up on a wealth of historical documentary and drama highlights.

A trove of factual TV programming is available via BBC iPlayer, not least 2018's world-spanning **Civilisations** series. Mary Beard, David Olusoga and Simon Schama (right, top) are your guides to thousands of years of visual culture, ranging from ancient Mexico to 10th-century China and Renaissance Italy. And, if that's not enough, you can also watch all 650 minutes of Kenneth Clark's earlier groundbreaking *Civilisation*, first broadcast in 1969.

The BBC's Arena strand is a reliable source of thought-provoking documentaries, and the 2019 instalment **A British Guide to the End of the World** provides a timely and fascinating look back at a Britain in the grip of Cold War atomic terror. Featuring unseen archive footage and first-person testimony, it explores the UK's bid to harness nuclear power for military ends, and corresponding efforts to prepare the nation for prospective catastrophe. It's an ideal accompaniment to the feature on nuclear testing on page 64 of this issue.

For a compelling retelling of real-life catastrophic events, turn to the five-part **Chernobyl** miniseries (available on Now TV). Released to critical acclaim last year, it's a humanistic, harrowing dramatisation of the events of the 1986 Chernobyl nuclear disaster. Featuring big-name actors including Jared Harris, Stellan Skarsgård and Emily Watson, it won three Emmy Awards last year, and is definitely worth your time.

All of that may make for overly grim viewing in a world struggling with a very real crisis. Fortunately, there's plenty of escapist fare available, too, including Amazon Prime's **The Marvelous Mrs Maisel**, similarly recognised by critics and viewers, with multiple Emmies. It's the (fictional) 1950s-set story of Miriam Maisel, a New York housewife who discovers a talent for stand-up comedy. Starring Rachel Brosnahan, it's a witty, charming exploration of womanhood and Jewish life in that very particular time and place.

Now may be the perfect time to tackle another category of entertainment: the otherwise daunting epic. At three and a half hours long, Martin Scorsese's **The Irishman** (right) certainly fits that bill. Based on the 2004 nonfiction book *I Heard You Paint Houses*, it follows the story of Frank Sheeran, a truck driver and Second World War veteran with links to the mob. With a high-power cast – Robert De Niro, Al Pacino, Anna Paquin – it's lengthy but immersive. For another take on the shattering effects of violence, this time in 1970s Mexico City, Alfonso Cuarón's 2018 film **Roma** (right) is similarly atmospheric, if – at a mere 135 minutes – a little shorter. That, too, is available to stream on Netflix.

As quarantine measures constrict the parameters of everyday life around the world, you may also feel the need for a spot of virtual globetrotting from your armchair. The BBC's 2018 **Groundbreakers** series, following in the footsteps of pioneers, is a perfect example. Each instalment sees a celebrity trace the story of their historical hero; the episode recreating Lord Dufferin's 1856 voyage to the Arctic (right) is the ideal place to start.

There's much else besides, of course. To keep up to date with our picks of the latest historical TV and film to view at home, and to read more about the real history behind the latest dramas, visit *historyextra.com/history-tv-film*.

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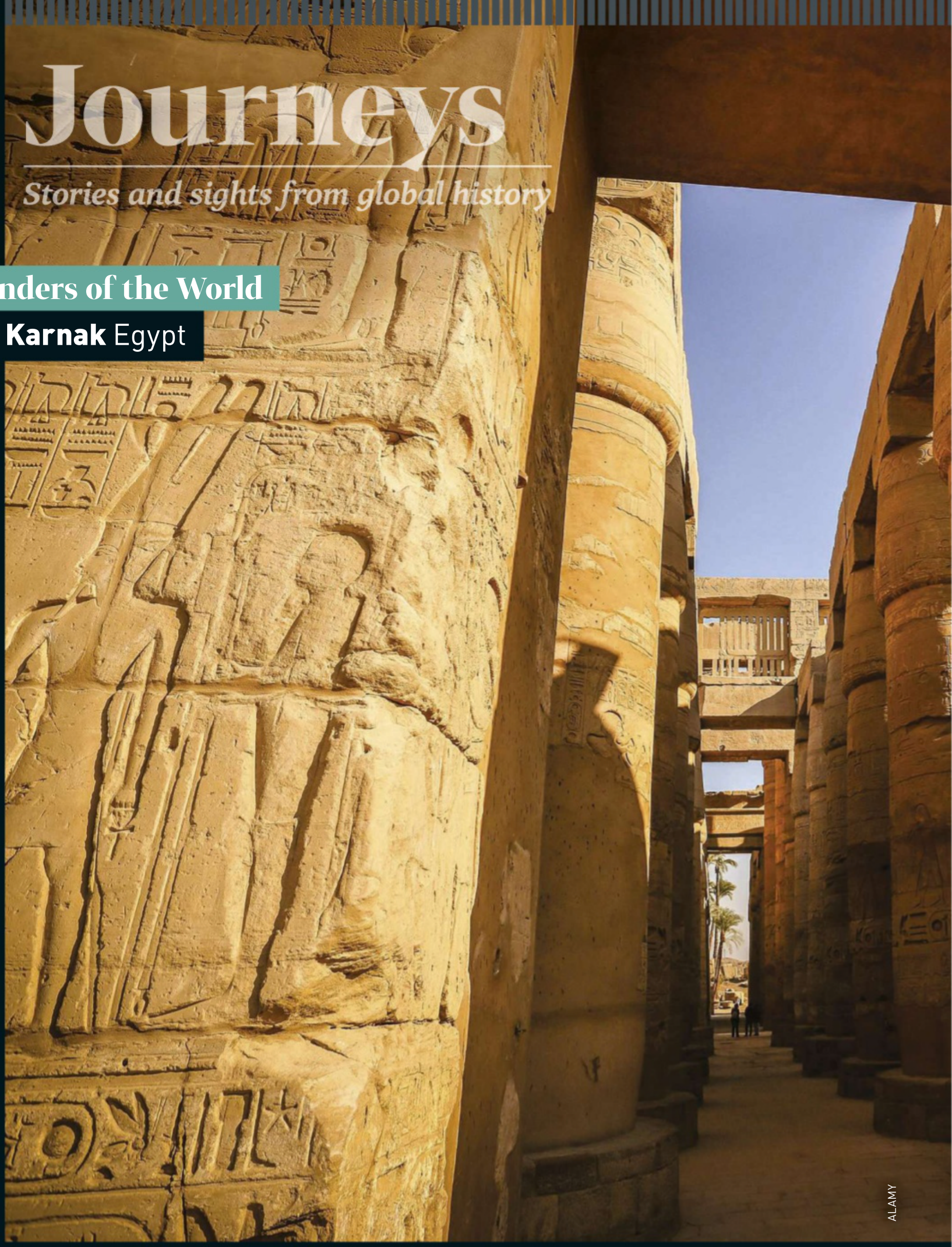
Journeys

Stories and sights from global history

Wonders of the World

Karnak Egypt



ALAMY

Pillar talk

A gargantuan forest of 134 columns up to 21 metres high and 10 metres in circumference fills the Great Hypostyle Hall in Karnak's Temple of Amun. This precinct at Thebes, site of the modern city of Luxor, had modest beginnings in the 20th century BC. Over the following centuries it was expanded vastly to span some 5,000 square metres, becoming the greatest temple in Egypt. These columns and surrounding walls are etched with friezes, many showing pharaohs making offerings to Amun, who became the country's principal deity during the 18th Dynasty (from c1550 BC). His importance is reflected in the precinct's ancient name: *Ipet-isut* – 'most select of places'.

Egypt's greatest temple

Founded some four millennia ago, the cluster of edifices by the Nile at Luxor grew over centuries to form one of the world's largest religious complexes. **Paul Bloomfield** explores the precincts of Karnak →

Guardians of the gate

Seated colossi, believed to represent the pharaohs Amenhotep I and Thutmose II, flank the Eighth Pylon, one of a series of 10 monumental gateways leading into the central courts and halls of the Temple of Amun. This pylon was built by Thutmose II and his wife and sister Hatshepsut (ruled 1473–1458 BC) who, after her husband's death, was crowned as only the second confirmed female pharaoh, assuming the full titles and regalia of a king.

Line of procession

Sphinxes line the Processional Way leading to the huge sandstone First Pylon. Though it remains uncompleted, at 43 metres high and 130 metres wide this is the largest pylon in Egypt. The last of the great gateways erected at Karnak, its construction is often attributed to the Nubian pharaohs of the 25th Dynasty (c744–656 BC) but may have been built during the 30th Dynasty some three centuries later.

Hall monitor

A colossus of Ramesses II (ruled 1279–1213 BC) looms over the temple forecourt, beside the entrance to the Great Hypostyle Hall. The small figure between his feet is believed to be his daughter, Benta-anta. Ramesses ('the Great') was responsible for some of Egypt's most impressive structures, including the great temples at Abu Simbel.

SHUTTERSTOCK/ROBERT HARDING/ALAMY

Flock stars

Sphinxes with the heads of rams – sacred animal of Amun – guard small statues possibly representing Ramesses II. More sphinxes once lined the 1.5-mile-long Processional Way between Karnak and the Temple of Luxor to the south. The annual flooding season, during which the Nile inundated surrounding farmland, was celebrated with the spectacular Opet festival. During this event, statues of Amun, his wife Mut and son Khonsu were carried to the southern temple along the sphinx-flanked route.

High style

A 23-metre-tall obelisk, glimpsed between columns of the Great Hypostyle Hall, is the only standing example of four erected by kings Thutmose I (ruled c1493–1482 BC) and his grandson, Thutmose III (r1479–1426 BC). Weighing an estimated 143 tonnes, this beautifully carved stele (which bears cartouches added later by Ramesses IV and VI) was once tipped with gleaming electrum.

Colour code

The underside of an architrave (lintel between columns) in the Great Hypostyle Hall retains some of the colours with which the whole structure was originally painted. At top are the cartouches (lozenge-shaped hieroglyphic name-plates) of Ramesses II, who decorated many of the pillars in the southern wing of the hall. Amun fell out of favour after the fourth century BC, and by the time Egypt was annexed by the Roman empire in 30 BC, Thebes had declined in importance.

Paul Bloomfield is a travel and heritage writer and photographer

In the footsteps of… The first known woman to circumnavigate the globe

Glynis Ridley traces the 18th-century voyage undertaken by French botanist Jeanne Baret – who sailed disguised as a boy

ALAMY

An aerial view of Tahiti. Until the Bougainville expedition encountered this island in 1768, the French had no inkling of its existence – but quickly claimed the island, which today is part of French Polynesia →

In April 1768, two French ships, the *Boudeuse* and the *Étoile*, rode at anchor off the coast of Tahiti. Until that time, France had been unaware of the existence of the volcanic Polynesian island that later gained a reputation as an earthly paradise, but the 330 officers and men taking their first shore leave in nearly a year would have appreciated its natural – and human – beauty.

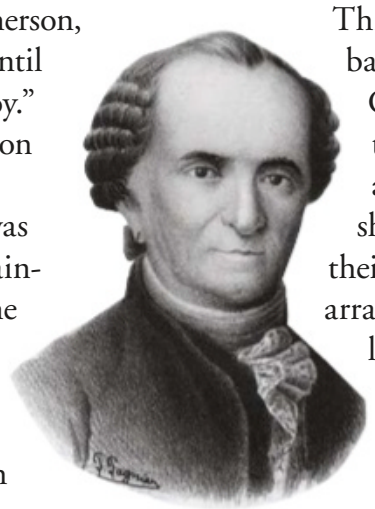
The two ships constituted an expedition, under the command of Louis-Antoine de Bougainville, to make the first French circumnavigation of the globe and to find natural resources of use to an imperial power. Bougainville's published account of the voyage is careful to emphasise French shyness in the face of Tahitian sexual freedom – looking with desire rather than acting upon it. Yet one woman saw danger in the looks that met her gaze, and screamed an appeal to her countrymen to save her. To the wonder of the French, though, that woman was not a Tahitian islander but one of their own crew. As Bougainville later recounted: "They have discovered that the servant of Monsieur Commerson, the doctor, was a girl who until now has been taken for a boy."

That servant of expedition naturalist Philibert Commerson (or Commerçon) was Jeanne Baret. And if Bougainville is to be believed, no one aboard the crowded ships saw through her disguise for over a year, until landfall on Tahiti, where French sailors were surrounded by Tahitian women – and Baret was surrounded by Tahitian men.

In December 1766, then aged 26, Jeanne Baret disguised herself in men's clothes and waited at the dockside in the port of Rochefort in south-west France. There she offered her services to Philibert Commerson, a doctor by training but now the royally appointed naturalist on the first French circumnavigation attempt, anticipated to last at least three years. Commerson's salary advance included money to hire an assistant, but he had been unable to find one to his liking, and quickly concluded terms with the young man who had introduced 'himself' as Jean Baret.

That, at least, was Commerson's account of events. In reality, Baret – 12 years his junior – had lived with him since 1764, and had borne him a son, who died. When Commerson was appointed to Bougainville's expedition, Baret would have been an obvious choice for his assistant – had she not been a woman: a royal ordinance forbade women on French naval ships. So the couple hatched a plan for Baret to disguise herself as a man so that she could join Bougainville's expedition.

This decision, it seems, wasn't based solely on companionship. Commerson's will specified that, in the event of his death and Baret's survival, she should be given one year in their shared Paris apartment to arrange his natural history collections, including the sheaves of pressed plant specimens he had been assembling since he was a teenager. The fact he trusted her with such a task suggests that she had botanical knowledge in her own right, and →



Expedition naturalist Philibert Commerson, who recruited Jeanne Baret as his assistant

The couple hatched a plan for Baret to disguise herself as a man so that she could join Bougainville's expedition

Jeanne Baret: naturalist, pioneer, circumnavigator

Jeanne Baret (1740–1807) was born to poor parents in the Burgundy region of central France. In her early twenties she was engaged as housekeeper to one of the brightest young scientists in France, Philibert Commerson (or Commerçon), and became his mistress in the years after his wife died in 1762. When he was given a royal appointment as the naturalist on the first French circumnavigation expedition, leaving France in 1767, **Baret disguised herself as a young man in order to work as Commerson's assistant** on the voyage – women were not allowed on board French naval vessels at that time.

Baret, literate despite her poor family background, assisted Commerson in his scientific duties on the expedition. Between them, **they collected more than 6000 plant, animal and mineral specimens**, all of which were subsequently absorbed into the collections of the National Museum of Natural History in Paris.

Baret's gender was discovered by the crew during the expedition, probably in the south Pacific, though accounts differ as to when, where, and how early in the voyage this occurred. When the ships docked at French-controlled Île de France (now Mauritius) in late 1768, Baret and Commerson, together with expedition astronomer Pierre-Antoine Véron, remained on the island. **Baret spent seven years on Mauritius**; Commerson died in 1773, and Baret finally returned to France in 1775 – becoming the **first woman known to have circumnavigated the globe**.

More than 70 species of plants and animals are named for Commerson, but it was not until 2012 that **Baret was commemorated in the taxonomic record** in *Solanum baretiae* – a striking flowering plant found in Andean forests.

BRIDGEMAN/GETTY IMAGES

ILLUSTRATION BY **THERESA GRIEBEN**

skill enough not to need his constant direction. Indeed, Bougainville's journal referred to Baret and Commerson as "the botanists".

Boarding the *Étoile* in Rochefort, Baret's disguise might soon have been discovered were it not for the fact that Commerson was allocated the captain's cabin, to accommodate his field equipment. It had a private commode, allowing Baret to relieve herself in private rather than having to go to 'the heads' along with the other sailors.

On 1 February 1767, after six weeks of preparation and provisioning, the *Étoile* sailed south-west to rendezvous with Bougainville, the expedition's commander, in Rio de Janeiro, where he had been engaged in diplomatic business aboard his own ship, the *Boudeuse*.

Suspicious minds

As well as Bougainville, three other members of the expedition kept journals that mention Baret. That of the *Étoile*'s surgeon, François Vivès, makes it clear that the crew suspected Baret was a woman within a few days of setting sail. And the journal Commerson kept jointly with another crew member aboard the *Étoile* reveals when Baret's true identity was seemingly put beyond doubt. As maritime tradition dictated, when the *Étoile* crossed the equator on 22 March 1767, all 'equatorial virgins' had to strip to be baptised by Father Neptune and his followers. Commerson describes the unusually brutal hazing ceremony as "a masquerade – of devils" though, being a gentleman, his 'baptism' was nothing more than a dousing with a bucket of water. Ordinary seamen stripped for immersion in a foetid pool, and were battered with oars by 'Neptune's acolytes', painted green. Baret remained the only fully clothed equatorial novice – a fact that did not escape the crew.

It is likely that Baret collected the showy tropical vine that was later named in honour of their commander: Bougainvillea

The *Étoile* reached Rio in mid-June and, while awaiting the arrival of the *Boudeuse*, Baret and Commerson went botanising, though his recurring varicose ulcers limited his movements. Indeed, Commerson's health was so bad that the surgeon recommended the amputation of the affected leg. It is therefore likely that Baret collected the showy tropical vine that was later named in honour of their commander: Bougainvillea.

In mid-July, both ships sailed south, past barnacle-encrusted humpbacks breaching the waves of the south Atlantic. But a leak in the hold of the *Étoile* necessitated repairs off Montevideo, where Baret and Commerson went ashore. Among their goals were specimens of the cochineal beetle, collected from the thorny pads of prickly pear and in huge demand for the red dye produced from the beetles' carapace – companies producing the dye were quoted on both the London and Amsterdam stock exchanges.

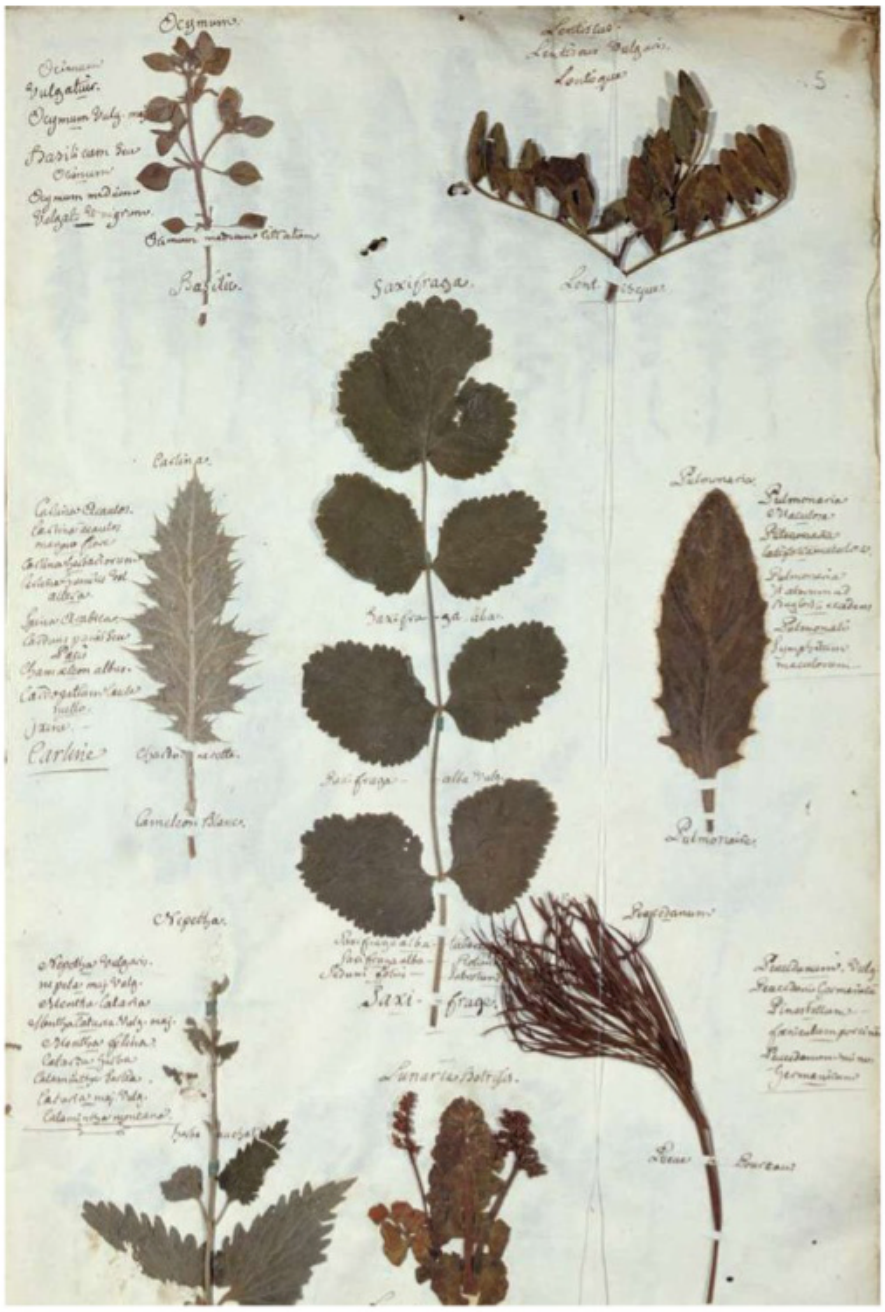
In November 1767, repairs to the *Étoile* completed, the expedition sailed out of the Río de la Plata (River Plate) and through marine bioluminescence often encountered in these waters – a milky haze on the surface of the ocean, lighting it to the horizon. Bougainville's journal recorded seals, penguins and whales, while albatross and petrels wheeled overhead. For Baret, born to day labourers who typically never travelled farther than their local market town, the experience must have been nothing short of miraculous.

A 19th-century botanical illustration of Bougainvillea, a genus of flowering plant native to South America

On 4 December 1767, the ships reached the southern tip of the South American mainland and turned west into the Strait of Magellan. One-fifth of Bougainville's journal is devoted to this stage of the journey as the ships inched through this channel, trying to avoid submerged glacial moraine that might rip open the hulls. Baret and Commerson were put ashore on the coast, with additional personnel to help them, and Bougainville records native Patagonians also taking their cue from the botanists and assisting in a plant hunt. The specimens collected were likely strait bilberries, similar in appearance to savin, a shrubby juniper plant that has a long history in Europe as a herbal remedy for sexually transmitted disease. It's possible that the consequences of the expedition's shore leave in Montevideo were starting to present themselves to the doctor.

Accompanying the expedition in the strait were black-and-white dolphins that Commerson believed were new to European science; he rather egotistically named the species Commerson's dolphin, *Cephalorhynchus commersonii*. On the coast, the expedition saw colonies of Magellanic penguins and huge southern elephant seals – among the natural wonders that perhaps provided some compensation to Baret for the freezing conditions and shifting scree underfoot during shore excursions.

In late January 1768, the expedition finally emerged into the Pacific, charting a north-west course in hopes of reaching the Spice Islands (or Moluccas, now Maluku, in Indonesia), which were



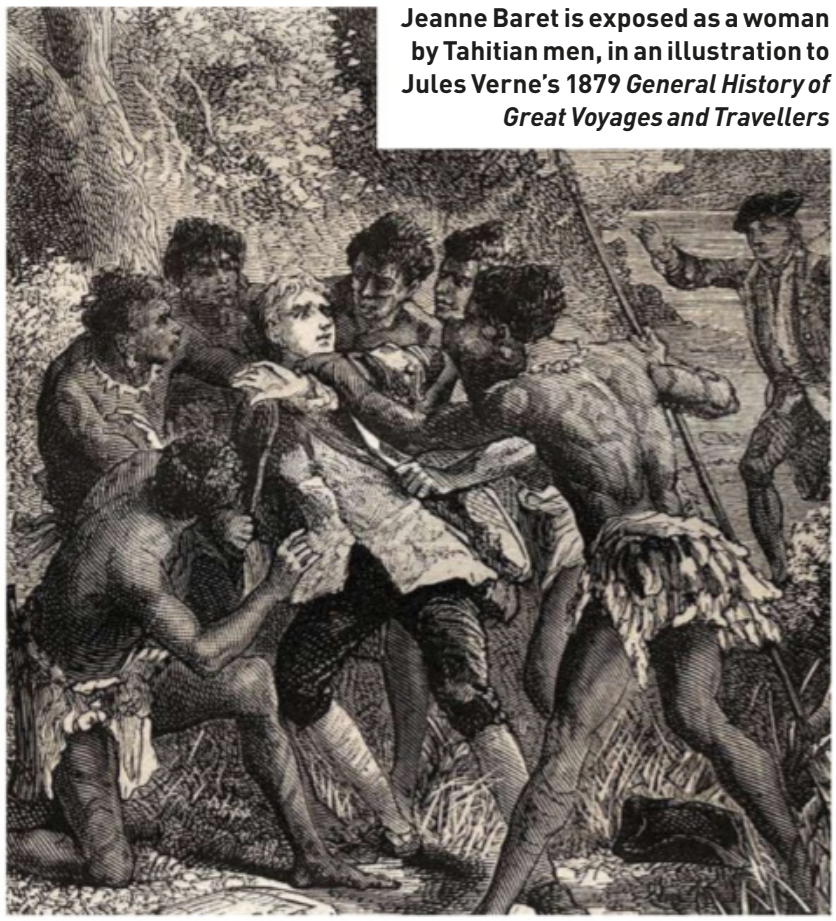
Commerson's herbarium, a book of preserved botanical specimens and information. He and Baret collected many hundreds of plant, animal and mineral specimens during the Bougainville voyage

A pod of Commerson's dolphin, named by the French naturalist who observed and described these cetaceans in the Strait of Magellan

Bougainville's arrival in Tahiti, shown in a 19th-century French engraving. One contemporary scientist suggested that Tahitians could distinguish a man from a woman by smell alone

BRIDGEMAN/ALAMY

A breadfruit tree, a species sketched by Commerson and Baret in Tahiti, and identified a year later by British naturalist Joseph Banks



Jeanne Baret is exposed as a woman by Tahitian men, in an illustration to Jules Verne's 1879 *General History of Great Voyages and Travellers*

Fort Belgica, built by the Dutch on Banda Neira, Maluku in the 17th century. Bougainville's ships were prevented from exploring these 'Spice Islands' by the Dutch, who rigorously controlled access

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closely guarded by the Dutch colonial rulers. Among the goods obtained there, most prized was nutmeg. En route, at the beginning of April 1768, the ships stumbled upon Tahiti – an island whose existence had been hitherto unknown to the French. There, Baret and Commerson must have studied the breadfruit, later the goal of Captain Bligh's ill-fated *Bounty* expedition; certainly, Commerson sketched the plant in his notebook.

It was also here, according to Bougainville's account, that the discovery of "a girl who until now has been taken for a boy" was made. Early readers of his reports saw nothing strange in the Tahitians' apparent ability to see through Baret's disguise. But 21st-century readers may feel sceptical about Bougainville's version. He did not even write about the revelation during the expedition's stay on the island; it was not until 28–29 May 1768 that his journal raised the subject of Baret for the first and last time, attributing the discovery to the Tahitians.

It is not as if his journal entries for late May would otherwise have been short on drama. By then, the ships were running so low on food and water that both officers' messes had started serving rat, and ordinary seamen were given boiled leather to gnaw. In addition, the ships had encountered armed Melanesian islanders from the Vanuatu archipelago, and felt compelled to fire on them. In the midst of tropical plenty, the *Boudeuse* and *Étoile* could not find any safe landfall.

On 5 June 1768, the *Boudeuse* fired warning shots to alert the *Étoile* to danger in the water: the expedition had run up against the Great Barrier Reef. The crews gazed uncomprehendingly at what Captain James Cook later described as "a wall of coral rock rising perpendicular out of the unfathomable ocean". Today, a coral outcrop some 120 miles east of Australia's mainland is named Bougainville Reef in honour of that moment.

The ships turned north and, by 10 June, the expedition was off New Guinea's south-east coast; sea currents

Food supplies were running so low that the officers' messes were serving rat, and seamen were given boiled leather to gnaw

and tropical squalls prevented landfall here, and instead the crew next landed in early July on New Ireland, north-east of New Guinea. The journals of three other men on the expedition all report that something significant happened to Baret here. That of François Vivès is the most explicit of the three: his metaphors of a gun's lock plate being drawn back and of a conch shell being found suggest that Baret was forcibly stripped and assaulted. Though this version of events was corroborated by others, modern chroniclers typically prefer to rely on Bougainville's account.

In search of spice

Commerson and Baret kept to their cabin for one month after New Ireland, during which landings on New Guinea's northern coast were attempted but stymied by thunderstorms and strong headwinds. Bougainville determined to hug the coast, sailing west, and land in the Spice Islands. However, the Dutch had long regulated the production and availability of navigational charts of these islands, so non-Dutch vessels were effectively sailing blind in the Ceram Sea. When Baret and Commerson were finally put ashore, the island chosen yielded no spices. A strategy of random landings was not sustainable. In early September, the *Étoile* and the *Boudeuse* anchored off the Dutch plantation island of Boeroe (modern Buru) and, after the ships were searched, Bougainville and his officers were fed by the governor and given some supplies. Now under Dutch surveillance, Bougainville saw little choice but to sail directly west across the Molucca Sea for a major port.

Later that month, the expedition limped into Batavia (today's Jakarta), where they reprovisioned before sailing on to the French-controlled Île de France (now Mauritius). There, Baret, Commerson and astronomer Pierre-Antoine Véron were invited to stay at the home of the director of the botanical gardens, Pierre Poivre – the Peter Piper of nursery-rhyme fame. In the gardens, Poivre oversaw test beds of tropical plants that might be useful to feed and clothe France and her empire. The botanists' skills were in demand and, when Bougainville sailed on in December 1768, they and Véron remained with Poivre.

When Bougainville's expedition returned to France in March 1769, he was fêted as a hero. From their base on Mauritius, Baret and Commerson explored Madagascar before he died in 1773; she secured a passage back to France, arriving sometime in 1774 or early 1775. When she stepped onto French soil, some eight years after setting out, there was no one to fête her. Yet someone, most likely Bougainville, petitioned the Ministère de la Marine (Naval Ministry) for recognition for this extraordinary woman. From 1 January 1785, she received a state pension of 200 livres per annum for her part in the expedition. Jeanne Baret was the first woman to circumnavigate the globe – and the first to receive a government pension for her contribution to a scientific expedition.

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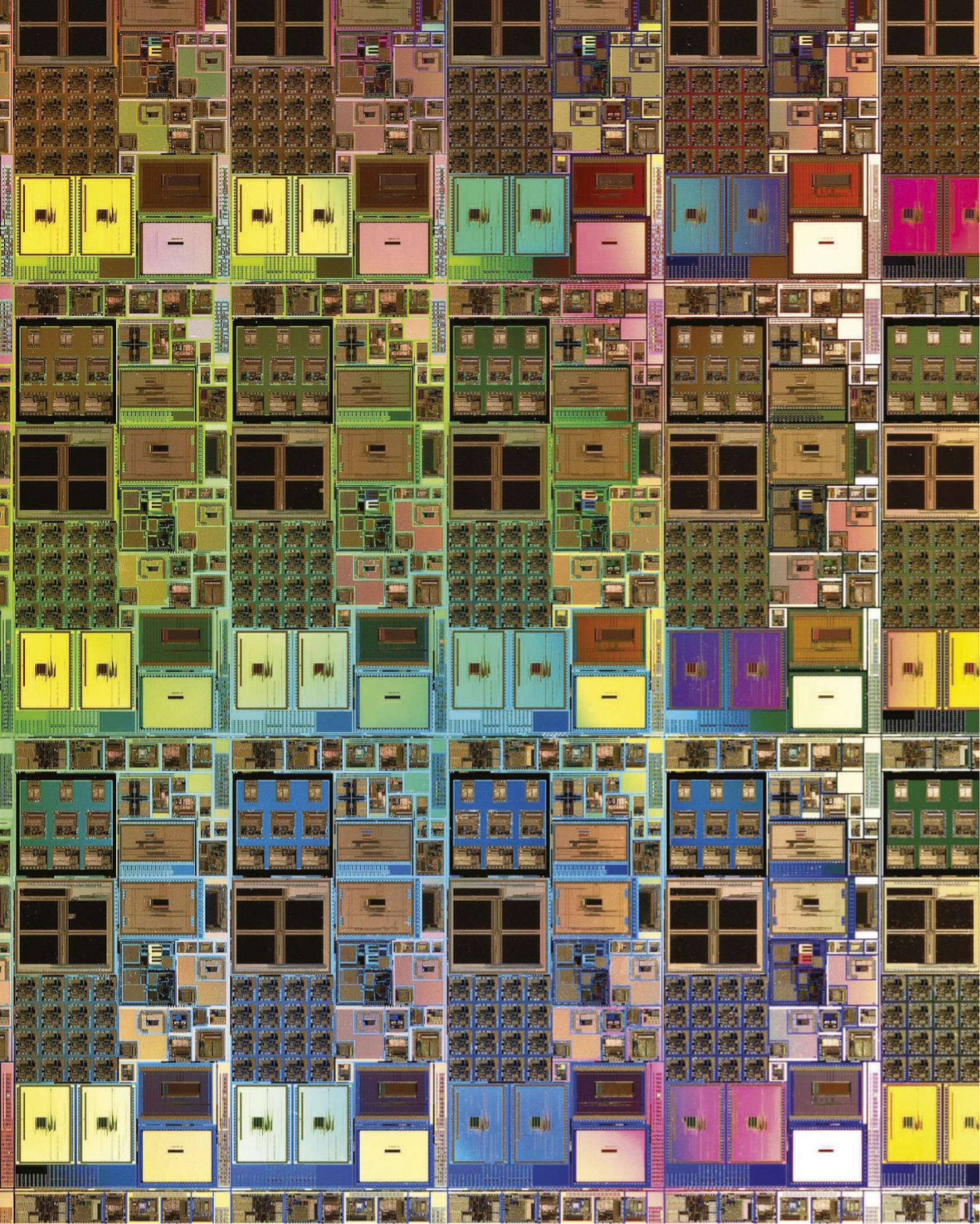
Mourners watch the funeral train carrying the body of Robert F Kennedy as it passes

United States | Harmans, Maryland | 8 June 1968

Mourners stand to honour the body of senator Robert Francis Kennedy as the funeral train carrying his body passes en route from New York City to Washington DC.

In 1968 Kennedy, younger brother of assassinated president John F Kennedy, ran for the Democratic nomination for the forthcoming presidential elections. In the early hours of 5 June, he was celebrating victories in the South Dakota and California primaries at his Los Angeles campaign headquarters, at the Ambassador Hotel. After addressing supporters in the ballroom, he was shot three times by a Palestinian man, Sirhan Sirhan, angered at what he perceived as Kennedy's support for Israel in the Middle East conflict. The senator was pronounced dead the following morning.

After a funeral mass in New York City on 8 June, his body was carried aboard a slow-moving train to Washington DC, for burial at Arlington National Cemetery. Huge crowds lined the tracks to pay their respects to a politician who had garnered widespread popular support for his advocacy for the civil rights movement, against organised crime and against US involvement in the Vietnam War.

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