







Theaster Gates, front view of his house on Dorchester Avenue, Chicago, and site of 'Dorchester Projects' (2009—ongoing), 2010

Previous spread: *Cosmology of Yard*, 2010, installation with reclaimed ware boards. Installation view, Whitney Biennial, New York. Both images courtesy the artist and Kavi Gupta Chicago/Berlin

Theaster Gates: Radical Reform with Everyday Tools

— Hesse McGraw

Theaster Gates is viral. In 2011 — the year Gates 'broke' — the ground for socially engaged work shifted in the US. One critic lauded Gates for providing contemporary art with sorely lacking purpose, and Jeffrey Deitch, contemporary art's greatest pitchman, got to talking with him about art and real life on Mercedes-Benz TV.¹ The ground-shift followed a year in which Gates was seemingly everywhere, with unabashed earnestness, re-framing conversations regarding 'potent' exchanges involving the market, arts institutions and disadvantaged communities with everyone he spoke to — curators, dealers, collectors,

and exhibitions across the international art world, with major upcoming projects at both dOCUMENTA (13) and the cavernous new White Cube space in the London area of Bermondsey. Perhaps not fully at home, and certainly not contained, in either sphere, Gates's work could hold import for the future of both worlds.

Gates is uncannily open about the relationship of his work to the market, and about his strategies to translate the work's market value into impact on places beyond the art world. His efforts to reanimate abandoned properties for new cultural uses came first, the sale of objects followed. Their relationship is now fully cyclical and celebrated. As he, in characteristically self-reflexive ebullience, puts it: his 'loaded, racialised, enigmatic, fetishistic, seductive objects, for sale!' will fund the renovation and programming of buildings in Chicago, St Louis and Omaha.² For the multiple directions of his work, the thrust is the regeneration of the ethical, social and economic realities of black neighbourhoods in the United States. But what can an artist actually catalyse and put at stake in the world today, following Robert Rauschenberg and Gordon Matta-Clark, and following civil rights, relational aesthetics and institutionalised social practice? In the midst of continuing debate surrounding the critical utility and leftist-activist ethic of social practice, Gates's particular strategies offer a novel case for being in the market and leveraging cultural institutions, while engaging local communities through scalable and replicable cultural planning.

Hesse McGraw discusses the transformation of art's symbolic and real capital through Theaster Gates's regenerative interventions into deprived US neighbourhoods.

art students, architects, city planners, cultural philanthropists, gospel choirs and so many others in earshot. It's become difficult to find a place he isn't.

It is hard not to be consumed by the heat surrounding Gates's practice, or to anticipate some inevitable backlash due to the pace of his international ascension. In person, his sincerity and brashness are disarming; Gates is possessed with an emphatic charisma. His particular magnetism moves fluidly between the seemingly polar spheres of his practice: African-American neighbourhoods and communities in the Midwestern United States, where he is deeply invested in site-specific cultural transformations,

1 Christian Viveros-Fauné, 'Theaster Gates', *ArtReview*, issue 56, January/February 2012, pp.66—71. See also Mercedes Benz TV, 'Jeffrey Deitch and Theaster Gates: I Believe in Places', available at <http://www.youtube.com/watch?v=m34aIZG-JM> (last accessed on 26 January 2012).

2 See Theaster Gates, 'Clay in My Veins and Other Thoughts', lecture at the Bemis Center for Contemporary Arts, Omaha, 31 March 2011, available at <http://vimeo.com/23493473> (last accessed on 26 January 2012). See also Rebuild Foundation's mission statement: 'Rebuild Foundation activates creative community resources to build vibrant neighbourhoods. We act as a catalyst in local economies by integrating small business incubation, creative architectural rehabilitation, hands-on education and artistic intervention.' Available at <http://rebuild-foundation.org/about.html> (last accessed on 26 January 2012).

A Residency of One

The Alliance of Artists Communities, an international association of residency programmes, hosted its annual conference in Seattle in the autumn of 2008. I listened as directors and staff from artist-in-residence programmes throughout the United States debated questions about the roles of residencies and of artists — should the programmes provide a retreat or a laboratory, require community service or fees? Should artists unsettle or affirm culture? A conservative tenor pervaded the discussion: in tones that might be described as constipated, various residency managers and institutional representatives fretted about artists' tendency to engage with politically delicate issues, worried about the timidity of their funders, and pondered means to prepare local audiences for the culture wars that would *surely* trail artists into their towns. There were days of this, and few voices broke through.

Theaster Gates was also there — he had founded a residency programme in his house in Chicago that summer, for one artist at a time — and at the conference he insisted on a different set of roles for artists and institutions. Participating in the panel discussion 'Artists' Residencies in Support of Social Change', his tone was urgent. Artists should move the poles of our culture, he argued, and challenge the social and economic dynamics of arts institutions. His approach advocated driving forward controversial wedge issues, directly engaging race and class divisions and the art world's economic complicity in those hierarchies, and he insisted institutions take socially proactive roles in their communities. The scenario he depicted was one of benevolent and compelling danger, and someone putting forth counterarguments from the audience wound up crying!³

I wanted to know more about how Gates's ideas were actualised, yet it was difficult to pin him down. His answers conformed to who was asking. He might say, 'I host dinners in my house', or 'I make soul food wares', or 'I'm a planner', or 'I'm making some shoeshine stands' or 'I have a band called the Black Monks of Mississippi'. It became apparent that

in the last three years he had been doing each of these, often simultaneously and with a kind of abiding rigour, and working through their possibilities and points of connection.

That same autumn Gates and his band performed in the Netherlands as part of the 'Heartland' exhibition organised by the University of Chicago's Smart Museum and the Van Abbemuseum in Eindhoven. That exhibition traced strains of artistic production in the central United States and their broader implications for 'heartland' culture. Another artist in the show, Seth Johnson, said of the Black Monks of Mississippi: 'It was the kind of thing that could go wrong, really fast. I loved it.'⁴ Johnson keenly identified Gates's ability to balance an earnestness that might seem cloying and burdensome with an authenticity and openness that ultimately erodes cynicism. The Black Monks' music is rooted in gospel and slave spirituals, which they strip down to core rhythms that mix part-blues, propulsive chug and meditative chants. When Gates shouts 'Lord, Jesus!', it is without irony, and aims to cross faiths.

Mac-and-Cheese Maki Rolls

Gates's first solo exhibition, 'Plate Convergence', at the Hyde Park Art Center in Chicago in 2007, connected the ritualised traditions of ceramics and shared meals. He produced fifty plates upon which curated dinners of 'Japanese Soul Food' — traditional sushi and sashimi combined with new ingredients, such as hand rolls made with stuffed black-eyed peas — were served. The plates and video documentation of the dinners were presented at Hyde Park, and the entire project was said to extend the social engagement of the Yamaguchi Institute, a fictional ceramics producer and civil rights activist organisation. The off-kilter narrative, Gates says, 'duped a lot of people'.⁵ Its grand narrative afforded gravitas to his emerging social practice, a ground for his trickster inclinations, but also did the real thing — it loaded his ceramic wares with art-world value. At the same time the Yamaguchi Institute initiated conversations around race, inequity, cultural production and the role of the art institution. Under Gates's

3 This episode reminded me of Joe Scanlan's lament of the timidity of relational aesthetics and its inability to cultivate charged social space: 'By contrast, art should be a place where we can "kill Grandma" and, rather than call an ambulance or the moral authorities, stand around and talk about what it means.' J. Scanlan, 'Traffic Control: Joe Scanlan on Social Space and Relational Aesthetics', *Artforum*, vol. 43, no. 10, June 2005, p. 123.

4 Conversation with the author, 21 January 2012.



Theaster Gates,
'Plate Convergence',
2007. Installation
view, Hyde Park
Art Center, Chicago.
Courtesy the artist
and Hyde Park Art
Center

framework, cultural institutions are part of the problem — they adhere to systemic inequities — and one must either remake them from within or invent new forms. If the art world has long seemed content to merely gesture at issues of race, class and power, Gates's theatrical candour comes with a throw of grace, allowing one to swallow the hard conversation with a good meal.

From Rat Shit to the Whitney Biennial

I visited Gates's studio and home in Chicago over Thanksgiving in 2009. Gates had just learned he would be in the 2010 Whitney Biennial — his first major opportunity to show work on the national stage — and he was buzzing with ideas, thinking about the museum's courtyard, which had tripped up so many artists previously, and planning to remake it as a kind of Buddhist-modernist shoeshine

temple that would host performances, educational events and informal exchanges.⁶

Gates had recently begun referring to his home at 69th Street and Dorchester Avenue in Chicago as 'Dorchester Projects' (2009—ongoing), providing a loose frame for a set of renovation, reuse and programming efforts, but also signalling the ambition emerging from the project. After starting a position at the University of Chicago in 2006, where he is now Director of Arts and Public Life, Gates sought a home he could afford. He bought a former candy store for \$130,000, in the South Side's Grand Crossing neighbourhood, which, though only two miles from President Obama's house, is a culturally neglected area where boarded windows are common and economic disadvantage is entrenched. Gates slowly renovated the single-story structure, driven by

5 According to Gates, 'I created a story centred on a fictive pottery commune in Mississippi founded in the 1960s by an also-fictive Japanese ceramicist, Yamaguchi, who had fled Hiroshima, married a black civil rights activist and instituted a ritual called Plate Convergences, or conversations where people came from all over to discuss issues of race, political difference and inequity. Yamaguchi is supposed to have made ceramic plates specifically for the "black food" served at the dinners, and this dinnerware went into the Yamaguchi Institute Collection as part of the story. [...] We gave a huge Japanese soul food dinner, made by a Japanese chef and my sister, in honour of the Yamaguchis and their dinners. A young mixed-race artist enacted the role of their son and thanked everyone for coming.' 'Theaster Gates: In the Studio with Lilly Wei', *Art in America*, December 2011, no.11, pp.121—27.

6 'Cosmology of Yard' was hailed for bringing 'real nervousness and some bliss to the uptight uptownness of being at the Whitney'. C. Viveros-Fauné, 'Welcome to the Mixed-Up, Dialed Down 2010 Whitney Biennial', *The Village Voice*, 2 March 2010, available at <http://www.villagevoice.com/2010-03-02/art/welcome-to-the-mixed-up-dialed-down-2010-whitney-biennial/> (last accessed on 26 January 2012).



pragmatism and an aesthetic that favours intensely ad hoc processes, carefully rendering salvaged materials into stunning tableaux. The house grew to combine a ceramics studio, a design lab, a rehearsal space, a residency and a communal kitchen for the expanding numbers of artists, performers and designers that Gates invited. Eighteenth-century hand-carved Chinese doors abutted bowling-lane floors, and ‘ware boards’ — salvaged from the nearby Wrigley factory, where they were once used to dry chewing gum during its manufacturing process — served as panelling, shelving or stools. The ware boards would later serve as the dominant material for *Cosmology of Yard* (2010), his Whitney installation.

Gates’s house felt charged, and exuberantly irrational. A year after the housing crisis of 2008, he was trying to refinance the property — he had been saddled with an extortionate ‘ghetto loan’, with a fourteen per cent interest rate — and balance the financial stability of his household with his growing plans for the block.⁷ Real estate values in his neighbourhood had collapsed during

the crisis, and the adjacent three-story house became available in mid-2009 for \$16,000.

Gates and a small team of artists and builders immediately set forth on a renovation, for what he thought would be a ‘soul food pavilion’ — part-restaurant, part-performance space. After fully gutting the building, Gates received an offer from the University of Chicago’s Department of Art History to provide a home to 80,000 glass slides, encompassing the Western art historical canon. He reinforced the structure to support the weight of the slides, and reconceived the building as a home to ‘bodies of knowledge’ that would be made public as a neighbourhood research centre. He subsequently bought 14,000 art and architecture volumes from the famed Prairie Avenue Bookshop and 8,000 LPs from a beloved local record shop called Dr Wax when the stores closed. The day I visited, Gates spoke intensely of neighbourhood transformation through cultural programming and the reanimation of forgotten spaces to create places of ‘urban ecstasy’. By rehousing the collections in his neighbour-

Theaster Gates, *Soul Food Pavilion*, 2012, series of dinners held at ‘Dorchester Projects’ with menu designed by the artist in tandem with local chefs; food served on handmade ceramics. Photograph: Sara Pooley. Courtesy the artist, Smart Museum of Art, Chicago and Kavi Gupta Gallery, Chicago/Berlin

⁷ For more information on banks’ lending policies to African-Americans during those years, see Michael Powell, ‘Bank Accused of Pushing Mortgage Deals on Blacks’, *The New York Times*, 6 June 2009, available at <http://www.nytimes.com/2009/06/07/us/07baltimore.html?pagewanted=all> (last accessed on 26 January 2012).

hood, Gates upended value hierarchies represented by the objects and the locations where one would expect them to be stored. As much as artists have always been responsible for the gentrification of devalued neighbourhoods, Gates claimed agency in his 'right to re-imagine place [...] not just as an art project, but as a way of living'.⁸

'Dorchester Projects' was active throughout 2010 and 2011. Artists were working in studios housed in the two properties, several young art historians and curators began hosting events and the buildings were quietly becoming heralded destinations outside the traditional Chicago cultural circuit. Soul food dinners extending from the 'Plate Convergence' project, performances by the Black Monks and jazz musicians such as David Boykin, a film festival presented in partnership with the Chicago Film Archives and events centred around the buildings' collections lured audiences to a neighbourhood they

Gates makes exchange more transparent: he openly discusses the flow of capital from one work to the next, proclaiming these figures and costs in his lectures.

likely thought unsafe, and certainly not a place where contemporary art culture flourished.⁹

Referring back to the Whitney Biennial, Gates has said 'what was beautiful about this is that it gave me the opportunity to see [my] material fully redeemed in the cultural sphere'. The Wrigley ware boards 'went from rat shit to the Whitney Biennial in about three and a half years. That felt like redemption. And I went with them. I went from an artist that had no footing in the cultural sphere to being one [who] could start to negotiate things [...] But I had this other burden.'¹⁰ Gates's 'burden' soon attached itself to invitations made by organisations in

Midwestern cities like St Louis and Detroit, and he began strategically leveraging institutional resources to initiate cultural planning projects in black neighbourhoods.

Housing and the American Dream

Following September 11, President George W. Bush bound up US national security with home ownership, and the American Dream. Bush's American Dream Down-payment Initiative provided federal funds to low-income individuals with the goal of 'adding five and half million new minority home-owners'.¹¹ Bush proclaimed, 'right here in America, if you own your own home, you're realising the American Dream'. Further, Bush's new ownership society would 'change people's hearts, which will help change their lives'. This federal attitude, alongside an extraordinary cocktail of overleveraged households, reckless lending practices and financial deregulation, resulted in the greatest economic collapse in eighty years. Americans bought it all, toxic credit flowed and the American Dream burst. Foreclosures following the 2008 collapse were disproportionately concentrated in minority neighbourhoods, which had been targeted by predatory lenders and were the least equipped to stage recovery efforts.

Alongside the clear precedent of Rick Lowe's 'Project Row Houses' in Houston (1993—ongoing), and contemporaries such as Edgar Arceneaux's 'Watts House Project' (2007—ongoing) and Gina Reichert and Mitch Cope's 'Power House Productions' in Detroit (2008—ongoing), Gates's model actively recalls Donald Judd's and Gordon Matta-Clark's formal architectural interventions. He is also extending George Maciunas's and others' development activity, yet with a critical eye toward the ecologies of his community and the welfare of his neighbour.¹² These artists are forging new ways out of the housing crisis, which expand the self-interest of previous generations of artist-developers, and actively position the work as a social and sculptural hybrid. His description of material and social transformation,

⁸ Conversation with the author, November 2009.

⁹ See Rachel Cromidas, 'In Grand Crossing, A House Becomes a Home for Art', *The New York Times*, 7 April 2011, available at <http://www.nytimes.com/2011/04/08/us/08cnculture.html> (last accessed on 26 January 2012).

¹⁰ See T. Gates, 'Clay in My Veins', *op. cit.*

¹¹ See President George W. Bush's public address, 17 May 2002, available at <http://www.youtube.com/watch?v=kNqQx7sjoS8> (last accessed on 20 March 2012).

¹² George Maciunas was instrumental in the development of artist cooperative loft developments in SoHo, New York City. See Richard Kostelanetz, *SoHo: The Rise and Fall of an Artist's Colony*, London and New York, Routledge, 2003.

notably, begins with his ceramics-based education:

My training is in ceramics. It feels really important to say [...] for a person who really jumps into clay, you start to think differently, you start to think that you have the capacity to transform everything. [...] Clay and its metaphor of transformation allowed me to imagine cities differently, [that I] as an artist had the capacity to change zoning policies, building codes that hadn't been looked at in a hundred years, change the psyche of a city around what a neighbourhood represented. In a place that had been crack-filled, and where people imagined that there was only violence, I was really excited [...] to transform people's ideas about what happened in spaces.¹³

Gates recognised the work he was engaged in couldn't end with the renovation of a house or a building; it needed to extend to public programming in the buildings, and indeed restructure the political and symbolic conditions of neighbourhoods.

People Always Take Stuff from Our Neighbourhood

The Pulitzer Foundation for the Arts invited Gates in 2009 to participate in 'Transformation', a programme of community engagement that was part of the larger exhibition cycle 'Urban Alchemy/Gordon Matta-Clark'. The show asked artists to respond to Matta-Clark's sculptural and spatial reuse legacies within the specific urban context surrounding the Pulitzer's pristine Tadao Ando-designed sanctuary for art in St Louis. Gates said of the invitation, 'I [went] to the north side of St Louis and I saw these buildings, and I thought, I could take the whole building, slice that motherfucker off, put it in the Pulitzer and be good! Then I was teaching a class to seventh graders and I told them

about this great opportunity — the kids were like, that's cool, because people always take stuff from our neighbourhood!' ¹⁴ They were referring to the practice of 'brickeaters', or thieves who would sneak into the neighbourhood at night and steal bricks from houses, selling them to companies who would then resell them for historic restorations in richer neighbourhoods.

The class Gates, along with artist Juan William Chávez, Jane Ellen Ibur and Stewart Halperin taught for the Holy Trinity Academy in St Louis in conjunction with the Pulitzer exhibition was structured as an urban planning think tank through which Gates empowered the students to consider the things they wanted for their neighbourhood. His conversations with the students quickly shifted from physical and spatial needs to the importance of humanity, citizenship and respect.

In the wake of the Pulitzer project, Gates founded the non-profit Rebuild Foundation as a formal organisation to enact redevelopment efforts beyond 'Dorchester Projects'. In the latter half of 2010, Rebuild Foundation acquired three properties in direct proximity to Holy Trinity. Artist Dayna Kriz moved to St Louis to serve as the programme coordinator, and other Chicago-based Rebuild employees, such as architect Charles Vinz, have spent significant time on-site. In the summer of 2011, Gates partnered with the architecture programme at Washington University, also in St Louis, to lead 'Somethingness', a three-week intensive design/build studio that transformed a dilapidated nineteenth-century house into an arts centre hosting programmes and classes for Holy Trinity students. Alongside the centre, additional spaces are being renovated to serve as a design lab for students at Washington University, artist-in-residence studios and a neighbourhood bar.

13 Seattle Channel Video, 'Cultural Space Seattle', 6 December 2011, available at [Seattle.gov](http://www.seattle.gov/arts/space/cultural_space.asp). http://www.seattle.gov/arts/space/cultural_space.asp (last accessed on 26 January 2012). Here Gates also expanded on the community implications of his engagement with institutions: 'The \$75k or 100k that was available to do a project in a museum seemed really wasteful, and it seemed like a bad use of my time. If I could leverage \$150,000, why not actually have real transformative impact on a place? So I would ask museums and [organisations] if they would partner with me to think about parts of cities like St Louis and Omaha that had been forgotten about, think about the organisations that are real organisations doing real work already in those cities and could we think with those organisations about spatial needs? Could my "exhibition" be about connecting the museum to these other places? So this idea that artists could leverage cultural institutions [...] to think about other parts of the city became a really important part of my practice'.

14 See T. Gates, 'Clay in My Veins', *op. cit.* The video 'We Demand' was produced as a document of Gates's interaction with the students, who ranged from fourth to eighth graders. Available at <http://vimeo.com/10633699> (last accessed on 26 January 2012).



Theaster Gates in Hyde Park, St Louis, Missouri, 2010. Part of 'Transformation', a series of community projects for the exhibition 'Urban Alchemy/Gordon Matta-Clark', the Pulitzer Foundation for the Arts, St Louis. Photograph: Sara Levin. Courtesy the artist and the Pulitzer Foundation for the Arts

Poetic Capitalism in the Age of Cultural Production

Gates's poetry is in connecting economic and physical material flows between his sculptural work and the 'Dorchester Projects' and Rebuild renovations. The buildings' demolition generates huge quantities of wood lath, moulding, mantelpieces and floorboards — materials Gates transforms into sculptures, which sell quickly, and produce funds that are reinvested in buildings. He refers to this cycle as a set of 'gestural moves', at the beginning of a connection between the sculptures and his passion for the restoration of 'poor black communities in Chicago, St Louis and Omaha'.¹⁵

Gates has become reflective lately about the structures and support necessary to realise work at his scale. 'I'm in the middle of creating the model [...] The existing model is exploitive. When you work at this level of production, you need help, but you can be intentional about where the help comes from.'¹⁶ Gates has thus prioritised workforce training and mentorship structures within both his

studio and fabrication shop and the Rebuild Foundation. He is clear that the structure doesn't aspire to social work; rather he claims his 'cultural intentionality' provides opportunities to individuals about whom 'the art world might not [otherwise] be concerned'.¹⁷

Where so much social practice appears flattened by the market — offering collectors a two-dimensional vestige of an experience they missed — Gates has been keen to build context around the market for his work, effectively coaxing a social mission out of his collectors. As patrons began to ask to support his work on Dorchester Avenue, Gates would defer them to his gallerist, suggesting funds from the sale of his artwork would be 'invested on the block' anyway.¹⁸ Gates's strategy here appears in contrast to other artists with community practices. For instance, referring to Marjetica Potrc's work, Joshua Decter has written that 'the collector who acquires a Potrc drawing at a New York gallery may have no apparent links with the owner of a home in New Orleans who utilises one of Potrc's functional

¹⁵ Seattle Channel Video, 'Cultural Space Seattle', *op. cit.*

¹⁶ Conversation with the author, 23 January 2012.

¹⁷ *Ibid.*

¹⁸ Conversation with the author, April 2011.



Theaster Gates,
A Good Whitewashing,
2010, performance
view, 'Gestures of
Resistance', Museum
of Contemporary
Craft, Portland,
Oregon. Photograph:
Heather Zinger.
Courtesy the artist
and Museum of
Contemporary Craft

rain-gathering works, yet we can imagine the material and symbolic interconnections between the two (for instance, in terms of how Potrc may redirect capital from one situation into another).¹⁹ Gates makes this exchange more transparent: he openly discusses the flow of capital from one work to the next, proclaiming these figures and costs in his lectures.

In this regard his hubris provides openness to the opaque, unregulated terrain of the art world, and brings critical distinction to his practice amongst

the field of social activist artists. Gates's attitude toward capital and the market must be understood in relationship to his understanding of value. The capital afforded his work through the market is strategically deployed to redistribute or assign value, in a tactical embrace of the market to reveal gaps between capital and value. His places of 'urban ecstasy' are locations long abandoned by flows of capital.

19 Joshua Decter, 'Art and the Cultural Contradictions of Urban Regeneration, Social Justice and Sustainability: Transforma Projects and Prospect.1 in post-Katrina New Orleans', *Afterall*, issue 22, Autumn/Winter 2009, p.20.



Theaster Gates and the Black Monks of Mississippi performing at the opening reception for 'Feast', Smart Museum of Art, Chicago. Photograph: Jeremy Lawson. Courtesy the artist, Smart Museum of Art, Chicago and Kavi Gupta Gallery, Chicago/Berlin

Politics of Staying

Gates's work in Midwestern cities hinges on the histories of segregation and civil rights, and their urban scars. 'I probably know more about the way the city works than about blackness, or in equal parts. I wasn't alive for civil rights. I get to understand it by viewing the economic and cultural landscape second-hand [...] I have the luxury of reflection.'²⁰ The urban terrain for Gates's reflection is severe. Omaha, Nebraska, for instance, has among the highest concentrations of millionaires per capita in the United States, yet is also home to the highest percentage of black children living in poverty.²¹ Many Midwestern cities still possess a segregation line, a vestige of real estate redlining, a practice that enforced geographic segregation. Though it legally ended in the late 1960s, redlining persisted through subsequent generations via the denial of access to certain services — banks, insurance, good jobs, health care, chain (and therefore cheaper) supermarkets — in poor and most often black neighbour-

hoods. Into this context Gates suggests the necessity of a 'politics of staying' in disinvested neighbourhoods to reverse the urban conditions segregation cultivated.²² Given that upward mobility in the urban US has involved a moving away from poverty, Gates's demobilisation offers a needed complication.

He could have an outsize role in the messy flow of gentrification, particularly in Grand Crossing, where 'Dorchester Projects' has now fully renovated two properties; he is currently hosting soul food dinners as part of the Smart Museum's exhibition 'Feast: Radical Hospitality in Contemporary Art' (2011); and he is nearing completion of a third renovation, the Black Cinema House, a formerly abandoned two-story house that will offer an archive of black, rare or local films to its community. As he puts it, the 'positive popularity' of his work on Dorchester — that is, the press, the events and the non-local audience — brought a new set of problems to the area. Confronted with his neighbours' prosaic concerns — one

²⁰ Conversation with the author, 23 January 2012.

²¹ See, for example, Bob Frick, 'Best Value Cities 2011: 1. Omaha, Neb', *Kiplinger's Personal Financial Magazine*, Kiplinger, 2011, available at <http://www.kiplinger.com/magazine/archives/best-value-cities-2011-omaha.html> and Henry Cordes, Cindy Gonzales and Erin Grace, 'Omaha in Black and White: Poverty amid Prosperity', *Omaha World-Herald*, 2009, available at <http://www.omaha.com/article/20110106/SPECIALPROJECTS/706179826> (both last accessed on 22 March 2012).

²² Conversation with the author, 23 January 2012.



neighbour had parked his car in the same place for twenty years but that space was now being occupied by cultural tourists —Gates and the Rebuild Foundation team began hosting Sunday brunch listening parties, inviting their neighbours into the house to listen to the Dr Wax records over frank conversations now that the ‘world’s best gentrifier had moved to the block’.²³

Ecstatic Arrivals

To thoughtfully trespass is to both give up the self and open oneself to the other. Derrida’s ‘let us say yes to *who* or *what* turns up’ espoused a radical hospitality that both dispenses ego and unfixes a place, opening up to foreign possibilities.²⁴ Gates demands both:

What I’m after is how do we take a place from being imagined as a space where nothing happens — how do you shift that nothing into the idea of potency? [...] In ‘Dorchester’ what we’re trying to do is take the everyday activity of this neighbourhood, and present it. In this case it was an abandoned building,

*we put some stuff in it. The space shares books, or you know, invites friends over for music, or has a big dinner [...] maybe it feels like a more special place than before.*²⁵

I arrived at Gates’s ‘Somethingness’ celebration on a gorgeous clear night in August of 2011. The house on Mallinkrodt Street, in the Hyde Park neighbourhood of St Louis, backed up onto dozens of vacant lots, but the site had been brilliantly redesigned to claim that view. The rear of the house had morphed into a performance stage and ad hoc amphitheatre, so that viewers across the vacant lots could see the stage and its performances. A neighbourhood chef was serving up barbecued shrimp, the architecture professors who had been invited to the event seemed truly stunned and Emily Pulitzer looked ecstatic, sitting on a limestone bench as the Black Monks played full tilt and neighbourhood kids ran through the house and yard. Gates was chanting, ‘I demand the value of my labour. We demand the value of our labours.’

Dr Wax records in Theaster Gates’s ‘Dorchester Projects’ (2009—ongoing), Chicago, 2010. Courtesy the artist and Kavi Gupta Gallery, Chicago/Berlin

²³ *Ibid.*

²⁴ Jacques Derrida, *Of Hospitality: Anne Dufourmantelle Invites Jacques Derrida to Respond* (trans. Rachel Bowlby), Stanford: Stanford University Press, 2007.

²⁵ ‘Try a Little Tenderness’, *Life + Times* [blog], 15 December 2011, available at <http://lifeandtimes.com/try-a-little-tenderness#.T3r9eKDYQmw> (last accessed on 26 January 2012).



The dozen students who had worked fourteen hours a day on the house came from art, architecture and social work schools; each knew every child from the Holy Trinity School by name. The evening was both staged and utterly unmannered, and achieved an enthralling imbalance. Although imperfect, and certainly in progress, hemmed in by vacant lots, collapsed homes and Holy Trinity church, one experienced the weight of the place, and the value of its pending transformation. In a moment, I found myself both entranced by the setting and deep in conversation with two MFA students, who had travelled significant distances to work with the project team. The students were intent on puzzling out the relationships of the community project to Gates's sculptural objects, philanthropy, the market, the neighbourhood, planning, activism and community.

Belief

Gates's perhaps most ambitious effort is proceeding two blocks from the 'Dorchester Projects' in Chicago. Dante Harper is a 36-unit public housing project that has been vacant for five years and was slated for demolition. Gates commissioned a local architect, Landon Bone Baker, to produce a schematic design for artist housing. In

partnership with Brinshore Development, a for-profit development corporation, Gates was awarded a contract to redevelop the property as mixed-income and affordable housing for artists. The \$10 million project will be funded primarily through new market and state tax credits. Rebuild Foundation will be the anchor tenant and programmer, and Gates's fabrication shop will create the millwork and cabinetry.

An artist with everything at his disposal — metaphor, hyperbole, tricksterism, the black church, altruism, capitalism, tax credits and salvaged trash — Gates is a master of synthesis. His local enactment of discursive bodies of knowledge and ability to bring them to elegant form is singular in the art world. Although it may be difficult for one to resolve the volume and scalability of Gates's practice with the pace of his trajectory, it seems in no part premature to suggest his transformational work will proceed, pragmatic yet spirited.

To acknowledge Gates's frame — 'Art isn't the word that I lead with. Belief is the word that I lead with. I believe in places, I believe in people' — is to sink into the inescapable presence of his work.²⁶ Yes, it takes belief, but here belief affords large places. Gates is building radical form with everyday tools.

26 Mercedes Benz TV, 'Jeffrey Deitch and Theaster Gates', *op. cit.*



Introduction: Drawing the Line
by Carol Becker

PART I

*"This isn't a time for art," he said. "This is a time of war."
I said: "It is never a time for war, but it is always a time for art."
Wafaa Bilal*

I VISITED WAFAA BILAL several times while he was performing Domestic Tension at Chicago's FlatFile Galleries in the spring of 2007. Each time I entered the space, I was brought to tears. What had once been a spotless, white-cube gallery had become, over a short time, startlingly chaotic. Wafaa's installation room was covered in a sticky, slippery, soupy yellow paint, whose fish-oil smell permeated everything. It seemed impossible to breathe, let alone sleep, eat, write, or think in such a space. As Wafaa wrote at the time, "The scene is like some natural disaster—except it's not natural. It's an entirely manmade disaster. That's what war is." The chaos certainly startled me, but the most disturbing aspect of all was the sound of the gun, out of which the paintball bullets flew with such velocity that at one point they cracked the protective plexiglas shield behind which Wafaa could retreat to compose his thoughts and monitor the project's chat room on his computer. The gun poked its head up out of its armature and roved the room

continuously, commanded by impatient gamers at the other end of the internet.

If Wafaa sat outside the range of the gun for more than a few minutes to speak with friends and visitors, the gun would pivot, trying to locate him. And when the gun would go off, splattering yellow paint on the wall, the floor, the computer, or actually hitting Wafaa, the sound was as loud as a .45 caliber semiautomatic. I had not anticipated this sonic disturbance and how unnerving it would be. On my first visit I wondered aloud and naïvely why anyone would want to shoot Wafaa—one of the sweetest, gentlest people I had ever met.

On my second visit I found Wafaa much more haggard and agitated. "How can you sleep with this gun going off continuously?" I asked. "I can't," he said. The gunshots had unexpectedly triggered an old anxiety in him, associated with his life under Saddam Hussein and time spent in refugee camps in Kuwait and Saudi Arabia, and he was quite obviously sleep-deprived and psychologically pained. On this visit, Wafaa insisted on turning the camera on me to ask for my thoughts about the project. But I sensed he had another motive: he didn't want to step outside the circle of the piece. He had to show me and his "audience" that he was still inside the event. "If I step out of the line of fire for too long, even just a few minutes," he said, "they get upset." They, the ones responsible for the 80 million hits and the 60,000 shots from 128 countries over 30 days, would hurl insults at him if he left the room, accusing him of just having fun, or making fun of them. They would claim that the whole thing was a fraud, and that he was never physically in the space. His absence would trigger their mistrust and paranoia and make them very angry, and then they would write accusatory, racist comments in the chat room.

I have no idea what we talked about on that visit and in that interview; I was too focused on the gun, expecting it to go off at any time. It was like torture schemes where the randomness of the action, the not knowing when the pain would be inflicted, creates intolerable anxiety. Wafaa appeared able to endure it. Whenever it would break down and the firing would stop for a time, however, he also would break down. As he has written, when you are being

shot at you go into "survival mode"; when the shooting stops, one can allow oneself to feel the pain.

On my final visit, the piece was almost over. As I walked into the gallery, I saw Wafaa outside his room for the first time in a month, asleep on the small ledge under the gallery windows. The sun was streaming into the space and he had his keffiyah over his face. The gallery attendant offered to wake him, but I asked him not to. He seemed so peaceful, and by then I understood what a few moments of deep sleep might mean to him. But before I left, I walked around to peer into his room. It was even more chaotic, drenched in inches of paint, the smell permeating everything. That day, said the gallery attendant, they had run out of paint balls since hackers had found a way to turn the gun into a machine gun, and the pellets were flying nonstop and out of control. Friends were reprogramming the gun, and others were taking up a collection to buy more paintballs. But did I want to help buy more ammo with which these aggressive gamers could attack Wafaa? I knew he was adamant that the project should continue, never wanting to appear that he had stopped because it had all simply become too much. And so I left the nuts and dried fruit I had brought for him, along with some cash.

Later, when Wafaa asked if I would write the introduction for a book about the project, I assumed it would be about the project's specificities—the responses from the media, photos, excerpts from the chat room, and so forth. It had not occurred to me, and perhaps had not yet occurred to him, that the book, this book, would become a memoir that wove in and out of the project, telling the story of his life in Iraq, his journey to the United States, and all the heartache and complexity in between. But of course it makes perfect sense that it was his life under Saddam Hussein and his experience of the effects of war in Iraq that were the background for Domestic Tension, and that the past was always in the forefront of his thoughts, along with the present. Nothing short of this intensity would have fully explained the motivation for the performance and installation that had captured the imagination of so many.

When I finished reading this manuscript, I emailed Wafaa to say

that I had a much better sense of all that he'd been through. He replied that it didn't matter what someone had gone through; only what they made of it. What Wafaa has "made of it," over and over again, is art.

PART II

*"... behavior could be judged by moral criteria as right or wrong,
but action is judged for neither its motivation nor its aim, only for
its performance ..."*

Hannah Arendt

I HAVE ALWAYS VERY MUCH LIKED Hannah Arendt's definition of action, which, when applied to such acts of performative art making, comes closest to explaining Wafaa's intentions. She defined action as a "risk" that takes place in the public arena. In Arendt's sense, art at times can expose the "truth of an event."

This outcome is very much what Wafaa was after. He could not abide that Iraqis were dying every day, that American soldiers were dying every day, that his country had been completely decimated, and yet, for most people in the United States, life was going on routinely, as if nothing was happening, and, worse, that his own life in America could go on as if nothing was happening. This reality was so upsetting to him that he had to create a situation that made him—and us—conscious every moment that our fellow humans were suffering. Wafaa was also aghast to learn that in this war people could die at the hands of those not even in Iraq, soldiers stationed in some unknown location far away from the field of battle, launching missiles that killed real people from an armchair in front of a computer somewhere, as if it were all some kind of video game; these people killed and knew nothing about "the enemy" or the disaster they were creating, and surely did not want to know.

The performative nature of the project is that it simply asked

us to stop and take responsibility for our actions and the actions perpetrated by our government in our name. Wafaa felt he had nothing to lose, or as he has written, "I had already lived and faced death in three other countries." But there are things almost as fearsome as death—the racism and explicit demonizing of all Otherness, the blurring of all that is considered "different." The rage hurled at Wafaa during the course of the piece shocked him to the core.

Wafaa Bilal positioned himself on the literal line of fire and waited. He did nothing but record the process while the world fought over him. In this he became representative of many things during the course of this project, but for most people his identity as an artist was lost even though he positioned himself in a gallery and saw the entire action as performance—a deliberate inactivity of sitting still—while the world took shots at him. Although he was assisted by other artists, he alone was the sitting duck. In the end he was so distraught by the gunfire, the lack of sleep, the randomness of the shots, the sound, the inability to escape, that he experienced post-traumatic stress, as if he had been in an actual war zone. It was surely astounding also that such conditions of war could be replicated in a gallery room while the outer spaces of the gallery housed regular art shows and on weekends were often rented out for weddings. For those guests who came to these events he probably appeared like the Hunger Artist in Kafka's parable, a curiosity engaged in an unnerving performative action of his own instigation. I am certain that the real significance of the piece could never possibly have been understood by those who asked Wafaa—exhausted and completely covered in yellow paint—to stand by them while someone else took their photo.

He created an axis of action to intercept daily life. Yet his actions were modest given the enormity of his concerns—war, reparation, life, death, the passing of time, the development of human consciousness and responsibility. They simply point in the direction of his obsessions, sadness and sense of impotence. At the end of the project Wafaa said, "We silenced one gun today and I hope we will silence all guns in the future" Perhaps without actually

meaning to, he has come to reflect the unique ability of artists to engage the largest questions of life and society in their bodies, and to do so within mundane gestures, in this case sitting—in full consciousness, yet without judgment—while 60,000 people took shots at him. In his metaphoric embodiments and personifications of grave social concerns, he is unwilling to blame. He placed his “body on the line.” Nothing could be more dangerous, literal, or metaphoric than this.

PART III

“This project has allowed me to deal with things I had avoided for a long time; the loss of my brother and my father, my family. I miss them terribly. I miss home.”

Wafaa Bilal

NO MATTER WHAT I COULD IMAGINE about Wafaa’s life before he came to the United States or his stress during the time I have known him, I could never have reconstructed the complexity of the life he led in Iraq or the degree of loss he has experienced. This is partly due to Wafaa’s gentleness. He appears forgiving, even to those responsible for the destruction of his country and the annihilation of his family in Iraq. What he is unable to forgive and, therefore, expends boundless energy trying to counteract, is the silence that continues to surround the war.

The compelling text that follows sets the stage for Domestic Tension by providing Wafaa’s history—everything leading up to the project. We come to understand life under Saddam Hussein and in refugee camps in Kuwait and Saudi Arabia, and in the United States as he has experienced it. We are taken into the dynamics of his family and the tragedies of loss that he has suffered in relationship to them: his militant brother, who was killed by American forces; his erratic and often cruel father, who simply wastes away from grief after his son’s death; his mother, who tries

to hold the family together; his younger brother who must take over care of the family after Wafaa’s departure; all the pain of his childhood and all the pleasure of daily life within his extended family. We are also able to observe Wafaa’s lifelong passion to become a serious artist that drives him to continue to make work. He has had to come so far. The paintball project, which was at the center of my original interest, now has taken a back seat to his life. I have become fascinated that anyone could live with such precariousness and still manage to believe that humanity might learn from its mistakes and that social systems might evolve.

Throughout Wafaa’s life, no matter how difficult, absurd, tragic or painful his situation, he has always returned to the making of art. This practice sustained him, often helping him to earn a living and to assess his situation. He often traded artistic skills for survival, and his training accounts for his very practical skills as well as those that enable him to give form to his thoughts. His work has always intended to reflect his complex situation. Each action can be understood as part of his life’s work, and his life’s work was, and is, to engage an audience in serious dialogue. He does not worry if he disrupts or disturbs; he cares only that he asserts his right to articulate his opinion in whatever form is appropriate, so that that which is repressed and unspoken can be revealed and issues he believes significant might be brought into the public arena for debate. For Wafaa, all such interventions are embedded in his practice as an artist and should be acceptable for discussion. But what horrifies and confuses him each time is that the possibility for the debate he so craves is often suppressed in the United States. Were his pieces understood as art manufactured in the spirit of free expression, he is then convinced their manifestations as *art actions* would be allowed to complete themselves. People could then engage and learn from them; the dialogue would be open, and consciousness would result. This is what he expects from a democracy—that it not fear its own contradictions.

Some may see this expectation as naïve; I see it as brave and forever hopeful. But alas, Wafaa has paid dearly for his optimism. Because he puts himself so clearly on the line, there are those who have referred to him as a martyr, but he refuses the term. “I’m not

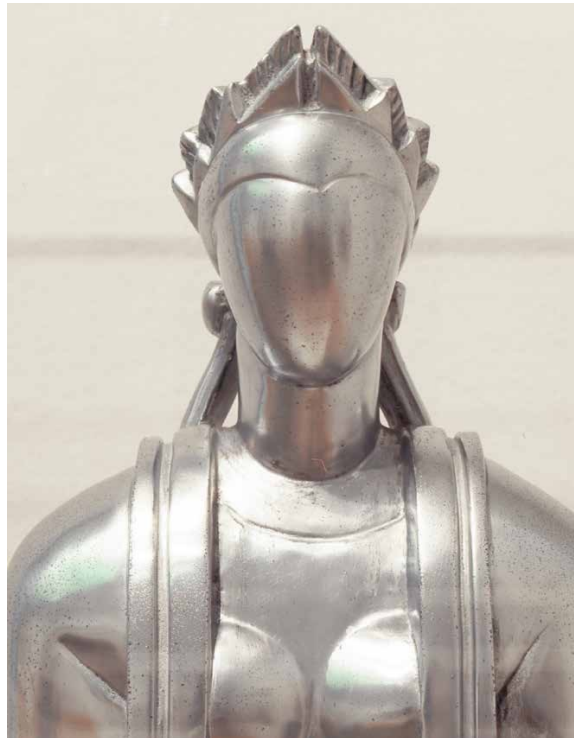
a martyr," he has written. "I'm not trying to kill myself. I'm just an artist trying to make a point." He makes his points through provocations that break the continuity and demand response. Both the consequences and the rewards of such actions are immense.

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Information's Metropolis

Chicago and the New Nature of Global Finance

Brian Holmes



Text accompanying the book by Geissler & Sann, *Volatile Smile*
unedited copy – please do not circulate





Information's Metropolis

Chicago and the New Nature of Global Finance

High above the city stands a faceless deity: Ceres, the goddess of grain and gain. She's the artistic symbol of a venerable financial institution, the Chicago Board of Trade, which recently merged into the world's largest computerized futures exchange, the CME Group. Created in the late 1920s and inaugurated less than a year after the Wall Street crash of '29, the futuristic goddess is cast in aluminum, with stylized Art Deco lines that echo the powerful fluted columns of the building. She has no eyes, so it's impossible to locate her gaze. Some would say she is blind, like Justice. But perhaps in reality she looks everywhere at once, through a multitude of electronic instruments, processing data about runaway global growth and endless harvests of fresh green money. Could her invisible gaze be the perfect metaphor of the institution she represents?

It is time to take on this inhuman vision, in all its abstraction and ubiquity. If we could look through the walls of the exchanges, if we could see past the bewildering screens, if we could feel the very pulse of the fiber-optic cables, then maybe we could make some sense of the changes that have radiated outwards from the great financial centers, transforming the nature of our societies.

In this book, the artists Geissler & Sann have used the camera's eye to assemble a portrait of Chicago. It shows extremes that never meet, the opposing sides of financialization's enigmatic coin. On one side – let's call it tails – you will find the interiors of foreclosed homes, voided of their occupants and turned over to a highly uncertain market. These spaces run the gamut from the crisply resurfaced housing commodity to the abjectly decayed ruin, with ample traces of lived experience, poignant memory and human tragedy in between. We see the stains of inhabitation on the walls, an adolescent's magazine clippings tacked up in a corner, a TV cable snaking in from outside, a bedroom inexplicably filled with used tires. Many of these dwellings have been rented or sold by now, others squatted, others destroyed. Today the entire real-estate crisis is fading into the background, on the edge of oblivion.

Now let's flip the coin. What the other set of images shows are the desks of high-speed traders, with their keyboards and cables and personal paraphernalia overshadowed by looming arrays of darkened screens. These machines run algorithmic programs that make deals automatically, by the millisecond. They probe far-flung networks, hunting for minute variations in price, provoking them, cashing in. What's missing here are exactly the heads: these work stations are all strictly empty. You seem to have tiptoed in to the scene of a crime. Mounted in a frame on one of the desks, right where the family photo should be, is a picture of the old trading pits, with bodies pressed against each other in the passion of exchange. But any clue you might hope to glean about the operators of these machines – their lives, their intentions, their contradictions – is negated by the blank severity of the computer architecture.

There is surely some connection between the two sets of images, intuitively one feels there must be. Yet the high-speed traders did not *cause* the real-estate crash. To the contrary, their rise to dominance only came after 2008, under the conditions of extreme volatility created by the continually mutating economic crisis. The link, if there is one, must be sought in a more overarching social relation. That relation is captured in the book's only full-face portraits, showing young people jacked into multiplayer video games of the "personal shooter" variety. What we see is the grimace of satisfaction or rictus of pleasure on the gamer's lips at the moment of the kill. A cyborg with a volatile smile.

Throughout its long history, Chicago has been a site of exchange, a warehouse town, a portal between the Eastern Seaboard and the Great West. The steel plows that broke the prairie came here by boat along the St. Lawrence River, along with a host of other manufactures from New York, Boston and distant Europe. Timber was cut up north, near the Canadian border, and floated to the city's lumber yards before leaving from the railhead to build the rural farming economy. Wheat and corn flowed back

to Chicago, where it accumulated in heavy sacks on the quays. Then the elevators were constructed and the quantities and qualities of grain were standardized to create tradable commodities. The earliest futures contracts were sold to protect the millers and bakers from the vagaries of the weather, and also to line the speculators' pockets. Always the Chicago merchants played the mediating role, between the countryside's resources and the wealth of the great urban centers. In one of the most memorable histories of the city, William Cronon dubbed it "Nature's Metropolis."¹

More recently, a sea-change has come over Chicago and the world. It began in the mid-1960s with speculative runs on the dollar, when European treasuries sought to get rid of excess US currency balances by cashing in their dollars for gold. According to the Bretton Woods treaties established in 1944, all participating currencies were pegged to the US dollar at a fixed "par value" that could only be renegotiated by international accord. The currencies were still exchangeable on the open market, but governments continually intervened to keep the prices within one percent of par. The US dollar was the anchor of this system: its worth was unconditionally guaranteed, because countries holding US dollars could redeem them for gold. However, the expansion of the US money supply, changes in the country's export balance, increasing corporate activity abroad and a surge of military spending in Vietnam all led to a glut of foreign-held dollars and a flight of precious metal from American shores. By the late 1960s the Bretton Woods exchange-rate system had begun to collapse, as governments proved unable to halt the open-market fluctuations. As the former head of Citibank, Walter Wriston, wrote in his book *The Twilight of Sovereignty*:

The final blow was administered on August 15, 1971, when President Richard Nixon terminated the convertibility of the dollar into gold and the era of floating exchange rates began.... The world since that time has been operating with a monetary system for which there is no historical precedent in that no major currency in the world is currently tied to a physical commodity. The old discipline of physical commodities has now been replaced by a new kind of commodity: information.²

For Wriston, the early 1970s marked an historic shift from the Gold Standard to what he calls the "Information Standard." Information can be understood as a means to register and correlate changes in the underlying factors that make a currency or a security valuable (the availability of resources, the productivity of labor, the profitability of enterprises, the stability of governments, etc). In this sense, information concerns the past and the present. But information can also be used to calculate the probable volatility of values in the future. A radically different set of possibilities then appears on the horizon.

In Chicago from the late nineteenth century onward, commodity futures had already been a primarily speculative business: grains at the Board of Trade, butter and eggs at the Mercantile Exchange. But the world of floating values that emerged from the crisis of the 1970s would be dominated by financial products, not agricultural ones. Sheaves of data, not of wheat, would be the raw material of the global traders. Stocks and currencies, not butter and eggs, would form the basis of the new futures contracts. Ultimately, equations and algorithms would be traded against each other, with computer networks in between. The old relation to nature fades into the background. Ceres opens her electronic eyes, and Chicago becomes Information's Metropolis.

The traders in the pits were slow to adapt, so the full force of the electronic revolution only hit them in the late 1990s. Yet at least one of them had seen it coming. He was Leo Melamed, the lawyer, operations manager and science-fiction writer who oversaw the transformation of the Chicago Mercantile Exchange into the powerful CME Group. In 1995 he evoked an onrushing generation of cyberwizards: "Tomorrow's futures traders grew up with Nintendo and Sega. They were given a keyboard for their fifth birthdays; their homework was done on a computer; their recreation time was spent in video centers; the World Wide Web was their playground; Cyberspeak is their language."³ This is what Geissler & Sann have captured so perfectly. The cyborg with the volatile smile holds the secret of our financial futures.

1. Light Up the Screens

The inland ocean of Lake Michigan laps at the feet of Chicago's downtown Loop. From the upper decks of the skyscrapers you can see the sailboats tracing complex curves across the rippling blue. To the north are the patrician mansions of the Gold Coast, and further on, the wealthy suburbs. To the south, the mixed-race community of Hyde Park is an enclave of high culture and prosperity amid a tangle of poverty and shattered industry. No one who has ever visited the city can forget the spectacular trip from the University of Chicago on the South Side up Lakeshore Drive, toward the banks, corporate headquarters and financial exchanges of the Loop. But what does globalization have to do with the sleepy Midwest? What exactly happened in the City by the Lake in the course of the 1970s?

Let's start a bit early, in 1968. Not with the infamous street riots that accompanied the Democratic National Convention, but with a letter in the post by Milton Friedman: "A Proposal for Resolving the U.S. Balance of Payments Problem: A Confidential Memorandum to President-elect Richard Nixon."⁴ Here and in subsequent columns in *Newsweek*, Friedman outlined his long-held belief that American interests, both private and public, would best be served by a free international market in currencies. The libertarian economist did not call for the abolition of state-printed fiat money or a return to the discipline of the gold standard. Instead, he thought the Federal Reserve Bank could insure stable currency values by simply augmenting the money supply at an inexorable rate of 3% yearly. Businessmen who needed to buy and sell abroad would overcome any lingering exchange-rate uncertainty by hedging their projected transactions with currency futures. As Friedman observed way back in 1953, "Futures markets in foreign currency easily develop when exchange rates are flexible."⁵

Leo Melamed, the star trader who pioneered pork bellie and live cattle contracts at the Merc in the early 1960s, had often made the trip down Lakeshore Drive to sneak in on Friedman's lectures at the university. They fired his imagination: "Here was the voice of supreme economic authority saying that the system of fixed exchange rates was wrong. That it was time for its demise."⁶ When the fixed exchange system was effectively kiboshed on August 15, 1971, Melamed was ready. He contacted Friedman and commissioned him to write a proposal for the creation of what would become the International Monetary Market (IMM). The two went together to argue their case before the regulators in Washington. Friedman's prestige insured success. The IMM opened on May 16, 1972, even before Bretton Woods had been officially abandoned. Far from stabilizing under the steady hand of the Federal Reserve, currency exchange rates began to gyrate chaotically, both due to fundamentals (declining US balance of trade) and incidentals (rash economic policies designed to insure Nixon's reelection). Speculators at the Merc were soon making fortunes. Today, some \$4 trillion changes hands on global currency markets *every day*, about a hundred times the total volume of cross-border commercial transactions. With floating rates and currency futures, Friedman and Melamed opened up a Pandora's box of finance.

Meanwhile at the University of Chicago, a new theorist arrived in September of 1971: Fischer Black. Working with Myron Scholes, he had developed a formula to accurately price a formerly obscure instrument known as a "European call option." That's a contract granting the right, but not the obligation, to buy shares of a stock for a guaranteed price at a future date. Such a guarantee could be extremely useful to a speculator – but the question was how much it should sell for. To answer, they assembled a fictional portfolio of stocks and developed a technique of "dynamic hedging" to continually buy and sell shares, balancing out the fluctuations in price in order to maintain an overall value that would cover the risk of selling the option. The price of the option would then be equal to the cost of hedging against possible changes in the value of the underlying stock. The key predictive variable for estimating this cost would be the average volatility each portfolio asset, that is, its standard deviation from the historical mean. A third colleague, Robert Merton, added a piece of stochastic calculus called "Ito's lemma" – literally a bit of Japanese rocket science – to allow for high-speed computer processing. All of this made up a trading technique that promised to be tremendously profitable.

Fischer Black was hired at the University of Chicago business school by a group of economists around Eugene Fama and Merton Miller, who were pushing for the introduction of an options exchange offering complex contracts that could take full advantage of the prevailing financial instability. The Black-Scholes option-pricing formula opened up a vast new space of calculability for these derivative products, whereby the risks of both commercial and financial operations could be balanced against the opposing fluctuations of entirely unrelated assets. Dynamic hedging was the name of the game. The Chicago Board Options Exchange was spun off from the Chicago Board of Trade on April 26, 1973. Black decided not to use his own formula in the pits, but to sell information to the traders. Drawing on a computerized archive of historical price data assembled at the university, he provided an estimate of the key variable of the Black-Scholes equation: the average volatility of the stocks. The traders bet that real prices would fluctuate randomly around these historic averages. Soon they just derived the “implied volatility” from the real prices of the options sold in Chicago and on other new exchanges.

The 1970s were a period of historic technological and organizational innovations, many related directly to finance. Already in 1969, Arpanet, the precursor of the Internet, had gone online. In 1971 the microprocessor was invented. That same year, the world’s first electronic stock exchange was founded: the NASDAQ, or National Association of Securities Dealers Automated Quotations. 1973 marked the launch of the Reuters Monitor, a networked terminal displaying currency prices. It was the granddaddy of today’s Bloomberg Terminal and dozens of other information services. The same year saw the inauguration of the Society for Worldwide Interbank Financial Telecommunication, or SWIFT network. Finally, in 1975 the Treasury Bill pit opened at the Merc, creating a futures market in government debt; while the first personal computer, the Altair, went into circulation. The geeks of Silicon Valley learned their hacks on these compact machines. Exchanges like the Merc and the CBOE did not immediately integrate the new technologies into the pits, where offers and bids were still exchanged with cries and hand signals. Yet the following two decades would be marked by the gradual encroachment of computing devices and networked communications technologies, programmed with increasingly sophisticated variations on the Black-Scholes model.

Economic and political power accumulated in advance of computerization. By the early 1990s, Walter Wriston was able to crystallize all the changes in a single image: the shift from the Gold Standard to the Information Standard. What he portrayed with brutal clarity was the transition to a highly integrated financial governance, with no popular mandate, no elected representatives and no responsibility to anything but profit. This was a cyborg system, integrating human beings and machines in an improvised and rapidly changing network. As Wriston explained in 1997:

Unlike all prior arrangements, this new system was not built by politicians, economists, central bankers, or finance ministers. No high-level international conference produced a master plan. The new system was built by technology. While clearing systems reside in real buildings, the new world’s financial market is not found on any map, but consists of more than 200,000 electronic monitors in trading rooms all over the world linked together, and the value of any currency is determined by the price that the market will pay for it in exchange for another.... Moments after the president makes a statement in the Rose Garden, thousands of screens light up, and traders all over the world vote on whether the new policy is good or bad.... Increasingly, currency values reflect less the power and privileges of the sovereign as much as a discipline on the economic policies of imprudent sovereigns.⁷

What Friedman bestowed on the Nixon administration, and what governments across the world saw reflected in Melamed’s trading pits, was a new way of establishing basic economic values. The policies that the bond and currency markets favored most were low interest rates and expansions of the money supply (preferably well beyond Friedman’s 3% per annum). Moves by central bankers in the opposite direction could provoke a crisis. Meanwhile, economists nostalgic for Adam Smith spoke of a “natural, self-regulating market” governed by an “invisible hand.” The new system was presented as an

objective mechanism of *veridiction*, or truthful speech, replacing any *jurisdiction*, or arbitrary statement of judgment originating in the political sphere.⁸ Yet the institutional history of the Chicago exchanges proves the contrary. Despite Wriston's claims, the system was politically constructed. Theorists, regulators and managers gave specific contexts, capacities and missions to the emerging technologies.

To return to our question, what happened in the City by the Lake in the course of the 1970s? In brief, what happened were the first fateful steps toward the privatization of government. Where the democratic state promised welfare for the lives of the many, the derivatives markets offer insurance for the speculative endeavors of the few, the "world class investors," conceived as the only ones who really matter. Government is no longer supposed to take care of you, because private people (or at least, millionaires) can take care of their own. All of this – complete with the exclusion of the *demos*, i.e. the majority of the population – is conveyed in the motto of today's CME Group: "Where the world comes to manage risk."

2. The Computer and the Droid

Leo Melamed is not only the architect of the International Monetary Market and of the organizational innovations that followed. He is also a science-fiction writer, the author of a book called *The Tenth Planet*, published in 1987.⁹ This intriguing novel (the only one to appear so far, though he did promise a sequel) is centered on the figure of the all-seeing Putral, a super-computer. Known as the "C-master," he appears in human form to serve as a scientific counsel to the parliamentary representatives and high functionaries of the Galotian Federation of Planets, which is under attack by a mysterious android. Always calm and self-possessed, Putral is in reality "an amalgamation of millions of computers" which are fed information by teams of "Subs" and "Dacs." He (or it) is "capable of doing a billion things simultaneously... every one of his programs interfaces with all the others... each of his separate functions shares the same data banks." The question is, what relation did this sci-fi figure have to the computerization of society that was gradually unfolding in the 1980s? Could Putral be a metaphor of the world-spanning Globex trading platform, developed by a team of technologists, analysts, lawyers and traders at the CME under the leadership of Melamed himself from 1987 onward?

Perhaps we should approach the question by way of a reflection on Warren Weaver, a corporate-military science manager of the WWII era and the co-author, with Claude Shannon, of the seminal text on information theory. In a 1948 article entitled "Science and Complexity," Weaver notes that classical physics has done very well with "two-variable problems of simplicity" such the movement of a couple of balls on a billiards table (the gentlemanly stand-in for ballistics). Then in the nineteenth century, science began to take on the opposite of these simple problems, namely, problems of "disorganized complexity": thermodynamic situations involving billions of particles, none of whose trajectories could be plotted individually, but which could be treated statistically as aggregates. These investigations initially dealt with the expansion of steam and the theory of heat engines; but later they were extended to questions of population growth, to actuarial problems in the field of insurance, or to the analysis of traffic patterns on freeways and telephone exchanges. Between the two types of problems lay what would become the major challenge of postwar science, Weaver claimed: the phenomena of "organized complexity" as encountered in biology. "The significant problems of living organisms are seldom those in which one can rigidly maintain constant all but two variables. Living things are more likely to present situations in which a half-dozen, or even several dozen quantities are all varying simultaneously, and in subtly interconnected ways. Often they present situations in which the essentially important quantities are either non-quantitative, or have at any rate eluded identification or measurement up to the moment."¹⁰

Weaver stresses how difficult these problems are, but adds that "out of the wickedness of war have come two new developments that may well be of major importance in helping science to solve these complex twentieth-century problems." The first is obviously the computer, which, as he explains, can multiply ten-digit numbers "some 40,000 times faster than a man can say Jack Robinson."

Computers would make possible the daunting calculations required to plot out interactive relations between large numbers of constantly changing variables. The second development, however, is less widely understood. It is the management science of *operations research*, which assembles theorists from different disciplines to tackle real-world problems under conditions of risk and urgency. Weaver himself had been a crucial figure in organizing such teams during the war. As the historian of economics, Philip Mirowski, observes: “Weaver followed his own nose and became enthused when he caught a whiff of the combination that would prove so heady in the postwar years: usually, some physicist or engineer who had mathematized something that would conventionally be regarded as the province of biology or psychology, perhaps by accessing issues of thermodynamics, probability, computation, and electrical engineering.”¹¹

Now, it's clear that any derivatives equation deals with multiple, continuously evolving variables, which it assembles into a dynamic equilibrium (say, an option whose price is guaranteed by dynamic hedging using an underlying basket of stocks). The continuous interaction between multiple correlated variables is what gives financial markets their aura of living beings. It's no surprise that Fischer Black, who invented equations to encompass such interactions, comes straight out of corporate operations research. Indeed, Black is one of the fathers of today's quants. He helped inaugurate the trend of bringing theoretical mathematicians and physicists to finance, by starting the Quantitative Strategies Group at Goldman Sachs in 1983.¹² What may be less obvious is that the mathematical treatment of fluctuating values depends on many other specialists: news networks, market analysts and ratings agencies who continually scrutinize the evolution of firms, gathering data about their products and sales and scrupulously cross-checking the data that the firms themselves provide. These are the all-seeing eyes of the financial markets, providing the flows of information that the quants synthesize into formulas for the traders. Lawyers, theorists and regulators must also be coordinated to bring a market into being, as we saw earlier. Yet what matters most under contemporary conditions is the construction, by computer engineers, of a highly integrated and secure trading network. The creation of a modern financial market can therefore be seen as a problem of operations research, and Melamed's role at the CME from 1987 onward was that of an operations manager, bringing together the technologies and specialists required to deal with problems of organized complexity. The result was the Globex platform, which today is the world's largest and fastest electronic derivatives trading network.

Does the complex reality of the Globex network cast some light on the fictional powers of Putral, the “C-master” of Melamed's novel? Connected like the great financial exchanges to continuous streams of information about activities unfolding all over the world, the C-master has thousands of eyes (the “Subs” and “Dacs”) but is himself invisible and perhaps ultimately unknowable, like the market itself, which neoclassical economics conceives as an information processor. He (or it) takes on human aspect at crucial moments, to supply valuable information to the Galotian Parliament and to its commercial and military officers. Putral is feared by some for his capacity to appear anywhere at any time, speaking directly to anyone's consciousness through implants that allow so-called “imcom transmission.” There is an anxious sense that he (and perhaps also the market) could exercise dictatorial powers. Yet in the novel he consistently appears as impartial, impassive, beneficent.

Other commentators have noted a superficial resemblance between this super-computer and the Globex network. As Melamed himself asked, rather rhetorically, in an interview: “Here in my imagination, I could create a computer that could run five planets. Do you think the world can't create one little computer that could do all the rushing back and forth of [futures] orders?”¹³ What's more troubling about the novel is that it revolves not only around Putral, but also around the violent outbursts of the immensely powerful yet strangely ignorant android, Agot. Millions of years ago this artificial alien being was cast into primitive humanoid form by visitors from another galaxy, the Sates. Agot is desperately afraid of learning something: the location of the planet Terra (our own Earth). The reason why is that if he finds out where it is, he has been programmed to transmit that message to the Sates, who will destroy it. After this transmission, his life's work will be complete and he will die. In order to

hold off that fateful day, he lashes out against anyone in the Galotian star system who may be on the verge of discovering Terra's location, using his fearsome power to destroy spaceships, laboratories, observatories and great universities the size of entire cities.

What finally happens? Will the Galotian Federation be destroyed? Is the Earth really doomed? All we learn at the end of the novel is that through a stratagem of Putral, the android is given the scientific capacities needed to discover the location of Terra. He automatically transmits his fateful message, then ceases to function. The C-master has saved the day – at the cost of planet Earth.

Melamed spent four years writing the book, which was published in 1987. That fall, on the 19th of October, the markets took their deepest plunge since 1929. Automated “program trading” between New York and Chicago was widely alleged to be the cause of “Black Monday.” This was the first major crisis for Federal Reserve Chairman Alan Greenspan, who would prop up the shaky financial edifice by launching his practice of slashing interest rates to give cheap money to the markets (the so-called “Greenspan put”). Any idea of a steady hand at the Fed disappeared: the “Maestro” played his monetary music in direct response to the wild gyrations of the exchanges. Melamed himself recounts that on Tuesday morning, the Merc came within a hair's breadth of not opening – a potentially catastrophic event, since it would have sent a negative message spreading panic across the globe. He believes this negative message could have set off another Great Depression. The solution came from an telephone call at dawn to the CEO of Continental Bank, who provided the missing \$100 million. With that amount the books were cleared and the Merc opened for business, saving the day for planet finance.¹⁴

The potentially disastrous message was not sent. But another one was. When analysts scrutinized the real price of options in the months after Black Monday, they saw that an implied volatility much greater than the historical average was now being factored into the underlying stocks. Traders had perceived a new kind of systemic risk, created by each other's massive reliance on the same kinds of mathematical formulas. This added risk became a second nature. The characteristic “volatility smile” appeared in graphical representations, signaling to the world that the widespread use of the Black-Scholes formula was self-reflexively transforming the global financial markets. As the young cyberwizards began turning in the Segas and Ninetendos for computers jacked into the global exchanges, a new and more dangerous era of trading was set to begin.

3. Stepping on the Moon

An enigmatic motto is printed on the cover of *The Tenth Planet*: “When human equals alien.” The book is structured around two opposing forms of artificial intelligence. One is a calm, impartial, beneficent computer network. The other is a strangely primitive, ignorant and impassioned android. Wouldn't it be more interesting to consider not just one but *both* of these artificial life forms as metaphors of the financial markets – or indeed, of the CME itself?

On the one hand, Putral would represent all the virtues of technological progress, organizational sophistication and capitalist efficiency that Melamed continually ascribes to the futures markets, and notably to Globex. On the other, the android Agot – created by the complacent Sates – would represent the detractors of financial progress, the Keynesians, the would-be regulators, the satisfied flat-earthers and even a majority of the Chicago-based traders, who consistently resisted computers and preferred the fetishistic hand-signals and crude physical jostling of the pits. Beyond these immediate comparisons, one could surely find some relation between the threat of Earth's destruction by the Sates and the atomic standoff between the Soviets and the Americans that had marked the life of Melamed, an Eastern European émigré and staunch defender of Western capitalist freedoms against Communist tyranny. Yet all this is at once too speculative and too personal. What if we shifted the focus and considered our two opposing forms of artificial intelligence in relation to the two predominant understandings of the market in the twentieth century?

For neoclassical economists, the market is a perfectly neutral, balanced and ultimately equitable information processor: a kind of super-computer integrating all the intuitive calculations of millions of rational economic agents and correctly allocating scarce resources in return, so as to achieve a general equilibrium between supply and demand. This is still the mainstream version of academic economics in the United States, represented in the post-WWII period by the members of the Cowles Commission, who briefly resided in Chicago before moving on to Yale university. They used elegant mathematical formalisms to show that socialist planning and redistribution were entirely superfluous, so perfect were the spontaneous calculations of the market. Putral, the “amalgamation of millions of computers,” could be taken a figurative stand-in for this “rational market hypothesis,” whose unwavering general equilibrium is also the necessary background assumption for equations like the Black-Scholes formula.¹⁵ And just like Putral in his function as scientific counselor, the fiction of a perfectly rational market has frequently been offered to regulators and elected representatives in order to legitimate the really existing institutions of global finance. Heads, you win the regulators’ approval.

Yet there is another side of the coin. In his book *Machine Dreams*, Philip Mirowski shows that the economists’ fascination for computers, which grew in many cases out of their participation in operations research during the war, led increasingly beyond the equilibrium theories of neoclassicism, toward an experimental economics based on simulated situations and chaos theory. At the center of this experimental economics was not the sci-fi image of an android, like Agot, but instead, a strangely more pragmatic figure: the cyborg. Experimental economics owes its inspiration to outlandish tales of really existing human/machine combos, like Geissler & Sann’s first-person shooters jacked into a multiplayer game, or like any contemporary trader with his information read-outs, hand-held devices, computers, radio ear-buds, support networks and quant teams continually delivering new models and algorithms.

The term “cyborg” stands for “cybernetic organism” and suggests artificially augmented or transformed human functions governed by real-time informational feedback. The idea was first proposed in 1960 in a discussion of the physiological adaptations required for manned space flight. Here’s a quote from the inaugural article:

What are some of the devices necessary for creating self-regulating man-machine systems? This self-regulation must function without the benefit of consciousness in order to cooperate with the body’s own autonomous homeostatic controls. For the exogenously extended organizational complex functioning as an integrated homeostatic system unconsciously, we propose the term “Cyborg.” The Cyborg deliberately incorporates exogenous components extending the self-regulatory control function of the organism in order to adapt it to new environments.¹⁶

The text sounds almost absurd. An “organizational complex” is located outside the human organism, but perfectly integrated to its physiology in order to provide advanced capacities for action in an outer-space environment. Yet, space travel aside, that’s very close to what could be seen in the pits when handheld devices made their appearance at the Chicago Board Options Exchange in 1995. A declaration by a trader, recorded in the BBC film *The Midas Formula* (1999), captures precisely this relation between the organism and the organizational complex: “The computer takes in all the data that I give it during the day, it sends it to... A, it sends it to a little beeping light [*he laughs, gesturing at the top of the handheld*] – it sends it to the CBOE, it sends it to the clearing firm, so that the exchange on an ongoing basis knows everything I’m doing online. In addition, I know online what I’m doing because this thing calculates, using a Black-Scholes model, what my risk is at all times.” In the language of the trader and in the way he gestures with his device to the seemingly endless banks of computers on the wall behind him, there appears to be no more distinction between flesh, volition, microprocessors, mathematical models, data flows and communications networks. This cyborg is real. The dark side of the market – its restless energies and propensity for sudden, unpredictable transformations – is embodied in an unstable hybrid of man and machine.

An “organizational complex” does govern the individual networked traders. In his recent book, *For Crying Out Loud*, Melamed recounts the seventeen-year trajectory that led from the proposal of the Globex platform in 1987 to the transfer of the Merc’s Eurodollar futures from the open-outcry pits to the network in 2004. You have to realize that the Eurodollar contract was the mainstay of the Merc: its shift to the screen would make or break the Globex platform. The turning point came in 2002, when the Merc was demutualized by the near unanimous vote of its owner-members and transformed into a publicly held corporation, in order to streamline its governance and enlarge its treasury for the period of intense competition that was about to ensue. The change in ownership created something radically new: an incorporated electronic trading network operating at global scale.¹⁷ Melamed refers to it as “stepping on the moon.” Like switching from earthly life to science fiction.

In effect, the restructured CME would go on in 2006 to take over its historic rival, the CBOT, after emerging victorious from an intense struggle with the Atlanta-based Intercontinental Exchange (which itself went on to buy the New York Stock Exchange). One year later, the new CME Group would merge with the New York Mercantile Exchange (NYMEX), specializing in energy futures. These mergers are what gave Globex its dominant position among the world’s electronic derivatives markets. Of equal if not greater importance in the narrative, however, is the resistance of the traders and the broker groups to screen-based operations. Again we think of Agot, who had no scientific capacities and destructively resisted new knowledge. How to overcome such resistance?

To answer, Melamed lays particular emphasis on the strategic importance of the Galax-C handheld device, specially designed for the Merc and introduced, quite late, in 1999. By allowing for simultaneous trading in the pits and on the network, the Galax-C nudged the traders toward a cyborg existence. When the corporate board of the restructured CME pressed, in the name of competitiveness, for a transfer of the Eurodollar contract from the pits to the screen, it was the Galax-C, in the hands of the traders themselves, that sent the definitive message. Trading was more efficient online. The pits were dead. The future of futures lay entirely within the electronic networks.

Today, the casual observer suspects rank hypocrisy when enterprises like the CME Group claim to welcome the Dodd-Frank financial reform bill, which seeks to move the derivatives market away from the shadowy realm of customized over-the-counter contracts and into the standardized and transparent world of exchange-based trading, where each transaction leaves a public record. But the casual observer is wrong. The fact is that the expansion of derivatives trading into fully automated networks would open up a vast new field for exactly the kinds of high-frequency operators whose desks – fittingly voided of people – have been photographed by Geissler & Sann. Their images take us directly to the heart of today’s algo-trading.

Experimental economics can only flourish in high-speed networks. Its strategies, which have surged to the fore since 2008, were pioneered back in the 1990s at the Santa Fe Institute, where neoclassical economists met biologists and physicists from the nearby Los Alamos Laboratories. What emerged from their conversations were the “black box” strategies of the stripped-down quant shops that now cluster in the Loop, or farther south in Hyde Park. In his book, *The Physics of Wall Street*, James Owen Weatherall describes how these algorithmic strategies were derived from scientific research:

Suppose you are trying to identify the ideal conditions under which to perform some experiment. A traditional approach might involve a long search for the perfect answer. This could take many forms, but it would be a direct attack. Genetic algorithms, on the other hand, approach such problems indirectly. You start with a whole bunch of would-be solutions, a wide variety of possible experimental configurations, say, which then compete with one another, like animals vying for resources. The most successful possible solutions are then broken up and recombined in novel ways to produce a second generation of solutions, which are allowed to compete again. And so on. It’s survival of the fittest, where fitness is determined by some standard of optimality, such as how well an experiment would work under a given set of conditions. It turns out that in many cases, genetic algorithms find optimal or nearly optimal solutions to difficult physics problems very quickly.¹⁸

On the automated global exchanges, evanescent generations of algorithms struggle with each other for momentary dominance, before they are eclipsed by some new twist of mathematical logic. The men and women behind the computers have been reduced to the hard core of an operations research team: a quant on the lam from particle physics; a strategist with a broad grasp of the financial markets; a technologist with her fingers on the keyboard; and of course, a millionaire backer or an investment fund with a fortune to win or lose. The core groups meet each other, scrawl equations on the walls, then withdraw to their darkened rooms. You might run into them someday, by chance, at a lunch-counter, a bar or a cubicle in Information's Metropolis.

Conclusion: The Underlier

It is as though the goddess Ceres had opened her thousand eyes, then closed them again. The fully artificialized practice of black-box trading no longer has any need for knowledge drawn from the fields of wheat and corn, or any of the archaic realms of nature. Information about information – the second nature of the financial markets – is all that matters. The great exchanges have become like space cruisers, turned inward on themselves, fixated on the hypothetical image of a perhaps infinitely unreachable destination. So what's life like in the most distant solar system? Only the Sates, we are told, would ask any other question.

So far in this text I have studiously avoided the real processes of production, distribution and use that underlie the frenetic rituals of Chicago's financial markets. Yet these realities are everywhere beneath our own eyes; and since the 1970s, they have changed dramatically under the influence of free-trade doctrines and Chicago-style finance. As Milton Friedman wrote in 1993, just after the Fall of the Wall and just before the rise of the World Wide Web:

The collapse of communism plus the technological changes of recent decades – the so-called information revolution – have vastly expanded the possibilities of cooperation between the developed and underdeveloped countries of the world. The political troubles of communism have made available for participation in multinational production of commodities and services a billion people in China and three or four hundred million in Russia and Eastern Europe. In addition, improvements in communication and transportation, especially the introduction of fax, have made it possible for a company located anywhere to coordinate resources located anywhere to produce a product to be sold anywhere. One result is that Latin America provides a supply of labor available in a way that has not been available before. These developments offer the opportunity for an enormous expansion in world trade. If that is allowed to develop freely, it can produce a new worldwide economic miracle that will raise living standards around the world.¹⁹

In the era of second nature, fact follows science fiction. Economic theories and the institutions they elicit come to shape the pathways of life on planet Earth, altering everything from the cobblestones to the continents. In 1993, when Friedman wrote, maquiladora plants had already overtaken tourism as Mexico's largest source of foreign exchange. Twenty years later, as I write, the largest part of the American industrial working class lives in China and speaks Chinese. An entire industrial geography has been transformed by the massive extension of foreign direct investment (what the economists call FDI), along with crucial risk-insurance role played by futures and other derivatives. In this way, the city of Chicago has become the heart of a global economic construct called "Chimerica."²⁰

If you get in a car in the thoroughly gentrified downtown Loop and drive southwest for perhaps an hour and fifteen minutes you will reach the BSNF multimodal port, located in a so-called "Foreign Trade Zone" (FTZ) near the exurban city of Joliet. Consumer goods that have shipped from China arrive at the container ports in Los Angeles, are transshipped to short-haul trucks and then to transcontinental trains, before finally arriving here. Then they are again transshipped, this time to the

immense complex of CenterPoint warehouses, also located on a nearby FTZ.²¹ The seemingly endless double nave of the WalMart warehouse – whose subcontracted workers recently won an improbable labor-conditions strike – is one of six such installations in the United States. From its innumerable loading bays the goods are shipped to local logistics hubs, and thence to the big-box stores. WalMart is the largest employer in America (and perhaps in all of Chimerica) but its employees require food stamps and other archaic state subsidies just to make it through the working day. If we could see through the pulsating fiber-optic cables of the global derivatives exchanges, maybe their kitchens would come into view.

Dick Bryan and Michael Rafferty are the authors of a book entitled *Capitalism with Derivatives*.²² What they explain in this remarkable volume is the role of derivatives contracts in the epochal shift from the Gold Standard to the Information Standard, and the consequences of this shift on the human underlier. The central claim of the financial markets, they maintain, is that derivatives – that is, dynamic hedging operations serving as insurance against risks – can be bought and sold as commodities, like any other widget. These particular commodities, however, are conceived both as values in themselves and as guarantees for other values, whether industrial, commercial or financial. Thus they serve to replace gold as a stabilizing anchor for a vast system of credit money (the kind used for home loans, industrial investments, leveraged buy-outs of corporations, short-selling on the stock markets, etc). Derivatives are claimed as the backstop for global capital circulation: a privately controlled way to manage all risks. The claim is still made today. Yet all this supposedly private risk insurance is propped up by the US Fed, which has held interest rates below inflation for six years, while creating some \$2 trillion in new bank reserves (so-called "quantitative easing") and providing a staggering \$16 trillion in short-term loans to transnational banks, all in order to stabilize the financial crisis that began in 2007.²³ The "free international market in currencies" is in reality the creation of public central bankers serving private ends.

What Bryan and Rafferty point out is that derivatives always imply an underlier – not only an underlying paper asset or basket of such assets, but an underlying process of consumption, distribution or use, upon which value can ultimately be based. The particular characteristics of the underlier then become extremely important. It must be scrutinized by a thousand analysts, it must be compared to everything of a similar category or class, and it must be made to conform to a common standard of efficiency and profitability, failing which it cannot be part of the economic equation. Far from closing its eyes, therefore, the "system of derivatives" projects a normalizing gaze on everything that comes within its field of vision and calculation. It standardizes both the products sold by an enterprise like WalMart and the labor-hours of its employees, forcing both of them down to the lowest possible price. The underlier then becomes the real anchor of value, a rock-bottom benchmark serving to guarantee the wildest flights of speculative risk. The spaceships take off for the stars; but in the last instance, the underlier is always a human being. Endless monetary expansion is rocket fuel for the CME; but a worker's food stamps are what ultimately puts the champagne on the algo-traders' tables.

Consider this as you look again at the photographs of the empty rooms. These interiors became values in an enormous speculative pyramid *because* they were the containers of people's lives. They represented an income stream because they were a vitally necessary place of rest, of sleep, of nourishment, of play, of extra-economic activity. People only struggle to earn a salary and to pay off a debt for something other than the receipt of that salary and the quittance of that debt. Now flip the coin again. The empty desks of the high-frequency traders and the vacant architecture of the financial exchanges reveal an abstract machinery that lures people into debt, then sells that debt to other people who will demand that it be paid. The same logic that produced the subprime collapse in the United States was repeated, on comparable scales, in countries like Spain and Ireland. There, and throughout Europe, the circuitous process that transfers unpayable debt from hand to hand and from market to market has ultimately resulted in a demand, from the bond markets, for the institutional transformation of both national governments and the European Union. In the US, we have not heard such pressing demands. That's because the privatization of government was accomplished long ago, by the forces described in this essay.

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We have reached the close of a long journey, from Chicago to Chicago, from nature to second nature and back again. At stake here, perhaps, is the provision of a set of empathic organs for a cyborg adrift on a cosmic sea. In the empty real-estate photographed by Geissler & Sann, I have sought to make you, the all-seeing eye, feel the presence of absent human beings. As those who have been banished know all too well, not the high-speed traders alone, but instead, a total social process causes the wild violence of the financialized economy. That economy promises something like the ownership and use of a home, then jerks it away again at the moment of crisis, “when human equals alien.”

To be sure, the empty rooms themselves have always been bits of second nature, like the cyborgs and everything else created by human beings. The question is, how do we take responsibility for what we have created?



- 1 William Cronon, *Nature's Metropolis: Chicago and the Great West* (New York: W.W. Norton, 1991). Anyone seeking to understand the development of Chicago's financial markets can begin with this superb book.
- 2 Walter B. Wriston, *The Twilight of Sovereignty* (New York: Charles Scribner's Sons, 1992), p. 58.
- 3 Leo Melamed, *For Crying Out Loud* (Hoboken, NJ: John Wiley and Sons, 2009), p. 128.
- 4 The proposal was reprinted in Leo Melamed, ed., *The Merits of Flexible Exchange Rates* (George Mason University Press, 1988).
- 5 Milton Friedman, "The Case for Flexible Exchange Rates," in: *Essays in Positive Economics* (University of Chicago Press, 1953), p. 174.
- 6 Leo Melamed, *For Crying Out Loud*, op. cit., p. 235.
- 7 Walter B. Wriston, "Dumb Networks and Smart Capital," *The Cato Journal* 17/3 (Winter 1998), pp. 329-40.
- 8 The opposition of veridiction and jurisdiction has been borrowed from Michel Foucault, *The Birth of Biopolitics* (New York: Palgrave MacMillan, 2008), lesson 2.
- 9 Leo Melamed, *The Tenth Planet* (Chicago: Bonus Books, 1987).
- 10 Warren Weaver, "Science and Complexity," in: *American Scientist* 36 (1948), p. 536.
- 11 Philip Mirowski, *Machine Dreams: Economics Becomes a Cyborg Science* (Cambridge University Press, 2002), p. 171.
- 12 On Black's tenure at Goldman, see the biography by Perry Mehrling, *Fischer Black and the Revolutionary Idea of Finance* (Hoboken: John Wiley and Sons, 2005), chapter 10.
- 13 Sarah Collins, "Leo Melamed tells us how his sci-fi novel led to e-trading at the Merc," Chicago Grid (undated online publication), available at: <http://www.chicagogrid.com/people/leo-melamed-sci-fi-merc-cme>.
- 14 For a reading of Black Monday in its relation to the generalization of Black-Scholes type models, see Donald MacKenzie, *An Engine Not a Camera: How Financial Modles Shape Markets* (Cambridge, Mass.: MIT Press, 2006), ch. 7 and *passim*.
- 15 On the efficient or rational market hypothesis, see Justin Fox, *The Myth of the Rational Market: A History of Risk, Reward, and Delusion on Wall Street* (New York: Harper Collins, 2009).
- 16 Manfred E. Clynes and Nathan S. Kline, "Cyborgs and Space," *Astronautics* (September 1960), reprinted in: Charles Hables Gray, ed. *The Cyborg Handbook* (New York: Routledge, 1995), p. 29.
- 17 For an idea of what this kind of corporation consists of, see Luis Suarez-Villa, *Technocapitalism: A Critical Perspective on Technological Innovation and Corporatism* (Philadelphia, PA: Temple University Press)
- 18 James Owen Weatherall, *The Physics of Wall Street* (New York: Houghton Mifflin Harcourt, 2013), pp. 150-51.
- 19 Milton Friedman, "Foreword," in: Leo Melamed, *Leo Melamed on the Markets* (New York: John Wiley and Sons, 1993), p. ix.
- 20 For the first, thoroughly uncritical use of this geo-economic concept, see Niall Ferguson, "'Chimerica' and the Global Asset Market Boom," *International Finance* 10/3 (December 2007).
- 21 For an introduction to Chicagoland FTZs in their relation to migrant labor, see Rozalinda Borcila, "Riding the Zone," in: Compass Collaborators, *Deep Routes: The Midwest in All Directions* (White Wire, 2012).
- 22 Dick Bryan and Michael Rafferty, *Capitalism with Derivatives: A Political Economy of Financial Derivatives, Capital and Class* (Basingstoke/New York: Palgrave MacMillan, 2006), see esp. part II, chapters 5-7.
- 23 For the figures see, among others, the July 2012 speech by John C. Williams, President and CEO of the Federal Reserve Bank of San Francisco, "Monetary Policy, Money, and Inflation" (<http://www.frbsf.org/our-district/press/presidents-speeches/williams-speeches/2012/july/williams-monetary-policy-money-inflation/john-williams-0702.pdf>) and the first-ever Government Accountability Office audit of the Federal Reserve System, *GAO-11-696*, released in July 2011 (<http://www.gao.gov/products/GAO-11-696>), p. 144.