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INTERVENTIONS TOWARDS THE LOGISTICAL CITY

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292… 293… 294… 290… 291… 295…

A list of numbers flashes up above the entrance to the DP World container terminal on Simblist Rd, Port Botany, signalling to the truck drivers parked along the edge of the road when they can enter the terminal to pick up or drop off a container.

292… 293… 294… 290… 291… 295…

Each of these numbers refers to a 'vehicle booking slot', an agreed period within which a truck must enter the port and be serviced by the stevedore. Booked online days in advance, each of these slots refers to both an entry window into the terminal and a container to be picked up for import or dropped off for export.
As the truck enters the port in compliance with their slot, RFID chips on their chassis trigger a variety of digital interactions – both automated and manual – that are designed to ensure that the right container is loaded onto the right truck in the shortest period of time with the least crane movements necessary.

Truck entry to Patrick's Port Botany has been governed through the release of vehicle booking slots since 1999. In 2011, the VBS became the site of intervention by the ports authority into the operations of its leaseholders, DP World and Patrick Stevedores; the slot became the means of reorganising the operator's relationships with various terminal users. In accordance with state government legislation set out in the Port Botany Landside Improvement Strategy, each of these slots now carries with it a series of requirements that specify how late or how early a truck can arrive without being fined. It specifies, furthermore, the amount of time that

can be taken to go from gate-in to gate-out without similar fines being levelled at the stevedore. Thus truck movements through the space of the port are governed by the temporalities that the slot is made to carry: their position in the terminal is imagined relative to the window legislated for that slot, with a redirection in landside processes - changing the order of trucks serviced from a sequence that more efficiently moves multiple containers onto multiple trucks to one that ensures that a particular truck leaves the port on time – triggered by the impending end of the window, so as to avoid government determined fines being levelled at the stevedore.

In other words, the vehicle booking slot works to calibrate the switching in scale and mode of commodity flows; it is a point in time in the transition between maritime and land-based flows, as containers previously moved from ships to the wharf and then to the yard, are loaded onto trucks for urban distribution. The transition from sea to land or land to sea is not immediate; the movement from quayside to landside can take a few hours or days, depending on multiple processes and decisions enacted relative to each container. The container may be slowed or halted through the border's extension in space and time in the dispersed operations of quarantine and customs; carriers may decide to exploit the wharf as free storage prior to distribution, maximising the time containers are left in the terminal before fines are levied by the operator; alternatively, containers may remain on the wharf due to the mismatch between the times of operation of the port and the operating hours of individual warehouses.

The slowing or halting of the container is a glitch in the city or port understood as an integrated logistics system. Each glitch, furthermore, introduces other frictions into the system, further testing its resilience and fault tolerance. The glitch of mismatched times becomes visible in the extra booking slots that are made available on a Monday and Tuesday, and in the trucks that queue at the gate to service these slots, causing congestion in the streets surrounding the port. These trucks arrive to pick up containers that had built up on the wharf over the weekend, delivering them to warehouses that remain closed while ships are unloaded 24/7. Other frictions become visible in the queues of trucks that clog up Parramatta Rd, the main arterial link between the Port Botany and the western suburbs where the majority of distribution centres and warehouses are located.

These frictions and glitches emerge as the organisation of the city as logistics system encounters the latencies and limits of the infrastructure and urban configurations of the industrial city. The ideal model of the city as logistics system is embodied in the urban plans and the branding for urban configurations such as *Dubai Logistics World.* This is the city as 'enclave' or 'zone of exemption', where – as Easterling argues - local jurisdictions are erased, replaced by the rules of the special economic zone. Built from scratch as a logistics city, *Dubai Logistics World* eschews the functions of the industrial city: manufacture and production. It is instead dedicated to the facilitation and synchronisation commodity flows, enabling the increasing fragmentation and extension of supply chains that start and end elsewhere.

Cowen argues that models and representations of space are 'vital to the production of lived space'; the way that space is imagined affects its management and regulation. And so, government and industry intervention into the operation of Port Botany and the surrounding city – to make its spaces more efficient, more productive, and with ever increasing throughput in line with 'world's best practice' - could be said to carry with it traces of those other, ideal, logistical cities. The rhetoric of connectivity, speed, and efficiency that underpins the design – and branding – of those other cities echoes through the interventions into this no-longer industrial city.

The organisation spaces of the ideal logistics city, such as the 'corridor', are deployed in the no-longer industrial city to try and optimise its spaces, by bypassing its frictions and bottlenecks. The Enfield intermodal terminal – which should become operational in late 2013 – is one such intervention. Initiated by the state government, it will be operated by the future third terminal operator at Port Botany. In this site, as in other intermodal terminals, some containers already transferred from ships to rail in Port Botany, will be transferred to trucks for distribution throughout the surrounding suburban area, while other containers are directly transferred warehouses adjoining the terminal, and destuffed onsite. In this way, the container terminal, the intermodal terminal and the rail line that connects are meant to operate as an 'extended gateway', as spatially separate yet functionally integrated elements of the port.

In optimising the spaces of the city, the extended gateway of the port and the intermodal terminal does not just bypass the spaces of the city. With the 24/7 operations of the intermodal terminal echoing the operations of the port, it also bypasses the temporal rhythms of the existing city, set by warehouses that typically open Monday to Friday (and possibly Saturday), and which close in the evenings and overnight. Furthermore, with automation increasing on the waterfront, it can be supposed that these sites will eventually bypass the bodily rhythms of individual workers, as containers will be moved through the terminal on automated straddle carriers guided by an 'intelligent' groundplain, such as those to be installed at Patrick's Port Botany in 2014.

In each of the moments described above, the 24-7, seamless logistical city encounters the messiness of the already existing, no-longer industrial city. In each of those moments, the interventions are imperfect. The booking slot cannot change the operating hours beyond the port. The 'extended gateway' is to be funnelled through existing rail sidings as it arrives at the port; rail sidings that are already at capacity. The site for the intermodal is not quite ideal, still close to the port and not in the midst of the warehouses that it is intended to service, but sited here because the land was still empty; contaminated by past industrial uses, and next to a major rail line, it remained permanently unsuitable for gentrification. However, even if imperfect, the deployment of these geographies of optimisation are not insignificant nor failures; they result in a reimagining of the times and spaces of the city, and constitute new labouring subjects to work them.

NOTES ON ART, FIELDWORK, AND METHOD.

GIOVANNA ZAPPERI

Ned Rossiter

1. These few notes are based on my own experience of the Transit Labour project. As someone primarily involved in art and cultural criticism, I am particularly interested in drawing possible connections between the discussions during the platforms and a set of creative practices. In particular, I am interested in looking at the project's premises and methods as rooted in a practice of experimentation that is central to some of the most critical directions in contemporary art today.

During the three parts of this project, art and cultural production were at times conveyed as key components in the transformations of global capitalism. This was especially the case in the Shanghai platform in 2010, where topics related to creative labour and the art world were critical points of discussion. This was probably more pronounced in the second part of the platform in which I didn't participate, where a number of participants were artists, curators or cultural producers, but even the workshop in which I participated discussed the role of art and culture in the processes that were transforming Shanghai into a 'global city'. In particular, Shanghai's leading role within China's cultural and creative sectors was stressed in order to look at how these transformations – which involve accelerated urban development, increased migration and new circuits of international trade – produce specific forms of mobility and labour relations alongside the emergence of a growing creative class.

An important point to consider was how the implementation of the necessary infrastructures (art spaces, museums, biennales…) is paralleled by the construction of 'Chinese contemporary art' as a contradictory object. In fact, the trope 'contemporary Chinese art' seemed twofold: on the one hand the emphasis on 'chineseness' points to the supposed specificity of contemporary Chinese art in an attempt to situate it within the boundaries of what 'Chinese' is supposed to mean. In this sense, 'Chinese art' would exclusively be produced within the national boundaries of Mainland China. At the same time, the spectacular rise of 'Chinese contemporary art' in the past two decades is clearly related to the becoming-global of China's main metropolitan areas. In this respect, Chinese contemporary art had to become attractive for a global audience, thus assimilating the western standards – in terms of formal languages, discourses and strategies – that predominate the global art world. This tension between the construction of a specific Chinese space for contemporary art and its existence

as a global phenomenon seems to be constitutive of Chinese artists' success. In this way, 'contemporary Chinese art' has come to epitomize the attractiveness of Otherness for a western audience, thus providing a new frontier for the art market. One of the ensuing effects of this process is the constitution of a new object of knowledge within the western academy, where 'Chinese contemporary art' tends to be considered as a social and cultural phenomenon to be investigated as a complex entity carrying within itself a number of contradictions, positions and discourses.

2. What also struck me during the Transit Labour workshops was the ways in which the presentations were mostly based on empirical research and fieldwork, so that the analysis was always predicated on first hand experiences. But at the same time – and this has to do with my own interest in art – there was no discussion about how the transformations discussed during the Transit Labour project were articulated within artistic production itself. This brings me to my second point, which has to do with a set of methods, practices, and tactics that are crucial to the more critical positions that have recently emerged in the art field.
Some parallels can be drawn between those positions and the kind of experimental fieldwork that was proposed in the Transit Labour project, which include ethnographic methods, interviews, the researcher's own mobility, collaborations and dialogues with native researchers or activists.

A similar approach to the issues that form the core of the Transit Labour project can be found in art; spaces, borders, mobility, and labour within the flux of global capital are crucial questions for art today. In particular, the development of experimental forms of documentary languages within the art world has played an important role in finding out new ways to address these political issues visually, be it in the form of the installation, the visual essay, or the archival reconstruction. It seems to me that the politics and poetics expressed in these various positions often intersect with the inquiry methods we have experienced in the platform.

For example, Bouchra Khalili's recent video installation – *The Seaman*, 2012 – shares aspects of this experimental method since, in order to produce this work, the artist had to carry on a series of inquiries, encounters, trips, researches and fieldwork. The video reflects upon one of the key aspects discussed during the Sydney platform: the materiality of the container economy and the labour conditions it produces. *The Seaman* confronts a night view of the port in Hamburg with the voice of a young Filipino seafarer recounting

his own experience of constantly being in transit. The image of the mechanical loading and unloading of containers, in a landscape deprived of any form of human life, is challenged by the young man's voice-over in which he acutely analyses the economic structures that determine his oppression. One could argue that the core of this work lies somewhere between the man's powerful presence and subjectivity, and the objectifying conditions of labour in transit.

3. *The Forgotten Space* is a visual essay by artist Allan Sekula and film director Noel Burch, released in 2010. The film describes the tension that is constitutive of the container economy: the invisibility of the maritime space and its crucial role in contemporary capitalism. The *forgotten space* of the title is the maritime space, mostly 'out of sight, out of mind', as the voice over says at the beginning of the film, reminding us that this space is nevertheless what binds the world together: 90% of the world commerce travels by sea. However this tends to be forgotten because financial capitalism has produced a powerful representation of economic exchange as something immaterial, which then gives the impression that the maritime economy is becoming obsolete. *The Forgotten Space* is a film about containers, barges, trains and trucks, as well as workers, engineers, planners, and politicians and those marginalized by the global transport system. In a journey among displaced villagers and farmers on the Belgian and Dutch coast, underpaid truck drivers in Los Angeles, seafarers between Asia and Europe, and factory workers in China, the film uses a range of materials as documentary, interviews, archive stills and footage, clips from old movies.

No wonder then that the film's central protagonist is, in fact, the container, the standardized and static vehicle for trade that is also and foremost a box, permanently in transit through ships, trains, and trucks. Who cares what's inside? The specific form of the box produces a representation of trade as something anonymous, secret, and abstract. The container has thus come to signify a specific vision of the world economy as a connective, immaterial space of exchange.
As the film argues, the circulation of containers effects different and heterogeneous forms of labour, and its consequences are far from being immaterial for a number of workers including truck drivers in California, Philippino domestic workers in Hong Kong, seafarers in South-East Asia, or factory workers in southern China. Container economics and logistics also sweep aside everything they encounter in their journeys across the global space: entire villages are submerged in Holland and Belgium in order to expand the local ports.

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Particular sections of the film draw specific connections with some of our field trips in Shanghai, Kolkata, and Sydney and more generally with what I discussed above regarding the role played by art institutions and markets within these processes. The film reflects upon the intersections between container logistics, migrant labour, and the museum. As surprising as this link might seem, the film shows the interconnections between the crisis of the European industrial economy and the emergence of a new urban landscape where art and culture play a predominant role in imagining the post-industrial city.

In this respect, the so-called 'Bilbao effect' is paradigmatic. In this city, in which the port once played a significant role, the industrial economy has been replaced by the most spectacular of all world containers: the Guggenheim museum. The Guggenheim museum in Bilbao has become a symbol of the contemporary narrative that presents the maritime economy as obsolete. This museum significantly reproduces the form of a steel ship, a permanently shining lighthouse. As if time had collapsed, the Guggenheim embodies an idea of contemporaneity that renders everything else old and obsolete – the port, the city and its industrial past. This museum, which is symbolically anchored in one of the oldest ports of Europe, dramatically reminds us of the ways

in which cultural institutions are also there to provide a specific representation of global capitalism: a representation that is predicated on the erasure of the material conditions of its existence.

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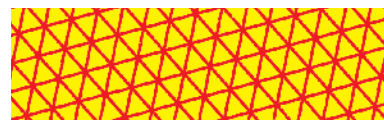
As we entered the Maritime Container Services Park (MCS), Sydney on 6 July 2012, one could see lines of containers of various shapes lined up in neat columns and huge trucks with containers negotiating their way to find a space for containers. The manager said, 'We export air'. As he showed us around, navigating our bus through the empty pavements amidst thousands of containers stacked up in neat rows, there were several trucks with containers which came to unload the containers. What struck me and one of my other Indian colleagues was the absence of a work-force.

Miles away in 2011, when we had visited one of the container parks in Khidderpore, the port area of Kolkata, the area bustled with the clattering sound of hammers and sparks coming out of welding machines as workers repaired containers. In fact, there our visit was initiated by few workers taking tea break in a tea stall adjacent to the container park who led us to the office of the container park.

Back in Sydney, the MCS container park ran under technological surveillance, wireless devices navigating ways to ensure smooth turn-around time. With technological intervention the turnaround time has been reduced from 2 hours to 20 min in this container park. The ways in which containers find their way into container parks, ports, and become subject of living laboratory spaces, also reveal to us the ways in which the maritime economy constitutes an important part of the transnational economy and the ways in which the labouring subject comes under the gaze of surveillance, as newer technologies are introduced to increase productivity.

These two distinct sites of logistical operations were encountered as part of the Sydney and Kolkata platforms; they formed part of the collaborative exercise of using 'platform' as a methodological tool to interrogate the formation of transit labour. Methodologically, organising the platform/s has been challenging and as I look back at my experience of Sydney and Kolkata platforms I feel that in this project we have taken on some of the issues concerning 'ethnography' as a method. With a mixed group of

political scientists, media practitioners, architects, historians, urban planners, web designers and anthropologists, Transit Labour as a 'platform' engaged with the field as a site and how it transforms and mediates across spaces. While the workings of the platform were steeped in ideas of 'multi-sited ethnography', in the way that Shanghai, Kolkata and Sydney were studied by individual researchers, in my eyes the platform evolved the idea of field as sites of encounter.

The discussion with scientists at NICTA, Sydney, or activists from *Rajarhat Jami Bacchao* Committee, Kolkata (which were initiated by local collaborating organisations), open up the 'field' as a site so that it is no longer simply a sacrosanct site to be represented in out texts, reports and short essays. The 'field' is no longer limited to the spatial locations of Rajarhat, Container Parks of Sydney and our interactions with labouring subjects; it also requires our engagement as labouring subjects (as participants of the project) in the transient forms of labouring spaces we inhabit, engage with, and participate in.

One of the reflections on Sydney platform was the 'absence' of transit labour or labour forms in the study on Port Botany. While the invisibilisation of the labour force seems to be the significant component in our visit to container parks, our interactions with union representatives reflect a different picture. The mobility of labour forms and the reasons for their invisibility, well known to us, was represented to us vividly in the Living Laboratory project where the main objective of the state, citizens, and the labouring subjects of these laboratory spaces is to ensure smooth turn-around time of logistics as the key to ensuring the availability of goods and services. One of the interesting presentations at NICTA was the prediction of future logistical management with the use of informational services. In this interesting slide, there was no representation of human actors; the slide shown to us was mapped with pictorial representations of 'signal' - the sign of connectivity, time. The absence of human actor/s in this slide again impels us to reflect on the ways in which we have trained our eyes as ethnographers to locate and

identify our subjects. Trained in the art of 'observation' and 'participant observation', my experience with these field sites represent an exemplary experiment to re-engage with 'ethnography' as a method where we engaged with field/s, performed our roles as actor/s and participants in Kolkata and Sydney.

Through the re-creation of 'field objects', the 'living laboratory' turns its gaze on to itself. In this case, the wine supply network - from the vineyards to the shelves of the stores - was recreated in the laboratory space. In this recreated field site of the wine supply network, the logistical network of the supply chain is represented by huge LCD screens. Here, the scientist participates in the wine-supplier's network through the recreation of the field site and also acts with a degree of surveillance. The scientist and laboratory become collaborators in the logistical network through such 'encounters'. The field expands into the world of the laboratory as a space where the actors (i.e., scientists) not only act as agents of surveillance but also try to create and inhabit 'sites of encounter'. While this may seem a superficial way of imposing on the labouring space, the ways in which we as actors of the field and products of the field engage with subjects has been remodelled; in this particular case, the relationship between subjects and actors is being performed, inhabited and is a lived reality in the resolution of logistical problems in the living laboratory project.

By contrast, the lived reality of the villages, field sites of production in the logistical city of Rajarhat indicate certain interesting possibilities of the way networks of architects, urban planners, IT farmers, dispossessed farmers, domestic workers participate in the production of the logistical city. The production and (re)production of logistical networks in Rajarhat and Sydney not only represents two distinct forms of accumulation and labouring forms but their interface as production sites encompasses ways in which we need to re-formulate our engagement with production networks of late industrialism. Our engagement with production networks of late industrial sites are transformative and collaborative in nature. To understand the nodal points of interface between transnational networks of production and capital it is important to represent these fields as sites of encounter. The field/s speak to themselves not only as points of comparison but also in the way we as researcher/s, actors represent these fields. For instance, to me Rajarhat now represents an extension of the living laboratory project of logistical management. This is not to add another heuristic tool to understand the field but to broaden the scope and interaction of

the field sites of Rajarhat and Sydney. The diversity of variables to understand transit labour emerged from the rather fluid ethnographic gaze of the individual researcher/s and platform participants which open up the question of where the future of the ethnographer and ethnography as a method lies in such a collaborative exercise.

Almost 25 years have gone by since the publication of *Writing Culture* - the seminal work that called for a linguistic turn in anthropology. George Marcus, in an article to celebrate 25 years of *Writing Culture,* says that the work 'was an ambitious and much needed critique of anthropology by means of literary therapy applied to its primary genre form'. In this article, Marcus discusses six conditions that the research studies in Centre for Ethnography, University of California, Irvine have moved towards. First and foremost, the 'impulse to collaborate'. Second, 'double agency' where the anthropologists are indulging in a game of double-ness, producing work according to the needs of different register. Third, the public response or what he calls 'reception and granular publics within the frames of fieldwork'. Fourth, 'incompleteness and scale'. Fifth, 'the temporality of emergence', and finally, design projects in association with field projects.

In 'Ethnography in Late Industrialism', Fortun argues that ethnograhies 'can be designed to bring forth a future anterior that is not calculable from what we now know, a future that surprises. Ethnography thus becomes creative, producing something that didn't exist before. Something beyond codified expert formulas'. She indicates the ways in which temporality guides our research designs and the significance of research designs in collaborations and ways in which the field moves back and forth beyond the gaze of the ethnographer. She further identifies two gaps (discursive gaps and risks) that ethnographers studying late industrial capitalism have to deal with, as well as the problem of design. To understand and grapple with discursive gaps and risks, ethnographies need to 'create space for deliberation'.

The creative space/s of deliberation of the Transit Labour platform was particularly productive in rethinking the ways in which the scope and possibilities of 'field' has widened beyond the ethnographer's purview.

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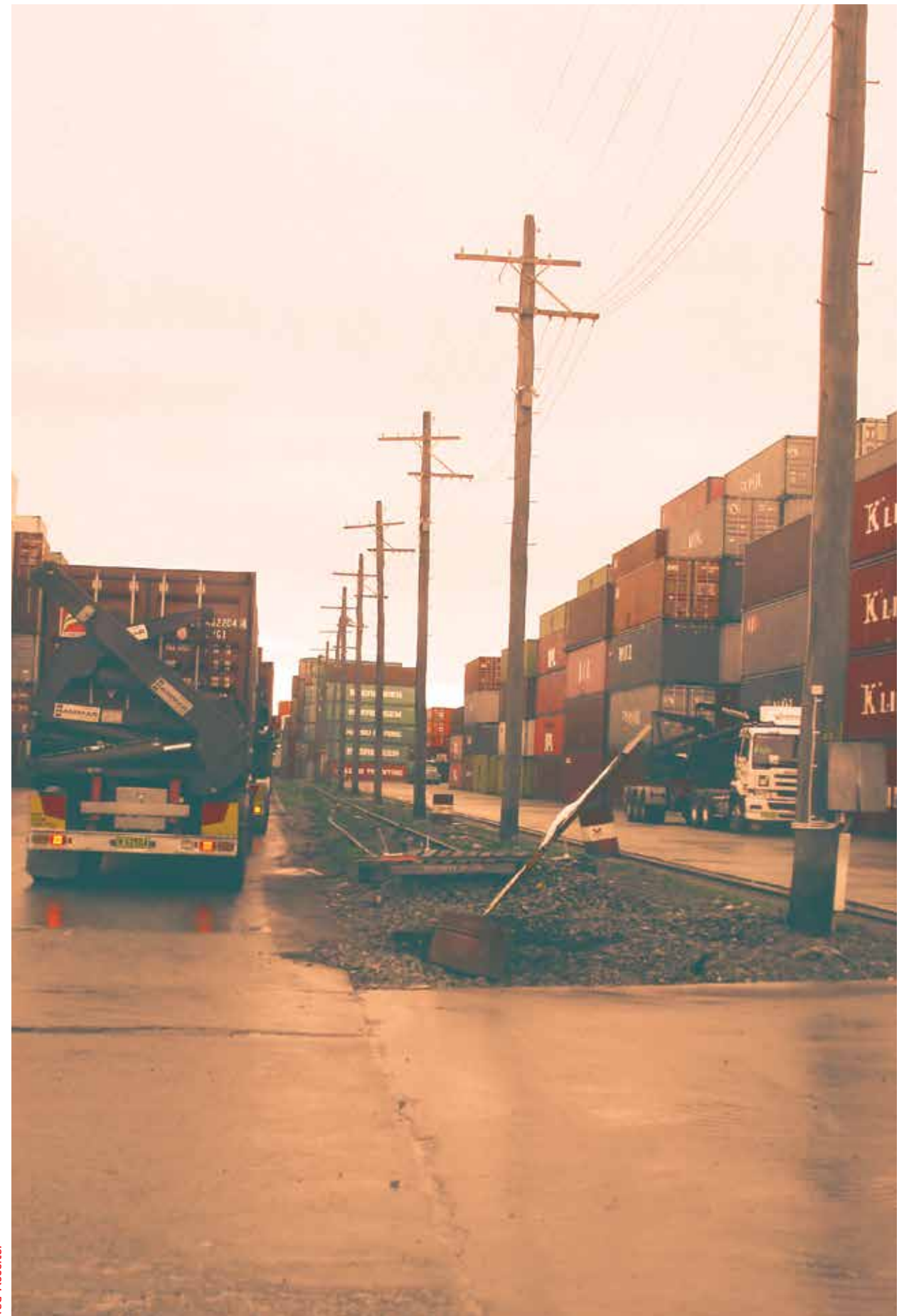
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ZONES AND CORRIDORS: ACCUMULATION IN POST-COLONIAL CAPITALISM

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The following is an excerpt of a longer paper written for the *Knowing Asia* Conference, University of Western Sydney 2012. It was written as a companian piece to the essay *Wall as an Apparatus.*

There is another way to think of the practice of zoning besides as one of exception in space management. Of course a crucial question is to be faced at the outset: Is the question of exception a matter of looking into the production of norm and then looking at the dynamics of *exception*, or is exception finally a matter of *difference*? Here I would like to leave the matter to the reader's or the listener's philosophical disposition; it will not harm much whichever way the judgement goes, so long as we know what is at stake.

To think in terms of difference means to irrevocably discard an ideal type, to take each case as singular, and to undertake the task of generalisation on the basis of singularities. It also implies for one then to take upon oneself the task of rigorously analysing the case at hand – in this case, the way a zone is created – and see how the "law" operates, the law of zones and spaces in this era of late capitalism which is built on a combination of the most modern forms of finance capital and forms of primitive accumulation, also a combination of western capitalism and post-colonial capitalism. In this way, differences will come up before our eyes as to how

management of space requires zoning and how the zone thus created requires particular way of space management in order to be appropriate to the dynamics of that particular zone.

In the Rajarhat-New Town study we conducted in 2010-11, we had to do that. We did not look so much into whether it was an exercise in exception in the history of space management by capital, but we adopted an analytical strategy of treating the details of space management in the Rajarhat-New Town case by looking at the differences cropping up in the context of an old town called Kolkata. In this way we could locate the continuities and discontinuities in the history of space management, the anomalous forms of labour in the New Town, the real-historical ways in which peasant labour responded to the new ways of zoning, and most importantly, how this response influenced forms of accumulation. Thus it is not enough to say with the experience of hindsight that this was the form of accumulation under conditions of passive revolution and democracy, but it becomes necessary to find out what is the form that inheres within it the double of the primitive and the modern, the virtual and the real, the mobile and the sedentary, and zoning and spacing.

This leads us to another crucial point beyond the controversy over the idea of the exception. One can

note the infinite ways in which the reality of difference and repetition (let us recall Gilles Deleuze's famous book by this name) indicates the profound relations between different forms of space, namely, zones, corridors, and last but not least the circuits (the theme of our platform) that internally join not only these regions, but make them parts of the same template. Of course such a networking exercise cannot be a seamless one. Contradictions between spaces of accumulation and dispossession remain an indelible feature of the process of capital circulation. The differences in the organisational forms of capital speak of varying relations between capital, citizenship, sovereignty, and territory. They also speak of various spatial and social forms of organisation of capital. Rajarhat-New Town can be seen therefore equally as a paradigmatic site for the operation of the principle of difference and repetition.

This may be therefore a more fruitful line of inquiry as to how various parts of India are emerging as particular zones: the Northeast projected to be linked by the corridor, called the Asian Highway, and to be opened up as a zone with the help of the "Look East" policy, whose first steps we are now witnessing in the form of normalisation of relations with Burma; likewise the emphasis on relations with Central Asia, the Shanghai Club, and again to be linked through a revived corridor named as the new Silk Route and the oil pipeline from Iran through Afghanistan and Pakistan to India. Corridors are however not only geopolitical. The life of a commodity that begins its journey in Kolkata, traverses to say China through other regions, and then returns to Kolkata congealing within it the labour of three countries also speaks of a corridor. Rajarhat-New Town's information and financial hub is thus a zone (partly in form of a free trade zone, partly not) linked through virtual and real transits – the whole process waiting to be galvanised through achieving transit rights of Indian capital through Bangladesh in the east (as through Pakistan in the west, if we think of the big picture).

In these times of post-colonial capitalism that combines the primitive and the virtual modes of accumulation, we have to take note of the ways zones are created: the trans-national modes of the assembly of a product, the transit forms in which labour appears in the commodity chain, the way money becomes a commodity, as well as the way money begets more money without passing through the commodity chain, and all of these determining the ways in which zones will be linked with corridors. These corridors can be certain forms of labour linking the zones, certain forms of

transmission of information and finance, or even certain forms of circulation and processing of commodities like roads, pipelines, optical fibres, information highways, or special freight corridors run by the railways. While analysts often concentrate on the social life of a commodity (which is indeed one of the entry points in understanding the emergence of zones, thus plantation zones, tea zones, life of tea as a commodity, etc.), the need now is to look into the life of labour in its transit forms to make sense of what makes a zone and what links one zone with another. Clearly we are looking here beyond the factory form and trying to understand the newer forms of assembly and chain. This is also the way to make sense of the bio-political organisation of capital.

How will these emerging zones be spaced? It is not only that the citizen-worker may become unfit to populate such a zone, and we can see that clearly in the case of Rajarhat-New Town, but more importantly, whole populations may have to be trained to become the denizens of such an anomalous universe. Dispossessed peasants, construction workers from Malda, tea shop owners and other street vendors from nearby districts, snooty IT workers – all become parts of a scenario of heterogeneous labour. They will all demand rights, some couched in the language of citizenship, some in bare life terms, and again some couched in gross economic terms of flexibility and money. We cannot say immediately how the new subjectivity of this new zone will develop and if it will allow an untrammelled life to the lords of capital. But it is very much of a possibility that labour in this heterogeneous form may not want to behave like the massed or garrisoned foot soldiers of a disciplined imperial army stationed in a zone waiting for the final battle. We must be ready for a messy picture. Zoning is thus a precarious exercise. It is more so when zoning brings in its wake primitive mode/s of accumulation, because the reappearance of primitive accumulation with its impact on the way in which a zone is to be spaced may defeat at times the purpose of zoning in terms of a neat framework of modern governmental reasoning. This reappearance of primitive accumulation may be unintended and unexpected; hence its reproduction within the modern forms of zoning carries greater significance. Indeed, because of the precarious nature of the zoning exercise today, the more capital becomes virtual, the more zoning exercise will become subject to unpredictable nature of fluctuations of capital and thus will be self-defeating. Within capital there is this immanent contradiction – zoning and flow. Finance capital requires both governmental strategies – zoning and flow - functioning
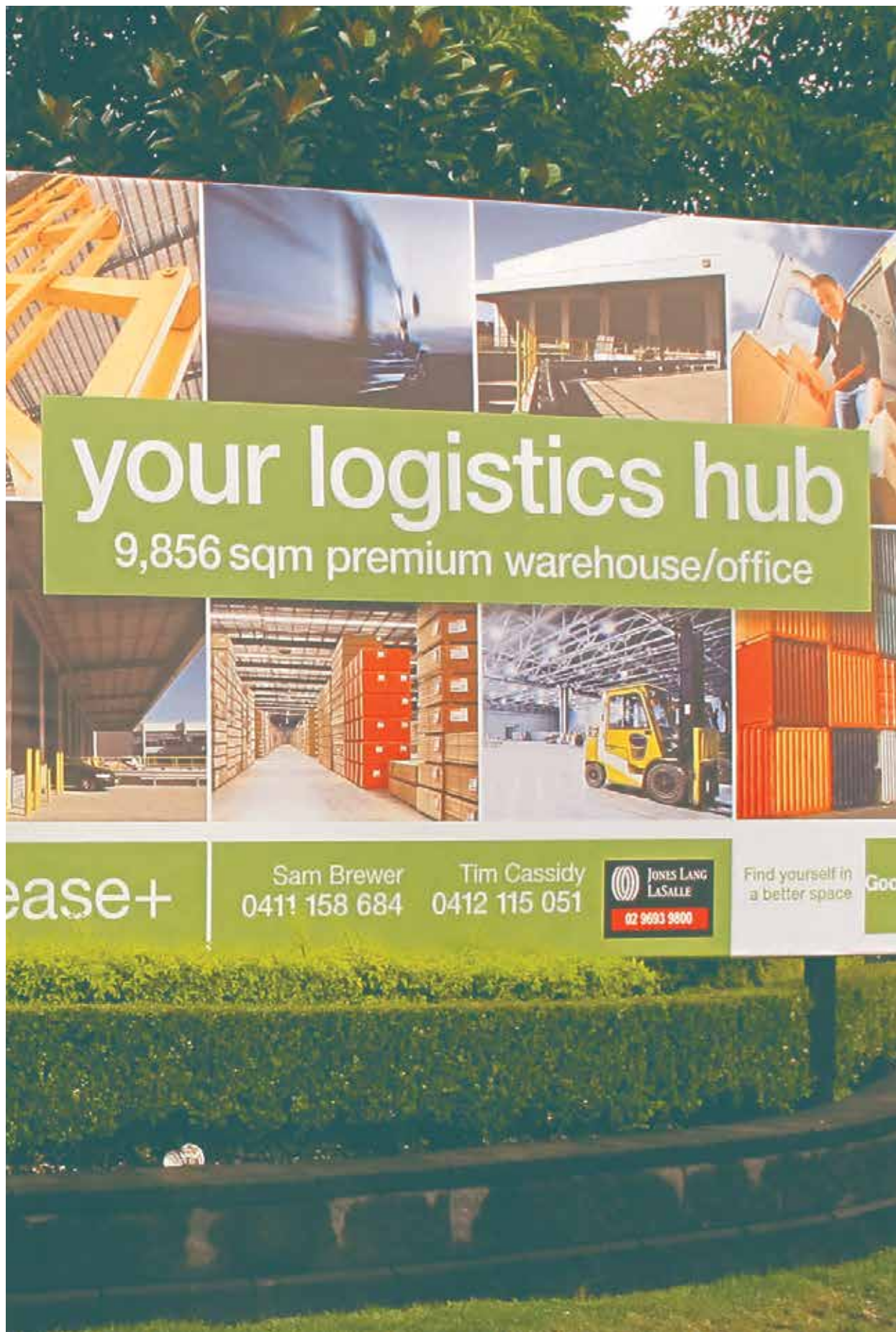
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at their utmost efficiency, and thus its insoluble paradox and dilemma, namely, how to return to a balance of the two, how to sanctify and protect the corridor that links the zones and makes flows possible.

Yet the question would be, given the fragility of Asia's neo-liberal construction of economy and society, will not the strategy of creating zones, corridors, and circuits have something that will make the neo-liberal programme of capital fluidity resilient against shocks? One of the lessons of Marx's analysis of capital is its attention to circulation, which as we know becomes an ordering principle of life under neo-liberal economy. The becoming becomes more important than being under the uncertain conditions of life, when circulation movements (think of the circuits) are meant to be more and more the agency of ordering and protecting movements between segments of life – protecting the circuit against disruption. Becoming happens to be the ontology, and the sovereign power functions as a regulator of circulation movements. In this way bio-politics becomes, as the Rajarhat-New Town programme showed, the management of the uncertain. Peasants have to manage the risk and the disastrous outcome, government has to manage the unhappy subjects, capital has to manage its risky future, and the neo-liberal economy appears as one desperately trying to produce security of the economic subject – the consumer individual, the share holder, the executive, with the rest to be managed as disposable material of society. In this scenario, there is no exception, only the reckoning with contingency – thus contingency of rebellion of the dispossessed, of the flight of capital, of market crash, of the wastelands of capital suddenly appearing in the backyard as in Rajarhat.

What happens when corridors meant to ensure the circulation of commodities and capital, particularly in their final form, money, fail in their tasks? Simply put, the purpose of zoning fails. In capitalist production while zoning is resorted to as part of the division of labour, the productive nature of zoning depends on a successful strategy of maintaining corridors. Corridors guarantee circulation, whether of commodities like jute, textile products, or engineering goods (I am referring here to the sunset industries of Bengal that marked a great industrial zone around Kolkata), or commodity like labour power, or money. But again we have to remember that corridors do not auto-guarantee or auto-determine their nature. The quality of commodity including its organic composition determines the nature of a corridor in question. Of course we can notice to an unprecedented degree the fact, namely that labour engaged in

circulation and in production are getting intermeshed more than ever, so that the hidden process of producing surplus value is becoming more mysterious.
Labour is assuming again more than ever transit forms due to this reason, and in this situation money begetting more money is determining the fate of corridors, including financial corridors. This factor sealed the fate of Rajarhat New Town; this has determined the transformation of a city like Shanghai or Mumbai from one of producing textiles involving thousands of workers to one of producing money and credit involving the ruins of many lives (at least in India).

In short the question I am asking is - if true to the military origin of the strategy of zones, corridors, and circuits - will not the dimension of security finally upset the efficiency and maximisation calculus?
What will happen to the liberal subject of security whose rights and property had been till now guarded by laws, property system in the country, a proper labour regime, and a secure foreign policy coupled with a large insurance infrastructure against sudden losses of all kinds? What will secure the zones against volatile capital flows and the sudden emergence of wastelands, breakdown of circuits due to conflicts, competition, and war, and the neo-liberal way of organising the economy, which is precisely the way of combining the virtual mode and the primitive mode of accumulation?
Transit labour emerges in this context.
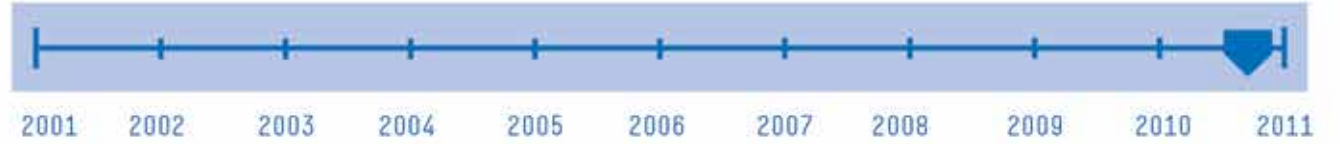
PORT BOTANY DATA VISUALISATIONS

2010: 3RD QUARTER

PORT BOTANY:
Sydney Ports increased their Statutory Port Charges on the 1st July 2010. In addition to CPI adjustments, Sydney Ports introduced an additional $10.00/TEU charge to fund the implementation of PBLIS. In August 2010 a record number of containers are moved through the port. In August 2010 Patrick increases the charge of moving containers by rail from $15 to $25. In response to this, the NSW state government announces that they will regulate rail pricing at Port Botany through PBLIS.
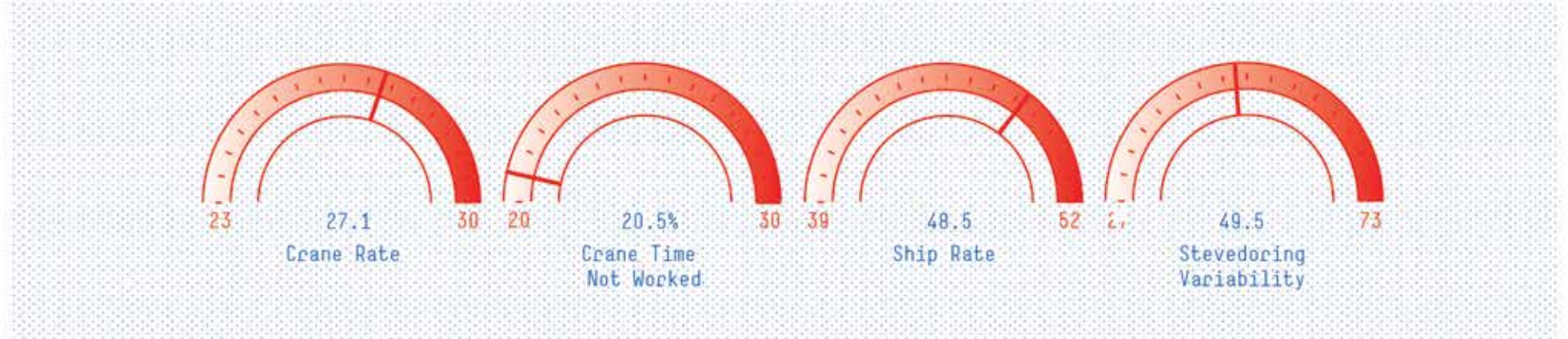
AUSTRALIA:
The government announces changes to the Maritime Transport and Offshore Facilities Security Regulations 2003. This includes chances to the eligibility rules for Maritime Security Identification Card (MSIC), which come into force on the 1st July.

Design: Kernow Craig. Research: Katie Hepworth. Programming: Quang Vinh Nyugen. Concept: Brett Neilson and Ned Rossiter

2010: Quarter 3

Wharf Data

2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011

23	27.1	30	20	20.5%	30	39	48.5	52	27	49.5	73

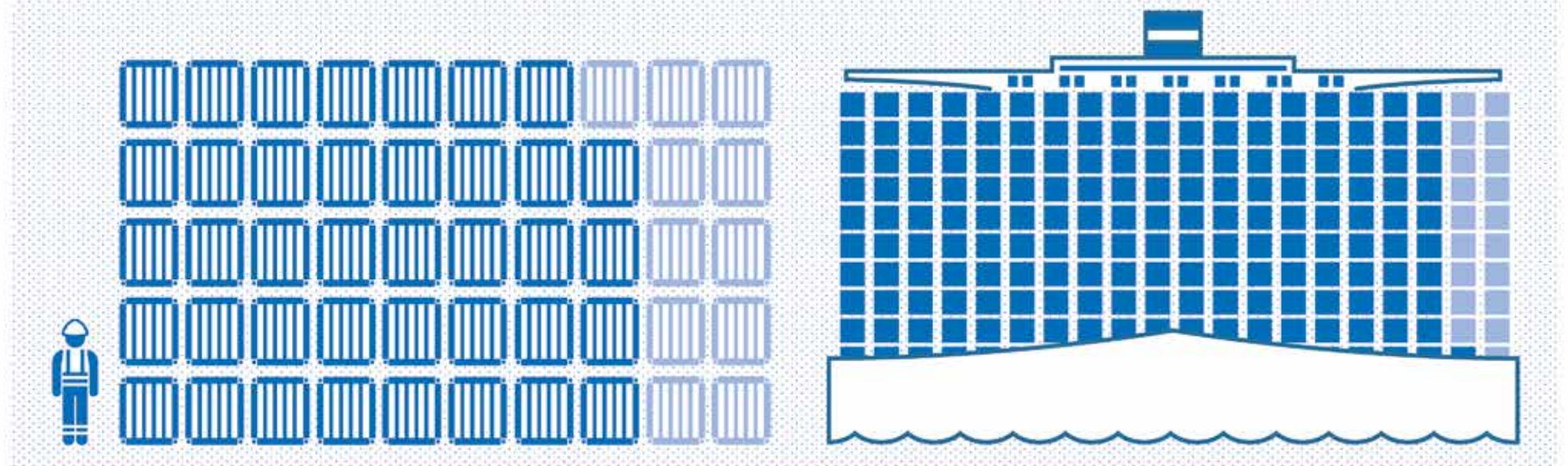Crane Rate   Crane Time Not Worked   Ship Rate   Stevedoring Variability

Throughput Per Berth Metre (PBM): 187.0   Ships Handled: 286

Vessel Working Rate: 38.5

Total Containers: 362560   Maximum Total Containers: 363000

PORT BOTANY DATA VISUALISATIONS

HTTP://TRANSITLABOUR.ASIA/CUSTOM/
UPLOADS/245_VISUALISATION_REWORKED_V10.PDF

2010: Quarter 2

2006 2007 2008 2009 2010 2011

Road Data

47mins
37   52
Truck Turnaround Time

Total Trucks 136158

Maximum Total Trucks: 152000

Containers Per Truck: 1.8

Total Containers 242330

Maximum Total Containers: 278000

TEUs Per Truck: 2.3

Total TEUs: 363603

Maximum Total TEUs: 418000

Slots Available/Used

	Weekdays	Saturdays	Sundays	Total
06:00-18:00	76337 Available 71372 Used	34874 Available 32426 Used	30399 Available 29000 Used	
18:00-24:00	11102 Available 9091 Used	3392 Available 1052 Used	5540 Available 2775 Used	
24:00-06:00	8840 Available 5998 Used	4680 Available 3253 Used	3036 Available 2629 Used	
	141610 Available 132798 Used	20034 Available 12818 Used	16556 Available 11880 Used	8500 Available 4300 Used

THREE PROPOSITIONS ON ZONES: A CASE STUDY OF DELHI

MITHILESH KUMAR

http://gurgaonworkersnews.wordpress.com/
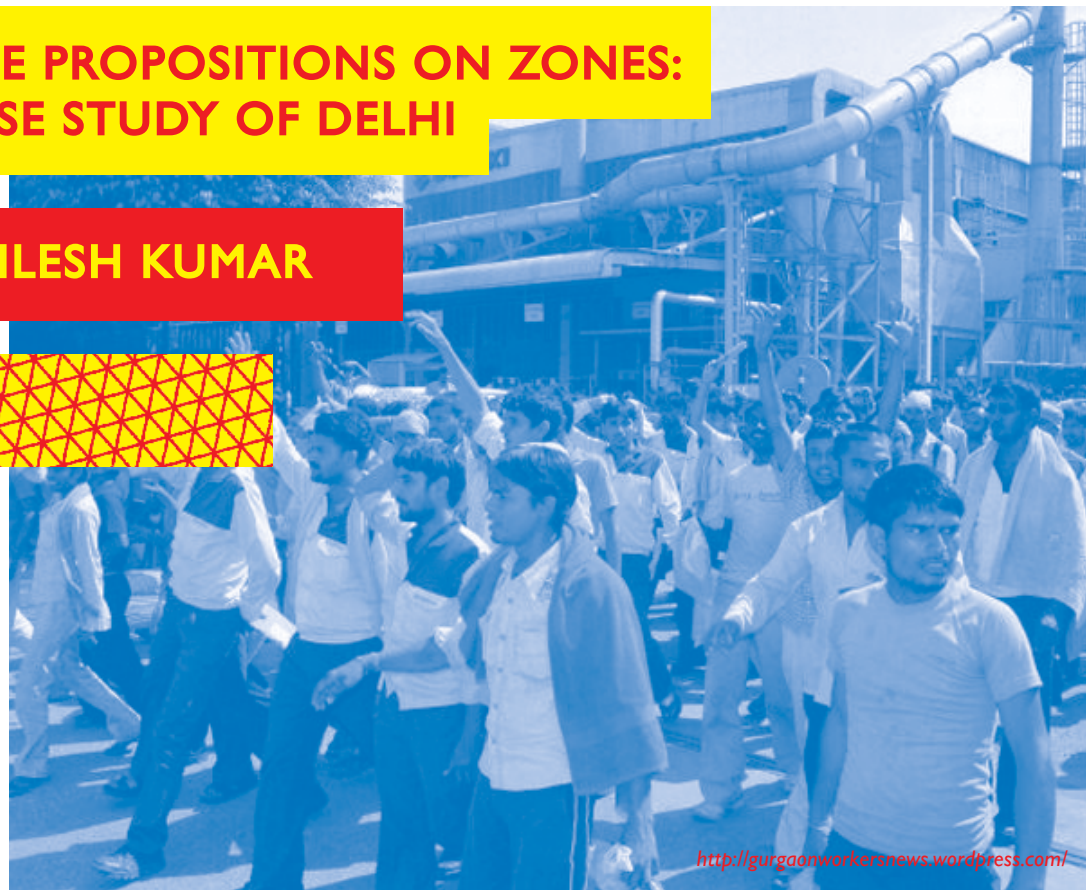
This paper makes three propositions on special economic zones as a site for production of new laboring subjects and the simultaneous spatial, social and cognitive reorganization that takes place. It is a contested phenomenon where both the state and the subject reconstitute and redefine themselves. While the state and the corporations want to have an 'ideal' laboring subject forged on the basis of their agenda, the subject is not an unquestioning agent. The state constantly strives to perfect its expertise on governing the new subject while the subject tries to preserve its autonomy and challenge the boundaries of the physical zone. In this piece, I build on the arguments made by Timothy Mitchell in *Rule of Experts,* where he analyzes how experts continue to reproduce the colonial discourse. I take the position that the laboring subject also accumulates knowledge and expertise by challenging the discourse of the experts.

Before 'Zone', the word that was in vogue 'belt'. In India's national imaginary it was common to hear descriptions like 'the tribal belt', 'the coal belt' or 'the naxalite belt'. These spaces were discrete and spread across the country and the word 'belt' testified to their uniqueness. The shift from belt to zone is not a quibble over vocabulary. In fact, the shift in words involves a leap in how spaces are conceptualized and governed. 'Belt' was a description of a static space, and implied a centre that acted on these spaces. Zones, on the other hand, are spaces of constant mobility of capital and labour. They imply homogeneity and standardization and, at the same time, spaces that are inherently transitory. In this piece, I make three propositions about zones: first, zones as a topological space; second, zones as a site of conflict and accumulation of knowledge through workers' struggle; and third, the unplanned, ungoverned and ungovernable production of zones.

In 'Between Inclusion and Exclusion: On the Topology of Global Space and Borders', Mezzadra and Neilson offer a critique of the topological approach in the study of borders. The first proposition is derived from their work. The textbook definition of topology is: 'a major area of mathematics concerned with properties that are preserved under continuous deformations of objects, such as deformations that involve stretching, but no tearing or gluing'. This definition is an apt description of how special economic zones can be conceived as unbounded space. This property of the zone can be seen in the way production is carried out. Maruti Suzuki's website tells us that a car is rolled out every 23 seconds from their production line and the total process time from Blanking to Rolling out of a vehicle is 12.5 hours. However, it is what these figures hide that is more fascinating. They do not say that rubber hoses for carburetors are made in Mujesar, a village in Faridabad. Or that inside the huts of this village people work on 1970s machines of German origin. This space is made invisible by the zone and what is more disturbing is that the workforce in this space is made invisible too. The move to consider special economic zones as a topological space, a space that can be stretched to include the site which is not ostensibly a part of SEZ changes its property and the way we conceptualize production, labour and creation of surplus value in new working conditions. As mentioned above, the SEZ is also transitory. Honda SIEL Power Products Ltd. had a factory in Rudrapur in Uttaranchal. According PUDR, the company tried to move the core machinery from the factory to Greater NOIDA in 2002 and created a new production site in Pondicherry to avail tax breaks. This shows that SEZs are not treated as a permanent site of production but an expedient and contingent arrangement open to abandonment and thus a simply transitory arrangement.

The second proposition relates to the production of subjectivity in the SEZ. I would like to give two instances of how workers adapt themselves to new methods of production and how they sabotage it when they take the path of militant struggle. In Maruti Suzuki's Manesar plant, the workers are allowed two tea breaks of 7 minutes during a shift. In this period they have to take tea, go to the toilet and come back to their production line 1 minute in advance. Being late means a pay cut. The workers devised a way to follow the timeline by using the toilet and having tea at the same time. This is one aspect. In 2005, a militant struggle by workers of Honda was brutally crushed by the police. The workers went around the SEZ on July 25 asking for support from workers of different factories. They were tricked by the district administration, disarmed and surrounded in a public park and the police let loose on them. In 2011, during the struggle at Maruti Suzuki workers had learned their lesson. They knew that in the SEZ, where emphasis is on mobility and speed, it is much better to stop the flow. Try as they might, Maruti Suzuki's management could not remove the workers from the factory. According to the Gurgaon Workers News, the workers knew that moving from the factory meant the breaking of the strike, as in the Honda struggle. While HR experts were still using the old tactic of making the workers sign the good conduct bond, the workers had sharpened their skills by sabotaging the fundamental philosophy behind the zone.

Finally, as the Communist Manifesto teaches us, the bourgeoisie produces its own gravediggers; the same can be said about zones as well. In 2004, there was a large-scale demolition of slums in Delhi. The displaced were settled in the fringes of the city, in the areas of Bawana and Narela. There are several other areas in Delhi that are irregular colonies. These are spaces that almost continuously encircle the city, forming a zone by themselves despite the best efforts of the state. These zones are unplanned, minimally governed and almost ungovernable. These spaces are also a site for petty production that is directly linked to big global capital. One such instance was the almond workers strike in 2009 in Karawal Nagar. This was the biggest strike of unorganized workers in Delhi since the seven-day strike in 1988. There is an extensive almond processing industry in the Karawal Nagar area, where 60 almond processing *godowns* are in operation. Nearly 20 thousand workers are employed in this industry. The almonds processed there come from USA, Australia, etc. The unprocessed almonds are imported by the importers of Khari Baoli, the largest dry fruits market in Asia. These importers give the almonds to contractors in Karawal Nagar for processing. The strike affected the big importers and the contractors in Karawal Nagar, as 80 percent of the almond supply stopped. As a consequence, the rates of almond in the markets shot up by 30 to 40 percent. This militant struggle proved that global capital and its 'free markets' can be disrupted and brought to a halt and forced to negotiate with the workers of the ungoverned zones like Karawal Nagar. To use the Leninist term, these ungoverned spaces are now emerging as one of the "weak links" of global capital.

CONFLICTING EXPERTISE IN THE SHANGHAI FINANCIAL MARKET AS A ZONE

GIULIA DAL MASO

The Pudong zoning pattern provides a privileged perspective from which to consider how the Chinese state articulates its territory. The Shanghai financial center in Pudong and its development as a zone also allows for an exploration of the conflicts between diverse understandings of 'expertise' held by different actors investing in the stock exchange. This analysis also focuses attention on the emergence of a contested space, in which labor subjects negotiate their expertise, and allows for an examination of if and how this expertise clashes with the type of expertise required by the state.

The Shanghai financial center is represented by the skyline of Pudong, an island located directly in front of the Bund on the east side of the Huangpu river. During the colonial period Shanghai's banks and financial institutions, including the first Chinese stock exchange, were located in the Bund. Pudong was previously a little-developed agricultural site, however in the last 20 years, it has become the symbol of the country in the global economy. The contrast between the two sides of the River reveals the new physical and symbolic rise of the Pudong area as a Special Economic Zone. This new urban development serves as the infrastructure for the creation of a hub that unites technological, logistical, and financial functions. Thus the physical transition of the zone into a broad multiple services complex was intended to attract capital investment and the recruitment of new, specialized, expertise in the high tertiary sector.

In this analysis I will problematize the role of the Chinese financial experts, arguing that they occupy a position that is in tension: on one hand the state needs to employ labour subjects who embrace the image of Shanghai as a 'Global City'. That is to say, they have to be able to participate in and promote contemporary knowledge economies; they need to know the international role of the market; and they have to be flexible enough to move internationally. On the other hand, given the role of the Chinese state as an authority that conducts regulatory commissions for each type of practice within the financial system, Chinese experts must also behave as proper members of the 'nation' - technocrats in the institutions through which the state assigns to them certain rights and privileges.

As Sassen points out, even though finance is the most mobile and global sector, it is also the most bound to place; it develops through a constant combination of hyper mobility and capital fixing, which is not limited to national capabilities and infrastructure, but may also be found in cultures of interpretation. This is a crucial point in understanding the extent to which financial systems are complex environments which need to nurture a culture of interpretation, in order to mediate between national cultures and new global standards and norms. In saying this, I do not intend to suggest a clear-cut separation between the zone of finance and the rest of the socioeconomic sector, nor a drawing back of the state from the financial center as a zone. Instead, I want to suggest how the zone emerges as a new terrain for engaging intermediate actors, transcending the binaries between neoliberal market rationality and state-planned market regulation. In fact, although we have been accustomed to talking about the Zone as an exceptional model of regulations and norms, the following cases instead suggest that exceptionality lies in the ineffective implementation of jurisdiction.

This has been the case for every Special Economic Zone in China, starting with those established in the 1980s by Deng Xiaoping in Chinese central coastal areas such as Shenzhen, Xiamen and Shantou. At that time, the intentional decision to refer to "Special Economic Zones", rather than "Export Processing Zones" (which at the time was more common in the rest of Asia), demonstrated the government's intention to build a laboratory of capitalist jurisdiction that would allow foreign participation. While the EPZs were typically established for industrial development with foreign participation, the Special Economic Zones are, primarily sites of special jurisdiction, and only secondly physical zones; they serve as a laboratory for different kinds of production and labor regimes. In particular, Special Economic zones are, in the first instance, post-colonial, capitalist laboratories, set up to deal with foreign presence.

There is a long history of 'laboratory' experiments in China, for example, the so-called first Chinese modernization in the second half of the Eighteenth century [1861-1895], which caused a shift whereby foreign engineers involved in the shipbuilding and arms industry were pushed to become foreign entrepreneurs. This was accompanied by a second shift in which the imperial officers in charge of supervising this rising industry became a new public/private rich bourgeoisie. Later, in the Maoist period, distrust towards intellectuals and 'experts' resulted in the formulation of the 'red and expert' principle.

The process of governing is a never-ending process; the process of translating objectives into practice inevitably encounters resistances and failures, which in turn generate further initiatives. With this in mind, I would argue that even if some of these zones have always been considered areas of experimentation, we should instead refer to 'areas of exercise'. For, while 'experiment' always implies a degree of control through a repeatable procedure and logical analysis of the results, 'exercise' suggests a series of activities and tests that are necessary to acquire experience, and which are always imperfect, unpredictable and contingent. Equally, the Special Economic Zone faces the same inevitable contingency, unpredictability that nevertheless extends to a national level.

Thus, the Special Economic Zone as 'exercise' better frames the origins of the Chinese financial market as a zone, and allows for an analysis of how its labor regimes engage multiple actors and norms. Specifically, it allows one to consider the practice of acquiring foreign expertise by sending Chinese students abroad through the formula of education 'delocalization', and how this is enabled by a series of governmental techniques aimed at fostering talents and bringing them back. Here, the actions of the State are aimed at producing 'professional' development experts, where these experts are not identified by the content of their knowledge, but purely because they studied abroad. If the acquisition of foreign expertise legitimizes and authorizes their participation in and support of the market, at the same time this acquisition must be kept at distance. In fact, once the talents have returned, they are constrained within a hierarchical structure and a techno-administrative apparatus that tries to re-engineer and re-domesticate their expertise according to its own logic or view of the market.

In addition, the division of international and domestic stock-shares creates systems of differential administration. The international system is arranged for foreign investors and foreign investments. Initial investigations reveal that its rationale is precisely to be a laboratory to catch up with the financial market. The second system is exclusively for domestic investors. These individual, dispersed players - known in Chinese as *sanhu* - invest through different channels. In recent years, the process of digitalization and increasing use of the Internet has allowed these small players to escape direct control of and surpass the physical, established places of the market and to recreate a new organizations. The *sanhu* are known to embrace stock fever. Stock fever needs to be understood as a massive social phenomenon that, because of its size, disturbs the market because it acts "irrationally", but which is also necessary to maintain the movement and circulation of stocks.

To conclude, the scenario sketched out above illustrates the constant attempt of the state to separate and confine different kinds of knowledge, which are in tension and which overlap, and establish bounded zones of expertise. These conflicts and tensions over the concept of expertise can be seen at different levels. The first is at the level of the institutions: state financial institutions desperately demand highly qualified financial players to be able to play on a transnational scale but at the same time they ask for 'ethnically Chinese people, loyal to the Party'.

In the financial market as a zone, a border is continually drawn between multifarious tensions: the claim for independence and autonomy through the practice of their expertise by the returnees; access to the Internet and the use of low-end information as informal expertise by the *sanhu,* which provides an escape from the direct control of state financial institutions; and a constant intertwining of the influences of formal and informal expertise against the trends of the market.

LIFE IN THE CAB

TRANSPORT WORKERS UNION

Ned Rossiter

The following has been taken from a submission prepared by the Transport Workers Union to the Road Safety Renumeration Tribunal. The report identified a link between poor renumeration and unsafe work practices in the industry, and argued for a targeting of supply chain partners in the retail industry, in order to improve driver conditions. The full report, Improving Safety and Fairness for Road Transport and Distribution Workers, can be downloaded from the TWU website: http://www.twu.com.au. Representatives of the TWU, Tony Sheldon (President) and Jemma Mcloud, participated in a roundtable on labour in the Australian logistics industry, held as part of the Sydney Transit Labour Platform.

I feel pressure] to meet deadlines and time slots. [Drivers have] got to get in and get loaded, [and] yet you have to wait around [for] up to 6 hours or more.
Retail Driver, Victoria

When I started with this company I missed all the delivery windows for the first two weeks. I soon realised that I had to follow what everyone else was doing and skip my breaks to meet the delivery window times, just as everyone else was doing. The boss said if we miss the delivery window we may as well kiss the contract goodbye, and we can only blame the driver for that. Meeting the delivery window is the driver's only focus, I was told.
Retail Driver, Tasmania

The dispatcher says that every load you get is urgent and gives you a time it has to be delivered which leaves no fat in your driving time and you feel under the pump the whole week that you're out driving. The job is exhausting enough without the added stress of wondering if you should stop, even though you're starting to wander around the road a bit more while driving your truck. Management say that if you're tired you stop, but the reality is that if you do stop you're dragged over the coals for a late load. In my supposed rest times [I am] often refuelling, doing paperwork or keeping the truck clean. This is all done at lightening pace so that you're back out there on time or else you're questioned as to why. You see the other drivers on the road shooting past you and although you know it's unsafe, you know they're just trying to buy some time to get to their final destination and actually have some real down-time. [It's a] testament to the drivers out there and their skill that more people are not killed.
Retail Driver, New South Wales

I am doing 24 hours in unpaid waiting times a week. With trailers being pre-loaded by (CLIENT NAME SUPPRESSED), I cannot afford to wait another hour or so unpaid while they unload and reload a set of trailers to get the legal weight. I carry overweight regularly and I don't have a choice.
Driver, New South Wales

The reality of the road transport industry is that it is major industry clients that effectively set the rates of driver remuneration for both owner drivers and employee drivers. The cause of the safety crisis has been attributed to economic factors within the industry. Most significantly, it has been established beyond doubt that the root cause of unsafe remuneration systems and many of the unsafe practices on our roads is the power imbalance between transport clients and transport operators. The financial power and influence of clients in the transport industry makes their role in delivering safe outcomes essential.

Clients, particularly major retailers, exert control over not just prices paid for services, but also the way in which goods are delivered. While it has been established that unsafe rates and unsafe payment methods are the key contributors to the safety crisis, unpaid or underpaid waiting-time pressures for drivers and penalties for transport companies that do not meet strict scheduling requirements also have a heavy impact on safety.

Further, it is the high level of control exercised by clients over timing, destination and route that cause operators to bear costs that, ordinarily, are borne by customers. Economically powerful industry clients,

like major retailers, have the commercial influence to determine the price of transport services and, in many circumstances, key conditions relating to the performance of transport work. Successive instances of contracting out, combined with unpaid waiting-time at client premises', further exacerbate the harm caused by their excessive control of the transport market. […]

Transport operators compete for a limited amount of work, and price is the main determining factor in deciding whether they win or lose contracts, or subcontract out unprofitable work. Competition for work in the transport industry is so strong that there is an "acceptance of non-viable rates, excessive and illegal working hours, and stressed and chronically fatigued drivers". Transport operators all face the same bundle of costs, costs such as vehicle maintenance, real estate, fuel, and wages. To be successful, companies competing for work from major clients cut their profit margins and then, when those margins become too thin, find other ways to reduce their costs. […]

When operators are denied a proper return, let alone a margin that exceeds the cost of capital, operators undercut each other, bid the price of transport down, and attempt to recoup the losses caused by clients from drivers by not paying for all work performed; and by paying them through incentive rates. As a consequence of employment too often being conditional on strict compliance with an operator's direction and client deadlines, drivers are prone to drive while fatigued, speed, take drugs and skimp on maintenance.

Thus it is this high level of influence and control that is exercised by clients in the industry – rather than operators and drivers – that means that any attempt to remedy the safety crisis must have at its heart a focus on major clients. Previous attempts to improve industry safety have not addressed the role and influence of clients, the root cause of the safety crisis, and have meant that the systemic issues that exist have gone without remedy. For maximum impact and effect, it is necessary therefore to take a vertical approach - focusing on clients, subcontracting and specific supply chains – rather than a horizontal, issue-based approach. The TWU believes that an issues based approach which does not address the causes of unsafe practices and unfair work arrangements is likely to fail to deliver solutions which effectively address problems in the industry.

HTTP://TRANSITLABOUR.ASIA/BLOGS/CAB

2000, Port Botany, Sydney, Australia

2007, Port Botany, Sydney, Australia

2012, Port Botany, Sydney, Australia

CREAKY INFRASTRUCTURE

BRETT NEILSON AND NED ROSSITER

Katie Hepworth

After conducting research in Shanghai and Kolkata it seems almost capricious to complain about Sydney traffic. Yet in this wealthy city of backyards and bays, waiting in road traffic bottlenecks has become a constitutive part of urban experience. The problem is not only that Sydney, like the cities of the American west, grew up around the internal combustion engine. Nor is it simply that population growth has exceeded the capacity of public and private agencies to provide transport infrastructure. Rather, the reluctance to invest in such infrastructure is a symptom of wider economic and social tendencies that have unfolded against the background of a general depoliticization of life. Rising debt, longer working hours, growing precarity and stress have all contributed to the rampant individualism and aggression that displays itself at Sydney's clogged intersections and gridlocked motorways. Little wonder then that logistics and traffic infrastructure have become major issues in this far-from-laid-back metropolis.

The Transit Labour research platform in Sydney sought to address the interface of labour and logistics in one of the tightest knots of the city's transport network: the Port Botany container and port facilities and the intermodal terminals (inland ports or freight hubs) that stretch into its hinterland. Nestled on the northern shore of Botany Bay, the southern water body that is ugly sister to the city's iconic harbour, Port Botany is currently undergoing a massive expansion and privatization exercise with the view to increasing its annual throughput from just 2 million Twenty Foot Equivalent Units (TEUs) in 2011 to 13.6 million in 2040. Logistical technologies and management practices are seen as key to extracting maximum efficiencies from transport and supply chain infrastructure that will be placed under considerably more pressure, even assuming the completion of current and future development plans. These practices are understood as crucial to Australia's economic future in the context of Asian economic expansion. A recent Australian

government white paper states that 'linking with regional and global value chains' should be a priority for Australian businesses.

Port Botany is a site for the import of consumer goods, primarily from East Asia. Its main export is empty containers, travelling north to be refilled and shunted further on their itinerant tours of the world's trading networks. Port Botany was also a key site in Australia's most notorious industrial dispute of the past two decades: the 1998 waterfront conflict (during which stevedoring companies attempted to break union power by recruiting former and current members of the Australian Defense Forces and training them in Dubai). The violent crescendo came in the first week of April when Patricks stevedores sacked its entire workforce and deployed snarling dogs and balaclava-wearing security guards to clear workers from the site. But aside from Port Botany's industrial and political prominence, symbolized by its towering orange cranes and twinkling evening lights, its landside infrastructure feeds into the city's traffic grid. In so doing, it joins the congestion of this grid to wider global trade corridors through material conduits of software, labour and infrastructure.

Much logistical work in Sydney is about the management, transport and storage of empty containers. In 2010/2011 total empty container movements through Port Botany amounted to 560,930 TEUs – an increase of about 5%, accounting for about 28% of total throughput in Sydney. This compares to chemicals which represented the largest containerized commodity export group at 11% of throughput. Empty container parks stretch across Sydney, from the near vicinity of the port to various intermodal terminals located on the peripheries of the city. The paradox of emptiness is that it must occupy space. This economy of emptiness results in storage and transport problems for the smooth operation of supply chains. Substantial tracts of land parceled up for development as intermodal terminals are talked up by those tasked with advocating the benefits of very substantial infrastructural investment from both state and private sectors. Faced with local community opposition, governments and port authorities cite two primary motivations for developing intermodal terminals on the city's edges: the need to accommodate a massive increase in TEU throughput in coming years, and the belated recognition that Sydney's road network is at its capacity, with rail seen as part of the solution to getting container trucks off the roads. The anticipated increase in productivity realised through investment in transport infrastructure is coupled with managerial technologies that seek to redefine the relation of life to time.

Just-in-time and 24/7 are the temporal mantras of the logistical world. The technologist's vision of universal interoperability, real-time routing and enhanced productivity is accompanied by a discourse of complete supply chain opitimization from raw materials to consumer. Such fantasies are made possible by computational design. In the eyes of its boosters logistics is the key element of the city's economy. Logistics is the art of making the city live. During their visits to Port Botany, container parks, intermodal terminals and logistics industry forums, the Transit Labour researchers repeatedly heard the adjective 'living' used to describe logistical operations.

'It's a living beast' – the manager of the MCS container park said of the enterprise he oversees. Open for business around the clock, never certain when the next load will arrive, and strategically located close to Port Botany, this mud-filled lot is animated by a 'just get it done' attitude that may not register on-screen. Here boxes are shunted in a container ballet where the virtual plays catch-up with the actual and the capacity to meet contingency is lauded. Compared with the staging floors of the Port Botany terminals, where the placement of containers is controlled by sophisticated software models, the operations of this container park measure up quite well. With its prime location alongside the railway that connects the port to the new Enfield Intermodal Logics Centre (ILC), the managers of the MCS yard express considerable cynicism about the capacity for the Enfield ILC to seriously compete with their more *ad hoc* but necessarily flexible operations. In situations where a ship is partly loaded with full containers and ready to sail within the day the stevedores will contact MCS to arrange rapid trucking of empty containers to the port in order to make up the slots.

The Future Logistics Living Lab, by contrast, presents itself as a collective brain for solving the city's logistical nightmares. An initiative of National ICT Australia, Fraunhofer Institute and German software company SAP, the Living Lab provides a forum for researchers to interface with logistics industry experts. Apart from visiting this Lab as part of the Sydney platform, Transit Labour researchers regularly participate in its workshops. One of the Living Lab's current projects is called Total Port Logistics. The aim is to troubleshoot the congestion that surrounds Port Botany by seeking to introduce mathematical models and instruments that can efficiently coordinate shipping, road and rail supply chains in an integrated manner. The 'living' in Living Lab refers to a quality of collective intelligence that is open to problem-solving and

confident of its capacity to smooth out the chinks and blockages that impede the passage of freight through the port and slow the movement of traffic around the city.

Missing from these accounts of unimpeded integration of code with organizational cultures and material conditions is the time of living labour. Here we find another register of the 'living' that underscores the biopolitical conditions that make logistics possible. From voice picking technology in warehousing to the increasing automation of ports, logistical labour in Sydney is defined by a high degree of control and oversight by machine operations. The real-time measurement of labour performance and its immediate integration back into systems of fault tolerance aims to minimize the disruption that might arise from workplace organization, go-slows or sabotage. It is as if labour was contracted under the fantasy of technological interventions eliminating the gap between living labour and its abstract measure. One consequence of such forms of 'protocological power' (Galloway) is a subtraction of time in the course of daily work that might otherwise be expended on labour organization. There is a potential erosion of the more social dimensions of work that can manifest as enduring forms of worker solidarity.

The scene of infrastructure is frequently underscored by substantial disjuncture and operational conflict. What could be loosely grouped as a coalition of interest on the part of technologists, government policy makers and industry managers is often at odds with the experience of workers on the frontline of 'supply-chain capitalism' (Tsing). At a practical level, the tacit knowledge of, say, truck drivers who know that chatting with reception staff while delivering a consignment works well to lubricate ongoing business relations is something that defies easy coding into the parameters of GPS devices and container triangulation techniques that route transport according to efficiencies made in delivery, pick-up and driving times. Some technologists are aware of this social aspect of economic life, but find it difficult to translate as a parameter within an algorithmic system. At a certain point, for now at least, life refuses absorption into code.

Without holding any nostalgia for organizational forms unable or unwilling to adapt to socially transformed constituencies, we note that political bodies such as the National Workers Union (NWU) in Sydney have to engage a membership with a high rate of national and cultural variation. There remains a strong masculine predisposition within many unions, particularly those

associated with transport logistics. In a meeting with members of the Transport Workers Union (TWU), Transit Labour researchers were given an insight into the gendered and racial composition of transport workers in Sydney. Compared with the NWU claim that 79 different nationalities work in the Woolworths warehouse at Yennora, only 2.5% of TWU membership is made up of female workers, with the large majority of members comprising of Anglo-Celtic males. We start to get some idea here about how labour forces in different sectors of logistical operations are distinguished along gendered, ethnic and racial lines.

This fragmentation of labour along the logistical chain is another obstacle for political organization. Logistics integrates, but there is a division of labour. Take for example the traditional fall-out between dock workers and truckers. The former are strongly unionized and tend to see the latter, many of whom are owner-operators, as not real workers. What would it mean for workers to develop forms of organization and solidarity that work along the supply chain? Such a prospect requires the garnering of logistical knowledge among working populations.

Workers' collective understanding of the logistical networks in which they work can become a key piece of political knowledge if studied and applied in systematic ways. The production of such knowledge involves not only the building of strategic links between workers along the supply chain but also the reckoning with divisions that separate the computational from the physical domains of logistics. The heavily masculine domains of dock work and trucking, for instance, must build alliances with the feminized logistical labour of data entry, freight forwarding and procurement. The problem is even more pronounced when one considers that these tasks are often carried out in different national jurisdictions.

While the international division of labour cuts across national borders, an additional obstacle to workers' integrated knowledge across global supply chains consists of protocological barriers at the level of code. No doubt many will recall the days when a MS-DOS floppy disk could not be run without a lot of messing about on a Mac system. Today, the logistical world of software management and planning systems multiplies this sort of protocological conflict from local to transnational scales with different computational systems unable to interface, resulting in a return to pieces of paper to authorize transactions along supply chains and transport routes. These are the sort of protocological impediments to supply chain integration

that technologists seek to address. Certainly they also impact on the capacity for logistical workers to communicate across platforms and territories. But the primary objective, at least for technologists and managers, is to improve efficiencies in transport and communication. The production of comprehensive knowledge of conditions and operations on the part of workforces is quite a different proposition. It can enable political thought and build a practical capacity to organize labour across multiple and shifting lines of division and fragmentation.

A more substantive affect of code on the capacity of logistical workers to build networks across and along supply chains arises from the power of computational systems. In many logistical settings – warehouses, ports, transport networks, offices – management and distribution software individualizes the worker as an isolated unit assigned to algorithmically determined tasks performed against real-time indicators of efficiency. If workers are to use technological interoperability to facilitate the production of logistical knowledge in ways that further their political aims, they might also have to build alliances with software engineers and designers. Indeed, there may be a need to invent alternative technological systems that at once help build relations across political, technical and organizational barriers and remain outside the data-capturing algorithms of supply chain software and workplace management systems.

Already available social media networking software such as Facebook or Twitter might be one option here. But these systems are designed primarily for chatting, even if we have seen them put to use in the mobilization of political populations, as was the case with the Arab Spring and the Occupy movement. The more informal sectors of logistics industries rely on such software to manage their own supply chain operations. But they face a protocological barrier when informal supply chains meet the computational architecture of the world's dominant logistical software developers: SAP, Oracle, Infor, MS Dynamics AX, Descartes Systems Group, to name some of the leading players. Either way, the capacity to remodel parameters of proprietary logistics software packages is out of the question and existing social media software will lock workers into silos of Friends and Groups. Both are insufficient for workers seeking a comprehensive overview of logistical operations. The materiality of communication and transport provides one key site from which to begin assembling a political knowledge of logistics organized in part through algorithmic architectures.

Beneath the abstract and physical architectures of logistics lies the restless body and mind of labour. Too often seen as a unit to be managed by techniques of monitoring and control, the labouring subject can be both an enabler of supply chains and the agent of their demise. The all-too-human predilection of shifting tastes, patterns of consumption, waning interest and refusal to function as a machine can bring supply chains to a grinding halt. But logistical systems are indifferent to whether such blockages result from the political machinations of labour or circumstances such as extreme weather events. They seek to develop modes of resilience or robustness that are insensitive to the distinction human/nonhuman around which so much theoretical bluster currently blows. It is salutary to remember this when contemplating the gridlock that afflicts Sydney's streets. Creaky infrastructure and the logistical organization of labour are the twin parameters that mark Transit Labour's analysis of changing relations of production, trade, bordering and technology in this particular urban space. The tension between computational systems and their capacity to govern through the rule of code and the various contingencies special to living labour will serve as a more general analytical architecture in our ongoing study of global supply chains.
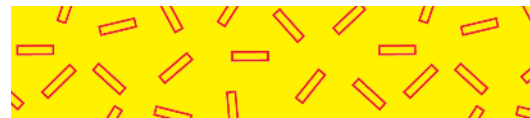
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