productive critical

a journal of architecture
urbanism and cultural theory

V2.1 POST-CAPITALIST CITY?

WINTER 2013

productive critical

a journal of architecture urbanism and cultural theory

V2.1 WINTER 2013

POST-CAPITALIST CITY?

CriticalProductive is published two times per year (Winter, Autumn) by CriticalProductive, Inc.

Printer
E&B engelhardt und bauer

ISSN: 2163-2537 (print)
ISSN: 2169-8864 (online)
ISBN: 978-0-9839664-1-8

Printed in Germany

All editorial correspondence should be sent to:
CriticalProductive
P.O. Box 131670
Ann Arbor, MI 48113

Sales and Subscription Information
Single issues of the print publication are available at bookstores and newsstands. Individual print subscriptions and single issues are available through the CriticalProductive.com website.

Institutional subscriptions are available globally in print format through a subscription agent, through the distributor, or through CriticalProductive, Inc.

Distribution
Disticor Magazine
Distribution Services
695 Westney Road South
Suite 14, Ajax
Ontario L1S 6M9 Canada
905.619.6565 tel
905.619.2903 fax

Financial Contributions
CriticalProductive, Inc., publisher of *CriticalProductive* Journal, is a non profit 501 (c) (3) NYS corporation. The creative media company publishes an academic journal, hosts symposia, and disseminates scholarship and design work on architecture, urbanism, and cultural theory to a global public. We welcome tax-deductible financial contributions.

Contributions may be sent to:
Milton S. F. Curry, Chairman
P.O. Box 131670
Ann Arbor, MI 48113

Sponsors
University of Michigan
Taubman College of Architecture and Urban Planning

Cornell University
College of Architecture, Art and Planning

The Graham Foundation for Advanced Studies in the Fine Arts

Benefactors
John Alexander
Robert Joy
Milton S. F. Curry

Editorial Submissions
All editorial content is blind peer-reviewed. Submission guidelines may be found online at criticalproductive.com. Submissions may be sent via email to: editorialassistant@criticalproductive.com.

Advertising Inquiries
Advertising inquiries may be sent via email to the chairman at mcurry@criticalproductive.com.

CriticalProductive Media
Readers are invited to access additional editorial content and supplementary information at criticalproductive.com, Google+ (CriticalProductive), Facebook (CriticalProductive), and via Twitter (CritProductive).

Image Credits and Copyrights
Front Cover: *#39.1778333, Baltimore, MD, 2008*. 2011. From the series *A New American Picture*. Archival pigment print. © Doug Rickard, courtesy of Yossi Milo Gallery, New York. **Back Cover:** *Flooded McDonald's*. 2009. Detail. Film (RED 16:9). 21 minutes. Edition of 5. © Peter Blum Gallery, New York. **Pages 6, 85–87, 89–92:** © Peter Blum Gallery, New York. **Page 14:** Reproduced with permission from W.W. Bunge. *Fitzgerald: Geography of a Revolution*, © Athens, GA: University of Georgia Press, 1971 [2011]. **Page 21:** © TriStar Pictures. **Page 22:** © 1998–2011, Dr. Jean-Paul Rodrigue, Department of Global Studies and Geography, Hofstra University. **Page 24:** © United Artists/MGM. **Page 27:** © Transportation Library and Archives—Los Angeles County Metropolitan Transportation Authority. **Page 32:** Eric Fischer, inspired by a map by Bill Rankin. Base map data © OpenStreetMap contributors, CC-BY-SA. **Page 37:** Courtesy of the United States Department of Housing and Urban Development Office of Policy Development and Research. **Page 44:** Courtesy of the Bibliothèque nationale de France. **Page 46:** Public domain. **Page 47:** © Special Collections Library, University of Michigan. **Page 49:** Courtesy William Rankin (Yale University), www.radicalcartography.net. **Page 53–57, 59–62:** © Steve Schwenk. **Page 58:** Courtesy of Mark Shepard. **Page 67:** © Fox Searchlight Pictures, 2008. **Page 69:** © Pieter van Huystee Film, 2002. **Page 71–72:** © Submarine Channel, 2005. **Page 74:** Co-produced by the Labyrinth Project at the University of Southern California and the Center for Art and Media (ZKM), Karlsruhe (Germany). Courtesy of USC's Annenberg Center. **Page 79–83:** © Livia Corona. **Page 85–87, 89–92:** © Peter Blum Gallery, New York. **Page 97–101:** © Doug Rickard, Courtesy of Yossi Milo Gallery, New York. **Page 103–107:** © Michael Zelehoski. **Page 108, 112 (right):** © Moritz Bernoully. **Page 110 (right), 111, 112 (left):** © Rafael Gamo. **Page 110 (left), 112:** © arquitectura 911sc. **Page 115, 117–118, 121:** © Sergio Gomez. **Page 116, 119:** © Giancarlo Mazzanti. **Page 120:** © Iwan Baan. **Page 123–127:** © Luis Úrculo.

CONTEXT

PRÉCIS

DOSSIER

BRANDSPACE

PORTFOLIO

CONTEXT
PRÉCIS
DOSSIER
BRANDSPACE
PORTFOLIO

Milton S. F. Curry
Occupying Space

Occupying Space

MILTON S. F. CURRY

What would a post-capitalist city look like? In the aftermath of 2008 and the ensuing financial crisis, we have witnessed the transformation of public opinion of Wall Street and big commercial banks—from an awe of the "masters of the universe" to the shock of seeing the carelessness with which they invested our pension funds or manipulated and engineered risky and opaque financial securities. It is they who failed us and themselves—so say the Occupy Wall Street movement participants who staged protest after protest and awakened us to the latent possibilities of our collective agency to affect public discussion of the inequality gap in our country and globally. Although the blame for the current economic crisis lies primarily with regulators and bankers, politicians and real estate developers, architects and urbanists also have a lot to answer for and a polity to answer to.

PRE(OCCUPIED) WALL STREET

The preoccupation with Wall Street masks a more important underlying component of the most recent financial crisis—the rampant acceptance of a retail-based economy and a spending-based economy rooted in an overall acceptance of the suburban lifestyle. The housing industry, construction industry, and real estate finance and capital markets have been in bed for some time now in favor of maintaining the status quo for the suburban format that the culture has grown so accustomed to.

Mortgage-backed securities, access to subprime credit, and access to student loans with reasonable interest rates and payback provisions are crucial components that help advance income mobility in the U.S. and beyond. A poorly functioning, poorly regulated, and poorly performing financial system disproportionately benefits the top

SUPERFLEX. *Bankrupt Banks/Merrill Lynch Acquired by Bank of America, September 14, 2008*, 2012. Cotton fabric, acrylic paint. (79 × 79 in.). See also pages 084–087.

1% of wage-earners (the so-called one-percenters). In a capitalist system, the difference in perception of what one dollar of currency represents is directly related to behavior: to a one-percenter, one dollar of capital over and above what is needed for basic living expenses becomes "discretionary income," available for luxury consumer purchases, savings, or investment. To those on a lower financial rung, that same dollar of currency may also be interpreted as discretionary income, though it would be more powerful if it were interpreted as "venture capital." And this is where things get interesting, for neoliberals, Marxists, and everyone in between: where the divergence between two parallel economies becomes the new normal, and where the dichotomies of difference are no longer between a capitalist economy and a noncapitalist economy. The question becomes, what form(s) of enlightened capitalism are possible to achieve within our lifetime?

Imagine an economy where the one-percenters spent more on consumer goods and services per capita than the poor, where the poorest in our country became the biggest savers and venture capitalists. If that is too difficult to imagine for the U.S., look across the Atlantic and below the Equator to see various societies and slum dwellers benefitting from so-called micro-credit and micro-loan programs. Now you can turn to the Internet, where Kickstarter and other sites offer what is essentially a day-trading platform for democratic venture capital for anything from independent films to statues of Robocop. A lot goes into changing the perception, into shifting the interpretation of this single dollar of currency from discretionary capital to venture capital, including real educational reform and sufficient opportunities for people to pool small amounts of capital together to realize something larger than a lemonade stand. *The Wire* showed one example of how the parallel economy could work and is working — a shadow economy with all of the problems that plague the visible economy, and a dynamic interpretation of how diverse capital can be distributed into working capital, venture capital, and discretionary income as capital is put towards labor costs, housing costs, food, and money for good times. We need more compelling examples of empowerment through new modes of social and financial capital accumulation and speculative visions for city design that would reinforce this paradigm shift.

SPACE AND PLACE

The difference between space and place, between virtual (and by extension digital) presence and physical embodiment, coalesces in metropolitan centers of cultural and economic activity, where individuals come to know themselves through social relations with others. Architecture, visual culture, and urbanism are key signifying systems through which individual subjects register and express their personal identities. If we can rethink the city, the argument goes, then we are well on our way toward rethinking capitalism as such. This exercise is only useful, however, if it opens up possibilities for thinking about local actions as scalar, science fiction as real life, and global practices as interchangeable. All of these actions are already imbricated within the market economy writ large; and yes, there is a certain degree of cynicism here in assuming that we can't replace capitalism overnight (even if another system held the promise of ameliorating all of the present problems and provided sufficient assurance that it would produce no big new ones).

In the adjacencies of the work in this issue, what produces insights is the dynamism that connects literary theory and humanities thought, science fiction and visual culture: from Morgan Ng's purchase on sustainability's Achilles' heel to Madhu Dubey's deep analyses of science fiction narrative as it locks in age-old stereotypes of identity even as it convinces us of its other-worldliness. The purely visual and spatial work catalyzes a reexamination of the agency of the cultural producer to fundamentally alter our expectations of what a public library can be, what social housing can be, and what capitalism and disaster have in common (hint: FEMA trailer parks and flooded McDonald's!). The cities and spaces on which these inquiries are based range from Los Angeles to Lagos, to New Orleans, Mexico, and beyond. Localism, whether in outer space or on the ground, is bound up with paradoxes that evade simplistic characterization or nostalgic impulses. Likewise, globalisation finds its expressive intentions not in the speed at which financial transactions are made but in the dexterity of individual subjects as they attempt to rig their own realities by hitching onto a latent technology or leapfrogging conventional First World practices to produce new and hybrid conditions that are more empowering to them than those that are officially prescribed.

CONTEXT
PRÉCIS
DOSSIER
BRANDSPACE
PORTFOLIO

DAVID BIERI

Form Follows Function: Real Estate Finance and Urban Spatial Structure

The fundamental connection between the spatial development of cities and financial markets has received little attention from either urbanists or economists. In this essay, I argue that part of the post-crisis recovery is predicated on a multifaceted understanding of the subtle causal linkages between financial flows and urban morphologies. I identify two interdependent economic processes that define the nexus of real estate finance and urban systems in capitalist economies: (1) the process of financial globalization and deregulation, and (2) the post-Fordist forces of organizational fragmentation that have altered the role of architecture.

The process of financial globalization and deregulation has been instrumental to the financialization of real estate in a broad sense. In this context, "financialization" refers to the increase in the size and significance of financial markets and financial institutions—from lending institutions to investors such as real estate investment trusts (REITs) and pension funds—in the modern macroeconomy.[1] To be clear, the production of both commercial and residential real estate has always required capital and land as intermediate factor inputs in a capitalist economy. But over the past forty years, far-reaching institutional changes in financial markets have increased the role of financial motives, financial actors, and financial institutions in creating real estate credit and in impacting domestic and international real estate development processes. At the same time, the principles of real estate development have become more complex, more decentralized, and more standardized. As a result, capital and the spatial configuration of cities have become more integrated. Because form, space, money, and the design of real estate are all intricately bound up with one another, increased capital flows in real estate have brought about profound failures of design at all spatial scales.

1. Financial Function and Institutional Form

In light of the legendary wastefulness of Emperor Nero's architectural projects, or the cost overruns of architect Frank Lloyd Wright's Johnson Wax Building in Racine, Wisconsin, or, more recently, of architects Herzog & de Meuron's ill-fated Elbe Philharmonic Hall in Hamburg, Germany, it might be argued that the tension between financial interests and design interests is an age-old architectural reality.[2] But the intuitive appeal of regarding this conflict as immutable masks the changing nature of the political economy within which real estate is being produced.[3]

In the context of real estate, real variables are, for example, the demand for housing services, the total factor productivity of the construction industry. By contrast, mortgage rates or credit supply to households and businesses are considered financial (or "nominal") variables. Although the orthodoxy of the classical dichotomy ascribes no economic importance to the interaction between real and financial variables, post-Keynesian and

monetarist thought considers functional and institutional variation as among the most influential pathways for change in real-financial linkages. From an historical perspective, financial functions appear to be more stable than the institutional form of the financial system.[4] Yet the link between the financial system's most basic function — to facilitate the allocation and deployment of economic resources across time and space — and its institutional form remains an issue of much debate.[5] Thus, institutional form does not necessarily determine financial function. But changing institutional form might induce qualitative adjustments in the relationship between financial function and the allocation of capital, which in turn affects spatial outcomes.

The latter effect and its implications for the design-form nexus are perhaps best illustrated by considering the role of iconic architecture across different regimes of capitalism.[6] The early architectural icons of the Gilded Age of U.S. capitalism, from the Biltmore Estate to Fallingwater, were the inspiration behind suburbia as we know it today (large tracts of quotidian design), as if to pass on some of the success of their sponsors to the broader public. Yet these emblematic sites do more than just celebrate the achievements of their patrons; they also embody the nature of real-financial linkages of a bygone era in real estate. The Vanderbilts did not take out a home equity line of credit to complete all of Olmsted's grand plans in the Great Smoky Mountains of North Carolina. Nor did magnate Edgar Kaufmann utilize a jumbo adjustable-rate mortgage with a "teaser" rate to finance the daring cantilever designs at Fallingwater on his Bear Run site in Pennsylvania. Even the Empire State Building in New York City — unlike most of its modern contemporaries, including the most recent generation of high-rise building from Taipei 101 (formerly known as Taipei World Financial Center) to London's Shard — was not financed by complex multinational REITs, but instead on straightforward private equity.

The process of financial globalization and deregulation has been instrumental to the financialization of real estate in a broad sense.

In much the same way, the architecture of the central business district of the monocentric, industrial American metropolis accommodated the structural codes of the prevailing form of industrial organization of its era: Tayloristic principles of scientific management conjoined with the city grids, quasi-linear functions, and formulaic land-use regulations that governed the built environment. In this universe of clearly discernible capital-land substitution, architectural practice was firmly embedded within the conventional institutional guidelines of the day. In the era before the onset of the current wave of globalization (roughly pre–World War II), it was what C. Willis labels "city vernaculars of capitalism"[7] that shaped the skylines of central business districts in aesthetically unique ways from local land-use patterns, municipal codes, and zoning.[8] In the U.S. this lasted until the early post-war boom, when, with the first signs of financializing real estate, "the differences in skyscraper design and urbanism in New York and Chicago, and everywhere diminished in response to the forces of finance, market values of design, and prevailing theories of urbanism."[9]

2. URBAN SPATIAL STRUCTURE AND THE GEOGRAPHY OF FINANCE

This emergence of a new kind of capitalism coincided with the advent of new forms of industrial organization during the early post-war period. Accompanied by large-scale automation in manufacturing, globalizing capital flows began to facilitate a reconfiguration of the built environment. The combination of financial globalization and shifts in industrial organization induced substantial shifts in the urban spatial patterns across U.S. metropolitan areas. The paradigm of monocentricity as the dominant urban form was widely challenged by morphological and functional polycentricity.[10] Between 1950 and 2000, the average densities of U.S. cities and the density gradients of urban areas generally declined.[11] Across the nation, intense activity, in both residential and commercial construction, began to replicate, reproduce, and entrench the edgeless, polycentric city as the defining trait of American (sub)urbanism.

With double-digit growth rates and large-scale suburbanization during the boom years after the war, U.S. metropolitan areas represented a fragmented and multinodal mixture of employment and residential settlement, with a fusion of suburban, exurban, and central-city characteristics. With these new, primarily suburban settings in place, the reorganization of industrial processes gave rise to the corporatization of landscapes. These landscapes of sleek office parks and parking lots emerged from a historical moment when corporations reconceived their management structures and dispersed into low-density, auto-dependent spaces on the peripheries of their respective metropolitan regions.[12] At multiple physical scales, changing urban spatial forms have generated physical and social landscapes that reflect the shifts in the political-economic structures. Aesthetically, these sites are largely ones of excess and affect, what P. L. Knox has called "vulgaria."[13] The mostly suburban settings of vulgaria are perhaps best symbolized by the vast tracts of prefabricated homes with floor plans that, over time, grew to be both much larger and ever-more standardized. Indeed, the median size of a single-family home increased from 1,535 square feet in 1975 to 2,169 square feet in 2010, only 5 percent below its historic peak in 2007. At the peak of the McMansion boom in 2005, nearly 3.9 million homes in the U.S. had 4,000 or more square feet of space, an increase of 35 percent since 2001.[14]

The monotonous, stereotypical post-war American suburb would not have been possible without the unique evolution of federal credit programs that underpin the American mortgage system. The rapid process of post-war suburbanization was mirrored by the increasing real-estate-related indebtedness of U.S. households.[15] From the 1949 Housing Act to the 1992 Government-Sponsored Enterprise Act and the large-scale foreclosures that followed the recent collapse of the housing boom, financial and governmental interests in the U.S. have engendered a structure that is not sustainable for real estate and the constituencies that rely upon it. Perhaps on par with federal transportation policy, real estate finance has been playing a pivotal role in shaping these post-war geographies of urban spatial structure.[16] As the circuits of the globalized financial system continue to move the levers of real estate markets, it is unlikely that this role will change.

The monotonous, stereotypical post-war American suburb would not have been possible without the unique evolution of federal credit programs that underpin the American mortgage system.

By the early 1980s, the process of market-based globalization was accelerating in direct response to the regulatory liberalization that emerged from the collapse of the Bretton Woods system. Propelled by both financial innovation, such as the securitization of mortgages, and the ambitious policy goals of a federally-sponsored homeowner society in the U.S., the housing finance revolution aligned insatiable demand for physical real estate with large-scale supply.[17] At the same time, it promised attractive investment opportunities for global investor classes with excess savings in their search for higher yields; these opportunities were based largely on government-sponsored enterprises or private-label residential mortgage-backed securities and collateralized debt obligations (CDOs). Both at its very core and at the periphery, this real-estate-led expansion of the financial system has since transformed financial markets and their institutions and processes at unprecedented rates. In combination, these developments fed into the vicious circle of "irrationally exuberant" expectations for perpetually rising real estate prices and rapid credit growth facilitated by deteriorating lending standards, eventually culminating in the global financial meltdown that led to the collapse of the U.S. housing market.

Under the current regime of globalized capitalism, what has fundamentally changed in the production of space is that the real estate financial system has revolutionized access to credit. Overcoming the constraints of a spatial mismatch between borrowers and lenders, different real estate stakeholders have never been more geographically dispersed, which can have several types of consequences. On the one

Under the current regime of globalized capitalism, what has fundamentally changed in the production of space is that the real estate financial system has revolutionized access to credit.

hand, the operation of global financial entities in local markets means that financial risks taken in one region can have consequences for another. Decisions made in suburban households in the U.S. could, for example, jeopardize teachers' pension plans in a small Icelandic municipality. Undeniably, the recent dislocations in the housing market have highlighted the paradox that financial innovation can lead to a concentration, rather than a diversification, of risks among market participants.[18] On the other hand, the standardization of real estate design — in parallel with the standardization of its modes of financing — has permitted an ever-increasing diffusion of real estate capital from central cities to suburban areas. As with any mass production, technologically induced standardization plays a pivotal role in the process of commodification; in the context of real estate finance and mass-produced suburban real estate, it seems highly probable that standardized architectural design for residential and commercial structures favored real-estate-oriented financial innovation, which in turn engendered more standardization of the built environment. Indeed, all aspects of real estate finance rely heavily on standardization. Without a standardized approach to determining the value of real estate collateral, for instance, neither simple credit creation nor the originate-to-distribute model of securitization would be possible. Consequently, the system of real estate finance has emerged as an important factor in advancing the homogenization of architectural and urban design.[19]

Increased globalization does not mean the "end of geography" for finance, rather, it implies a different kind of geography; it is no longer the "old" geography with competing nation-states and clear urban hierarchies as the key spatial units of interest.[20] Instead, a new geography is emerging, in which globally dispersed creditors and debtors are the main actors, and the traditional roles and interactions between real estate borrowers and investors are being reconstituted with regard to both their spatial and their institutional organization. At the same time, these new configurations are mirrored and reinforced in the recurring patterns of mass-produced suburban housing and standardized office parks and towers that dominate the pastiche of polycentric employment centers outside of the traditional central business district.

3. SPACES OF SPECULATION

From the panic of 1837 to the recent financial turmoil of 2008–2012, land speculators have been at the center of a varied and colorful history of U.S. real estate markets. Although early instances of land speculation are usually tied to narratives of the Western frontier, the earlier transition to capitalism along the "first Western frontier" — land to the west of the Appalachian Mountains, north of the Ohio River and east of the Mississippi River — was regularly accompanied by real estate speculation.[21] A good case in point is the historical trajectory of real estate in the state of Michigan, where land speculation and the process of urbanization were — and still are — actively intertwined. In fact, less than a decade before the state capital was moved north from the city of Detroit in 1847, the city of Lansing had been the setting for a 105-acre fraudulent real estate deal. More importantly, Michigan provides a unique backdrop against which to assess the widely acknowledged, albeit little understood, role of land speculation and its interaction with the morphology of cities.

In Detroit, the spectacular rise and decline of real estate cycles remains closely tied to the activities of prominent individuals, such as legendary banker and speculator Charles Trowbridge during the 1830s or his modern-day counterparts, who are positioning themselves ahead of the much anticipated re-emergence of the Motor City from the vortex of shrinkage, disinvestment, and tax foreclosure abandonment. Figure 1 portrays the qualitative dynamics of land rent extraction and spatial redistribution that can

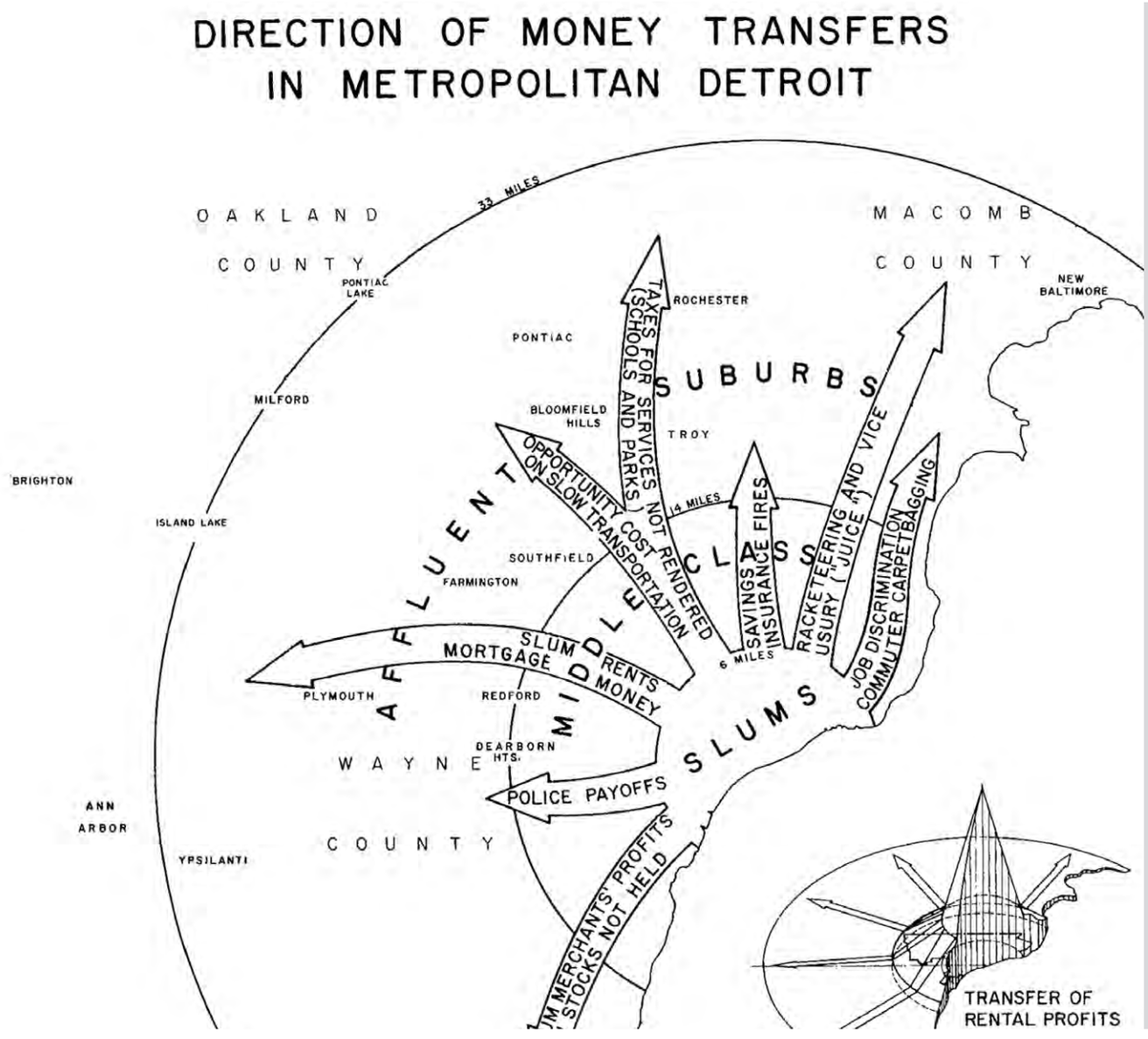


Fig. 1: The decentralization of capital flows in Detroit, Michigan.

be mapped directly onto the presence of speculation in real estate. This process is still very much in place today and without much modification can be generalized to other metro areas in the U.S., in particular cities in the Rust Belt, from Buffalo, New York, and Cleveland, Ohio, to Pittsburgh, Pennsylvania, and also to the larger cities in other mature market economies that have experienced a significant spatial reconfiguration of capital. C. Willis emphasizes the importance of speculative development and the impact of real estate cycles on the forms of buildings and their spatial distribution.[22] In the context of the recent great housing boom and bust, Kuminoff and Pope identify substantial heterogeneity in the evolution of the market value of land and structures within U.S. metropolitan areas.[23] Surprisingly, lower-value land at the urban fringes of metropolitan areas experienced the most price volatility during the most recent boom-bust cycle, largely as a result of speculative housing construction.

The financialization of the built environment has come to be typified by the sharp divergence of financial interests and design interests with regard to real estate and the built environment. There is a latent need to systematically uncover the close interactions among urban spatial structure, the design of the urban fabric, and speculative real estate activity in much more depth than is possible here. Beyond the immediate example of Detroit, work in this area will complement similar efforts that document the dynamic interactions between real estate finance and architecture at different scales as well as historic patterns of movement, land use, ownership or control, and occupation.[24]

Because real estate is the quintessential durable good — it can be built quickly, but disappears slowly — urban decline is not the mirror image of growth. In fact, these asymmetries in urban development imply that "too big to fail" also applies to real estate markets.

4. A NEW SYNTHESIS? REAL ESTATE FINANCE, ORGANIZATION, AND URBAN FORM

In a period of rapid yet spatially segmented financial development in the U.S., the postwar mortgage market holds many clues to a systematic understanding of the interdependencies between real estate finance and urban development. Although mortgage lending expanded at unprecedented rates during the last two decades of the nineteenth century, an underlying lack of financial integration impeded urbanization efforts in the Frontier West.[25] These structural and institutional financial market imbalances conferred initial urbanization benefits to borrowers in New England and along the Atlantic seaboard through preferred access to financial capital for both commercial and residential real estate.

Economic historians have long provided significant evidence that social elites may restrict financial development to limit access to finance, a trait we traditionally associate with the institutional arrangements of less-developed economic systems. Yet the financial history of the United States in the early twentieth century provides ample evidence that credit rationing by land-owning elites can prevail on a large scale, even in countries with mature political institutions.[26] The recent burst of urban economic (re-) development, in Asia in particular and in Latin America to some extent, highlights that these forces are global in character, even if their local typologies might vary commensurately with the idiosyncrasies of institutional and organizational structures of developing economies.

The linkages between finance and design discussed in this essay permit two simple hypotheses about possible future scale-specific trajectories of urban form and financial function. At a macro level, more globalized markets for real estate finance are acting as centripetal, dis-agglomerating forces in space, which produce, all else equal, more fragmented urban forms. Because real estate is the quintessential durable good — it can be built quickly, but disappears slowly — urban decline is not the mirror image of growth. In fact, these

Rather than camouflaging the spatial fissures of globalized real estate capital, visionary urban design should become the unifying post-crisis protocol of urban development.

asymmetries in urban development imply that "too big to fail" also applies to real estate markets. Given the systemic importance of real estate to all aspects of overall economic activity, large-scale negative externalities are likely to emanate from failures in real estate markets.[27] As a consequence, governments regularly provide bailouts to the real estate sector in times of crisis. During the Great Depression, for example, major federal initiatives to reduce foreclosures and reform mortgage market practices saw the creation of the Home Owners' Loan Corporation under the New Deal. In the wake of the recent housing market fiasco, the U.S. government has deployed an even broader array of multi-agency measures to prop up various elements of the real estate sector. These measures range from the Home Affordable Modification Program, which assists homeowners with loan modifications on their home mortgages, to the inclusion of commercial mortgage-backed securities in the Federal Reserve's Term Asset-Backed Loan Facility and the Neighborhood Stabilization Program, which helps local governments address the neighborhood effects of concentrated foreclosures. Invariably, the regulatory rhetoric of financial stability that accompanies such actions is anchored in a logic of containment, with the promise to minimize potential contagion of large-scale fallouts to other sectors in the economy. At the same time, however, the role of the "lender of last resort" is rarely well-defined and quite often ad hoc.

At the micro level, the financialization of real estate is accelerating the commodification of design and architecture. In turn, facilitated by overregulated land markets that accentuate the impact of speculation, these developments reinforce the logic of standardization, architectural monotony, rapid depreciation, and disjointed urban design. To critical urban theorists, the main justification for contemporary urban design practices is that they mask the spatial aspects of real internal inconsistencies of capitalist economies, particularly in the United States.[28] Rather than camouflaging the spatial fissures of globalized real estate capital, visionary urban design should become the unifying post-crisis protocol of urban development.

In light of the interdependent processes of financial reorganization and post-modern spatial fragmentation, urban form, its financing mechanisms, and its design principles remain very closely linked to their economic function. Accompanying this finance-led splintering of urban space, the role of architecture has been transformed and has become largely disconnected from the quotidian reproduction of the urban fabric. The organizational disintermediation of architecture from the spatial relations of real estate presents one of the most pressing challenges for an emergent post-crisis paradigm. As Saarinen reminds us, "much of the planning work of today must deal with the correction of earlier mistakes, which — let's put it frankly — are the result of a serious neglect of one of the nation's most vital problems."[29]

The dislocations of the post-crisis environment provide a unique set of opportunities to redevelop grand narratives, visions that are capable of intervening at the finance-design node within a broader reformulation of the urban project. Above all, designers and policy-related actors — from architects and urban designers to planners — should be encouraged to recast the "form follows function" duality in terms of an emergent urban re-envisioning whereby "structure follows strategy."

1 In the U.S., for example, the fifty largest real estate investment trusts had a combined market capitalization of around $580.7 billion in 2011, accounting for approximately 3.5 percent of GDP. By comparison, the largest pension fund in the U.S., the California Public Employees' Retirement System, currently has more than $18 billion invested in global real estate—approximately 8 percent of the fund's $228 billion investment portfolio.

2 I am grateful to a reviewer for highlighting this point.

3 P. Jones, "Putting Architecture in Its Social Place: A Cultural Political Economy of Architecture," *Urban Studies* 46:12 (2009): 2519–2536.

4 R. C. Merton, "A Functional Perspective of Financial Intermediation," *Financial Management* 24:2 (1995): 23–41.

5 A. D. Dixon, "Function Before Form: Macro-institutional Comparison and the Geography of Finance," *Journal of Economic Geography* 12:3 (2012): 479–500.

6 The role of iconic architecture in globalizing cities has received substantial attention from urban theorists. This literature pays particular attention to the transformation in the production and reception of iconic buildings, as well as the role of the transnational capitalist class and new financing mechanisms. See L. Sklair, "Do Cities Need Architectural Icons?" *Urban Studies* 43:10 (2006a): 1899–1907 and L. Sklair, "Iconic Architecture and Capitalist Globalization," *City* 10:1 (2006b): 21–47 for good overviews.

7 C. Willis, *Form Follows Finance: Skyscrapers and Skylines in New York and Chicago* (New York: Princeton Architectural Press, 1995).

8 In related research, Sklair highlights that the production and representation of architectural icons in what he terms the "pre-global era" were mainly driven by those who controlled the state or religion, whereas the dominant forms of architectural iconicity for the global era are increasingly driven by those who own and control the corporate sector. L. Sklair, "The Transnational Capitalist Class and Contemporary Architecture in Globalizing Cities," *International Journal of Urban and Regional Research* 29:3 (2005): 485–500.

9 Willis, note 7, cited in L. Sklair, "Commentary: From the Consumerist/Oppressive City to the Functional/Emancipatory City," *Urban Studies* 46:12 (2009): 2703–2711.

10 Urban economists have long argued that the evolution of urban structure is closely tied to the location and internal decision structure of firms (see E. Rossi-Hansberg and M. L. J. Wright, "Urban Structure and Growth," *Review of Economic Studies* 74:2 (April 2007): 597–624).

11 S. Kim, "Changes in the Nature of Urban Spatial Structure in the United States, 1890–2000," *Journal of Regional Science* 47:2 (2007): 273–287.

12 L. A. Mozingo, *Pastoral Capitalism: A History of Suburban Corporate Landscapes* (Cambridge, MA: MIT Press, 2011).

13 P. L. Knox, "Vulgaria: The Re-Enchantment of Suburbia," *Opolis: An International Journal of Suburban and Metropolitan Studies* 1:2 (2005): 1–16.

14 US Census Bureau, Historic Annual Characteristics of New Housing, 'Manufacturing, mining and construction statistics,' US Census Bureau (2012), Washington, D.C.

15 Mortgage debt was 18 percent of U.S. GDP in 1950, but rose to 28 percent of GDP by 1970, and 41 percent of GDP by 1990, before reaching its historic peak at almost 75 percent of GDP in 2009 (Board of Governors of the Federal Reserve System, Flow of Funds Accounts of the United States, http://www.federalreserve.gov/releases/z1/Current/data.htm, last accessed July 2012).

16 The role of post-war federal transportation policy in the process of suburbanization is discussed in N. Baum-Snow, "Did Highways Cause Suburbanization?" *Quarterly Journal of Economics* 122:2 (2007): 775–805.

17 For more discussion of the interplay between federal housing goals and post-war suburban morphologies, see E. Chaves, P. L. Knox, and D. S. Bieri, "The Restless Landscape of Metroburbia," in N. A. Phelps and F. Wu, eds., *International Perspectives on Suburbanization: A Post-Suburban World* (London: Routledge, 2011), 42–76.

18 D. S. Bieri, "Regulation and Financial Stability in the Age of Turbulence," in R. W. Kolb, ed., *Lessons from the Financial Crisis: Causes, Consequences, and Our Economic Future* (Hoboken, NJ: John Wiley & Sons, 2010), 327–336.

19 Interestingly, from the U.S. Treasury's OCC regulation that governs real estate appraisal rules to HUD's conforming loan limits for residential mortgages, government agencies play an important role in the standardization process of real estate finance. Thus, perhaps somewhat unexpectedly, public sector activity might actually end up undermining heterogeneous design outcomes across space.

20 D. S. Bieri, "Financial Stability, the Basel Process and the New Geography of Regulation," *Cambridge Journal of Regions, Economy and Society* 2:2 (July 2009): 303–331.

21 W. A. Dunaway, *The First American Frontier: Transition to Capitalism in Southern Appalachia, 1700–1860* (Chapel Hill: University of North Carolina Press, 1996).

22 C. Willis (1995), note 7.

23 N. V. Kuminoff and J. C. Pope, "The Value of Residential Land and Structures During the Great Housing Boom and Bust," forthcoming (2012) in *Land Economics*.

24 See E. W. Soja, "The Socio-Spatial Dialectic," *Annals of the Association of American Geographers* 70:2 (1980): 207–225 and N. Brenner, "Between Fixity and Motion: Accumulation, Territorial Organization, and the Historical Geography of Spatial Scales," *Environment and Planning D: Society and Space* 16:4 (1998): 459–481.

25 K. A. Snowden, "Mortgage Lending and American Urbanization, 1880–1890," *Journal of Economic History* 48:2 (1988): 273–285.

26 R. G. Rajan and R. Ramcharan, "Land and Credit: A Study of the Political Economy of Banking in the United States in the Early 20th Century," *Journal of Finance* 66:6 (2011): 1895–1931.

27 Before the great housing bust in 2005, housing services and residential fixed investment accounted for almost 19 percent of U.S. GDP. By 2012, this share had plummeted to just below 15 percent. Indeed, E. E. Leamer, "Housing Is the Business Cycle," in *Housing, Housing Finance, and Monetary Policy, Proceedings from the Jackson Hole Symposium* (Federal Reserve Bank of Kansas City, 2007), 149–233,shows that, of the components of GDP, residential investment offers by far the best early warning sign of an oncoming recession. There is a large amount of literature that debates the effects of financial and housing wealth in the determination of consumer spending (see R. W. Bostic, S. Gabriel, and G. Painter, "Housing Wealth, Financial Wealth, and Consumption: New Evidence from Micro Data," *Regional Science and Urban Economics* 39:1 (2009): 79–89.)

28 M. Gunder, "Commentary: Is Urban Design Still Urban Planning? An Exploration and Response," *Journal of Planning Education and Research* 31:2 (2011): 184–195.

29 G. E. Saarinen, *The City: Its Growth, Its Decay, Its Future* (New York: Reinhold Publishing Corporation, 1943), p. 141.

CONTEXT
PRÉCIS
DOSSIER
BRANDSPACE
PORTFOLIO

Fictions of Future Urbanity

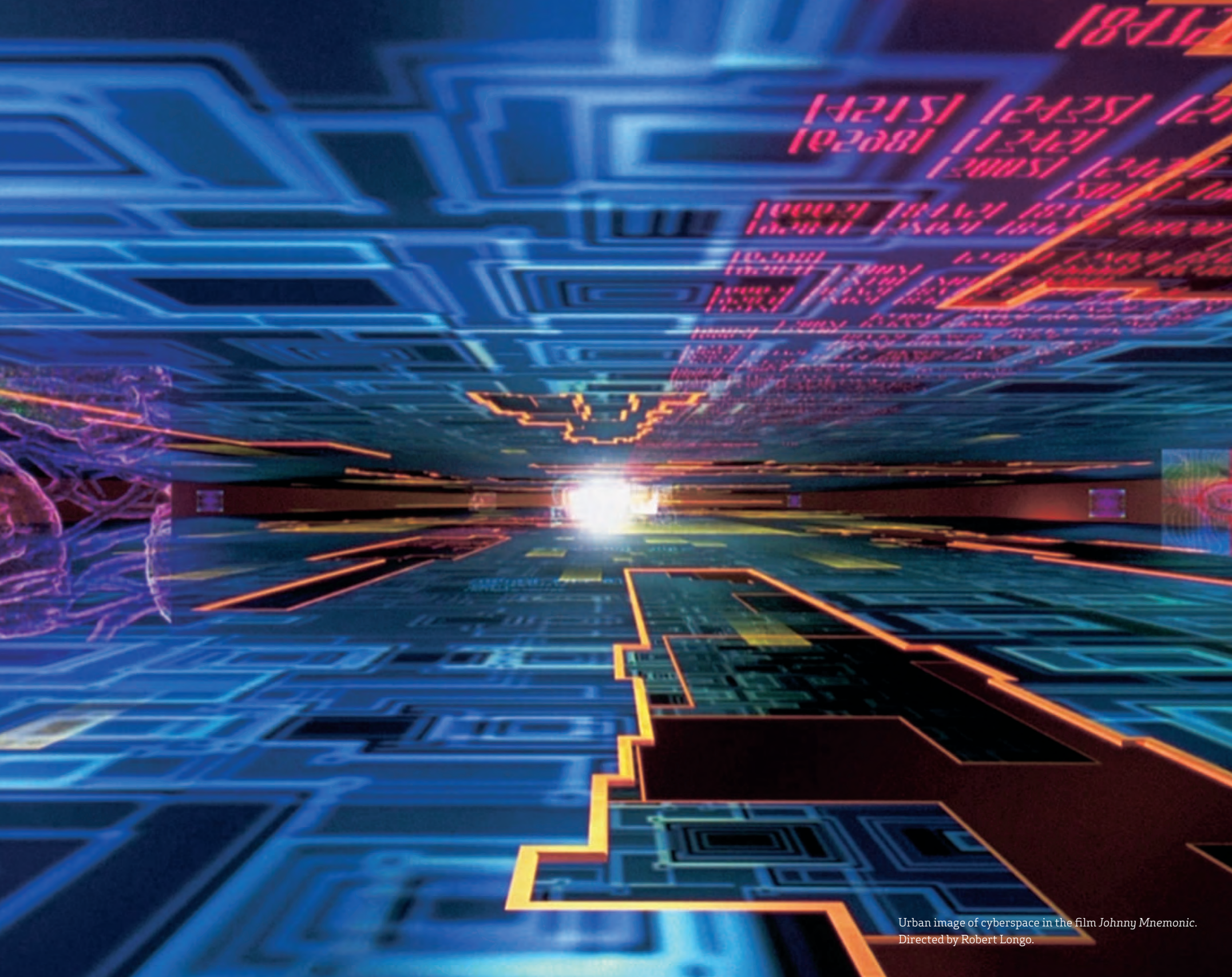
MADHU DUBEY

Don DeLillo's novel *Cosmopolis* (2003) traces a day in the life of Eric Packer, a billionaire assets manager and currency trader, as he is driven around Manhattan in a stretch limo equipped with multiple digital screens tracking the movement of money across the globe. As a master of the "radiant" realm of "cyber-capital," Packer regards himself as a man of "the future, a time beyond geography and touchable money."[1] From his vantage point, the city seems to be a residual remnant of an inconveniently physical world—a world of "amassments, the material crush, days and nights of bumper to bumper, red light, green light, the fixedness of things, the obsolescences" (p. 83). Filtered through the tinted and shatterproof windows of Packer's limousine, the street-level life of the city, with its mass, pulse, noise, and texture, appears to him as "an offense to the truth of the future" (p. 88). The "anachronistic quality" of skyscrapers (p. 9), those icons of modern urbanity, elicits from Packer a complicated response of contemptuous impatience along with nostalgic desire for lost authenticity.

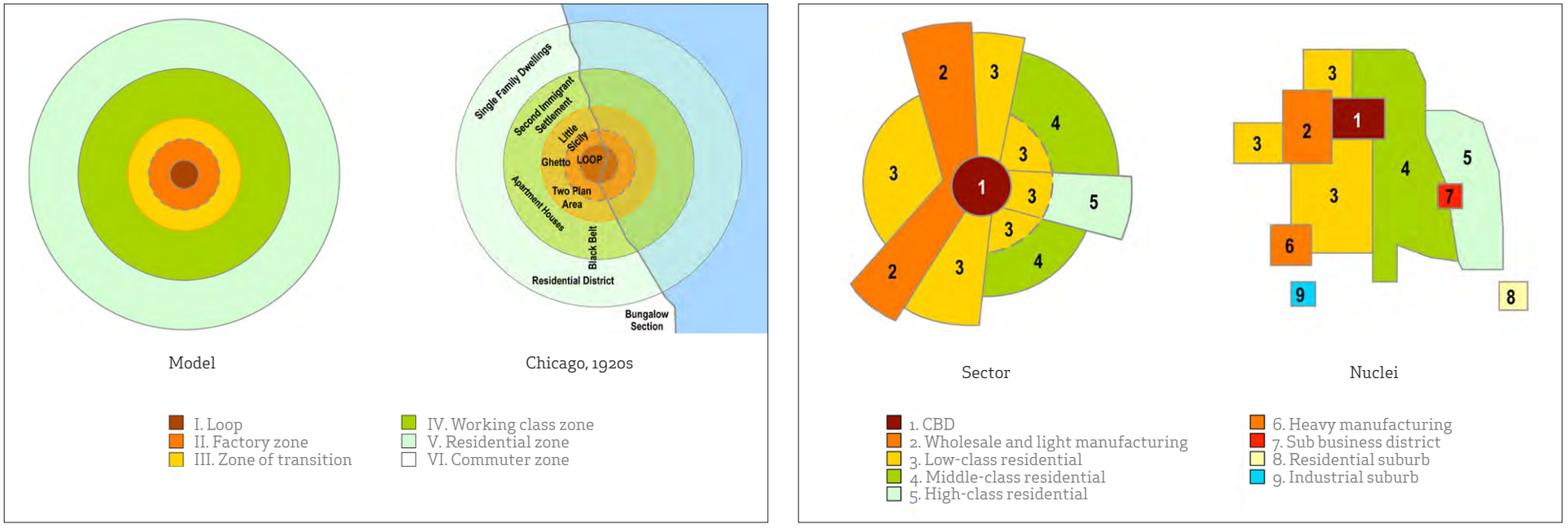
DeLillo's novel vividly captures the daunting challenge posed by globalization to the U.S. urban imagination. Cities are by definition spatial artifacts, and it is exactly this defining element of urbanity that is believed to be at risk in the age of globalization. In 1963, Melvin Webber suggested that we should no longer think of urbanity as a clearly bounded territory: the advanced information technologies that are instrumental to the global mobility of capital are abolishing spatial distances, dissolving the age-old distinction between city and country, and bringing about the virtual urbanization of the entire world. According to Webber, the essence of urbanity no longer inheres in spatial form but rather in the variety and concentration of information exchange.[2] Following Webber, several scholars have emphasized placelessness as the outstanding feature of urbanity in the information age. For example, William Mitchell asserts that the global spread of information technology will radically displace traditional conceptions of city life, and twenty-first-century urbanity will have to be reconfigured in "profoundly aspatial" terms, as an "ambient" quality that is "nowhere in particular and everywhere at once."[3] To many observers, the city itself, as we have so far known it, is on the verge of extinction at the turn of the twenty-first century—a prospect that elicits both consternation and euphoria. In *E-Topia*, Mitchell goes so far as to declare that the city is "finally flatlining," a sentiment echoed in more pessimistic tones by urban historian M. Christine Boyer, who sees cities as "the sacrificial sites" of cyberspace.[4]

In the U.S. context, futurist visions of urbanity (whether utopian or dystopian) take Los Angeles as their point of departure, as do prophecies about the impending disappearance of spatially demarcated cities. Webber coined his now-famous phrase describing the emergent urbanity of the information age—"nonplace urban realm"—with specific reference to Los Angeles.[5] During the 1990s, the development of an L.A. school of urban studies firmly established the city's status as the quintessence of a future form of urbanity defined in opposition to the modern industrial city.[6] This is the guiding premise of Michael Dear's edited collection of essays, *From Chicago to L.A.*, published in 2002. Each contributor to this volume takes on the concentric ring theory of urban structure that Robert Park and Ernest Burgess formulated during the 1920s based on their observations of Chicago. Michael Dear and Steven Flusty claim that this model, of an inner-city core radiating outward in concentric rings of diminishing density, accurately reflected the shape of industrial urban growth but is no longer tenable by the end of the twentieth century. Inverting the concentric ring model, Dear and Flusty argue that "the urban periphery organizes the center within the context of global capitalism," a decentered form of urbanity exemplified by Los Angeles.[7] The shift from Chicago to L.A. as the basis of contemporary urban theory is marked by heightened attention to the deterritorializing forces of global capitalism, perfectly captured by Edward Soja's term "exopolis."[8]

Influential urban-studies scholars such as Manuel Castells, John Friedman, and Saskia Sassen all emphasize that the global spread of capitalism has been marked by patterns of uneven development that are decisively



Urban image of cyberspace in the film *Johnny Mnemonic*. Directed by Robert Longo.



Concentric zone model of urban space (left), and sector model and multiple nuclei model of urban space (right). From *The Geography of Transport Systems*, 2009. J-P Rodrigue, C. Comtois and B. Slack.

racialized.[9] The economic structure of cities that form crucial nodes of the global capitalist economy is marked by segmented labor markets and rising income inequalities that broadly overlap with a "racial divide," at least in the U.S. context.[10] The most frequently highlighted feature of world cities is their bipolar employment structure, divided into a high-skilled, well-paid sector (of professional, managerial, and technical work) and a low-wage (predominantly service) sector, with the middle hollowed out as a result of lost manufacturing jobs. This bipolar order is all too evident in Los Angeles, where even former Mayor Tom Bradley, in his 1989 inaugural address, deplored the existence of "two cities—one amazingly prosperous, the other increasingly poor."[11] Scholars focusing on Los Angeles overwhelmingly agree that race works to reinforce sharpening class divisions, as the "amazingly prosperous" class is largely white and the "increasingly poor" population of unemployed and low-wage workers is disproportionately made up of African Americans and Latino immigrants.[12]

A significant aspect of the uneven development of global capitalism is the varying experience of urban space for different social strata, contingent on the manner and degree of their integration into the information-driven economy. In their early and influential essay on world-city formation, John Friedman and Goetz Wolff argued that economic polarities tend to play out as conflicts between abstract "economic space" (which obeys the logic of capital) and territorial "life space."[13] Manuel Castells elaborates a similar conflict in terms of a distinction between place and space: in the "informational city," the use value of particular places is overlaid by a global "space of flows," or an immaterial, worldwide network of information. Managerial and professional elites, wired into transnational circuits

of communication and information, are more easily able to over-reach the limits of place in their daily work and leisure activities, whereas those who occupy the lower tiers of the global economy are confined within what Castells calls "information ghettoes."[14] These ghettoes are, of course, largely peopled by the same racial groups that are overrepresented in the low-wage employment sectors, predominantly Latinos and African Americans in the case of U.S. world cities such as Los Angeles.

Such tensions between space and place have left a strong imprint on the U.S. urban imagination since the 1980s, and have taken a markedly racialized cast in urban-studies discourse as well as in literary genres, such as cyberpunk and speculative fiction, that attempt to imagine the future of cities in the age of globalization. Reading these fictive genres in relation to contemporaneous urban-studies discourse, in this essay I trace the critical ways in which race shapes utopian and dystopian stagings of urbanity—whether these be spatial constructs (including neighborhoods and freeways), disparate spatial perspectives (notably, "on-the-ground" versus "online" and "from-above" views of city life), or strategies of spatial transformation (such as place-making and taking to the streets). Despite significant differences between the spatial imaginaries of cyberpunk and speculative fiction, both genres stumble on the issue of race as they try to envision the future of urbanity. As I will argue, the grim outlook on the future projected in these fictions attests to the difficulty of cognitively mapping the shifting geography of race in the urban order of globalization.

The impression that cities, as they have been conceived through much of the twentieth century, are becoming

To many observers, the city itself, as we have so far known it, is on the verge of extinction at the turn of the twenty-first century—a prospect that elicits both consternation and euphoria.

the casualties of a dematerialized information economy is realized in cyberpunk fiction, the genre most closely identified with the futuristic urban imaginary of globalization. In the classic text of cyberpunk fiction, William Gibson's *Neuromancer* (1984), the city as a distinct spatial construct has been absorbed into the geographical spread of urbanization: the novel's main U.S. setting of BAMA, the Boston-Atlanta Metropolitan Axis, is better known as "the Sprawl."[15] Pat Cadigan's *Synners* (1991) contains a similarly vast and amorphous territory called Mimosa, or the Manhattan-Hermosa Strip. Whereas Gibson remains strongly invested in street-level, spatial urbanity (a point I will elaborate on later), second-wave cyberpunk writers of the 1990s, including Pat Cadigan, Melissa Scott, and Neal Stephenson, situate the concentrated exchange functions typically associated with cities in virtual rather than physical space. *Cyberspace*, a term coined by Gibson in *Neuromancer*, consequently becomes the primary locus of urbanity in second-wave cyberpunk fiction. For example, in Melissa Scott's *Trouble and Her Friends* (1994), the most vividly realized representation of urbanity is Seahaven, a virtual space that functions like a capital city on the Net, complete with a crowded bazaar, a central plaza, and even a mayor.

Whereas in much second-wave cyberpunk fiction, actual cities simply become irrelevant or obsolete as cyberspace becomes the central scene of narrative action, Neal Stephenson's *Snow Crash* (1992) attends more closely to the material spaces of the city, configuring them in directly inverse relation to cyber-reality. Cyberspace, called the Metaverse in *Snow Crash*, is structured like a city. Described as "a fictional structure made out of code,"[16] the Metaverse recalls and restores the key visual signifiers of the modern urban form deemed to be at risk in the age of globalization. Containing a centralized and heavily developed Downtown area, resembling "a dozen Manhattans embroidered with neon and stacked on top of each other" (p. 26), the Metaverse also features that vital component of modern urbanity, the Street, teeming with pedestrian life. We can see why this image of modern urbanity can only exist as a digital simulacrum when we turn to the geographical setting of the novel, Los Angeles, which is presented as the very antithesis of urbanity, structured by the spatial logic of freeways and suburbanization. In Stephenson's futuristic Los Angeles, the freeways crisscross a Balkanized territory that signifies the most dystopian tendencies of global capitalism. Instead of the clearly demarcated shape of the modern city, with its cores and peripheries, Stephenson's Los Angeles exhibits a multinodal spatial form, made up of residential and commercial zones that operate as subnational entities. The suburban zones, or Burbclaves, are heavily guarded areas of mostly

Urban image of cyberspace in the film *Hackers*. Directed by Iain Softley.

white, middle-class habitation that function as city-states, and the commercial areas consist of ethnic, quasinational franchises such as New South Africa, Mr. Lee's Greater Hong Kong, or Nova Sicilia.

These franchises exemplify the deterritorializing forces of global capitalism, based on the principle that "what thrives in one place will thrive in another" (p. 190). With the heightened mobility wrought by globalization, franchises offer a translocal feeling of familiarity: "McDonald's is Home" regardless of where you are in the world (p. 191). Stephenson is careful to specify that this traveling subject of globalization is a white businessman. The spatial flexibility of this subject is evident not only in his ability to recreate home anywhere in the world, but also in his financial power to opt out of city living. Stephenson disaggregates the terms *city* and *urbanity*, opposing the cosmopolitanism of elite subjects of globalization to the penury of actual city life: "The only ones left in the city are street people, feeding off debris" or "immigrants, thrown out like shrapnel" (p. 191). One such city dweller is the hero of the novel, Hiro Protagonist, an Afro-Korean hacker whose home is a cramped room in a U-Stor-It facility. In an unexpected twist, Stephenson suggests that the virtual realm of cyberspace is likely to be especially seductive to the racialized underclasses that are condemned to living in the blighted spaces of the city. When your spatial environment is Compton, described as "the real thing," a "burning and rotting neighborhood" (p. 164), or when "you live in a shithole, there's always the Metaverse" (p. 63).

Stephenson's depiction of the racial order of actually existing cities converges in key respects with social-science scholarship on globalization and urban life. Invoking the term "apartheid" to describe the spatial organization of Los Angeles (p. 32), the novel provides numerous examples of the ways in which access to spatial mobility is racially restricted. But in *Snow Crash* this racialized logic does not apply to the virtual realm of cyberspace. The Metaverse constitutes an inclusive domain where racial groups marginalized by the global economy can access some degree of control, mobility, and power: in cyberspace, Hiro Protagonist is a warrior prince. Stephenson's depiction of cyber-reality as a space of liberation for disempowered social groups is replicated in other cyberpunk novels as well. In *Trouble and Her Friends*, Melissa Scott presents a dangerous and exhilarating experience of cyberspace by way of the "brainworm," a wire that enables embodied immersion into virtual reality. Referring to the corporeal medium of this technology, Scott writes: "maybe that was why it was almost always the underclasses, the women, the people of color, the gay people, the ones who were already stigmatized as being vulnerable, available, trapped by the body, who took the risk of the wire."[17] Novelists such as Scott and Stephenson are not alone in embodying the transgressive possibilities of cyberspace in racially marked figures or groups, such as the Afro-Korean hacker in *Snow Crash* or "people of color" in *Trouble and Her Friends*;

influential theorists of cyber-technology such as Donna Haraway and Allucquere Rosanne Stone similarly idealize the categories of "women of color" and the "mestiza" as agents of utopian cyber-futurity.

Strangely, then, the genre of cyberpunk has remained an almost exclusively white preserve. Writers "of color" are conspicuously absent from the science-fiction genre of cyberpunk,[18] but many — particularly women — have turned to speculative fiction to explore the present and future contours of urbanity in the context of globalization.[19] Novels such as Karen Tei Yamashita's *Tropic of Orange* (1987), Cynthia Kadohata's *In the Heart of the Valley of Love* (1992), and Octavia Butler's *Parable of the Sower* (1993) all disavow the urban imaginary of cyberpunk fiction by taking urban places rather than virtual spaces as their central spheres of action. Not surprisingly, given their interest in the future of urbanity, these novels are set in Los Angeles, and they all focus on material city life to expose the racialized uneven development of global capitalism, in the process offering a valuable corrective to techno-utopian visions of cyber-urbanity. A continuing investment in the spatial construct of the city might appear to be regressive and nostalgic if seen from a cyber-urban perspective, but in fact, claims that cities are flatlining in the age of globalization are not only exaggerated but also mistaken. Notwithstanding the centrifugal tendencies of information technologies, cities still form vital nodes of the global capitalist economy — as financial centers, magnets for international migrants, and concentrated sites for the consumption of international culture. Jason Hackworth convincingly argues that the neoliberal bent of the U.S. state since the 1970s has heightened rather than attenuated the political functions of cities in the context of global capitalism: the curtailed role of nation-states as buffers against multinational capital, along with the drastic shrinkage of federal funding for urban infrastructure and public services since the 1970s, has raised the stakes involved in city-level politics.[20] Some scholars of globalization go further, identifying cities as the sites where the social contradictions of global capitalism become most starkly visible, as class inequalities are physically manifested in a dichotomous urban space of "citadels" and "ghettoes."[21]

These inequalities are registered but ultimately wished away in futuristic visions of cyber-urbanity. In fact, as M. Christine Boyer points out, the appeal of the "CyberCities" concept lies precisely in its retreat from the harrowing conditions of life in actually existing cities. Boyer contends that the immaterial network of cyberspace masks "the lag-time spaces of the city," the "areas of forced delay put on hold" in the process of globalization.[22] Boyer's term *lag-time spaces* suggests a revealing point of entry into speculative fictions of urbanity. Whereas cities themselves are represented as lag-time spaces in cyber-futurist discourse, writers such as Butler, Kadohata, and Yamashita set their novels in lag-time spaces *within* cities to interrupt triumphal narratives of globalization. Consigned to a temporality of "forced delay," of perpetual belatedness to the progressive march of globalization, lag-time spaces such as the neighborhoods of Compton and South Central in Yamashita's *Tropic of Orange* belie futuristic visions of Los Angeles as the capital of the twenty-first century. Such accounts often extol the city as a multicultural hub or a vibrant space of racial diversity. For example, in his celebration of Los Angeles as "the world city of the future," postmodern architect Charles Jencks describes it as a "heteropolis" in which "there are only minorities" and no single group dominates.[23] In sharp contrast, racial "minority" groups in the near-future L.A. of Butler and Kadohata are condemned to living in areas that have been abandoned by multinational capital. The neighborhood of Robledo in Butler's novel is "too poor, black, and Hispanic" to be a site of investment for multinational corporations,[24] and Kadohata's protagonist lives in a racially mixed "section of town largely abandoned by anyone who mattered to the country's economy."[25]

Stephenson's depiction of the racial order of actually existing cities converges in key respects with social-science scholarship on globalization and urban life.

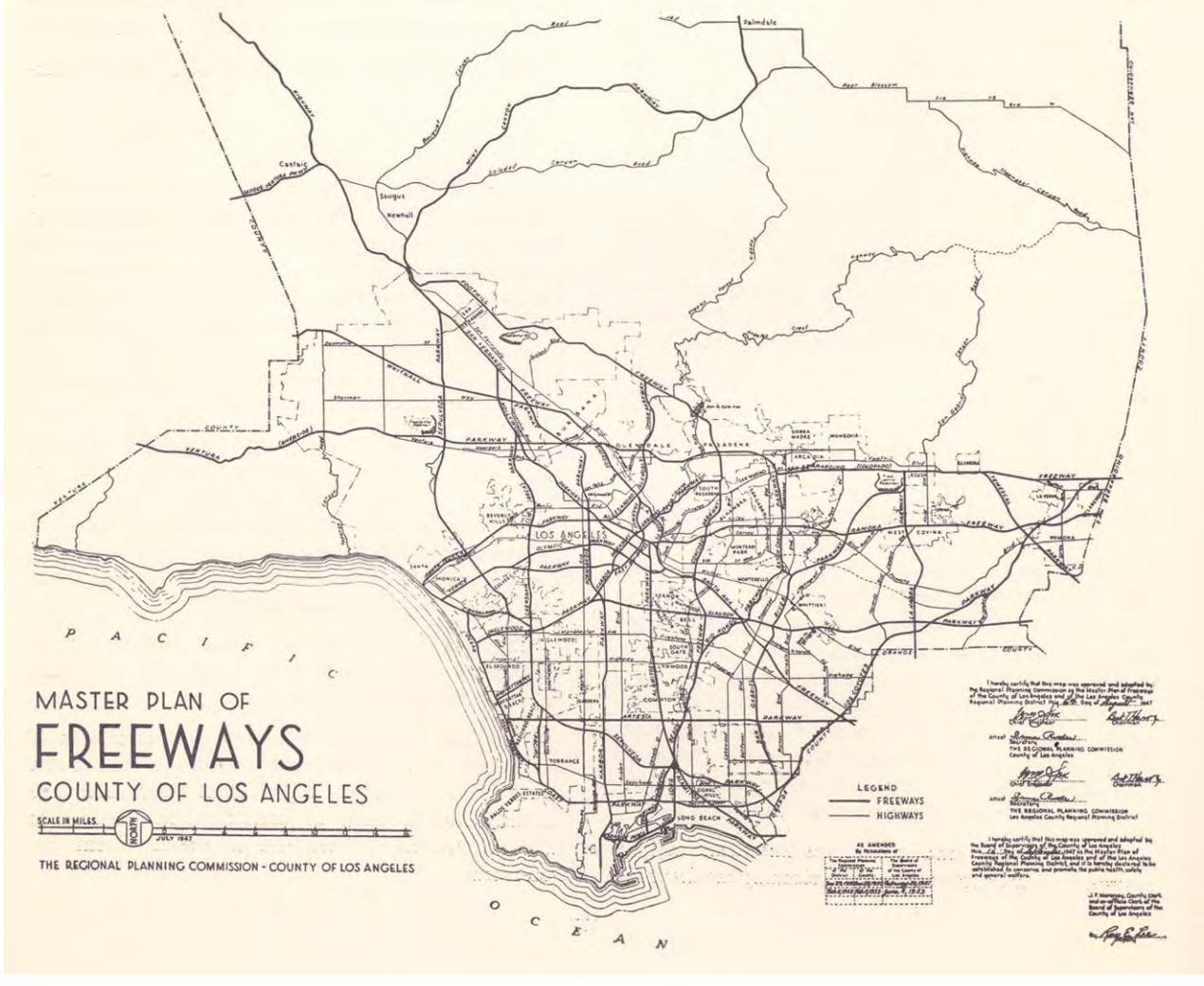
A focus on lag-time spaces undermines glib affirmations of the multiracialism of world cities as well as futuristic visions of the city as "a nonplace urban realm." In speculative fictions of urbanity, place remains an object of intense investment for those groups that are being marginalized by the spread of globalization. But this emphasis on

"On-the-ground" approaches to urban space are bound to be as partial and unreliable as views of globalization "from above."

place does not amount to localism in any simple sense, as we might expect if we recall John Friedman's and Manuel Castells's accounts of globalized cities, in which racial groups sidelined by the information economy are more susceptible to place attachment than elites who enjoy greater spatial flexibility. In such influential accounts, the conflicts between "economic" and "life" space, local places and the global space of flows, tend to be formulated in dualistic and mutually exclusive terms. An inflated emphasis on the de-territorializing trends of globalization elides the simple fact that the uneven spatial expansion of capitalism both requires and produces a differentiated geographical landscape rather than a purely abstract space of flows. The unique attributes of particular regions (ranging from cities to nations) become increasingly important in the global competition to attract capital investment, as do social struggles intended to forestall or redirect the capitalist development of space. In a trenchant critique of metatheories of globalization, Michael Peter Smith faults John Friedman and Saskia Sassen, among others, for conceptualizing globalization as something that happens *to* rather than *in* specific locales, and for essentializing locales as "backwaters of reactionary nostalgia." Calling for a more dynamic understanding of locale, Smith proposes that globalization "be located on the ground" rather than viewed "from above."[26] An "on-the-ground" perspective on globalization might certainly provide a valuable corrective to reductively polarized notions of place and space, restoring much-needed specificity to theories of globalization, but it may nonetheless be limited in its power to grasp systemic macro-processes that are not clearly visible in any one location.

Portraying a range of spatial practices intended to preserve or transform the use values of urban place, speculative fictions of urbanity reveal the vulnerability of "on-the-ground" struggles against the dislocating dynamics of capitalist development. Butler and Yamashita suggest the limits of defensive localism through their ambivalent depictions of that epitome of urban settlement, the neighborhood. Much ethnic urban fiction of the twentieth century centered around neighborhoods (such as ghettoes, barrios, and Chinatowns), affirming the tight-knit communities and cultural practices that developed as a consequence of racial segregation. In the near-future Los Angeles depicted by Butler and Yamashita, place-based community continues to be deeply valued by those racial groups that are most susceptible to the destabilizing forces of capitalist redevelopment. But both novelists also reveal the ultimate futility of efforts to salvage the use values embedded in particular locales, precisely because all locales are inevitably caught up in global circuits of exchange value.

In *Parable of the Sower*, the neighborhood of Robledo exemplifies the place-based community prized in earlier ethnic fictions of the city. But in the dystopian future society projected in the novel, riven by violent conflicts between haves and have-nots, neighborhoods can exist only in the form of gated communities insulated from the surrounding social disorder. The eventual destruction of Robledo is inevitable because it forms part of a global economic order that has reached a point of unsustainable polarization. Robledo cannot survive because its relative stability is structurally interconnected to the masses of poor and homeless people who throng outside its walls and eventually burn down the neighborhood. In *Tropic of Orange*, Yamashita explores the liabilities as well as the lure of defensive localism in a chapter tellingly titled "This Old Hood." The characters most strongly invested in the communal ethos associated with spatial proximity are the Latino and African American residents of racially ghettoized neighborhoods such as Compton and South Central. One such character, Buzzworm, epitomizes a modern ideal of urbanity based on walking and talking, on random and fleeting face-to-face contacts. In the course of his daily walks through South Central, Buzzworm notices homies tagging their territory, claiming it for the hood, and the very terms "homey" and "hood" testify to a place-based model of urban belonging. One of these homies voices a keen awareness of South Central as a lag-time space when he says, "We might be droppin' out, but the hood's what we know.… Anybody on the ground'd know what I'm talkin' about."[27] Buzzworm is committed to preserving this on-the-ground knowledge of the city, but Yamashita does not romanticize him as an exemplar of old-style localism. The



Los Angeles, California, freeway plan.

street-based urbanity of South Central residents cannot provide a stable basis for making sense of the city, for how can you sustain on-the-ground knowledge when "the ground under you [keeps] moving?" (p. 188).

As this observation suggests, "on-the-ground" approaches to urban space are bound to be as partial and unreliable as views of globalization "from above." Efforts to understand the city in primarily local terms are likely to fail because all locales are more deeply imbricated than ever before into a global economic order and are thereby relentlessly subject to the rapid spatial turnover entailed in capitalist redevelopment. In the particular instance of South Central in Yamashita's novel, the deterritorialization of the neighborhood is caused by the city's plan to widen the freeway, a plan that will require them to "move some houses, buy out the people in the way." The need for a trans-local perception of urban space is emphasized in a scene in which city bureaucrats call a neighborhood meeting in South Central to explain their highway upgrade plan, and an elderly resident stands up to ask, "What's the master plan? There's always a master plan." Efforts on the part of South Central residents to resist the freeway expansion and to retain the fabric of their neighborhood are described by Buzzworm as "futile gestures without a master plan" (p. 83).

The only character in *Tropic of Orange* who possesses this ability to grasp the master plan of the city is Manzanar, a Japanese-American homeless man who stands daily on a freeway overpass and conducts imaginary symphonies out of the visual and aural flows of traffic. Viewing the city from above, Manzanar is able to synthesize its multiple spatial layers, including geological strata, the networks of

civil utilities such as electrical lines and water pipelines, the grids of land usage and property, and the overlays of transport. Yamashita writes: "There are maps and there are maps and there are maps. The uncanny thing was that he could see all of them at once…: patterns and connections by every conceivable definition from the distribution of wealth to race, from patterns of climate to the curious blueprint of the skies" (p. 57). Manzanar's cognitive mapping skills exemplify the ability to apprehend urbanity as a construct that is simultaneously spatial and conceptual—one that becomes particularly necessary with the accelerated global spread of capitalism.

This difficult conception of urbanity is embodied by the homeless in *Parable* as well as *Tropic of Orange*. In these novels, *homelessness* refers not to a metaphorical condition of rootlessness endemic to globalization but to the literal situation of lacking a place to live, a situation that became a conspicuously visible fact of urban life in Los Angeles in the years preceding the publication of these novels. In 1984, the Department of Housing and Urban Development called Los Angeles the "homelessness capital" of the United States.[28] The steep rise in homelessness during the 1980s was brought about by a complex tangle of local and global forces, including regional economic restructuring in response to the globalization of capital, the spatial and economic polarizations resulting from this shift, loss of welfare support for the urban poor, the increasing privatization of social and public services, and a steadily shrinking supply of affordable housing.[29] Homeless people play such pivotal roles in speculative fictions of urbanity because they embody the one population that has been most severely displaced by the economic restructuring of global capitalism. Tracing the shifting geography of homelessness in Los Angeles, Jennifer Wolch and Michael Dear have shown that since the 1980s the homeless population of the city has been systematically evicted from the downtown Skid Row area in which it was previously concentrated,[30] as a direct result of urban redevelopment projects designed to draw or retain increasingly footloose global capital.

In *Parable*, enforced mobility is what makes homeless people unique bearers of urbanity. Compelled to live on the move, the homeless have perforce developed a multi-local and trans-local approach to navigating urban space. Unable to claim any kind of place (public or private) as their own or to engage in the activities necessary for everyday life (such as sleeping) without harassment, homeless people embody the extreme human costs of the deterritorializing logic of global capitalism. Far from romanticizing life lived in the margins and interstices of urban space, Butler presents homelessness as the logical culmination of current patterns of urban development. In *Parable*, the only people who are guaranteed basic human needs such as food and shelter are those who have bought into the privatized cities (or company towns) being established by the multinational corporation KSF; the masses of people who lack or refuse this option are forced into the ranks of "the street poor" as the city erupts into a violent conflagration stoked by intense class antagonism (p. 140). By the end of the first part of the novel, the city as a spatial construct is well on its way to annihilation, but an urban ideal of sociality is kept alive by a band of newly homeless people trekking north toward Canada on the freeway.

The most unexpected spatial scenarios found in speculative fictions of urbanity feature crowds of homeless people taking over the freeways. The utopian potential of these scenarios lies in their distinctive misuse of space, as the prime signifier of anti-urban spatiality, the freeway, is converted into either a conduit of pedestrian traffic or a place of settlement for the homeless. Freeways, of course, epitomize the very essence of Los Angeles as a nonplace urban realm. The freeway network that crisscrosses L.A. was notoriously built according to the standards of interstate rather than urban design, and in consequence was poorly adapted to the spatial fabric (such as local street layouts) of the city. Facilitating longer-range mobility, the freeway network more than any other infrastructural feature of Los Angeles contributes to the city's sprawling, multinodal form, its aberration from the centralized form of modern cities. And of course the construction of the freeway network had especially disruptive consequences for inner-city, largely African American and Latino

The homeless takeover of the freeway in Yamashita's novel evokes a modern ideal of urban public space, the space of the unruly crowd congregating to publicize its demands.

neighborhoods, as we have already seen in *Tropic of Orange*, where the city's plan to widen the freeway involves tearing down some houses in South Central.

If freeways symbolize the atomized and alienated urbanity (or perhaps more accurately, nonurbanity) of Los Angeles, in Butler's and Yamashita's novels the freeways are transformed into sites of urban assembly, made possible in both cases by emptying the freeways of automobile traffic. Kadohata's *In the Heart of the Valley of Love* recalls an early-twentieth-century past, when the government had started to build the Sunshine System, an ambitious series of freeways that would interlink the whole of southern California. But because of severe economic crisis—big transnational companies going under or fleeing California—the project was never completed. The haunting image of the unfinished, fragmented arcs of the Sunshine Highway looms over the urban landscape of the novel, a constant reminder of stalled development. With gasoline so scarce that it has to be rationed by the government, and because no one can afford to drive for recreational purposes, the freeways in Kadohata's novel are often empty. It is only by stripping the freeways of their forward-looking, space-spanning connotations that all three novelists open them up for resignification.

A character in *Tropic of Orange* marvels, "Amazing thing was everybody in L.A. was walking" (p. 218). In *Parable*, we are told that walking on the freeways used to be illegal in the state of California, but this law no longer applies because driving itself has become defunct in the post-apocalyptic world of the novel. The long middle section of *Parable* describes hordes of homeless fugitives flowing along the freeway, and although there is no denying the dystopian elements of this scenario, the "freeway crowd" also offers the novel's only utopian glimpse of urban sociality. Notable for its racial diversity, this "heterogeneous mass [of] black and white, Asian and Latino" people (p. 158) forms a community forged in transit, distinguished by its improvisational sense of flexibility, and especially adept at the precarious balancing of wariness and trust demanded by urban social intercourse among strangers.

Yamashita presents the homeless takeover of the freeway in more strongly utopian and carnivalesque terms. Whereas in *Parable* the freeway is a route to freedom, even described as "a modern underground railroad" (p. 262), *Tropic of Orange* portrays a utopian space, described as a "Free Zone" (p. 192), which is based on spatial occupation.[31] When homeless people appropriate a stretch of the freeway in Yamashita's novel, they claim it as a place of settlement. Although they know that it is only temporary, they take over the cars that have been abandoned on the freeway, turning them into makeshift habitats, washing and waxing them, displaying photographs and flowers on the dashboards, until they look "downright homey" (p. 217). For a brief span of time, the freeway mutates into a highly concentrated, mixed-use urban locale, as its homeless residents run grocery stores, performance groups, and even drug deals out of the trucks and cars abandoned on the freeway. The occupation of the freeway in *Tropic of Orange* exemplifies the "placemaking tactics" that organized groups of homeless people have typically deployed to reassert their right to urban public space.[32]

The homeless takeover of the freeway in Yamashita's novel evokes a modern ideal of urban public space, the space of the unruly crowd congregating to publicize its demands. Kadohata presents a similar image of the freeway reused for political purposes, as city residents protest a plan to expand a commercial zone at the expense of public housing by throwing smoke bombs on the freeways, bringing traffic to a halt. Such images of insurgency emphasize the material as well as symbolic value of place—especially urban place—to the public exercise of democracy. Cities remain central sites of political contestation because the urban milieu facilitates the collective physical presence of a critical mass of people and is therefore uniquely conducive to "grounded politics."[33] Not surprisingly, then, the apparent attenuation of urban place in the context of globalization provokes intense anxiety about future political prospects. In this vein, Don Mitchell argues that the direct action of democracy requires public visibility, which in turn requires material public spaces; this is why "taking to the streets" has proved to be such an effective strategy for movements seeking political change. Mitchell cites homeless encampments such as Justiceville in Los Angeles as "deeply political statements" that publicize the need for a new socio-spatial order.[34]

To a great extent, the reappropriation of freeways in speculative fictions of urbanity can be seen as a variant of "taking to the streets." Reimagining freeways as public areas of political disturbance, illegal encampment, or even just walking, these novels emphasize the importance of place-based forms of urban politics, yet they also try to reckon with the deterritorializing forces of globalization, as is clear from the very fact that it is freeways rather than streets or neighborhoods that appear as the preferred sites of "on the ground" political struggle. All three novelists strive to reconcile the exigencies of localism and

displacement, and to imagine forms of urbanity that will be viable within the spatial conditions of globalization, yet hospitable to those social groups that are being most severely dispossessed by these conditions. This ambition accounts for the contradictory role cast on the homeless in these novels — at once the worst casualties of a globalizing economy and the prime agents of future urbanity.

This contradiction proves impossible to contain in *Tropic of Orange*, as Yamashita ultimately concedes the unfeasibility of her image of transformative urbanity: the LAPD attacks the homeless Free Zone from helicopters up above, a spatial detail that proves to be significant. As noted earlier, the freeway encampment represents an "on-the-ground" variant of urbanity and its spatial parameters become its greatest liability: the aerial attack succeeds because the homeless are confined to a particular place and obviously cannot walk or run their way out of the range of LAPD helicopters. Yamashita explicitly counterposes the "on-the-ground" urbanity of the homeless to the cyber-realm of the global information economy, an "online" model of urbanity exemplified by the Japanese-American character Emi, who loves "to do the Joan Didion freeway thang" (p. 58). The novel imagines a brief utopian synthesis between on-the-ground and online, local and cyber forms of urbanity, when Emi collaborates with Buzzworm, the advocate of street-level urbanity, in producing Internet news shows presenting city life from the perspectives of the homeless. But this utopian moment also disintegrates as military gunfire kills Emi along with large numbers of the homeless; the encounter between place-based and cyber forms of urbanity remains deadlocked at the end of the novel.

In addition to the homeless encampment on the freeway, *Tropic of Orange* contains another scene of potential spatial transformation that similarly ends in impasse, although in this case the reasons for the impasse turn out to be entirely different. Arcangel, a magical figure who is said to be hundreds of years old, is journeying north through Mexico, followed by multitudes of migrants. As he walks his way to Los Angeles, he carries with him the Tropic of Cancer, the invisible line marking the border between the global North and South. Violating the conventions of narrative realism, the moving border suggests the spatial instability of a globalizing world — in this instance the uprooting of entire populations as a result of neoliberal free-trade policies such as NAFTA. There are moments in the novel when this instability permits a glimpse into a different future. As masses of migrants follow the moving border to Los Angeles, Yamashita draws attention to the "uncanny … elasticity of the moment, of time and space" (p. 123). But far from opening up a fluid and borderless world of possibility, the movement of the Tropic of Cancer remains invisible to the cyber-realm of Internet news programs: "The virtually real could not accommodate the magical. Digital memory failed to translate imaginary memory" (p. 197). To perceive the border moving or to see across to its other side, Yamashita tells us, "you had to have been there yourself" (p. 197).

This reference to "being there" is surely puzzling. The aerial destruction of the homeless encampment on the freeway has already exposed the vulnerability of the "being there" brand of politics, which is reinstated here in contradistinction to cyber-futurism. At stake in the idea of "being there" is a decidedly urban model of politics, with urbanity conceived as a site of physical presence and interaction. In *City of Bits*, William Mitchell considers this form of urbanity to be a relic of a bygone era: "Life in pre-cyborg places was a very different experience. You really had to be there."[35] But to those who are skeptical about the techno-utopianism of cyber models of urbanity, "not being there represents an evacuation of the political scene."[36] Yamashita's vacillation about "being there" evinces the shifting and ambivalent approach to place-based forms of political transformation found in all three speculative fictions of urbanity. As evident in their unexpected conjunctions and juxtapositions — of homelessness and freeways, displacement and spatial occupation, "on-the-ground" and "online" perspectives — these novels betray strong uncertainty about the future of urbanity in the era of globalization.

Significantly, the impasse between "on-the-ground" and "online" approaches to urbanity in *Tropic of Orange* is due not to the backwardness of those who are relegated to the lag-time spaces of global capitalism, such as homeless people and undocumented migrants, but to the blindness of cyber-futurism. Of course, from the cyber-futurist perspective of "the dominant actors in economic space," the place-based urbanity of occupants of lag-time spaces is "nothing but a hindrance, an irrational residue of a more primitive existence."[37] From this point of view, political actions that depend on "being there" or "taking to the streets" are necessarily ineffective as protests against globalization. This is exactly the view taken by Eric Packer, the financial magnate of Don DeLillo's *Cosmopolis*, who happens upon an antiglobalization protest in the course of his drive around Manhattan. Described as "a form of street

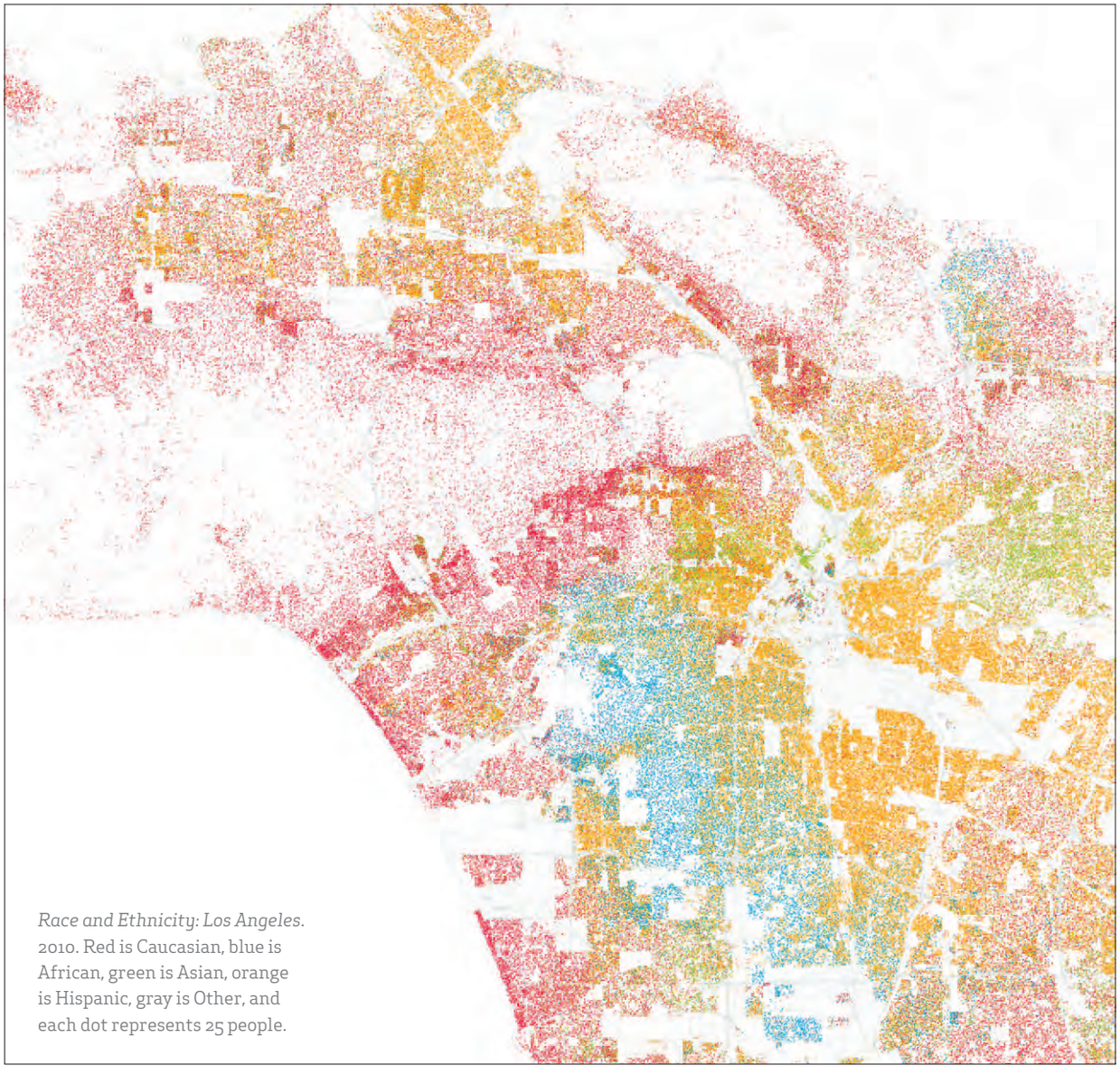
theater" (p. 88), the protest involves spatial take-over of a towering icon of global capitalism, a major investment bank. The protest is easily neutralized by the NYPD and dismissed by Packer and his associates as "a protest against the future" (p. 91). To Packer, global capitalism is the dynamic force of inexorable progress, unmaking and remaking the world with its principle of creative destruction. Change, in the form of innovation, is not only a corporate asset but is seen here as the monopoly of capital: "It's cyber-capital that creates the future" (p. 79). There is no place for cities in this future that belongs to capital; accordingly, political protests that take to the streets represent nothing but the dying gasps of a residual mode of urbanity, futile attempts "to hold off the future" (p. 91).

Exactly this kind of cyber-futurism is discredited in speculative fictions that are squarely situated in the lag-time spaces of global capitalism. The subgenre of post-apocalyptic dystopia allows Butler and Kadohata to delineate the global spread of capitalism as an entirely devolutionary process. As social order collapses in *Valley of Love*, the protagonist Francie observes that something is ending, which also means that something is beginning, but she is not sure whether in retrospect the twenty-first century will be known as the "Dark Century" or the "Century of Light" (p. 190). A similarly uncertain sense of teleology marks Butler's novel. Trying to reckon with the implications of a multinational corporation taking over an entire town, the protagonist Lauren remarks that "something new is beginning — or perhaps something old and nasty is reviving" (p. 105). The future created by global capitalism looks an awful lot like the past, as the exploitative labor practices of twenty-first-century multinational corporations, such as debt bondage, are repeatedly likened to antebellum racial slavery. Whereas Butler's novel achieves critical distance from progressive narratives of globalization by narrating the future as a regression into the past, Yamashita does so by staging a wrestling match between Arcangel, the archetypal undocumented migrant, and his arch-rival Supernafta, which ends in the simultaneous destruction of both. When Supernafta taunts him in the name of progress and the future, Arcangel asks the multitudes of migrants walking behind him, "You who live in the declining and abandoned places of great cities, called barrios, ghettoes, and favelas: What is archaic? What is modern? We are both" (p. 258). Evoking the time-space compression wrought by globalization, these lines reveal that it is the occupants of racialized lag-time spaces such as barrios, ghettoes, and favelas who experience this process at the point of maximum contradiction.

Henri Lefebvre remarked as early as 1968 that "any contradictions that occur no longer take place between city and country."

Such critiques of progress — manifested in various forms of temporal stasis, simultaneity, and reversion — bear significant implications for visions of future urbanity. Henri Lefebvre remarked as early as 1968 that "any contradictions that occur no longer take place between city and country. The principal contradiction is shifted to the urban itself."[38] Precisely because of the centrality of the urban as the site where the socioeconomic contradictions of global capitalism are most clearly visible, Butler, Kadohata, and Yamashita retain the city as the main arena of social struggle. In *Parable* and *Valley of Love*, the groups most invested in protecting the existing spatial order of ghettoes and gated communities are those who live in "richtowns" or private enclaves secured by multinational corporations. Conversely, those who are most vulnerable to spatial dispossession, the poor and the homeless, are perforce the most adaptable and resilient, and in that sense, best equipped to meet the future. As the city begins to deteriorate in *Valley of Love*, Francie watches with exhilaration: "When richtowns across the country started to fall, I knew there would be changes" (p. 171). Likewise, the catchphrase "God is change" enables Butler's crew of homeless people to walk away from their burning neighborhood towards an as-yet-unknown future. The multitudes of the poor in these novels have nothing to fear from change because they have nothing left to save or lose, no investment in the inequitable order of actually existing cities.

Although they are positioned as the agents of future urbanity, the protagonists of Butler's and Kadohata's novels are ultimately unable to envision plausible urban futures that are different from the past. At the end of *Valley of Love*, Francie hopefully anticipates that there will be a "place" for people like her in the "new order" to come (p. 117), but can imagine social change only as cataclysmic destruction of the present. Butler more clearly reveals the inability of her characters to imagine feasible alternative futures. The novel's fugitive crew of homeless people flees



Race and Ethnicity: Los Angeles. 2010. Red is Caucasian, blue is African, green is Asian, orange is Hispanic, gray is Other, and each dot represents 25 people.

north on the freeway, away from the "oozing sore" of the city of Los Angeles (p. 96), and finally ends its journey by establishing an agrarian commune far removed from any city. Emblematic of a wholesale retreat from urbanity, this heavily guarded, privately owned enclave represents precisely the kind of insular, territorial community that was destroyed at the beginning of the novel. Despite their avowed commitment to change, Butler's characters settle on a spatial fix that has already been discredited as an outmoded form of localism, a "cul-de-sac with a wall around it" (p. 73). What's more, the agrarian dimension of the commune established at the end of the novel recalls an earlier mode of framing socioeconomic contradictions in terms of an urban-rural divide, with the rural serving as a space of critical opposition to industrial capitalism. But if, as Lefebvre and others have suggested, the rural no longer constitutes an effective sphere of opposition to the city, then the agrarian retreat in Butler's novel becomes symptomatic of the difficulty of imagining alternatives to global capitalism that are oriented toward the future rather than the past. Novelists such as Butler and Kadohata shun the idea of progress because it seems to have been thoroughly coopted by global capitalism, but unable to imagine change as progress, they also end up ceding the future.

The future prospects for cities look pretty grim, whether in speculative fictions that fail to see how the dystopian order of actually existing cities can be sustained or transformed, or in cyberpunk novels that simply supersede this order. Eric Packer's perception of the street as "an offense to the truth of the future" (p. 65) is shared by second-wave cyberpunk novelists who displace the utopian dimensions of urbanity to cyberspace. This

kind of portrayal of the city street as an obsolete spatial construct marks a striking departure from the first wave of cyberpunk fiction, with its unofficial motto, "The street finds its own uses for things," taken from William Gibson's 1981 short story "Burning Chrome."[39] Here, as well as in other works by Gibson, including *Neuromancer* and "Johnny Mnemonic" (1983), the street is the domain of underground economies and subcultures that subvert multinational capitalism through illicit misuses of information technology. In other words, cities and cyberspace are not yet positioned in the antithetical terms of later cyberpunk fiction. Case, the hacker hero of *Neuromancer*, exploits his "street boy" skills to maneuver his way around corporate cyberspace,[40] and in *Johnny Mnemonic*, opposition to global cyber-capital is embodied in the technologically savvy Lo-Teks, a group of data pirates who occupy the fringes of the already marginal urban area of Nighttown. Described through the imagery of dust, disuse, decay, desertion, and dereliction, the Lo-Tek habitat is clearly identified as a lag-time urban space, provoking the charge that cyberpunk writers indulge in an "aesthetic of detritus," romanticizing the urban decay "assumed to pervade the hollowed-out core of the great metropolitan centers."[41]

A striking aspect of Gibson's romance with city streets as the frontiers of opposition to global capitalism is that he presents them as entirely free of racial conflict. In those sections of his work that are set in U.S. cities, the street that finds its own uses for things is largely peopled by white hustlers; African Americans, the racial group that is virtually synonymous with the street in U.S. popular culture, are strangely absent.[42] Gibson's deracialization of the street (or, more precisely, his default racialization of the street as white) may be exactly what makes his urban romance possible. Science-fiction writer Samuel Delany contends that early cyberpunk fiction expressed an "innocent worldview," based on a "misreading" of urban culture that began to seem untenable by the early 1990s.[43] Race became an inescapable component of street life in the second-wave cyberpunk fiction of the 1990s; for example, as noted earlier, the only "street people" left in Neal Stephenson's *Snow Crash* are the racialized poor who have no choice but to remain in the city (p. 191). It is surely no coincidence that once race reenters the cyberpunk urban landscape, actual cities begin to seem unimaginable as objects of futurist utopian desire; consequently, the street is abandoned altogether, superseded by the racially inclusive realm of cyberspace.

Several elisions and displacements must occur before cyberspace can be affirmed as a domain of multiracial urbanity. Utopian constructs of cyber-urbanity ultimately bypass an urban geography in which racial inequalities are all too visible yet increasingly difficult to map in clear-cut terms. In *Snow Crash*, Stephenson actively tackles the difficulty of mapping a globalized urban locale such as Los Angeles, a racial patchwork of a place "in which immigrants and natives, the Korean middle class and the African American working class, Chinese bankers and Central American refugees are directly forced into sociospatial relationships with one another."[44] During the 1980s, the racial landscape of Los Angeles was characterized by flux and fragmentation, evident in the splintering of previous class and race alignments. The simmering class antagonism within as well as among various racial and immigrant groups would eventually erupt in the urban rebellion of 1992, which has been widely seen as the outbreak of a distinctively multinational metropolis. *Snow Crash* registers these ramifying political conflicts through its depiction of Los Angeles as a Balkanized spatial territory, but unable to imagine any possibility of material resolution, Stephenson retreats into the immaterial realm of cyberspace.

The specific nature of this cyber-retreat becomes clear by looking more closely at Stephenson's preferred mechanism for racial reconciliation — the mixed-race hacker hero. Hiro's identity as an Afro-Korean "crossbreed" (p. 20) smoothly glosses over the tension, particularly visible in the Los Angeles of the early 1990s, between Koreans, positioned as the agents of globalization, and African Americans, the preeminent surplus population produced by global capitalism. These complex realities of racialized class friction are displaced by the crossbreeds and mestizas of cyber-fiction and theory. The other prominent device of racial reconciliation — the positing of "people of color" as the vanguard of cyber-futurism, found, for example, in Donna Haraway's cyborg manifesto or Melissa Scott's cyberpunk fiction — similarly neutralizes the problem of class conflict within and among different peoples "of color." Whether through biological hybridity (the mixed-race protagonist) or fuzzy inclusiveness ("people of color"), multiracialism lends a politically progressive aura to cyber-futurist fiction and theory, even as it essentially serves to banish the racial complexities of U.S. urban life at the turn of the twenty-first century.

Race proves to be as much of a stumbling block in speculative novels of urbanity as it is in cyberpunk fiction. In *Tropic of Orange*, Yamashita delineates an urban landscape so fractured as to obscure the vectors of social

stratification as well as dissident alliance. While her image of the moving border suggests a world on the cusp of momentous change, this very fluidity also disorients the political imagination: "What are these lines anyway? What do they connect? What do they divide?" (p. 268). Yamashita directly confronts the dividing lines within the "people of color" category; the character of Emi, epitome of futurist cyber-urbanity, indexes the privileged status of certain Asian immigrant groups, in this case Japanese, in the global information economy. As the transitory moment of cooperation between Emi and Buzzworm, the African American exemplar of street-wise urbanity, evaporates at the end of the novel, Yamashita suggests the difficulty of resolving—even at an imaginary level—the racialized class conflicts that splinter the "people of color" constituency.

Whereas in *Tropic of Orange*, the fragmentation of racial and class politics makes it difficult to project a plausible vision of change, Butler and Kadohata drastically simplify the political landscape of Los Angeles, neatly mapping racial distinctions onto class divisions and thereby presenting the multiracial poor as the agents of social transformation. Class as well as racial conflicts are polarized in *Parable* and *Valley of Love*: the underclass is depicted as multiracial, the affluent class is exclusively white, and there is no middle class or gray area between these two poles. Viet Nguyen has argued that Kadohata's novel embraces a rather facile vision of cross-racial class solidarity from which the "ambiguities of racial and class alignment are erased,"[45] a critique equally applicable to Butler's novel. In both cases, an apocalyptic state of social crisis is needed to produce a clearly legible map of inequality. Pitting rich whites against the multiracial poor, the two novels reduce interracial conflict to a binary opposition between whites and all others, in the process eliding the dubious class position of Asian Americans, as Min Song points out with reference to Kadohata's novel.[46] Akin to Neal Stephenson's Afro-Korean crossbreed, the mixed-race identity of Francie (who is black, Chinese, and Japanese) works as a device for containing the uneven class relations among racial minority groups.

Taking a more generous view, we might say that Butler and Kadohata are modeling a cross-racial class solidarity that currently exists in reality only as a "movement towards a movement."[47] Yet a deeply discomforting aspect of *Parable* and *Valley of Love* is that in neither novel does the imagined multiracial bloc actually succeed in pointing the way toward a more equitable new order. In the failed utopianism of both novels lies an implicit recognition of the political limits of multiracialism at this particular historical conjuncture. Multiracialism can be (and is) claimed by all sides of the political spectrum, as is apparent from its current operation as a ruse of neoliberalism. *Parable* reveals with special clarity that multiracialism is not a sufficient basis for progressive political change, as the novel's racially heterogeneous community finally settles for a walled enclave, fiercely defending its class interests as property owners from the surrounding social chaos.

Noting the apparent paralysis of the political imagination in the era of global capitalism, Ruth Levitas suggests that the current weakening of the utopian impulse may be due to the difficulty of identifying the bearers of change in an increasingly complex socioeconomic structure.[48] This certainly seems to be the crux of the problem in all the fictions of future urbanity considered in this essay. In Butler's and Kadohata's novels, urban dystopia is presented as the logical consequence of economic and racial inequalities that have reached a point of explosive contradiction, but this contradiction is eliminated rather than resolved by the utter destruction of the city. The social contradictions of global capitalism seem so insoluble as to drive the literary imagination toward apocalypse, a sure sign of the difficulty of imagining credible futures that are better than the present. This paralysis of the urban literary imagination is all the more striking because genres such as cyberpunk and speculative fiction, unlike straightforwardly realist fiction, are formally geared to override the spatio-temporal constraints of given social reality and to invent imaginary futures. Even *Tropic of Orange*, which exhibits the most capacious form among all these novels and which resists the pull toward apocalypse, nonetheless testifies to a profound sense of political impasse. Toward the end of the novel, the border that separates not only the global North and South but also the spheres of imagination and reality (the "world of dreams" and "the place of politics and power") has become "again as wide … and as deep as the social and economic construct that nobody knew how to change" (p. 254).

Notes

1 Don DeLillo, *Cosmopolis* (New York: Scribner, 2003), 78, 36. Further references to this text are parenthetically cited.

2 Melvin Webber, "Order in Diversity: Community Without Propinquity," in Lowdon Wingo, Jr., ed., *Cities and Space: The Future Use of Land* (Baltimore: Johns Hopkins University Press, 1963), 42.

3 William Mitchell, *City of Bits: Space, Place, and the Infobahn* (Cambridge, MA: MIT Press, 1995), 8.

4 William Mitchell, *E-Topia*

(Cambridge, MA: MIT Press, 1999), 3; M. Christine Boyer, *CyberCities* (New York: Princeton Architectural Press, 1996), 242.

5 Melvin Webber, "Urban Place and Nonplace Urban Realm," in Melvin Webber, ed., *Explorations into Urban Structure* (Philadelphia: University of Pennsylvania Press, 1964).

6 Key texts of the L.A. school include Michael Dear, H. Eric Schockman, and Greg Hise, eds., *Rethinking Los Angeles* (Thousand Oaks: Sage, 1996); Allen J. Scott and Edward Soja, eds., *The City: Los Angeles and Urban Theory at the End of the Twentieth Century* (Los Angeles: University of California Press, 1996); Edward Soja, *Postmetropolis* (Malden, MA: Blackwell, 2000); and Michael Dear, ed., *From Chicago to L.A.: Making Sense of Urban Theory* (Thousand Oaks, CA: Sage, 2002).

7 Michael Dear and Steven Flusty, "Los Angeles as Postmodern Urbanism," in *Chicago to L.A.*, 79.

8 Soja, *Postmetropolis*, 233.

9 Manuel Castells, *The Informational City* (Cambridge, MA: Blackwell, 1989), 204–205; John Friedman and Goetz Wolff, "World City Formation," in Neil Brenner and Roger Keil, eds., *The Global Cities Reader* (New York: Routledge, 2006), 63; Saskia Sassen, *The Global City* (Princeton: Princeton University Press, 1991), 299–319.

10 Paul Ong and Evelyn Blumenberg, "Income and Racial Inequality in Los Angeles," in Scott and Soja, *The City*, 323.

11 Ibid., 329.

12 Ibid., 323–325; Roger Keil, *Los Angeles: Globalization, Urbanization, and Social Struggles* (New York: Wiley, 1998), 115.

13 Friedman and Wolff, "World City Formation," 65.

14 Castells, *Informational City*, 126–171, 227.

15 William Gibson, *Neuromancer* (New York: Ace, 1984), 43.

16 Neal Stephenson, *Snow Crash* (New York: Bantam, 1992), 211. Further references to this text will be parenthetically cited.

17 Melissa Scott, *Trouble and Her Friends* (New York: Tor, 1994), 128–129.

18 Two texts by African American writers that do not exactly fit the cyberpunk label but explore cyber and material urbanity in the context of globalization are Samuel Delany's *Stars in My Pocket Like Grains of Sand* (1984) and Walter Mosley's *Futureland* (2001). Significantly, for the purposes of this discussion, Delany explores how an information-driven global economy can take either utopian or dystopian directions depending on sociopolitical variables, but nowhere in the novel does race appear as a marker of social difference. Mosley's novel depicts the urban order of globalization in bleakly dystopian and emphatically racialized terms. But, departing from the racial as well as the urban imaginary of cyberpunk, Mosley refuses to construct cyberspace as a realm in which urban racial inequalities can be transcended. In Delany's novel as well, cyber and place-based urbanity are not constituted as inverse categories, with cyberspace projected as the site at which material contradictions can find imaginary resolution.

19 Like science fiction, speculative fiction invents alternative realities, often (though not always) set in the future, but its main point of difference from science fiction is that its alternate realities are not necessarily constructed by extrapolating from the principles of scientific rationality.

20 Jason Hackworth, *The Neoliberal City* (Ithaca, NY: Cornell University Press, 2006), 38–40.

21 Friedmann and Wolff, "World City Formation," 64. Also see Kevin Robins and Mark Hepworth, "Electronic Spaces: New Technologies and the Future of Cities," *Futures* 20:5 (April 1988), 166.

22 Boyer, *CyberCities*, 38, 20.

23 Charles Jencks, *Heteropolis* (New York: St. Martin's, 1993), 7.

24 Octavia Butler, *Parable of the Sower* (New York: Warner, 1993), 106. Further references to this text are parenthetically cited.

25 Cynthia Kadohata, *In the Heart of the Valley of Love* (Los Angeles: University of California Press, 1992), 33. Further references to this text are parenthetically cited.

26 Michael Peter Smith, *Transnational Urbanism* (Malden, MA: Blackwell, 2001), 183, 98.

27 Karen Tei Yamashita, *Tropic of Orange* (Minneapolis: Coffee House Press, 1997), 188. Further references to this text are parenthetically cited.

28 Jennifer Wolch and Michael Dear, *Malign Neglect: Homelessness in an American City* (San Francisco: Jossey-Bass, 1993), xxiii.

29 Jennifer Wolch, "From Global to Local: The Rise of Homelessness in Los Angeles During the 1980s," in *The City*, eds. Scott and Soja, 390–425.

30 Wolch and Dear, "Malign Neglect," 221.

31 Whereas the homeless crowd in Butler's novel is thoroughly multiracial, it is largely Latino and African American in Yamashita's novel, reflecting an actual shift in the racial makeup of the U.S. homeless population since the 1980s.

32 Susan Ruddick, "Heterotopias of the Homeless," *Strategies* 3 (1990): 191.

33 Kevin Robins, "The New Communications Geography and the Politics of Optimism," *Soundings* 5 (1997): 202.

34 Don Mitchell, *The Right to the City: Social Justice and the Fight for Public Space* (New York: Guilford, 2003), 148–149, 231.

35 Mitchell, *City of Bits*, 44.

36 Kevin Robins, "New Communications Geography," 202.

37 Friedmann and Wolff, "World City Formation," 65.

38 Henri Lefebvre, "The Urban Revolution," in *Global Cities Reader*, eds. Brenner and Keil, 412.

39 William Gibson, *Burning Chrome* (1986; New York: Eos, 2003), 199.

40 Gibson, *Neuromancer*, 128.

41 Andrew Ross, *Strange Weather: Culture, Science, and Technology in the Age of Limits* (London and New York: Verso, 1991), 146.

42 In the 1995 film version of *Johnny Mnemonic*, directed by Robert Longo, the street is racialized as black. In films about cyber-technology such as *Johnny Mnemonic* and *Strange Days* (dir. Kathryn Bigelow, 1995), the idea of the street having its own uses for things gets associated with sampling and other creative misuses of technology found in hip-hop music, which features centrally as a touchstone of political opposition in *Strange Days*, and is more indirectly evoked by the casting of Ice-T as the leading Lo-Tek in *Johnny Mnemonic*.

43 Mark Dery, "Black to the Future: Interviews with Samuel Delany, Greg Tate, and Tricia Rose," in Mark Dery, ed., *Flame Wars: The Discourse of Cyberculture* (Durham, NC: Duke University Press, 1994), 200. Delany specifies that the cyberpunk view of the streets lost its "historical validity" after the urban riots following the initial acquittal of the LAPD officers who had brutalized Rodney King: "To stand in the midst of the millions of dollars of devastation in Los Angeles and say, with an ironic smile, 'The street finds its own uses for things' is beyond irony" (p. 194).

44 Roger Keil, *Los Angeles*, 224.

45 Viet Nguyen, *Race and Resistance: Literature and Politics in Asian America* (New York: Oxford University Press, 2002), 151.

46 Min Hyoung Son, *Strange Future: Pessimism and the Los Angeles Riots* (Durham, NC: Duke University Press, 2005), 63–64.

47 In her discussion of the obstacles confronting multiracial environmental justice activism in L.A., Laura Pulido cites a lead organizer's eloquent comment about multiracial political activism: "We are not a movement yet. There is a movement toward a movement." Pulido, "Multiracial Organizing Among Environmental Justice Activists in Los Angeles," in Dear et al., eds., *Rethinking Los Angeles*, 177.

48 Ruth Levitas, "The Future of Thinking About the Future," in Jon Bird et al., eds., *Mapping the Futures: Local Cultures, Global Change* (New York: Routledge, 1993), 258.

Spatial Chaos: Architecture, Capitalism, and the Organic Imaginary

MORGAN NG

In recent years, some of our most progressive contemporary architects have assumed high-profile roles in the design of sprawling and supposedly "sustainable" projects. Rem Koolhaas is at work on the Ras al Khaimah Gateway Eco City, an entirely new 1.2 million square meter "zero-carbon" urban development in the United Arab Emirates (UAE). Bjarke Ingels has designed Zira Island, a lavish resort and entertainment center in the bay of Baku, Azerbaijan. Originator of the catchphrase "hedonistic sustainability," Ingels claims his firm has engineered an ecosystem that will function in the same manner as the local mountainous habitats it is designed to resemble. On a smaller scale, Reiser + Umemoto has recently completed the construction in Dubai of the O-14 tower, a skyscraper whose organic and eco-friendly form was generated by means of parametric software.

Yet what is ecological about megalopolises sprung *ex novo* from desert sands, or built atop obliterated ancient villages? Vast commercial developments constructed on the infill of once-teeming marine habitats? Costly high-end technologies manufactured in industrial factories? And green buildings funded on the future demand for oil? Even in the case of the UAE, which has devoted more resources than most to its plans, the creation of a huge urban conurbation in the desert necessarily creates environmental problems that can be ameliorated, but not eliminated. Given their likely impacts, such proposals hardly sound credible as sustainable development—yet they continue to stir the imaginations of many government bureaucrats, corporate tycoons and "radical" architectural academics.

Contemporary architecture and planning of this type reflect a larger epistemic impasse wrought by the clash of two modes of "objective" knowledge. The natural sciences, on the one hand, warn that the environment is a fragile and intricate system, which cannot absorb the shock of modern development. Capitalism, on the other hand, dictates that the unabated expansion of commodity production and consumption is the only possible means to increase human happiness. In contemporary architectural theory and design, however, these contradictions are largely obscured by a pervasive scientism that is more concerned with the creation of superficially organic forms than with real functional solutions. Urban designers, architects, and landscape architects have deployed advances in computer visualization to project a scientific aura: claiming to design organic or natural spatial and material configurations, even while participating in environmentally unsustainable economic and political processes. Their work is symptomatic of the broader phenomenon of sustainability marketing used to justify and perpetuate the interests of capitalist elites in the current economic system.

Such trends in architectural theory have ostensibly found validation in the natural sciences—above all, the theories of "chaos," "complexity" and "self-organization" that have arisen in the fields of physics, chemistry, and biology during the past half-century. Despite the apparent objectivity conferred by natural science to architecture, however, the formulation of "nature" propounded in such architectural theory—as a chaotic, self-organizing, and emergent system—is actually a conception charged with social and political significance. Historically this formulation has served to naturalize and legitimate the accumulative processes of the market economy, which is similarly characterized as a spontaneous, self-regulating, and evolving organic growth. In what is perhaps the central presupposition of classical economics, the economy is understood as an autonomous natural phenomenon, which functions according to scientific principles that can be empirically studied and observed. In conceptual exchanges with architecture, such formulations have shaped visions of urban space (most recently the postindustrial capitalist city) as a dynamic "ecology" or "landscape" of interwoven social and environmental forces.[1]

My essay compares these trends on two distinct historical periods, to argue that recent trends in architectural theory have ideological roots reaching back several centuries. From a short-term perspective, the origins of current organicist architectural theory should be seen less as the inevitable outgrowth of a scientific "paradigm shift" than an intentional outcome of late-twentieth-century political

Fig. 1 Demolition of Pruitt Igoe, St. Louis, Missouri.

What is ecological about megalopolises sprung *ex novo* from desert sands, or built atop obliterated ancient villages? Vast commercial developments constructed on the infill of once-teeming marine habitats? Costly high-end technologies manufactured in industrial factories?

and social ideologies. Although chaos theory emerged in the sciences in the 1960s, it did not receive broad public attention until the 1980s. As I will articulate, the mass dissemination of chaos theory coincides, conceptually and historically, with the mounting neo-liberal fundamentalism that has dominated politics and economics since the 1980s—positions putatively justified by the liberal economic theories of figures such as Friedrich Hayek and members of the Chicago School such as Milton Friedman. Neoconservatives maligned state welfare housing and other forms of postwar modernist planning as totalitarian. In this cultural climate, and in large part without realizing their right-wing ideological parallels, architectural theorists in the 1990s associated architectural modernism with "mechanistic" forms of political control, and postindustrial capitalist models of urban development with "organic" forms of social order.

From a longer historical perspective, today's organicist architectural thought is only the most recent iteration of emergent theories of political economy from the late-seventeenth through the eighteenth centuries. Against the assertion of current architectural theorists—that chaos theory marks a recent paradigm shift in the sciences—I argue that by the Enlightenment a philosophy of the laissez-faire economy was already overturning a mechanical or steady-state model of nature. Such epistemological transformations resonated in new architectural conceptions of the city. While nature is occasionally invoked today as a metaphor for the economy, the earliest political economists literally believed in the *œconomia vitae* as an invisible force binding nature and human action. Economic philosophers such as Adam Smith and the physiocrats drew analogies with vitalist natural philosophy to describe the market economy, while architectural theorists such as Nicholas Barbon and Marc-Antoine Laugier applied similar ideas to "naturalize" the economic processes of the early modern city. This marriage of economics and social ideology with a vitalist model of nature long predates organicist ideas on architecture, which architectural theorists too often claim as entirely new.

Between Hayek and DeLanda: The "Social Organism" and "Nonorganic Life"

In 1987, popular science journalist James Gleick published *Chaos: Making a New Science*—a work infused with quirky personal narratives on iconoclastic hero-scientists that remained on the top of bestseller lists for weeks. In Gleick's account, scientific advances made in the 1960s have overturned a mechanical, deterministic model of nature that has held a privileged place since the Scientific Revolution. Whereas steady-state physics could only understand matter and energy conserved within closed systems, breakthroughs in nonlinear dynamics have helped to explain seemingly random, chaotic natural phenomena, by revealing how these phenomena conform to complex underlying patterns. According to one reader, architectural theorist Sanford Kwinter, such complex systems lie "elegantly and indeterminately poised between stability and instability"; and these higher-order "life forms" spontaneously emerge from the dynamic self-organizing interactions of local, more elementary systems. Complex systems are found in phenomena of breathtaking variety: from the genetic diversity in a living embryo that epigenetically "[emerges] from … a field of identical cells," to nonliving processes that nonetheless display lifelike characteristics—cloud formation in the atmosphere, new synthetic material organizations, and cybernetic and digital communicative infrastructures.[2]

In the years following Gleick's publication, countless offshoots appeared that claimed to apply chaos theory to fields as disparate as the social sciences, literature, music, and even theater.[3] In architecture, these ideas have dominated the terms of theoretical discussion for over a decade. *Architectural Design* (*AD*), a journal known for its support of radical design-theoretical work, helped to initiate the link between chaos theory and architecture by publishing *Folding in Architecture* (1993), edited by Greg Lynn. The volume featured essays by prominent

architectural theorists introducing scientific terms — *self-organization*, *morphogenesis*, *nonlinear dynamics*, *chaos theory*, *complexity*, and *emergent systems* — borrowed from innovations in physics, biology, and other branches of the natural sciences.[4] Such terms helped fuel the organicist theories and digital design techniques that have overtaken much of current architectural discourse.[5]

While architectural designers and theorists have asserted their affinity with modern science, terms such as "complexity" and "organicism," when recontextualized within architectural theory, assume such vague metaphorical dimensions that their original scientific meanings are barely recognizable. These theories are intended for a non-specialist audience, and are expounded on by writers who lack sufficient expertise to fully understand and describe such difficult scientific concepts. These works possess neither scientific value nor real technical rigor, and are virtually ignored by the physicists or chemists who originated them. This disconnect, between the strict scientific meaning and the metaphorical application of chaos theory, suggests that the intellectual origins of these ideas for architecture need serious reconsideration.

What fascinated Gleick's popular readership, including the architectural theorists who would take up his themes, was the claim that chaos theory could encompass much more than science:

> Because chaos is a science of the global nature of systems, it has brought together thinkers from fields that had been widely separated. Chaos poses problems that defy accepted ways of working in science. It makes strong claims about the universal behavior of complexity. Believers in chaos — and they sometimes call themselves believers, or converts, or evangelists — speculate about determinism and free will, about evolution, about the nature of conscious intelligence.[6]

In the popular imagination, chaos theory is often employed as a universal philosophy of nature, applicable even beyond the objective reach of empirical science, explicating even questions of ethical or cultural significance. Terms such as "conservative," which in scientific terms properly describes a model of physical systems, seem to carry double meanings: one scientific, the other social. *Chaos* has been interpreted as a mode of social organization in which political control is dispersed and decentralized.

To fully contextualize these ideas, then, one must look beyond the sciences. Curiously, the moment of chaos theory's mass popularization historically and conceptually parallels the prevailing political and social logic. Starting in the 1980s, or even earlier, politics moved to increasingly repudiate earlier Keynesian economic models, slashing government welfare programs and promoting market deregulation and private business enterprise. In popular terms, this was described as "Reaganomics," after the president at the time — Ronald Reagan — who initiated these policies. Neoliberal ideologues, influenced by the Chicago School economists and others, touted their philosophies not only as a matter of social and political ministration, but as a grand, natural system of human freedom. The rhetoric found fertile reception in a public still reeling from Cold War tensions; for many, the supposedly deregulated and decentralized system of "free" market capitalism appeared to be the only democratic and rational alternative to the failed planned economies of totalitarian socialism.

These particular events occurred late in the twentieth century, but their ideological underpinnings were felt much earlier. In 1945 Friedrich Hayek, one of the century's most influential economists,[7] delivered a lecture at University College, Dublin, which exemplifies the rhetoric that would proliferate over subsequent decades. Hayek's lecture, entitled "Individualism: True and False," propounds a theory of ideal social order.[8] He contrasts "collectivist theories" that "pretend to be able directly to comprehend social wholes like society … independently of the individuals which compose them" with a "pseudo-" or "contract

Despite the apparent objectivity conferred by natural science to architecture, however, the formulation of "nature" propounded in such architectural theory — as a chaotic, self-organizing, and emergent system — is actually a conception charged with social and political significance.

While architectural designers and theorists have asserted their affinity with modern science, terms such as "complexity" and "organicism," when recontextualized within architectural theory, assume such vague metaphorical dimensions that their original scientific meanings are barely recognizable.

individualism," which likewise "leads to practical collectivism," Hayek argues that

> by tracing the combined effects of [true] individual actions, we discover that many of the institutions on which human achievements have arisen and are functioning without a designing and directing mind; that…"nations stumble upon establishments, which are indeed the result of human action but not the result of human design"; and that the spontaneous collaboration of free men often creates things which are greater than their individual minds can ever fully comprehend.[9]

Hayek's ideal society has minimal state regulation and excludes preplanned social form. Yet it presupposes a society comprised of more than atomistic and purely selfish individuals. For the "richer organism which we call 'society'" to emerge, each individual "participating in the social processes, must be willing to adjust himself to changes and submit to conventions which are not the result of intelligent design." Like Sanford Kwinter's description of a complex system, Hayek's ideal society is "elegantly and indeterminately poised between stability and instability." For Hayek, the rewards of such a free self-regulating social organism are the continual and unpredictable creation of new forms of knowledge, which are otherwise impossible through either any individual or broadly coordinated effort.

The vitalist terms in which Hayek renders his social and economic theories bear a striking resemblance to the "paradigm shift" that architectural theorist Manuel DeLanda attributes to developments in *scientific* research in the 1960s, nearly two decades after the lecture cited above, and nearly a half-century after Hayek's initial encounters with the liberal economics of the Austrian School.[10] DeLanda explains that under the right conditions, chemicals react to form a "dynamic equilibrium" through the "spontaneous assembly of a 'chemical clock,'" which does not conform to the ordinary principles of Newtonian mechanics. While classical thermodynamics entails that chemical reactions settle into a steady-state equilibrium, in dynamic equilibrium, chemical reactants continue to evolve, forming temporal and spatial patterns "as asymmetric and information-rich as those we observe in organic life."[11] DeLanda continues to describe different forms of such self-organizing complex phenomena, which occur with "startling universality" at all imaginable scales in the natural world.

But, considering the underlying implications for social agency, DeLanda's use of terms such as "spontaneous-assembly" and "self-organization" becomes more than an exegesis on atomic waves, crystals, and cloud formations. The second part of his essay addresses how to derive a system of social ethics from the scientific insights. DeLanda sees human societies, in their connections to ecosystems, as complex exchanges of "water, metabolic energy, bonding pressures, action modes, population, trade, technology, and so on"—a literal continuation of the scientific phenomena he describes throughout the essay.[12] At the end of the essay, he relates this theory of natural complexity to economics, positing a direct correspondence between a "conservative" model of steady-state physics and centralized political power. For DeLanda, the ideal economic condition is instead a semi-stable "hybrid system combining the resilience of markets with the goal-seeking behavior of hierarchies," one that balances between the static "crystalline" structure of bureaucratic and state organizations and the vital "fluidity" of the market economy. Although DeLanda emphasizes the contributions of the natural sciences to his philosophy, he is clearly indebted (if indirectly) to the social theories of thinkers such as Hayek.

This connection becomes more obvious when these ideas are applied to architecture and urbanism—which, after all, are materializations of social ideologies. Alejandro Zaera-Polo argues that, within the last several decades, the conversion of urban "topographies" into flexible, heterogeneous, and polycentric flows of energy and matter coincides precisely with "the emergence of a new

scientific paradigm which has come to replace the long-lasting validity of conservative systems."[13] Likewise, Stan Allen has proposed that concepts in "mathematical field theory … nonlinear dynamics, and computer simulations of evolutionary change" suggest spatial organizations not predetermined by "overarching geometrical schemas," but complex "field conditions" that emerge from "bottom-up phenomena." Such conditions are found in the "local variations of topography or history" and "flexible internal relations, multiple pathways, and fluid hierarchies" that form "the complex interplay of indeterminacy and order at work in the city"; or in the unpredictable and ever-changing social forms of flocks, schools, swarms, and crowds, which emerge as the "cumulative result of localized patterns" rather than fixed overall configurations.[14]

Whereas Zaera-Polo attempts to naturalize urban forms, Allen's analyses of flocks, swarms, and field conditions echo the classic case for economic deregulation: that the undirected decision-making of individuals in market economies will spontaneously result in complex forms of social democracy. One objection could be that, while architects have imported chaos theory directly into design theory, any similar allusions to nature in economics remain only metaphorical. But as it turns out, throughout his career Friedrich Hayek also increasingly turned to developing a philosophy of science in addition to his economic and social theories.[15] In an essay entitled "The Theory of Complex Phenomena," Hayek begins by distinguishing the social sciences from the physical sciences.[16] The social sciences concern normative problems associated with human life, whereas the physical sciences attempt to discover predictable and stable patterns, such as Newton's "general law of mechanics."

But by the end, Hayek collapses his earlier distinction between the "phenomena of life, of mind, and of society," and the more empirically definable problems of the "physical world." The apparent distinction is due only "to a confusion between the degree of complexity characteristic of a peculiar *kind* of phenomenon and the degree of complexity to which, by a combination of elements, any kind of phenomenon can be built up."[17] Even a nonliving physical system can possess "vitalistic" attributes once it acquires enough variables to act as unpredictably as living phenomena. Hayek's natural model clearly parallels his model of social order; it is difficult, indeed, not to believe that Hayek's theory of complex phenomena derives from his social theories in the first place. Hayek's theory of natural complexity anticipates the conditions for what DeLanda would later call "nonorganic life," and he understands the social body to display similarly lifelike characteristics. The actions of separate thinking individuals act as the myriad variables of a natural system, and the complex, organic tendencies of these actions in the aggregate can only flourish in the undirected space of the free market.

In his lifetime, Hayek vigorously advanced his liberal economic theories against what he saw as the totalitarian tendencies of "collectivism," or planned social order,[18] and discussions in contemporary architectural theory parallel the same belief system. For theorists of architectural organicism, chaos theory presents an ideological alternative to modernist utopianism, which dreamed of engineering a perfect social order by imposing a functionalist architectural totality. By the 1980s and 1990s, many believed that they had witnessed the widespread failure of postwar modernist urban projects. The disenchantment with modern architecture's "overarching geometrical schemas" (Stan Allen) and its "stable alignments or hierarchies"[19] (Jeffrey Kipnis) too often followed the exploitation of architectural form for political power. Charles Jencks, who famously hailed the "death" of modern architecture in the 1970s (fig. 1) , states polemically that

> A mechanistic worldview, quite obviously, leads to battery-hatch housing and concentration camp planning. I need not prove this: Pruitt Igoe, Sarcelles, and just about all the highrise fortresses that surround every modern city from New York to Moscow, unfortunately, nail in the point.[20]

For these thinkers, a mechanical model of nature, the belief in instrumental reason, and the static forms of modernist functionalism all betray the hand of totalitarian power.

Yet the vilification of modernist architecture also followed the disenchantment with architecture's capacity to realize widespread social change. Massive urban renewal projects such as Pruitt Igoe urban housing in St. Louis, which was meant to house the poor, had at their outset reflected postwar Great Society optimism. But conservative ideologues quickly took up their failure as a rallying point to stop such government-sponsored projects in the future. The rhetoric often rekindled Cold War anxieties, for in the public imagination, large-scale demonstrations of state welfare echoed Soviet-style planning. While heavy-handed urban planning is no longer the dominant model of urban development, urban conditions since the 1980s are not merely the result, as Allen and Zaera-Polo have suggested, of natural or organic progression. They remain

Contemporary architectural theory has looked to science for models to generate more vital, organic, and democratic forms of architectural and urban space. Yet this stylistic naturalism, which fails to seriously confront architecture's problematic role under capitalist production, has actually served to reinforce prevailing ideologies.

the work of concerted political efforts, as private lobbyists have vigorously pushed to abandon idealistic architecture and urban planning as an instrument of public welfare in favor of commercial interests and the private real estate market.

Contemporary architectural theory has looked to science for models to generate more vital, organic, and democratic forms of architectural and urban space. Yet this stylistic naturalism, which fails to seriously confront architecture's problematic role under capitalist production, has actually served to reinforce prevailing ideologies. With the vagaries of the global financial market presented as objective determinants of political decision-making—neutralizing and obscuring the role of elite private interests in shaping political policy—the figure of the economy has attained the totalizing status of a second nature. Neoliberal ideologues speak of the market "fixing itself," as if the economy were a phenomenon as natural as the weather, operating entirely free from political determinations. Architectural theory has adopted similarly naturalistic terms of expression, which unnecessarily obscure the real conditions of architectural production. Yet capitalism's objectified status is hardly a historical novelty; its philosophical and cultural formation and architectural thought has much older roots.

The *Œconomia Vitae* and the City as a Forest

Proponents of architectural organicism frequently assert the newness of their ideas, even while relying on familiar interpretive formulas. Some have invoked Thomas Kuhn's influential "paradigm shift," a term which initially described innovation in the hard sciences, but in popular usage since has come to encompass all realms of knowledge and culture. This expanded definition has often merged with Michel Foucault's notion of an *episteme*, which links the scientific knowledge of any historical moment to a broad complex of discursive practices that constitute the production of power. Foucault associates the emergence of Cartesian geometry and Newtonian mechanics with the historical formation of regimes of vision and disciplinary architectural structures. As Continental philosophy has come to dominate contemporary cultural studies, it is now commonplace to impute insidious ideological meanings to classic mathematical and scientific ideas. The tendency among historians of modern architecture, though, to draw sweeping periodizations and deterministic lines between scientific innovation and architecture, predates Kuhn and Foucault. In his *Space, Time & Architecture* (1941), Siegfried Giedion famously hailed a new space conception founded on Einsteinian relativity and "revolutions" in the physical sciences and optics.[21]

Following this tendency, architectural theorists today have linked their claims of a recent scientific paradigm shift to a larger cultural shift. Earlier architectural proponents of chaos theory considered organicist architecture an attempt to overcome both modernist functionalism and the negative or "deconstructive" discourses that dominated the architectural academy in the 1980s. Following the academic taste for Continental philosophy, these theorists have also looked to the writings of Gilles Deleuze, whose non-dialectical materialist metaphysics seems to confirm the scientific subversion of conservative stability in Newtonian mechanics.[22] While earlier theorists located this paradigm shift in scientific advances in the 1960s, more recently Sanford Kwinter has traced a longer lineage to innovations starting in the late nineteenth century. Kwinter argues that the "unsettling of certainties" in classical physics by Henri Poincaré and Ludwig Boltzmann relates to the philosophical work of Henri Bergson and the artistic production of Italian Futurism.[23] These mappings not only posit a definitive historical origin to current architectural thought, but they also postulate a *parallel* relationship—between turn-of-the-century science, philosophy, and art, and recent developments in chaos

theory, Deleuzian thought, and technologically mediated architectural practice.

These claims to epistemic newness serve a powerful commodity function within schools of architecture: where novelty determines the currency of an idea, and where critics are incessantly pressured to coin the latest neologism, or to claim the newest "paradigm shift" and "epistemic rupture." As Grant Kester has observed, such claims speak through a familiar logic, for "If the analysis of modernity has a signal intellectual trait, it would seem to be a persistent historical amnesia, and the desire to claim that this moment of transformation … is somehow more decisive, more extreme, more symptomatic, than any before it." In such claims, the "act of 'naming' a new epoch or its constitutive elements" functions "to legitimate the theorist's own cultural necessity."[24] In prophetic declarations of a "New Architecture" and the "new 'sciences of complexity,'" architectural theorists have constructed an absolutely singular present, while distorting and reconfiguring the past into a monolithic and irreconcilable counterpoint. As such, they paradoxically echo the very modernist rhetoric they hope to overcome.

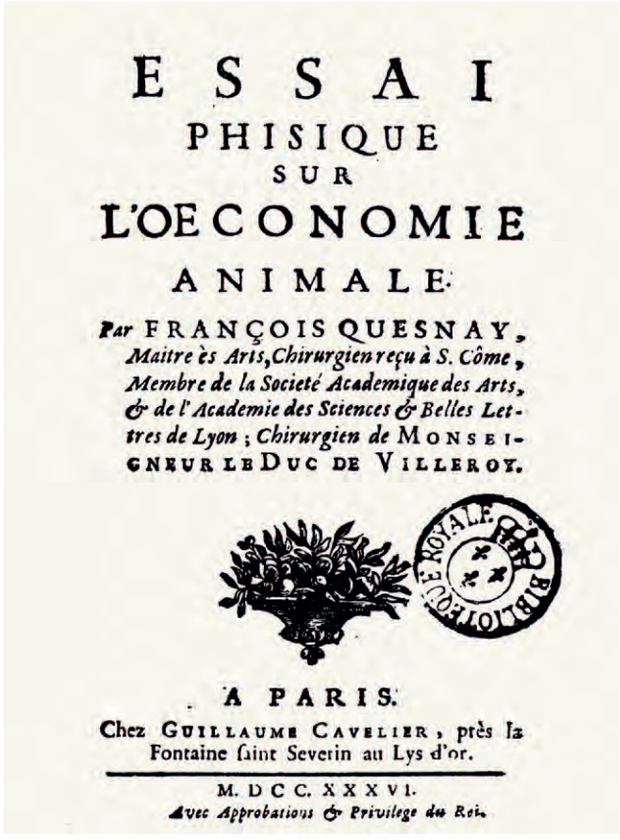
I will now take a longer-range historical perspective, and consider the study of the past an instrument for contemporary architectural critique.[25] What lends "chaos theory" its currency in architectural theory today is less its affinity with modern science than its kinship with centuries-old ideologies. Contemporary organicist architectural theories largely build (if unconsciously) upon deeply ingrained scientific frameworks developed in the seventeenth and eighteenth centuries. This period was not uniformly dominated by a mechanical model of nature, which would take twentieth-century science to overcome, but also saw the rise of vitalist natural theories that challenged principles of Newtonian mechanics — while shaping ideas about political economy, physiology, architecture, landscape, and urban form.

By the late seventeenth century, a theory of natural vitalism was already being analogized to the economic functions of the early modern city. In 1685, Nicholas Barbon, a prominent speculative builder in London after the Great Fire, wrote:

> For the Metropolis is the heart of a Nation, through which the Trade and Commodities of it circulate, like the blood through the heart, which by its motion, giveth life and growth to the rest of the Body; and if that declines, or be obstructed in its growth, the whole body falls into consumption: And it is the only symptome to know the health, and thriving of a Country, by the inlarging of its Metropolis; for the chief City of every Nation in the world that flourisheth, doth increase. And if those Gentlemen that fancy the City to be the Head of the Nation, would but fancy it like the heart, they would never be afraid of its growing too big. To conclude, it was upon these Considerations, That by the building and inlarging of a City, the People are made *Great*, *Rich*, and *easily Governed*.[26]

It is difficult for modern readers to fully appreciate the significance of Barbon's model of urban growth. Today the universally accepted measure of an economy's "health" is its continuous expansion. But from the seventeenth into the eighteenth century, the reigning economic ideology among European nations was a mechanical model of wealth similar to Newtonian mechanics — where energy and matter are conserved within a closed system, and every action is balanced by an equal and opposite reaction. Under the zero-sum logic of Renaissance double-entry bookkeeping as well as later mercantilist theories, the total amount of wealth in an economy (measured in gold bullion) is fixed. Within such a schema, wealth could only be *circulated*, but not *created*, so that "if one party grew richer, it was at another's loss."[27] Opponents of London's uncontrolled growth believed that the increase in building, population, and economic capital in large cities would inevitably

In prophetic declarations of a "New Architecture" and the "new 'sciences of complexity,'" architectural theorists have constructed an absolutely singular present, while distorting and reconfiguring the past into a monolithic and irreconcilable counterpoint. As such, they paradoxically echo the very modernist rhetoric they hope to overcome.



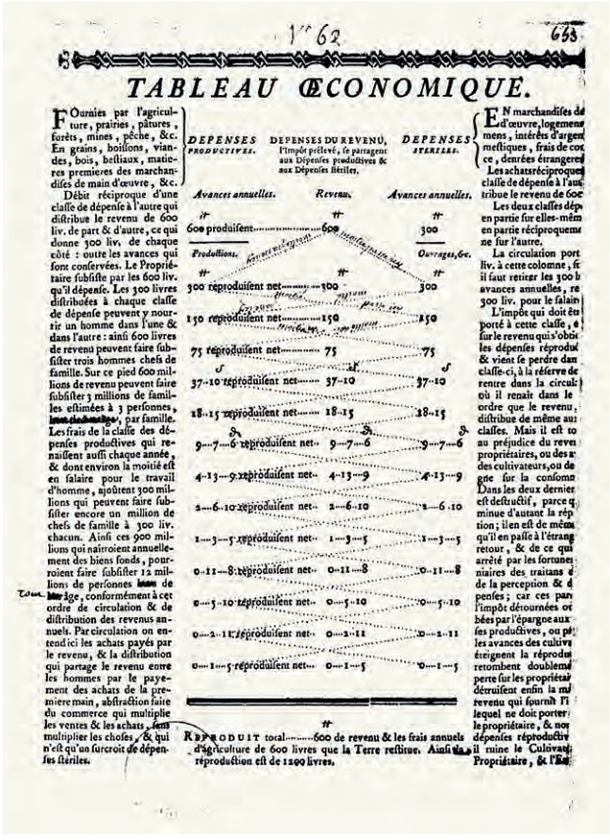


Fig. 2 François Quesnay, "Essai physique sur l'œconomie animale," 1747 (left) and "Tableau Économique," 1759 (right).

detract from the resources of the countryside—echoing a familiar tension between rural nature and urban culture.

Barbon thus defied the prevailing economic logic by arguing that urban growth followed an organic pattern of development. He made two arguments highly prescient of later political-economic thought. First, Barbon describes the city as a dynamic physiological system with "emergent" properties. The roots of Barbon's metaphor of the human and political body are ancient, of course, and his depiction of the circulation of "Trade and Commodities" recalls the link between money and blood articulated at least as early as the fourteenth century. (Barbon's language clearly borrows from Thomas Hobbes's 1651 *Leviathan*, which famously described the necessity of money and commodities for the "nourishment" of the "body" of the commonwealth.) Despite their shared physiological metaphor, Barbon's ideas differ from the classical mechanical premise, which stipulated that "the body is disordered when the Humours flow too freely into one member of it, so that that member is often thus inflamed and overgrown while its life shortened."[28] For Barbon, the exclusive channeling of resources to the metropolis will enlarge the total wealth of the nation. Urban construction must be encouraged to continue its course without interference or fear that the city could grow "too big."

Second, Barbon propounded these economic processes as a natural system of governance. He remains outwardly committed to state power, leaving to the sovereign the title of "Head of the Nation." For Barbon it is the city, the "heart" of the Nation, that fills the functional role of state administration. As if by an unplanned natural progression, the "building and inlarging of a city" leaves the nation's subjects "*easily governed*." Future political economists would be more explicit in their marginalization of state power. For Adam Smith, the proper functioning of the market economy—what he termed the "system of natural liberty"—could only occur with a minimum of government intervention. In these early speculations, we find the theoretical basis for the "science" of classical economics. By conceptually detaching it from political determinism, the economy seems to function as an autonomous and unmediated natural phenomenon.

It is easy to dismiss the natural imagery in Nicholas Barbon's descriptions as merely metaphorical. Within modern disciplinary boundaries the natural sciences occupy a very different role from social sciences such as economics. But Enlightenment thinkers did not register such a clear distinction between the study of political economy and that of natural philosophy. As Margaret Schabas has shown, terms such as the *vital economy of nature* had fluid meanings, which philosophers used to describe phenomena of both the natural and social worlds[29] (fig. 2). In fact, many of these early economic philosophers who employed such organic metaphors had themselves crossed such disciplinary lines: Barbon, who published two treatises on money, as well the prominent economic physiocrat François Quesnay, were both trained as medical physicians before devoting themselves to the study of the political economy. Adam Smith described the production of wealth in terms borrowed from contemporary Scottish physiological and medical developments based on theories of natural vitalism.[30]

Considered in such terms, these economic and ideological transformations were rewriting concepts of nature. Because economic accumulation and surplus value contradicted the common-sense notion of natural mechanism, new understandings of nature were invoked to describe these emergent social-economic realities. From at least the eighteenth century onward, developments in the study of political economy paralleled a complex constellation of theories propounded by natural philosophers—theories that challenged the Newtonian model of nature that many modern scholars have characterized as the single governing scientific episteme of the Enlightenment.

Because economic accumulation and surplus value contradicted the common-sense notion of natural mechanism, new understandings of nature were invoked to describe these emergent social-economic realities.

Thinkers such as Michel Foucault, for instance, have mistakenly circulated the idea that all Enlightenment natural philosophy conformed to a mechanical natural model. This considered matter, living or nonliving, as the inert "aggregate of simple, elementary particles" and hence subject to rationalist classificatory schemes. Historians, however, have more recently revised this view.[31]

Following the animistic theories of the German physician Georg Ernst Stahl (1660–1734), natural philosophers discussed the phenomenon of the "animal economy" to account for the forces that vitalize living organisms beyond the mechanical interactions of bodily organs, while revising Stahl's Neoplatonist attribution of this vital energy to the soul. For many, the principle extended beyond the purview of physiology: the *œconomia vitae* charged all of nature with the pulse of life, making nature an interconnected assemblage of self-organizing and self-regulating systems. Such ideas came to wide scholarly attention through the publication of Comte de Buffon's (George Louis Leclerc) highly influential *Historie naturelle* (1749). Buffon described a nature neither reducible to visible, superficial forms, nor structured by abstract mathematical principles. Underlying his various natural historical accounts was the conception of nature as a causal, "successional unfolding of phenomena" animated by an "inner system of forces and dynamic actions and relations immanent in matter itself."[32] For vitalist philosophers, nature pulsates with immanent vital flows that are at once invisible (literally "occult powers"), but also fully material.[33] Many set out to prove these theories with investigations into physiological phenomena, such as epigenetic processes of embryonic development, as well as experiments with nonliving phenomena, such as electricity and chemical reaction. Philosophers after Buffon extended his natural philosophy into the domains of social thought, imbuing his theories with progressivist meanings.

The economic physiocrats—a group of mid- to late-eighteenth-century French intellectuals among the first to create a sustained and systematic theory of political economy—argued for an economic system literally rooted in nature: by means of agriculture and its connection to the wealth of the earth. Under the mechanical scheme of mercantilism, a nation's prosperity depended on a favorable balance of trade and the acquisition of gold. Under the physiocrats' "fertility schema," however, new wealth could be generated by means of "occult" vitalist forces. In his

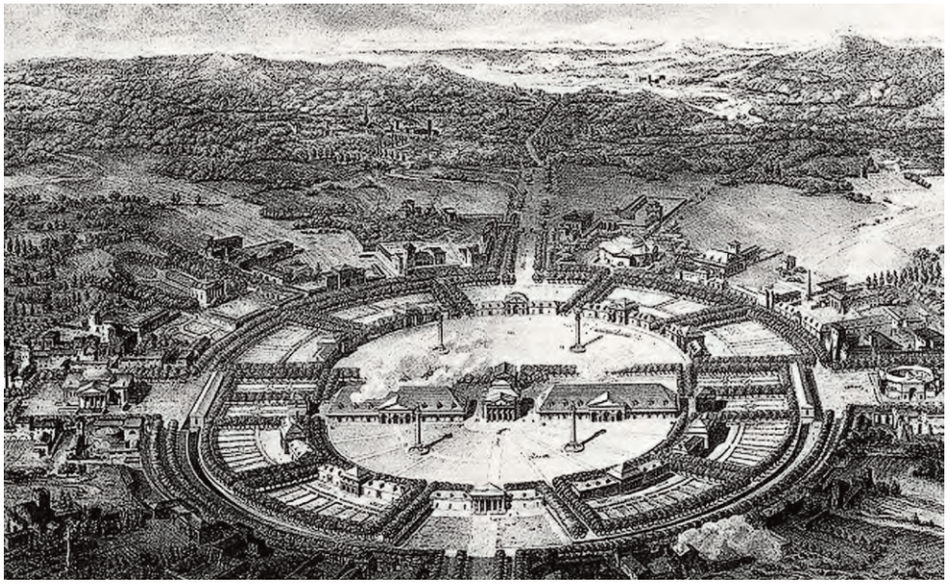


Fig. 3 A perspective view of Chaux, Claude-Nicolas Ledoux, 1774.

advocacy of the laissez-faire economy, François Quesnay argued for a minimum — but not total elimination — of sovereign control: "the executive power should act like a good gardener who, taking care of trees, removes the moss from the trunk, but refrains from damaging the bark because through the bark trees receive their vital lymph."[34] Like the vital economy, the laissez-faire economy is a self-functioning natural system, which is damaged by excessive exogenous state interference.

Although the writings of Quesnay and the physiocrats prefigure many contemporary conceptions of the liberal economy, later economists rejected some of their main premises, especially its agrarian ideal. The physiocrats' desire to found an economic theory on natural principles assigned industry and commerce only marginal positions — as expedient for the circulation of wealth — while agriculture held the privileged position in wealth production. Furthermore, Adam Smith critiqued physiocratic theory instituting a particular form of morality: in advocating that the political body follow a "certain very precise regimen … of perfect liberty and perfect justice," the physiocrats maintained at least a partial mechanical model of social order. Smith likened this to the speculations of quack doctors who saw the body as a machine that must be subjected to a precise regimen of diet and exercise (fig. 3).

Whereas the physiocrats privileged one member of the political body, Adam Smith saw the entire economy in all its constituent parts as a dynamic and interconnected productive system. Smith's belief in the "division of labor" as the basis of productivity anticipated the logic of modern industrial capitalism, and completely unhinged the idea that wealth originates from some limiting material basis — whether the mercantilists' gold, or the physiocrats' land. As Susan Buck-Morss explains, "Smith's fertility schema is the multiplying *effect of a procedure*, not some*thing*, nor even some*body*."[35] Smith's celebrated "invisible hand" is driven not by some divine external power, but an immanent *occult* power, a "science of connecting principles" — an idea Smith borrowed from vitalist developments in Scottish medicine. For Smith, the entire aggregate of individual acts of self-interest follows the "unknown principle of animal life," which "restores health and vigour to the constitution, in spite, not only of the disease, but of the absurd prescriptions of the doctor."[36] Excessive governance would only artificially restrict the workings of a naturally self-organizing and self-regulating economic system.[37]

These new directions in political economics and natural philosophy during the eighteenth century would soon manifest themselves in architectural thought. New conceptions of architecture and urbanism emerged as alternatives to the "absolutist" planning and disciplinary technologies of vision often associated with Enlightenment architecture following the Baroque era. Although Nicholas Barbon's corporal metaphor reflects his particular training as a physician and his intimate understanding of animal physiology, Marc-Antoine Laugier's image of the city suggests the pervasiveness of vitalist-empiricist conceptions of nature in the next century. In *Observations sur l'architecture* (1765), Laugier described the city as a "forest" interposed with "regularity and fantasy, relationships and

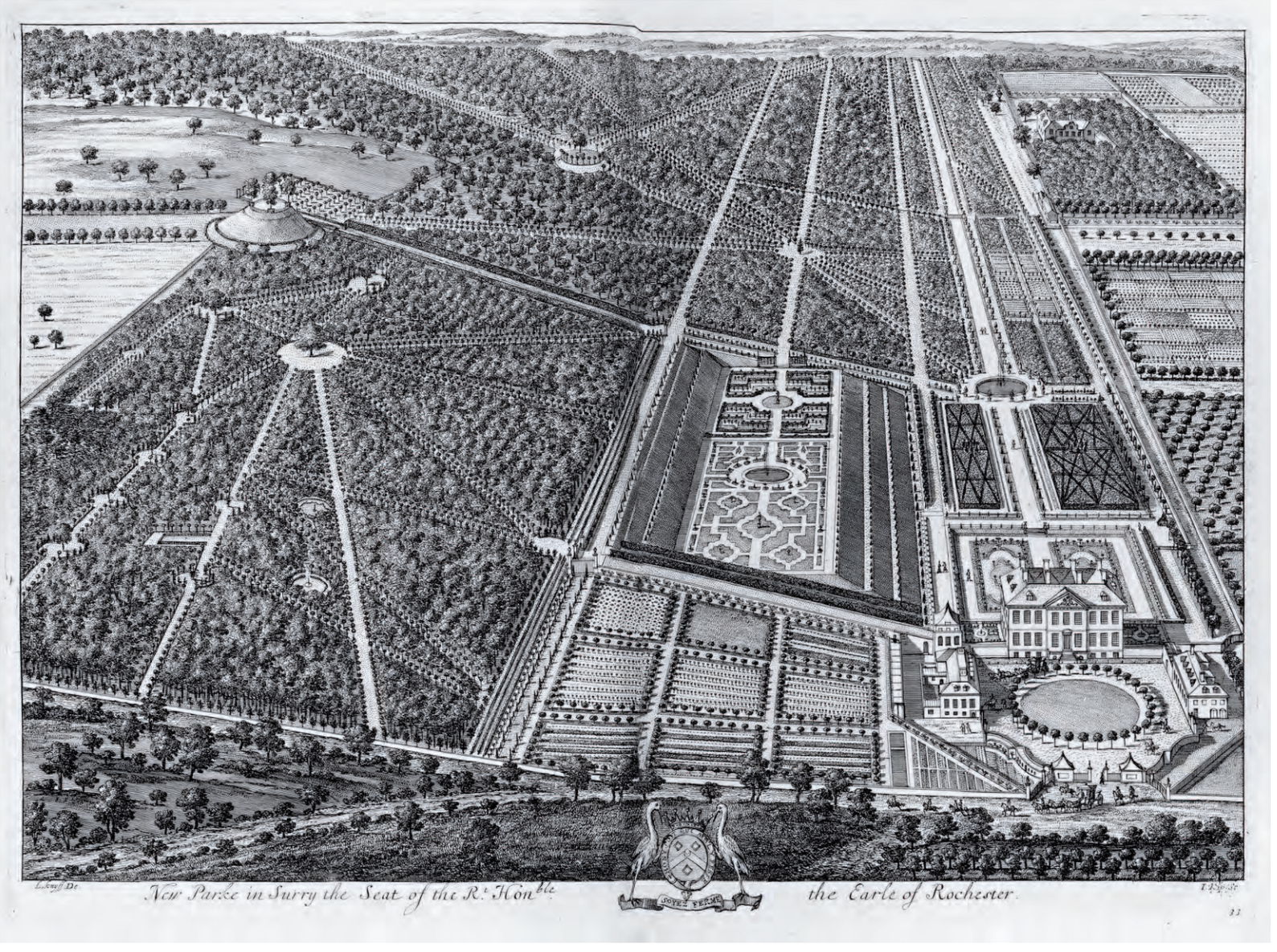


Fig. 4 Representation of a gentry estate, "New Parke in Surry, the Seat of the Earle of Rochester" (plate 33), *Britannia Illustrata*, Johannes Kip and Leonard Knyff, 1707.

oppositions, and casual unexpected elements that vary the scene; great order in the details, confusion, uproar, and tumult in the whole."[38] By the eighteenth century, this forest imagery — as exemplified earlier by Francis Bacon's *Sylva Sylvarum* (*Forest of Forests*), an eclectic, open-ended collection of empirical experiments — had come to represent the fragmentary, heterogeneous manifold of nature itself.[39]

The urban theories of Barbon and Laugier served as alternatives to prevailing Baroque conceptions of spatial order, and at the same time responded to shifting spatial configurations of power. Whereas designers typically employed the woodland aesthetic to endow parks and the gardens of private country villas with a rambling, naturalistic quality, Laugier used it to transgress — not promote — the conventional city/country and culture/nature dichotomy. Laugier's application of a rural metaphor to the city referenced a notion of nature whose organicism was already undermined, as the technological and social transformations of the seventeenth and eighteenth centuries had already converted the countryside into the site of industrial-agrarian production (fig. 4) . Allusions to Baconian empiricism reflected a vision of nature aligned with broader consumerist "materialism," in a world increasingly filled up with "things" imbued with immediate substantive value, and where natural philosophy's importance lay in its potential for practical instrumentalization.

According to Manfredo Tafuri, Laugier's characterization of the city as a natural phenomenon constituted a bourgeois attempt to absorb and displace contemporary anxieties with changing modes of economic production and exchange. Indeed, the metaphor of sylvan fragmentation resembles Smith's notion of labor division, which described the changes in subjective experience wrought by economic individualism: the urban landscape is a spatial multiplicity, with each part operating within its functional place, but none possessing a full view of its significance to the whole. Although Laugier's image draws more from empiricist than vitalist models of nature, it parallels Smith's desire to legitimate the economic order on natural-materialist grounds. By imagining the city as a disordered picturesque landscape, Laugier takes recourse to an organic conception to psychologically reckon with the vast accumulative processes reordering the face of the eighteenth-century laissez-faire city.

Conclusion: Field or Fragment?

Curiously, theories of "landscape urbanism" from the past decade recall eighteenth-century architectural-urban thought, which attempted similarly to objectify capitalist forms of development with natural metaphors. James Corner, Moshen Mostafavi, and others have introduced the concept to describe urban complexity, marshalling supposedly natural-scientific theories that "[escape] linear, mechanistic models." Laugier's attempt to naturalize the material conditions of the early modern city through the lens of the picturesque landscape is not inconsistent with James Corner's description of the contemporary city as an "ecology." Echoing the expansive eighteenth-century meaning of *œconomia*, Corner explains that an "ecology" binds "all life … into dynamic and interrelated processes of codependency" — making "cities and infrastructures … just as 'ecological' as forests and rivers."[40] By reducing a socio-cultural phenomenon such as the city into an organic one, Corner reproduces Enlightenment notions of the political and urban order as a "'natural' process," which is conceptually "ahistorical because universal." This conception of urbanism regards the networks of economic and political power at work in the city as natural and merely self-evident, "freed of any considerations of a structural nature."[41] His scientistic description of postindustrial urbanism reproduces a capitalist logic, which posits free market laws as the inevitable (natural) reality of modern development.

On a global scale, these processes have funneled economic capital to world financial centers and have left peripheral areas perpetually "underdeveloped." If the imperatives of global capitalism have eroded the territorial integrity of the political nation-state, these forces have not simply decentralized power, but have remapped power into the hands of transnational corporate elites.

For these contemporary architectural theorists, the postindustrial city's market relations are not just a natural state of being, but forces for social liberation. Mostafavi describes landscape urbanism as a form of spatial "democracy," which creates flexible architectural responses by considering the "external forces … shaping our city."[42] As these "external forces" are constituted primarily by the dominant forms of political-economic power, Mostafavi exhorts architects to respond to "planning regulations… [and] international financial markets." Corner repeats familiar free-market rhetoric, arguing that "Global economies, television, communication, mass-mobility, and the increased autonomy of the individual are some of the factors undergirding a general transition from hierarchical, centric, authoritative organizations to polycentric, interconnected, expansive ones."[43] Contemporary architecture's valorization of digital algorithmic design seems to partially derive from this faith in new technologies to provide more flexible forms of technocratic management. With the rise of the information and service economies and the dematerialization of labor creating social and spatial democracy

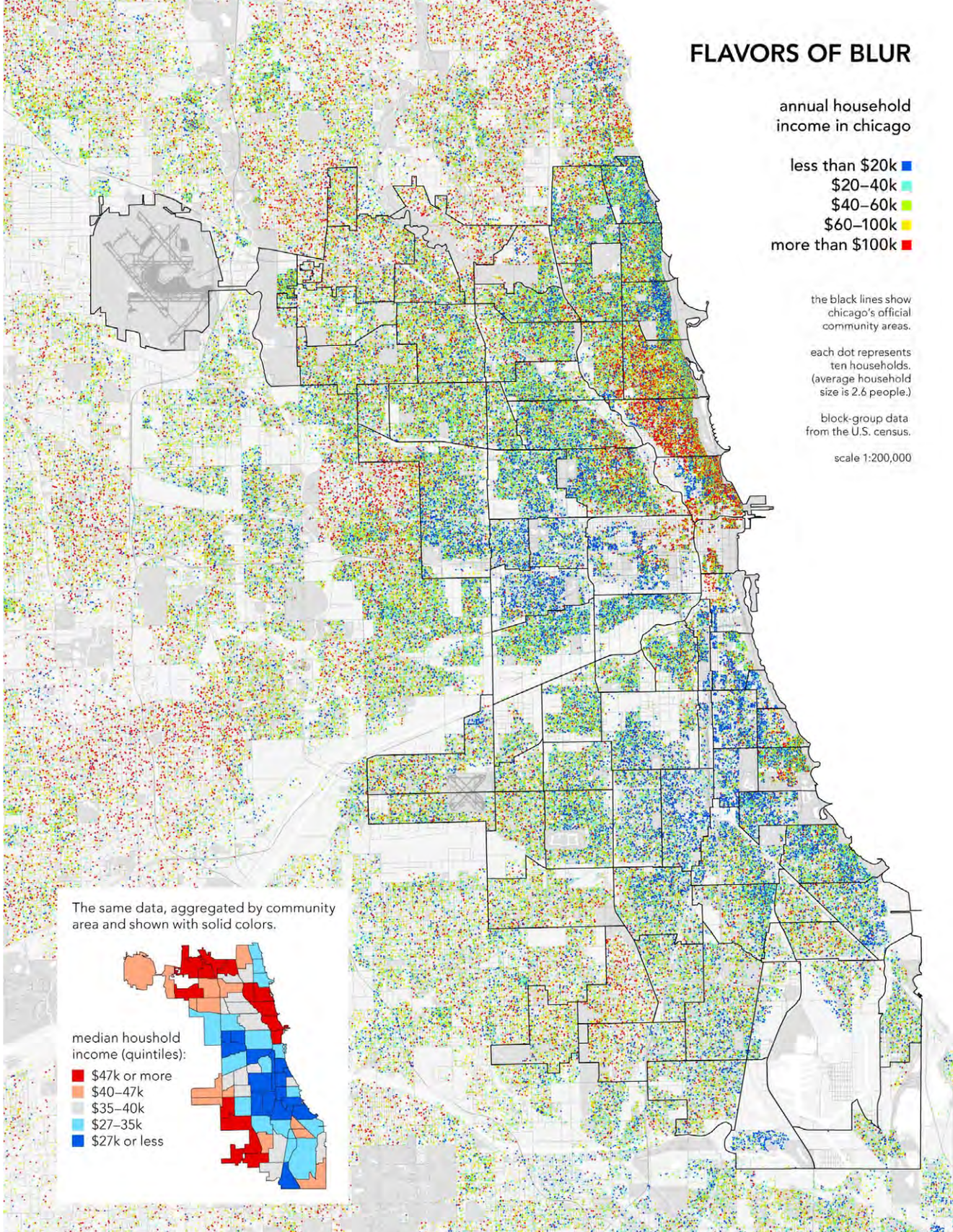


Fig. 5 Color-coded map of household incomes in Metropolitan Chicago, 2009.

on a global order, architects merely need to partake of the processes of advanced capitalism and revel in the results.

But what do these discourses conceal? To describe the city as a "field condition" of polycentric and deterritorialized social flows fails to confront how economic power relations have increasingly spurred income disparities and uneven urban development in the past several decades. Economic inequalities in many world financial capitals are higher now than they have been in nearly a century. Mostafavi sees sensitivity to the "external forces" of market capital as the basis for spatial democracy, but these very forces have contributed to the dissolution of the urban public sphere. If market deregulation has freed urban systems to "self-organize" at all, it has reinforced socioeconomic stratification, not created polycentric social order. For instance, a map of metropolitan Chicago color-coded according to household income consists of neatly ordered bands, which show the wealthiest residents occupying the city's core, and the poorest relegated to the most outlying areas with the least access to transportation and resources (fig. 5).

On a global scale, these processes have funneled economic capital to world financial centers and have left peripheral areas perpetually "underdeveloped." If the imperatives of global capitalism have eroded the territorial integrity of the political nation-state, these forces have not simply decentralized power, but have remapped power into the hands of transnational corporate elites. The flexibility of global capital and labor, made possible by advanced information technology, has effectively wiped out local forms of anti-capitalist resistance — as much as it has promoted, as Corner celebrates, the "increased autonomy of the individual." Finally, terms such as "landscape urbanism," which attempt to seamlessly meld modes of production with an organic conception, fail to come to terms with how capitalist accumulation itself has precipitated the current and impending environmental crisis. As global markets now function as the inevitable "natural order of things," we strike an increasingly tenuous balance between environmental preservation and the unrelenting drive of economic production.

In the wake of the continuing economic crisis, begun in 2008, architectural theorists have yet to grapple with the structural realities of economic inequality and social disenfranchisement. If the economic and social crisis has revealed the acute need for government regulation of financial markets, the discipline of architecture must similarly recognize the need to reform private real estate development, as well for collaboration with the state in long-range urban planning and infrastructure. Design education must, in turn, properly equip architects for these challenging tasks. Functionalist justifications for the computer-aided design of organic architectural forms, however, have largely fallen short even in this regard. In the many built examples of these principles, such as Foreign Office Architect's Yokohama International Port Terminal, it is hard to tell whether these projects are superior in performance to boxy modernist designs that serve similar functions. The pseudo-scientific veneer of the firm's widely published architectural diagrams is no substitute for rigorous analysis. To realize a cohesive and intelligent impact on new conceptions of the urban environment, architects and builders will instead need real expertise in construction technology and sustainable engineering, humanities, and social sciences — rather than the superficial use of parametric computation for the creation of naturalistic blobs.

Notes

1 This paper will limit its discussion of organicism and complexity in architectural discourse to their use as a radical model for organizing human and social life in the city. Other versions of the discourse (not dealt with here) include architectural work preoccupied entirely with decorative biomimicry and digital parametric formalism, as well as metaphysical and literary strains, whose recent invocations of Deleuzean and Bergsonian philosophy constitute something of an organic neoromanticism.

2 Sanford Kwinter, "Soft Systems," in Brian Boigon, ed., *Culture Lab* (Princeton, NJ: Princeton Architecture Press, 1993), 207–228.

3 A few examples: Richard J. Bird, *Chaos and Life: Complexity and Order in Evolution and Thought* (New York: Columbia University Press, 2003); Patrick Brady, "Chaos Theory, Control Theory and Literary Theory or: A Story of Three Butterflies," *Modern Language Studies* 20 (Autumn 1990): 65–79; Michael R. Bütz, *Chaos and Complexity: Implications for Psychological Theory and Practice* (Washington, DC: Taylor & Francis, 1997); N. Katherine Hayles, *Chaos Bound: Orderly Disorder in Contemporary Literature and Science* (Chicago: University of Chicago Press, 1990); N. Katherine Hayles, *Chaos and Order: Complex Dynamics in Literature and Science* (Chicago: University of Chicago Press, 1991); William W. Demastes, *Theatre of Chaos: Beyond Absurdism, into Orderly Disorder* (New York: Cambridge University Press, 2005); Ivars Peterson, "Bach to Chaos," *Science News*, December 24–31, 1994, 428–429.

4 *Folding in Architecture*, Greg Lynn, ed., *Architectural Design* 63 (May 1993).

5 More recent *Architectural Design* issues include a July 2004 volume

entitled *Emergence: Morphogenetic Design Strategies* and a March/April 2006 volume entitled *Techniques and Technologies in Morphogenetic Design*, which contains articles on "Self-organisation and the structural dynamics of plants" and the "ramifications and potentials of a literal biological paradigm for architectural design."

6 James Gleick, *Chaos: Making a New Science* (New York: Penguin Books, 1987), 5.

7 The correlation between Friedrich A. Hayek's and President Ronald Reagan's economic philosophies is not incidental. Reagan often alluded to Hayek's work and, in a July 10, 1987, White House briefing, he cited Hayek, Milton Friedman, and George Stigler as the most notable champions of a free-market "orthodoxy."

8 Reprinted in Friedrich A. Hayek, "Individualism: True and False," in *Individualism and Economic Order* (Chicago: University of Chicago Press, 1948), 1–32.

9 Hayek, "Individualism," 6.

10 See Manuel DeLanda, "Non-organic Life," in Jonathan Crary and Sanford Kwinter, eds., *Incorporations* (New York: Zone, 1992), 129–167.

11 DeLanda, "Nonorganic Life," 129–131.

12 Ibid., 153.

13 Alejandro Zaera-Polo, "Order Out of Chaos: The Material Organisation of Advanced Capitalism," *Architectural Design* 64 (1994), 24. The title of this article recalls that of Ilya Prigogine and Isabelle Stengers's book.

14 Stan Allen, "From Object to Field," in Peter Davidson and Donald Bates, eds., *Architecture After Geometry*, *Architectural Design* 67 (1997): 24–31.

15 The most famous instance is his 1952 book *The Counter-Revolution of Science*. Hayek paradoxically criticizes what he terms "scientism," in which the insights generated in the natural sciences are retroactively deployed to legitimate a social or political theory. See Friedrich Hayek, *The Counter-Revolution of Science* (Glencoe, IL: Free Press, 1952).

16 Friedrich Hayek, "The Theory of Complex Phenomena," in M. Bunge, ed., *The Critical Approach to Science and Philosophy. Essays in Honor of K. R. Popper* (New York: Free Press of Glencoe, 1964).

17 Hayek, "Theory of Complex Phenomena," 335.

18 These arguments were most notably formulated in his book *The Road to Serfdom*, an important work in shaping Reagan's and former British Prime Minister Margaret Thatcher's political ideologies.

19 Jeffrey Kipnis, "Towards a New Architecture," *Folding in Architecture*, 43.

20 See Charles Jencks, *The Architecture of the Jumping Universe. A Polemic: How Complexity Science Is Changing Architecture and Culture* (London: Academy Editions, 1995), 33.

21 Sigfried Giedion, *Space, Time and Architecture: The Growth of a New Tradition* (Cambridge, MA: Harvard University Press, 1941).

22 *Architectural Design*'s issue *Folding in Architecture* introduced Gilles Deleuze's thought to many architects for the first time, by including a translated excerpt of *Le Pli* along with the issue's more properly architectural articles. According to Jeffrey Kipnis, "some New Architecture theorists, notably Sanford Kwinter and Greg Lynn, have shifted their attention from poststructural semiotics to a consideration of recent developments in geometry, science, and the transformations of political space, a shift that is often marked as a move from a Derridian towards a Deleuzian discourse"; in "Towards a New Architecture," *Folding in Architecture*, 42.

23 Sanford Kwinter, *Architectures of Time: Toward a Theory of the Event in Modernist Culture* (Cambridge, MA: MIT Press, 2001). The assertion doesn't originate with Kwinter; in *Chaos: Making a New Science*, James Gleick had cited Poincaré and Boltzmann as the forefathers of 1960s chaos theory.

24 Grant Kester, "Wazungu means 'White Men': Superflux and the Limits of Ethical Capitalism." Lecture, Working in Public: Art, Practice and Policy Symposium, Gray's School of Art, Robert Gordon University, Aberdeen, Scotland (March 2007).

25 In architecture, this historical model has been most notably promoted in the work of Manfredo Tafuri.

26 Nicholas Barbon, *An Apology for the Builder; or a Discourse shewing the Cause and Effects of the Increase of Building*, London, printed in the Year, MDCLXXXIX [1st publ. 1685]. Reprinted in Caroline van Eck, *British Architectural Theory 1540–1750: An Anthology of Texts* (Aldershot, UK: Ashgate, 2003), 33.

27 See discussion in Susan Buck-Morss, "Envisioning Capital: Political Economy on Display," *Critical Inquiry* 21 (Winter 1995): 443.

28 The mechanical conception of human and political bodies originated from Aristotle's *Politics*. Nicholas Oresme reformulates it in *De Moneta* (ca. 1355). Quoted in Jerah Johnson, "The Money=Blood Metaphor, 1300–1800," *The Journal of Finance* 21 (March 1966): 119.

29 See Margaret Schabas's *The Natural Origin of Economics* (Chicago: University of Chicago Press, 2005), 10.

30 See Catherine Packham, "The Physiology of Political Economy: Vitalism and Adam Smith's Wealth of Nations," *Journal of the History of Ideas* 63 (July 2002): 465–481.

31 See discussions in Peter Hanns Reill, *Vitalizing Nature in the Enlightenment* (Berkeley: University of California Press, 2005); Phillip R. Sloan, the "Natural Philosophy" entry in Knud Haakensson, ed., *The Cambridge History of Eighteenth-century Philosophy* (New York: Cambridge University Press, 2006).

32 Phillip Sloan and Peter Reill disagree on the philosophical origins of this idea. While Sloan sees a Leibnizian basis in Buffon's naturalism, Reill sees Leibnizian philosophy as conforming to a metaphysical tradition that Buffon opposed. Sloan, "Natural Philosophy," 917.

33 Reill, "Vitalizing Nature," 12.

34 The metaphor is originally in François Quesnay's *Oeuvres iconorniques et philosophiques*, and paraphrased in Giuseppe Saccaro-Battista, "Changing Metaphors of Political Structures," *Journal of the History of Ideas* 44 (January–March 1983): 42.

35 Buck-Morss, "Envisioning Capital," 447.

36 Quoted in Packham, "Physiology," 468.

37 Despite the abuse of his principles by neo-liberals today, however, Smith hardly dismissed intervention based on moral precepts, even though these might affect the market. Smith was against government interference in the market for purely economic reasons, because it will never be a better judge of what to do than the emergent direction of the market itself.

38 Manfredo Tafuri, *Architecture and Utopia: Design and Capitalist Development*, trans. Barbara Luigia La Penta (Cambridge, MA: MIT Press, 1976), 4.

39 Vittoria Di Palma, "Fragmentation, Multiplication, Permutation: Natural Histories and Sylvan Aesthetics from Bacon to Evelyn," in Barry Bergdoll and Werner Oeschlin, eds., *Fragments: Architecture and the Unfinished: Essays Presented to Robin Middleton* (London: Thames & Hudson, 2006), 233–244.

40 James Corner, "Landscape Urbanism," in Moshen Mostafavi and Ciro Najle, eds., *Landscape Urbanism: A Manual for the Machinic Landscape* (London: AA Publications, 2003), 63.

41 Tafuri, *Architecture and Utopia*, 7.

42 Moshen Mostafavi, "Landscapes of Urbanism" in *Landscape Urbanism*, 9.

43 James Corner, "Landscape Urbanism," 59.

Post-Disaster + Post-Capitalism = Post-Capitalist Urbanism

STEVE SCHWENK

I. POST-DISASTER

Post-Disaster *Anti-Urbanism*

Late capitalism and globalization have recently ushered in trends toward privatization of the public realm, calling into question the capacity of the urban form to catalyze urbanism through providing "public" spaces that breed antagonistic social and political friction. Infamously documenting this trend in the 1990s, Rem Koolhaas described the contemporary urban environment as a "generic city" and a "junkspace" of rampant commercialization that no longer has any ability to nurture social or political civic life. But even Koolhaas must not have anticipated the unrelenting privatization of the city in the twenty-first century. Public-private partnerships have become a popular model for redeveloping city centers in England and the U.S.[1] In Asia, Dubai's model of city planning allows private developers comprehensive control not only in designing urban form, but in writing specific law within their respective "free-zone" enclaves.[2]

Perhaps most startling, redevelopment practices described as "disaster capitalism" seize post-disaster opportunities for privatization of public services as residents and governments pause to collect themselves. This process has been exemplified by recent redevelopment in the southeastern U.S. following Hurricane Katrina and across tsunami-affected regions in Asia. The disaster capitalist process begins as neighborhoods are converted into gated communities, commercial areas critical to community life are sold to the highest bidder, and schools and hospitals are closed down and renovated to serve new clientele. Displaced low-income residents are entirely estranged from the redevelopment decision-making process, unable to return to their devastated neighborhoods because of the lack of community support. The result is an urban condition comprised of private enclaves of various scales, and with varying rights of access. This newly segregated city, described by Peter Sloderdijk as a "foam city"[3] because of the proliferation of bubble-like enclaves, renders public space obsolete, short-circuiting the ability of the urban form to act as a vehicle for diverse social mixing, and effectively stifles civic voice.

In this essay I present an alternative model of urbanism, one that negotiates the demands of the unprecedented privatization of the "foam-city" while providing a vehicle for the eruption of civic voice to enable resident participation in the decision-making process that determines the city's future. The first section, "Post-Disaster," describes the crisis of urban form's inability to catalyze urbanism in post-Katrina New Orleans at the hands of disaster-capitalist privatization. More hopefully, the essay documents a "trailer-park" urbanism flourishing within Federal Emergency Management Agency (FEMA) trailer-park sites. The second section, "Post-Capitalism," elaborates on this alternative model of urbanism first observed at FEMA sites, where the built environment takes on an ability to mediate civic conversation by becoming customizable, and thereby responsive to residents' needs and desires. This model of urbanism is traced from feedback models in cybernetic theory practiced in the 1960s utopian fantasies of architects such as Cedric Price, to recent discourses ranging from network theory to the open-source paradigm. Finally, the essay presents an architectural proposal for public infrastructure in New Orleans that is designed to catalyze distributed, networked urbanism across the post-disaster city, triggering an eruption of civic voice at a critical time of much-needed resident involvement in the development process.

Post-Disaster *Enclaves*

In her book *The Shock Doctrine*, Naomi Klein discusses the ubiquitous enclave in New Orleans redevelopment efforts as an example of "disaster capitalism."[4] Klein uses military categorizations of the "red zone" and the "green zone" to describe two very different kinds of gated communities that characterized the post-disaster landscape.

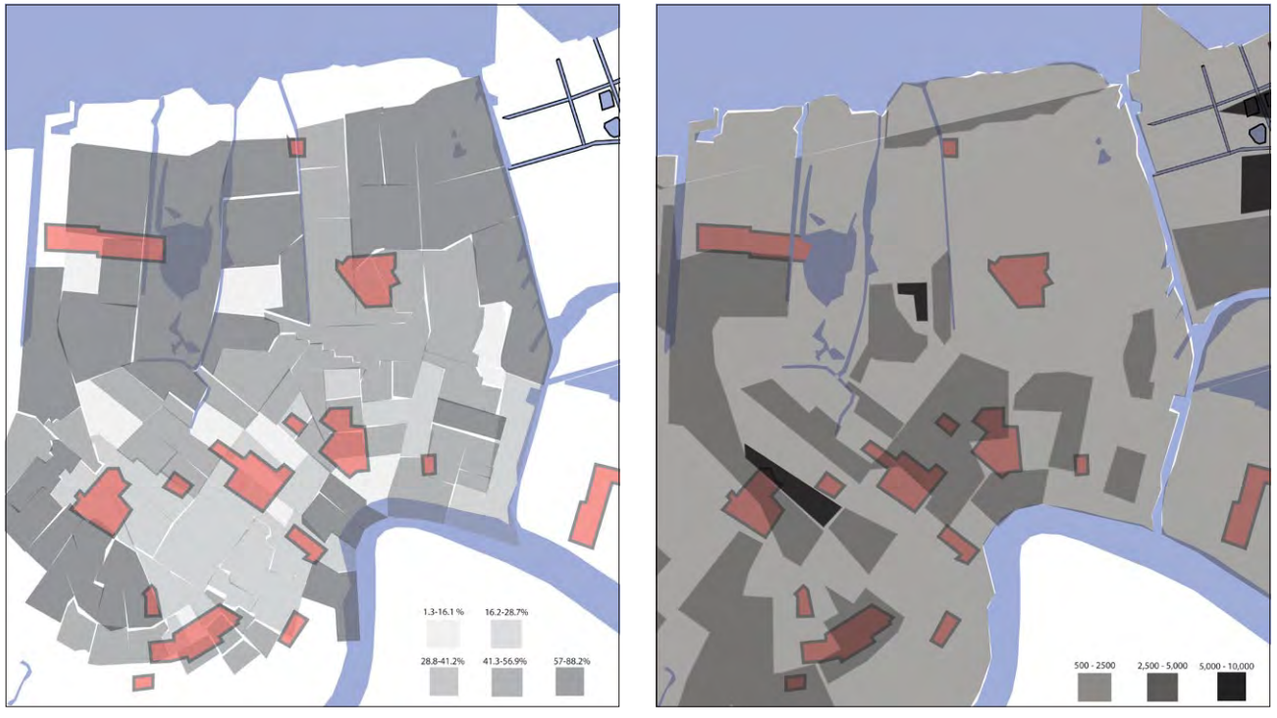
> On the one hand were the so-called FEMA-villes: desolate, out-of-the-way trailer camps for low-income evacuees, built by Bechtel or Fluor subcontractors, administered by private security companies who

Appropriation of structural frame for construction.

patrolled the gravel lots, restricted visitors, kept journalists out, and treated survivors like criminals. On the other hand were the gated communities built in the wealthy areas of the city, such as Audubon and the Garden District, bubbles of functionality that seemed to have seceded from the state altogether. Between the two kinds of privatized sovereign states was the New Orleans version of the red zone, where the murder rate soared and neighborhoods like the storied Lower Ninth Ward descended into a post-apocalyptic no-man's-land.[5]

To exacerbate this urban condition, the special planning agency appointed by Mayor C. Ray Nagin to oversee the New Orleans rebuilding process, called the "Office of Recovery Management," proposed a process whereby a number of "target areas" were to be identified and developed using a combination of public and private investment capital.[6] These target areas had a number of common characteristics, including high visibility and accessibility due to locations near transportation infrastructure, a recent history of commercial success, and a relatively minimal amount of destruction. The vast majority of these target areas (fourteen of seventeen) were located adjacent to neighborhoods that experienced the most population loss following Katrina, those with the highest concentration of low-mobility, low-income residents.

This redevelopment strategy guided private capital to the areas most vulnerable to gentrification. Indeed, it is difficult to argue that the economic prosperity resulting from the target area development would help residents of these neighborhoods return, instead more probably ushering in



New Orleans, targeted redevelopment areas (pink) with poverty levels (left) and population loss (right).

privatization of public facilities and services. In fact, as these target-area redevelopments were being planned, regulations were being put into place allowing the public school system to be privatized as charter schools, and public housing projects to be closed across the city. Klein observes that, "amid the schools, the homes, the hospitals, the transit system and the lack of clean water in many parts of town, New Orleans' public sphere was not being rebuilt, it was being erased, with the storms as an excuse."[7] The redevelopment strategy rooted in disaster-capitalist practices had effectively fragmented the public realm into clearly demarcated zones segregated by social class.

Post-Disaster *Lifestyle*

Most of the evacuated low-income, low-mobility population spent life after Katrina in one of the FEMA trailer parks scattered around New Orleans, called "group sites." FEMA employees in these enclaves often repeated the mantra,

"We make sure residents don't get too comfortable." This concern stemmed from the temporary character of the system. The units themselves were leased, and expected to be returned to the government after residents had moved on. The land used for the temporary trailer parks was leased as well. Sometimes it was previously the site of public services such as parks and community centers, and sometimes it was private land used for commercial parking lots or university sports fields. Regardless, it was to resume its previous function after the crisis had abated.

Because of the necessity for these parks to be temporary, the existing FEMA emergency housing system was designed to ensure that community could not take root there. Their design decisions attempted to short-circuit the ability of public space to act as the site for public exchange. This began with the fencing off of group sites from the surrounding "red zone," and the use of armed security guards to patrol the perimeter. Residents were required to carry FEMA-issued ID cards at all times. The trailer living units were arranged in serial rows, and spaced according to fire code requirements, leaving wide patches — up to one hundred feet — of sand or gravel between trailer rows. The utility infrastructure ran on the back side of the trailer row. Within the row, trailers were spaced roughly twenty to thirty feet apart, creating a suburban logic of individual units located on plots of land, with parking directly outside or adjacent to the unit. This ensured that residents rarely walked outside of their units, and certainly no farther than was required to access their cars.

The units themselves were a hodgepodge of trailer types originally intended for outdoor recreational vehicle use. Many of these units were bought directly from sales lots near the group sites, but the majority were manufactured as FEMA-spec trailers in Indiana. Loaded onto trains, they were shipped to "staging sites" in places such as Hope, Arkansas, and then trucked to their specific "group sites." Residents often said that the most important attribute of these trailers was the air conditioning, leading many residents to stay inside most of every day.

The mobile home industry has devised ingenious ways of extending the small living space of the trailer to the outside, but the FEMA-spec trailer eliminated all of these amenities. Typical in many of the trailers brought directly from sales lots were elements such as storage cubbies that could be accessed from outside of the trailer and roll-away awnings that could be deployed into adjacent outdoor space. The most advanced trailers had "slide-out" rooms that would extend on pistons three or four feet beyond the original perimeter wall. By contrast, FEMA-spec trailers lacked any real relationship to the outside, with only two windows large enough to ensure residents could climb out them in case of an emergency and a door with a small glass pane. Because the units were only leased to the residents, and intended to be returned, they could not be modified or customized in any way. This suppressed any attempts at differentiating units according to specific needs and desires.

However, a major design flaw ultimately undermined FEMA's attempt to eliminate social exchange within the trailer parks. There was no formal ownership or right of

Typical FEMA trailer park.

Standard trailer expansion strategies.

access to the spaces between the trailers, creating ambiguity as to what these spaces could be, who they belonged to, and for how long they had to stay that way. The result was a vast catalog of resident-initiated practices of territorialization of these interstitial spaces as residents expanded their living spaces, carried out alternative programs, or merely decorated the sites to publicly express themselves. The negotiation involved in occupying and using these spaces and expressing personal opinion and desire communicated through their "design" provoked a type of urbanism unique to these trailer-park communities. In a place where everything else was carefully designed to prohibit social mixing and ensure a private existence, these spaces became the sole opportunity for urbanism to flourish.

The effectiveness of these spaces as communicative devices could be judged by their ability to provoke more formal political action by resident groups to implement new programs and activities. One example is the request for school programs for children, leading to the erection of a temporary classroom facility at the "Renaissance Village" group site just outside of Baton Rouge. Another example is the informal organization of church services within a pastor's trailer. When FEMA attempted to outlaw these uses, there was such protest from residents that FEMA erected a public meeting space within the trailer park specifically for resident congregations.[8]

Because social exchange was so difficult in these trailer-park communities, but also so necessary to the well-being of the residents, architecture became a surrogate vehicle for communication. These examples indicate a specific evolution of the resident-initiated design of these interstitial spaces, and the resulting customization of the architectural "vocabulary" of civic conversations according to specific resident needs and desires. It is not a stretch to imagine that a self-organization of informal uses of these interstitial spaces would begin to emerge as different communities evolved different design vocabularies. Playgrounds might shuffle to occupy a number of adjacent interstitial spaces, or religious services might occupy a more permanent home within a cluster of spaces. "For Sale" items might begin to be placed along major circulation routes. The built environment in these trailer parks began to provide the backdrop for this conversation between and amongst the resident groups.

II. POST-CAPITALISM

Post-Capitalist *Civic Voice*

In the trailer parks, the tactical appropriation of space becomes a medium that makes possible a discourse on specific political and social matters of concern. The 1960s is another period in which similar tactics of spatial occupation occurred. Bolstered by research into cybernetic theories that addressed the value of feedback between objects and their environments, architects such as Cedric Price, Archigram, Yona Friedman, and Constant Nieuwenhuys developed projects where users could customize architectural elements installed into a megastructure frame, allowing them to evolve in response to specific user needs and desires. The architectural qualities of these spaces,

including light, sound, and materiality, were viewed as a communicative medium for the acting out of matters of concern related to specific lifestyles and cultural practices. In much of the work produced during this period, the vehicle for contested political discourse is the direct negotiation among participants as to how common space will be configured.

Recently, architects have again become fascinated by the cybernetic model of networked, evolving architectural systems and the resulting capacity to provoke civic exchange and negotiation through an architectural medium. With a dizzying array of names, including ubiquitous computing, interactive environments, situated technologies, locative media, ambient informatics, and responsive systems, these systems provide a digital vehicle for users to express diverse viewpoints, opinions, and preferences within the public realm by integrating emerging technologies such as sensors, cameras, and other computer interfaces into the built environment. Part of this renewed interest comes from recent technological innovation that has enabled a rethinking of two important and related limitations to the body of work coming out of the 1960s. The first is the number of users able to participate, which has recently been addressed through integration of networked technologies. The second is the degree of customization afforded to the end user, which determines the complexity of the conversation able to take place. This has been recently advanced through research into the open-source model of computer programming.

In the work from the 1960s, architects typically limited the scale of participation in design decisions to either a small group of neighbors within close physical proximity, or

Documented resident-initiated customization of semi-public space.

Tactical Sound Garden. Mark Shepard.

to the existing political leadership representing a town or city. This excluded the possibility of a large-scale, and mostly anonymous, conversation among members of an entire neighborhood or even an entire city. Recent work investigating distributed networks explores the potential for the scale of this conversation to grow. Adam Greenfield and Kevin Slavin's concept of "read/write urbanism" is based on a premise that a layer of information can be digitally "tagged" onto a physical environment by any user, and then read by other users walking through the space. Greenfield describes this as "the idea that the city's users are no longer bound to experience passively the territory through which they move but have been empowered to inscribe their subjectivities in the city itself … that those subjectivities can be anchored in place and responded to by those who come after."[9] This is typically accomplished through the use of Bluetooth technologies that allow wireless transfer of information simply by moving within 25 feet of a Bluetooth reader embedded either within the built environment or another Bluetooth-equipped device such as a cellphone. Here, typical circulation routes by residents become impromptu sites for public exchange through the public infrastructure intermediary. In Mark Shepard's project "Tactical Sound Garden,"[10] users are able to temporarily "tag" and territorialize small areas of public space, such as sidewalks and pocket parks, with sound recordings of their choice to include music, speech, and other noise. Similarly, Nick Knouf's "Fluid Nexus"[11] enables the building of impromptu and off-the-grid communication networks by participants using their cellphones. This cellphone application is intended for use when centralized networks are not feasible or desirable, including situations of government unrest and natural disaster. Each user's cellphone acts as a node within a temporary, decentralized, ad hoc network, and is activated only when it comes within Bluetooth range of another user. The potential is for conversation to be geographically hyper-local while simultaneously nurturing diversity through the anonymity of civic exchange.

The second limitation to much 1960s cybernetic architecture work is the sophistication of conversation possible through the architectural intermediary. Limited options for customization and modification of the built environment by the end user arrested the development of sophisticated civic "vocabularies." Most of these systems depended on a modular "kit-of-parts," limiting the ability of the conversation to become customized to more specific lifestyle or cultural concerns.

Building on this concept of enabling more fundamental, and ideally unexpected, modifications to the architectural infrastructure, the model of open-source computer programming has recently been explored by architect Usman Haque, among others. Applied to an architectural design process, Haque imagines an "architectural operating system" where the initial kit-of-parts has the capacity to update as networked participants customize and modify them to create new kits-of-parts.

> Architectural design, the choreography of sensations, can provide meta-programs within which people construct their own programs. In computers, an "operating system" is the software (like Unix, Windows NT, or Mac OS X) that runs a computer at its core level and which provides a platform upon which to run other programs.

> Extending the analogy to architecture, a spatial operating system provides frameworks to encourage multitudes of architectural programs.[12]

The possibility exists for the development of a networked Do-It-Yourself (DIY) catalogue, whereby an initial description of construction techniques is made available, and then evolves over time depending on the specific requirements and desires of a local population of participants. Theorist Matthew Fuller expands upon the integration of open-source techniques into design practice:

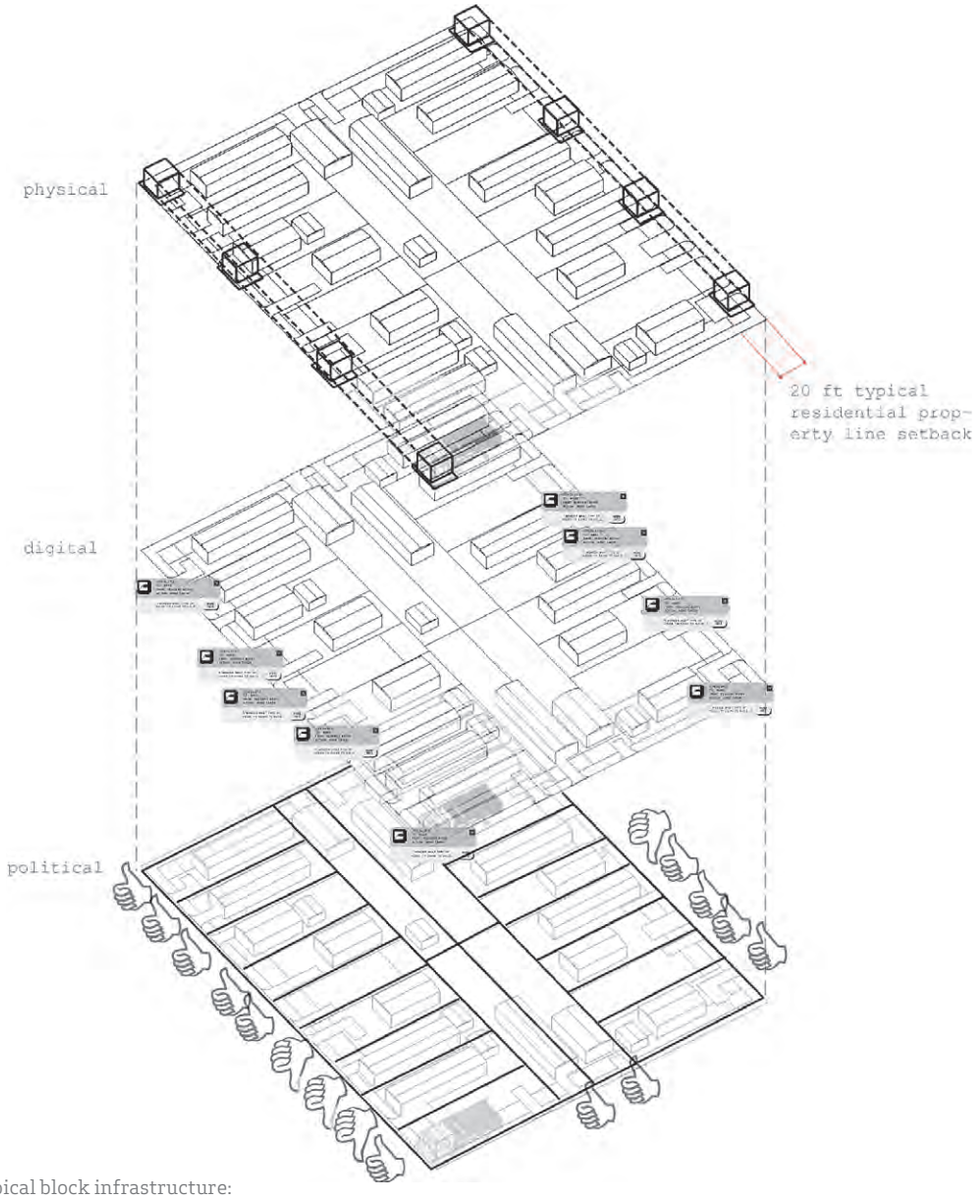
> It might also involve the development of a "concurrent versioning system" (CVS) for architecture, paralleling that found in the software industry, where a CVS is a means by which software developers collaborate. A CVS enables code to be archived and held in a structure of changing parts for the purposes of use and of further work. Pieces of code and accompanying comments are held in a "tree" of updated versions. As more coders work on a project, these pieces of code may also go through a checking and committing process. This allows a project to be both conservative of its quality, in a state of rapid development when necessary, and able to modularize to incorporate many participants, not unlike the way cities can grow and adapt.[13]

The fundamental innovation of this system would be the bottom-up "learning" of the kit-of-parts to become suited to the specificity of user requirements, including economic restraints, construction knowledge, site conditions, scheduling requirements, and sociocultural conditions. The recent investigation of the integration of an open-source model into architectural design has provided a clue as to how the fundamental kit-of-parts that serves as the vocabulary for conversation may evolve and thereby maintain its relevancy. In this model, every participant is empowered with the ability to innovate design practice, as the design profession is distributed throughout a participating population. The expertise of the design of the object is fundamentally shifted from the architect to the users, while the architect is responsible for devising systems that harvest innovative design ideas and techniques. In this way, the process of evolving local architectural practices becomes a medium for public exchange.

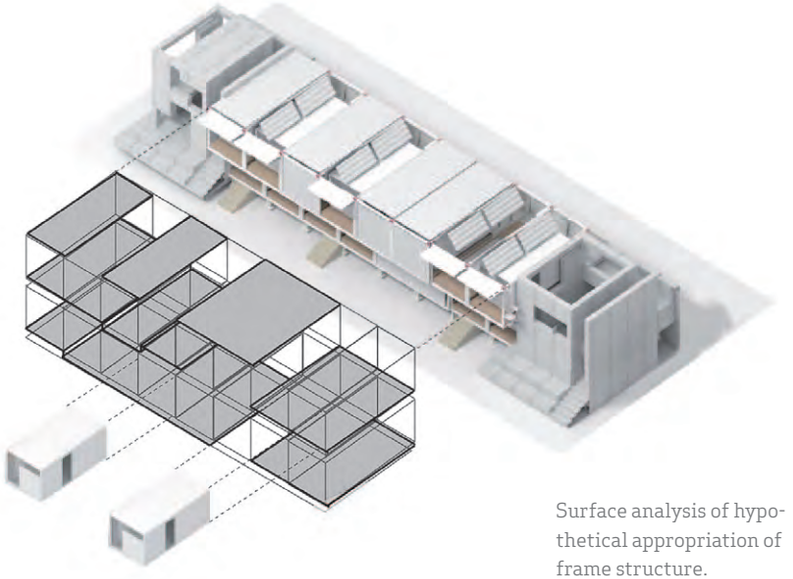
Post-Capitalist *Infrastructure*

The following project proposes a new model of public infrastructure that acts as an autonomous political agent capable of provoking civic exchange through its own architectural intermediation. The post-disaster, "red zone" neighborhood of the Lower Ninth Ward in disaster-capitalist New Orleans is taken as a site for the deployment of this system. Without anticipating what the residential blocks might become as they are privatized by disaster-capitalist practices, this proposed public infrastructure catalyzes urbanism in the streets between probable enclaves. As the recolonizing agent in post-disaster scenarios, the FEMA emergency housing system is the ideal vehicle to structure the installation of this new "activist" infrastructure. Instead of the current, temporary nature of the FEMA system, the new system is conceived as a permanent political vehicle to enable the process of resident recolonization.

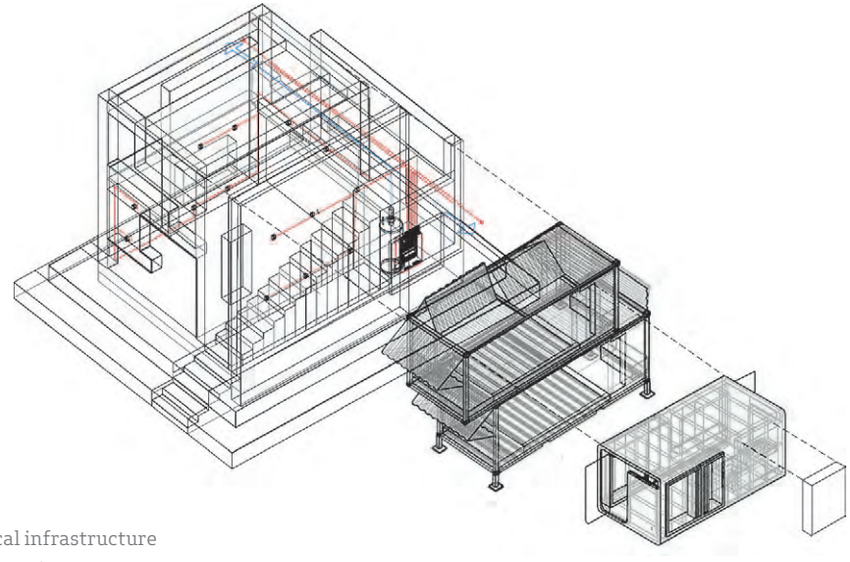
Installation of units (top); appropriation of structural frame as garden (bottom).



Typical block infrastructure:
physical, digital, political.



Surface analysis of hypothetical appropriation of frame structure.



Physical infrastructure components.

The fundamental problem faced in the design of the system is its ability to maintain relevancy as a medium of civic discourse regardless of the varied political and social concerns specific to each local population. Based on the logic of open-source CVS and distributed social networks, this problem is addressed by proposing an infrastructural framework with the capacity to modify its own structural and programmatic DNA in response to the specific needs and desires of a local population. The proposal is a three-part, interdisciplinary infrastructure incorporating physical, digital, and political systems that work together to allow the infrastructure to evolve and update over time.

The physical infrastructure is installed in prototype units within the twenty-foot setback between the private property line and the street, a typical zoning protocol in New Orleans's residential neighborhoods. As residents choose to move back to their neighborhood blocks, the spaces grow in length, eventually forming a semi-public perimeter that activates the street as a hypercharged site of public exchange, and providing an ambiguously programmed "porch" at the scale of the urban block.

The spaces are comprised of a series of four components ranging in mobility and permanence. In the first component, permanent stair towers double as storage locations for supplies immediately after the disaster event. As rebuilding begins, they invite their own programmatic appropriation through ambiguous cuts and slices throughout their exterior walls and roof, ambiguous and multiple floor heights, and lack of privileged orientation toward the street or the block interior. As a second component, steel frames are erected from stacked shipping containers used to transport the third component, the living units. The containers have been modified so that their floors, roofs, and walls can be opened, closed, or entirely disassembled. The living units are lightweight polycarbonate shells mounted on tracks within the steel frames. Residents can slide these units along the length of the bars of steel frames, allowing for multiple scales of interior space.

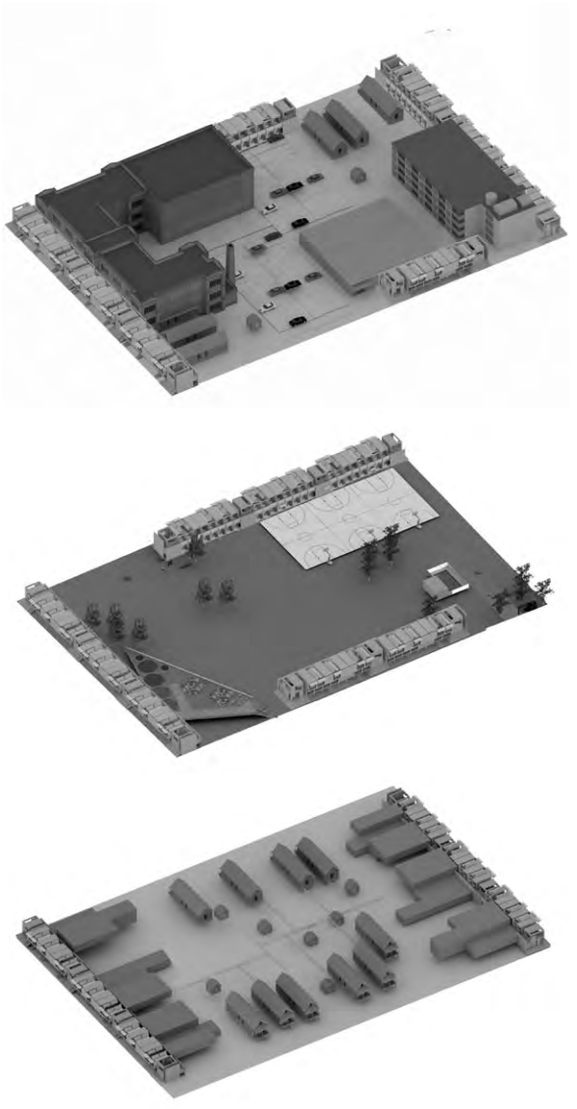
Following a natural disaster, traditional means of communication are typically taken off-line, requiring a new digital infrastructure capable of repairing and growing new social networks. The second major infrastructural system, a digital network, not only activates the architecture as a site for public exchange by enabling a text-message-based "tagging" of spaces, but also provides an ad hoc network capable of distributing communication across neighborhoods without the need for more formal communication infrastructure. Each returning resident is given a cellphone with Bluetooth technology. When these phones pass within Bluetooth range of another phone or of sensors embedded in the physical infrastructure, the information contained on the phone can be transferred. This allows specific locations to be "tagged" with information, ranging from notification of events and other signage, to personal reflections and testimonials, to political discourse. The information can be filtered according to levels of public visibility, allowing FEMA to broadcast bulletins to everyone, while small pockets of residents enjoy complete privacy in their discussions.

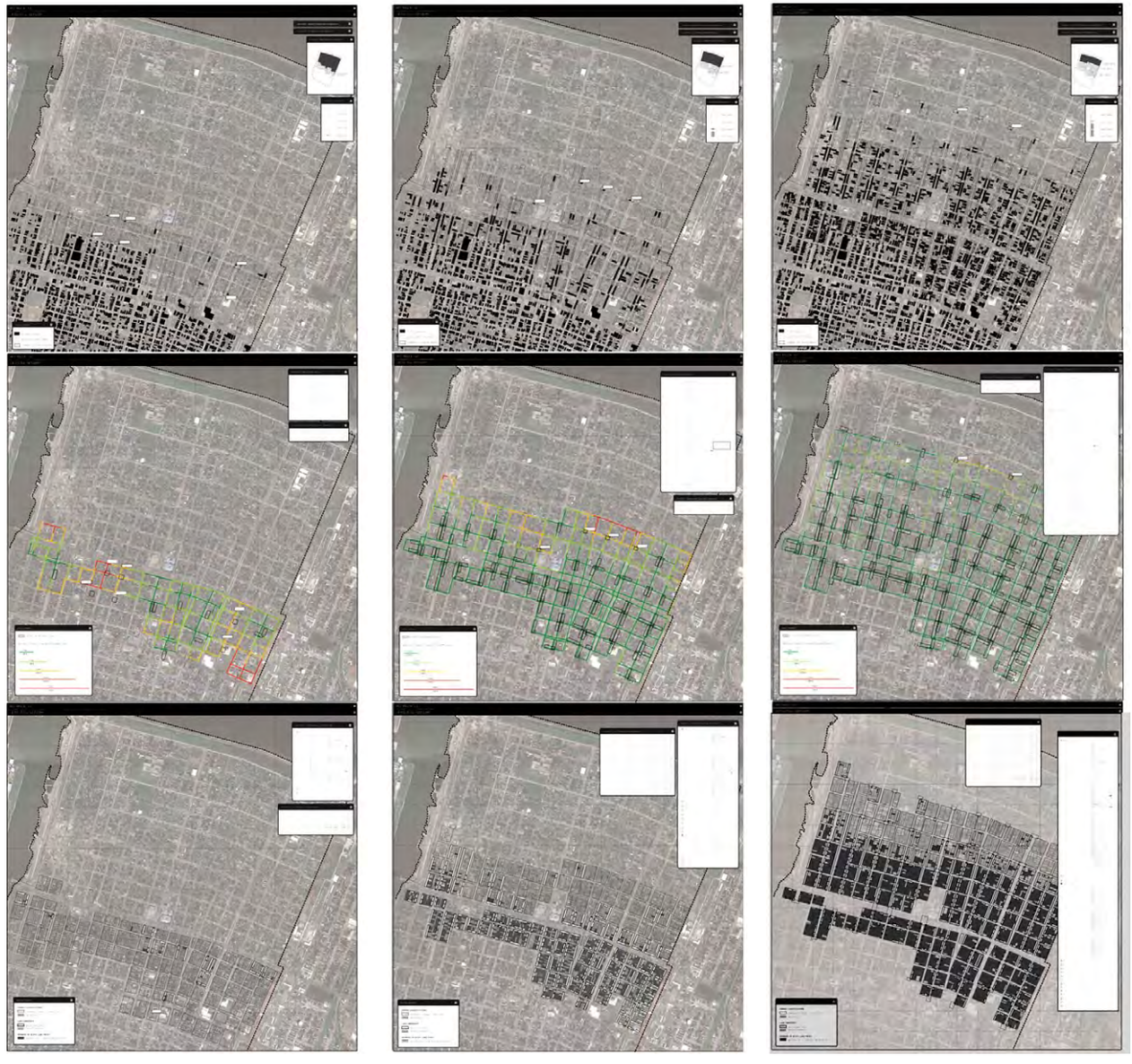
Within this system, walking becomes the primary mode of communication transmission, as information is exchanged when residents from different neighborhoods walk past one another. Maps of probable walking distances from residents in currently occupied living units allow FEMA to identify areas that have yet to be occupied and where residents would probably never walk, as the sites where the network would most likely fragment. By placing outposts at these locations, FEMA would be able to form a temporary node to continue the passage of information across the neighborhood.

The third infrastructural system, the political infrastructure, leverages the digital communication infrastructure to organize community land trusts on a block-by-block basis. The goal of this political infrastructure is for residents to determine future programming and zoning protocols for their own blocks, differentiating the existing suburban residential zoning organization into a mixed-use, urban configuration responsive to the residents' desires for necessary programming. Residents moving back to a block would begin to form this land trust by proposing future programmatic possibilities, and then voting on the propositions. The structure of the "block land trust" would allow money to be pooled to be used on construction projects, or to buy out residents who choose not to return to the neighborhood.

This would inspire a self-organization of resident recolonization depending on shared matters of concern or available resources and expertise. For example, residents who own businesses may decide to appropriate some of the spaces in an area earmarked as emergency infrastructure as a site for their small businesses. Church pastors or schoolteachers might negotiate to use part of a block's infrastructure to hold religious services, community events, and childcare or educational activities. As residents discover shared concerns and interests, these initial programmatic seeds would grow into more permanent

Block land trusts redevelop community as they desire by leveraging disaster-capitalist land-grab hysteria.





Mapping physical, digital, and political infrastructure across stages of recolonization.

modifications to zoning protocols within the blocks, and potentially the construction of stand-alone churches, schools, businesses, or other programs.

Therefore, this process of self-organization of community programs depends on the growth of social networks. One strategy investigated in this proposal is the network theory logic of the strength of the "weak tie" social acquaintance. Network theorist Mark Granovetter's research has shown that there are two primary types of social ties between acquaintances or friends: strong ties with close friends who typically spend time frequently together because of many shared interests and skills, and weak ties with acquaintances who for a variety of reasons do not yet belong to the same "strong tie" cluster of friends. These weak ties are essential for growing social networks, because they allow exponentially greater exposure to new acquaintances and friends outside of one's strong-tie network, offering diverse resources otherwise unavailable within one's present network of strong-tie resources.[14] In residential neighborhood blocks, residents typically have strong social ties with other residents who share the same street, as exemplified in New Orleans neighborhoods by the social value of the front porch. It is therefore important that the infrastructure provoke the building of weak ties by introducing residents of one street to those of another. By comprising the block land trusts of residents of a shared block, rather than residents of a shared street, the political infrastructure sets up greater potential for social networks to grow through the logic of building weak-tie friendships and acquaintances from street to street.

This three-part infrastructure is intended to catalyze civic voice in a climate where physical interaction is nearly impossible. In this system, the spatial and material architectural configuration becomes a vehicle for this social exchange. True to the open-source model that serves as its inspiration, this system invites its own appropriation. To this end, the system attempts to close the feedback loop between strategy and tactic identified by Michel de Certeau.[15] Tactics of appropriation practiced by pockets of local populations can feed back and influence the evolution of the larger strategy of recolonization across the entire neighborhood.

Post-Capitalist *Urbanism*

For some time now, the public realm has been an afterthought in the capitalistic and market-driven agenda to develop urban places. The effect has been a slow deterioration of public participation in the development of the city. If urban form can no longer be the catalyst for public exchange and interaction, then new models of urbanism no longer tied exclusively to spatial and formal organization must be imagined. To investigate the site for a contemporary urbanism, this proposal looked beyond the traditional confines of the discipline to explore vehicles for public exchange that are embedded in post-capitalist models of digital fabrication and construction processes, ephemeral and dynamic social networks, and temporary and responsive political structures. Can urbanism and civic exchange become embedded in an open-source production and digital fabrication processes? Can digital communication grafted into the privately owned urban fabric provide a medium for contested civic exchange? Are ephemeral social networks replacing cities of concrete and stone as the ideal site for urban design? Contemporary architects and urbanists have a responsibility to responsively pursue these fertile trajectories for new ways to envision cities.

Notes

1 Alejandro Zaera-Polo. "The Politics of the Envelope: A Political Critique of Materialism." *Volume*. Issue #17, p. 80. (Amsterdam: Archis Foundation, 2008).

2 Andraos Amale, "Dubai's Island Urbanism. An Archipelago of Difference for the 21st Century," in Basar Shumon, ed., *Cities from Zero* (London: Architectural Association Press, 2007), 47–56.

3 Peter Sloterdijk, "The Absolute Island," in Eliasson Olafur + Orskou Gitte, *Olafur Eliasson: Minding the World* (Denmark: ARoS Aarhus Kunstmuseum, 2004).

4 Naomi Klein, *The Shock Doctrine* (New York: Metropolitan Books, 2007).

5 Ibid., 421.

6 For more information, see Target Area Overview http://www.nolaplans.com/new-orleans-orm-target-area-plans-now-available/.

7 Klein, *Shock Doctrine*, 415.

8 Paul Singer, "FEMA Works to Keep Trailer Parks Temporary," *National Journal*, March 2006. http://www.govexec.com/dailyfed/0306/031306nj1.htm. Also, see "Renaissance Village, The Film" http://www.rvthefilm.com/.

9 Mark Shepard and Adam Greenfield, *Architecture and Situated Technologies*, Pamphlet 1 (New York: The Architecture League of New York, 2007), 12.

10 For more information, see www.tacticalsoundgarden.net.

11 For more information, see https://fluidnexus.net/.

12 Usman Haque, "Hardspace, Softspace, and the Possibilities of Open Source Architecture." http://www.haque.co.uk/papers.php.

13 Matthew Fuller and Usman Haque, *Architecture and Situated Technologies*, Pamphlet 2 (New York: The Architecture League of New York, 2008), 19.

14 Mark Granovetter, "The Strength of Weak Ties," *The American Journal of Sociology* 78:6 (May, 1973): 1360–1380.

15 Michel de Certeau, *The Practice of Everyday Life*, trans. Steven Rendall (Berkeley: University of California Press, 1984).

CONTEXT
PRÉCIS
DOSSIER
BRANDSPACE
PORTFOLIO

IMAGING THE GLOBAL CITY: WHOSE URBAN IMAGINARY?

SABINE HAENNI

The speed and scale of urban transformation have become difficult to document: the contemporary megalopolis challenges the human capacity to picture the city. Nonetheless, in architectural and other print publications, the desire — and need — to make the contemporary city visible in a single framed photograph has led to a number of visual shorthands meant to evoke the complexities of globalization. Chief among them must be the tower rising in the middle of nowhere, or more poignantly, on the grounds of a former "slum," an image mainstreamed and brought to Western viewers' homes by the uncanny savvy of the film *Slumdog Millionaire* (Danny Boyle, Loveleen Tandan, 2008) (fig. 1). A related visual shorthand, usually only applied to non-Western metropolises, relentlessly juxtaposes new high-rise buildings with low-rise dwellings, often shantytowns, meant to evoke (but rarely explaining) the confluence of financial, demographic, and other streams at this particular location. A third visual strategy focuses on heaps — heaps of garbage, cars, phones, low-rise buildings.[1] Such juxtapositions and accumulations can then be read as differently connoted images of density (often telling us more about the writer than about the image), with interpretations ranging from cosmopolitanism, diversity, and exuberance to chaos and disorganization. Maybe not surprisingly, even a cursory glance suggests that such connotations become more positive the more Western and northern the urban location. Such images attempt to produce an "overview"; fittingly, they are often taken from an undisclosed location spatially distanced from the subjects that they portray. And yet, they rarely convey any inhabitants' "urban imaginary" — which Andreas Huyssen defines as "the cognitive and somatic image which we carry within us of the places where we live, work, and play."[2]

Fig. 1 *Slumdog Millionaire*. Directed by Danny Boyle and co-directed by Loveleen Tandan.

But moving images have precisely the potential to convey inhabitants' urban imaginaries. This essay uses the term in its social sense: moving images can articulate a collective or individual human point of view; they allow us to imaginatively inhabit urban space. By "filling space with human action," fictitious and documentary films imagine architectural space in use by particular people and particular demographic groups.[3] Such a capacity to inhabit space has been attenuated since the transition from analog to digital images. More than ever, filmmaking ceases to be bound by physical space. Thus, in computer animations of urban space, imaginary cameras can effortlessly fly through space, never approximating the experience of an actual user. True, such unchainedness has long been a desire of cinema: editing has always allowed us to quickly change point of view in ways that defy physical human capacity. And yet, in analog filmmaking camera movements depended on a physical infrastructure (the crane), maintaining a more obvious connection to the real. This essay argues for the need to reconnect the (sometimes computer-simulated) camera with lived experience of physical space, and it suggests that moving images, old and new, are valuable to architects because they simulate inhabited, lived experience in space. They are certainly not always ideal, but at their best they can both suggest how space is inhabited and provide a sense of how a local space is connected to larger global networks, two crucial aspects of a locally positioned urban imaginary.

To produce such locally positioned urban imaginaries, and an architecture based on them, is important for a socially conscious architecture because urban inhabitants are increasingly under attack. Despite the flood of digital (and other) images, inhabitants of large cities, of megalopolises, find it increasingly difficult to position themselves in a productive and meaningful way in relation to a globalized world. A research project in Mexico City, D.F., which presented "people who traverse the city daily — food-delivery personnel, street vendors, taxi drivers, students, transit police" with images documenting changing means of travel, revealed that

the majority of participants found it difficult to imagine the city in which they lived, to visualize where it began and ended, even the places they passed through every day.... None of them had a clear picture of the whole map of the megalopolis. None of them attempted to grasp all of it. They survived by imagining small environments within their reach. Given the difficulty in understanding macrosocial transformations and the structural causes of the city's disasters, they placed the blame on specific groups.[4]

When lived experience is reduced to routine or even survival, when any perception of how one's local space is connected to the global world is impossible, social conflict does not seem far off. By providing urban imaginaries, moving images thus have the potential of addressing a deficit of the representation of urban inhabitants' lived experience. Of course, this is what socially conscious alternative filmmaking often proposed to do: to represent (in all senses of the word) the unrepresented. But such images can also form a rich reservoir allowing architects to intervene in urban representation.

Urban developments in the second half of the twentieth century have exacerbated the problem of lived urban space. Mike Davis has eloquently written about the fatal consequences of developers ignoring local conditions in the building of Los Angeles.[5] More recently, the literature on metropolises in the Global South has revealed how the (never fully implemented) ideal of the modern city, based on openness, fluidity, mobility, and coexistence, has been replaced by a sense of cities "under siege" — the title of a 2002 book on African cities.[6] As various scholars have argued, "at the city scale globalization amounts to spatial fragmentation" because it causes fracture, segregation, and privatization. Such privatization — indeed privation — becomes visible both in the cordoning off of upper-class residences behind walls, fences, and surveillance cameras, and in the ways in which "poverty privatizes public space," the ways in which members of the urban underclass are forced to conduct their private lives in formerly public spaces.[7] Urban developments have thus tended to impoverish lived urban experience, making inhabitants feel vulnerable and leading to conflict.

At the same time, interactive technologies have made new ways of imaging available in ways that often do not address the problem. The best example is Google Earth and its simpler counterpart Google Maps, applications that now combine mappings — and different layers of information — with the ability to plug in user-generated content and images from Panoramio (a geo-location, photo-sharing website), videos from YouTube, and articles from *Wikipedia*. Since 2005, the relatively young YouTube (which Google acquired in 2006) has been hailed for democratizing the circulation of moving images, and polemicized against for lowering the standards of cultural production.[8] In many ways, however, Google's turn toward user-generated video, away from an insistence on professional imaging unsuccessfully proposed in the early days of Google Video, might be understood as its attempt to merge the professional with the amateur, large-scale satellite imagery with local layers and open content. Thus it may be supremely positioned to produce localized urban imaginaries. Nonetheless, Google Earth and Google Maps are bound by serious limitations. The extent to which YouTube remains a "motley collection of diversions" remains a challenge, one multiplied by the addition of other data in Google Earth.[9] Likewise, the uneven accessibility of high-resolution images remains a difficult and contested issue, as became visible, for instance, when Google Earth teamed up with *National Geographic* to provide images of animals in Africa, revealing how the production of high-resolution images can be driven by touristic desire.[10] At the same time, opposition to images, generated by Street View, on grounds of surveillance and the violation of privacy — the sense that "15-meters-per-pixel resolution was socially acceptable but 10-centimeters-per-pixel resolution

was overly invasive" — for good reason limits what images are made available, and should also make us wonder who, in the end, has the power to protest certain images.[11] Images generated by Google Earth and its users thus confront great difficulties. At best, they represent a fragmented and random consciousness hardly coalescing into a coherent image of how space is used or what needs its inhabitants may have.

This larger context provides the framework for my discussion of two interactive DVD projects that seek to produce new images of rapidly changing, fractured, and amnesiac cities, one drawn from the discipline of architecture, the other from media studies. *Lagos Wide & Close* (2005), directed by Bregtje van der Haak and designed by Silke Warwo, advertised as an "interactive videodocumentary," follows up on van der Haak's previous film on Rem Koolhaas's work in Lagos, *Lagos/Koolhaas* (2002), this time seeking to develop a new visual form appropriate to the new city. *Bleeding Through: Layers of Los Angeles, 1920–1986* (2003), an interactive "database narrative" conceived and written by novelist, cultural critic, and urban and media historian Norman Klein, and designed by Rosemary Comella and Andreas Kratky, seeks to influence how we experience, sense, and remember Los Angeles. Although one of these projects has achieved greater visibility because it is co-authored by a star architect, both are invested in producing what I have called "localized urban imaginaries" — moving images that both imagine how a space is inhabited by particular users and want to make visible how such inhabited spaces are connected to global networks.

I.

In conjunction with his project on Lagos, Rem Koolhaas appeared on the Nigerian TV talk show, *New Dawn on Ten.* At some point, host Funmi Iyanda asked what "plan" Koolhaas would come up with for effecting progressive change in Lagos. Koolhaas responded evasively about not wanting to mix research and practice, but also added: "If I had to look in terms of changing it I would have to start from scratch..., because it demands a totally different way of looking at Lagos."[12] In an earlier interview, Iyanda had noted: "We, in Lagos, may not see ... the new kind of city you are describing."[13] Whereas Iyanda speaks from a particular middle-class perspective that in the later edition of the film will almost entirely be edited out of the visual track, she nonetheless gets to the point: Koolhaas does not provide an urban imaginary that the local inhabitants can inhabit (or even appropriate). He does, however, provide a complex, if somewhat abstract, image of Lagos as a global city.

I start with Iyanda to foreground her perspective, not to detract from Koolhaas's team's achievement (and it is important to acknowledge that Koolhaas is not the sole author of the films). Indeed, the team's engagement with Lagos is considerable and extends over a number of years. Determined to understand how Lagos works, the team produced an early documentary film, *Lagos/Koolhaas* (2002), which attempts to convey what Koolhaas calls the "incredible energy" of the city.[14] There is also a slight narrative arc, as toward the end of the film Koolhaas notes the many improvements made since his first arrival in 1998. The film relies heavily on split screens (fig. 2), which visually convey the energy of the city, along with musical beats and occasional fast editing (sometimes set to music or rhythmic sound, as in the sequence documenting the police officer's arm movements, or the straightening of drums with hammers).

At he same time, the film's — and presumably the city's — visual exuberance is contained by explanatory voices, notably that of TV host Iyanda, who serves as a privileged native informant, and that of Koolhaas himself delivering a lecture, complete with maps, photographs, and charts. In this context the opening split-screen image — a Western, white, male architect investigating and surveying the city (fig. 2) — is symptomatic of the film's tension between exuberance and

Fig. 2: *Lagos/Koolhaas*, 2002. Written and directed by Bregtje van der Haak.

containment. Some contestation is possible: split screens literally provide different points of view on the same action, and locals contest Koolhaas's improvement narrative by pointing out, for instance, that a certain retail boutique has been in its location for six years. Although a certain amount of polyvocality is possible, as manifested for instance in the use of Iyanda as an alternative narrator (a point many reviewers missed), the film remains a relatively conventional documentary in which urban chaos and exuberance are made legible by an authoritative (white, male) narrative voice.

Apparently not satisfied with the dialectic the film provided, the team followed up with a different effort in 2005. Largely working with the same footage and the same audio, *Lagos Wide & Close* understands itself as a counterimage to the earlier film, and seeks to develop a visual form that fits Koolhaas's theory of Lagos. The DVD contains two different video tracks ("wide," which allows you to observe Lagos from a distance, and "close," a way of experiencing Lagos from within), and three audio tracks ("comments by Koolhaas," "talks with inhabitants," and "sounds of the city"). On the "wide" video, track shots are taken from a helicopter, from moving vehicles, and from bridges, though it also contains a few, often stationary shots taken in streets, in homes, in markets, under bridges and overpasses, and within institutions (a school, a megachurch). On the "close" video track, we largely follow *danfo* (minibus) driver Olawole Busayo, as he goes about his business driving through the city. It contains much footage similar to that of the "wide" version, but replaces helicopter shots with material shot inside the minibus, literally framing its shots more closely, and adding a fair number of additional street-level shots. The user can pair each video sequence with the preferred audio track, switch to a different audio track when watching a video track, or change the video track while listening to an audio track.

Although six different combinations of audio and video are possible, the bifurcation of the video track into "wide" and "close" neatly documents Koolhaas's theory of the stark distinction between "foreground" and "background" in Lagos:

The difference between foreground and background is so colossal.... You can either see the foreground and you're completely hypnotized almost by the way in which people live and survive in the city and by the individual stories, or you can take the distant view and then see all these other more formal patterns. I've never seen the two so disconnected. (Koolhaas DVD commentary)

At other moments, Koolhaas describes how "self-organization is inscribed upon an organized [modernist] model of the city," left over from the oil-boom-driven seventies, characterized by roads, highways, and cloverleafs.[15] Especially the "wide" footage taken from the Nigerian president's helicopter, to which Koolhaas had access, is meant to reveal the city's larger, abstract patterns — the surviving, underlying infrastructure — that make the seemingly chaotic, local moments of trade and exchange possible. The two video tracks confirm this particular image of a city bifurcated between an older infrastructure and individual entrepreneurism, with no middle ground.

The ability of *Lagos Wide & Close* to develop a clear picture of the city is admirable, and yet a quick review of the literature on Lagos reveals disagreements among writers and scholars as to how one might best characterize Lagos's spatial and urban form. The larger question turns on whether there are any shared spatial features among the megalopolises of the Global South — whether, for instance, the image of the fragmented, segregated, walled city, which has emerged with such force in writing about South American, especially Brazilian cities, is at all applicable to Lagos. George Packer, for one, argues that Lagos is different: whereas other megalopolises developed differentiated neighborhoods, with "satellite cities that house migrants and the destitute," in Lagos "there is no distinct area where a million people squat in flimsy hovels. The whole city suffers from misuse. Planned residential areas ... are gradually taken over by the commercial activity that springs up everywhere in Lagos like fungus after the rains."[16] A very different image of the city, however, emerges in an account by Babatunde A. Ahonsi, who divides Lagos into three distinct zones (Municipality, Inner Metropolitan Zone, Outer Metropolitan Zone), and looks at official (if unpublished) classifications of forty-two Lagos neighborhoods in terms of "blightedness" (a rating determined according to thirty-six criteria, such as "uncontrolled land use," "no trees," "bad roads," "no electricity," etc.), as well as in terms of community development associations. Not surprisingly, he develops a picture of "increasing differentiation" within Lagos.[17] This is not the place to adjudicate among differing accounts of the city, not least because we know for sure that the city itself has been rapidly changing even since Koolhaas's team filmed there. But these accounts, however briefly evoked, make clear that the image of the city itself — its spatial and urban form — is contested and that Koolhaas's team's interpretation constitutes only one take on the issue.

In all fairness, *Lagos Wide & Close* takes full advantage of the interactive DVD format to produce conflicting views of the city, especially on the different soundtracks accompanying the "wide" view. Koolhaas's own commentary proposes his theory of how a seemingly chaotic city actually reveals a self-organized, international network grafting itself onto a pre-existing older, but modern infrastructure; it also contains a clear narrative arc in which Lagos is inserted in a progressive narrative of modernization.[18] The images neatly support this logic, as images of more affluent neighborhoods and the downtown skyline begin to take up a bigger percentage of the image track. However, the soundtrack featuring local inhabitants splits the same image track into fourteen segments, taken from interviews with eight people (whose brief biographies are included in the pamphlet accompanying the DVD). Olawole Busayo, the *danfo* driver; Chief Uche Ubodi, chairman of the Alaba International Electronics

Market; Ahmed Oladimedji, a teenager selling bags of drinking water along highways; Ola Tundun Tejuoso, an upper-class woman taking her children to the British school; and others provide perspectives on the city that differ from Koolhaas's and from each other. They also provide much-needed (if minimal) information, such as the economic and sociocultural difference between a *molue* (big bus) and a *danfo* (minibus), different neighborhoods, what other cities and countries Lagos trades with (Singapore, Malaysia, Korea, China, Italy, Spain, Dubai, etc.), and they at least mention ethnic and religious tensions (between the Hausa and the Yoruba). Thus, the contestation of what Lagos "looks" like mostly happens on the soundtrack.

The visual production of local or native experience, however, remains a difficult challenge. Indeed, Koolhaas's argument that in Lagos there is no middle ground ultimately implies (but does not argue or show) that local experience, what I call a "localized urban imaginary," is under duress. As both van der Haak and Koolhaas acknowledge, their particular image of the city bifurcated between large-scale structures and individual entrepreneurism came out of the very difficulty of picturing the city: "The video material we've shot, it doesn't seem to convey what I thought I had seen," van der Haak says, and Koolhaas agrees that "during the first visit we took pictures like crazy. And when we got home there was nothing.... It took time to discover that we couldn't capture Lagos by looking at the middle ground."[19] To be sure, a paper leaflet inserted in the DVD contains a map with neighborhoods, coded according to housing density, and yet from the visual material one gets little sense of a city differentiated by neighborhoods. On one of the soundtracks, Busayo, the bus driver, discusses his daily route, from Ojuelegba to Oshodi, from Oshodi to Ikeja, and from Ikeja back to Ojuelegba, suggesting that there might be not only a city of individual initiative versus abstract overarching patterns, but a city where locals knit together spaces into subnetworks. And yet the film cannot produce such a midlevel visual representation, which would indeed amount to producing an image of the city's middle ground. The question thus remains whether there is indeed no middle ground in Lagos, or whether the film makes it (or leaves it) invisible. Mapping a middle ground, however, is crucial, for a middle ground is the space where a locally grounded urban imaginary can take place, where inhabitants do not merely survive but use space productively and have a sense of their connections to a larger global polity. The middle ground is thus "a space sufficiently bounded to make things of scale happen, but at the same time conceive of a fractured space sufficiently large through which dangerous feelings can dissipate or be steered away."[20] Middle grounds are needed to imagine, design, and produce local urban imaginaries.

A key metaphor for Lagosian subjectivity appears in the images appearing on the DVD menu, which transpose the abstract "patterns" underlying Lagos's energetic chaos into kaleidoscopic beauty (fig. 3). The metaphor reprises the celebration of energetic density familiar from *Lagos/Koolhaas* (fig. 2), but focuses on an aesthetic trope associated with Western thinking about cities at least since Walter Benjamin called attention to Charles Baudelaire's definition of the urban dweller as "a kaleidoscope equipped with consciousness."[21] Such a definition of urban subjectivity is hardly applicable to today's megalopolises in the Global South. For one thing, we have been cautioned not to rejoice too quickly at the presumed authenticity or "heartbeat" of the city, not least because it presumes that people are infrastructure.[22] In an intriguing account that can be read both as an update of Georg Simmel's classic essay, "The Metropolis and Mental Life" (1903), and a response to Koolhaas's celebration of individual agency, AbdouMaliq Simone has argued that the African metropolis requires a particular mental life, the "ability to 'show up,' make oneself present, no matter the circumstances, in a

Fig. 3A: *Lagos Wide & Close: An Interactive Journey into an Exploding City*, 2005. Directed by Bregtje van der Haak, designed by Silke Wawro.

kind of social promiscuity.... The idea is to insert oneself in many walks of life so that the sense is created that many walks of life are coming to you," a practice, he asserts, that results in the need to "live in an incessant present," thus making it difficult to have either a past (history) or a future.[23] The image of the kaleidoscope does not entirely manage to visualize the specificity of such a subjectivity.

Part of the difficulty the film encounters is related to filming techniques. Most of the footage is shot in conventional documentary style, where the camera simply follows its subject. When this style was first developed in the 1960s, it engendered a vigorous debate about the camera's relationship with its subjects. Whereas French proponents of the movement insisted on the inherent subjectivity of the camera and the job of the camera to provoke the filmed subject, U.S. documentarians believed in the objectivity of the camera, and the need to follow the subjects undisturbed. French practices were known as "cinéma vérité," American ones as "direct cinema." These distinctions were never so neat or simple, but the best documentaries from the period provided a wide range of ways in which subjects interact with the camera, in turn allowing them to emerge in some sort of complexity. In *Lagos Wide & Close* some people in the film seem slightly uncomfortable, some look at the camera, but for the most part they pretend not to pay attention to the camera. The film thus seems to adhere to a direct cinema style, which works best when something important and dramatic happens to its subject, which is not the case here.[24]

For in the end it is the documentarians' privileged but circumscribed access to the city that comes through. Intercultural filmmaking is notoriously difficult, and filming in a dangerous city makes it even moreso. Edgar Cleijne, Koolhaas's photographer, acknowledges that "the first time I went to Oshodi, it was impossible to take any photographs. The second time we were able to set up security, so we could go into the market."[25] Getting a sense of people's local networks requires time and developing an intimacy with one's subjects that the filmmakers might not have had time to do. And once you have left the site of fieldwork, you are left with whatever footage you have. In the end, the project leaves one wanting to know more about the limitations of the production, if only because it would help us to more thoroughly understand how Lagos works.

Thus, *Lagos Wide & Close* encounters understandable difficulties in producing local urban imaginaries as defined in the introduction of this essay. What is striking is that Koolhaas decided to go to a city that already had a burgeoning moving image industry. Even before Koolhaas arrived in Lagos, media scholars had started to document the rather astonishing rise of the Nigerian video film, which was connected to the decline of the (celluloid) film industry and of Nigerian television serial production. Starting in "one-room screening centers ... equipped with a television set and VHS player ... the video business made inroads into Idumota Market, Lagos, where it found patrons who desired home entertainment." Video rental clubs make (pirated) videos available cheaply, even as "ownership of a VCR and television has become a basic aspiration and has spread pretty far down into the lower-middle and urban working classes."[26] Like the recycling and electronic markets that Koolhaas so admires, the film industry is thus very much part of the new urban system, the informal economy enabled by an old infrastructure but separate from the state economy.[27] It also provides a very different access to Lagos. On the one hand, it is organized along ethnic lines — with Igbo, Hausa, Yoruba, and English-language productions, each with different industrial histories and different social practices. Whereas Yoruba films developed out of the traveling theater tradition, Igbo and English-language productions early on captured a much larger market. At the same time, the video market helps implement new urban social spaces. Whereas cinema-going was primarily associated with "younger,

Fig. 3B: *Lagos Wide & Close: An Interactive Journey into an Exploding City*, 2005. Directed by Bregtje van der Haak, designed by Silke Wawro.

poorer, and rowdier males," videocassettes opened up media to women (who have also entered the business). Such social spaces can be ethnically distinct while also enabling differentiations within subgroups of consumers. Afolabi Adesanya, for instance, claims that Yoruba entertainment is a family affair, whereas Igbo and Hausa movies are more likely viewed by wives and children while the husband is out. And the Nigerian diaspora is involved as well, as postproduction may be done in London and films are increasingly available online.[28] In a rapidly developing city, a commercial moving image industry had already appropriated the local urban space.

Although it is clear the local media industry provides Lagosians with local imagery, it is less clear how they represent and affect the culture of the city. Since especially early films were frequently obsessed with commodity fetishism, featuring luxury items (such as Mercedes-Benz cars) and protagonists willing to sell their soul in exchange for economic success, scholars such as Brian Larkin argue that these early video films were a "fantastic response to the insecurity and vulnerability of everyday life." They provide a sense of "excitement, danger, or stimulation."[29] Others have understood them as melodramas of capitalist modernization, diagnoses of the "nervous condition of the city," responses to urban "anxiety," or simply ambivalence about the city.[30] Commenting not least on the "hallucinogenic quality" of pirated video, Larkin understands the video market as producing new ways of organizing the sensory perception of time, space, and economic network, in short a new form of "sensory modernity."[31] We should not presume that all films depict the city alike — in fact most of the early films could hardly afford to shoot outdoors — and the industry itself, like the city, has been rapidly developing. But it is not a coincidence that a rapidly developing city would also generate a rapidly developing and immensely popular moving image industry. As the exponential growth of the Lagos media industry suggests, local but increasingly transnationally connected media markets can have enormous power in shaping the perception of the city, maybe especially in the absence of social contact. (Another example would be the rise of the *favela* film). The local media market can create new social spaces for conflict, debate, and contact. The question then becomes how one might appropriate these images, many of which are highly problematic and imbricated with views from far away, for progressive social change.

II.

Bleeding Through: Layers of Los Angeles, 1920–1986 provides a useful point of comparison because Los Angeles has an image problem that is comparable though not analogous to that of Lagos. Mike Davis has called attention to the ways in which the city, a "stand-in for capitalism itself," was developed by "bulldoz[ing] into oblivion" historical and natural contexts.[32] Aggressive development and speculation have left the city without an urban icon (unless we accept the freeway as standing in for more conventional iconic sites), and has led to well-documented social fragmentation.[33] Given the context of Los Angeles's aggressive development in the early twentieth century, it is hardly surprising that it simultaneously developed a commercial moving image industry; that industry, however, has remained curiously detached from local specificities. The film industry moved to Los Angeles in part because of the variety of terrain that allowed it to stand in for many other corners of the world — a logic hardly conducive to visualizing the specificity of the location. When it has focused on the city itself, it has worked to perpetuate and circulate a vastly reductive image of the city (according to Robert Carringer a "commodified arcadia" and a "pathological cityscape"), simultaneously rendering vast stretches of the city invisible, so that it can be called the "most photographed and least remembered city in the world."[34]

To be sure, such forgetting is never complete, and less visible, alternative histories get recorded all the time. In his seminal work on alternative cinemas in Los Angeles, David James has argued that as soon as film-producing companies arrived in Los Angeles, "people outside the studios — and sometimes in them — began to make films on contrary aesthetic and political principles.... The nonindustrial cinemas they made prospered in many parts of the city, within the geographic purview of Hollywood itself but eventually also in neighborhoods the industry has never recognized."[35] James understands Los Angeles's ability to produce (often forgotten) counter-images as structurally related to the city's geographic dispersion as well as to the presence of a major commercial imaging industry. But producing a counter-image is also the goal of *Bleeding Through,* a coproduction between the Center for Art and Media in Karlsruhe (Germany) and the Labyrinth Project at the Annenberg School of Communication of the University of Southern California. Relying on the powers of interactive media as well as the availability of urban archives, including USC's archive of student films going back to the 1930s, the archives of the Los Angeles Public Library, the Automobile Club of Southern California, and a number of private archives, *Bleeding Through* activates counter-archives that are locally rooted and that counteract the disconnected official image of the city, effectively producing an urban imaginary as defined earlier in this essay.

An opening "preface" screen sets the parameters for the stories that will be told. It introduces an "an elderly woman living near downtown"; "rumors suggest that decades ago, she had her second husband murdered." The text continues:

Three miles around where she is standing, more people have been "murdered" in famous crime films than anywhere else in the world. Imaginary murders clog the roof gutters. They hide beneath coats of paint. But in fact, the neighborhoods have seen something quite different than movie murders; a constant adjustment to Latinos, Japanese, Filipinos, Jews, Evangelicals, Chinese. What's more, in the sixties, hundreds of buildings

were bulldozed. And yet, pockets remain almost unchanged since 1940.

The DVD thus takes as its starting point the crime film industry in Los Angeles, making it clear that it will provide more mundane counter-stories that tell about Los Angeles multiracial history and the people's daily lives. It does so by presenting us with historical archives, film clips, and interviews, but at the same time it resorts to fictional strategies, inventing characters such as the "elderly woman" whose past daily lives, too, will be imagined in much detail, linking it to the archival footage, giving the stories told a human, imaginative dimension.

Once users have gotten beyond this first prefatory screen, they are presented with a "Contents" page, which arranges the stories told in three tiers. Tier 1 contains stories that the key fictional character, Molly, claims to remember well, and it includes stories of her first husband, Jack. Molly, we are told, is a Jewish woman from a broken family home in the Midwest who arrived in Los Angeles in 1920 and who still lives there in 1986. We are told about Molly's daily life, when and how she goes to work as a bookkeeper, but also, for instance, how one Sunday afternoon she saw Hollywood actress Gloria Swanson. We learn about her trouble with Jack, who has a different, more joyous relationship with the city, and whose sexual and other exploits we hear about in some detail. Tier 2 tells "backstories" of secondary fictional characters based on contextual research: the daily lives of neighbors and other characters who Molly lived with and encountered, including her sister Nettie, who will eventually join the Communist Party. But Molly and other characters are less central in this tier, which focuses our attention more specifically on the archival footage accumulated, allowing us to navigate it at our leisure. And then Tier 3 leaves out Molly entirely, focusing instead on places and events in Los Angeles that Molly either did not know about or forgot. Here we get, for instance, interviews with diverse older Los Angeles inhabitants who remember particular moments in the city's history, edited together with photographs and filmic material illustrating their memory (e.g., the razing of the mostly Mexican-American neighborhood Chavez Ravine to make room for the Dodger stadium, Communist gatherings, Japanese shop owners in Latino neighborhoods). The three tiers are crucial to *Bleeding Through*'s structure: Tier 1 provides us with a rather detailed if fictionalized account of Molly's urban imaginary, how she uses space and how she sees herself connected to larger issues. The additional tiers then insist that hers was not the only urban imaginary, and that she, like everybody else, had serious limitations in her ability to apprehend and connect to all of Los Angeles. Through the tier structure, the DVD effectively attempts to produce a network of overlapping yet distinct urban imaginaries.

The interface for each story is organized in a similar way. An example from a story in Tier 1 locates us on Bunker Hill in 1960 (fig. 4). In a little window in the upper right corner, the writer, Norman Klein, tells us the story of Jack around that time: "Bunker Hill is being torn down like his life is being torn down." That window can be closed or opened via one of the little boxes in the lower left corner. (In Tier 1, it pops up automatically, but in Tier 2, the viewer has to activate it to get access to the fictional stories, and in Tier 3 the window is entirely missing.) The photograph of Bunker Hill is one of the many archival images that the DVD allows us to peruse. If we move the cursor to the left of the photograph, a previous image moves to center frame; if we move it to the right, the next image moves into our view. Thus, the users can navigate

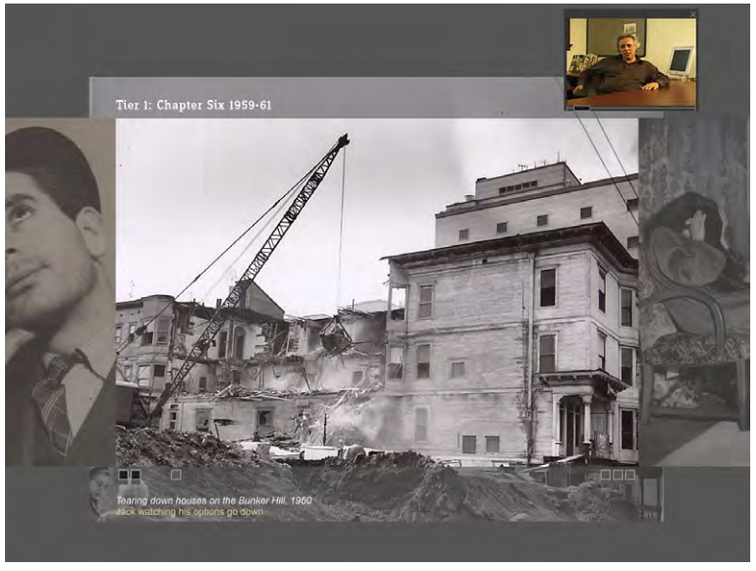


Fig. 4: *Bleeding Through: Layers of Los Angeles, 1920–1986.* Co-directed by Rosemary Comella, Andreas Kratky, and Norman Klein.

a long strip of images. Most images have two captions, one locating the image geographically and temporally, the other placing the fictional character in relationship to this historical image. (in fig. 4, the first caption reads "Tearing down houses on the Bunker Hill, 1960" and the second "Jack watching his options go down.") Some of these photographs are actually not photographs but film clips, or excerpts from newspapers. Each story is thus not so much a linear film, but a strip of archival images and clips that the user can navigate and play.

Any pleasure viewers take in *Bleeding Through*, or frustration they experience, is closely connected to their ability to control the speed of the navigation. When users click on one of the small buttons in the bottom left corner (fig. 4), they are taken to that chapter's navigational strip: a narrow, horizontal strip running across the larger screen piecing all the chapter's images and clips together. Placing the cursor on the narrow band makes the images run in a loop, allowing the viewer to move around different parts of the chapter. The movement of the cursor

controls the speed with which the horizontal navigational strip moves. Users can click on any of the small images on the running strip to return to a specific interface. Individual images on the interface (fig. 4) can be controlled, too: the speed of an old photograph dissolving into a photo of the site today can be controlled; embedded film clips can be stopped at any moment. Viewers can thus at least partially control the speed with which they engage and navigate the virtual urban environment. If the makeup of layered interfaces allows for the mapping of Molly's perspective, the DVD also allows for — indeed requires — the mapping of the viewer's perspective.

Comparing *Bleeding Through* with *Wide & Close* is productive because the two projects take such different paths, not least in terms of scale. Whereas *Wide & Close* attempts to produce the overall urban pattern of a global city, *Bleeding Through* remains much more constricted, ultimately unable to suggest what shape a global Los Angeles might have. It is also much more focused on the historical — on recovering past layers — than on the contemporary. Presumably not least because of the amount of work required to produce the multiple layers, the project limits itself to downtown Los Angeles and surrounding neighborhoods, never attempting to produce an image of the entire city. The very concept of a multi-tier, multi-window interface is based on a logic of editing and a logic of fragmentation that remain individualized. In the end, that individualization may be the project's conceptual crux: the decision to connect everything back to individual characters by definition makes it impossible to visualize the form of the global city. That decision, of course, is a concession to Hollywood narrative; focusing the project around a white, female, heterosexual, lower-middle-class, vaguely socially mobile figure displays a consciousness of how class, gender, sexuality, and race have shaped mainstream filmmaking but hardly takes major risks. There is of course no reason why we could not imagine a version of *Bleeding Through* that is channeled through a collective group. More to the point, though, the differences between the two projects reveal different disciplinary inclinations, the grounding in the human scale in the humanities and in the urban scale in architecture. Likewise, they reveal different conditions of production in the two cities: it is no coincidence, I would argue, that a Los Angeles project is (and can afford to be) preoccupied with producing a multilayered sense of history for its users and their ability to control time and speed, whereas a Lagos project struggles to make sense of the present in a way that leaves little room for a (re)consideration of the past.

Bleeding Through's most compelling aspect may well be that it understands documentation as a simultaneous act of erasure. The database is full of fissures, evoking a city but also a DVD "designed for forgetting." Molly's story is mediated — we never have direct access to her — and full of "those gaps" that we cannot account for.[36] Her world is peopled by unreliable narrators who remember, misremember, gossip. Likewise, the assembled database, no matter how impressive, attempts to call attention to its own aporias: the last section in Tier 3 is dedicated to four programs that disappeared in a power surge bolting through the designers' hardware. To be sure, it is still difficult to be aware of all the aporias: only a comparison with *Wide & Close* makes us aware that the *Bleeding Through* pays little attention to Los Angeles as a global city (even as it addresses immigration). Nonetheless, as users "we become archeologists of story and city simultaneously.... We ... run through trace memories.... We become simultaneously the omniscient narrator and the unreliable narrator, as well as urban archeologists on evacuations in Los Angeles between 1920 and 1986." And aporias, Klein reminds us, generate "desire more than action."[37]

Conclusion: Designing from Locally Positioned Imaginaries

As early as 1927, German cultural critic Siegfried Kracauer diagnosed a "blizzard" (*Schneegestöber*) of mass-produced, decontextualized, and deracinated images, which submerged the globe, and which in his view made "experience" — understood as the ability to recognize social and historical connections — increasingly difficult. The scale of this blizzard has dramatically increased under the combined effects of globalization, digitization, and the proliferation of media platforms. In this context, computer-generated animations of architectural spaces may only be one of the most recent examples of such a blizzard. Making Kracauer's remarks pertinent to the digital age, Miriam Hansen comments that such a blizzard "extends laterally to create a presence effect of imperial, global dimensions" and becomes "the condition under which reality is constituted and perceived." The overabundance of images thus does not necessarily create representation but can generate a "historical crisis of experience," an inability, as the Mexico City, D.F., study cited at the beginning of this essay suggests, to picture and piece together one's own environment in a meaningful way. This individual imaginery permits both productive personal use and perceptions of how this particular space is linked to global issues.[38]

My insistence throughout has been that local inhabitants — and clients — need such urban imaginaries to make productive use of the larger global network in which they are inserted, and I argue that we need media, including architectural animations, that produce lived urban experience. To do that from within and against the image flood is a tremendous challenge. Both projects discussed here take on this challenge, harnessing the potential of new interactive media. *Wide & Close* reveals the larger infrastructural network underlying the hectic localized activity, and it also attempts to produce a local perspective through the eyes of Olawole Busayo, the bus driver, and others. Coming from a different disciplinary background, *Bleeding Through,* through links and multiple layers, attempts to link fictitious individuals to larger historical and social issues. If I have emphasized the difficulties facing such projects, it is in no way to detract from their achievement, but to make visible the stakes and the level of the challenge.

Part of the challenge is to produce, write, film, or design locally positioned yet globally connected imaginaries. This essay certainly shares that difficulty. Although its scope is by necessity limited, it also proposes a (disciplinary and geographic) comparative imperative: part of the reason for the juxtaposition of these two works is their ability to reveal disciplinary predilections — architecture's investment in large-scale patterns and abstract space (from which people are often literally abstracted), and media studies' preoccupation with subjective (often all too individualized) experience. Part of the project is thus to suggest how the two disciplines may learn from each other. Furthermore, I would argue that only by thinking about cities comparatively and in relation with each other can we begin to get an image of "globalization" in urban contexts in general, of what we might best call "uneven visual development" in globalizing environments — the ways in which we produce very different images of megalopolises in different hemispheric locations.

One way forward would be to combine the insights of the two disciplines and imagine a visual project, for instance focusing on Lagos and putting *danfo* driver Olawoly Busayo in a role similar to Molly's, thus blending the structural insights of *Lagos Wide & Close* with the more interactive and localized experience developed in *Bleeding Through*. When imagining such a project one would have to remember one of *Bleeding Through*'s key lessons: that there will always be gaps, limitations, and erasures. Nonetheless, such a visual project would provide a localized understanding that could be used for a design intervention in Lagos.

Or, one might want to appropriate the digital infrastructure provided by an application such as Google Earth to produce a richer localized urban imaginary. After all, despite the ways in which Google Earth reflects and exploits global power structures, it simultaneously invests in the amateur, in local content. Humanitarian uses of Google Earth in the wake of Hurricane Katrina have shown that the application can be appropriated for progressive ends.[39] That Google Earth is "designed to scale to no boundary," in the words of CEO Eric Schmidt, does not only have to be understood in colonizing terms.[40] One could imagine a collaborative virtual studio originating in two cities that attempts to develop a new image — and a new urban imaginary — for a city like Lagos by making use of Google Earth's multiple layers, as well as its ability to plug in other image and video content. With some vision — in fact with design in all senses of the word — such a project could strive to give a sense of local uses of space while gesturing toward the location's global connection, thus again becoming the basis for an architectural intervention.

Patricia Zimmermann has argued that "we urgently need a new world image order."[41] This essay has examined two such attempts to imagine a new world image order, while sketching out the challenges one faces when embarking on such projects. And yet, such new urban imaginaries are sorely needed because they would assume crucial functions in mediating massive urban change for their local and global users, imaginatively suggesting ways of having been, of being, and of becoming in the global city.[42] They could also provide a locally and humanly informed basis for architectural interventions. Thus, to some degree the digital infrastructure has been made available, ready to be appropriated for new visions of inhabited urban space, for imagining the postcapitalist city.

Notes

I wish to thank Anindita Banerjee and Rayna Kalas for their generous comments on an earlier draft of this essay.

1 Examples of such images can be found in "Cities, Architecture and Society," *The Architectural Review* 220 (September 2006): 35–66. See also the images included in Rem Koolhaas, "Fragments of a Lecture on Lagos," in Okwui Enwezor et al., eds., *Under Siege, Four African Cities: Freetown, Johannesburg, Kinshasa, Lagos* (Ostfildern-Ruit, Germany: Hatje Cantz, 2002), 172–183.

2 Andreas Huyssen, "Introduction," in Andreas Huyssen, ed., *Other Cities, Other Worlds: Urban Imaginaries in a Globalizing Age* (Durham, NC: Duke University Press, 2008), 5.

3 Rumiko Handa, "Using Popular Film in the Architectural History Classroom," *Journal of the Society of Architectural Historians* 69:3 (September 2010): 312. Although Handa's essay contains many useful points, I disagree with him on how montage in particular and film in general "treats all points of view equally" (318). If that were the case, there would be no propaganda films. Moving images can literally produce a particular point of view by filming space from a character's perspective, and they can produce more particular points of view by privileging certain shots, angles, and frames, as the discussion of the moving images that follows will I hope make clear.

4 Néstor García Canclini, "Mexico City, 2010: Improvising Globalization," in *Other Cities, Other Worlds,* 84–85.

5 Mike Davis, *City of Quartz: Excavating the Future in Los Angeles* (New York: Vintage, 1992), esp. 3–30; Davis, *The Ecology of Fear: Los Angeles and the Imagination of Disaster* (New York: Henry Holt, 1998), esp. 5–54.

6 Enwezor et al., *Under Siege, Four African Cities*. These are general comments, and we should be careful not to overgeneralize across megalopolises in different countries and on different continents (from Mexico City, D.F., São Paulo, and Rio de Janeiro to Lagos, Mumbai, and New Delhi), because of the myriad issues affecting imageability (infrastructure, governmentality, cultural conflicts, market penetration, etc.).

7 Beatriz Sarlo, "Cultural Landscapes: Buenos Aires from Integration to Fracture," in *Other Cities, Other Worlds,* 45–46. On how fear produces middle-class privatization, see Teresa P.R. Caldeira, "From Modernism to Neoliberalism in São Paulo: Reconfiguring the City and Its Inhabitants," in *Other Cities, Other Worlds,* 61–70.

8 Nick Salvato, "'Out of Hand': YouTube Amateurs and

Professionals," *TDR: The Drama Review* 53:3 (2009): 67–83; for a polemic against democratization see Andrew Keen, *The Cult of the Amateur: How Blogs, MySpace, YouTube, and the Rest of Today's User-Generated Media Are Destroying Our Economy, Our Culture, and Our Values* (New York: Doubleday, 2007, 2008).

9 Randall E. Stross, *Planet Google: One Company's Audacious Plan to Organize Everything We Know* (New York: Free Press, 2008), 127.

10 Frank Taylor, "Super High-Resolution Photos in Google Earth," 2007, www.gearthblog.com/blog/archives/2007/03/super_high_resolutio.html (27 March 2009).

11 Stross, *Planet Google,* 144.

12 "Interview 02," 17 March 2002, Rem Koolhaas and Edgar Cleijne with Funmi Iyanda for the Lagos talk show *New Dawn on Ten*, pamphlet accompanying DVD edition of *"Lagos Wide & Close": An Interactive Journey into an Exploding City* (2005), 15.

13 "Interview 01," 24 January 2001, Rem Koolhaas and Edgar Cleijne with Funmi Iyanda for the Lagos Talk Show *New Dawn on Ten*, pamphlet accompanying DVD edition of *Lagos Wide & Close,* 10.

14 "Interview 01," 8.

15 "Interview 03," Rem Koolhaas with Bregtje van der Haak, pamphlet accompanying DVD edition of *Lagos Wide & Close*, 18.

16 George Packer, "The Megacity: Decoding the Chaos of Lagos," *The New Yorker,* 13 November 2006, www.newyorker.com (23 February 2009).

17 Babatunde A. Ahonsi, "Popular Shaping of Metropolitan Forms and Processes in Nigeria: Glimpses and Interpretations from an Informed Lagosian," in *Under Siege,* 129–151. For a similarly differentiated if briefer account, see also Koku Konu, "Regenerating Downtown Lagos," ibid., 239–242.

18 I have refrained from framing the Koolhaas project as a neocolonial project, but an essay more invested in his persona would locate him in the history and permutations of Western primitivism. When asked whether he loves Lagos, he reflects on his own colonial nostalgia: "When I lived in Indonesia in my youth, it was all about poverty and shit. But I was here at an age that one is more open to the pleasures of life than at any other age. So there is a certain nostalgia." When asked how his experience in Lagos has influenced his architectural practice, he claims to now be "much more direct and less dependent on reasoning, so more immediate, maybe more poetic or maybe wilder, maybe more visceral" (DVD commentary). Despite his claims that he had to "uncondition" himself to produce an image of Lagos, his DVD commentary contains a number of comments attesting to a different kind of conditioning: for instance, when he insists that Lagos is becoming more "normal," or when he mentions that during a power outage, in the "heart of darkness," "a hygienic white truck appeared." Some of these comments appear only in the DVD commentary and are edited out of the published versions of the interviews included with the DVD. One might also wonder about the gendering of the project, especially when it comes to the female TV host who serves as a local guide to Lagos in *Lagos/Koolhaas*, and whose voice appears in *Lagos Wide & Close.* Although it may be too simple to understand this in terms of the (male) penetration of a (feminized) Africa, the ghost, at least, hovers, not least because Koolhaas is so eager to be the first to document Lagos, to enter virgin territory. On these issues, see Mary Ann Doane, "Dark Continents: Epistemologies of Racial and Sexual Difference in Psychoanalysis and the Cinema," *Femmes Fatales: Feminism, Film Theory, Psychoanalysis* (New York: Routledge, 1991), 209–248.

19 "Interview 03," 20.

20 AbdouMaliq Simone, "The Last Shall Be First: African Urbanities and the Larger Urban World," in *Other Cities, Other Worlds*, 103.

21 Walter Benjamin, "On Some Motifs in Baudelaire," in Hannah Arendt, ed., *Illuminations,* Harry Zohn, trans. (New York: Schocken, 1968), 172.

22 Canclini, "Mexico City, 2010," 83; Simone, "The Last Shall Be First," 100. For a critical review of Koolhaas's project along those lines, see Packer, "The Megacity."

23 Simone, "The Last Shall Be First," 105–107.

24 Jack C. Ellis and Betsy A. McLane Ellis, *A New History of Documentary Film* (New York: Continuum, 2005), 216.

25 "Interview 01," 9.

26 Jonathan Haynes and Onookome Okome, "Evolving Popular Media: Nigerian Video Films," and Afolabi Adesanya, "From Film to Video," both in Jonathan Haynes, ed., *Nigerian Video Films,* rev. and expanded ed. (Athens: Ohio University Center for International Studies, 2000), 57, 42, 73. The first edition of this volume was published in 1997.

27 Brian Larkin, *Signal and Noise: Media, Infrastructure, and Urban Culture in Nigeria* (Durham, NC: Duke University Press, 2008), 169.

28 Haynes and Okome, "Evolving Popular Media," 72, 73, 77; Adesanya, "From Film to Video," 48. See, for instance, www.africanmoviechannel.com; nigeriamovies.net.

29 Larkin, *Signal and Noise,* 172, 13.

30 Jonathan Haynes, "Introduction," *Nigerian Video Films,* 25–26; Onookome Okome, "Writing the Anxious City: Images of Lagos in Nigerian Home Video Films," in *Under Siege,* 316, 333. See also Obododimma Oha, "The Visual Rhetoric of the Ambivalent City in Nigerian Video Films," in Mark Shiel and Tony Fitzmaurice, eds., *Cinema and the City: Film and Urban Societies in a Global Context* (London: Blackwell, 2001), 194–205.

31 Larkin, *Signal and Noise,* 186, 220.

32 Davis, *City of Quartz,* 4, 18.

33 Edward Dimendberg, "The Kinetic Icon: Reyner Banham and Los Angeles as Mobile Icon," *Urban History* 33 (May 2006): 106–125. Dimendberg draws on Reyner Banham's *Los Angeles: The Architecture of Four Ecologies* (1971; Berkeley: University of California Press, 1999).

34 Robert Carringer, "Hollywood's Los Angeles: Two Paradigms," in Charles G. Salas and Michael S. Roth, eds., *Looking for Los Angeles: Architecture, Film, Photography, and the Urban Landscape* (Los Angeles: Getty Publications, 2001), 247–266; Norman M. Klein, *The History of Forgetting: Los Angeles and the Erasure of Memory,* new and updated edition (London: Verso, 2008), 247–262.

35 David E. James, *The Most Typical Avant-Garde: History and Geography of Minor Cinemas in Los Angeles* (Berkeley: University of California Press, 2005), 3.

36 Norman M. Klein, *Bleeding Through* (Karlsruhe, Los Angeles: ZKM Center for Art and Media, The Labyrinth Project at the Annenberg Center for Communication, University of Southern California, 2003), 16, 33.

37 Ibid., 28, 44.

38 Miriam Hansen, "Introduction" to Siegfried Kracauer, *Theory of Film: The Redemption of Physical Reality* (Princeton, NJ: Princeton University Press, 1997), xxi, xxvi. Hansen refers to Kracauer's 1927 essay, "Photography," in Thomas Y. Levin, ed. and trans., *The Mass Ornament: Weimar Essays* (Cambridge, MA: Harvard University Press, 1995), 47–63. Kracauer's theory of "modernity as living on the brink of catastrophe" rather than progress, his insistence on media's "decentering mode of perception," and his sense after World War II that "the subject that seeks refuge in the movie theater no longer acts out the crisis of the Subject but has become the stoically cool, postapocalyptic 'subject of survival,'" could be brought into a productive dialogue with the crisis of experience in globalizing cities (Hansen, "Introduction," xi, xiii).

39 Stross, *Planet Google,* 140.

40 Ibid., 12.

41 Patricia R. Zimmermann, *States of Emergency: Documentaries, Wars, Democracies* (Minneapolis: University of Minnesota Press, 2000), xv.

42 I owe this concise way of addressing history, liveness, and the possibility of a future to Amy Villarejo, "Cities of Gods, Men, and Queers: Migration, Youth, and Exclusion in Recent Cinema," paper presented at the Gender, Violence and the Cinematic Nation Conference, Cornell University, March 2009.

LIVIA CORONA
TWO MILLION HOMES FOR MEXICO

In 2000, Mexican presidential candidate Vicente Fox Quezada proposed an unprecedented plan to build two million low-income homes throughout the country during his six-year term. On the eve of his election, Fox proclaimed, "My presidency will be remembered as the era of public housing." To enact this initiative federal government agency INFONAVIT ceded the construction of low-income housing to a small group of private real estate investors. Then, almost overnight, grids of 20 to 200,000 identical homes sprouted up, and they continue to spread in remote agrarian territory throughout the country. To encounter these developments by land, air, or even via satellite imagery, evokes a rare sensation. These are not the neighborhoods of a "Home-Sweet-Home" dream fulfilled, but are ubiquitous grids of ecological and social intervention on a scale that is difficult to grasp, as are the consequences. In these places, urbanization is reduced to the mere construction of housing. There are nearly no public amenities, such as schools, parks, and transportation systems. There are few commercial structures, such as banks and grocery stores. Yet demand for these low-income homes continues to increase, and developers continue to provide them with extreme efficiency. To date approximately 600,000 homes of this prototype have been built, at a rate of 2,500 homes per day.Since 2007, I have been exploring these developments in *Two Million Homes for Mexico*. Through images, films, and interviews, I look for the space between promises and their fulfillment. In my photographs of multiple developments throughout Mexico, I consider the rapid redefinition of Mexican small-town life and the sudden transformation of the Mexican ecological and social landscape. These urban developments mark a profound evolution in our way of inhabiting the world. In my work I seek to give form to their effect upon the experience of the individual. What exactly happens in these two million homes? How do they change over time? How are tens of thousands of lives played out against a confined, singular cultural backdrop? I am interested in these homes the way one might be interested in a theatre stage — both being spaces of waiting for the action that is about to unfold.

Pages 079–083: From the series *Two Million Homes for Mexico*, 2011. Each C-Print, 30 × 40 in. Edition of 5+2 AP

Opposite: *47,547 Homes*. Ixtapaluca, Mexico. Detail.