Introduction: Turbulent Circulation: Building a Critical Engagement with Logistics

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Abstract

Since the mid-20th century, logistics has evolved into a wide-ranging science of circulation involved in planning and managing flows of innumerable kinds. In this introductory essay, we take stock of the ascendancy and proliferation of logistics, proposing a critical engagement with the field. We argue that logistics is not limited to the management of supply chains, military or corporate. Rather, it is better understood as a calculative logic and spatial practice of circulation that is at the fore of the reorganization of capitalism and war. Viewed from this perspective, the rise of logistics has transformed not only the physical movement of materials but also the very rationality by which space is organized. It has remade economic and military space according to a universalizing logic of abstract flow, exacerbating existing patterns of uneven geographical development. Drawing on the articles that make up this themed issue, we propose that a critical approach to logistics is characterized by three core commitments: (1) a rejection of the field's self-depiction as an apolitical science of management, along with a commitment to highlighting the relations of power and acts of violence that underpin it; (2) an interest in exposing the flaws, irrationalities, and vulnerabilities of logistical regimes; and (3) an orientation toward contestation and struggle within logistical networks.

Introduction

In many parts of the world, it has become commonplace to expect that a book or bouquet ordered online will arrive at one's doorstep in two days, or even two hours. But the changes that have made such feats of delivery possible are anything but ordinary. From the intermodal shipping container to just-in-time manufacturing, from predictive analytics to e-commerce, nearly every aspect of the transportation and distribution of commodities has been transformed since the mid-20th century. A new global industry—logistics—has emerged to manage the circulation of goods, materials, and information through the supply chain.

Logistics originated as a military art, concerned with provisioning armies with the means of living and the means of waging war. After World War II its lessons were taken up by commercial firms with increasing vigor and formality to address the cognate challenge of supplying customers with goods. Today, logistical techniques and interventions are being applied in expanding realms of social life. Warehouse workers, who make up a growing proportion of the industrial labor force, find themselves in the crosshairs of automation as Amazon and other retail titans seek to increase the efficiency of distribution operations (Loewen, this issue). Humanitarian and development missions rely on third-party logistics firms to deliver aid and feed target populations, just as modern warfare depends on them to provision arms (Attewell, this issue). And as water and land protectors

blockade strategic choke points in international supply chains, settler-colonial states are countering those disruptions by designating "critical infrastructure" an object of national security (Pasternak and Dafnos, this issue). These developments point to the expanding reach of logistics, according to which variegated flows of materials, information, and people—along with the political conflicts they are provoking—are increasingly shaped by common modes of calculative reasoning and spatial practice.

This special issue of *Environment and Planning D: Society and Space* aims to foster a critical engagement with logistics in its manifold forms. The seven articles in the collection offer a range of theoretical, analytical, and political interventions that highlight what is at stake in the ongoing proliferation of logistical regimes. Several of the papers were first presented as part of "Turbulent Circulation: Toward a Critical Logistics," a workshop held at the University of Toronto in October 2015 that brought together scholars and activists to interrogate the politics of circulation, infrastructure, and mobility. Together, the contributions suggest that a wide range of circulatory processes—flows of goods, services, bodies, information, and capital—can productively be viewed through a logistical lens. Viewed from this perspective, logistics is not reducible to a mundane science of cargo movement or a discrete industry among others. Rather, as we argue below, it is better understood as a calculative rationality and a suite of spatial practices aimed at facilitating circulation—including, in its mainstream incarnations, the circulatory imperatives of capital and war.

The title of the themed issue, "Turbulent Circulation," emphasizes that logistics, far from being an apolitical field, in fact has profound social and spatial underpinnings and consequences as it seeks to smooth the movement of goods and people. At the same time, the title points to the fragilities and unintended consequences of circulatory systems that are often understood as unified and coherent (Cowen, 2014). Against the depoliticized depiction of logistics as a practical, banal business science, our collective project in this issue is to critically interrogate the structures of governance, exploitation, dispossession, and domination that underpin logistical logics and practices, and the effects of those processes on everyday life.

In the remainder of this editorial introduction, we briefly review the growth of logistics since World War II; propose a conceptualization that is attentive to its operative logics, spatial manifestations, and political ramifications; and, drawing on the papers that follow, outline three core commitments that we propose characterize a critical engagement with logistics.

Logistics Ascendant

The extent of the restructuring of capitalist production and distribution systems over the past half century has led observers to speak of a "logistics revolution" (Bernes, 2013; Bonacich and Wilson, 2008; Cowen, 2010, 2014). This shift, which gathered steam in the decades after World War II, saw firms begin to compete on the basis of the distribution of goods and services rather than merely the products themselves (Allen, 1997). Before then, what was often called physical distribution management (Bowersox, 1969; Smykay et al., 1961) was an obscure branch of the industry, narrowly concerned with transportation. Beginning in the 1960s, however, falling corporate profit rates prompted companies in the United States and Western Europe to seek out new cost savings.

Managers and researchers identified the sphere of distribution as ripe for experimentation and pursued efficiencies to reduce freight costs and speed up the turnover of capital.

In the same period, the advent of total cost analysis widened the scope of corporate accounting practices to consider the impacts of distribution decisions on other aspects of the firm's operations (Cowen, 2014). This made possible a radically new management perspective in which a range of activities that had previously been handled in isolation—purchasing, manufacturing, transportation, warehousing, returns—were brought together into the same calculative frame. Business logistics was born as a science of systems, entailing the integrated coordination of myriad functions with the objective of maximizing profits across the supply chain as a whole. More recently, as its purview has continued to expand, logistics has become increasingly difficult to distinguish from supply-chain management, which includes activities like marketing, customer service, finance, and information management (Ballou, 2004).

In general, early writings on logistics adopted the economistic and technocratic perspective of business management, unproblematically taking the expansion and reorganization of material flows as desirable goals rather than grasping them as conflictual and contested processes. In recent years, though, critical scholarship in the humanities and social sciences has complicated this story, rendering visible the social and political implications of logistical growth and reordering (Bernes, 2013; Bonacich and Wilson, 2008; Cowen, 2010, 2014). This literature reveals that as advances in logistics have enhanced firms' abilities to channel flows of commodities and money, they have also intensified long-standing processes of dispossession and exploitation.

Indeed, the architectures of contemporary trade are rooted in a longer history of imperialism, dispossession, and territorial conquest. Even as the logistics revolution represents a paradigmatic shift in the operations of capital, it also marks the continuation of centuries-old processes of imperial circulation and colonization. During the Victorian era, at the heart of a newfound concern with physical movement was a desire to construct global infrastructures that could facilitate imperial expansion. The Royal Navy grew hand in hand with maritime commerce to support British imperial dominance: the navy secured the Pax Britannica of trade and diplomacy, while British domination of the world's shipping lanes generated international traffic in the people, goods, flora, and fauna that helped to constitute an overseas world of British culture and institutions. Similarly, the establishment of commercial lines of trade was a key objective of the Dutch, Portuguese, French, and Spanish Empires. The Atlantic slave trade, which depended on a network of intercontinental commodity chains, was a precursor to present forms of large-scale, integrated capitalist production (Blackburn, 1997; Harney and Moten, 2013). Crucial to the rise of colonial expropriation, the slave trade and the plantation established the infrastructural linkages for the transit of commodities, labor power, and raw materials between metropole and colony; yet the significance of colonialism to the history of capitalism goes beyond the amassing of material resources. As Ince (2014: 112) argues, colonial networks were "central as social spaces providing the concrete conditions for imagining and experimenting with new ways of organizing social production for profit." In this sense, the work of securing the conditions of global circulation is deeply rooted in imperial history. As contemporary forms of logistical dispossession rear their head—in, for example, the construction of pipelines through Indigenous territories or the displacement of low-income populations from the warehouse zones of Southern California's Inland Empire—they echo these imperial histories,

underscoring that circulation has long involved the incursion of capital and state into contested territories.

It is no coincidence, then, that before logistics was a business science, it was one of the arts of war (Cowen, 2014; Jomini, 2009). During the Napoleonic Wars, *logistique* referred to the work of deploying troops and provisions—"men and matériel"—to the front lines. The rise of industrial warfare in the 20th century provoked a new concern with ensuring a constant flow of fuel to the battlefield in order to lubricate the machinery of war (De Landa, 1991; Van Creveld, 1997). Along with mass numbers of soldiers came the problems of their subsistence, their munitions supplies, and their physical movement. Over the course of the century, the need to provide vast quantities of energy and provisions to the battlefield meant that logistics began to lead martial strategy rather than follow it.

If until World War II logistics was largely a military pursuit, since then the entanglement between its two wings has been continuous and thoroughgoing. Civilian logistics has borrowed technologies, personnel, and analytical tools from its martial counterpart, even as the business of war fighting itself is increasingly outsourced to private enterprise (Cowen, 2014). From the battlefield to the boardroom and back again, these exchanges reveal the intimate relationship between state violence and commercial trade in the modern era. One expression of this relationship is witnessed in the harm inflicted on people who work in and live around freight networks. Technical innovations in the logistics sector—including containerization, automated warehouses, and remote-control trains—have underpinned a reorganization of labor along the supply chain, with significant consequences for transportation and warehouse workers (see Loewen, this issue). Meanwhile, state and corporate investments in large-scale infrastructures of circulation and extraction have profoundly reshaped the landscapes through which things move, toxifying the environments of port-adjacent communities (Matsuoka et al., 2011) and undergirding the ongoing colonial dispossession of Indigenous peoples (Pasternak and Dafnos, this issue).

The recent surge of scholarly interest in logistics draws inspiration from a number of cognate fields, which engage similar questions and research objects but through different analytical frames and theoretical categories. Researchers in transportation geography have considered the implications of developments in goods movement over the last half century (Hesse and Rodrigue, 2004; McCalla et al., 2004; Rodrigue and Notteboom, 2009). Along with urban scholars, transport geographers have examined the often uneasy ways in which the movement of freight interacts with its local or regional context, and how these relationships are changing in light of trends like containerization, transshipment, and waterfront redevelopment (Hesse, 2010; Hoyle, 2000; Negrey et al., 2011; Vormann, 2015). Another reference point for critical logistics scholarship is the mobilities paradigm, an interdisciplinary approach that challenges the assumptions of conventional research that would take static, fixed entities as its objects (Hannam et al., 2006; Sheller and Urry, 2006). The growing circulation of people, materials, and information across space has prompted mobilities scholars to investigate the particular strategies and power relations through which the act of movement is invested with social meaning (Cresswell, 2006). These same shifts have also underpinned a growing body of writing on global commodity chains, global value chains, and global production networks—a third source of inspiration for contemporary logistics research (e.g., Bair, 2014; Gereffi and Korzeniewicz, 1994; Yeung and Coe, 2014).

Recent critical scholarship on logistics complements these cognate fields yet is distinct in its focus on the specific geometries of power fostered by logistical thought and practice. In bringing a logistical lens to questions of circulation and mobility, this special issue explores how processes of production, distribution, and consumption have been rescaled along global lines and rewoven into increasingly complex spatial configurations, resulting in a "dramatic recasting of the relationship between *making and moving*" (Cowen, 2014: 103). A critical logistical research agenda, broadly conceived, is concerned to interrogate how the politics of financial, corporeal, and material movement reorganizes social relations with and against profit and power. In their drive to quantify and optimize circulation, logistical imaginaries can only enact themselves through the production of space, thereby suturing a form of calculative reason premised on system-wide optimization to the reconfiguration of physical and social landscapes. Insofar as it structures the displacement and exploitation of poor and working people by reorganizing their relationship to economies of supply, logistics is a site of both turbulent conflict and potent possibility.

Logistics as Calculative Rationality and Spatial Practice

The word "logistics" indexes a broad constellation of technological, organizational, and political phenomena. In everyday usage, it refers to the detailed coordination of any complex operation. Within the branch of industry that bears its name, it has a more specific meaning, designating the activities involved in the physical movement of goods, information, and related information through the supply chain. Used in this context, logistics often implies a focus on transportation and warehousing, though it is by no means limited to these activities. More broadly, the recent "logistics revolution" can be understood as a mutation in the overall structure of capitalism, according to which every aspect of the production process is now subordinated to the logic of circulation (Bernes, 2013).

If logistics is centrally concerned with organizing circulation, it is equally characterized by a specifically calculative orientation to physical movement—one that can be traced back to the field's earliest practitioners. In ancient Greece, *logistikē* referred to the act of calculating or reckoning; it was the applied field of counting that dealt with sensible objects, as distinct from the number theory of *arithmētikē* (Klein, 1968). Modern business logistics still calls on these mathematical roots in applying technologies of quantification, modeling, and computation to the circulatory processes of material objects. Logistical thinking prioritizes quantity over quality, reducing the diverse relations of production and distribution to delivery times, stock-keeping units, and other values amenable to measurement and calculation. From "lean" logistical methods that map inventory fluctuations using cybernetic data banks (Dyer-Witheford, 2015: 53) to biometric sensing technologies that monitor the productivity of manual and white-collar laborers, modern-day supply-chain management extends the principles of calculative efficiency beyond the factory walls in order to optimize the performance of the entire circuit of production and distribution. In recent years, this calculative logic has been applied across new industries, spaces, and borders, further enlarging the reach of logistics into the governance of populations, the regulation of bodies, and the reconfiguration of mobilities. Biometric monitoring, humanitarian aid provision, emergency management systems, and dynamic vehicle routing all draw on a similar rationality of flow.

Yet logistics is not only a form of calculative reasoning: it is also an essentially spatial and material practice, rooted in the expansion and reconfiguration of physical networks of production and distribution. As a set of techniques, discourses, instruments, strategies, and technologies aimed at optimizing circulation, business and military logistics seeks to effect the spatial disposition of bodies, information, and infrastructures in ways that promote the construction and operation of global supply networks. In doing so, however, it contributes to the material conditions through which the security and well-being of human and nonhuman lives are rendered subordinate to the imperative of smooth, efficient circulation. One way logistical rationalities are enacted is through the production of vast infrastructural assemblages that inscribe calculative modes of spatial reasoning into the built environment. As new practices of processing, computation, and abstraction insinuate themselves into state and corporate strategy, logistics comes to function as a global spatial imaginary aimed at producing what Lefebvre (2009: 238) called a "homogeneous, logistical, optico-geometrical, quantitative space" in order to maintain active control over the conditions of circulation. In Lefebvre's reading, logistical rationalities are premised on a drive to render space "equivalent, exchangeable, interchangeable" (233) so as to create optimal conditions for the reproduction of capitalist production relations. Thus, in altering the calculus of military strategy and corporate decision-making, logistics has also involved "thinking and calculating space anew" (Cowen, 2014: 33).

The state plays a crucial role in processes of logistical expansion. Because both accumulation and war occur in and through space, capitalist states mobilize space as a productive (or destructive) force through strategies of spatial planning, infrastructural investment, and industrial policy. Nations and cities now compete on the basis of strategies to optimize logistics and transportation performance, frequently subordinating democratic principles and the welfare of populations to the needs of supply-chain expansion (see Ziadah, this issue). Danyluk, in this issue, notes how developments in logistics have served as a basis for large-scale state investment in transportation infrastructures, like ports, canals, and railways.

The rise of logistics has also reworked the international division of labor and reframed questions of worker strategy. Cheap and rapid methods of commodity circulation have promoted the consolidation of new patterns of sociospatial inequality at the global scale. As Tsing (2009) has argued, the development of integrated transnational supply chains has enabled capital to exploit differences among workforces in different parts of the world, creating new regimes of labor containment and fragmentation based on ostensibly noneconomic features of identity (race, ethnicity, nationality, citizenship status, etc.). For labor, confronting these challenges will require forging new coalitions and developing creative strategies for organizing across distance.

Yet logistical space is also riven with contradictions and constantly faced with the real and potential catastrophes posed by "gigantic breakdowns and stoppages" (Mumford, 1961: 544). As Rossiter reminds us, the ambitions of logistics are ultimately "operational fantasies" (2014: 54) that rely on, even as they aim to contain, a recalcitrant polity through calculative forms of domination and repression. As such, we should be careful not to reify logistics as a seamless system of instantaneous flow and total functional integration.

By paying attention to the frictions and stoppages that are part and parcel of logistical processes, critical scholars have noted that even as logistics has is taken up as a tool of imperial dispossession

and capitalist power, it also produces new sites of vulnerability and potential emancipation. To this end, logistics has become a growing force not only among states, corporations, military forces, and aid organizations but also within social movements and activist organizations that aim to challenge their practice. Beyond the accidental breakdowns and stoppages that threaten just-in-time supply chains are more deliberate efforts to interrupt the circulation of violence and remake environmentally and socially just forms of provisioning and sustaining.

A critical engagement with logistics is a feature not simply of academic practice but of intellectual, political, and practical organizing across various sectors of work and arenas of contestation. These efforts are clearly not brand new—not only in the transportation sector, where workers have long struggled over their conditions of work, but in myriad movements that have worked to sustain themselves over time, including through uprisings, occupations, and revolutions. As logistics has ascended to a place of prominence in the organization of war and trade globally, it has also become subject to new frequencies and forms of contestation. Alberto Toscano (2014) highlights this shift when he asks, "Can we define or declare a relocation of political and class conflict, in the overdeveloped de-industrializing countries of the 'Global North,' from the point of production to the chokepoints of circulation?" Such an approach centers sites of physical circulation as pressure points where mass movements can contest the violence of state and capital, signaling a shift in tactics from the withdrawal of productive labor power to disruptive blockades and sabotage along the arteries of trade (Clover, 2016; Degenerate Communism, 2014; Oakland Commune, 2011).

A scholarly discourse has emerged under the banner of "counterlogistics" that engages labor, anticolonial, and antiracist struggles (Bernes, 2013; Chua et al., 2016; Fox-Hodess, 2017). We might also trace a growing reliance on a critical practice that explicitly names the field: logistics groups, tents, and committees are now a mainstay of radical organizing, pointing to the possible repurposing of logistical models as sources of care and social reproduction (Armstrong, 2015; Cowen, 2014; Crashnburn, 2014). As Attewell argues in this issue, initiatives like the US Agency for International Development's Commodity Export Program "contain within them the germ of a different kind of logistics: one that preserves its will to care, while dispensing with its necropolitical baggage." In this vein, one fertile arena for future research is to examine more expansive possibilities for counterlogistics—asking, following Toscano (2014), "What happens then if we consider the question of circulation less literally? And what would it mean to struggle not simply against material flows but against the social forms that channel them?" By focusing on the social relations that underpin logistical processes, critical engagements with logistics might be productively nudged towards more emancipatory political ends by exploring how counterlogistical contestation is being waged not only in the sectors we might immediately associate with goods circulation but so too in the broader social relations of logistical society.

Yet we should be careful not to fetishize counterlogistical projects without a firm grasp on how the state and capital are invested in controlling the spaces of stocks and flows. Attempts at resisting or disrupting circulation can be co-opted, contained, or absorbed—in the construction of redundant container shipping networks, for example, which give corporations multiple options for rerouting cargo around traffic bottlenecks or restive labor forces. Further, as Timothy Mitchell (2011: chap. 1) and Dara Orenstein (this issue) have shown, tactics of sabotage and disruption have themselves become integral to processes of value realization, where capital's power rests not only in speeding

up circulation but also in the capacity to slow it down. More broadly, while the growing prominence of "circulation struggles" (Clover, 2016) presents rich ground for scholarly exploration and political organizing, there is a danger in fetishizing the tactics of material interruption per se. More important than the form of political resistance are its contents, the concrete social relations in which it is embedded and that it seeks to transform. As Chua (2017: 165) argues, "even if material structures are constitutive of the extant political order," the act of disrupting or sabotaging material flows alone is not enough to reconfigure logistics: "circulation struggles can only have revolutionary potential if collective power is politically mobilized across the supply chain."

Logistical systems increasingly encroach on everyday life under the justification that rapid, efficient circulation is necessary to the welfare of the economy, the state, and its people. Yet, as both a calculative rationality and a practice of spatial ordering, mainstream iterations of logistics work to promote the accumulation of capital and state power in ways that exacerbate existing inequalities and produce new dispositions of life and death (see Attewell, this issue). The articles collected in this issue point to the myriad ways these apparatuses also distribute inequality, immiseration, and "vulnerability to premature death" (Gilmore, 2007: 28). At the same time, the gap between the idealized imagination of logistics and its messy implementation reveals that the project of making the world safe for circulation is always incomplete. A critical engagement with logistics attends to the struggles, social conflicts, and tensions that can never be excised from global flows. This *liveliness* of logistics is one aspect that comes to the fore in this theme issue. Interrogating the multiple, varied, and contested lives of logistics brings into focus the violence committed in its name, the vulnerabilities of its networks, and the political possibilities latent in its present-day forms.

Building a Critical Engagement with Logistics

In assembling this special issue, we seek to advance a critical conversation around the role of logistics in the globalization of production systems, the reconfiguration of warfare, and the reorganization of state and corporate power, while also insisting that supply chains and "supply chain capitalism" (Tsing, 2009) remain vulnerable to disruption and resistance. The seven articles that follow explore how new logistical paradigms are reconfiguring the ways people move, think, work, and engage in politics across diverse sites. They represent a diversity of theoretical orientations, empirical objects, geographical foci, and methodological approaches, but nonetheless share a commitment to engaging critically with logistics as a political project.

A first set of articles calls attention to how logistical forms of rationality and practice have become vital to the accumulation of capital, and thus crucial to understanding the reconfiguration of capitalist relations. Supply-chain capitalism operates in uneven and deeply entangled ways, both enhancing and hindering the mobility of goods, people, capital, and information. The articles by Danyluk, Orenstein, and Ziadah offer distinctively geographical readings of the logistics revolution that has transformed corporate methods of producing, distributing, and consuming commodities over the past half century. Danyluk views this reorganization as crucial to the restoration of capitalist profitability after the crisis of the 1970s—and to ongoing processes of globalization—insofar as it equipped companies with new tools for remaking the spaces of production, circulation, consumption, and dispossession. Orenstein, in tracing the history of two 19th-century legal

innovations, the bonded warehouse and bonded carrier, shows how early developments in international trade challenged inherited notions of nation-state territoriality and prefigured the networked cartographies of the contemporary logistics revolution. Ziadah's study of infrastructure development across the Gulf Cooperation Council highlights the power-laden dynamics of interspatial competition that underlie the production of logistical space.

A second set of articles focus attention on the application of logistical techniques to bodies and their insertion into supply chains. Lin, in his contribution, traces the politics of provision in a sector whose technological and organizational coordinates are changing rapidly: airline food. Similarly, Loewen and Attewell examine how the incorporation of logistical reasoning into warehousing and humanitarianism, respectively, is extending calculative forms of management to the everyday conditions of workers and state-led development practices. These papers detail the intricate mechanisms by which logistics has become a "technique for organizing around the 'how' problems of material life" (Cowen, 2014: 231). In doing so, they highlight the Janus-faced character of logistics—its role not only in making live but also in letting die.

At stake in these changes—both the rise of dense logistical networks and the new forms of violence they entail—is the possibility of forging new solidarities and new modes of political engagement. In his affiliated online essay, published on the Society and Space open site, Alberto Toscano offers a critique of forms of abstraction that characterize logistical projects and asks how visual representation can work to defetishize these logistical abstractions while also recognizing their efficacy. Through the work of the artist Allan Sekula, Toscano suggests that image-making practices can compose "atlases of resistance" against abstract forms of logistical domination, breaking the disembodied gaze of capital and building, instead, a visual archive that begins from a position of solidarity. Paying similar attention to the radical potential of resistance to logistics, the final article in the theme issue, by Pasternak and Dafnos, examines how Indigenous assertions of jurisdiction and sovereignty counter the development of new risk-mitigation measures by the Canadian state to secure the circuitry of capital. In doing so, the article attests to the incredible power of Indigenous peoples to refuse state efforts at dispossession.

Drawing on the insights that run through the articles, we propose that a critical engagement with logistics is characterized by three core commitments. The first of these is a rejection of the field's self-depiction as an apolitical science of circulation. Practitioners of logistics characterize their field as made up of problem solvers using technology to serve a common good. But the work of circulation has profound and uneven social effects. In its pursuit of speed, efficiency, reliability, and flexibility, logistics helps to consolidate regimes of governance and domination that facilitate the continued accumulation of capital and the pursuit of perpetual war. In doing so, it exacerbates and reworks power relations organized along lines of class, race, gender, ethnicity, sexuality, and citizenship. A critical approach to logistics is committed to highlighting these relations of power and the acts of violence that underpin the field.

Second, a critical engagement with logistics is animated by an interest in exposing the flaws, irrationalities, and vulnerabilities of circulatory regimes. While there is no denying the efficacy of modern logistics systems for states and capital—advances in the field have proved highly successful in shoring up corporate profitability, disempowering labor, and facilitating new forms of warfare—nor should we accept wholesale the prevailing view of logistical regimes as efficient, rational,

streamlined systems. The logistics revolution, even as it has facilitated new forms of connectivity and interdependency, has also slowed life down for many on the receiving end of time-space distanciation. It has also generated new vulnerabilities, most notably the "lean" inventories required for just-in-time production and the choke points represented by major container ports. Viewed in this light, logistics is an unrealized project, constantly confronted by events and processes that exceed its own logic. A critical perspective, by exposing and highlighting these fault lines, allows us to recognize logistics as not only a powerful influence on modern life but also a strategic political target.

Closely related to this second concern is a third: a critical approach to logistics is attentive to moments of struggle within logistical networks. As techniques of logistical governance have proliferated, they have prompted a corresponding surge of antagonism and resistance. The violence with which states and corporations have responded to such struggles—forcibly seizing land, militarizing borders, and clamping down on strikes and blockades—enjoins us to consider the immense material resources and ideological labor necessary to claim control and ownership over spaces and bodies. It also prompts us to pay attention to refusals to accept such acts of violence.

Logistics works through and reinscribes uneven geometries of power, facilitating and speeding up circulation in some cases while intensifying containment and fortifying borders in others. Approaching the field with an awareness of these power-laden geographies requires us to reframe the terms of our engagement with the infrastructures, technologies, and techniques of circulation—as well as the ways they might be resisted or reclaimed in our logistical present. Taken together, the seven articles in this collection mark an important contribution to the critique and contestation of logistical distributions of power and violence. They point to the possibilities of building a counter-logistics, of doing logistics differently, and of a future beyond supply-chain capitalism.

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Deborah Cowen is Associate Professor in the Department of Geography and Planning at the University of Toronto. Deborah is the author of *The Deadly Life of Logistics: Mapping Violence in Global Trade* (University of Minnesota Press, 2014) and *Military Workfare: The Soldier and Social Citizenship in Canada* (University of Toronto Press, 2008); coeditor, with Emily Gilbert, of *War, Citizenship, Territory* (Routledge, 2008); and cocreator of *Universe Within*, a project with the National Film Board of Canada.

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