

Books & arts



A US advert for menthol cigarettes from the 1970s.

How cigarettes became a civil-rights issue

Tobacco companies still profit from decades of marketing to Black Americans. **By Nidhi Subbaraman**

In 2019, when the New York City Council proposed a ban on menthol cigarettes, health advocates noted their popularity among Black Americans, and the disproportionate harm they brought to the community. But the move had a vocal critic.

Civil-rights icon Al Sharpton opposed the ban, arguing that sales would go underground, drawing unwanted police attention to Black people as a result. The proposal was dropped.

In this incident, medical historian Keith Wailoo saw a pattern repeating: civil-rights champions have frequently opposed

restrictions on sales of menthol cigarette in defence of Black consumers' choices. Wailoo's book *Pushing Cool* documents how, starting in



Pushing Cool: Big Tobacco, Racial Marketing, and the Untold Story of the Menthol Cigarette

Keith Wailoo
Univ. Chicago Press
(2021)

the 1960s, the US tobacco industry methodically and deliberately brought about this cruel irony, by tailoring its marketing and branding to drive up menthol sales among Black smokers. The corporations drew in Black cultural figures, civil-rights leaders and politicians in their bid to keep selling flavoured cigarettes.

Wailoo makes a case that tobacco companies strategically cultivated preferences for menthol cigarettes in Black communities over decades, to keep sales rising and deflect concerns about health risks.

His takeaway is this: Black Americans today smoke menthols at higher rates than any other group because of the 'push' from cigarette companies and their savvy advertisers rather than the 'pull' of consumer preferences. The health impacts are stark: Black Americans are more likely than white ones to die from diseases linked to smoking.

Wailoo mines press reports through the decades, along with posters, billboards and troves of internal industry documentation that cigarette companies were forced to make public after a spate of lawsuits that ended in 1998. With deadly repetition, menthols have been silent players on the stage of US history, witnesses to epic flashpoints at which health and politics collide. The case is stronger for the specificity and rich detail that Wailoo weaves into it, although occasionally the vast cast of characters makes it difficult to follow the plot.

'Healthy' profits

From the 1930s to the 1950s, tobacco companies marketed menthols as healthier alternatives to normal smokes, falsely touting the cooling sensation from the minty flavour as a salve for sore throats or colds. Market research indicated that people worried about health risks could be pacified with suggestions of medicinal effects from a menthol brand.

Two events shifted that dynamic. First, the US government began shutting down false advertising claims about health benefits, prompting companies to cast around for other aspects of their customers' tastes, preferences or identity that influenced how they shopped.

Second, the strongest evidence yet of the health harms of cigarettes arrived in 1964, when a pivotal report from the US surgeon-general linked smoking to lung cancer. No longer able to hook people on health, cigarette companies looked to target customers on the basis of race, gender and class. As the civil-rights movement reached a crescendo that decade, market-research firms identified Black Americans as a vast untapped market for menthol sales.

Billboards went up in cities with a majority of Black residents; many fewer turned up in suburbs that white people were moving to. “Racial marketing” began to define advertising of menthol brands. A 1964 ad by Brown & Williamson for its Kool brand of menthol cigarettes marked such a shift: a smiling young man and woman lean over a rock parapet by a waterfall. Each holds a cigarette; the woman reaches past a palm frond and trails one hand in the stream. The tagline: “Feel extra coolness in your throat.” Black news media ran a version featuring a Black couple, a rare early inclusion of Black models in advertising. A white couple posed in the version that reached white readers.

In the 1970s, tobacco branding was endemic at cultural and sporting events; for a time, Brown & Williamson was a major sponsor of jazz concerts. And in the 1980s, dollars flowed from tobacco companies to social and political causes: Brown & Williamson partnered with civil-rights group the NAACP to fund a business incubator; RJR supported *Ebony*, the Black culture magazine; Philip Morris sponsored a meeting of the Congressional Black Caucus that drew 8,000 attendees.

Wronging rights

These moves paid dividends over the next decades, as the US government and health leaders tried to curb Big Tobacco, Wailoo argues.

In the 1990s, when US health secretary Louis Sullivan opposed an upcoming menthol brand called Uptown, aimed at Black smokers, one of his chief adversaries was NAACP executive director Benjamin Hooks.

Uptown never made it to the shelves, but menthol burned on. In 2009, US legislators elected to regulate tobacco as a drug, and flavoured cigarettes were banned – all except menthols, after opposition from powerful Black lawmakers. In 2018, when US Food and Drug Administration (FDA) commissioner Scott Gottlieb tried to enact a menthol-cigarette ban, he failed. Two years later, the FDA proposed bans on vape flavours because of their appeal to young people, but exempted menthol. This April, the regulator announced that it was working on another proposal to ban menthol cigarettes; what shape that will take remains to be seen.

In a grim coda, Wailoo observes that before they were killed in police custody, Eric Garner used to sell cigarettes, and George Floyd was buying some. Their deaths, in 2014 and 2020, sparked resurgences in the Black Lives Matter movement and global calls to end racism. Yet again, he notes, tobacco companies’ pervasive legacies linger on, colliding with the defining social movements of our day.

Nidhi Subbaraman is a senior reporter for *Nature* in Washington DC.

Synthetic biology – a call to meddle better

An expansive survey of the hopes and fears, hypes and fails of genetic manipulation. **By Gaia Vince**

Pigs need phosphorus in their diet. But most of the phosphorus in their grain feed is in the form of phytic acid, which they cannot digest. As a result, they excrete it into the environment, badly polluting the watersheds around pig farms and, farther afield, causing oceanic dead zones. Farmers can add a costly enzyme to the feed to help the animals break down phytic acid, but this often gets destroyed in the feed mix before the pigs can use it.

Enter Enviropig. Researchers inserted two genes, one from a strain of the bacterium *Escherichia coli* and one from a mouse, into a pig genome to enable the animal to produce the enzyme in its saliva. These farmyard chimaeras can’t breathe fire, but they can excrete up to 65% less phosphorus than normal pigs – without the need for costly supplements.

We’ve made a mess of the planet with our meddling. Now, thanks to biotechnology, we have tools – witness Enviropig – to repair it. Should we use them? Molecular biologist Beth Shapiro thinks so. For instance, we could engineer species’ genomes “to help them adapt to drier soils, more acidic oceans, and more polluted streams”; to create ‘gene drives’, systems that override natural selection in invasive species to wipe them out; and even to resurrect extinct species. Synthetic biology could help to solve some of our biggest problems, from hunger to the climate crisis, and look after other species, too. We are the planet’s caretakers, Shapiro argues in her book *Life as We Made It*, and “it’s time to embrace this role”.

Her expansive survey of the hopes and fears – and the hypes and fails – of genetic manipulation is an enjoyable tour of ‘impossible’ species created to solve pressing human problems. We visit hornless cattle, flavour-saving tomatoes, golden rice, malarial mosquitoes gene-edited to spread sterility, yeast genetically engineered



JIM ROSS/NYTIMER/REDFUX/EVINE

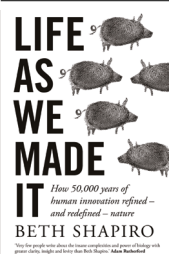
Enviropigs are genetically engineered to excrete low levels of phosphorus.

to produce a synthetic ‘blood’ for tasty veggie burgers, endangered ferrets cloned to help save the species from extinction, and more.

Shapiro looks over the horizon to possibilities scientists are working towards – from the recreation of extinct mammoths to the common crops that have been engineered to store more carbon in their roots, helping to combat climate change.

Her enthusiasm doesn’t blind her to the pitfalls and ethical dilemmas of synthetic biology. She provides thoughtful accounts of hubristic endeavours that have gone wrong. A lack of transparency and public consultation – sometimes simply due to naivety – has damaged the field and enabled conspiracy theorists and anti-genetic-modification extremists to dominate the political narrative and spread disinformation on risks for decades. Now, she says, “if we want enough food to feed 9 or 10 billion people as well as breathable air, drinkable water, and biodiverse habitats, then we need more control over evolution” – we need to direct it.

Shapiro is calling for greater acceptance of genetic modification, with a clearer and less hostile route through the regulatory framework. No one has been allowed to try an Enviropig. And that’s the problem: synthetic



Life as We Made It: How 50,000 Years of Human Innovation Refined – and Redefined – Nature
Beth Shapiro
Basic (2021)

biology's potential is huge, but only a handful of creations have ever made it out of the laboratory. Golden rice has been under development since the 1990s, yet it couldn't be used anywhere until this July, when the Philippines became the first country to approve it for planting. Whether farmers do so remains to be seen.

To some degree, the argument against synthetic biology is irrelevant. We have been creating new life through unnatural means for decades. Cattle are routinely bred using artificial insemination and embryo transfer, enabling a cow to produce as many as ten calves a year instead of just one, which can be lifesaving in parts of the world that suffer from food insecurity, Shapiro writes. And, of course, humanity's long quest to tame and improve the natural world for our survival and profit goes back millennia.

The cautionary tale is that, in many cases, it was this quest that caused today's biggest environmental problems. For instance, oceanic dead zones are the result of humans creating (through breeding) a domestic version of wild boar, and keeping hundreds of millions of them in artificial landscapes (farms) while relying on the biosphere to deal with the resultant effluent.

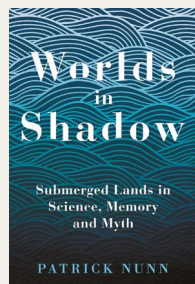
Fully one-third of the book documents our prehistoric modifications to the environment, following the evolution of humans and the extinction of megafauna through a combination of climate change and human impacts. Shapiro, who works on ancient DNA, personalizes this familiar story with her own research anecdotes. She focuses on her pet study subject, the American bison, and its near-misses with extinction. The latest reprieve came courtesy of conservation measures rolled out by ex-hunter and former US president Theodore Roosevelt. The animals that had once numbered in the tens of millions bounced back from a surviving population of fewer than 300 at the beginning of the twentieth century to more than 500,000 today.

Shapiro's point, throughout the book, is that we've always meddled with nature; the answer is not to stop meddling, but to meddle better. She builds a convincing case, despite the occasional troubling assertion, such as that "there are more of us today than we can feed using existing technologies", with which many would take issue. However, there is no doubt that synthetic biology has the potential to help solve some of our biggest global problems. With this clear-eyed account of its humanitarian potential, Shapiro has done the field a great service.

Gaia Vince is the author of *TRANSCENDENCE: How Humans Evolved Through Fire, Language, Beauty & Time* and *Adventures in the Anthropocene: A Journey to the Heart of the Planet We Made*.

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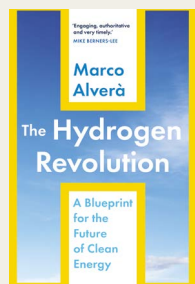
Books in brief



Worlds in Shadow

Patrick Nunn *Bloomsbury Sigma* (2021)

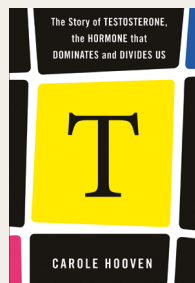
Our rising sea levels are often said to be unprecedented and to require new solutions, implying that the past has nothing to teach us. This is wrong, argues oceanic geoscientist Patrick Nunn, who is part of the Intergovernmental Panel on Climate Change. His realistic but hopeful history of submerged lands across millennia and around the globe mixes "science, memory and myth" — including the legend of Atlantis — to show how our ancestors learnt to live in challenging coastal environments and to manage adversity in many forms and places.



The Hydrogen Revolution

Marco Alverà *Hodder Studio* (2021)

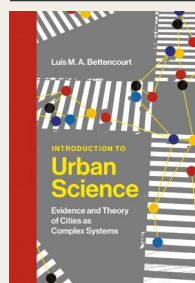
"We are on the cusp of a hydrogen revolution," writes Marco Alverà, head of Europe's largest gas-infrastructure company. In 1874, science-fiction writer Jules Verne predicted water would become a fuel, through electrolysis into hydrogen and oxygen. In the 1890s, a Danish windmill with a dynamo was used to store hydrogen as a fuel for illumination. Since the 1930s, fuel cells have reversed electrolysis to make electricity and water from hydrogen. Now they are almost competitive with fossil fuels, argues Alverà in his urgent call to action.



Testosterone

Carole Hooven *Cassell* (2021)

Testosterone has been controversial since its naming in 1935. Men typically produce 10–20 times more than women, but how does it affect society? Biologist Carole Hooven's fascination began in Africa, after seeing a male chimpanzee savagely beat a female beside her offspring with a stick, for no apparent reason. Her vivid study wrestles with whether sex hormones create pronounced mental differences. She concludes: "In a number of important ways, testosterone pushes the psychology and behaviour of the sexes apart."



Introduction to Urban Science

Luis M. A. Bettencourt *MIT Press* (2021)

Two aerial photographs preface this detailed statistical study. In one photo, Tokyo has been almost flattened by 1940s bombing; in the other, it is rebuilt as the world's largest city, with nearly 40 million inhabitants. These illustrate, says physicist-turned-urban ecologist Luis Bettencourt, that "knowledge, human cooperation and collective action" can build a better urban future. His brand of modelling treats cities as complex adaptive systems, to make useful and falsifiable predictions about crime, economic output, migration and more.



Nature Remade

Eds Luis A. Campos *et al.* *Univ. Chicago Press* (2021)

Engineering applied to biology provokes fascination and apprehension. This essay collection explores that tension on scales ranging from molecules to people to planet, across eras and cultures. The editors — three historians and a biologist — aim to show that every effort at remaking nature "inescapably occurs in a particular social and political milieu". Original examples include orange cultivation in Palestinian identity and the African American scholars who explored "black eugenics". **Andrew Robinson**