

# Prospect

Think again. Think *Prospect*

# The world's top 50 thinkers

*Prospect* salutes the  
scientists, philosophers  
and writers reshaping  
our times

INTRODUCED BY  
TOM CLARK

ILLUSTRATION BY  
MICHELLE THOMPSON



**N**ever doubt that thoughtful minds can change the world; they are the only things that ever do. Margaret Mead is thought to have said something like that, which chimes with Keynes, who wrote that the self-styled practical men running the world were unwittingly guided by forgotten academic scribblers. For Victor Hugo, meanwhile, the one thing stronger than all the armies in the world was “an idea whose time had come.”

These reflections on the power of thought are worth unearthing because these are anti-intellectual times—and not only because of the proud ignoramus in the White House. No: the roots of current disdain for educated, “liberal elites” go much deeper, tracing back to well before the financial crisis and populist backlash.

The seeds were planted in the 1970s by the New Right’s Irving Kristol, who saw reactionary potential in rallying mass opposition to the “new class” of university graduates, who had the sort of fancy ideas that would go down badly with those Nigel Farage defines as “real people.” Over the decades since, Rupert Murdoch and the popular press, preferred reflex reactions to rationality, and called them “common sense.” They have derided intellectuals, who rarely rank among the economic elite, as a class apart in ivory towers. Today we have reached the Trumpian point where, for perhaps the first time in free societies since the French Revolution, reason has to be defended as a value.

This context makes it timely to revive the *Prospect* tradition of identifying the world’s leading thinkers. The urge to rank and measure might itself seem anti-intellectual—more Top Trumps than top scholarship. But the aim is not to chase a chimera still less to deliver the results of some supposedly objective IQ test. Rather it is simply to honour the minds engaging most fruitfully with the questions of the moment.

We go into it aware that any such list will say as much about the people doing the listing as the names that make the grade; indeed, you—the readers—will reveal something about yourselves if and when you vote for the very top thinkers in our online poll.

But with all these caveats the exercise is not, we hope, entirely arbitrary. Because of the books we review and the writing we run month in and month out, our editorial team is well-placed to spot the ideas that are making waves. Each of us covers distinctive fields, and in drawing up our list, we asked the many world-leading experts who write for us—economists, scientists, philosophers and so on—to suggest the names of their most outstanding peers.

As in every previous incarnation of this *Prospect* list since the first in 2004, we’ve given weight to originality, impact and communication. To keep things current, we’ve focused on work done since the last list in 2015. There is some continuity, but compared with the original lists of British public intellectuals (2004) and then world thinkers (2005) there are also striking differences. Even back then, it was noted in these pages that there were more experts and fewer of the “grand narrative” intellectuals in the tradition of Marx, Freud or the New Left than you might have expected in the 1960s or 70s. Today, things are again more specialised than they would have been in or before the mid-20th century, and masters of some particular fields—climate, law—loom larger than 15 years ago.

There are, however, also heartening signs of a new eclecticism in the work of the thinkers. Part of that is about technology, which is reshaping intellectual life as surely as daily life. Tech

is central to what six of our 50 names do, from novelists to lawyers. Part of the work of many more involves computers crunching data.

Some other things that might once have been predicted to fall away haven’t—like religion. Its scholars, reformers and devotees still make the grade. Another big preoccupation of *Prospect* since its inception has been identity, which now looms larger than ever. Not the finger-jabbing loudmouths of the Twittersphere, but the lawyers, historians and campaigners reckoning with how our sometimes-competing selves can be reconciled.

There is probably more of an emphasis on disruptive voices—minds that want to change the world, rather than merely explain why the world is as it is. In fields like post-crash economics the justification for that switch is plain; more generally, it fits with a mercurial mood. Another change is the diversity of our list, particularly the equal place of women. In 2005, there were just 10 female names to 90 male. Today, the split is essentially 50-50. The new prominence may be the long-delayed fruit of the ideas of successive waves of feminism. The very composition of the list, then, might be regarded as demonstrating the difference that bold thought can eventually make. ▶





## Naomi Alderman

Novelist

She started out pursuing a passion for “fan fiction” (particularly involving the 1990s TV series *Buffy the Vampire Slayer*) while working at a law firm. But Alderman has a unique imagination and has asked some searching social questions. She works across forms—writing video games as well as fiction—and in her novel *Disobedience* told the story of a north London rabbi’s bisexual daughter, exploring how faith communities can make space for difference. In *The Power*, a feminist sci-fi novel that won the Women’s Prize, she creates a world in which women can electrocute men—asking what that dramatic change would mean for gender relations.



## Marwa al-Sabouni

Architect

The Syrian architect’s practice in Homs was bombed in the war, but this hasn’t stopped her writing eloquently about how poor building design can plant the seed of social conflict. In her superb memoir-manifesto, *The Battle for Home*, she tells us how growing up in the 1990s there were no parks or cultural centres for mingling with different kinds of people; she felt “jailed behind the bars of nothingness.” Her plan to rebuild her country once the civil war ends is both creative and meaningful. The philosopher Roger Scruton, one of her inspirations, wrote the foreword to her book praising her as a “profound thinker.”



## Kwame Anthony Appiah

Philosopher

Battles over identity seem to be getting more fearsome than ever—especially online. Step forward a philosopher with a culturally-mixed background and a cool intelligence to challenge some of the more excitable pronouncements. Appiah’s book *The Lies That Bind* does not deny the importance of a grounded identity, and the necessity of protecting vulnerable groups. But as his title indicates, he reminds us that identities are inventions contingent on circumstances—and subject to change over time. A refreshing and authoritative voice, Appiah was the chair of judges for the 2018 Man Booker Prize.



## Svetlana Alexievich

Writer

Since winning the Nobel Prize for literature in 2015—the first non-fiction writer to do so—the Belarusian writer’s works have been freshly translated into English. Alexievich’s interviews with Russian soldiers in Afghanistan, Chernobyl survivors, people who were children in the war with Germany and many others produce moving accounts of suffering in the Soviet world. Her technique of collating highly-edited transcripts with little or no context has been criticised as being more myth-making than accurate history. But there’s no denying the courage and artistry of a writer who counts Vladimir Putin among her opponents.



## Robert Alter

Translator

It might have taken him 24 years but the translator has finally completed his new version of the Hebrew Bible, alongside an informed and often witty commentary. Drawing on Alter’s deep love of the Hebrew language, this work takes a literary approach to sacred text, seeing in the prophets and patriarchs complex characters whose lives speak across time and cultures. At a time when religious fundamentalists and dogmatic atheists battle it out over the literal veracity of the Bible, Alter allows a new generation of readers to see afresh the splendour and beauty of these eternal stories.



## Frances Arnold

Chemist

The first American woman to receive the Nobel prize in chemistry—and the fifth woman overall in that category—Arnold is known for her groundbreaking work using directed evolution to create enzymes. Applying the principle of species’ adaptation to different environments, Arnold harnessed genetic change and selection to develop proteins to catalyse various chemical reactions. (“It is basically breeding,” she explains, “but at the level of molecules.”) Her results have helped lead to more environmentally-friendly manufacturing in fields like pharmaceuticals, and contributed to advances in renewable energy. ▶





### Caucher Birkar

Mathematician

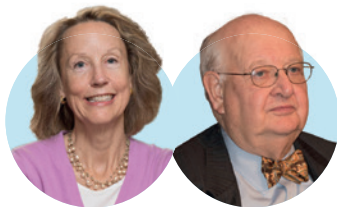
Born in a Kurdish village in Iran in 1978, the mathematician sought asylum in the UK in 2000 and went on to become a professor at Cambridge. Last year he won a Fields Medal, the highest award in mathematics, for his contribution to algebraic geometry—a way of comprehending geometric objects using equations. When he first moved to England, he changed his name to Caucher Birkar, which in Kurdish means “migrant mathematician.” Describing his working habits, Birkar says that most days he works alone in his dining room, often listening to Kurdish or classical music, writing little but thinking hard about the problem he is grappling with.



### Katie Bouman

Computer scientist

Bouman was the brain behind perhaps the most striking image of 2019 so far. It was thanks to the 30-year-old that we were able to view the first-ever visual rendering of a black hole: an astronomical phenomenon that had previously been difficult even to conceptualise. The golden halo floating 55m light years from Earth was viewed countless times. Bouman’s technical achievement is indisputable, involving years of research, more than 200 scientists and a planet-scale array of telescopes from Antarctica to Chile. Meanwhile, the popular impact was unrivalled. More great things surely await.



### Anne Case and Angus Deaton

Economists

Deaton won the Nobel prize for elucidating consumption choices; as a health economist, Case has made sense of how disease strikes over the course of life. But for impact, nothing either half of this married couple has done before matches their crunching of US mortality data. They spotted an epidemic of “deaths of despair” (suicides, overdoses, cirrhosis) among less-educated white Americans. The epidemic has pushed nationwide life expectancy down, and these kind of deaths are now hitting the young earlier. Decades after American wages got stuck, the political consequences are stark. But it took Case and Deaton to show us the human toll.



### Patricia Churchland

Philosopher

What is consciousness? It’s one of the most mysterious philosophical questions. Churchland stands out for her original and insightful answer, drawing on both philosophy and neuroscience (her neurophilosopher husband Paul is her collaborator). She avoids crude reductionism that claims consciousness is simply an illusion, but also steers clear of anti-scientific mysticism. Consciousness, love and free will are real, she says—they just originate in the physical workings of the brain. Added to her intellectual heft is a tendency to throw philosophical punches—and she is not to everyone’s taste. Her new book *Conscience* on the origins of moral intuition will wind up the usual suspects.



### Ta-Nehisi Coates

Writer

Few magazine essays have been as influential as Coates’s “The Case for Reparations,” published in the *Atlantic* five years ago, which sparked a debate across America about the debt owed to black Americans due to slavery and decades of discrimination. This June, that debate finally reached Congress. His book of essays on the Obama years, *We Were Eight Years in Power*—published after the election of Donald Trump—summed up the hopes and disappointments felt by one-time supporters of America’s first black president. But Coates’s influence is not limited to politics—he is also the author of the new *Black Panther* comic book series, and now a novelist.



## Sarah Churchwell

Writer

In the age of Trump, it is perhaps not surprising that one of the most thoughtful writers on the cultural history of American politics is an expert in fiction. A scholar of modern US literature, Churchwell's latest book, *Behold, America*, perfectly encapsulates her role as a public intellectual by delving into the long and fraught history of the phrases "America First," and the "American Dream." Churchwell not only sheds light on the rhetoric of the current US president, but helps explain the thinking—or lack of it—that put him there.



## Kimberlé Williams Crenshaw

Legal theorist

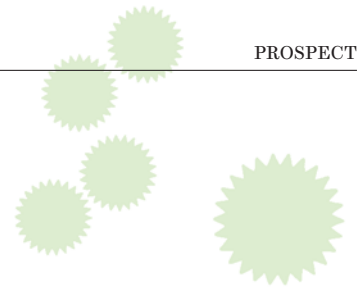
The best thinkers are able to draw lines from history to the present day. That is certainly the case with Kimberlé Williams Crenshaw, the lawyer and professor who coined the term "intersectionality" three decades ago. Created to help explain the intersecting forms of oppression faced by African-American women, Crenshaw's term is now used widely in discussions of racial inequality and various forms of social justice, and has been cited as helping inform the Constitution of South Africa. More recently, she has shone crucial light on police brutality and challenge violence against women and girls worldwide.



## Niall Ferguson

Historian

Few historians have the range or are as intellectually combative as Ferguson. From the history of money, to a defence of empire-building to writing the life of Henry Kissinger—no subject is too large. His 2017 book *The Square and the Tower* offers nothing less than a new way of looking at the last 500 years. During that time, top-down hierarchies have been challenged by horizontal networks—think the Reformation or French Revolution—only for those hierarchies to reassert themselves. Will this happen again with social media? The tension between these two forces has, he argues with customary confidence, shaped our past and may shape our future.



## Frans de Waal

Primatologist

How intelligent are animals? Do our fellow creatures think and feel like we do? Dutch primatologist Frans de Waal has spent a lifetime investigating these questions, while studying and living among primate colonies. He has exceptional first-hand knowledge of our closest evolutionary cousins, as demonstrated in this year's *Mama's Last Hug*. De Waal draws on a wealth of evidence to support his view that apes—and animals in general—are far cleverer than we suppose, with a clear sense of right and wrong. His important work is about what it means to be an animal, but also about what it means to be human.



## Peter Frankopan

Historian

Recently adorned with the grand title of Professor of Global History, this Oxford historian has engendered a popular revolution in the way we see the past. His hugely successful *The Silk Roads* and its sequel *The New Silk Roads* decentre the west, and tell the story of civilisation from the east—China, India, the Middle East—where power lay until relatively recently. Frankopan's work, working across multiple languages and cultures, is an antidote to parochial narratives of the past. With the resurgence of China and its new silk road endeavours, it's more relevant than ever.





**Claudia Goldin**

Economist

Goldin's research on the gender pay gap has framed the current debate on workplace equality. Her argument—that the gap has less to do with sexism and more to do with mothers choosing jobs with part-time or flexible hours—puts pressure on employers to properly consider work/life balance. She was drawn to focusing on women in the economy in the 1970s when, as she put it, “I realised that something was missing... the wife and mother. I neglected her because the sources had.” It's an error she's devoted her career to correcting. Most recently she has been highlighting the flaws in the family policies of the 2020 US presidential contenders.



**Houman Haddad**

UN adviser

The UN executive behind the “Building Blocks” programme, Haddad is working to introduce new blockchain technology to refugee camps. Facial recognition software and information storage can increase efficiency in getting money and therefore food to refugee camps (early results suggest a 98 per cent reduction in banking fees) and allow refugees to build a “digital wallet,” essential for proving their identity. Given that the refugee crisis is likely to continue to be an urgent political question, Haddad's work for the World Food Programme shows the compassionate possibilities of technology for displaced people everywhere.



**Brenda Hale**

Head of the Supreme Court

The modesty of the UK Supreme Court's President (she confesses to “impostor syndrome”) didn't stop her shattering the glass ceiling. As a legal scholar, she has written about family and mental health, fields at the interface of justice and society. As a judge, she rigorously dispatches the law—sometimes “we must harden our hearts”—but nudges things in a progressive direction when she has the opportunity, on the definition of domestic violence for example. Unlike Jonathan Sumption, another world thinker, she is an enthusiast for the Human Rights Act and European Convention.



**Yaa Gyasi**

Novelist

There have been plenty of recent novels about the Atlantic slave trade but none has had the experimental boldness of Yaa Gyasi's *Homegoing*. Ghana-born, US-raised, Gyasi begins in 18th-century West Africa with the marriage of a British governor to a local woman. We follow their story, and that of their descendants, right up to the present day in racially divided America. Exploring the controversial and disruptive subject of African complicity in the slave trade and the way racial trauma can be passed down the generations, this work marks Gyasi as one of the most exciting young literary talents around.



**Jonathan Haidt**

Social psychologist

He riles left-wing campus activists, telling them that feelings can lead you astray. He refuses to divide people into angels and demons: there's good and bad in everyone. That should be a truism, but in today's US it can be controversial. Curious about the values underlying all political persuasions, he warns the left that focusing only on fairness and care means talking past voters who care about things like authority and patriotism. Some dismiss the resulting pluralism as mushy centrism. But any liberal wondering how to clamber out of the culture war trenches should read him.



**Shadi Hamid**

Political analyst

In his persuasive book *Islamic Exceptionalism*, the Brookings Institution fellow argues that religion will likely always dominate Middle Eastern politics and that Islam needs to find a place in the democratic process. Recently he wrote that the tragedy of the late Mohamed Morsi, the Muslim Brotherhood Egyptian President ousted in a coup, was that he wasn't given the chance to domesticate Islamism. On the US home front, Hamid engages with both left and right, welcoming Alexandria Ocasio-Cortez's contribution to democratic debate, but also denying President Trump is a tyrant. What links his work is an emphasis on democratic institutions and the importance of due process.


**Katharine Hayhoe**

Climate scientist

Hayhoe straddles disciplines. An atmospheric scientist by training, she is now a professor of political science and director of the Climate Science Center at Texas Tech. The author of over 120 peer-reviewed publications—covering the role of methane, wildfires and forests in the climate story, as well as the looming death toll from summer heatwaves—she is distinctive among climate scientists for bringing an unusual trait to her activism: her faith. In a country where much of the Christian right indulges in climate denialism, Hayhoe’s work with religious audiences has led fellow scientist John Abraham to call her “perhaps the best communicator on climate change.”


**Lina Khan**

Lawyer

Khan was a 27-year-old law student when she published “Amazon’s Antitrust Paradox” in the *Yale Law Journal* in 2017. That single scholarly article has reshaped the debate over monopoly law. Amazon’s dominance of shipping, technology and warehouse infrastructure means that thousands of retailers and independent business are “increasingly dependent on their biggest competitor.” Amazon may be famous for its low prices but it is still, she argued, a monopoly. And since prices have been the barometer by which monopolies are judged, that means we need to rethink anti-trust policy. Khan is now an Academic Fellow at Columbia Law School.


**Kate Manne**

Professor of Philosophy

An associate professor of philosophy at Cornell University, Manne has been at the forefront of the debate over misogyny in the wake of the #MeToo movement. Examples include her own book *Down Girl: The Logic of Misogyny*, and also her thoughtful take-down of Jordan Peterson’s *12 Rules for Life* (Peterson threatened to sue Manne after she described him as a misogynist). Manne’s work is not limited to feminist philosophy, stretching into moral and social philosophy too. Though as she describes it, “all my work is about authority, domination, deference and hierarchies, in one way or another.”


**Eliot Higgins**

Investigative journalist

Technology has its downsides—but Higgins’s work proves there are also positives. The founder of Bellingcat, an investigative website that developed methods for ingeniously piecing together information gleaned from across the internet, has broken a series of vital stories about the wars in Syria, Yemen and Ukraine. His most high-profile work deployed these techniques to reveal the identity of Skripal poisoning suspects. Higgins believes in the open internet, especially the good it can do in closed societies—and delivers training programmes to other researchers, journalists and investigators around the world.


**Juan Martín Maldacena**

Theoretical physicist

The Argentinian may well be remembered as the first truly great theoretical physicist of the 21st century. Unassuming yet deeply imaginative, he is tackling gravity, information and the fabric of the universe. At Princeton, Maldacena discovered a surprising equivalence between string theory and quantum theory, offering some unity between the currently incompatible theories at the heart of fundamental physics. His work led to the hypothesis that a connection between quantum particles—called entanglement—might be related to wormholes in spacetime, which suggests that spacetime itself might be woven from quantum entanglement. He won the 2018 Albert Einstein Medal.


**Cas Mudde**

Political scientist

We’re living in an age of populism—and Cas Mudde is the one who saw it coming. A Dutch academic who had witnessed the rise of the extreme right in the Netherlands, in 2004 he defined modern populism, and laid the groundwork for the next decade of research and reporting. With work that is devoid of some of the sensationalism of other academics working on this issue, Mudde has been a voice of authority, and has persuasively demonstrated to the left that it will never win by playing on the turf of the anti-immigrant parties. His latest work on understanding the different strands of the far right in western politics today could be just as important. ▶



**Divya Nag**  
Medicine in tech

Dropping out of Stanford aged 20, Nag has gone on to become head of Apple special projects on health before the age of 30. Last autumn her ResearchKit team announced new tools for the Apple watch, which can monitor your heartbeat in real time and call an ambulance automatically if you fall unconscious. As medicine becomes more personalised, Nag's work will only become more in demand. A talented innovator, she and her team show the potential upsides of big tech, despite the worries of one of our other world thinkers, Shoshana Zuboff.



**Martha Nussbaum**  
Philosopher

Nussbaum's unique work has been a powerful corrective to the dry nature of much academic philosophy. Now 72, the US professor remains one of the world's most productive, clear-sighted and original thinkers. Her genius is to take philosophy and rigorously apply it to questions of art, literature and the whole range of human emotions—in persuasive prose. Recently, she has written thought-provokingly on whether anger is always immoral and how to age gracefully. Her authority on ancient philosophy, meanwhile, is undisputed. The \$1m Berggruen Prize in 2018 reflected her enduring relevance to the great debates of our time.



**Alexandria Ocasio-Cortez**  
US politician

The voluminous coverage of the 29-year-old Ocasio-Cortez, who was elected to Congress last November, has focused on her youth and personality. Certainly her campaigning skills, mastery of social media and “up from the Bronx” story are striking. But what's most interesting about her meteoric political career is that her success is based on ideas. It was her manifesto—healthcare for all, tuition-free university and a federal jobs programme that set her on her path. She is the force behind the Green New Deal and has put taxes (and how much the rich pay) back on the American political agenda. Ocasio-Cortez is the politician that proves that ideas and policies can make a difference.



**David Olusoga**  
Historian

Born in Lagos and raised on Tyneside, David Olusoga has become one of Britain's most challenging historians. Olusoga's skill is to remind us of parts of our history we've forgotten—or never even been taught. His writings on Windrush, the legacy of empire and the long history of racial diversity in Britain have been crucial to our collective understanding of the nation. His BBC series *A House Through Time* looked at the chequered history of his town house in Liverpool, once owned by a trader in slave-produced cotton. Olusoga has brought his work to a wider audience through other documentaries, including as one of the triumvirate on the rebooted *Civilisations*.



**Robert Plomin**  
Behavioural geneticist

Do genetics matter? Thirty years ago the consensus, among social scientists at least, was that nurture reliably trumped nature. Plomin disagrees. Now that we have mapped the human genome, we are able with much greater accuracy to predict a propensity for mental illness and whether you will be successful in school. Crucially, Plomin does not believe genes are necessarily destiny—the title of his book *Blueprint* is somewhat misleading. Rather they show how innate tendencies are more likely to be activated by environmental factors. So if we can't help the genes we're born with, we can change society to even out the odds. ▶





### Lucy Prebble

Playwright  
and screenwriter

The playwright first came to public attention 10 years ago for writing *Secret Diary of a Call Girl* and *ENRON*, her brilliant account of corporate misgovernance. As a producer and writer on HBO's *Succession*—whose second series is about to air—she took on a Murdoch-like dynasty that is being torn apart by inter-generational rivalry. Prebble is a clever, funny writer with an eye for a big story, and an ability to get under the skin of powerful men—and women. Expect her to be the sole show-runner of a Netflix epic in the near future.



### Maria Ressa

Journalist

We live in times where truth, and a determination to expose it, is an ideal that has to be defended. This journalist from Manila—who rose to become CNN bureau chief for the city, then head of the Philippines' largest news network—created Rappler, her country's first internet-based news site. After the election of Rodrigo Duterte—the original “fake news” strongman—she has become a political player. As Rappler has reported on Duterte's extra-judicial killings, Ressa has become a presidential target. She is at the forefront of the new fight between information and disinformation, targeted by trolls and by her government. For the truth, she is prepared to risk everything.



### Dani Rodrik

Economist

If mainstream economics has a core doctrine, it is that all sides gain from free trade. Dani Rodrik respects this logic, yet he is also aware that his father's pen business and the wider Turkish middle-class he hails from relied on protectionism for their existence. He long ago highlighted the tension between globalisation and democracy, newly-prescient work under Trump. He explains how the aggregate gains of modern trade deals are overwhelmed by vast redistribution which creates many losers. His mastery of the conventional toolkit of neo-classical economics is total, but he uses it to demolish neoliberal political doctrines.



### Jacqueline Rose

Psychoanalytic scholar

Explaining the motivation behind her most recent book, *Mothers: An Essay on Love and Cruelty*, Jacqueline Rose explained that she wanted to create “a truer, more ... disturbing account of motherhood in our general culture.” A psychoanalytic and literary scholar, Rose's work unsettles comfortable definitions. Her exhilarating essays on harassment and Oscar Pistorius are only some of the recent interventions she has staged in a cultural and political milieu increasingly concerned with unpicking the complexities of women's social position. Now based at Birkbeck, University of London, Rose's writing on masculinity, femininity and everything in between is vital to understanding our current times.



### Max Roser

Economist & data analyst

New forms require new kinds of minds. Infographics, the child of big data and animation software, can convey an awful lot at speed. The late Swedish epidemiologist, Hans Rosling, was the first master—hunting out hidden truths in spreadsheets, and turning them into “factful” presentations. Roser has picked up where he left off, tracking down trends that matter—for example, rates of infant mortality—and painting stark pictures. Yet often they reveal progress, so you get the heartening counter to pessimism you also get in a Steven Pinker book, but without having to buy any over-arching thesis. It's all published under Creative Commons, so copyright needn't slow the march of truth.



### Arundhati Roy

Novelist and activist

For more than 20 years, the Indian writer has courageously championed those steamrolled by India's rapid advance towards modernity—whether it is villagers displaced by dams, victims of the caste system, or the conflict in Kashmir—as amply displayed by her newly published collected non-fiction *My Seditious Heart*. But Roy's real talent is for fiction: her 2017 novel *The Ministry of Utmost Happiness* takes direct aim at Narendra Modi's nationalist India, while finding hope in the country's tradition of spiritual radicalism. Her soft spot for Maoist revolutionaries can seem naive, but her fearsome eloquence is undeniable.



## Hyun-Song Shin

Economic theorist

Shin's research ranges from big tech to the implications of inflation during the Thirty Years' War for our crypto-currency age. Exchange-rates and the risk of contagion loom large, appropriately given his role at the Bank for International Settlements. A Korean who was thinking about the 1997 Asian crisis before the west's meltdown in 2008, he was an early advocate of "macro-prudential" regulations that lean against the cycle—taking the punchbowl away in time to stop financial parties getting out of control. Economics is overdue a paradigm shift so that finance is treated as fundamental, rather than an afterthought. Shin is pointing the way.



## Amia Srinivasan

Philosopher

Still early on in a meteoric career, Srinivasan applies the clarity of analytic philosophy to profound continental questions, bridging the discipline's divide. A run of essays on octopuses, termites and the right to sex have mixed rigour, a sharp pen ("humans have often looked at insects and seen themselves;" "sex is not a sandwich") and an instinct for zeitgeisty themes: consciousness in the robot age, animal rights and #MeToo. Yet she'll happily swim against the tide: she's interested in reviving the once unfashionable notion of false consciousness. Politically engaged and writerly, she is a very much a philosopher of the 21st century.



## Greta Thunberg

Climate change activist

On 20th August 2018, after a summer of heatwaves and wildfires in her native Sweden, 15-year-old Greta Thunberg decided not to attend school: if the planet had no future, she argued, there was no point in studying. Inspired by "school strikes" against shootings in the US, Thunberg's demands were straightforward: that the Swedish government reduce carbon emissions as per the Paris Agreement. Thunberg has since inspired a wave of school strikes across the world—with an estimated 1.4m students taking part—and spoken at the UN Climate Change Conference. She says her autism, far from being a hindrance, helps her see the world's problems in black and white. She certainly speaks with blistering clarity.



## George Soros

Philanthropist

By shorting sterling in 1992, Soros became the notorious "man who broke the Bank of England." But the financier turned philanthropist now gives time and money to promoting freedom and democracy in places where they are in short supply. As a Jewish teenager he survived Nazi-occupied Hungary, but now endures Viktor Orbán's smearing of him as a puppet master. The caricature is wrong. A student of Karl Popper, who held that anything meaningful could be falsified, Soros is a pluralist who gives money with few strings attached. Never assume that two Soros-funded foundations will be on the same side of the argument.



## Jonathan Sumption

Jurist

Now retired as a Supreme Court Judge, Sumption was free in his recent BBC Reith lectures to unleash a forensic critique of the encroachment of the judiciary on matters he thinks would be better left to individual conscience or democratic debate. His scepticism about human rights law and positive discrimination annoy his fellow lawyers—something he relishes. Some also worry that he doesn't care enough about unpopular minorities or the tyranny of the majority. But this is certainly a creative mind—witness his acclaimed history of the Hundred Years' War—as well as a contrarian one. And an Etonian jurist sticking up for the ballot box against the bench certainly enlivens the debate.



## Adam Tooze

Economic historian

As a historian of the 20th century, Tooze soars and dives: one page a forensic low-down on the structure of war debts, the next a broad look at the world order. Now he has taken the same tack with the 21st-century global financial crisis. *Crashed* exposes the financial system's hidden wiring, and the inadequacy of nation-based macroeconomics in a world of border-straddling banks. The prevention and cure of future crises require a new international "macro-financial" perspective. He also puts his Twitter addiction to public service, with a stream of enlightening charts on currencies and green energy transitions.



### JD Vance

Memoirist

How did a venture capitalist from the wrong side of the tracks become one of America's freshest voices? Vance's *Hillbilly Elegy*, a memoir of his upbringing in poverty-stricken rural Ohio and Kentucky, is a defence of Appalachian family values and a roadmap for social mobility. The *New York Times* bestseller, full of compassion for the white working class, laid out the shifting political allegiances—from Democrat to Republican—that led to the rise of Trump. Criticised for its harsh judgments on those who seem to lack a work ethic, *American Conservative* blogger Rod Dreher argues that: "Vance has earned the right to make those judgments. This was his life."



### Xu Zhangrun

Political scientist and dissident

If Xu Zhangrun worried that his essays published earlier this year criticising China's repression under Xi Jinping might not cause a stir, the Chinese state helpfully ensured they received the prominence they deserved: Xu was suspended from his post at Beijing's Tsinghua University and barred from leaving the country. In the past year Xi has entrenched his power, including the scrapping of presidential term limits. Xu warned that Xi's moves had "nullified more than 30 years of reform and opening up and slapped China back to the scary era of Mao." Especially after the state's reaction, Xu's critique has struck a chord.



### Gabriel Zucman

Economist

Since emerging from the stable of Thomas Piketty and his US collaborator Emmanuel Saez, Zucman has concentrated on the question of where the vast riches of our age are hidden: tax havens. More recently, again with Saez, he's turned to plans for taxing the wealth of the new gilded age, crunching the numbers for Democratic presidential hopeful Elizabeth Warren. Confronting him is the big brain of the US economics establishment Larry Summers, who suggests it won't work, or at least work well enough to bring in all the serious money claimed. But if the US could find a way to crack down on the tax havens, too, it just might.



### Amina Wadud

Theologian and activist

Born into a Christian African-American family, Wadud converted to Islam aged 20. Now an academic in the US, she works in the innovative field of Islamic feminism, mining the Quran for gender-egalitarian interpretations. She argues that women can have equal authority in Islam—she herself has led mixed-congregation prayers, usually a role accorded to men. Accused by conservatives of subverting true religion, and by feminists of being a religious apologist, she remains forthright in her views. Her work is especially relevant to women who feel western feminism does not take proper account of non-western cultures.



### Shoshana Zuboff

Sociologist

The Harvard sociologist who conceived the term "surveillance capitalism," Zuboff is an indispensable guide to navigating the rapidly advancing technologies that have come to dominate our world. Her recent book takes on both Google and interactive game *Pokémon GO* to elucidate the darker side of searching, clicking and buying. For her, the way companies like Facebook and Amazon track their users to sell them products is a sinister form of control by "an exclusive data priesthood." Zuboff, who has been writing about tech since 1989, has brought together a coherent theory of why we shouldn't welcome our new digital overlords.

*Biographies by Philip Ball, Steve Bloomfield, Stephanie Boland, Tom Clark, Alex Dean, Rebecca Liu and Sameer Rahim*

## The voting

The public vote determined the identity of *Prospect's* top 10 of 2019. Continue reading to find out the winner.



# The world's top 50 thinkers

## The results

Tens of thousands voted to choose the world's top thinker from the 50 names we presented in our last issue. Here we speak to the winner, Cambridge mathematician **Caucher Birkar**, and overleaf reveal the rest of the top 10—and the names you said we missed

ILLUSTRATION BY MICHELLE THOMPSON



**Winner**

**Caucher Birkar**

Interview by *Prospect's* Tom Clark

There has been phenomenal interest in our list of the World's Top 50 Thinkers, with tens of thousands voting. After the ballot closed, I'll confess to jitters on opening the results. In these polarised times, what sort of mind would rally the most online support? One of the more trenchantly opinionated thinkers on the list seemed a safe bet, a name that would probably alienate one set or another of *Prospect* readers.

In the event, though, the runaway winner was a thinker of a different sort: the 41-year-old Cambridge mathematician Caucher Birkar. It's hugely satisfying to see work of pure thought honoured in this way—and doubly so because this is a Fields Medal winner with quite a backstory.

Birkar is a Kurd from Iran, one of four states that plays home to the stateless Kurdish people, and one where the traditional answer to their national aspirations has been an iron fist. Born in 1978, he grew up right by the border with Iraq; the bloody war raged throughout his childhood in the 1980s.

Speaking over a crackly connection from China, where Birkar is giving a lecture, he tells me how his family made a living off the land in western Iran: "My parents were farmers, as all my ancestors were farmers. We had a piece of land around the village and we—including myself and my brother—were charged with going to work on these fields, and grow all kinds of vegetables... wheat, and barley... We essentially produced almost everything we consumed."

Did mathematical know-how lurk in this unlikely setting? "My mother never attended any school," Birkar replies. "My father attended school up to primary school, and then he did not continue because it just wasn't really practical." Birkar's talent for numbers was nurtured by his brother, six years older and then in secondary education. From the age of 10 or 11, he was introduced to "more advanced maths and physics... things like calculus." In the UK, that's the kind of thing you study at A-Level. Birkar, however, wasn't studying maths to pass an exam: the great thing, he says, was realising you "could learn things just for fun, not just to get good marks in school."

Birkar went on to study maths at the University of Tehran, and in 2000 arrived in the UK to take part in an academic competition. He never went home: instead, he claimed asylum, changing his name from Fereydoun Derakhshani to Caucher Birkar, which in Kurdish means "migrant mathematician." ▶



But what of his award-winning mathematical work? In journalism, a bit of bluffing comes with the territory. But when you talk to Birkar, it's soon clear that there's no bluffing your way through his field of contemporary "algebraic geometry." The phrase itself doesn't seem too daunting: Pythagoras's rule, which most of us studied at school, expresses geometric relations as algebra. But when I cheerfully inquire about whether his work could be thought of as advanced Pythagoras, I am corrected. It would be "misleading" to suggest that mathematicians were "just doing anything like Pythagoras... after almost 3,000 years!"

So what does Birkar's work involve? The simplest—if semi-metaphorical—answer turns out to be finding connections between complex shapes.

But when I ask for a pithy summary, he first offers this explanation: "The solution of polynomial equations." These are a class of equations with multiple terms ( $X, Y$ ) typically raised to varying powers ( $X^2, X^3$ , etc). So where does the geometry come in? Such equations are often used to describe shapes. Birkar explains that his thought proceeds in "two different languages: on one side, we have algebra, which is the equation and functions; on the other side, we have the geometric thing."

Notably careful and precise, Birkar uses the imprecise word "thing" here, I think, because "shape" won't quite do. Ordinarily he's working in many more than three dimensions, with constructs that defy visualisation. But if he's no longer dealing in shapes you can visualise, is this geometry at all? Yes, he tells me: "there is still intuition" that makes the "spaces" that "you can't really draw" more mentally tractable than would be the case if you were doing equations without thinking visually. Algebra "gives you the techniques to criticise it and formulate it"; "the geometry," the "intuition" about what "to do, what direction you should take."

But what are you actually trying to do with these "things" or "spaces?" Birkar offers a pleasing comparison with biology, where "you're putting living creatures into a group and you call them... mammals, [then] call another [group] fish or whatever," not because all fish or all mammals are "the same," but because "they share many similarities." He says that what he is trying to do is, in essence, group the "spaces" that come out of his equations: "to put them in different groups, so that those in the same group will share similar properties."

The roots of Birkar's field can be traced back to the 19th century. By the early 20th century two-dimensional spaces were sorted out, while the third dimension was nailed between the 1970s and 90s. The difficulties multiply with dimensions four and up, which is where Birkar continues the work.

Is this really mathematical thinking for its own sake? Much of the impetus comes from other sub-disciplines, Birkar says, suggesting that his own work has "very deep connections" with number theory. Different branches inspire one another, and also devise new problem-solving tools for each other. But there are also "connections with other types of science," most especially physics, and more applied fields like computer science and cryptography. There are practical applications, too. "When someone gets cash out of the ATM machine," he says, "it's likely algebraic geometry is being used."

Safely brought back down to three-dimensional Earth, I ask Birkar about politics. This certainly impedes on his personal life. Although he lives in Cambridge with his wife and son, where he will soon join Trinity College, which has a long mathematical pedigree, he can no longer go back to Iran to see his family, and it's extremely difficult for them to visit him.

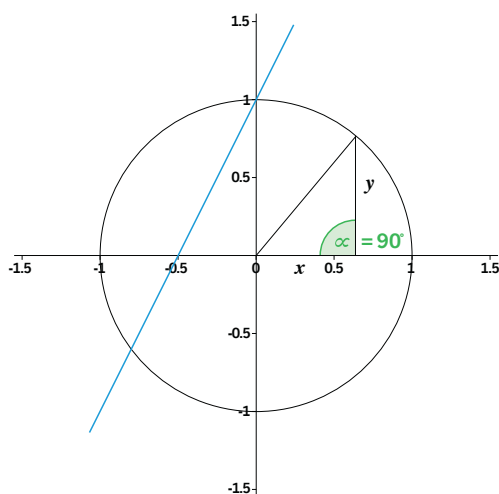
But he remains sanguine about the broader picture. He finds the rise of the right "worrying, but it's not the end of the world... look at the last 1,000 years and you see a lot of ups and downs." And while politics thwarted science in centuries past, Birkar argues that this is less likely now, given that "young people know more and more about what's going on in the world." Brexit is certainly a bump in the road, "because there will be probably less money... less movement of people and so on." But on a "100-year" view, he is confident that the march of understanding will continue.

He also insists on the connection between his discipline and the wider world of thought—and challenges the caricature of mathematicians as a breed apart, "crazy people who don't care about anything but their equations."

In truth, Birkar argues, "mathematics is part science, part art," and often goes hand-in-hand with other interests. In his own case, these include "psychology, human history, natural history and music." (He often does his brain-stretching

work while listening to western classical or Kurdish music.) His hero is Alexander Grothendieck, the stateless father of algebraic geometry, who fled the Third Reich as a child, quit mathematical institutions in France because of their military funding, and went to Vietnam to give lectures on category theory in the forests surrounding Hanoi as a protest against American bombing.

Even so, Birkar says, some still think of an intellectual as "someone working in literature," and "struggle to digest the idea that a mathematician can be a top thinker." In Kurdish, however, it transpires that "Birkar" doesn't just mean "mathematician"—it also means "thinker." ▶







**Calculated thinking: top, a beginner's guide to algebraic geometry (Birkar's work moves well beyond 2D); below, Birkar collecting his Fields Medal in Rio de Janeiro in 2018**

## Who made the list...

Mathematician **Caucher Birkar** won by a landslide, getting more than half the total votes. Judging by the comments we received from his fans—many in Kurdish—it seems likely he tapped into support from that part of the world. No one ever said online polls were as rigorous as maths. In silver and bronze positions are thinkers with different kinds of support networks behind them: **Max Roser**, whose online charts celebrate human progress; and **Houman Haddad**, whose blockchain work helps refugees. More surprising inclusions are Democratic politician **Alexandria Ocasio-Cortez** and climate change campaigner **Greta Thunberg**; but if changing people's minds counts as thinking—as it surely does—then their position makes sense. He might not be as well known but **Frans de Waal's** primatology is about being human, as well as being a chimpanzee.

For their work in race studies and feminism respectively, **Kimberlé Williams Crenshaw** and **Kate Manne** were popular; as was social psychologist **Jonathan Haidt**, a sceptic of the way he thinks universities indulge their students. The culture wars are alive and well, it seems. The other economist on the list, **Dani Rodrik**, is sceptical of globalisation. It seem that economists with an interest in where markets go wrong grab more public interest than those only interested in theorising why they are always right.

## The rest of the top ten

2.  **Max Roser**  
Economist & data analyst
3.  **Houman Haddad**  
UN adviser
4.  **Frans de Waal**  
Primatologist
5.  **Jonathan Haidt**  
Social psychologist
6.  **Kimberlé Williams Crenshaw**  
Legal theorist
7.  **Dani Rodrik**  
Economist
8.  **Greta Thunberg**  
Climate change activist
9.  **Alexandria Ocasio-Cortez**  
US politician
10.  **Kate Manne**  
Professor of philosophy

## ...and who we missed

Here at *Prospect* towers, we agonised over our list of thinkers. In the later stages, it got brutal: sure, he's won a Nobel, but is he really that good? She's great, but does campaigning really count as thinking? Not everyone got who they wanted. But one pleasure of the process was listening to arguments about people you were sceptical about at first, and by the end championed as fervently as a Kurd backing their national maths genius.

We consulted with outside experts, but still weren't arrogant enough to think our picks were definitive. So we offered the chance to you, the readers, to set us right on who we missed. Just over 15 per cent of those who voted did so. Interestingly, the names conjured were strikingly different from the kind of thinkers voted into our top 10.

Five names we had already discussed and rejected: **Jordan Peterson** (philosophy in brief: man up and eat meat) was on the initial longlist, but no one could muster a defence of him as a thinker as opposed to a phenomenon. Peterson's opponent in the recent "debate of the century," **Slavoj Žižek**, was also a readers' fave; but whether it's down to the Stalin portrait in his bedroom, or his recent claim that the west romanticises refugees, the shine has rubbed off the Slovenian paradox-monger.

Two others nominated were **Sam Harris** ("We are at war with Islam") and **Douglas Murray**, who managed to write a book about Islam in Europe without knowing anything about the subject. Think of them as waging a jihad on thought. Eagle-eyed readers might detect an emerging theme: big guys with big thoughts. Whether on the left (**Noam Chomsky**) or the right (**Roger Scruton**), these are men—all men—who have rarely found a subject they didn't have a strongly held opinion about. Three are part of the so-called Intellectual Dark Web, a shadowy alliance of subversives who get profiled in samizdat publications like the *New York Times*.

Further down, though, there were some fresher suggestions. Why honour only individuals, when great work is often done in teams like LIGO, CERN or NASA? Someone fairly pointed out a dearth of European thinkers. We could have plugged that gap by plumping for another reader choice, that wizard of psychology and tactical nous, Manchester City manager **Pep Guardiola**.

For the judges, at least, the identity of the voters was anonymous. But I entertained myself by guessing who they might be. Who demanded Derrida translator **Gayatri Chakravorty Spivak** and comedian **Ricky Gervais**? Who voted for former Supreme Court judge **Jonathan Sumption**, and then put forward **Noel Gallagher**? (I'm guessing a barrister in his forties who spends his evenings searching the web for vinyl editions of *Definitely Maybe*.)

I was most curious, though, about who suggested **Dominic Cummings**, currently holed up in No 10 game-theorising 17 different possible Brexit outcomes post-31st October. No matter: Boris Johnson thinks he's the one to square the backstop circle. Whether Cummings will be a contender for next year's list only time, as they say, will tell. **P**

Sameer Rahim