

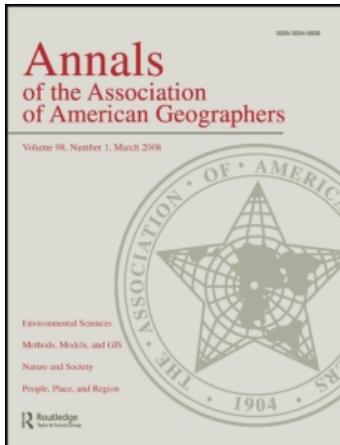
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Access details: Access Details: [subscription number 918642339]

Publisher Routledge

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## Annals of the Association of American Geographers

Publication details, including instructions for authors and subscription information:

<http://www.informaworld.com/smpp/title~content=t788352614>

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First published on: 07 June 2010

**To cite this Article** Cowen, Deborah(2010) 'A Geography of Logistics: Market Authority and the Security of Supply Chains', *Annals of the Association of American Geographers*, First published on: 07 June 2010 (iFirst)

**To link to this Article:** DOI: 10.1080/00045601003794908

URL: <http://dx.doi.org/10.1080/00045601003794908>

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# A Geography of Logistics: Market Authority and the Security of Supply Chains

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In recent years, U.S. military and civilian agencies have been rethinking security in the context of globalized production and trade. No longer lodged in a conflict between territorial borders and global flows, national security is increasingly a project of securing supranational systems. The maritime border has been a critical site for experimentation, and a spate of new policy is blurring “inside” and “outside” national space, reconfiguring border security, and reorganizing citizenship and labor rights. These programs seek to govern integrated economic space while they resurrect borders and sanction new forms of containment. Forces that disrupt commodity flows are cast as security threats with labor actions a key target of policy. Direct connections result between market rule created to secure logistic space and the broader project of neoliberalism. Even as neoliberalism is credited with expanding capitalist markets and market logics, it is logistics that have put the cold calculation of cost at the center of the production of space. Since World War II, logistics experts have conceptualized economy anew by spatializing cost–benefit analysis and applying systems analysis to distribution networks. The “revolution in logistics” has changed how space is conceived and represented, and transformed the practical management of supply chains. Historically a military technology of war and colonialism abroad, today logistics lead rather than support the strategies of firms and the security of nations across transnational space. These shifts have implications for the geopolitics of borders and security but also for social and political forms premised on the territory and ontology of national space. *Key Words:* borders, citizenship, geopolitics, logistics, port security.

近年来，美国的军事和民事机构已经开始重新考虑在全球化生产和贸易背景下的安全问题。不再局限于领土边界和全球流动的冲突，国家安全日益成为一个超国家的安全系统项目。海上边界一直是试验的关键场所，大量的新政策正在模糊国家空间“内部”和“外部”的区别，重新配置边界安全，以及重组公民和劳工的权利。这些方案旨在综合治理经济空间，同时他们也重新竖立边界并批准新形式的制裁。破坏商品流动的势力被视为劳工行动（政策的关键目标）的安全威胁。市场规律之间的直接联系结果被创立出来，以确保安全的物流空间和更广泛的新自由主义项目。资本主义市场的拓展和市场逻辑被归功于新自由主义，即使在这种情况下，是后勤学将成本计算置于空间生产的中心。二战以来，通过成本效益的空间化分析以及对分销网络的系统分析，物流专家重新对经济加以概念化。“物流革命”已经改变了空间的构思和表达方式，改变了供应链的实际管理。历史上作为战争和海外殖民主义的军事技术，后勤学今天更多的是领导而不仅仅是支持跨国空间背景下公司的战略和国家安全。这些变化不仅对地缘政治学的边界和安全具有影响，在国家领土和空间本体论的前提下，对社会和政治形式亦有影响。关键词：边界，公民，地缘政治，后勤，港口的安全。

Las entidades militares y civiles de los EE.UU. han estado repensando recientemente la seguridad dentro del contexto de producción y comercio globalizados. Al dejar de estar circunscrita a un conflicto entre fronteras territoriales y flujos globales, la seguridad nacional se ha convertido cada vez más en un proyecto para la protección de sistemas supranacionales. El límite marítimo ha sido un lugar crítico de experimentación, y un torrente de nuevas políticas está dejando su marca “dentro” y “fuera” del espacio nacional, reconfigurando la seguridad fronteriza y reorganizando los derechos de ciudadanía y del trabajo. Estos programas buscan gobernar el espacio económico integrado, a tiempo que resucitan fronteras y sancionan nuevas formas de cerramiento. Las fuerzas que perturban el flujo de mercaderías son culpadas como amenazas a la seguridad y las acciones laborales vistas como como un crucial objetivo de políticas. Ahí aparecen conexiones directas entre la norma del mercado creada para asegurar el espacio logístico y el más amplio proyecto del neoliberalismo. Aunque al neoliberalismo se le da crédito por expandir los mercados capitalistas y la dialéctica del mercado, las logísticas son las que ha aportado como central el frío cálculo del costo en la producción del espacio. A partir de la II Guerra Mundial, los expertos en logística han conceptualizado de nuevo la economía, espacializando el costo–análisis de beneficio y aplicación del análisis de sistemas a las redes de distribución. La “revolución de la logística” ha cambiado la manera como se concibe y se representa el espacio y ha transformado el manejo práctico de las cadenas de aprovisionamiento. Lo que históricamente fuera una tecnología militar de guerra y colonialismo

en el extranjero, es ahora la logística que en vez de dar apoyo lidera la estrategia de las firmas y la seguridad de las naciones en el espacio trasnacional. Estos cambios tienen implicaciones para la geopolítica y seguridad de las fronteras, pero también para las formas sociales y políticas establecidas como premisas del territorio, y para la ontología del espacio nacional. *Palabras clave: fronteras, ciudadanía, geopolítica, logística, seguridad portuaria.*

If the border can be envisioned not merely as a physical boundary but rather as a flexible concept that allows for the possibility that the border begins at the point where goods or people commence their U.S.-bound journey, a significantly wider array of options for border management policies becomes available.

—Congressional Research Service (CRS; 2005a, 10)

The increasing mobility and destructive potential of modern terrorism has required the United States to rethink and rearrange fundamentally its systems for border and transportation security. Indeed, we must now begin to conceive of border security and transportation security as fully integrated requirements because our domestic transportation systems are intertwined inextricably with the global transport infrastructure. Virtually every community in America is connected to the global transportation network by the seaports, airports, highways, pipelines, railroads, and waterways that move people and goods into, within, and out of the Nation. We therefore must promote the efficient and reliable flow of people, goods, and services across borders, while preventing terrorists from using transportation conveyances or systems to deliver implements of destruction.

—Office of Homeland Security<sup>1</sup> (2002, 21)

**A**fter the remnants of filet mignon and midday cocktails were cleared from the ballroom tables of the Annual Washington People Luncheon at the Willard Intercontinental Hotel on 20 March 2007, and following a short prayer led by a Jesuit priest blessing the keynote speaker, Secretary of Homeland Defense Michael Chertoff took the podium. The theme of the event was port security and Chertoff immediately cut to the chase. He asked, “How many of you want *every* container scanned?” *Everyone laughed.* “Right,” he continued, “I don’t have to convince you.”

The luncheon was the highlight of the American Association of Port Authorities (AAPA) Spring Conference, sponsored by defense contractor Lockheed Martin, engineering firm Parsons Brinckerhoff, the Thompson Coburn law firm, and SecurePort, an association of “hundreds of top executives from industry and government from throughout the Western Hemisphere.” (Secureport proudly boasts that one senior security planner for the U.S. Coast Guard described their invitation-only meetings as the “*crème de la crème* in maritime security conferences.”<sup>2</sup>). In

attendance were the directors and commissioners of port authorities from the United States, Mexico, and Canada; defense contractors peddling their wares; and U.S. congressional staff doing the same. These are people with a commitment to keeping trade flowing, people who know well that security—when conceptualized as a project of tightening national borders—threatens these flows.

Indeed, the cost of a territorial model of national security could be crippling in the ports. Globalized “just-in-time” (JIT) production systems require speed. The speed of cargo movement across supply chains and through the critical nodes of ports has allowed for the reorganization of production at a global scale. Without the rapid and reliable movement of stuff through space—from factories in China to U.S. big box stores, for instance—cheap labor in the global South cannot be “efficiently” exploited, and globalized production systems become as inefficient economically as they are environmentally. It is furthermore the maritime border that is a particularly revealing site of conflict between the competing projects of tight borders and global flows. The maritime border is where so many commodities cross: 95 percent of U.S.-bound global trade moves through ports and more than 11 million containers enter. At international seaports, stacks and stacks of containers carrying goods of all kinds are transferred from ship to rail or truck and carted hundreds, sometimes thousands, of miles inland to enormous warehousing and distribution centers or directly to retailers and consumer markets. As photographer and essayist Alan Sekula (2003, 12) suggested, “If the stock market is the site in which the abstract character of money rules, the harbor is the site in which material goods appear in bulk, in the very flux of exchange. Use values slide by in the channel; the Ark is no longer a bestiary but an encyclopedia of trade and industry.”

In this context, the largely overlooked but fast-growing field of logistics has become increasingly critical to securing supply, but it also challenges the political and spatial logics of geopolitical territoriality. Today, logistics is a “science” of the efficient organization of movement within spatial systems that entails the design and management of supply chains. According to the U.S. Council for Supply Chain Management, logistics includes “inbound and outbound transportation

management, fleet management, warehousing, materials handling, order fulfillment, network design, inventory management, supply/demand planning, management of third party services providers, sourcing and procurement, production planning and scheduling, packaging and assembly, and customer service. It is involved in all levels of planning and execution—strategic, operational and tactical” (Council of Supply Chain Management Professionals n.d.). Indeed, this expansive scope of activity and the militarized descriptor are revealing as logistics now typically lead rather than support the strategy of firms and the security of nations. Having conceptualized economy anew in the 1960s and 1970s by spatializing cost-benefit analysis and applying systems analysis to distribution networks, the field of logistics aims to “add value” to space and action between production and consumption, annihilating minutes or even seconds from transactions along supply chains. Anything that interferes with flow is a potential threat to trade security, be it terrorists, biohazards, labor actions, or natural disasters. Ironically, even national security policy can be understood as a threat to secure trade. In fact, Wal-Mart, the retailing giant that recently bumped Exxon from the top spot on the Fortune 500, has been lobbying powerfully against U.S. port security initiatives in the interests of secure supply chains (AFL-CIO 2006). As *The Economist* explained in 2002, “There is a tension between the needs of inter-national security and those of global trade” (“When trade and security clash” 2002), which is fundamentally the tension between geopolitical and logistical models of spatial calculation.

When Chertoff made his comments at the AAPA meeting in March he was thus admitting allegiance to a particular vision and critique of security. He insisted that the Department of Homeland Security (DHS) was committed to “a risk management approach . . . not security at any cost.” But Chertoff was also declaring a recent decisive victory over proponents of national security who demanded the closure of borders. Only three weeks prior on 1 March 2007, the Senate had defeated an amendment to the Homeland Security Bill championed by New York’s Senator Charles Schumer requiring 100 percent container scanning at all ports within five years. This defeat lent newfound authority to experimentation with forms of security that prioritize network flow and problematize the territorial border.

I take up this contemporary challenge to the territorial border or, in other words, the encounter between logistics and geopolitics.<sup>3</sup> I focus explicitly although not exclusively on U.S. institutions and policymaking

because of their leading role in the making of business logistics and supply chain security, but this by no means implies an uncritical U.S.-centrism. I make three central claims. First, I argue that the rise of business logistics as a highly specialized form of spatial calculation has been crucial but overlooked in the process of time-space compression that has remade geographies of capitalist production and distribution at a global scale. This spatial calculation, rooted in cost-benefit and systems analysis, places market rationalities at the center of the production of space. Second, I argue that through its dramatic impacts on how space is modeled and practiced, business logistics has also recast the geographies of national security. The rise of business logistics directly challenges geopolitical calculation and the national and territorial forms of security that historically gave it form. Because of its reliance on the speed of supply chains, business logistics has provoked tremendous experimentation with the protection of globalized networks. This experimentation has given rise to “network” or “systems” models of security, wherein borders are reconstituted and governed differently. Indeed, although these models of security prioritize flow they are organized through new forms of containment—new kinds of borders and security zones. Building on these two prior claims, I offer a third. I argue that the rise of business logistics is crucial to the neoliberalization of space, even as it remains outside the scope of the large literature on this topic. Although neoliberalism has long been credited with expanding capitalist markets and imposing market logics on social and political problems, it is logistics that have quietly put the cold calculation of cost at the center of a vital form of the production of space. The securitization of “logistic space” further ups the ante; it transforms trade disruption from an economic cost to a security threat. When disruption is a product of the exercise of basic rights such as workplace democracy, market rule through secure logistic space suggests ominous political prospects.

The arguments unfold as follows. In the next section I explore how contemporary pressures of globalized supply chains and logistics systems provoke transformations in U.S. security agencies’ conceptions of border space. I pay particular attention to the ways in which the adoption of a network approach to security recasts the border from an endpoint to a critical zone of flows—from a borderline to “seam” space. In the third section, I trace how recent U.S. policy designates ports as special “secure areas” with the aim of protecting critical nodes in commodity flows. Ports are now subject to exceptional regulations that blur national boundaries of

police and military authority and of criminal and terrorist action, directly undermining geopolitical models of sovereignty, as well as labor and citizenship rights. In the fourth section, I explore how networked geographies of security entail transformation in both the meaning and practice of security, and I contrast these newer models to long-standing geopolitical forms. In the fifth section, I explore how the “revolution in logistics”—the dramatic changes it ushered in to the conceived space of the economy and the spatial organization of economic activity—has been an overlooked driver of these changes for four decades. Finally, in the concluding section I return to the question of neoliberalism to reflect on the implications of this encounter of logistics and geopolitics for collective security and citizenship.

## From the Borderline to “Seam” Space

Since the end of the Cold War, both military and civilian agencies have been actively rethinking security to respond to changing notions of threat. If a territorial model of security that allowed for the building of modern states both produced and relied on the distinction between “inside” and “outside” national space, then the current concern for the security of supranational systems problematizes these simultaneously social and spatial forms. The division of inside–outside state space was said to order authority, jurisdiction, and rights, ontologically but also geographically (Giddens 1985, 192; Foucault 1997, 49). Indeed, this was a core ideology and basis for the authority of the geopolitical state, with sovereignty and formal citizenship both ordered by the borderline (Cowen and Smith 2009). The border as territorial limit was the official basis for the division between police and military force and between crime and terror, and it also forged “domestic” legal space. Yet, despite the formative nature of this territorial division, the same states were forged through its trespass, most starkly through colonial expansion when “outside” became “inside,” and when the military was often interchangeable with the police force (cf. Badiou 2002; Mignolo and Tlstanova 2006; Asad 2007). The geopolitical state relied simultaneously on the sovereign territoriality of the borderline and on the trespass of the distinctions it created.

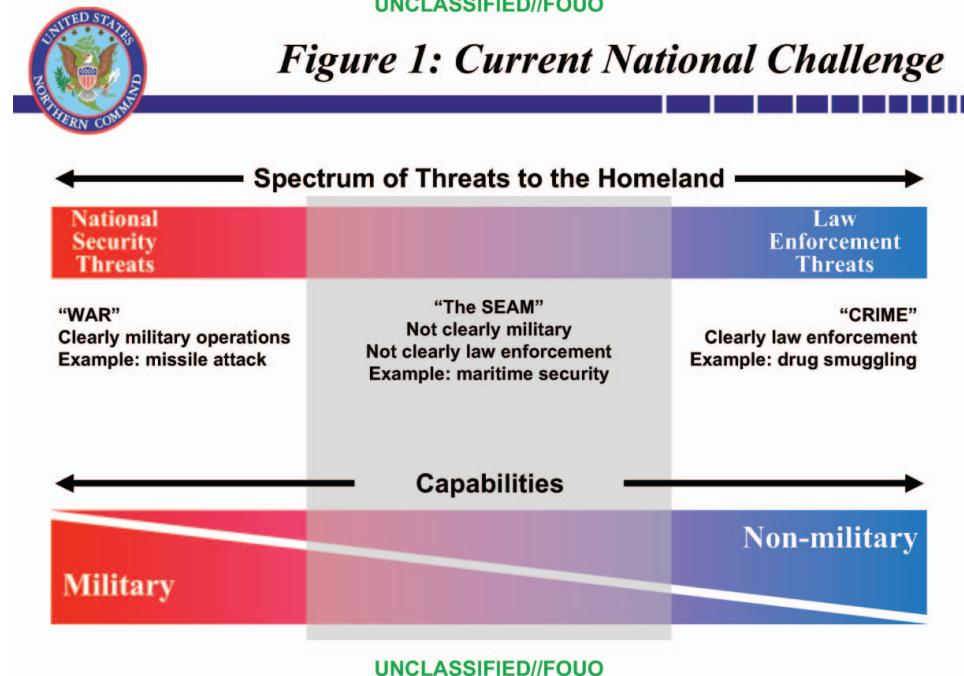
But even as the division of authority and violence organized by the distinction of inside–outside was a sovereign fantasy as much as an everyday reality of the geopolitical state, it nevertheless had actual effects. The

border was never managed in the definitive manner that the distinction of inside–outside would suggest and was never merely a line in absolute space (Agnew 1999; Newman 2006), but we can nevertheless trace important shifts in both models and practices of sovereign space. It is now a common claim in the critical geopolitics and critical security studies literatures that a new paradigm of sovereignty is emerging with direct implications for how borders are governed. In Didier Bigo’s (n.d.) words, security today tends to “channel and monitor flows,” rather than blockade borders. Today, a variety of security agencies in the United States are working on new proposals for border space. Their models do not loosen or dismantle the border but enact a different form of border management. Indeed, efforts to introduce a “smart border” (White House 2002, 22) or to institutionalize “good border management” (CRS 2005a, 4) aim to speed up flows of select goods and people, while “interdicting and stopping ‘bad’ people and ‘bad’ things from entering the country” (CRS 2005a, 4).

For the security of systems, the territorial border can be a problem rather than a solution. Military and civilian security experts insist that old categories are creating problems for law enforcement and international security work, and it is precisely the blurring of tactics and technologies of police and military that is needed in response to insecurity today. As U.S. Lieutenant Colonel Ralph Peters (1995, 12) argued, “we are constrained by a past century’s model of what armies do, what police do, and what governments legally can do. Our opponents have none of this baggage, whether they are druglords or warlords.”<sup>4</sup> A decade later, in 2006, another U.S. Army Lieutenant Colonel, Thomas Goss,<sup>5</sup> called this new border space “the seam,” a liminal zone between inside and outside space, where old divisions no longer hold. In the seam, the border between police and military authority is blurred, and so, too, is the line between crime and terror. Goss offered the diagram in Figure 1, which notably uses the maritime border as test case.

The maritime border is the paradigmatic space for experimentation and reform precisely because of the magnitude of the challenge of “opening and closing” access to trade flows. With 90 percent of all global trade and 95 percent of U.S.-bound cargo moving by ship, the challenge of securing maritime supply chains is profound. Indeed, all of the eleven plans cited in a recent DHS report that were developed after September 2001 to support “supply chain security” target maritime and port security (DHS 2007). No doubt, there has been tremendous experimentation in securing the movement of people since 2001 (Balibar 2002; Salter 2004; Sparke

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**Figure 1: Current National Challenge**

**Figure 1.** Current national challenge.  
Source: Goss (2006). Reproduced with permission.

2004; Walters 2004). These efforts have unleashed a variety of highly racialized programs that introduce new forms of biometric surveillance. Yet, concern for the security of stuff—for commodities and supply chains—has been the subject of more and more national policy action. A range of new programs developed for the land borders of North America aim to manage trade flows and tightened borders in the face of exponential growth in truck traffic since the implementation of the North American Free Trade Agreement (NAFTA). One of the major “casualties” reported by American authorities after 11 September 2001 (hereinafter 9/11) was the automobile industry that spans the U.S.–Canada border. Facing delays of up to sixteen hours at border crossings in Michigan and New York, several plants closed after they were no longer able to rely on parts delivered over the border “just in time.” Daimler Chrysler and Ford both announced plant closures in the days following the attacks (CRSA 2005, 6; see also Flynn 2003, 115). But it is the maritime border that has been at the center of national security efforts because of its definitive role in global supply chains. The Organization for Economic Cooperation and Development (OECD 2003, 2) asserted the importance of maritime trade, while also outlining some of the acute security challenges it poses:

World trade is dependent on maritime transport and great strides have been made in recent years to render this system as open and frictionless as possible in order to spur even greater economic growth. However, the very things

that have allowed maritime transport to contribute to economic prosperity also render it uniquely vulnerable to exploitation by terrorist groups . . . the stakes are extremely high, as any important breakdown in the maritime transport system would fundamentally cripple the world economy.

The connections between security and shipping are vital and I return to this crucial subject shortly; first, however, I turn to look in more detail at the current recasting of security and border space. Port security reports from institutions like the OECD and the RAND Corporation circulate a strikingly similar diagram to that of Lieutenant Colonel Goss (see Figure 2). Again, what was historically a border line bifurcating two distinct spaces and their attendant norms and laws is transformed into a space unto itself that fits neither side of the old divide. In this model, the maritime border is not simply an example of the problematized space; rather, the port exists as the space in-between national territories. In both cases, the maritime border becomes a space of transition, a three-dimensional zone subject to specialized government.

This experimentation with border space does not aim to dismantle border security per se but acknowledges the limits of a territorial model while attempting to rework its meaning and practice to support systems that span national space. Maritime specialists conceptualize national security as almost interchangeable with the security of supply chains. As Haveman and Shatz

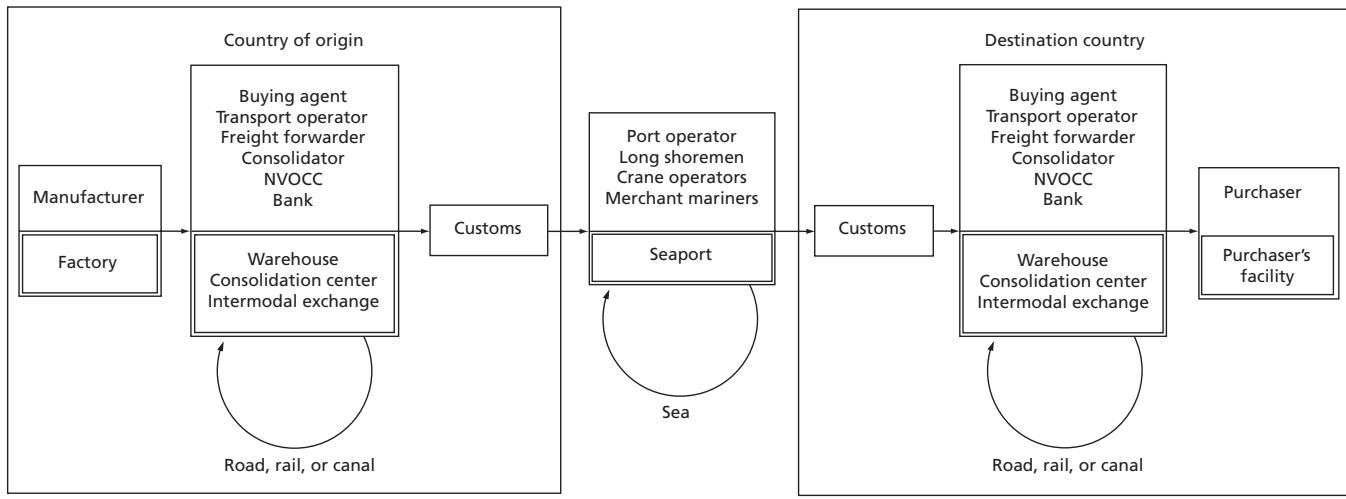


Figure 2. Evaluating the security of the global containerized supply chain. Source: RAND (2004). Reproduced with permission.

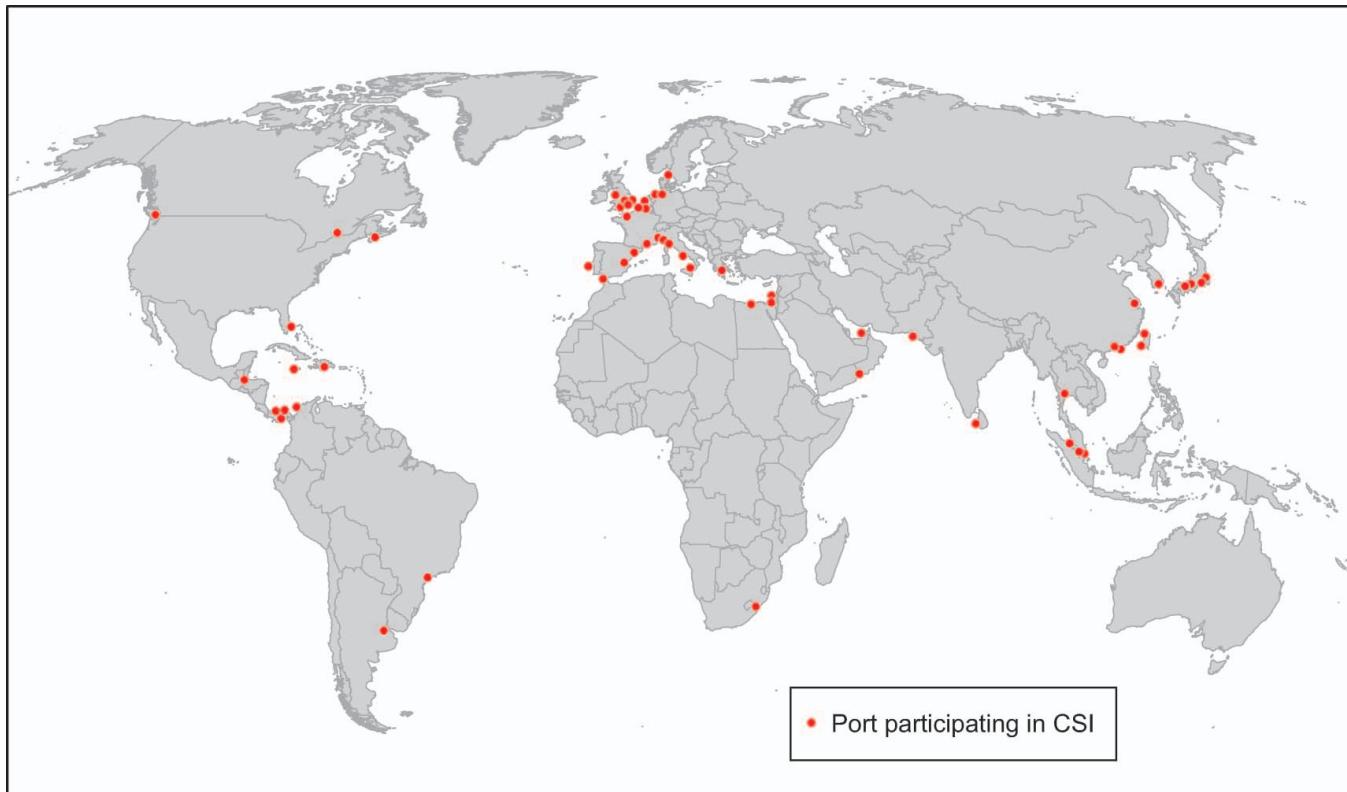
(2006, 1) recently argued in their study *Protecting the Nation's Seaports: Balancing Security and Cost*, "the term 'port security' serves as shorthand for the broad effort to secure the entire maritime supply chain, from the factory gate in a foreign country to the final destination of the product in the United States." Experimentation with new forms and geographies of security has been underway for more than a decade but has found a receptive audience with generous purse strings, eager for application in the post-9/11 world. U.S. port security programs in particular take up these border challenges on the ground. As Chertoff explained on that midday in March, DHS has adopted a three-pronged strategy of risk management, cost-benefit analysis, and "layered security," with the aim of keeping dangerous cargo out, addressing "infiltration" from within, and securing infrastructure. Together, these approaches to port security are reconfiguring the geographic space and location of border security, as well as the legal and social technologies for governing border spaces.

## Securing Ports

Shortly following 9/11, U.S. officials began quickly and quietly designing new security plans for ports. The Container Security Initiative (CSI), a program defined and administered by U.S. authorities, posts U.S. Customs and Border Patrol (CBP) agents in dozens of foreign ports to inspect U.S.-bound cargo (Figure 3). The CSI aims to "extend [the U.S.] zone of security outward so that American borders are the last line of defense, not the first" (CBP 2006). The CSI is now ac-

tive in fifty-eight ports, which account for 85 percent of all containers arriving in the United States.<sup>6</sup>

Another extraterritorial security program, the Customs-Trade Partnership Against Terrorism (C-TPAT) was initiated in April 2002 and offers expedited processing of cargo for firms that comply with requirements for securing their entire supply chain. C-TPAT participants are subject to fewer cargo inspections because they receive a lower risk score in the U.S. Customs and Border Patrol's Automated Targeting System. Security is privatized as agents are made responsible to provide for the security of the nation; participants in the C-TPAT sign an agreement that commits them to conduct a self-assessment of security in the logistics chain (CRS 2005b, 10–11).<sup>7</sup> This is a prime instance of the impact of neoliberalism on citizenship whereby individuals are expected to assume an active role in their own government (Burchell 1996, 29). This example is especially worthy of note in the field of national security. For classic liberalism, national security was an exceptional realm of state action in a political landscape of individualism. According to classic liberal political theorists, national security was one of the exceptional domains where the state should command a monopoly. In fact, security was the core rationale for the liberal state and a prerequisite for individual freedom. Even the eminent neoliberal Milton Friedman supported the collective organization of security, arguing that, "I cannot get the amount of national defense I want and you, a different amount" (Friedman 2002, 23); however, although the state still plays the central role planning and coordinating in today's programs for supply chain security, the everyday practices are delegated



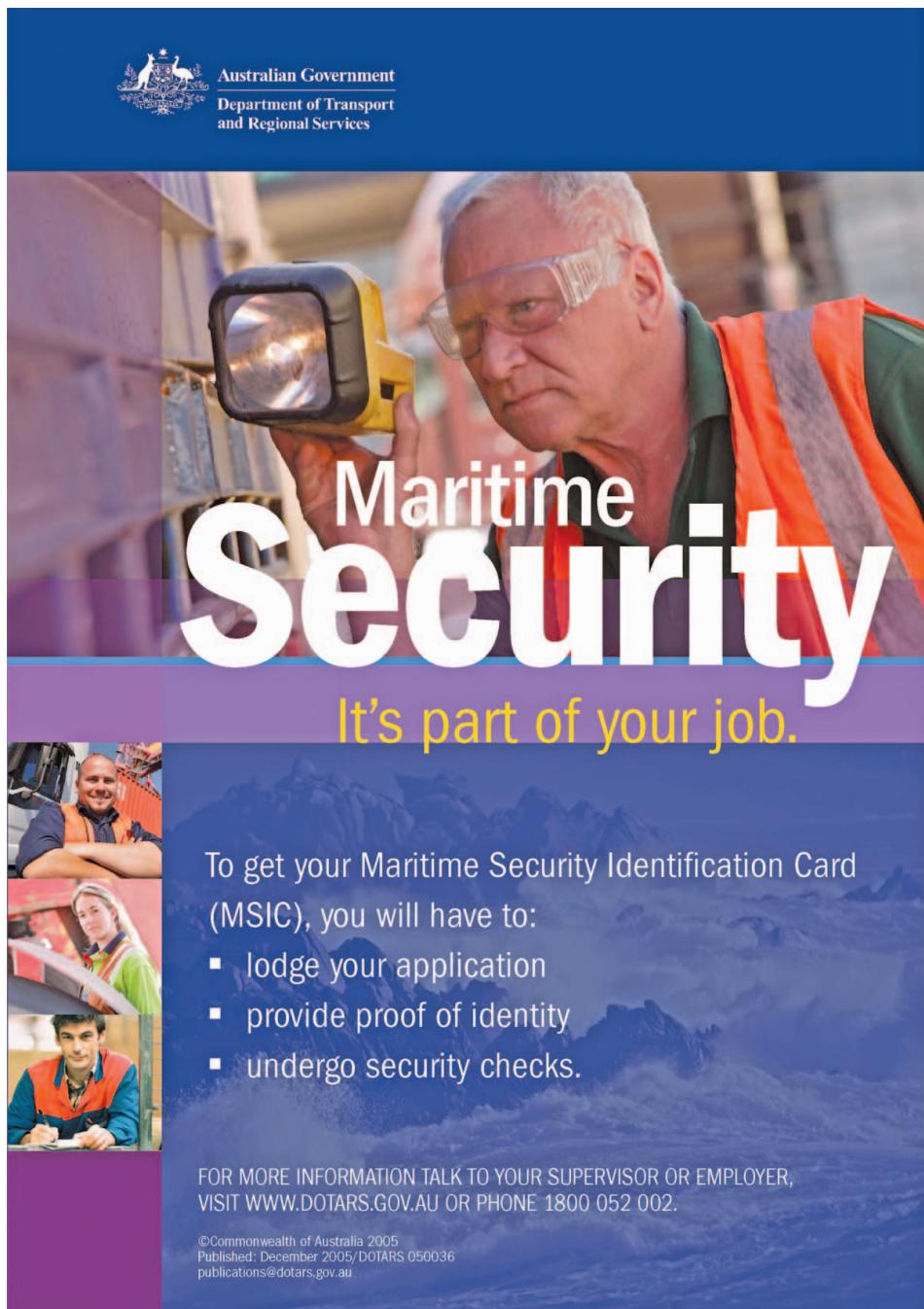
**Figure 3.** Ports participating in U.S. Container Security Initiative (CSI). Source: Department of Homeland Security (2007). Adapted and used with permission.

to private firms, the individual “consumers” of the border.

In addition to these efforts at extending U.S. border practices outward, scanning cargo at the points where containers enter the international supply chain, and delegating responsibility downward, American officials have pressured supranational governing bodies to develop new policies whereby the noncompliance of member nations results in their isolation from global trade. The UN’s International Marine Organization administers the International Ship and Port-Facility Security (ISPS) code. The ISPS code offers an alternative to direct U.S. presence and control abroad, even as it was crafted at the direct behest of the United States. The ISPS code defines basic standards of security with which international ports and ships must comply. In 2004, the code came into effect globally. It was adopted by 152 nations and requires the compliance of 55,000 ships and 20,000 ports. Among other things, the code calls for strict standards for accessing and handling cargo, although it leaves the details of policy design to signing member states. Nevertheless, authorities in a number of countries have designed remarkably similar programs that bring the kinds of models explored in the

last section into practice. These programs aim to engineer secure seam space by targeting workers in these critical nodes in global logistics networks.

Security programs for port workers in the United States, Australia, and Canada were passed into law in January 2007, September 2006, and November 2006, respectively. In each case, passage followed several years of struggle among federal authorities, maritime employers, and labor over the fate of the programs in question, as well as information sharing among these three states around policy design. All three programs create special security zones around ports—in effect, exceptional spaces of government—where normal civil and labor law can be suspended. These zones function like the in-between spaces in the Goss and OECD models—not quite inside or outside law. To access their workplaces, workers must undergo invasive security screenings. Those who are successful in obtaining clearance must carry security cards—biometric cards in the United States—that are linked to the newly created security perimeters surrounding ports. Workers can be deemed threats to national security by virtue of state suspicion of their own activities or those of their affiliates and thereby denied clearance and employment.



**Figure 4.** Informational sheet for the Maritime Security Identification Card. Source: Department of Transport and Regional Services Australia (2005). Copyright © Commonwealth of Australia. Reproduced with permission.

These programs undermine collective agreements, privacy rights, and employment security for workers. Ironically, they also invest responsibility for national security in workers even as they criminalize this same group (see Figure 4). The onus placed on workers to protect the nation, even while constituted as a likely threat to its security, exceeds the bounds of neoliberalism and can perhaps only be explained as a deeply neurotic form of citizenship and governmentality (cf. Isin 2004). The

U.S. Transport Workers Identity Credential (TWIC), a joint responsibility of the Transportation Security Administration within DHS and the U.S. Coast Guard, is in fact operated and maintained by Lockheed Martin. This private management of the TWIC program is another indication of the neoliberalization of national security; the government assumes the role of agenda setting but implementation is assigned to the lowest bidder.

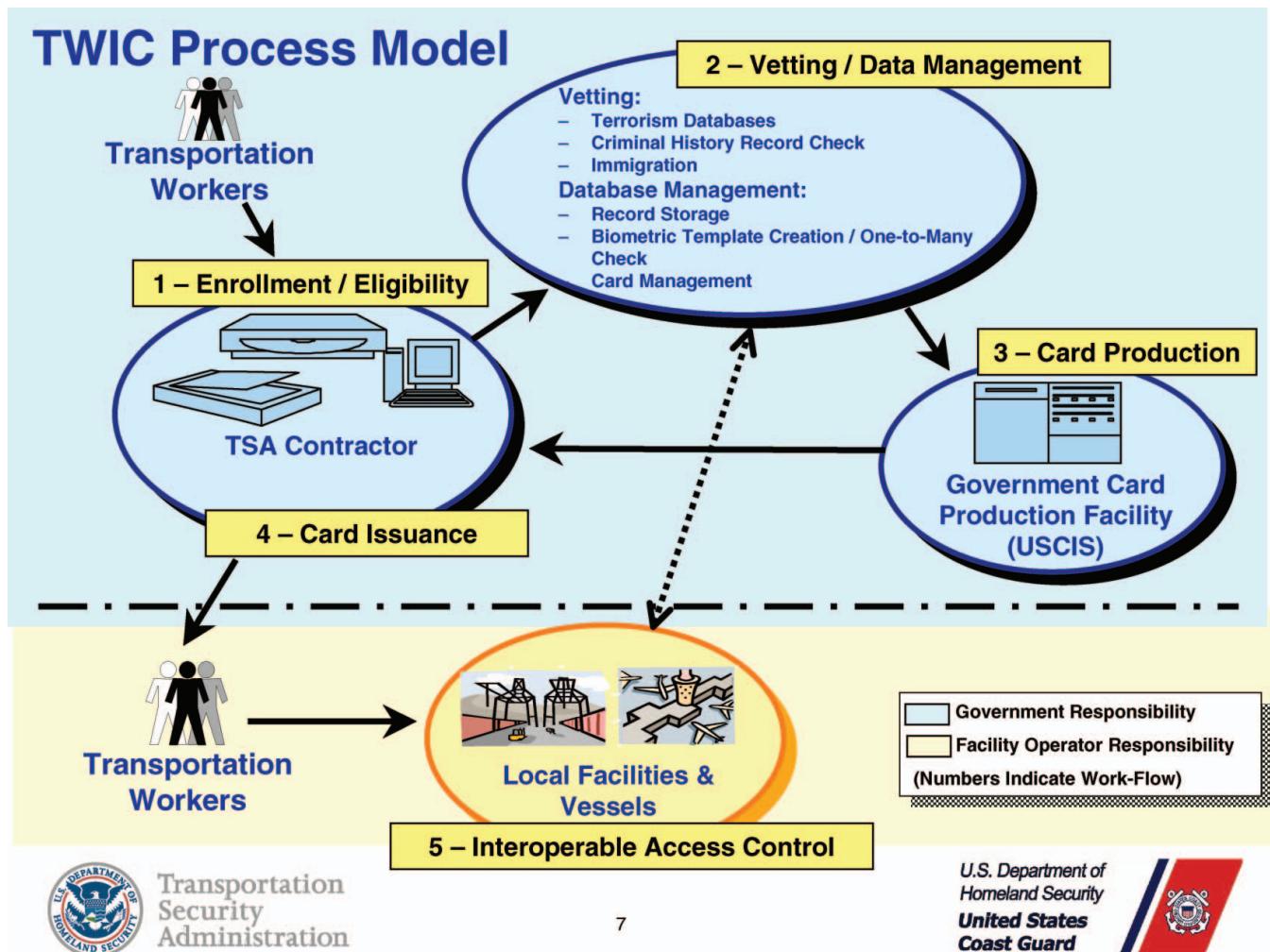


Figure 5. Transportation Worker Identification Credential (WIC) process model. Source: Department of Homeland Security (2006). Reproduced with permission. TSA = Transportation Security Administration.

Perhaps most important for this investigation, however, all three port security programs have the effect of blurring the boundaries between crime and terror. The TWIC requires that workers undergo a security threat assessment, which includes criminal history records checks, immigration checks, and an intelligence and terrorism check (Figure 5). Workers are deemed to be a threat to national security and denied security clearance on a permanent basis for a range of attempted or suspected crimes including the “attempt to improperly transport a hazardous material” or the “attempt to commit a crime involving a security transportation incident.” Workers are denied clearance for seven years for a much longer list of attempted or suspected crimes, including “attempted dishonesty, fraud, or misrepresentation, including identity fraud and money laundering,” attempted immigration violations, and “attempted dis-

tribution, possession with intent to distribute, or importation of a controlled substance” (Transport Security Administration 2007).

The TWIC will affect at least 1.3 million workers according to conservative estimates. Frustrated officials from the Port of Houston in attendance at the AAPA meeting suggest that DHS estimates are far off and that actual numbers will be ten times higher. Critically, an estimated 30 to 50 percent of port truckers who are undocumented migrants will automatically be ineligible for the pass, suggesting an intensification of the territorial bounds on human mobility at the same time that those same boundaries are recast to facilitate the flow of goods. The TWIC both rewrites the limits of state surveillance and supplants labor protections but does so without presenting itself as labor law.



**Figure 6.** Access point to secure area, Vancouver, British Columbia. Source: Photo by author.

Much like the American TWIC program, Canada's Marine Transport Security Clearance Program (MTSCP) requires the creation of "secure areas" around maritime ports, and limits access to such areas to those with a valid security credential (Figure 6). Clearance may be granted following extensive background checks on workers by Transport Canada in cooperation with the Royal Canadian Mounted Police (RCMP), the Canadian Security Intelligence Service (CSIS), and Citizenship and Immigration Canada, including a criminal record check, "a check of the relevant files of law enforcement agencies, including intelligence gathered for law enforcement purposes," a CSIS security assessment, a check of the applicant's immigration and citizenship status, and investigation into workers' family members and social networks (cf. Cowen 2007). All workers who require regular access to a secure area must submit a facial image and fingerprints. Like the TWIC program, security clearance within the MTSCP can be denied on a wide and subjective range of grounds. Officials must only demonstrate that there were "reasonable grounds to suspect" terrorist affiliation before denying a pass. There is no meaningful independent appeals process, and the protection of information is extremely weak, meaning that it could be shared with foreign governments.

The RCMP and CSIS, security agencies with little civilian oversight, are responsible for the security

checks and are widely alleged to be engaging in racial profiling (Clark 2005; O'Neil 2005; Teotonio 2006). In the wake of the Maher Arar inquiry, countless groups and individuals, even Conservative Prime Minister Stephen Harper, recommended better oversight of the operations of CSIS, the RCMP, and Transport Canada. Transport Canada's recent "information package" on the security clearances, in fact, directly outlines how "travel history is collected to see if an applicant has traveled to a country where there may be security concerns" (Transport Canada 2006). This is a direct invitation for the profiling of "risky" workers based on simplistic and racialized assumptions about "risky" regions. The International Longshore and Warehouse Union–Canada (ILWU–Canada 2004) sees these port security regulations as a "a carefully veiled employment discrimination policy through the application of various types of stereotyping—**racial**, political, union activist, etc." (emphasis in original). New security regulations also undermine collective bargaining. Tom Dufresne, president of the ILWU–Canada, points out that,

[Unions and their members] would never agree to have a collective agreement with no grievance procedure in it, without some final arbitrator making the decision on whether or not a person is guilty of an offence or what the penalty should be. And yet, with the security regulation—the internal review they're proposing—there

is no independent, transparent, affordable appeals process other than going to the federal court of Canada. And then all you might get is “by the way, you were right.” Who do I go to for compensation? There is no compensation.

The fact that these conditions would never pass a regular negotiation with port actors is exactly the point. Governments are able to implement the regulations specifically because they are not framed as labor law but rather as exceptional measures that respond to crises of national security. It is precisely through the mobilization of crisis that the foundations of territorially based national citizenship rights—the distinction between inside and outside national space—are undermined. As one joint report from Australia’s transportation unions asserts, addressing the new Marine Security Identity Card (MSIC), “there is always the tendency for commentators to refer to issues of criminality as opposed to real terrorist activities. As the debate deepens there is a blurring between criminality or more specifically a history of criminal convictions and the deliberate risk of terrorism” (Maritime Union of Australia; Rail, Tram and Bus Union; and Australian Manufacturing Workers Union 2005). This collapse of all criminal activity, and even suspected criminality, into threats to national security simultaneously undoes protections formerly associated with national status, while reconstituting the very meaning of insecurity. The Maritime Union of Australia suggests that “If the arguments around the introduction of the MSIC cards are allowed to broaden the scope to include the detection of criminals or reformed criminals in the transport chain then the effectiveness of any maritime security measures are diluted” (Maritime Union of Australia; Rail, Tram and Bus Union; and Australian Manufacturing Workers Union 2005). We must, however, consider the possibility that *security* actually means something significantly different in these new border programs: It is recast rather than reduced through this broadening sweep of threats, in ways that have serious implications for citizenship.

Indeed, in response to the Vancouver port truckers’ strike of 2005, a coalition of corporate executives lobbied to define port work as “essential services,” effectively barring port workers from striking. This move did not meet with success, but in many ways has been addressed by alternative means through the MTSCP. In the U.S. context, President Clinton enacted the Taft–Hartley Act in response to labor struggles in the Los Angeles/Long Beach port in 2002, after Vice President Gore declared such labor actions to be a threat to national security. In Australia, intense struggles took place

over whether labor actions in the ports would count as national security threats for the purpose of new policy (Commonwealth of Australia 2005). There is even evidence that the Howard government has been working with offshore logistics firms to train military personnel in the area of longshore work in the event of a strike by the Maritime Union of Australia (Maritime Union of Australia n.d.).

Both the U.S. and Canadian transportation authorities are reputed to have plans to extend their programs across the transport sector, potentially implicating several million workers. Labor leaders are convinced that the security clearance could also serve as the basis for a biometric national identity card. The TWIC, the MSIC, and the MTSCP are being introduced as exceptional measures targeted to a highly specialized group of workers; they nevertheless establish precedents that could rework labor law and civil rights more broadly. These programs cross long-established lines of domestic state authority and mix technologies for fighting terror and crime, effectively suspending basic rights and protections. Like the Canadian MTSCP, the TWIC and the MSIC make crime, or even potential crime, a matter of national security. In this way, job security and other labor rights are supplanted; if a worker cannot attain clearance he or she cannot be employed in the port. Despite the dramatic precedents these programs set, few people beyond the bounds of the ports have even heard of their existence. Governments have deliberately kept them out of the public realm by treating them as highly technical regulations rather than fully political pieces of legislation. This practice is consistent with what Stasiulis and Ross (2006, 335) and others refer to as *securitization*—“practices of governing that distinguish ‘security’ from politics, deploying the former in a general process whereby a policy issue is turned into a security issue, removing it from the realm of political contestation.”

## Geopolitics, Biopolitics, and the Rise of Logistics

In attempt to preempt disruption to supply chains, new security programs like the TWIC, the MTSCP, and the MSIC recast border space and suspend political rights. Historically, though, crises of national security have been critical events for nation building and for the genesis of social policy and social security rather than their dissolution (Titmuss 1958; Mann 1988; Tilly 1990; Rose 1999; Cowen 2006, 2008a, 2008b).

“Exceptional” events such as war have allowed laboring citizens to make new political claims. The demand for the productive and reproductive labor of the population to fight national wars, build munitions, and compete in national baby races was central to the very constitution of national population and created opportunities for the institutionalization of new notions of entitlement to national wealth and collectivized risk (Cowen 2005). Foucault argues that the modern state emerged as a biopolitical form that constituted “population” as its object of government. Born out of relations of colonial rule and interstate war, concern for the health and welfare of the population stood in direct relation, and sometimes tension, with mass slaughter and warfare. “There is a paradox to this history,” Foucault (1989, 209) suggested (see also Foucault 2007), “at the same moment the state began to practice its greatest slaughters, it began to worry about the physical and mental health of each death and life is one of the main paradoxes of the modern state.”

Foucault’s work on this paradox of life and death, on “biopolitics” and the “population security” to which biopolitics gave rise, has seen a surge of scholarly attention in recent years. Yet the connections between biopolitics and geopolitics remain largely unquestioned (for important exceptions, see Sparke 2004; Walters 2004; Hannah 2006; Mignolo and Tlstanova 2006); however, the politics of population arose as part of the assemblage of the modern state, which was fundamentally, not coincidentally, geopolitical in form. Biopolitical forms held meaning in relation to the bordering of state space with national social and spatial boundaries. Foucault made this claim directly and explored how the genesis of biopolitics was also the birth of modern forms of national racism (Foucault 1997; see also Mbembe 2003). Geopolitics emerged as a science of national territoriality and so the rise of biopolitics and geopolitics are deeply entwined (Cowen and Smith 2009).<sup>8</sup>

Indeed, the spatial contours of the tango of life and death that captivate Foucault are starker in the history of social welfare for soldiers. From Bismarck’s pensions to the GI Bill, to the current alignments of welfare and military welfare, the national soldier that at once assembles and defends territory and polity can be a paradigmatic figure of social citizenship (Cowen 2007). As I suggested earlier, however, this territorial notion of security is today challenged and reworked from within the state’s military and civilian agencies. It is not just “enemies” but high-ranking defense specialists who aim to overcome the geopolitical border. Population secu-

rity, although certainly not obsolete, nevertheless does not respond to the challenges of insecurity that experts might deem a priority today. National security in the ports is conceptualized as almost interchangeable with the security of international trade flows,<sup>9</sup> signaling an important shift in the very meaning of national security, rather than just an intensification of its application.

Efforts to secure supply chains might be understood in the context of the rise of a form of collective security that Collier and Lakoff (2007) term *vital systems*. Collier and Lakoff asserted that the pressing question for critical scholars of security is not whether there is “too much or too little” but “What type of security is being discussed? And what are its political implications?” When we ask about the kind of security in question, they suggest, we can trace the emergence of “vital systems security” to the first half of the twentieth century in the context of mass war. This form of security seeks to protect systems that are critical to economic and political order ranging from transportation to communications, food and water supply, and finance. Vital systems security responds to threats that might be impossible to prevent “such as natural disasters, disease epidemics, environmental crises, or terrorist attacks” (Collier and Lakoff 2007, 1; see also Collier and Lakoff 2008). Vital systems security is thus distinguished by the wide range of disasters to which it aims to respond and its emphasis on preparedness for emergency management rather than preventive or predictive responses that characterize risk-based models of insecurity.

Crucial for this investigation, however, vital systems security has a geography that is network-based rather than national or territorial in form. These vital systems function by virtue of their connectivity, which is often supranational. This is in marked contrast to older forms—“sovereign state” and “population security”—that are both animated by national space. Although “systems” offer rich insight on security in general and this case in particular, it is not just any system but, rather, global trade systems that play a pivotal role in the contemporary recasting of security. Supply chains play a unique role in the reorganization of security because of the authority of market calculation within neoliberal government. In neoliberal times, Lemke (2001, 10) suggests, “the social domain” is encoded “as a form of the economic domain,” and thus economy might well be our policy. In Lemke’s estimation, the political rationality of U.S. neoliberalism has meant that “cost-benefit calculations and market criteria can be applied to decision-making processes within the family,

married life, professional life, etc.” (10). Brown (2006) offered a similar assessment when she argues that neoliberal rationality “is not merely the result of leakage from the economic to other spheres but rather of the explicit imposition of a particular form of market rationality on these spheres” (Brown 2006, 693). Yet another prominent scholar, Rose (1999, 141), argued that this new brand of liberalism demands “social government must be restructured in the name of an economic logic . . . all aspects of social behaviour are now reconceptualized along economic lines.” Could it be that we are increasingly seeing national security conflated with the security of trade flows and supply chains? The central role of markets and trade suggests that some scrutiny of supply chains and a brief genealogy of logistics provides insight on these themes.

## “The Economy’s Last Dark Continent”: The Political Space of Logistics

The current pressures at the maritime border that provoke experimentation with network models of security are inextricably tied to the invention of the shipping container and JIT production techniques. Initially developed to solve the logistical challenges of the U.S. military during and after World War II, the container would eventually help to transform the organization of civilian life. More than fifty years after its introduction as an efficient means of moving military equipment to the front, the container has been celebrated as the single most important invention in the economic globalization of the decades that followed (“When trade and security clash” 2002; Levinson 2006). Containerization radically reduced the time required to load and unload ships, reducing port labor costs and enabling tremendous savings for manufacturers who could reduce inventories to a bare minimum. For JIT to become a globalized system, however, inputs and commodities had to be coordinated and transported across space. U.S. military procurement laid many of the infrastructural foundations for this work during the Korean War (Reifer 2004). With the military’s use of containers to manage massive supply chains during the Vietnam War, container shipping became firmly entrenched (Levinson 2006). Yet, although the key role of the physical technology of containerization in the globalization of supply chains is now widely recognized, the calculative technology that enabled the container’s global

circulation—the revolution in logistics—remains hidden in plain view.

Even as there has been a profusion of interest in the role of models, maps, and other “conceived” spaces in the production of human geographies (Lefebvre 1991; Huxley 2006; Elden 2007), technical transformations in the conceptualization and calculation of the economic space of globalized capitalism have been almost entirely neglected outside the applied field of business management. In highly influential work, Harvey has developed the concept of “time–space compression” to explore the how globalization processes and the rise of advanced capitalism organized through the speed of supply chains and of JIT production techniques have dramatically transformed experiences and representations of space. His notion of space–time compression identifies “processes that so revolutionize the objective qualities of space and time that we are forced to alter, sometimes in quite radical ways, how we represent the world to ourselves” (Harvey 1989, 240). Yet, the history of business logistics reveals that changing representations of space were not only an outcome of space–time compression but also a foundation for changing lived relations of time-space.

Lefebvre (1991) offered one of the most compelling analyses of the role of technical and professional conceptions of space in the production of space more broadly. His influential “triadic” conception of space puts emphasis on the role of scientists’, technicians’, bureaucrats’, and managers’ representations of space in shaping perceptions of space and spatial practice. Scholars from geography and other social science disciplines increasingly mobilize discursive methodologies to understand how economic space is produced and regulated, and to explore how economic actors define and legitimize their methods and theories through their representations of economic problems and solutions (Buck-Morss 1995; Gibson-Graham 1996; Callon 1998; Amin and Thrift 2004; Barnes 2004; Mitchell 2005). Despite long-standing interest in the production of space (Harvey 1973; Massey 1977; Smith 1984; Soja 1989; Lefebvre 1991; Thrift 1996; McDowell 1999), recent work on the rise of “geo-economic” calculation (Smith 2005; Sparke 2006), and growing interest in social and political theory with the “performance of the economy” (Callon 1998; Thrift 2000; Barnes 2002; Strathern 2002; Mitchell 2005), the profound transformations in representations of economic space in the field of logistics have yet to be investigated. This is the case even as the science of logistics has been at the core of the globalization of trade and production for several

decades and has undergone a series of profound epistemological shifts. These shifts in the representation of economic space have contributed to dramatic political, social, and organizational changes such as the redistribution of production, distribution, and warehousing at the regional, national, and global scale since the 1960s and 1970s (Reifer 2004), the deregulation of the U.S. transportation sector in the 1980s, the implementation of JIT production techniques through the 1980s and 1990s (Allen 1997), and the current rethinking of border control, state sovereignty, and citizenship (Cowen 2007).

The growing power of logistics' techno-scientific knowledge has occurred alongside the rise of logistics as a social and institutional force, particularly visible over the last twenty years. Logistics firms are increasingly acting as full-service systems managers of global supply chains. Through the 1990s, new associations sprouted up for logistics professionals, and enrollment leapt in a growing number of professional and academic programs. Trade magazines that formerly catered to shipping, distribution, or materials management now orient themselves to "logistics professionals," and firms that once specialized in shipping, distribution, or even manufacturing increasingly assume new corporate identities as logistics firms. Supply chain management is a mainstay in business and management schools, sometimes even replacing traditional economics departments (Busch 2007, 441).

Historically, logistics was something quite different than it is today. Logistics constituted one of the three "arts of war" of the geopolitical state along with strategy and tactics" Military strategists like the nineteenth-century writer Jomini, celebrated for his writings on the Napoleonic arts of war, devoted significant attention to logistics. Far from an afterthought, Jomini argued that logistics would occupy a leading position in the organization and execution of strategy and tactics.<sup>10</sup> Writing more recently, DeLanda (1991, 105–06) concurred and suggested that logistics began to lead rather than follow strategy and tactics during World War I. For DeLanda, this was one important implication of the rise of warfare fueled by petrol, oil, and lubricants—and the ways in which the military became critically dependent on supply lines for these items.

Miller Davis (1974, 1) suggested that contemporary business interest in logistics "commenced during World War II when immense quantities of men and material had to be strategically deployed throughout the world" and "entrepreneurial concern with the monetary and strategic value of logistics expanded rapidly during the

late 1950s and early 1960s." But when did logistics become a problem to be solved in the world of business management, and what problems did proponents seek to resolve by rethinking space and economy? What kinds of connections exist between the history of logistics as an art of the geopolitical military and its more recent life in organizing global corporate supply chains?

"No one really knows when it was first recognized that the business firm had a logistics problem," asserted Smykay and Lalonds (1967, 108) in their book, *Physical Distribution: The New and Profitable Science of Business Logistics*:

Since roughly 1960, the academic world has experienced a steady addition of writing in logistics—physical distribution. Concurrent with this increase in academic concern with logistics, American business has experienced literally a "revolution" in the organization and methods used to handle this important function. Business firms have found that by applying new methodology and systems thinking, considerable costs can be saved, customers can be better served and the firm can more effectively play its role in society. The awakening of the "logistics problem" on the part of business is one of the exciting and currently challenging areas in the better managed and innovative firms of today.

Clearly something called "logistics" existed long before 1960; however, Smykay and Lalonds (1967) documented a remarkable shift in its meaning and practice. Not only was there a flurry of new writings on the topic, but there was also a surge of institution building in the field at this time. The American Management Association was a "pioneer group" in the early development of business logistics. In 1959 they held a seminar on "Management of the Physical Distribution Function." Three years later, the National Council of Physical Distribution Management was founded with more than "300 top executives and analysts" "not only interested in the subject but actively engaged in physical distribution programs."<sup>11</sup> The universities also started to institutionalize logistics at this time. The University of Michigan created the first distribution and logistics program in 1957 and increasing numbers of schools and students have followed suit since. A number of new trade magazines were founded including *Distribution Age*, *Handling and Shipping*, *Traffic Management*, and *Transportation and Distribution Management*.

The founding of the Logistics Management Institute (LMI) in 1961 was a crucial event in the history of business logistics. After taking office earlier that same year, Secretary of Defense Robert S. McNamara began advising President Kennedy to create an institution devoted

to the study of logistics. In a memo to the president, McNamara reported that the Department of Defense was encountering serious problems in procurement, logistics, and relations with the defense industry. McNamara argued that the LMI would produce the “same type of fresh thinking on logistics that is being provided by groups such as Rand on technical and operational matters” (LMI n.d.). He explained, “We can achieve major breakthroughs in logistics management where we spend half of the Defense budget by sponsoring the establishment of a special, full-time organization of highly talented business management specialists.” The LMI was created a few short weeks later in October 1961, with a powerful board that included Charles H. Kellstadt, former Chairman of Sears, Roebuck, and Company as Chairman, Peter Drucker, Dean Stanley E. Teele of Harvard University, and Professor Sterling Livingston of the Harvard Business School. Today the LMI, with a research staff of more than 600 members and contracts with almost every part of government and, increasingly, the private and third sectors, remains dreadfully under-studied.

Now identified as the moment of the “revolution in logistics,” the 1960s was a time of tremendous experimentation. Provoked largely by recession in the 1950s and a growing concern for cost recovery in business operations, logistics was identified as the solution to complex problems. Reflecting on this development of logistics as it transpired, Smykay and Lalonds (1967) wrote, “the time is right, the harvest is full, and only awaits the picking” (108). It is not just the expansion of logistics research but the radical shifts in its theory and practice that were so important at this time. Transformation in the practice of space that the revolution in logistics sanctioned occurred through thinking and calculating space anew. By the end of the 1950s, two highly influential articles helped to shift emphasis in the field from transportation and physical distribution, to logistics (see Lewis, Culliton, and Steel 1956; Meyer et al. 1959). These articles emphasized that what was at stake was much more than just the isolated movement of goods out of the factory. Rather, they emphasized the rationalization and deliberate management of spatial organization within the firm, as well as the opening up of a new space of action—the geographic and calculative space of operations between the end of the production line and the point of commodity consumption.

Important as these early papers were, they nevertheless still operated with the assumption of cost minimization. By the early 1960s, cost minimization had been replaced with a model that emphasized

value-added. The nature of this shift is subtle but substantial. As Allen (1997) explained, “the typical analysis would be: x tons of widgets must be shipped from A to B; what is the cheapest full-distribution cost mode to ship by? A profit maximizing approach would ask questions of whether x was the best amount to ship and whether to ship from point A to point B was the proper origin and destination pair” (114). The shift to a profit maximizing approach was an important consequence of the introduction of systems theory into the field of distribution geography in the early 1960s. The shift to a systems approach to logistics problems revolutionized the field. With systems analysis, logistics and distribution were conceptualized wholly differently:

In traditional orientations to business operations, the end of the production line, as they put it in the paper industry, is at the dry end of the machine. Physical distribution perspectives, however, throw entirely new light on the question, “Where does the production line end?” In the view of physical distribution managements, the end of the production line is at the point where the consumer actually puts the product to use. The petroleum industry is a good case in point. Gasoline sold at the pump is really the end of the whole process of products and distribution. Yet no one actually sees the product even when it is finally delivered to the tank of the car. (Smykay and Lalonds 1967, 99)

From this point onward, logistics were understood as a science of systems. Systems analysis is “certainly is not an innovation in American business,” Smykay and Lalonds (1967, 99) asserted:

However, too frequently its application appears in the exotic industries of the space age with distinct engineering overtones. Precisely the same focus not only is possible but necessary in less glamorous aspects of business, and at the present time none is more suitable in its application than physical distribution management. Under the systems concept, attention is focused upon the total action of a function rather than upon its individual components.

Just a few years later, systems analysis was an established fact in the field of logistics. As Miller Davis (1974) explained, intrafirm activities “form a total system. That is to say, purchasing, inventory control, material handling, warehousing, site determination, order processing, marketing, and other functional activities within the modern firm have common relationships that must be perceived, identified and treated as an inclusive unit” (1). The revolution in logistics allowed transportation to be conceptualized as a vital element in

the total system of production rather than the discrete action of distributing commodities after production.

Indeed, with systems analysis, logistics was liberated from its limited concern with distribution to become an umbrella science of management. Logistics became

like a cradle to grave analysis of the ordering, transport, and storage of the product or service being produced and of the inputs required to produce it. Transportation is just one—albeit quantitatively the largest—of many functions that make up logistics. In addition, there are interfaces with other activities of the firm such as marketing, finance, production, management, information systems, and so on. Logistics is seen by its practitioners as the common link that weaves all the traditional functions of the firm together to meet customer requirements. Finished goods or raw materials held in inventory . . . are just dollar bills in disguise being warehoused. As dollar bills, they could earn a return, for example as interest on a government bond, for the risk averse. (Allen 1997, 110)

Indeed, firms like Lockheed and Boeing began incorporating logistics calculation into production flow at this time, further breaking down any distinction between production and distribution (Miller Davis 1974).

These basic innovations in logistics theory both fueled and responded to technological and regulatory change. The development of logistics after this point was inextricably linked to the development of computers, which made the cumbersome calculations of quantitative spatial modeling possible. Logistics science was also fueled by the recession of the 1970s, the oil embargo, and rising inflation, which intensified concerns for cost control and competition. It was also at this time that decades of political and corporate lobbying for the deregulation of the transport industry gained teeth. In the 1950s, “those with foresight planted a seed that the field of transport and logistics was important” (Allen 1997, 119). President Truman’s 1955 Week’s Report and two reports commissioned under President Eisenhower, the 1960 Mueller and Doyle Reports, all advised that transport regulation was “holding back the economy” and recommended deregulation (Allen 1997, 108; Arthur 1962). Presidents Kennedy and Johnson made similar assessments. Advocacy for deregulation was bipartisan. As Allen explained, “the seed was planted—the rules didn’t have to be the rules. Firms might compete on the basis of transportation” (Allen 1997, 108). Following the lead of the Nixon and Ford administrations, President Carter took on the cause and ran his 1980 reelection campaign on the grounds of fighting regulation to control inflation.

In the writings that came to define the field in the 1960s through the early 1970s, colonial and military metaphors were rife. The landmark work on logistics and physical distribution carried titles about “new frontiers” and “dark continents,” a reminder of the history of this new business science as an old military art. Writing in *Fortune Magazine* in 1962, management guru Peter Drucker (1962, 72) identified logistics and physical distribution as America’s “Last Dark Continent.” He said, “We know little more about distribution today than Napoleon’s contemporaries knew about the interior of Africa. We know it is there, and we know it is big; and that’s about all.” These colonial metaphors are perhaps more telling than their authors could suspect. From its history as a military art in service of the national, territorial, geopolitical state, logistics became a technology of supranational firms operating in relational geo-economic space. In contrast to the absolute territory of geopolitical calculation associated with colonial rule, geo-economics relies on the unimpeded flows of goods, capital, and information across territorial boundaries. As Smith argued in his analysis of American imperialism, geo-economics denotes a shift from direct territorial control to rule through markets (Smith 2003, 2005). Geo-economics thus does not operate “beyond space” or “after geography”; rather, geoeconomic political geographies transform rather than dispense with spatial calculation, and the work of logistics is concerned precisely with the production of space beyond territory. These metaphors perhaps provide a glimpse into both the changing and persistent politics of imperialism.

## Logistics and the Neoliberalization of Space

Logistics is the beginning of the economy of war, which will then become simply economy, to the point of replacing political economy. (Virilio and Lotringer 2003, 20)

Fear and insecurity have been high on the agenda around the world for some time but have become a mainstay of policymaking in the United States since September 2001. In this time we have seen massive investment in security industries while states and private corporations actively experiment with new kinds of security problems. Growing reliance on systems that cross national borders has given rise to networked models of security that aim to protect these systems from disruption. Supply chains have become a particularly critical object of security policy alongside the rise of globalized trade. It is not unusual to hear government leaders

declare the importance of global trade for national security, at times even conflating the two. Concern for economic flows now often trumps geopolitical security strategy such as border closure. In response to this dilemma of trade and security, experts have been conceptualizing new models of border space. These models designate port spaces as critical nodes that require exceptional forms of government to protect the integrity of supply chains. Models from U.S. military leaders and from supranational governing bodies like the OECD all suggest that the maritime border requires military and police authority, collapsing (domestic) crime and (international) terrorist acts. Meanwhile, national and supranational governments have been implementing policies that work to transform these visions into practice. The TWIC, MTSCP, and MSIC all aim to engineer new models of border space and relations of labor and citizenship within.

Yet there are histories to these models of economic and political space that long predate the current question of border security and that reveal profound connections among the development of the business science of logistics, the rise of neoliberal political logics, and the accelerated globalization of capitalism since the postwar period. From its origins as a military art of supplying the front, logistics has been adopted as a civilian business science since World War II. With the introduction of systems analysis into distribution networks, new visions of space have been unleashed that have radically transformed the spatial calculation of economy, and so too the spatial logics of profit maximization. The “revolution in logistics” and its economization and systematization of spatial calculation remain an unexplored but vital event in the neoliberalization of space and the spatialization of neoliberalism. Logistics opened up a crucial new field of value in distribution and reorganized production at multiple scales through systems approaches to supply. This dependence on efficient flows allowed for the savings of JIT, but in the process created incredible vulnerability to disruption, and so also generated new concern for the “security” of supply chains against anything that threatens flows. This history matters not only because it is a vital but long-concealed piece of economic geography but also because logistic space is now a driver for potentially epochal change in the management of borders and territories. Although national borders and territorial models of state sovereignty remain profoundly important to the socio-spatial ordering of mobility, we now also have an increasingly influential official model of state security—supply chain security—that posits

geopolitical border security as a threat to national security.

Furthermore, the political implications of governing secure logistic space are profound. If it is the security of efficient trade flows that animates maritime security today, then the interference that comes from “inefficiencies” like democracy, and the actors that demand it, might themselves be construed as security threats. This is not to suggest that security discourse today is simply an elaborate scheme to attack labor in the interests of capital accumulation. Not only would this be a crude argument, but it would obliterate all the nuances, shifts, and contestations over the meaning and practice of security that I have explored here. Rather, neoliberal logics reconstitute the nature of security threats. The neoliberalization of government entailed the radical restructuring of citizenship and political life in the image of the market. At the same time, the understudied field of logistics spatialized cost-benefit calculations in the interests of spatially and so economically efficient systems.

We can thus return to the ports and ask what happens to political claims for economic democracy or social rights in a model where national security encounters the security of international supply? Claims that interfere with the priority of the market—that might interrupt or delay flows—are construed as security threats to be eliminated. Democracy of work in the crucial node of the ports is cast as a barrier to security projects that govern through exceptional means, suspending basic rights of citizenship, and abolishing established barriers between crime and terror, all in the name of the security of supranational supply systems. If logistics has become such a powerful technology in the reterritorialization of economy, security, and the social, then it is worth asking what critical logistics geographies might be like.

## Acknowledgments

A postdoctoral fellowship from the Social Science and Humanities Research Council of Canada made this research possible. My sincere thanks go to Tim Mitchell and the participants of NYU’s International Center for Advanced Studies 2006–2007 seminar “Rethinking the Social” for productive feedback on the first draft of this article, and to Audrey Kobayashi, Neil Smith, Steve Graham, and the three blind reviewers for incredibly rigorous and generous readings of later drafts. I thank Byron Moldofsky in the Cartography Lab at the

University of Toronto for adapting the DHS map on very short notice.

## Notes

1. The Office for Homeland Security was created in October 2001 and was later reorganized into the Department of Homeland Security, which became operational in January 2003.
2. Please see <http://www.secureportamericas.com/> (last accessed 11 August 2009).
3. I thank one of the blind reviewers for pushing me to conceptualize the project in this way.
4. Colonel Ralph Peters retired from the U.S. Army in 1998 and is a prolific public commentator on military affairs.
5. Lieutenant Colonel Thomas Goss is an active duty officer in the U.S. Army currently serving on the International Military Staff at the North Atlantic Treaty Organization (NATO) Headquarters in Brussels, Belgium. For the last four years, Lieutenant Colonel Goss has been a Strategic Plans and Policy officer working on issues of homeland defense and homeland security while assigned to North American Aerospace Defense Command (NORAD) and U.S. Northern Command in Colorado Springs, Colorado. Goss received a PhD in history from Ohio State University and recently graduated from the Naval Postgraduate School with a master's degree in homeland security.
6. Ports that are currently operational within the CSI include Buenos Aires, Argentina; Freeport, the Bahamas; Antwerp and Zeebrugge, Belgium; Santos, Brazil; Montreal, Vancouver, and Halifax, Canada; Hong Kong, Shenzhen, and Shanghai, China; Cartagena, Colombia; Caucedo, Dominican Republic; Alexandria, Egypt; Le Havre and Marseille, France; Bremerhaven and Hamburg, Germany; Piraeus, Greece; Puerto Cortes, Honduras; Ashdod and Haifa, Israel; La Spezia, Genoa, Naples, Gioia Tauro, and Livorno, Italy; Kingston, Jamaica; Yokohama, Tokyo, Nagoya, and Kobe, Japan; Port Klang and Tanjung Pelepas, Malaysia; Rotterdam, The Netherlands; Port Salalah, Oman; Port Qasim, Pakistan; Balboa, Colon, and Manzanillo, Panama; Lisbon, Portugal; Singapore; Durban, South Africa; Busan (Pusan), South Korea; Algeciras, Barcelona, and Valencia, Spain; Colombo, Sri Lanka; Gothenburg, Sweden; Kaohsiung and Chi-Lung, Taiwan; Laem Chabang, Thailand; Dubai, United Arab Emirates; and Felixstowe, Liverpool, Thamessport, Tilbury, and Southampton, United Kingdom.
7. My discussion centers on some of the most significant recent programs to be developed after 2001. For details of a range of other recent border security programs see CRS (2005b).
8. Although a number of scholars have been working in the tradition of "critical geopolitics" that aims to contest that national form and imperial purpose. See, for instance, Dalby (1999), Hyndman (2004), and Ó Tuathail (1996).
9. This is the case outside the United States, too. For instance, one of five key objectives of Canada's 2001 Anti-Terrorism Plan is "to keep

the Canada-U.S. border secure and open to legitimate trade." See <http://www.dfaid-maeci.gc.ca/antiterrorism/canadaactions-en.asp>.

10. Jomini (2009, 241) wrote, "If it is agreed that the old logistics had reference only to details of marches and camps, and, moreover, that the functions of staff officers at the present day are intimately connected with the most important strategical combinations, it must be admitted that logistics includes but a small part of the duties of staff officers; and if we retain the term we must understand it to be greatly extended and developed in signification, so as to embrace not only the duties of ordinary staff officers, but of generals-in-chief."
11. In 1985, the National Council of Physical Distribution Management became the Council of Logistics Management, which has 11,500 members (an increase of 248 percent since 1985). The name was changed to recognize that logistics was the most encompassing term that described the management of a firm's acquiring and distributing activities over space (specifically to include both inbound and outbound materials as well as management of the work itself).

## References

AFL-CIO. 2006. *Unchecked: How Wal-Mart uses its might to block port security*. Special Report to the U.S. Congress. [http://www.aflcio.org/corporatewatch/walmart/upload/walmart\\_unchecked\\_0406.pdf](http://www.aflcio.org/corporatewatch/walmart/upload/walmart_unchecked_0406.pdf) (last accessed 1 March 2010).

Agnew, J. 1999. Mapping political power beyond state boundaries: Territory, identity, and movement in world politics. *Millennium* 28 (3): 499–521.

Allen, B. 1997. The logistics revolution and transportation. *Annals of the American Academy of Political and Social Science* 553:106–16.

Amin, A., and N. Thrift, eds. 2004. *The Blackwell cultural economy reader*. Oxford, UK: Blackwell.

Arthur, M. P. 1962. Federal transport regulatory policy. *The American Economic Review* 52 (2): 416–25.

Asad, T. 2007. *On suicide bombing*. New York: Columbia University Press.

Badiou, A. 2002. Philosophical considerations of some recent facts. *Theory & Event* 2.

Balibar, E. 2002. *Politics and the other scene*. London: Verso.

Barnes, T. 2002. Performing economic geography: Two men, two books and a cast of thousands. *Environment and Planning A* 34:487–512.

—. 2004. The rise (and decline) of American regional science: Lessons for the new economic geography? *Journal of Economic Geography* 4:107–29.

Bigo, D. n.d. To reassure, and protect, after September 11. Brooklyn, NY: Social Science Research Council. <http://www.ssrc.org/sept11/essays/bigo.htm> (last accessed 20 March 2007).

Brown, W. 2006. American nightmare: Neoliberalism, neo-conservatism, and political theory de-democratization. *Political Theory* 34:690–714.

Buck-Morss, S. 1995. Envisioning capital: Political economy on display. *Critical Inquiry* 21:434–67.

Burchell, G. 1996. Liberal government and techniques of the self. In *Foucault and political reason: Liberalism*,

neoliberalism, and rationalities of government, ed. A. Barry, T. Osborne, and N. Rose, 19–36. London: UCL Press.

Busch, L. 2007. Performing the economy, performing science: From neoclassical to supply chain models in the agrifood sector. *Economy and Society* 3:437–66.

Callon, M. 1998. *The laws of the markets*. Oxford, UK: Blackwell.

Clark, C. 2005. Racial profiling denounced by opposition: Website set up to track public's complaints. *Globe and Mail* 22 March:A10.

Collier, S., and A. Lakoff. 2007. On vital systems security. Berkeley, CA: Anthropology of the Contemporary Research Collaboratory. [http://www.gpia.info/files/u16/Collier\\_and\\_Lakoff\\_2009-01.pdf](http://www.gpia.info/files/u16/Collier_and_Lakoff_2009-01.pdf) (last accessed 29 March 2007).

—. 2008. How infrastructure became a security problem. In *The changing logics of risk and security*, ed. M. Dunn, 41–67. London and New York: Routledge.

Commonwealth of Australia. 2005. Official Committee Hansard: Senate Rural & Regional Affairs and Transport Legislation Committee, Maritime Transport Security Amendment Act 2005. Canberra: Senate. <http://www.aph.gov.au/hansard/> (last accessed 29 March 2007).

Congressional Research Service (CRS). 2005a. Border and transportation security: The complexity of the challenge. <http://www.fas.org/sgp/crs/homesec/RL32839.pdf> (last accessed 29 March 2007).

—. 2005b. Border and transportation security: Selected programs and policy. <http://www.fas.org/sgp/crs/RL32705.pdf> (last accessed 29 March 2007).

Council of Supply Chain Management Professionals. n.d. CSCMP Supply Chain Management Definitions. <http://cscmp.org/aboutcscmp/definitions.asp> (last accessed 21 September 2008).

Cowen, D. 2005. Welfare warriors: Towards a genealogy of the soldier citizen in Canada. *Antipode* 37 (4): 654–78.

—. 2006. Fighting for “freedom”: The end of conscription and the project of citizenship in the United States. *Citizenship Studies* 10 (2): 167–83.

—. 2007. Struggling with “security”: National security and labour in the ports. *Just Labour* 10:30–44.

—. 2008a. *Military warfare: The soldier and social citizenship in Canada*. Toronto: University of Toronto Press.

—. 2008b. The soldier and social citizenship. In *Recasting the social in citizenship*, ed. E. Isin, 187–209. Toronto: University of Toronto Press.

Cowen, D., and N. Smith. 2009. After geopolitics? From the geopolitical social to geoeconomics. *Antipode* 41:22–48.

Customs and Border Patrol (CBP). 2006. Container Security Initiative, 2006–2011 strategic plan. [http://www.customs.treas.gov/linkhandler/cgov/border\\_security/international\\_activities/csi/csi\\_strategic\\_plan.ctt/csi\\_strategic\\_plan.pdf](http://www.customs.treas.gov/linkhandler/cgov/border_security/international_activities/csi/csi_strategic_plan.ctt/csi_strategic_plan.pdf) (last accessed 2 July 2007).

Dalby, S. 1999. Against globalization from above: Critical geopolitics and the world order models project. *Environment and Planning D: Society and Space* 17 (2): 181–200.

DeLanda, M. 1991. *War in the age of intelligent machines*. New York: Zone Books.

Department of Homeland Security (DHS). 2006. Transportation Worker Identification Credential (TWIC), Consolidation of Merchant Mariner Qualification Credentials (MMC). Joint TSA/USCG NPRM public meeting Tampa, FL.

—. 2007. Strategy to enhance international supply chain security. <http://www.dhs.gov/xprevprot/publications/gc.1184857664313.shtm> (last accessed 27 July 2007).

Department of Transport and Regional Services Australia. 2005. Marine security identification card poster. <http://www.infrastructure.gov.au/transport/security/maritime/msic.aspx> (last accessed 4 May 2010).

Drucker, P. 1962. The economy's dark continent. *Fortune* April:103–4.

Elden, S. 2007. Governmentality, calculation, territory. *Environment and Planning D: Society and Space* 25: 562–80.

Flynn, S. 2003. The false conundrum: Continental integration versus homeland security. In *Rebordering North America*, ed. P. Andreas and T. J. Biersteker, 110–27. London and New York: Routledge.

Foucault, M. 1989. *Foucault live: Collected interviews, 1961–1984*. New York: Semiotext(e).

—. 1997. *Society must be defended: Lectures at the college de France*. New York: Picador.

—. 2007. *Security, territory, population: Lectures at the College de France 1977–1978*. Basingstoke, UK: Palgrave Macmillan.

Friedman, M. 2002. *Capitalism and freedom*. Chicago: University of Chicago Press.

Gibson-Graham, J. K. 1996. *The end of capitalism (as we knew it): A feminist critique of political economy*. Oxford, UK: Blackwell.

Giddens, A. 1985. *The nation-state and violence*. Berkeley and Los Angeles: University of California Press.

Goss, T. 2006. “Who's in charge?” New challenges in homeland defense and homeland security. *Homeland Security Affairs* 2:1–12. <http://www.hsaj.org/pages/volume2/issue1/pdfs/2.1.2.pdf> (last accessed 20 April 2010).

Hannah, M. 2006. Torture and the ticking bomb: The “war on terrorism” as a geographical imagination of power/knowledge. *Annals of the Association of American Geographers* 96:622–40.

Harvey, D. 1973. *Social justice and the city*. London: Edward Arnold.

—. 1989. *The condition of postmodernity: An enquiry into the origins of cultural change*. Cambridge, MA: Blackwell.

Haveman, J. D., and H. J. Shatz, eds. 2006. *Protecting the nation's seaports: Balancing security and cost*. San Francisco: Public Policy Institute of California.

Huxley, M. 2006. Spatial rationalities: Order, environment, evolution and government. *Social and Cultural Geography* 7 (5): 771–87.

Hyndman, J. 2004. Mind the gap: Bridging feminism and political geography through geopolitics. *Political Geography* 23:307–22.

International Longshore and Warehouse Union–Canada (ILWU–Canada). 2004. Submission to Transport Canada & Transport Minister Jean Lapierre Re: Proposed Amendments to Marine Transport Security Regulations through a Marine Facilities Restricted Access Clearance Program. [www.ilwu.ca/04\\_ILWU\\_](http://www.ilwu.ca/04_ILWU_)

Canada\_Submission\_MFRAACP.doc (last accessed 3 March 2008).

Isin, E. 2004. The neurotic citizen. *Citizenship Studies* 8 (3): 217–35.

Jomini, B. 2009 [1836]. *The art of war*. Kingston, ON: Legacy Books Press Classics.

Lefebvre, H. 1991. *The production of space*. Oxford: Blackwell Publishers.

Lemke, T. 2001. The birth of bio-politics—Michael Foucault's lecture at the College de France on neo-liberal governmentality. *Economy & Society* 30 (2): 190–207.

Levinson, M. 2006. *The box: How the shipping container made the world smaller and the world economy bigger*. Princeton, NJ: Princeton University Press.

Lewis, H. T., J. W. Culliton, and J. D. Steel. 1956. *The role of air freight in physical distribution*. Boston: Harvard University Press.

Logistics Management Institute (LMI). n.d. LMI history. <http://www.lmi.org/aboutus/History.aspx> (last accessed 10 August 2009).

Mann, M. 1988. *States, war and capitalism: Studies in political sociology*. Oxford, UK: Basil Blackwell.

Maritime Union of Australia (MUA). n.d. The Dubai debacle. <http://www.mua.org.au/war/dubai.html> (last accessed 2 July 2007).

Maritime Union of Australia; Rail, Tram and Bus Union; and Australian Manufacturing Workers Union. 2005. Union Submission to the Senate Rural & Regional Affairs and Transport Legislation Committee. [http://www.aph.gov.au/Senate/committee/rrat\\_ctte/completed\\_inquiries/2004-07/maritime\\_offshoresecurity05/submissions/sublist.htm](http://www.aph.gov.au/Senate/committee/rrat_ctte/completed_inquiries/2004-07/maritime_offshoresecurity05/submissions/sublist.htm) (last accessed 2 May 2010).

Massey, D. 1977. A global sense of place. In *Reading human geography: The poetics and politics of inquiry*, ed. T. Barnes and D. Gregory, 315–23. London: Arnold.

Mbembe, A. 2003. Necropolitics. *Public Culture* 15 (1): 11–40.

McDowell, L. 1999. *Gender, identity & place: Understanding feminist geographies*. Minneapolis: University of Minnesota Press.

Meyer, J. R., M. J. Peck, J. Stenason, and C. Zwick. 1959. *The economics of competition in the transport industries*. Cambridge, MA: Harvard University Press.

Mignolo, W. D., and M. V. Tlstanova. 2006. Theorizing from the borders: Shifting to geo- and body-politics of knowledge. *European Journal of Social Theory* 9: 205–21.

Miller Davis, G. 1974. *Logistics management*. Lexington, MA: D.C. Heath.

Mitchell, T. 2005. The work of economics: How a discipline makes its world. *European Journal of Sociology* 46:297–320.

Newman, D. 2006. Borders and bordering: Towards an interdisciplinary dialogue. *European Journal of Social Theory* 9:171–86.

Office of Homeland Security. 2002. The national strategy for Homeland Security. [http://www.whitehouse.gov/homeland/book/nat\\_strat\\_hls.pdf](http://www.whitehouse.gov/homeland/book/nat_strat_hls.pdf) (last accessed 17 November 2009).

O'Neil, P. 2005. Ottawa proposes compromise to appease unions, employers. *Vancouver Sun* 5 March: A3.

Organization for Economic Cooperation and Development (OECD). 2003. Security in maritime transport: Risk factors and economic impact. Maritime Transport Committee report. Paris: OECD.

Ó Tuathail, G. 1996. *Critical geopolitics: The politics of writing global political space*. London and New York: Routledge.

Peters, R. 1995. After the revolution. *Parameters* 25: 11–14.

RAND. 2004. *Evaluating the security of the global containerized supply chain. Infrastructure, safety and environment series*. Palo Alto, CA: RAND Corporation. [http://www.rand.org/pubs/technical\\_reports/TR214/](http://www.rand.org/pubs/technical_reports/TR214/) (last accessed 17 November 2009).

Reifer, T. 2004. Labor, race & empire: Transport workers & transnational empires of trade, production, and finance. In *Labor versus empire: Race, gender, and migration*, ed. G. Gonzalez and R. Fernandez, 17–36. London and New York: Routledge.

Rose, N. 1999. *Governing the soul: The shaping of the private self*. 2nd ed. London: Free Association Books.

Salter, M. 2004. Passports, mobility, and security: How smart can the border be? *International Studies Perspectives* 5:71–91.

Sekula, A. 2003. *Fish story*. Düsseldorf: Richter Verlag.

Smith, N. 1984. *Uneven development: Nature, capital and the production of space*. Oxford, UK: Basil Blackwell.

—. 2003. *American empire: Roosevelt's geographer and the prelude to globalization*. Berkeley and Los Angeles: University of California Press.

—. 2005. *The endgame of globalization*. London and New York: Routledge.

Smykay, E. W., and B. J. Lalonde. 1967. *Physical distribution: The new and profitable science of business logistics*. Chicago: Dartnell Press.

Soja, E. 1989. *Postmodern geographies: The reassertion of space in critical social theory*. London: Verso.

Sparke, M. 2004. Belonging in the PACE lane: Fast border crossing and citizenship in the age of neoliberalism. In *Boundaries and belonging: States and societies in the struggle to shape identities and local practices*, ed. J. Migdal, 251–83. Cambridge, UK: Cambridge University Press.

—. 2006. A neoliberal nexus: Economy, security and the biopolitics of citizenship on the border. *Political Geography* 25:151–80.

Stasiulis, D., and D. Ross. 2006. Security, flexible sovereignty, and the perils of multiple citizenship. *Citizenship Studies* 10:329–48.

Strathern, M. 2002. Externalities in comparative guise. *Economy and Society* 31:250–67.

Teotonio, I. 2006. Muslims “targeted,” debate hears community’s issues ignored: Organizer Liberal defends security certificates. *Toronto Star* 14 January: A07.

Thrift, N. 1996. *Spatial formations*. Thousand Oaks, CA: Sage.

—. 2000. Performing cultures in the new economy. *Annals of the Association of American Geographers* 90:674–92.

Tilly, C. 1990. *Coercion, capital and European states, AD 990–1990*. Oxford, UK: Basil Blackwell.

Titmuss, R. 1958. *Essays on “The welfare state.”* London: Allen and Unwin.

Transport Canada. 2006. Information package on the Marine Security Clearance Program (MTSCP). <http://www.tc.gc.ca/MarineSecurity/Regulatory/Initiatives/>

InfopackageMTSCP.htm (last accessed 17 November 2009).

Transport Security Administration. 2007. Transport Worker Identity Credential (TWIC) overview. <http://www.hsac.org/docs/maymin08/twic.pdf> (last accessed 18 November 2009).

Virilio, P., and S. Lotringer. 2003. *Pure war*. New York: Semiotexte.

Walters, W. 2004. Secure borders, safe haven, domopolitics. *Citizenship Studies* 8 (3): 237–60.

When trade and security clash. 2002. *The Economist* 4 April: 6.

The White House. 2002. The national strategy for homeland security. [http://www.whitehouse.gov/homeland/book/nat\\_strat\\_hls.pdf](http://www.whitehouse.gov/homeland/book/nat_strat_hls.pdf) (last accessed 18 November 2009).

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