

## CYBERSECURITY

# The cold war online

Steven Aftergood weighs up an analysis of the fierce conflict destabilizing the Internet.

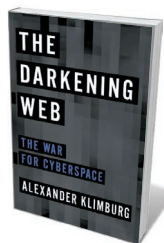
The Internet is under attack, and not just by hackers, thieves and spies. As Alexander Klimburg reports in *The Darkening Web*, governments that insist on their own primacy are increasingly assaulting the idea of this digitized landscape as a transnational commons. Cyberspace is becoming a war zone in a new era of ideological combat.

Klimburg — director of cyber policy at the Hague Centre for Strategic Studies in the Netherlands — sees the combatants as belonging to two groups. The forces of the ‘free Internet’ favour the unconstrained flow of information, independent of national borders or cultural barriers. The ‘cyber-sovereignty’ camp, led by Russia and China, demands greater government control of the Internet and of information. To sustain its massive censorship operation, China’s ‘Great Firewall’ employs more people than serve in the country’s armed forces.

The stakes are enormously high, writes Klimburg. Will the Internet be permitted to realize its potential to support a global civilization? Or will it be turned on itself to reinforce historical divisions between nations — another chapter in an interrupted cold war? Aggression and suppression online are commonplace. A diplomatic crisis in the Middle East and Africa this year may have been triggered by Russian hackers planting a false story in the Qatari state news agency. The Turkish government cut off access to Wikipedia in April after critical commentary appeared in the online encyclopaedia. Yet cooperative efforts to improve cyberdefences — such as an agreement between Vietnam and Japan in April, and between Singapore and Australia in June — are also on the rise.

*The Darkening Web* provides a sweeping yet nuanced overview of how we got to where we are online, with ample backstory.

Klimburg describes how the Internet’s operation depends on many discrete parts and participants, including governments, the private sector, civil society, academics and private individuals. Together, they provide the infrastructure, coding and content that comprise cyberspace, as well as the increasingly



**The Darkening Web: The War for Cyberspace**  
ALEXANDER KLIMBURG  
Penguin: 2017.



Members of the US Navy Cyber Defense Operations Command monitor unauthorized network activity.

required capacity for emergency incident response. The multistakeholder model of Internet governance is part of what enables it to transcend national boundaries. Remarkably, Klimburg notes, “all nations that participate in the Internet already accept a certain loss of sovereignty”. An international non-profit organization, the Internet Corporation for Assigned Names and Numbers, has more authority over the domain-name system than has any individual government.

## INFORMATION OVERLOAD

Yet proponents of cybersovereignty have an advantage. They are, Klimburg says, perpetually on the offensive, using information as a weapon to advance national interests. The free Internet side, by contrast, struggles to defend a status quo based on international transparency and cooperation. The ultimate goal of the cybersovereignty advocates, Klimburg says, is nothing less than “a reconceptualization of the entire Western-defined global order”. And they seem to have the wind at their backs. Heightened concerns about online security are leading to increased governmental policing of cyberspace. Russian hacking of political campaigns and manipulative ‘influence operations’ during the 2016 US presidential election made dramatically clear the possibilities of weaponizing information. Rising nationalism and political polarization

in the West may exacerbate the situation.

Writing in *The Wall Street Journal* in May, White House national security adviser H. R. McMaster and National Economic Council director Gary Cohn said: “The world is not a ‘global community’ but an arena where nations, nongovernmental actors and businesses engage and compete for advantage.” They continued: “Rather than deny this elemental nature of international affairs, we embrace it.” Substitute ‘cyberspace’ for ‘the world’ here, and it amounts to a US affirmation of the push for cybersovereignty. Furthermore, after the London Bridge terror attack on 3 June, UK Prime Minister Theresa May seemed to endorse new government restrictions on online information when she called for “international agreements to regulate cyberspace to prevent the spread of extremism and terrorism planning”.

Problem areas are unequivocally legion, and include ‘bad content’ online, such as incitement, libel and child pornography. Yet, Klimburg notes, from a free Internet perspective these should be dealt with as a law-enforcement matter, not by pre-emptively restricting communication. The defence of the Internet has to be conducted on multiple levels. There is, however, an ongoing semantic struggle over the very terminology of cybersecurity, as each side attempts to import or exclude specific connotations. As Klimburg

US DOE

writes, Russia and China define 'information security' in a way that mirrors their aim of legitimizing state control over information.

There are efforts through the United Nations and other forums to devise norms for conduct in cyberspace, which may either enhance or diminish national power over the Internet. For example, the US Defense Science Board asked in a report this year: "Is it acceptable or unacceptable for nations to pre-position malicious software in each other's electrical grids, as appears to have occurred to the United States?" If it is acceptable, the board advised, the United States should do it too, if only as a deterrent. If it is not, the perpetrators should be identified and punished. Meanwhile, international diplomacy is there for resolving conflicts and, although an apparently weak reed, can sometimes be fruitful. A US-China agreement in September 2015 resulted, Klimburg notes, in "the most massive reversal in the history of cyber conflict", with Chinese cyberattacks on US firms dropping sharply.

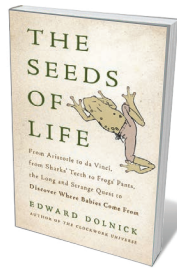
*The Darkening Web* is not a full account of current events. It barely touches on Russian intervention in the US presidential election. It does not mention the hacking group The Shadow Brokers, which acquired stolen intelligence tools from the US National Security Agency (NSA) in 2016; the global WannaCry ransomware episode in May this year; or the new Chinese cybersecurity law that vaguely aims to regulate "cross-border movement of data". What it does provide is a thoughtful framework for assessing developments in this fast-moving area.

At its best, the book questions its own premises and reflects on them. Klimburg admits that those in the West rarely see opposing perspectives clearly. So if it is hard to understand Russia's "overt level of aggression" on the Internet, that may be because other nations are ignorant of Russia's own burden of cyberattacks. The West itself, he argues, has eroded the trust that is the foundation of the free Internet by engaging in indiscriminate surveillance activities, such as some of those enacted by the NSA and disclosed in 2013 by former contractor Edward Snowden.

Ultimately, Klimburg concludes, the battle for a free Internet "is nothing less than the struggle for the heart of modern democratic society". It will be up to the democratically inclined to defend it as best they can. ■

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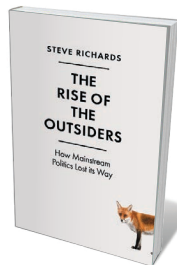
## Books in brief



### The Seeds of Life

Edward Dolnick BASIC (2017)

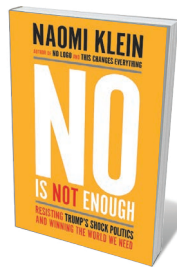
For millennia, reproduction was a black box to philosophers and physicians, who puzzled in vain over the dissected corpses of pregnant deer or the function of semen. Edward Dolnick's absorbing detective story spans outlandish ancient theories on baby-making and the nineteenth-century dawn of embryology, led by pioneers such as Oscar Hertwig. Along the way are Leonardo da Vinci finding that blood, not 'wind', engorges the penis; Regnier de Graaf literally unravelling the functions of dormouse testicles; and Lazzaro Spallanzani fitting frogs with silk underwear to test the relation of sperm to egg.



### The Rise of the Outsiders: How Mainstream Politics Lost its Way

Steve Richards ATLANTIC (2017)

A red-hot question in contemporary politics is how outsiders from Alexis Tsipras to Marine Le Pen ended up strutting the world stage. Political analyst Steve Richards asks a tough question in return: why did mainstream parties allow these "intimidatingly strong and yet transparently weak" candidates to gain a toehold? This is a smart, detailed insider's study of how, after the 2008 financial meltdown, left and right lost vision, adaptability and public trust. In the resulting vacuum, populists' big promises gained allure — until the realities of high office revealed the "powerlessness of power".



### No Is Not Enough

Naomi Klein HAYMARKET (2017)

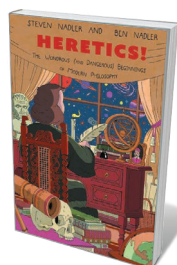
Journalist Naomi Klein is on electrifying form in this study of "shock politics" — how leaders capitalize on public disorientation after crises such as terrorist attacks, a variation on her findings in *The Shock Doctrine* (Random House, 2007). During a presidency more like a corporate merger between 'super-brand' and government, Donald Trump, Klein argues, governs through serial shocks — U-turns and edicts on everything from climate to immigration. Klein's strategy for disaster preparedness is to focus on positives, such as calling for 100% renewables. A bold, compelling analysis.



### Bugged

David MacNeal ST MARTIN'S (2017)

For every human, there are 1.4 billion insects. David MacNeal invites us to revel in that fact by roaming over this gargantuan family and the scientific subculture wrapped up in it. MacNeal is a witty, informed guide to a world of winged and scuttling wonders, where fleas can hit g forces many times those felt by a lunar rocket on re-entry, and tiger beetles make smoothies of their prey. We meet researchers using mosquitoes' stinging probosces as model hypodermic needles, and vicariously savour chemically complex wild honey from hives on uninhabited Greek islands. Entomology at its most enchanting.



### Heretics!

Steven Nadler and Ben Nadler PRINCETON UNIVERSITY PRESS (2017)

A graphic novel about the bumptious philosophers of the seventeenth century? What's not to like? Philosopher Steven Nadler and illustrator Ben Nadler have crafted an absolute gem of a science history, capturing with gravitas and zing the abstruse musings of René Descartes on mind-body dualism, John Locke on empiricist epistemology, and more. Inevitably, the Church's malign impact looms, notably over Galileo Galilei, Baruch Spinoza and heliocentrist Giordano Bruno, burned at the stake in 1600. **Barbara Kiser**