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Introduction

The Architecture of Logistics: Trajectories Across the Dismembered Body of the Metropolis

Negar Sanaan Bensi and Francesco Marullo, editors

Neoliberalism is a many-headed monster. It can hold different drives without altering its internal coherence. It grows through crisis and instability. Within its flexible order, drastically opposite forces are able to coexist and mutually stimulate each other: globalisation expands at the same pace as nationalist and populist movements; the circulation of people increases alongside the intensification of migratory policies; shared economies and collaborative consumption develop apace with the multiplication of copyrights and patents; common knowledge and resources proliferate as does the parasitism of private entrepreneurship.

Integrating differences within a homeostatic system of economic competition, the monster of neoliberalism turns whatever it devours into commensurable and exchangeable quantities. Any equivalence becomes possible. Any juxtaposition becomes profitable. Any connection becomes valuable. However, the further this dismembered body enlarges, while assimilating new forces and exchanges, the more it needs to improve logistics, or its nervous and circulatory system to stay alive: boats, containers, trucks, warehouses, department stores, harbours, train yards, airports, cargo terminals, communication centres, satellite stations, and all the material conditions that improve flux and trade while ensuring the integrity of commodities across its distant limbs. This issue of *Footprint* meditates on logistics and its architecture of exchange as the essential lymph of neoliberalism. Registering

and managing the circulation of people, goods and information across the planet, the architecture of logistics could be considered the litmus paper from which one could read and understand territories, populations and societal assemblages.

The term 'logistics' derives from the Greek verb *logizomai* meaning to calculate, to reckon, to organise rationally, to *plan*. As first systematised by Antoine-Henri Jomini and Carl von Clausewitz in the early nineteenth century, logistics deals not only with the organisation of armies and supplies on a battlefield but with everything necessary for reducing friction in the actualisation of a strategy. Over time the military knowledge of logistics was reformulated as a technology of governance, to modulate trade relations and organise territories in peace time as well. In the aftermath of World War II, logistics turned the whole world into a smooth surface for exchange: into a unique 'floor' for production.¹ Containerisation, intermodal freight transport, and outsourced manufacturing processes established a global infrastructural system that regularised the circulation of goods by undermining local labour relations, imposing standardised spatiotemporal frameworks and a whole new architecture: an architecture of logistics.

This phenomenon is indeed visible everywhere: as pallets and containers transformed the spatial configuration of harbours and terminals, by allowing traditional stevedoring and docking tasks

to become automated processes, so digital technologies and storage software developed the way commodities are measured, coded, and dispatched, progressively transforming warehouses to colossal semi-automated sheds entirely dependent on invisible algorithmic orders. Goods once stocked in various kinds of crates, barrels, and boxes are now packed and individually coded in orderly containers devoid of smell. Loading and unloading operations have been gradually mechanised and computerised to ensure overall control over the movements of any single object, without accident or physical strain.

And yet, despite often being labelled as an 'architecture without humans' because of the high level of technical automation, logistics does not only produce generic spatial configurations able to cope with constant variation and market fluctuations – like fulfilment centres, container terminals, or interchange yards – but it also creates specific forms of employment and new opportunities for workers' opposition and collective bargaining, as witnessed by the numerous strikes and demonstrations in recent decades. In this sense, the architecture of logistics inevitably replicates the very ambivalences of the monstrous creature it feeds, a tangle of invisibility and concreteness, instantaneous transactions and slow movements, international routes and local labour forces. A monster nurtured by its inner tensions: local duties and extra-territorial domains; migratory seasonal workers and banned unionisation; invisible barcodes and operators' fatigue; blind algorithms and colossal fulfilment centres; the technical evolution of vessels and the steady articulation of terminals; the accelerated transactions of finance and the lengthy stratification of cities.

This schizophrenic nature becomes evident in its spatial development, where its abstract procedures become immediately tangible. Trying to cope with the expanded field of trade and communication networks and the advancement of smart

technologies and distribution, the architecture of logistics is often minimised to its barest and most efficient load-bearing structure: large-span shelters, space frames, cranes, automated floors and platforms. At the same time, the alluring promise of its fluid and freely accessible infrastructure is constantly negated by concrete factors such as territorial scale and encumbrance, land jurisdictions and insurance policies, free trade zones and customs, financial investments or oil and steel prices. Moreover, by mediating every exchange relation around the globe, the architecture of logistics not only reveals the distribution of wealth, financial and productive energies, but it also tracks territories and populations, indexing and capitalising upon their visceral forces and perversions, identities and subjectivities, fears and desires. Thus, gathering academic and review articles from researchers and emerging scholars in the field, the ambition of *Footprint 23* is to provide a critical survey of the architecture of logistics, unfolding the multivalences of its apparatus, dissecting its buildings and spaces, its technologies and labour relations, its historical evolutions as well as its future projections, along three main directions of inquiry.

The first trajectory attempts to define *what* logistics is and *how* it operates, focusing on the inherent ambivalence of its apparatus, able to cope with different scales and various temporal dimensions – from barcodes and gadgets to global routes and territorial infrastructures – constituting both a physical and abstract framework supporting, measuring and quantifying movements and actions, thoughts and desires. If logistics emerged as the art of war and computation, aiming at systematising differences, removing friction and smoothing contingencies, today it has developed both at the micro-scale of the gizmo and at the macro-scale of the global supply-chain, imposing a universal framework wherein every exchange transaction is bound to fit. On one side, drawing from Object

Oriented Ontology and specifically from Timothy Morton's notion of the hyperobject, Clare Lyster redefines logistics as a vast landscape of independent devices manifesting in various forms, or 'footprints', that impose specific spatio-temporal relations upon their users in order to extract information and process data. On the other side, Jesse LeCavalier's research demonstrates how logistics has become the organisational paradigm for mass distribution and consumption, which requires a necessary updating of the traditional understanding of the relations between signs, objects, buildings and infrastructures. Along the same line, photographing salient passages of the Californian Central Valley, Neeraj Bathia proposes to reconsider logistics as a constellation of specific surfaces, conduits, and containers. Reformulating Rosalind Krauss's diagram of the expanded field, these categories permit one to read and classify the emerging hybrid integration of natural resources, cities and artificial landscapes to conjecture future scenarios of intervention. Yet, this new expanded field is internally generated by tensions and anomalies that, for George Papam Papamattheakis, could also 'detour' the logistical apparatus. Against the homogeneity of quantity and automation of the logistic floor, Papamattheakis exalts the unpredictable conditions of the ground which can reinvigorate the idiosyncratic quality of places and communities and obstruct the isotropic dimension of circulation space.

The second trajectory investigates the way logistics penetrates our existences, not simply by affecting how we live and work but the way in which it provides the very possibility of life as such, or, in other words, how logistics is inherently political. By filtering and regulating essential provisions, opening or denying the accessibility to resources and territories, logistics transforms bodies into commodities and shapes life in all its expressions. Delving into the specific conditions of the Gaza Strip, Francesco

Sebregondi develops an original reversal of the traditional association of logistics with free movement and circulation. Rather than eliminating friction and enhancing circulation, logistics also produces zones of obstruction that multiply the segregation and confinement of specific regions and populations, turning into an instrument to actualize precise geopolitical reassessments. Similarly, Stephen Ramos focuses on the architecture of confinement between the United States and Mexico, sadly intensified in the last months by Donald Trump's immigration policies. Drawing a parallel with the system of the global supply chain, the author demonstrates how the US immigration detention system utilises the border and spatial administrative tools to control and modulate the incoming fluxes of foreign labour force. Nevertheless, if the spatial optimisation of the immigration camps controls, arrests, and stores bodies as commodities, logistics is also able to put bodies in motion, contracting actions and accelerating their biorhythms. Analysing Francesco Mattuzzi's film *The Weight of Dreams*, Renzo Sgolacchia and Alex Retegan describe the hectic daily routine of a couple of drivers living and working in the four square-metre cabin of their truck. The cabin and the trailer of the truck join productive and reproductive activities in a unique mechanical assemblage: a nomadic form of living directly produced by the container revolution of the 1960s. The intrinsically parasitical nature of the logistic apparatus is also the subtle core of Marcello Tavone's photographic essay *HomeWorks*. He investigates the isotropic conditions of urbanity characterising the landscape of the Veneto valley, moving from the Roman *centuriatio* that had structured settlements across the region, to the Renaissance *villa rustica* that provided the appropriate architectural paradigm for the urbanisation of the plain, to the present sprawling constellations of hybrid single-family homes, mechanically equipped with depots, warehouses, industrial and working facilities, juxtaposing the idiosyncratic residential

dimension of the detached house with the global sphere of logistics within an ambiguous unique form.

The third trajectory tackles the past, present and future of logistics, considered as the most crucial apparatus determining the human impact on earth, controlling the distribution and organisation of organisms and ecosystems, triggering new and more violent forms of colonisation and exploitation. Giulia Scotto analyses the ambivalent role of infrastructure in the military and political colonisation of Zambia during and after the period of British rule. Under British control, logistics enabled the extraction and exportation of resources, shaping the national territory and the basins of labour power through railway lines and interchange stations. After independence, the intervention of multinational actors in the construction of roads, railroads and pipelines, logistics served as a support to propagate the autonomy of the new Zambian state. Nancy Couling and Carola Hein meditate on the advanced petrochemical logistics of the North Sea and how its infrastructural network of offshore and inland distribution could be leveraged to invent new forms of architecture and democratic participation. Finally, with their exhibition *Ambiguous Territories* Kathy Velikov, David Salomon, Cathryn Dwyre, and Chris Perry meditate on the negative biological, atmospheric and geological externalities produced through centuries by the construction of a supposedly frictionless network of exchanges, conjecturing strategies for reducing or reversing these tendencies through an alliance of architecture with other fields of knowledge.

In a moment when architecture and logistics seem to be severed domains, when architects are profitably summoned only to enhance speculative waves of gentrification or relegated to the simple task of mending the schism between cities and infrastructure, the need to elaborate a theoretical

position on logistics for the discipline becomes increasingly urgent. This issue of *Footprint* does not offer definitive statements or hypothetical solutions for the monstrous nature of logistics. On the opposite, it aims at unfolding its inner contradictions to propose new possibilities for the architectural project or, to use Massimo Cacciari's words, rather than getting rid of conflicts and anomalies we, as editors, wanted to open up possibilities to try to 'give them form'.²

Notes

1. Keller Easterling, *Extrastatecraft: the power of infrastructure space* (London; New York: Verso, 2014).
2. Massimo Cacciari, 'Nomads in Prison,' *Casabella* 705 (2002): 106-108.

Biographies

Francesco Marullo is an architect and educator. His research focuses on the relations between architecture, labour and the space of production. He holds a PhD in History and Theory of Architecture from TU Delft and he is an assistant professor at the UIC School of Architecture in Chicago. Previously, he taught at the Berlage Center, TU Delft, the Rotterdam Architecture Academy and collaborated with the Office for Metropolitan Architecture, DOGMA and the Urban Planning Department of the Roma Tre University. He is a founding member of the research collective *The City as a Project*, the think tank Behemoth Press and Matteo Mannini Architects. His work has been internationally exhibited and featured in various architectural publications. He contributed to recent volumes *Into the Wide Open* (dpr-barcelona, 2017), *Counter-Signals* (Other Forms, 2018), *Work, Body, Leisure* (Hatje Cantz, 2018) and co-authored the book *Tehran: Life within Walls* (Hatje Cantz, 2018).

Negar Sanaan Bensi is an architect, educator and researcher. She received an honourable mention in National Archiprix 2011 in the Netherlands for her graduation project. She is a PhD researcher at TU Delft, as part of the research group Border Conditions and Territories and an UKNA fellow. Her research focuses on the relation between architecture and territory, infrastructure and inhabitation, specifically in the context of the Iranian Plateau and Middle East. She has taught at TU Delft, Tilburg Fontys Academy and IUST Tehran University and lectured at the University of Antwerp and International Institute for Asian Studies in Leiden. As a practicing architect she has collaborated with GFC, ZUS and Import Export Architects. She has contributed to several publications, among them the forthcoming books *Adaptive Strategies for Water Heritage* (Springer, 2018) and *Inside/Outside Islamic Art and Architecture: A Cartography of boundaries in and of the field* (Bloomsbury, 2018) and the journal *Volume 27*.

