Review Article

The Other California

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In 2018, a group led by Robert Paul Preston and Tom Reed released their *New California* proposal to consolidate the rural hinterlands of California into a separate and distinct economy from the coastal and urban cities. The *New California* plan is strikingly similar to the 2016 *Six Californias* plan – a proposal by venture capitalist Tim Draper to split the state into distinct geographic and economic zones. Critics of the plan stated that the proposal's intention was to draw lines between economically rich and poor zones of the state and form segregated enclaves.[1] While the *Six Californias* plan failed to qualify as a California ballot measure, a likely fate for the *New California* plan as well, the re-emergence of such plans point to the fact that in California, there are highly regionalised politics, economics, and cultures. Within the state, the greatest political, economic, and cultural divide manifests itself between California's coastline and the inland Central Valley. Coastal California portrays an image of scenic landscape, progressive environmental movements, liberal culture, and density, while inland California is characterised by resource harvesting and extraction, their associated infrastructures, as well as by-products. What these plans tend to ignore is the interdependent relationships between these zones, enabled by logistical infrastructures, and characteristic of understanding capitalism as a form of world ecology. Separated by topography, wealth, race, climate, and pollution, these two Californias are emblematic of the increasing divide between the realities of resource consumption and the exploitation of land and communities to extract these resources.

We could say that the simultaneous division and interdependence between 'cultures of extraction' and 'cultures of consumption' are tied to the structural arrangement of historical capitalism, which required continual expansion both horizontally – across the landscape – and vertically – into the earth, for resources. These forms of expansion were contingent on what Marx referred to as the 'free gifts of nature' – exploiting and commodifying the unpaid work of nature.[2] More recently, Jason W. Moore has expanded Marx's notion through his concept of 'cheap natures'. Moore's cheap natures are found where one or more of the 'four cheaps' exists—labour, energy, food, or raw material.[3] According to Moore, growth and accumulation in capitalism requires the continual search for the 'four cheaps'. It is at this site where the frontier of capitalism resides through the commodification of uncommodified natures.[4] While the frontier of capital locates itself in many diverse areas of the planet – from sweatshops in Mexico to burning cheap coal in China – they are always territorialised by the spatial formats of logistical infrastructure.

Nowhere is Moore's concept of cheap natures more evident than in the flat desert landscape of inland California, known as the Central Valley. Driving through this region today, one is confronted

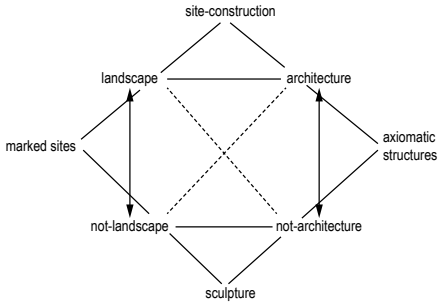
with a comprehensively operationalised landscape to sustain both the state and country's resource needs. The 'four cheaps' are so prevalent and pervasive in the Central Valley that it continues to be profitable to invest in massive infrastructures to import water to the valley (one natural resource that the area is in fact lacking) to cultivate crops and extract petroleum or shale resources. Situated between the Coastal and Sierra Nevada Mountains, this once difficult-to-access desert landscape is now globally networked through mega-infrastructural projects that connect to a vastly different California hundreds of miles away, each benefiting from the unpaid work of the Valley's nature.

Examining the spatial structure of this vast operationalised landscape, we witness specific spatial formats of logistics that have been used to territorialise the land – namely, surfaces, containers, and conduits.[5] Akin to how Rosalind Krauss positioned and qualified sculpture practices in her essay 'Sculpture and the Expanded Field' some forty years ago, the infrastructure of logistics could be qualified in an expanded field of design today.[6] Using a Klein group diagram, Krauss identified three sub-practices of sculpture that had previously been buried within a generalisation of sculpture. She qualifies them as 'site-construction', 'marked sites', and 'axiomatic structures'. In a similar effort, infrastructure's expanded field exists between urbanism and landscape, and yields sub-formats of surfaces, containers and conduits. [Fig. 1] These formats have colonised vast swathes of hinterland environments, and operate at a scale closely aligned to global and regional logistics. 'Surfaces' are planes of mediation that typically function at a territorial scale as they are primarily implicated in a form of harvesting or collection. 'Containers' are architectural shells of enclosure often sited between the formats of surfaces and conduits – for storing, refining, or distributing a particular good. 'Conduits' are used to transfer matter and energy across vast distances, cutting through local settlements, political boundaries, ecosystems, and connecting to both containers and surfaces. These spatial formats typically reside in the 'background' of spatial design, yet are increasingly organising large tracts of land both in the hinterland as well as on the periphery of cities. Engaging in these background logistical formats holds promise for designers to have agency over territorial arrangements and could potentially offer alternate organisations that repay nature for its unpaid work. The following essay attempts to define, through photographs and text, how these formats operate. [Fig. 2]

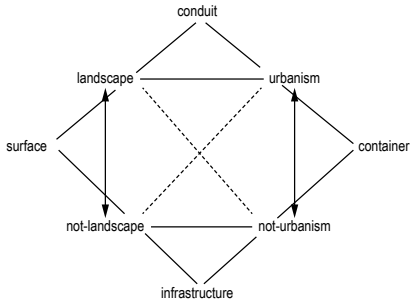
Surfaces

The surface has become the primary organisational format of contemporary urbanism. Deployed for harvesting and collection – agriculture, energy, water – the surface is predicated on scale and thereby often situated where land is cheap. While this condition is witnessed in accumulation scenarios for global scaled consumption, the project of the surface is also found in a variety of environments from sprawling suburban decentralised cities, such as Houston or Atlanta, to managerial environments such as airports and distribution centres.[7] Consider the influence of the surface even at the building scale. From Mies's free plan to SANAA's Rolex Centre, the surface enables a flexible system that is not limited by traditional architectural elements such as walls, but rather more adjustable formats of furniture and objects. The nimbleness and flexibility the surface allows for different forms of managing matter through time.[8]

While the surface can exist at several scales, its territorial scale is highly integrated into the front end of a logistical chain – where raw materials are harvested and gathered. In this manner, the surface is the most geographically specific of the three formats. Consider, for instance, agricultural fields, which are more robust within certain solar and soil



Sculpture in the Expanded Field, Rosalind Krauss, 1979



Infrastructure in the Expanded Field, InfraNet Lab, 2009

Fig. 1

Fig. 2

Fig. 1: Infrastructure in the expanded field – Klein Group Diagram. Image courtesy of InfraNet Lab.

Fig. 2: Logistic distribution centre under construction emerges along Interstate 205 outside of Stockton. As one moves away from the conduit, surface agriculture coats the land. Photo: author.

Fig. 3

Fig. 4

Fig. 5

Fig. 6

Fig. 3: Agricultural lands in the Central Valley take advantage of the geologic history that produced both flatness and nutrient rich soils. Growing more than 230 crops, the Central Valley produces approximately eight percent of the agricultural output by value in the United States. Photo: author.

Fig. 4: Windmills arrayed along the Altamont Pass landscape operationalise topographic and atmospheric shifts into energy. Photo: author.

Fig. 5: The Kern River Oil Field, just outside of Bakersfield, is the third largest oil field in California and fifth largest in the United States. Pumpjacks are distributed across the landscape to extract organic matter from this once inland lake. Photo: author.

Fig. 6: California Aquaduct (foreground) distributes water from Northern California to Southern California for agriculture, fracking, and human consumption. Interstate 5 (background) connects across the valley landscape and is the main

Fig. 7

Fig. 8

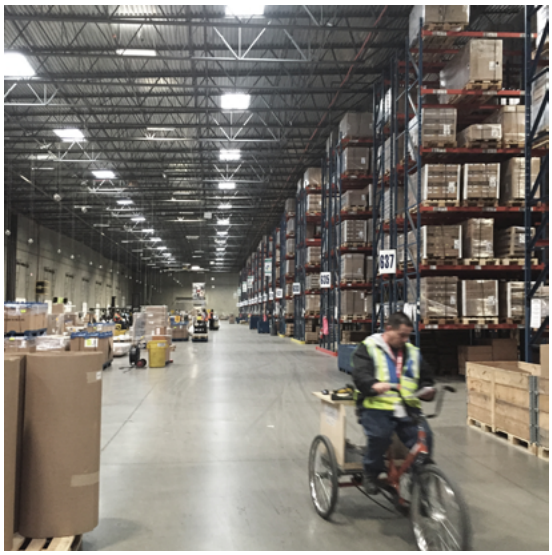


Fig. 9

Fig. 10

artery for truck transport across the state. Photo: author.

Fig. 7: Running along Interstate 5, this canal is part of the Central Valley Project – a federal water management project – devised in 1933 to transport water from Northern California to Southern California. Photo: author.

Fig. 8: Crude oil pipelines in the North Belridge Oil Field in South-Central California. Photo: author.

Fig. 9: Interior of the IKEA distribution centre in Tejon Ranch is reminiscent of a city – shelving blocks, streets, and alternate modes of transport. The 15,886m^2 distribution facility serves all IKEA retail stores in the Western United States. Photo: author.

Fig. 10: 'Almost-Architecture' of the container – in its most dematerialised form, the container is reduced to a form of clothing. Shown here, plastic sheets draped over manure are ballasted with rubber tires, which fuse into a thickened skin. Photo: author.

conditions and are often situated in key zones of a watershed. [Fig. 3] The environmental inputs in the surface thus set up a field of opportunity for particular forms of harvesting. In this way, the surface is not necessarily a plane but a field of harvesting or gathering distributed over a vast area. For example, an array of windmills are often sited in geographically specific zones of air and temperature exchange to capitalise on greater wind velocities. The windmill itself is not a surface, but rather a component in a distributed set of points that are harvesting from an atmospheric surface. [Fig. 4] Similarly, a field of oil pump-jacks collectively tap into a geologic surface below grade. [Fig. 5] In both cases, the surface tends towards decentralisation and diffusion – key characteristics of a soft system. This is to say that failure of any of these points does not result in catastrophe, as the surface relies on modest quantities distributed over a region. Failure in a surface is often the result of widespread environmental transformations (for instance, persistent drought in agricultural areas) or exhausting a finite resource (such as depleting an aquifer or oil basin). As the scale of logistical integration increases, so does the scale of the surface. Simply put, more people benefiting from the products of the surface not only requires a larger surface but also more infrastructures to connect these surfaces into larger logistical system. The Italian group Superstudio depicted the growing scale of a continuous artificial surface in their speculative project *Supersurface 5* during the 1960s. Organised through an endless grid to enable the flow of energy, matter, and information, the proposal acknowledged the contemporary capacity for the surface to gather matter and connect the world globally into an integrated system.

Similar to *Supersurface 5*, the Central Valley is a vast surface that is integrated by a vast network of conduits. Within this landscape, the environmental inputs partially determine how land is organised *vis-a-vis* agriculture and energy (oil, wind, and solar). The scale of extraction and harvesting goes beyond local needs – these surfaces produce nearly half of the United States' fruits, vegetables, and nuts while leading the nation in milk production, with over 1.75 million dairy cows. For the past fifty years, California has been the top agricultural state of America. Furthermore, there are currently approximately eighty-four thousand active and new oil and gas wells in California, most of which are located in Central Valley, making California one of the larger domestic oil players. Given the scale of production, large conduits and containers have been strategically located to distribute and stage these products.

Conduits

Conduits are used to transfer matter and energy across vast distances, cutting through local settlements, political boundaries, ecosystems, and connecting to both containers and surfaces. [Fig. 6] They are often accompanied by easements – zones around the conduit that are cleared to neutralise and tame the varied conditions that are to be navigated. The easement becomes the primary corridor for access, communication, maintenance, surveillance, and construction of the conduit. Moreover, compared to the conduit itself, the easement creates perhaps the most permanent condition of all – these zones are often deemed their own political-economic jurisdiction (such as a free-trade zone or zone with differing legislative requirements), a designation that attracts other infrastructures and activities that solidify particular characteristics within this vector. Conduits have a particular significance in logistical systems as they allow for the spatial separation between extraction, processing, manufacturing, and consumption. Forming a physical network across the globe, conduits ensure access to resources that are spatially remote – making them one of the primary technological artefacts for capitalist expansion and consumption. While the endlessness of the surface is incomprehensible to the human scale, the conduit

Fig. 11: ‘Almost-architecture’ of the container – reduced to a large roof span to provide weather protection for agricultural products. Photo: author.

as a type is tasked with interfacing between the scale of the territory and that of architecture.

The integration between systems and geographies enabled by the conduit allows for the processing and manufacturing of goods to tap into cheaper labour markets that are often geographically removed from front-end logistics. More importantly, the conduit is a critical invention for making our resources an abstract commodity by separating sites of extraction from those of consumption, allowing amongst other things, the environmental costs of extraction to be highly removed – allowing those who benefit from these resources to not have to confront the consequences of its extraction.[9] These consequences range from environmental contamination to inequitable labour practices to the production of urban residue once resources are depleted. The abstraction fostered by spatial detachment has characterised the conduit as a dissociated technology.[10]

The Central Valley was once a difficult-to-access landscape, which in the last century has been networked with highways, train lines, aqueducts, pipelines, and hydroelectric corridors. [Fig. 7] On the one hand, these networks have been used to provide scarce inputs; for instance, a series of aqueducts that move water from Northern California to the southern part of the state for fracking, agriculture and general consumption. The primary functions of the conduit, however, are downstream of the supply chain – creating zones of specialised manufacturing or refining and distribution or storage. While some conduits, such as pipelines, move through the landscape almost invisibly, conduits of human movement (rail, highways, and so on) tend to attract linear forms of urbanisation. [Fig. 8] Today, the Central Valley is the focus of a large-scaled high-speed rail project that will connect Los Angeles and San Francisco and move millions of people through this once background landscape.

Containers

Containers are large shells of enclosure primarily used for storage and staging of materials. As such, they are always directly linked to conduits and in some cases surfaces, where the storage of harvested materials is required on site. In cases where the container is connected solely by conduits, it is usually sited within lands that are cheap yet in close proximity to urban centres to have access to labour and the eventual market.

Containers are perhaps the most non-expressive form of architecture – their low horizontal exterior profile is typically punctuated by a consistent pattern of openings that enables mobile shipping containers (often on trucks) to plug into and expand their structure. Their almost infinite interiors are reduced to their basic infrastructures (structure, lighting, and HVAC) to allow for ultimate flexibility. In this sense, the container is an infrastructure and enclosure for a surface project that operates at an architectural scale. This surface is organised as a micro-city whose logic of streets (trafficked by bikes, rickshaws, Segways and forklifts) and 'blocks' (of storage shelving) are the result of flow patterns and technologies such as the forklift. [Fig. 9] Architecture is reduced to a thin veil that separates the interior from exterior – yet both sides of this threshold are organised by similar systems of urbanisation, albeit at radically different scales. This positions the container as both a type of urbanism and non-urbanism.

The container was foreshadowed most insightfully by Archizoom's *No-Stop City*, as a resultant form of the functionalist capitalist city. As *No-Stop City* envisaged, within the infinite scale of the interior, the flux of staging and storing materials is tied to the dynamic qualities of the market and is accommodated through the soft reconfiguration of the interior.[11] As a statement on the flexibility of the interior and the inflexibility of architecture, the

container reduces architecture to its elemental state of weather enclosure. How permanent and formalised this enclosure is, however, depends largely on the durability of the materials in question. In some cases forms of 'almost-architectures' appear to store materials for brief periods. [Fig. 10, 11]

In the Central Valley, the largest aggregation of containers occurs at the intersection of Interstate 5 and Highway 99, a region known as Tejon Ranch Commerce Centre. About an hour north of Los Angeles, the twenty million square foot complex can reach more than forty million people with next day deliver and seventy million within two days.[12] It also is part of Kern County's economic incentive program, which reduces taxes for companies, and many sites belonging to the complex are eligible for foreign trade zone benefits, making it akin to a dry port. Across this landscape, distribution and logistics centres for IKEA, Caterpillar, Famous Footwear, and Dollar General among others, have created a new form of urbanism whose primary unit is the architectural container and is aggregrated around territorial flows.

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The other California remains in the background yet produces the economic engine that drives the state. New highspeed rail infrastructure through this landscape will undoubtedly trigger new forms of urbanisation that increase land costs and make this landscape more visible. Still, this flat terrain is opportune for harvesting, processing, moving, and staging resources. By understanding these new spatial formats of logistics, we can ask what it means to operate in the background. While the inclination of the architectural discipline while operating in the background tends towards aestheticisation, these spatial formats are indifferent to aesthetics. They employ form and are organised in purely functionalist terms. To engage their logic requires designers to consider the systems at play and how these might be rewired to create more equitable landscapes. Despite this overview focusing on the physical form of these logistical formats, their underlying economic and political protocols are arguably as influential to their development and critical tools for rewiring.

The landscapes of the Central Valley are both unique and not unique. They are unique in what they harvest, and the specific means of storing these materials. They are also not unique in that they are organised by spatial protocols that evaluate land, labour, and markets and reframe spatial zones of opportunity to render goods cheaply. These relational logics between the surface, conduit, and container as well as the sub-formats themselves are rich grounds to consider alternative forms of urbanism. The other California resembles 'other' landscapes throughout the world that are increasingly organised based on global flows of resources and products. They are other because despite their scale and the shear amount of land they consume and organise, they are not integrated into a social, cultural, or design discourse. If Moore's frontier is territorialised through these formats, can these same formats be used to benefit the typically silent subjects of capitalism?

Notes

1. For instance, in a report prepared by the California Legislative Analyst's Office, the state of Silicon Valley would have the United States' highest per capita personal income, while the state of Central California would have the nation's lowest per capita personal income. See: California Legislative Analyst's Office, 'Six Californias Plan: Report', 31 January 2014, http://lao.ca.gov.
2. Karl Marx, *Capital: A Critique of Political Economy,* Vol. 3, trans. Samuel Moore and Edward Aveling, (New York: International Publishers New World Paperback, 1967 [1847]), 745.
3. Jason W. Moore, *Ecology and the Accumulation of Capital* (New York: Verso, 2014).

4. Jason W. Moore, 'The End of Cheap Nature, or: How I learned to Stop Worrying about "the" Environment and Love the Crisis of Capitalism', in *Structures of the World Political Economy and the Future of Global Conflict and Cooperation*, ed. C. Suter and C. Chase-Dunn (Berlin: LIT, 2014), 288.
5. Neeraj Bhatia et al., *Pamphlet Architecture 30: Coupling* (New York, Princeton Architectural Press, 2011), 8.
6. Rosalind Krauss, 'Sculpture in the Expanded Field," *October* 8 (Spring 1979): 30–44.
7. Alan Berger, *Drosscape: Wasting Land in Urban America* (New York: Princeton Architectural Press, 2007), 26–7.
8. Alex Wall, 'Programming the Urban Surface', in *Recovering Landscape: Essays in Contemporary Landscape Architecture,* ed. James Corner (New York: Princeton Architectural Press, 1999), 233–49.
9. Christopher F. Jones, *Routes of Power* (Cambridge: Harvard University Press, 2014), 143.
10. Ibid., 143–4.
11. Andrea Branzi, 'PostFace' in *No-Stop City*, ed. Andrea Branzi and Archizoom Associati (Orléans: HYX, 2006), 151–2.
12. Tejon Ranch Commerce Center, 2018, http://tejon-commerce.com.

Biography

Neeraj Bhatia is a licensed architect and urban designer from Toronto, Canada. His work resides at the intersection of politics, infrastructure, and urbanism. He is an Associate Professor at the California College of the Arts where he also directs the urbanism research lab, The Urban Works Agency. Bhatia has previously held teaching positions at Cornell University, Rice University, the University of Toronto, and is the 2018 Esherick Professor at UC Berkeley. Neeraj is also founder of The Open Workshop, a transcalar design-research office examining the negotiation between architecture and its territorial environment. He is co-editor of the books *Bracket [Takes Action], The Petropolis of Tomorrow*, *Bracket [Goes Soft]*, *Arium: Weather + Architecture*, and co-author of *Pamphlet Architecture 30: Coupling – Strategies for Infrastructural Opportunism*.