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The Infrastructure of the Global Economy: The Shipping Container as a Political Artefact

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Smoothness is the preferred texture of the global economy. Advocates of capitalist globalisation from Henry Luce to Thomas Friedman have celebrated the 'flat', 'seamless', 'lean' features of a world dominated by cheap commodities traded freely across vast oceans acting as humanity's 'great highway' (as American naval historical Alfred Thayer Mahan would have it). Global markets, we are told, have created deep and distant interconnections between continents, extending commercial and communication networks across the planet which in turn reinforce and intensify international integration and interdependence. Goods are produced just-in-time, foodstuffs are available all year round, warehouses disappear, commodities incessantly circulate, societies prosper while products become cheaper – even seasons can be cheated, as Northern consumers spend Christmas on a tropical beach.

The shipping container is perhaps the most emblematic representation of this fluid, globalised space of free trade and unfettered mobility. The twenty-foot equivalent unit (TEU) steel or aluminium box is not only responsible for transporting the vast majority of the world's non-bulk goods ('ninety per cent of everything' in Rose George's catchy 2013 title), it is also an intermodal freight technology premised on universal standards so beloved of liberal internationalists across the centuries. This chapter aims to look beyond the surface appearance of the container's corrugated exterior and step inside the box, so to speak, rummaging through the complex socio-economic and political processes that allowed the shipping container to become such a ubiquitous feature of the contemporary world economy. Far from being merely the brainchild of entrepreneurial ingenuity responding to a gap in the market, or the result of a natural tendency for firms to seek cost-effectiveness and global economies of scale, the TEU was in fact the outcome of a fraught and protracted bureaucratic process, propelled less by global market forces than by war abroad, political lobbying at home and class antagonisms in local waterfronts. International organisations – with their norms, values, regulations and technical committees - played a signal role in these developments by universalising and standardising the container as a global cargo technology.

In what follows I therefore analyse the shipping container as a political artefact – a box which is not simply a neutral, cost-cutting technology taking things from one place to another, but rather a powerful force of world politics with its own distinctive spatial effects, sociological impact and (geo)political dimensions (Herrera, 2006). Contrary to the prevailing conception of the shipping container as a technology that smoothens economic transactions across borders, thereby deepening international interdependence, I emphasise below the points of friction (Tsing, 2005; Cresswell, 2014) that accompany the 'social life' (Appadurai, 1988) of containers – moments and places where the 'striated' spaces of national jurisdictions, state and international bureaucracies, logistical infrastructures and class politics also act as key protagonists, both slowing down, yet also facilitating transnational mobility. As we shall see, this is emphatically not an argument against the efficacy of the shipping container as a technology that can accelerate and cheapen the global circulation of

commodities, but instead an insistence on the political structures that underwrite and regulate the seemingly faster, low-cost movement of goods and people across the world.

Such an approach carries with it some **ontological** assumptions about the nature of matter, technology and objects which, in summary form, assumes a metabolic relationship between human labour and non-human things. This **dialectic** between what Neil Smith (1984) -drawing on Hegel and Lukács- called a 'first' (given) and a 'second' (produced) nature allows us to interpret the shipping container *simultaneously* as a product of historically-specific social relations and as a material force affecting those very social relations in all their political, juridical, spatial and economic expressions. The chapter will try to illustrate this **dialectical** interface between human activity and technological objects, and its insertion into world politics by first offering a brief account of the shipping container as a freight technology, and then identifying various ways in which has impacted upon the socio-economic and geo-political dynamics of contemporary world politics.

The Container as a Political Artefact

Humans have used closed receptacles (including boxes) to move things since time immemorial. The shipping container as we know it today is a very specific historical form of the box as an object that can store and transfer materials: 'Standardization and arrangement into a logistical network of transport optimization' Alexander Klose suggests 'allowed boxes to become containers: Containers in containers' (2015: 152). Thus 'the container' (itself an English word that has been universalised) arguably has three distinctive properties: it is universal, it is standard and it needs to be moved mechanically (Chilcote, 1988; Martin 2013). These material qualities premised on internationally-agreed measurements and procedures are, however, the product of socio-economic and political power relations. Against the prevailing 'instrumentalist' approach identified in this book's Introduction, which might interpret the evolution of the shipping container as a linear, cumulative consequence of experiments and innovations leading inexorably to the standard TEU, the account offered here understands the container as a 'socially-constructed' object: it certainly has some definite material properties (volume, strength, weight and so forth) but these are rendered meaningful only in and through systematic social interaction.

The official story of the shipping container starts on 26 April 1956 when the *Ideal-X*, a converted World War II tanker, was loaded with fifty-eight metal boxes hauled from trucks stationed on the piers of Port Newark, New Jersey and five days later offloaded them onto trucks waiting landside at the port of Houston, Texas (Cudahy, 2006a; Cudahy, 2006b; Ferguson, 2008; Levinson, 2006; Stewart-Robinson, 2014). Two years later a similar journey was undertaken to and from Puerto Rico, and by the spring of 1966 the first trans-Atlantic crossing of a container ship carried 236 metal boxes from Port Elizabeth, Newark to Rotterdam and Bremen in Europe (Bonacich and Wilson, 2008; Klose, 2015). Malcom McLean, a trucking company owner from North Carolina was the man behind these maiden voyages of the shipping container. Frustrated by the increasing congestion on post-war US highways and the delays occasioned by the conventional break-bulk 'stuffing and stripping' (manual loading and unloading of cargo) that still dominated America's waterfronts in the 1950s, McLean began to explore the possibilities of rolling truck trailers straight onto and off ships, and successfully commissioned a company engineer to design a container that could be detached from trucks and directly stacked onto vessels. By the end of that decade McLean's company, now aptly renamed Sea-Land Service, had taken ownership of half a dozen reconverted containerships capable of handling hundreds of inter-modal company containers. 'I don't have vessels' he is reported to have boasted, 'I have seagoing trucks!' (Klose, 2015: 3). Together with the other big players (Matson, Mediterranean Shipping Company, Maersk, Hapag-Lloyd) Sea-Land Service expanded the container industry

exponentially during the 1970s and 80s, with the World Shipping Council currently estimating a world-wide fleet of over 35 million containers, as opposed to a mere 6.5 million TEUs in 1990.¹ It is thus easy to see how the shipping container is often celebrated as the major driver of globalisation - as an invention 'that made the world smaller and the world economy bigger' in Marc Levinson's phrase, thereby illustrating how technological innovation transforms world politics.

This conventional – and crudely abridged – account of the birth and growth of the container is however partial and problematic in at least two ways that are germane to the concerns of this book. The first relates to the antecedents of the container. Beyond the antiquarian interest in the evolution of the metal box, the existence of intermodal container prototypes in Europe a good twenty-five years before McLean's own model triumphed, begs the question of why it took so long for the container to become the dominant form of international cargo transport? As Alexander Klose (2015) documents, the shift from rail to road transport after World War I had occasioned in Europe and elsewhere the search for an integrated solution to freight transfer between these two modes of transport. The so-called *Cassa Mobile* or 'movable chest' (also known in its German form as *Der Behälter* or in French as the *cadre*) which could be detached from and attached to both truck and train was presented in 1928 as one option, and was subsequently championed by the *Bureau International des Containers*, a Paris-based international organisation founded in 1933 to promote intermodal transport. On the other side of the Atlantic a new company called Seatrain Lines launched two steamships in 1932 capable of transporting rail carriages in their holds. 'The type of vessel used by the Seatrain Lines, Inc.' a promotional article advised at the time 'is a step in the direction of conforming ship transportation to the best and most economical practices on land' (cited in Klose, 205: 44).

A large part of the answer for this lag in the adoption of intermodal technology lies in the second absence to the conventional narratives, namely the critical role of coordination among public and private institutions – not just firms- in the universalisation of the shipping container. Levinson (2006) delivers an excellent summary of this tortuous process which started off in the late 1950s with several US government agencies (most prominently, the Maritime Administration, Marad), the largest American carriers (principally Pan-Atlantic and Matson) and private sector organisations (the American Standards Association) thrashing out common standards for both container size and construction. The process was plagued by competing government priorities, inter-firm and inter-sector rivalry, and engineers disputing the optimal specifications for the standard universal box. It was further compounded once the International Organization for Standardization (ISO) was tasked in 1961 with setting international guidelines on containers. If agreeing standards in the USA had proved difficult enough, the convergence of the ISO's then thirty-seven member states on a common set of rules to facilitate intermodal transport across states appeared nigh on impossible. This proved to be exactly the case, as seemingly technical discussions over the design of container corner fittings acquired all kinds of legal, economic and political significance related to patent rights, the costs of refitting thousands of containers to one or the other type of hauling device, or the benefits of various government subsidies. The final full draft of the ISO's freight container standards was eventually released in 1970, concluding a convoluted, decade-long exercise which, despite the different interests pulling in all directions, allowed for working compromises to be reached, in turn opening the way for the 'logistics revolution' that followed in subsequent years.

The involvement of public and private institutions, both national and international, proved to be essential in the capital investment necessary for handling containers. Like most technological innovations, the shipping container required ancillary transformations in port facilities and industrial relations to buttress the promise of seamless transit to and from truck, train and ship. In the USA alone, diverse port authorities forged earlier in the

twentieth century to manage commercial hubs like those of New York or Oakland were reinvented in the 1960s as container ports (Doig, 2001). Indeed, the state-of-the-art wharfs at Port Elizabeth, New Jersey which launched the career of the modern container were built by the Port Authority of New York and New Jersey (PANYNJ) in large measure to reinvigorate that bi-state metropolitan region through a political act of displacement: from the break-bulk wharfs of lower Manhattan and Brooklyn to the mechanised container ports of New Jersey (Levinson, 2006). Far from being a purely economic or pragmatic decision driven by market forces, the relocation of manufacturing and processing from New York City to its hinterlands was the outcome of specific decisions taken by a named political authority, the PANYNJ. The container was on this account not just a passive product of inevitable economic change, nor a technological driver of such transformation: it embodied the political agency aimed at re-orienting and re-scaling the New York-New Jersey region from a national manufacturing centre into a global commercial and transport hub.

Very similar stories could be told of most other contemporary container ports from Los Angeles-Long Beach to Busan. Whether reinventions of historical harbours like Rotterdam or Singapore, or entirely new creations like Shenzhen or Dubai, ports have been relocated from urban waterfronts into what Allan Sekula and Noël Burch (2011) labelled the 'Forgotten Space' - vast 'port-based logistics clusters' in metropolitan hinterlands, managed by public-private partnerships and operated by a dwindling workforce that has been dwarfed by the automation of cargo handling. Deborah Cowen has recently examined the geographical reconfiguration of such spaces through transnational logistics 'gateways' and 'corridors' which usually have container port as a terminus (Cowen, 2014; see also Chen, 2005 for the east Asian experience). Consortia such as the Asia-Pacific Gateway and Corridor Initiative, or the Maputo Corridor Logistics Initiative combine the public legislative and fiscal authority of states with the private capital and resources of corporations to generate intermodal 'freeways' aimed at lubricating and accelerating the flow of goods across borders. Tellingly, one of the most recent of such projects, the ASEAN-promoted Mekong Corridor returns the shipping container to a foundational moment in its history, when Sea-Land Services was awarded a US\$ 70 million contract by the Pentagon to supply US forces in Vietnam with foodstuffs and military materiel via their fleet of containerships (Levinson, 2006). The tight interconnection between the (geo)political and (geo)economic dimensions to the container's 'social life' thus become readily apparent – a theme to which I now turn when considering the insertion of this freight technology into world politics.

World Politics in the Container

The potted history of the shipping container offered above clearly supports Geoffrey Herrera's contention that 'It is rare for especially significant technologies to develop and spread entirely within a single national context' (Herrera, 2006: 38). This is particularly true of a cargo technology which from the very outset has displayed a global projection as one of its core properties – that is, the ambition to transcend national barriers. Yet the shipping container's interaction with 'the international' is not merely a circumstantial question of technological diffusion, or its contribution to the reproduction of systemic hierarchies and inequalities in world politics, important as these two socio-technical effects are. Like other modern modes of transport and communication, the shipping container emerged from and into a world that was fragmented geopolitically into discrete national jurisdictions yet (in its western hemisphere at least) deeply integrated through capitalist social relations. It surfaced as both a problem and a solution to the tensions between a world organised politically along territorial lines of sovereignty and driven economically by flows of capitalist circulation. To adapt Andrew Feenberg's notion (2002), the container was the product of a historically-specific capitalist 'technical code' - a configuration of technical rules, institutions and ideas

that offers solutions to problems associated to specific interests or values – and which I argue here, had intrinsically international characteristics. Specifically, the intermodal box was the combined progeny of military logistics, the neo-liberal recalibration of the relationship between states and markets (or private and public power), and the universalisation of international regimes - all of which are intimately connected to the reproduction of world politics since 1945.

If we take first the military science of logistics, Marc Levinson's research once again provides indispensable and compelling evidence to back up his claim that containerisation 'came of age' as it 'resolved' the 'logistical mess' which the USA had escalated itself into in Vietnam by the mid-1960s (Levinson, 2006: 171). Faced with the task of supplying hundreds of thousands of American military personnel in a distant, foreign and underdeveloped land, the US Navy's Military Sea Transport Service contracted seven Sea-Land vessels in early 1967, which twelve months later were carrying over 1,300 containers a month from American west coast ports to south Vietnam. Once Subic Bay (Philippines), Hawaii and several Japanese stop-overs were added to the crossing, close to 40 per cent of non-petroleum military cargo shipped in the Pacific was containerised by 1968 (Levinson, 2006: 182). Perhaps unsurprisingly, as US troops sunk themselves deeper into the Vietnam quagmire, Sea-Land's military contracts rose spectacularly: between 1967 and 1973 McLean's firm secured US\$ 450 million worth of Department of Defence tenders, amounting some years to 30 per cent of the company's annual sales (Levinson, 2006: 184).

A conventional account of the container's efficiency would go something like this: The friction² of port-side corruption, labour resistance, poor planning and non-existent infrastructure that had caused Washington the proverbial 'logistical nightmare' in 1965 was 'smoothened' and 'resolved' through the containerisation of logistical supply to Vietnam by the end of that decade. In adopting the shipping container as the dominant cargo technology, the public-private partnership between the Pentagon and Sea-Land Services had delivered an integrated solution to a seemingly intractable supply problem for the American war effort in Vietnam.

A more critical reading of this resolution of the Pentagon's logistical crisis in Vietnam, however, might underline the centrality of friction to the appearance of world politics in the container's social life. For a start, there is no more acutely international expression of the conflict and antagonism attached to globalisation than war itself: the shipping container may have 'solved' a logistical problem for the Pentagon in Vietnam, but it also exacerbated the arguably bigger problem for combatants of getting killed through organised violence. War, as is well known, is a handmaiden for many a new technology and - in that sense - McLean's intermodal container was inherently international and partisan. Moreover, insofar as the shipping container acted as a vital component of American escalation in Vietnam, it behaved like other technologies of colonial warfare, as an instrument of domination – a vehicle reinforcing international hierarchies.

More prosaically, the shipping container's success as a logistical solution in Vietnam was premised on the deep and sustained intervention into the country's port infrastructure and labour relations. The nation's largest natural harbour at Cam Ranh Bay was effectively requisitioned by General Westmoreland's newly created 'First Logistical Command' in 1965, as a special barge appropriately named DeLong pier was towed from South Carolina across the Panama Canal, eventually to be drilled into Cam Ranh harbour, thereby becoming the basis for Vietnam's first container port. During subsequent months South Korean welders, cranes and sewage plants imported from the Philippines, American chassis and trucks, as well as local labour all contributed to the production of a new space – not just geographically, but also socio-politically. In Levinson's characteristically direct formulation, 'The port at Cam Ranh Bay would ease those problems [of corruption, delays, labour resistance] by being a entirely U.S.-run operation, free of Vietnamese corruption and

inefficiency. Some top U.S. policymakers even envisioned a model community surrounded by industrial parks and residential subdivisions instead of the usual bars and brothels.' (Levinson, 2006: 174).

Robert S. McNamara and his aides are likely to have been among those 'top US policymakers' as the then Defense Secretary had taken an intense and direct interest in the development of US military and logistical infrastructure in Vietnam (Levinson, 2006). Indeed, McNamara was representative of the 'best and the brightest' (Halberstam, 1972) technocrats recruited from the private sector and academia into the top echelons of the Kennedy and Johnson Administrations, bringing to the art of government the 'hard' data analysis, statistical calculation and 'scientific' management techniques they had honed as captains of industry (Adas, 2006: 281-336). As the Johnson Administration Americanised the Indochinese war, McNamara created an Office for Systems Analysis with the aim of performing 'cost-benefit analyses for tasks as diverse as weapons procurement, streamlining the defence bureaucracy, and responding to the volatile situation in Vietnam' (Adas, 2006: 294). Together with his fellow 'whiz kids' W.W. Rostow, Dean Rusk and McGeorge Bundy, Johnson's Defense Secretary deployed in Vietnam what in another context Timothy Mitchell has labelled the 'rule of experts': '[a] politics of techno-science, which claimed to bring the expertise of modern engineering, technology and social science to improve the defects of nature. To transform peasant agriculture, to repair the ills of society, to fix the economy' (Mitchell, 2002; 15). It was to this audience of technocrats and experts that McLean and his associates would have pitched the original idea of breaking the Vietnamese logistical gridlock with containerisation. In this, they would have had the support of the US Ambassador to Vietnam, Henry Cabot Lodge Jr., who in a true expression of the rule of experts asserted during the debates over US escalation that 'We have great seaports in Vietnam. We don't need to fight on the roads. We have the sea...We don't have to spend all our time in the jungles' (Adas, 2006: 293).

We can see, then, that world politics was implicated with the shipping container from the very beginning, and that the launch of this new technology, far from plain sailing, was full of socio-economic friction and geo-political turbulence expressed not just through war in Vietnam, but also in the bureaucratic tensions and disputes within the US Administration over the strategic commitment to containerisation. The protagonism of public-private partnerships in this venture also signals the centrality of a burgeoning neo-liberal ideology and institutional frameworks in facilitating the universalisation of the TEU as a freight technology. For the physical and legal-regulatory infrastructure, together with the all-important contracts that made the steel box commercially viable were largely funded by tax-payers. In quintessentially neo-liberal form, the public authority of the state was constantly deployed to create markets for private providers.

The proliferation of semi-autonomous Port Authorities across the world has been one manifestation of this trend, as competition for custom from shipping operators led to massive capital investments in automated cranes, berthing facilities and truck yards by governments and regional authorities across the globe. Chilcote usefully charts this transformation as a shift from a 'traditional breakbulk strategy, "go where the cargo is" ... to a new pattern of "cargo following the containership"' (Chilcote, 1988: 132). This reduced port calls of any given containership, concentrating port infrastructure around a smaller number of regional hubs and, importantly, tightening the logistical interconnection between sea and land to nodes that offered not just sophisticated container-handling facilities, but also extensive road and railway infrastructure. The ultimate expression of such smoothing of commodity circulation are 'zones' (and their enlarged versions, gateways and corridors explored earlier); 'extrastatecraft' spaces that, in Keller Easterling's pithy formulation 'thrive on a cocktail of exemptions' (2005: 114; see also Bach, 2011; Chen 1995; Easterling 2014 and McCalla, 1990). From *maquiladoras* to export-processing zones, free-port areas to special

economic zones ‘These cross-national zones are not simply open networks, but, rather, special instruments in a complex game of filling quotas, circumventing labour restrictions, and finding favourable logistics’ (Easterling, 2004: 114).

Assorted international, regional, national and non-governmental agencies have since the 1970s been facilitating and arbitrating this ‘complex game’. From 1966, the United Nations Industrial Development Organization (UNIDO) provided ‘technical assistance’ to countries seeking to establish zones, while the military dictatorships and one-party states of east Asia during that same decade pioneered and ‘turbocharged’ the Zone as a motor of so-called ‘developmental states’ across the world (Chen, 1995; Easterling, 2014; Ong, 2006; Woo-Cummings, 1999). In advanced capitalist economies too, investment in regional container port hubs was accompanied by the re-regulation of national rail, road and shipping industries during the 1980s and 90s aimed at enhancing market competition in these sectors. In the USA alone, a raft of legislation – from the 1980 Staggers Act (liberalising rail freight) and its accompanying Motor Carrier Act (which deregulated domestic truck haulage) to the 1998 Ocean Shipping Reform Act which favoured shippers in rate negotiations – radically transformed American intermodal transport, among other things by facilitating the development of an cross-continental ‘mini-land bridge’ between the East and West coasts of the USA (Belzer, 2006; Bonacich and Wilson, 2008; Chilcote, 1988; Hall, 1999). In sum, the essential capital infrastructure that (literally) paved the way for the global expansion of containerisation was in effect delivered and underwritten by public authorities at various geographical scales which, through technical advice and legislation or government funding and economic statecraft, allowed private enterprise in container shipping to flourish. To adapt a phrase that succinctly defines neo-liberalism, the strong state had generated a free-flowing economy (Gamble, 1994).

Little of this would, however, have been possible without the final and perhaps most important and explicitly international contribution to the world-wide proliferation of the shipping-container, namely standardisation. Pretty much since the advent of ‘second’ industrial revolution in the mid-nineteenth century, international agreements on the standardisation of measures, management techniques and procedures has been at the forefront of the integration in global transport and communication networks. Standardisation has served an obviously functional role in encouraging the circulation of goods and people across national boundaries. But from the outset it also had a pronounced political dimension in the association of such flows with greater peace, prosperity and cooperation among states and peoples. Internationalism – especially in its liberal incarnation – is the shorthand term for this process and principle of global convergence directed by increasing international collaboration on seemingly technical matters relating to the dimensions of objects or the quality of products.

Craig N. Murphy’s definitive study on ‘Global Governance Since 1850’ (Murphy, 2004) is still the best guide to the intense process of international standardisation that accompanied global industrial change (see also Mazower, 2012 and Iriye, 2004). He charts the rise of dozens of ‘international public unions’ from the period of German unification to the start of World War I (followed subsequently by the specialised agencies of the League of Nations and the United Nations system), which came to regulate areas of international intercourse ranging from telegraphy and postal systems (through the 1865 International Telegraphic Union and the 1874 Universal Postal Union) to public hygiene and mapping (1907 International Office of Public Hygiene and the 1909 Central Bureau for the International Map) – with the precursor to the ISO, the International Electrotechnical Commission founded in London in 1906. Murphy identifies two main tasks in the proliferation of these early international organisations: ‘creating and securing markets for industrial goods’ and ‘manag[ing] potential conflicts with organized social forces [effectively, workers] which might oppose the further extension of the industrial system’ (Murphy, 2004:

34). Since then, such international organisations have ‘helped to create international markets in industrial goods by linking *communication and transportation* infrastructure, protecting *intellectual property* and reducing legal and economic barriers to *trade*.’ (Ibid.: 2, italics in original).

The growth of international organisation – both inter-state and non- or quasi-governmental – is thus a central component to the shipping container’s prehistory: without the international regimes (and indeed the ‘epistemic communities’) that buttressed the work of agencies like the ISO, it is unlikely McLean’s box would have been universalised. In this sense, as liberal internationalists from Immanuel Kant to David Mitrany have advocated, international cooperation has been critical in fostering technical innovation and global mobility and communication. Yet it would be naïve to interpret this functional integration as a disinterested outcome of applying a liberal pragmatism to international affairs. As Murphy and many other IR theorists inspired by Antonio Gramsci have underlined, the liberal internationalist ‘common-sense’ of universalisation and standardisation was in fact a geographically uneven and politically hierarchical process, where leadership or ‘hegemony’ by certain states and social forces delivered deeply unequal dividends across the world. The shipping container, we have thus far seen, was the result of numerous public institutions acting at several geographical scales shaping and directing market forces toward certain technological solutions for international cargo transport. As the next section aims to demonstrate, this contribution of world politics to the birth of the shipping container was reciprocated through the latter’s impact upon world politics since the 1970s.

The Container in World Politics

There is an immediate, empiricist way of gauging the influence of the container on world politics, which is to register the phenomenal growth of global trade over the past 50 years (both in absolute terms and relative to GDP) and chart the eastward shift of the world’s economic activity, with the leading container hubs overwhelmingly concentrated along the Pacific rim, and the top five container ports (in terms of TEUs handled) sited in East Asia (Dicken, 2011: 424). ‘The container’, Levinson asserts, ‘made shipping cheap, and by doing so changed the shape of the world economy’ (Levinson, 2006: 2). The logistics revolution of the 1970s, in which the container played such an important role, facilitated a new international division of labour where transnational commodity chains delivered the just-in-time production and **assemblage** of goods across different low-cost geographical locations (Bernes, 2013). Flexibility, mobility, speed and connectivity are some of the keywords that accompanied the rise of the shipping container as the dominant mechanism for long-distance cargo transport. With it has come the global relocation of manufacturing from the North and West to the East and South, and an economic ‘tertiarisation’ in the reverse direction: the hinterlands of former ‘warehouses of the world’ like Hong Kong, Shanghai or Singapore have now become the ‘workshops of the world’, while the erstwhile warehouses of London’s docklands have become penthouses for global investors –many of them from Hong Kong, Shanghai and Singapore.

Talk of the shipping container’s ‘role’, ‘protagonism’, ‘impact’, ‘force’, ‘vitality’ and ‘behaviour’ in the preceding paragraphs might suggest the steel box be considered as a form of ‘vibrant matter’ (Bennett, 2010) - a more-than-human ‘**actant**’ linked to all sorts of networks that generate different kinds of (often unintended) effects and **affects** upon world politics (Latour, 1987; Coole and Frost, 2010). As has been argued thus far, there is certainly much mileage in conceiving of the shipping container as a political artefact – an object whose design carries with it what Easterling has labelled a ‘disposition’: ‘a tendency, activity, faculty, or property in either beings or objects – a propensity within a context’ (Easterling, 2014: 72). Specifically, the three key attributes of the container identified earlier – its

universality, standard features and automobility – convey a particular disposition, expressing the ‘ambivalent’ (as opposed to ‘neutral’) nature of technology, whereby certain socially and politically-determined technical codes ‘invisibly sediment values and interests in rules and procedures, devices and artifacts that routinize the pursuit of power and advantage by a dominant hegemony’ (Feenberg, 2002: 15). The shipping container is on this account *both* an inanimate box defined by certain internationally-agreed technical specifications aimed at accelerating international trade *and* a powerful tool in reproducing and intensifying capitalist power relations through its distinctive design. Critically, it is its very abstraction as an equivalent unit, complying with universal standards that are globally compatible; its modular character as a structure that can carry anything from rubber ducks to trafficked persons, and be transformed anywhere into a retail outlet or a housing unit, that gives the shipping container especially powerful properties. In this it shares with the capitalist commodity form the distinctive attribute of simultaneously appearing as thing-like (with definitive material attributes) and socially-constructed (the product of historically-specific socio-economic and political power relations). The container is in this regard another example of capitalist reification, concealing in its very universal, abstract and emptyable confines the intense socio-economic and (geo)political conflict and antagonism that accompany its apparently seamless circulation across the world. The metal box thus expresses a clearly identifiable ‘disposition’ but, crucially, as Easterling reminds us, this unfolds ‘within a context’ – namely neo-liberal capitalism.

In what remains of this chapter I want to challenge a purely empiricist rendition of the impact of the shipping container on world politics, and return instead to the points of friction that attend to the circulation of TEUs. For all the unquestionably powerful (if uneven) impact of containerisation on the economic geography of the world, what is arguably of equal significance for world politics are the tensions and contradictions thrown up in the process of handling the millions of boxes that daily reproduce the global economy. Here the Zone, as introduced earlier in the chapter, once more becomes an especially intense locus of the overarching tension between a world politically organised into distinctive sovereign jurisdictions yet dominated by an economic system that tends toward the transnational flow of value through the global market. Somewhat polemically, I propose that there is a deeper material quality to the intermodal container which makes it an especially ‘tensile’ artefact in world politics, namely its capacity to traverse land and sea. The fact that McLean’s pioneering firm was called Sea-Land Services is an irresistible foil in exploring the contradictions and combinations between capital flows associated to the ‘freeways’ of the High Seas on the one hand, and the jurisdictional hierarchies and ‘spatial fixes’ that on other hand accompany state sovereignty on land. More concretely, following the trajectory of the shipping container reveals a number of ways in which the sea-land distinction structures key dynamics of world politics linked to political economy, security and global governance.

The intermodal shipping container is a foundational technology of neo-liberal capitalism. This assertion implies a **dialectical** understanding of the causal connections between a specific artefact and its social use: while the container is plainly not by itself responsible for the advent of the neo-liberal era, it does play a vital role in the systematic reproduction of neo-liberal social forms, thereby acquiring distinctive causal powers. The proliferation since the 1970s of Special Economic Zones, SEZs (in all their diverse manifestations) is the most prominent expression of such powers as, without the universalisation of this freight technology, it is difficult to conceive of ‘zoning’ as a distinct tendency of neo-liberal capitalism.

There are currently an estimated 4,300 SEZs spread across three out of every four countries in the world (Economist, 2015). Xiangming Chen (1995) identified four main historical phases in the evolution of SEZs, from the late-medieval and early-modern free

ports and colonial entrepôts, to the Export Processing Zones of the 1970s and 80s, through to today's cross-national enterprise corridors and gateways (See also McCalla, 1990 and Orenstein, 2011). The geographical spread of the Zone has been accompanied by its functional mutation from mere trading station or custom-bonded warehouse to the full-blown 'Open Coastal Belts' like those stretching across the Pearl River Delta region in China, which encompass manufacturing, processing and services. It is no coincidence that the exponential growth in the number of TEUs and SEZs took place during the era of neo-liberal globalisation: the main features of the Zone – minimal taxation, export-led industrialisation, light-touch regulation, labour-law relaxation, foreign capital incentivisation – actualised in a delimited location the neo-liberal utopia of 'free market' economics. Inscribed in its very geographical denomination, 'zoning' involves suspending national laws and regulations in a specifically demarcated area inside the nation – it effectively creates a permanent space of exception within the confines of a given jurisdiction, or what Jonathan Bach has neatly described as 'The double bordering function of differentiation and integration' (Bach, 2011: 115).

Historically, the Zone's unique location has been one of its functional qualities, with a premium placed on 'a high degree of accessibility' (McCalla, 1990). Although there are multiple instances of inland (and even landlocked) Zones –from the duty-free Principality of Andorra to gaming spots in Native American Reservations – the vast majority of SEZs have developed around coastlines. One important reason for this, I suggest, is that the world's oceans have indeed become 'freeways' for global trade - spaces which come closest to the neo-liberal utopia of a 'liquid modernity' defined by horizontal flows, constant circulation and unencumbered mobility. From this perspective, littoral Zones readily become liminal locations where maritime freedoms combine with terrestrial hierarchies to produce the archetypal neo-liberal polity: a hybrid space of 'variegated' or 'graduated' sovereignty characterised by a 'logic of exception [that] fragments human territoriality in the interests of forging specific, variable, and contingent connections to global circuits' (Ong, 2006: 19). In traversing mechanically across land and sea, the intermodal shipping container in turn acts as an eminently neo-liberal object – a freight technology which, being 'neither fish nor fowl' (or both), is able to continuously and ubiquitously reproduce the circulation of commodities, the lifeblood of global capitalism. The amphibious character of the container therefore carries with it a disposition toward flattening space and compressing time.

For all the metaphorical talk in IR of state sovereignty as a 'container' that seals territories and populations (Agnew, 1994), the actual, living shipping container in fact does something far more complex: it contributes to the fragmentation of state sovereignty at the same time as it facilitates the integration of vast populations and natural resources into the global economy. Although designed as a mechanism for cargomobility (Birtchnell et al, 2015), the TEU also generates a distinctively neo-liberal governance framework that constantly combines hierarchy and freedom: stringent control over workers with the most liberal of regimes for footloose capital; sharp jurisdictional delimitations aimed at fomenting horizontal cross-border trade and communication; high-tech, top-value, export-oriented products manufactured by low-skilled, under-paid, feminised labour from the rural interior. By the start of the 21st century, Jonathan Bach has argued, the 'modular' Zone of the 70s and 80s as 'primarily used for low-skill, low wage export processing that, like tent camps, can be set up and moved with minimal effort to follow low wages and tax rates' has given way to the contemporary 'Ex-City' as a form of Zone 'premised on infrastructure and transformative of the national economy, focus[ing] on a range of objectives from diversifying a regional economic base to supporting the development of small and medium enterprises, information processing, or off-shore banking, insurance and securities' (Bach, 2011: 104). An Ex-City like Shenzhen or Dubai is thus an expansive Zone (both geographically and demographically) that 'fashions urban space out of the mix of exports, excess, exception

and exhibition [...] external to older urban areas, extroverted as it performs its function as nodes of exporter, investment, and modernity, exotic in its lure of modern life' (Ibid.: 116).

Neo-liberal fantasists present Ex-Cities as smooth, gleaming surfaces which can be mirrored and reflected back across the planet to create a world after their own image: 'create two, three, many Dubais!' they seem to proclaim.³ Like the shipping container which connects it to the outside world, the Ex-City Zone is conceived as a neutral, placeless, functional space offering universal, standard services geared toward generating profit. It recognises no qualitative traces of its own activity - either 'upstream' or 'downstream' of the supply chain - in terms of (geo)political, environmental or socio-economic effects of its status as a SEZ, promoting instead the quantitative features of an exceptionally concentrated productivity, competition and efficiency. Yet as Bach indicates, the Ex-City - like other urban forms - necessarily creates its own shadows: environmental degradation, community displacement, social marginalisation, political corruption and criminality. Rather than absorbing illegal immigrants, processing pollution or accepting political activism within the body politic, the Ex-City externalises these 'toxins', expelling and excluding them beyond the confines of the Zone. Such 'double bordering' - forging a 'city within the city', or in the Chinese case, 'one country, two systems' - is symptomatic of a neo-liberal order insofar as it naturalises the distinction between state and market, urban and rural, the norm and the exception, 'mainland' and 'offshore' whilst actively obscuring the concerted political effort to coordinate and combine these binaries.

This **dialectic** of 'differentiation and integration', which both the shipping container and the Zone in their own way reproduce, is perhaps most recognisable in the (geo)political underpinnings of China's SEZs. As Aihwa Ong (2006) has persuasively argued, the variegated sovereignty that sustains China's Open Coastal Belt is as much the outcome of so-called economic globalisation as it is of Beijing's diplomacy of reunification. Since the advent of Deng Xiaoping's economic reforms in the early 1980s, SEZs have attracted overseas Chinese investors, bridging the 'political archipelago' of Taiwan, Macao and Hong Kong with their counterparts on the coastal mainland. Economic integration, it is expected, will soon lead to national reunification. Such intense flows of services, people, expertise, finance and capital also lend regional forums like the Association for East Asian Nations (ASEAN) greater political substance beyond the formal diplomatic relations, as informal economic networks generate a *de facto* regional integration. Of course this is exactly what liberal internationalists predict and advocate: formal political agreement follows functional cooperation. Yet, as we have seen here, the opposite is in many ways the case. The conditions for deeper regional integration (or indeed Chinese national reunification) were afforded by the spatial and political *differentiation* between Zone and Nation; through the sovereign creation of the exception.

This is one way of critically interpreting the shipping container as a political artefact, not simply as an agent of ceaseless circulation, but also as an object that - like all that moves - generates friction in the shape of the graduated sovereignty and jurisdictional differentiation explored above. Another arena where this paradoxical (some might insist, **dialectical**) relationship between a freight technology that supposedly smoothens space, yet also deeply 'striates' the world, lies in the security concerns that, especially since 9/11 have exercised law-enforcement and counter-terrorism agencies around the world. For the 'cocktail of exemptions' that characterises most containerport terminals and SEZs can prove explosive: thousands of standardised boxes, the contents of which are in the main unknown, land daily onshore from distant, often dangerous overseas locations. They are swiftly handled in anonymous, automated 'edgelands' - far enough from city centres to avoid congestion, but sufficiently close to supply them with all kinds of goods, as well as 'bads': narcotics, weapons, toxic materials, counterfeit products. What if global jihadists manage to smuggle a nuclear device into a shipping container destined for the Port of Los Angeles?

More plausibly, how resilient would a metropolis like London or Tokyo be to a sustained disruption of the just-in-time supply chains that feed those capitals?

These are the sorts of scenarios that have increasingly pre-occupied port authorities and border agencies internationally, and which Deborah Cowen (2014) argues, have over the past decade transformed the borderline into a 'seam-space' across many states. Instead of a clearly defined contiguous delimitation between an 'inside' and 'outside', the border has for Cowen been rendered as a liminal space 'in-between' national territories, but also one that blurs military and civilian threats or criminal and terrorist risks (Cowen, 2010). The US has been at the forefront of programmes like the 2002 Container Security Initiative which placed American Customs and Border Patrol in the world's major containerports to inspect US-bound cargo. Or the accompanying Customs Trade Partnership Against Terrorism (C-TPAT) which requires private providers to security-proof their own supply chains (Cowen, 2010). Washington has spurred on international organisations such as the UN's International Marine Organization to promote an International Ship and Port-Facility (ISPS) code which serves as a 'standardized, consistent framework for managing risk' in an estimated and 22,000 ports across the 148 contracting states (IMO, 2012).

In sum, the familiar challenge for modern states of securing their homeland whilst maximising the transnational flow of commodities has found partial resolution above and beyond the state both through institutions of global governance and in public-private initiatives tasked with managing the risk and security of integrated logistics systems. As we have seen above, specifically neo-liberal mechanisms of governance, regulation and zoning have emerged over the past few decades in response to this challenge, with maritime ports and coastal areas presenting an especially acute problem in reconciling mobility and control. The innocuous shipping container, I have argued, has been both cause and consequence of this distinctively modern dilemma of movement and stability, as much as it has been both a product and agent of world politics. The main reason for this unique contribution to modern international relations lies in the shipping container's standardised and mechanised universality, which has made it into such an omnipresent – and powerful- feature of neo-liberal globalisations.

Conclusion: Conduits of Governance and Exploitation

As the Introduction to this volume demonstrates, the recognition that technological artefacts are 'socially-constructed' is today uncontroversial among most critical social scientists. The more challenging question becomes, to paraphrase Robert W. Cox's famous dictum: socially-constructed by whom, and for what purpose? Focusing on the container, one of the technological icons of globalisation, this chapter has suggested the answer is: by the already powerful, so that they can sustain their privilege. The TEU as we know it today was the product of global American hegemony in the postwar period: it was designed, developed and distributed across the world by a range of local, nation and multilateral organisations – both public and private – with the aim of integrating the global capitalist economy. Yet, like American hegemony itself, the universal character of the shipping container allowed for both integration and differentiation in the world economy, particularly in the form of competition among capitalist states. From the 1970s onwards, it was Washington's East Asian 'protectorates' in South Korea, Japan and Taiwan, and then subsequently mainland China that appropriated the universal qualities of the container to build their own economic challenges to the American hegemon.

A purely **instrumentalist** interpretation of this technological diffusion would emphasise the modular features of the container: it is such a successful freight technology precisely because it carries anything anywhere and can be used for multiple purposes. It is, on this interpretation, simply a storage and transport mechanism devoid of normative

content. The account offered in this chapter has, in contrast, underlined the very political attributes of the container. For embedded in the metal box's standard, universal and mechanised design are some of the central values of capitalist reproduction: commensurability, equivalence, circulation, efficiency, accumulation, internationalism. Naturally, this does not preclude the use of containers for purposes other than capitalist accumulation (emergency relief, provisional shelter, a play-space), but it does imply that a post-capitalist society would likely transform the social power and significance of the shipping container when catering for democratically-agreed human needs by for instance, de-scaling international trade, reorienting production from consumer to social goods, or by re-balancing domestic markets against export-oriented growth strategies (see the interesting contributions by Toscano, 2011 and Bernes, 2013 on the communal 'reconfiguring' or 'repurposing' of logistical infrastructure).

These, however are mere speculations. The historical tide has evidently gone in the other direction, with the shipping container playing a vanguard role, as we saw above, in the proliferation of neo-liberal spaces and policies across the world. Here, the TEU operates as an actor-network which draws various (transnational) socio-technical processes into an **assemblage** of human and more-than-human '**actants**'. As Christian Bueger suggests in his chapter, these networks of power in turn generate unintended and unpredictable effects resulting from their disparate but inter-related material properties. A cognate of actor-network theory, the body of work that has come under the label of 'new' or 'vibrant' **materialism** also rejects the distinction between the social and the natural, and is deeply sceptical about clear causal hierarchies in either of these domains. The world on this view is far messier, complex and de-centred than a historical materialist emphasis on class relations would allow for.

This chapter has aimed to illustrate the overlap between these different expressions of **materialism**, deploying an historical-geographical **materialism** that acknowledges the emergent powers, vital forces and circulating **affect** of persons, things and matter, yet also emphasises the causal hierarchies and asymmetrical relations that issue from such interactions. Complex processes like Zoning or the logistics revolution are not merely contingent, but are punctuated by structural transformations (like the collapse of the Bretton Woods system, the 'long downturn' of the 1970s and the concomitant rise of neo-liberalism) and governed by unequal power relations among different social and natural agents. Sophisticated feedback loops certainly deliver accidental and unexpected effects, but these are always conditioned by powerful interests and forces, principally driven by the capitalist valorisation of nature. Contingency after all presupposes a structure. In the analysis of the shipping container offered here, the neo-liberal 'disposition' of the TEU as a technology that in very concrete (not just metaphorical) ways has allowed the 'offshoring' of terrestrial authority (or in Bernes' phrase, the emergence of 'hydraulic capitalism') cannot simply be read as an effect of globalising networks, but must instead be seen as both cause and consequence of a very specific historical period – the neo-liberal turn in global capitalism. Thus, the elision of unequal distribution of power and capabilities in the world, and the historical particularity of this predicament under a global capitalist system present two major stumbling blocks in any quest to reconcile historical and the 'new', critical **materialisms** or Actor-Network Theory. In the end, this chapter has argued, the shipping container is such a powerful technology in world politics because it acts as a conduit not just of commodities, but also for neo-liberal forms of governance and exploitation.

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¹ <http://www.worldshipping.org/about-the-industry/containers/global-container-fleet>. Date accessed July 14 2015.

² '[t]he savagery of European conquest, the competitive passions of colonial botany, the resistance strategies of peasants, the confusion of war and technoscience, the struggle over industrial goals and hierarchies ... It is these vicissitudes that I am calling friction.' (Tsing 2005: 6)

³ With apologies to Ernesto 'Che' Guevara. But see Davis and Monk (2008).