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## Interview – Antoine Bousquet

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Antoine Bousquet is an Associate Professor and Director of Studies at the Political Science department of the Swedish Defence University. His work combines studies of war and political violence, the history and philosophy of science and technology, and social and political theory in the information age. His work has analysed military technology, chaoplex theory, terrorist networks, violent aesthetics, and how war is conceptualized. He is the author of *The Eye of War: Military Perception from the Telescope to the Drone* (University of Minnesota Press, 2018) and *The Scientific Way of Warfare: Order and Chaos on the Battlefields of Modernity* (Hurst & Oxford University Press, 2009, 2022) which has recently received a second edition.

### **Where do you see the most exciting research/debates happening in your field?**

From my perspective, some of the work that is most exciting and necessary has come from IR's engagement with science and technology studies over the last decade or so. When I first came into the discipline at the height of its discursivist turn, the anathema of "technological determinism" consistently foreclosed treatments of technical objects in their material and operational specificity in favour of analyses privileging their "social construction." Through the assimilation of assemblage theory, new materialism, and actor-network theory, we have thankfully moved past the sterile conceptual binary of technology and society towards much more productive and enriching explorations of our complex sociotechnical worlds. I am pleased to see a whole new generation of scholars that are unafraid to open up the black box of technology and apprehend the inner workings of technical systems as indispensable to understanding their implications for world politics. The stakes involved range far beyond parochial disciplinary debates within IR. In an anthropocenic age characterized by accelerating technological development, building bridges between technical knowledge and that of the social sciences and humanities is arguably the most crucial civilisational challenge facing us.

### **How has the way you understand the world changed over time, and what (or who) prompted the most significant shifts in your thinking?**

The single most important encounter in my intellectual trajectory unquestionably occurred on the course on war and strategy that I took as part of my master's degree in International Relations at the London School of Economics in the late 1990s. The course was taught by the recently departed and sadly missed Christopher Coker in his uniquely erudite and idiosyncratic style, ranging freely across philosophy, literature, and popular culture to illuminate the profound intertwinement of armed conflict with the past, present, and projected futures of our world. Christopher's lectures were responsible for both my ensuing interest in the question of war and radically altering my conception of what academic scholarship could look like. When I returned to academia a few years later to undertake my PhD, I naturally sought out his supervision under which I wrote the thesis subsequently published as *The Scientific Way of Warfare*. Christopher was a supportive but hands-off supervisor who never imposed his ideas on his students; instead he gave me the freedom and motivation to attempt a quite unreasonably ambitious study roaming across four hundred years of science and war. To this day, I am indebted to Christopher for inspiring me to follow my intellectual curiosity with no regard to disciplinary boundaries or methodological gatekeeping.

### **How would you describe the "scientific way of warfare"?**

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The scientific way of warfare refers to the enduring influence of science and technology on the theory and practice of warfare across the modern era. This extends beyond the obvious role of technical objects like the machine gun, airplane, or nuclear bomb to the ways in which successive scientific understandings of the world have permeated the conceptualisation of warfare and the models for the organisation of armed force. I propose a broad periodisation according to the different technologies and corresponding scientific worldviews that have consecutively dominated the military mind.

The technology of clockwork associated with the early science of mechanism provided an initial metaphorical model for the ordered motion of matter in the universe that found its martial embodiment in the heavily drilled and tightly synchronised manoeuvres of armies in the eighteenth century. With the arrival of the engine and the associated science of thermodynamics, a new worldview centred around the dynamic processes of energy came to the fore. War correspondingly became an activity increasingly determined by its ability to mobilise, harness, and project energies, be they those of popular passions, industrial production, motorised transportation, or explosive weaponry. The Second World War marked the culmination of this thermodynamic way of warfare with the advent of nuclear weapons but it also provided the conditions for the emergence of a new scientific worldview based on the notion of information and the technology of the computer. The era of the Cold War is accordingly best understood in terms of cybernetic conceptions emphasising the role of information feedback loops and automatic self-regulation reflected in the proliferating technologies of command and control.

Finally, the latest regime in the scientific way of warfare, gathering momentum in the final decades of the last century, has grown out of the developments in the sciences of chaos and complexity (or “chaoplexity”) that illuminate the dynamics of self-organisation and bottom-up emergence that underlie the creative adaptations of life. Chaoplexic warfare is characterised by its embrace of the network form and advocacy of decentralised command and swarming tactics as the most effective means to navigate the contingencies and uncertainties of the contemporary battlespace.

### **Which aspect(s) of scientific warfare do you see utilized in the current Russia-Ukraine conflict?**

I had the opportunity to revisit the book over the summer of 2021 for a second edition and consider the developments since its original publication in 2009. Writing as the US was executing its chastening withdrawal from Afghanistan and bookending the era we know as the Global War on Terror, I found that the principles of chaoplexic warfare are still dominant in military thinking despite their patent failure to deliver the superiority promised by their strongest evangelists. References to a doctrine of network-centric warfare were jettisoned as the Iraq War descended into a quagmire but the approaches of counterterrorism and counterinsurgency that followed still spoke the language of networks and complex adaptive systems. And as the United States reorients itself away from the War on Terror to the return of great power competition, the growth in robotics and AI has become central to a new wave of operational concepts that all draw from the deep well of chaoplexity: decision-centric warfare, mosaic warfare, hyperwar, etc.

As for the ongoing Russo-Ukrainian War, it presents us with a shifting, polymorphous conflict in which First World War machine guns, heavy artillery, and trench warfare cohabit alongside drone swarms, nimble anti-tank infantry, and cyber-attacks. It is a useful reminder that regimes of the scientific way of warfare do not so much displace each other altogether as overlay one another in a perpetual interplay of attrition and manoeuvre. Nonetheless, military commentators have been quick to attribute early Ukrainian successes against a superior force to its decentralised command and control in contrast with the alleged hierarchical inefficiencies of the Russian military. This is likely an overly simplistic analysis as the reality of the battlefield is a constantly shifting one, but it is reflective of the fact that chaoplexity remains today the unsurpassed horizon of military thought.

### **What are the key principles of chaoplexic theory?**

Chaoplexic thinking encapsulates an ensemble of concepts and notions that have a ubiquitous presence in contemporary society and culture far beyond the military sphere. It is directly correlated to the diffusion of the network form as the dominant model of technological infrastructures and social organisation in our time. Our privileged theoretical frameworks correspondingly tend to emphasise multiplicity, rhizomatic decentering, and co-constitutive dependencies over essentialisms, ontological hierarchies, and linear causality. Understanding chaoplexity is thus one

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of the primary ways of apprehending the categories and boundaries of the contemporary episteme. It is not that scientific discourse and technological artefacts come first – these are no less shaped by the wider sociocultural milieu – but they are a particularly revealing lens by virtue of the extraordinary influence and prestige they wield in our modernity.

### **How do you apply chaoplexic theory to the study of international relations and conflict?**

When I originally recognised that the chaoplexic regime of scientific warfare that I was attempting to critically evaluate dovetailed with the theoretical apparatuses I was drawing upon to do so, I fretted about whether this amounted to a fatal contradiction. How could I possibly critique what I was apparently also beholden to? I now feel instead that this is an inevitable paradox that we neither can nor should attempt to exorcise. We necessarily only think in tandem with the intellectual categories of our time, all the more slavishly to the extent we are reflexively unaware of them. The key is therefore to not merely reproduce them – therein lies the pitfall of ideology – but to continually interrogate their presuppositions, strain their applications, and push at their boundaries. The activity by which we make these categories and framings more conscious to ourselves, deepening our comprehension of their origins, entailments, and occlusions, is surely the only way in which we may one day think beyond them. This is a task that far exceeds the remit of any individual, of course – we are talking here of the vast collective endeavour through which slow, subterranean tectonic shifts in our mental conceptions ultimately give rise to whole new epistemes. The underlying point is that, however critically minded we want to think ourselves; our thought is always captive to our times and their blinkers; the paramount intellectual task for all of us is that we become more cognisant of them so that we may eventually see past them onto new vistas.

### **How has nuclear rhetoric surrounding the War in Ukraine impacted your work and studies?**

I am currently working on a monograph on the advent of nuclear weapons as an event in thought. With the ramping up of geopolitical tensions and the concurrent modernisation of the nuclear arsenal, the nuclear peril has returned to the forefront of public consciousness after a post-Cold War interlude during which it had been largely forgotten. It seems to me all the more vital that we now return to the early nuclear age and revisit the profound sense of intellectual and existential crisis that apocalyptic weaponry occasioned across a range of registers: strategic, philosophical, political, and ethical. A whole series of debates and profound engagements with these questions took place that we urgently need to recover and critically appraise. For such a task cannot be a mere exercise in intellectual history when this crisis remains no less pertinent today than it was back then.

### **What is the most important advice you could give to young scholars of international relations?**

I could say all sorts of inspirational things about following your intellectual curiosity, daring to buck academic trends, and seeking a cohort of like-minded peers. And these things would all be true. An academic career is hardly worth pursuing in the first place if it is not motivated by a passion and thirst for knowledge and understanding. But it is also important to recognise the brutal realities of the academic job market if you are not fortunate enough to be indifferent to remuneration and job security. At the beginning of one's scholarly journey, idealism should be tempered with pragmatism and a clear-eyed appreciation of university recruitment and career advancement. For instance, departments recruiting entry-level staff will be looking as much at the teaching needs that candidates can fill as to the early markers of research excellence. It is therefore invaluable to show range and flexibility in a budding research profile, for example by supplementing a theoretically oriented PhD with a teachable area of empirical expertise. Elsewhere, it is important to decide when to say no to the various offers to contribute and participate you receive, weighing the benefits (intellectual, reputational, relational, occasionally financial) against the investment of time and effort they entail. Every choice involves trade-offs. It is also always worth preparing for alternative pathways if permanent academic employment proves elusive in the hyper-competitive job market. In sum, my advice would be to apply a healthy dose of strategic thinking (as distinct from cynicism!) in pursuing an academic career.