

GHOSTS IN THE CANON: LOGISTICS IN GEOGRAPHIC THOUGHT

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In the last four decades, scholars have come to appreciate the role of logistics in winning wars, fuelling economies, and enabling or disabling social reproductions. In this article, I attempt to situate the turn towards logistics in geographical thought by tracing its intellectual histories and precedents. Through the likening of the intellectual maturation of logistics to its parent subfield of military geography, I also argue for the value and urgency of a critical engagement with logistics. A critical logistics scholarship makes explicit the circulation and consolidation of military power, data, surveillance technology, infrastructure, labour, affects, capital, and ideas, as well as larger compositions of social and physical landscapes that make logistics possible. Given the longstanding interest in the production of unevenness and space, and in a world where logistics is becoming an increasingly salient force in reshaping time-space, logistics becomes a necessary framework to study “the spatiality and territoriality of organized violence,” a matter that has certainly concerned geographers for a long time (Cowen, 2014, p. 47).

Introduction

In the last four decades, scholars have come to appreciate the role of logistics in winning wars, fuelling economies, and enabling or disabling social reproductions. The spatiality of logistics depends on “complex calibrations of multiple locations,” circulations, and flows, as well as attendant cartographies of supply-chain management and just-in-time production, and has been taken up in novel ways by geographers in particular (Cowen 2014, p. 205). In this essay, I will attempt to situate the turn towards logistics in geographical thought by tracing its intellectual histories and precedents. I will limit my attempt to trace the genealogy of logistics-thinking to after the “revolution in logistics” following World War II, though the substantial part of my essay will be focused on the last 20 years, when a constellation of geographers began to explicitly center logistics in their research. First, I offer a survey of contemporary engagements with logistics across the discipline, a brief but useful exercise. Second, I visit some of the geographic knowledges produced by the United States military after World War II. This is significant because contemporary engagements treat this as a defining moment in the development of logistics. I then focus on three areas of geographic inquiry from which the literature borrows some of its conceptual underpinnings: transportation geography, military geography, and geoeconomics. Lastly, I discuss future directions for logistics. Through this exercise, I hope to convey the urgency and value of a logistics scholarship in geography.

Making, Moving, Blocking: Logistics in Contemporary Mobilities Studies

The recent surge of scholarly work on logistics borrows conceptual material from a number of cognate fields such as feminism, economics, and object studies. Through encounters with these fields of study, geographers have engaged with “similar questions and research objects using different

analytical frames and theoretical categories” (Chua et al., 2018, p. 617). There are a number of other sources of inspiration for contemporary logistics research, including the quantitative revolution from the 1960s onwards and its critics, Marxist theories of capital accumulation in the 1970s and 1980s, post-structuralism and critical theory in the 1980s and 1990s, and more engaged forms of geographic practices such as radical, feminist, and postcolonial geography (Chua et al., 2018).

Generally, geographers approach logistics in two ways: as a means to or as an object of study. The former approach includes trends in geographical thinking such as “follow-the-thing” methodology, which includes as its subject anything from the playful to the lethal. On the other hand, the industry and organizing logics of logistics itself are considered in patterning material entities and social relations, as well as shaping of civilian space by military objectives, rationales, technologies, and structures (Woodward, 2005, p. 721).

Transportation geographers have been concerned with the study of goods movements and freight logistics over the last half century, including the changing geographies of ports, waterfronts, and cities in light of technological advances in containerization and transshipment (Hesse & Rodrigue, 2004; Cowen, 2014). Geographers interested in science and technology have also considered logistics as part of “mobile sociotechnical systems” consisting of human and nonhuman components (Pellegrino, 2012).

Related to transportation geography and the spatial turn of the 1980s is the “new mobilities” paradigm (Sheller & Urry, 2006). Transport geography is “perhaps the most immediate precursor” to new mobilities (Cresswell, 2011, p. 554). More accurately, the new mobilities paradigm is an interdisciplinary approach to studying movement and flows, just one offshoot from the wellspring of ideas that emerged from the postmodernist turn in geography. It troubles sedentarist theories in geography and the previous lack of consideration for the social in socio-technical transport systems. The mobilities turn was prompted by the increasing transmission of people, goods, capital, data, diseases, ideas, and so forth across space, and the attendant power relations through which the act of moving is imbued with social, cultural, and psychic meaning (Cresswell, 2006).

Usefully, this approach to logistics directs research away from static structures, including discourses of “stillness,” in Cresswell’s words (2014, p. 718), and the end of the nation-state, to see “how social entities comprise people, machines, and information/images in systems of movement” (Sheller & Urry, 2006, p. 210). Geographers have shifted away from the language of scalar descriptors, such as local/global, to a language of “fluid modernity” to describe logistics (Sheller & Urry, 2006, p. 209). The emphasis in logistics scholarship on the speed in which people, money, images, information, and so on move, gestures towards the postmodern conception of spatiality, in which “the substance of places” is in constant motion (Thrift, 1996). At other times, geographers echo the language of the late modernists when writing about logistics (Bauman, 2000). These geographers theorize logistics as an organizing logic of liquid modernity, one that is prefaced on speed and just-in-time production; “a continuous, Heraclitean flux,” where “the factory dissolves into planetary flows, chopped up into modular, component processes which, separated by thousands of miles, combine and recombine according to the changing whims of capital” (Bernes, 2013).

This, however, does not suggest—or should not—an emancipatory modernity. The new mobilities paradigm, and how logistics geographers have interpreted it, is just as concerned with immobilities. As Cresswell writes, “molecular vibrations are not much comfort... to Palestinians who cannot walk through the wall that has been built between their homes and their farmland” (2014, p. 716).

Indeed, immobilities and time-space asymmetries cannot be whisked away by high theory. Nevertheless, geographers of logistics have engaged positively with the mobilities perspective, beyond its use as a placeholder for terms such as “transport” or “migration,” to capture a deeper theoretical and methodological shift away from sedentarism (Cresswell, 2014, p. 718).

Parsing Logistics from Military Geography

In placing logistics rather loosely in the lineage of military geography, I will attempt to note some of the connections between how geographers understand and approach these terms. The first is the traditional study of military geography, which studies the application of geographical tools and theories to solve military problems. The parallel approach to logistics similarly aligns itself with the objectives of states and militaries. In the words of Bruce Allen, former Director of the Wharton School of Business, logistics applies itself to the formal science of “managing the supply chain: from raw material assembly, to work in progress, to the physical distribution of the final product or service,” and thus prevents itself from fully contending with its contested geographies (Allen, 1997, p. 106). The steady growth in academic interest in the specialized world of instrumental logistics research began roughly in 1960, coinciding with the proliferation of logistics as a business study (Smykay & LaLonde, 1967, p. 108). Similarly, through the 1940s and 1950s more generally, geographic knowledge “valued by the military was not particularly distinct from that deemed academically sophisticated” (Farish, 2015, p. 43). In other words, this approach characterises the work that geographers, and scholars more broadly, have done in the service of logistics. The relationship between corporate and military logistics remains so entangled that many of Wal-Mart’s managers and executives, for example—who set industry-wide standards for best practices—are recruited from the military (Bergdahl, 2006, p. 155).

From this view, the infancy of the field of logistics owes to the fact that up until the Second World War, “the field of corporate or business logistics did not exist at all” (Bernes, 2013). Until then, logistics was a military affair, referring to the methods that armies use to sustain themselves and to move supplies from the rear to the front line. The aforementioned “revolution in logistics” refers to a paradigm shift beginning in the 1950s due to a proliferation of information exchange between members of the military, academic, and private sectors, transforming logistics from a military tactic to a business science (Bernes, 2013; Cowen, 2014).

The lessons from the Korean War and World War II were not lost on experts: you had to support the troops to have a successful war effort. Though entrepreneur Malcolm McLean had introduced stackable shipping containers in the 1950s, and had already containerised some domestic transport lines, it was only in 1965 that the technology was established as the most efficient and risk-averse option for international trade, through a \$75 million contract McLean won with the U.S. Department of Defence for Sea-Land Service’s container-based solution to the logistics crisis of the Vietnam war (Levinson, 2008, p. 184). Geographers have identified the three decades after World War II as a defining moment when periodizing the revolution in logistics, citing the “tremendous amount of intellectual labor” as well as the “establishment of degree programs and research institutions...trade journals, professional associations” and new corporate structures as well as broader logics and imaginaries. The first distribution and logistics program to be institutionalized, for instance, were by the University of Michigan in 1957, and RAND Corporation’s Logistics Research Lab (Cowen, 2014, p. 31). The innovations and information exchanges happening at the time signalled that a change in the reputation of logistics was afoot in professional and military discourses (Cowen, 2014, p. 28).

Without overlooking the immense importance of such technological advances in logistics during the mid-20th century, Hesse (2008, p. 31) reminds us that modern logistics has intellectual roots dating back to the modernization of the capitalist economy. Marx, who referred somewhat ambiguously to processes of distribution, argued that it was the “sphere of circulation” suspended between production and consumption that enabled use-value to transform into exchange-value, making possible the large-scale capture of capital (as cited in Harvey, 2001, pp. 237-266). Given that the generalized practice and pursuit of a formal science of geopolitics (with its own presumed authority on military, social, and economic strategy) was a post-Enlightenment European invention, what was still missing was a precise research project on pre-WWII theories of logistics (Cowen & Smith, 2009, p. 23). Earlier writing on the military-industrial complex heavily implicates logistics as well, even if that was not the language used to describe it as such.

Unsurprisingly then, scholars began to write critically about logistics shortly after the proliferation of logistics as an academic subfield in the 1950s and 1960s. The second approach is to understand logistics/military geography in terms of the spatiality of armed conflict, an approach that “predominantly [originates] from political geography” (Woodward, 2005, p. 721). Others place logistics scholarship within a lineage of political-geographic logic of economy that is somewhat “at variance” with geopolitics scholarship (Cowen & Smith, 2004, p. 24). The third approach to logistics, analogous to that of critical military geography, acknowledges “the significance of armed conflict,” but also “looks beyond it for what it tells us about the wider geographical imprint of militarism and military activities” (Woodward, 2005, p. 721). The critical logistics research agenda seeks to examine how circulations of bodies, capital, and matter reconfigures social relations “with and against profit and power” (Chua et al., 2018, p. 621). Under the assemblage of geopolitics, authority and expertise in the science of war were increasingly relegated to the outside-facing military following the bourgeois revolutions in Europe. Following decolonization and US imperial ambition, however, the ideological separation between external and internal forms of security became obvious. As geopolitical social forms were recalibrated by market logics, the roles of the military and police began to fold into each other, and it became more transparent that domestic politics have always been concerned with nation-to-nation wars (Cowen & Smith, 2009, p. 25). Logistics scholarship leans heavily on this geoeconomic analysis, which understands divisions between civilian and soldier, inside security and outside security, as increasingly contaminated as they have been recalibrated by transnational market logics. Kanngieser (2013), for example, traces the leakage of logistical reason into everyday spaces like the workplace through case studies of logistical technology, like the use of radio frequency technology identification (RFID) tags to remotely track warehouse workers’ movements. Therefore, logistical routes and boundaries are more fluid, fuzzy, and porous than principles of geopolitics would suggest.

Geographers also employ logistics as an analytical frame to highlight the uneven power relations and violence underpinning it (Chua et al., 2018, p. 618). At the same time, they take the position of exposing inconsistencies in logistical practices and regimes: “in exposing the flaws, irrationalities, and vulnerabilities” of logistics, geographers open up possibilities of making different futures within our worlds (Chua et al., 2018, p. 625). This does not mean that we are all equally condemned to live in the logistical worlds of techno-determinist scholars. Theories of geoeconomic calculation are highly uneven and episodic, both temporally and spatially, and can never fully supplant geopolitics (Cowen & Smith, 2009, p. 42). From this perspective, geographers argue that logistics is a useful analytical frame to study the transformation of the physical circulation of goods and materials as well as the economic restructuring of global space.

Logistics in the Warring State: Mobilities in Geoeconomics

The same shifts underpinning developments in mobility and military studies have animated a growing body of research on global commodity chains, global value chains, and global production networks, as well as the securitization of trade routes, borders, ports, and other critical flashpoints. The study of security is not new in mobilities literature (Sparke, 2006; Thrift, 2011). More recently, geographers have recast security studies in relation to logistics, tracking the latter's deployment in ways that organizes bodies, capital, and things into a "logistical epistemology" (Cresswell, 2014, p. 718).

Despite the wealth of geographic scholarship on production and consumption, the phenomenon that comes before consumption and after production, of distribution, has largely evaded intellectual scrutiny until recently (Cresswell, 2014, p. 716). Another way of saying distribution is logistics. This emergent geography combining economy and security, what Luttwak named "geoeconomics," seeks to capture the logic of war within the grammar of commerce (1990, p. 19). Since Luttwak's proposition, scholars have applied the principles of geoeconomics to theorize representations of logistics space, what Thrift contends is "a central arena in which capitalism is finding new ground to extract profit through a constant process of mobilizing commodities, emotions, and affect" (2012, p. 144). Needless to say, the securitization of trade flows and supply chains falls squarely into the domain of logistics, making geoeconomics a meaningful place from which to create logistical theories of power and space anew.

Almost two decades after the seminal article "From Geopolitics to Geoeconomics" was published, Cowen and Smith (2009) take Luttwak to task. They point out that Luttwak assumes a natural progression in the era of globalization that markets will become increasingly powerful, resulting in the erosion of the relevance of territory and time-space. Furthermore, they reject Luttwak's periodization of geopolitics with geoeconomics as its successor—geopolitics will never be fully eclipsed by geoeconomics. Rather, they argue that the study of space, power, and security can no longer be captured fully by geopolitical discourses "as market calculation supplants the geopolitical logic of state territoriality" (Cowen & Smith, 2009, p. 43). They understand spatial articulations of geoeconomics as inseparable from ongoing shifts in political geography (Cowen & Smith, 2009, p. 25).

A geoeconomic conception of security considers social forms together that geopolitics kept distinct, such as the external (military) and the internal (police), to describe how social forms of citizenship and the state are being recast as geoeconomic actors. It underlines conflicts between logics of nationhood and transnational flows, and turns our attention to the increase in non-state and private actors in security as well (Cowen & Smith, 2009, p. 28). In reinterpreting the Iraq for example, they contend that terrorist threats and oil were secondary to a "deeper geo-economic aspiration for global control"; it was a market war (Smith, 2003, p. xiv). This rewriting of the Iraq War, and subsequent interventions in Iran and Syria, heavily implicates logistics in the military-industrial complex. To illustrate this point, one only needs to recall the hundreds of corporations staffed with as many as 130,000 mercenary war labourers, or private contractors in logistics-speak, profited from more than \$864 billion of state funding for warfare and failed reconstruction (Scahill, 2007; Cowen & Smith, 2009).

Future Engagements with Logistics

Geopolitics has been criticised for overlooking “the little things,” which, as Thrift notes, have hindered scholars from “understanding how (and therefore why) geopower is actually practised” (2000, pp. 380-387). In response, recent logistics scholarship has taken up recent trends of embodied and ethnographic writing about everyday space. For example, Chua (2014) maps the logistical economy of racialized containment through an ethnography of (disruptions in) the transpacific container trade.

Logistics scholars themselves characterise logistics to mean the residual and uncomplicated, the bureaucratic and the mundane, as opposed to the monumental. Their aim is to reveal the scales and degrees to which the invisible work of logisticians has contributed to organized violence (Cowen, 2014, p. 25). Could this, ironically, replicate the same hyper-masculine discourses that dominate studies of military geography today, even by its most critical writers? To draw a parallel, Barnes (2015) rewrites Nazi military strategy (which notably, was internally rather than externally-facing) as the work not of soldiers, but bureaucrats—logisticians. Killing in Nazi Germany was mediated by arms of the bureaucracy like The Ministry of Transportation of the Final Solution. Writers like George Orwell and Aldous Huxley diagnose the evil banalities of modernity through inventions like Miniluv and Minitru, the programming of humans in embryo into brainless workers. In a way, they were anticipating the rise of logistics.

Scholars also ought to be cautious not to lose themselves entirely in an Alice-in-Wonderland sort of logistical world. Critical scholars and retired military consultants are using strikingly similar language to capture the phenomenon—“a continuous, Heraclitean flux” (Barnes, 2013), a “21-st century scalable Lego-like force design” that can keep up with the “messy capitalism” of our time (cited in Morrissey, 2015, p. 106). While logistics scholars have been careful to highlight the intimate connections and local scales of logistics, there is room for an explicitly feminist analysis to disrupt the hyper-masculine discourses that dominate logistics scholarship. Feminist geographer Silvia Federici, in an interview with Elliott and Franklin (2018) points to the everyday social reproduction that facilitates technologies of capital accumulation, of which logistics is one.

I read Derek Gregory’s concept of woundscape as one example of taking seriously Federici’s feminist reading of Marx. Quoting an American captain who served in WWII, Gregory (2018) recites:

Here was this line of men, who little more than an hour ago were normal men in the finest of health and strength, and now... with every degree of injury, they painfully made their way back to the human repair department. The well men were rapidly moving eastward in countless numbers, while the injured so laboriously dragged their way back, two human streams... Before us, all energies were devoted to destruction; behind us, all human power and skill tried to repair the damage.

How do flows and circulations in war, such as the one of foot soldiers that Gregory (2018) evokes, reveal the stakes in exposing the infrastructures, knowledges, labour, bodies, and technologies—the logistics—that facilitate it? A woundscape, in highlighting the “bio-physical, cognitive, and affective landscapes in which casualties are created, moved and treated” centres the wounded rather than the inflictors of those wounds. In doing so, it acknowledges the limits of analyses that overlook the intimate, affective, and embodied aftermaths of bureaucrat killers and war logisticians.

As useful as it is to conceptualise logistics through a language of fungibility and fracture, the pre-history of logistics as supplied by Marx and Harvey also points us in future directions that may be at slight variance from present scholarship. Clearly, logistics in practice is a means to other ends, though the means may also present highly extractible profits as seen in Macgregor's vision of Lego-capitalism. In what ways is thinking structurally (but not statically) about logistics productive? How can the process of distribution be welded back onto sites and structures of production and consumption?

Conclusion

Disciplinary engagements with logistics over the last two decades reflect a broader trend towards cross-disciplinary approaches to spatial matters. Why does logistics, then, have theoretical purchase in geography above other social sciences? Though the theory and practice of conventional military geography have not faded completely, I argue, through the likening of the intellectual maturation of logistics to its parent subfield of military geography, that the study of logistics signals a return of military studies to the heart of geography. The nature of logistics is such that it thrives on being "backgrounded." A critical logistics scholarship makes explicit the circulation and consolidation of military power, data, surveillance technology, infrastructure, labour, affects, capital, and ideas, as well as larger compositions of social and physical landscapes, that makes logistics possible (Cresswell, 2014, p. 716; Kanngieser, 2013). In other words, logistical imaginaries can only be enacted "through the production of space... to quantify and optimize circulation" (Chua et al., 2018, p. 618).

If modernity finds its perfect geographical expression in logistics space as Rossiter (2016) suggests, then it would seem unsurprising that logistics has prompted geographers to return to some of the most fundamental concerns first raised in critical military studies and geopolitics, and more recently in mobility studies and geoeconomics. In making an analogy between intellectual histories of military studies and logistics, I offer an explanation for why geographers have gravitated towards the subject. Given the longstanding interest in the production of unevenness and space, of more recently, geoeconomics, and in a world where logistics is becoming an increasingly salient force in reshaping time-space, logistics becomes a necessary framework to study "the spatiality and territoriality of organized violence," a matter that has certainly concerned geographers for a long time (Cowen, 2014, p. 47).

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When people sense ghosts, he points out, "They're often alone, in the dark and scared." If it's dark, your brain can't get much visual information from the world. It has to create more of your reality for you. She wondered if people with stronger critical-thinking skills might be less likely to believe in the paranormal. So she and her mentor, psychologist Philip Tyson, recruited 687 students for a study about their paranormal beliefs. The students majored in a wide range of different fields. However, snarled their genealogies, mass culture ghosts and folk ghosts are clearly family and despite generations of rationalism and the influence of the enlightenment (Motz 1998), consumers still buy into the supernatural (see chapter 6). and not a book on traditional ghost lore, *Haunting Experiences* is meant to react the effortless comingling of ancient tradition and contemporary mass and commodified culture in quotidian reality. This is the world our children inhabit. It is the world we, as adults—as rationalists and romanticists, believers and disbelievers, consumers and commodifiers—inhabit. See more ideas about Ghost in the machine, Sacred geometry, Physics. Thinking of complex adaptive systems as merely complicated entities that can be regulated like machines can lead to disaster, as Niall Ferguson shows in his recent book. He cites the USA's Dodd-Frank Act which is aimed at promoting stability in the financial sector but "requires that regulators create 243 rules, conduct 67 studies and issue 22 periodic reports." | Geographic thought courses are a common offering in geography graduate programs. There are many ways of constructing such a course. Invariably, however, one of the. The second part outlines the difficulties of integrating physical and human geography in the same geographic thought course, while the final section discusses the benefits to be drawn from some sort of integration. How the Seminar is Organized.