MARC ANGELL IS A PROFESSOR AND DEAN AT THE DEPARTMENT OF ARCHITECTURE OF THE ETH ZURICH. HIS RESEARCH AT THE INSTITUTE OF URBAN DESIGN OF THE NETWORK CITY AND LANDSCAPE (NSL) ADDRESSES DEVELOPMENTS OF LARGE METROPOLITAN REGIONS. HE IS THE AUTHOR OF SEVERAL BOOKS, INCLUDING **DEVIATIONS** ON METHODS OF TEACHING AND **INDIZIEN** ON THE POLITICAL ECONOMY OF CONTEMPORARY URBAN TERRITORIES. HE IS A BOARD MEMBER OF THE HOLCIM FOUNDATION FOR SUSTAINABLE CONSTRUCTION.

CARY SIRESS IS AN ARCHITECT AND A TENURED FACULTY MEMBER IN ARCHITECTURE AND THEORY AT THE SCHOOL OF ARTS, CULTURE, AND ENVIRONMENT OF THE UNIVERSITY OF EDINBURGH AND VISITING PROFESSOR AT THE SCHOOL OF ARCHITECTURE AT THE UNIVERSITY OF NANJING IN CHINA. HE IS THE FOUNDING EDITOR OF THE NEW JOURNAL ARCHITECTURE &. FOLLOWING HIS GRADUATE STUDIES AT COLUMBIA UNIVERSITY IN NEW YORK, HE WAS INVOLVED IN TEACHING AND RESEARCH AT THE ETH ZURICH, WHERE HE COMPLETED HIS PH.D.

DISCOUNTING TERRITORY

LOGISTICS AS CAPITAL PRINCIPLE
OF SPATIAL PRACTICES



Wal-Mart Supercenter on Karl-Marx-Strasse in Berlin, 2006 (Photograph Jesse LeCavalier)



Wal-Mart Supercenter interior view, Berlin, 2006 (Photograph Jesse LeCavalier)



Promotional map entitled "Wal-Mart Around the World" in both English and Chinese used by Wal-Mart Inc. in 2003

It never stops.

- Rollin L. Ford, 20061

Imagine strolling down Karl-Marx-Strasse in Berlin on a shopping spree. After passing common names such as C&A, Hennes & Mauritz, and Woolworth, one arrives at the budget end of the strip dominated by a Wal-Mart Supercenter – an ostensibly firm anchor of commerce. A chance encounter of two giants – Marx and Wal-Mart – traces a diagram played out in real time on territory. Written here into the fabric of the city is a standoff between opposing ideologies: one promoting the unhindered spread of capital and the other recalling the historic call to arms for resisting capital exploitation.

But this clash is anything but obvious, for it is buried in the familiar trappings of consumption. We come up on a tangle of signs that are front stage to an otherwise unadorned box where banality prevails. Inside, the ubiquity of low prices serves to elevate cheapness to a higher level, never ceasing to remind customers of super deals available. Mass products are stacked in the cases in which they were delivered, underscoring the no-frills attitude that pervades the store. Though relaxed in appearance, the scene is underwritten by a formula casting utility as program. Control and the principle of cost-cutting marketeering are key to this blueprint that lays out an elaborate scheme linking low price to high profit as the Golden Rule. "High turnover and low overhead," goes the saying. With an efficient machinery perpetually running backstage, quantity is managed – the more, faster, and cheaper, the better.²

Such a business model remains unrivaled in its success, having reframed the worldwide flow of commodities and with it the modus operandi of the entire retail industry. The simple fact that one encounters Wal-Mart in Berlin is witness to the scale of the enterprise and the extent of its ambition. To drive the point home, a world map labeled in both English and Chinese is proudly exhibited in the company's headquarters in Bentonville, Arkansas, demonstrating to visitors the reach of the "Wal-Mart Effect," while clearly spelling out a politics of expansion. City by city, country by country, each conquest is displayed like a trophy in a case.³ But national boundaries are nothing more than proverbial placeholders on a map used to plot the next move.

Other players in the game such as K-Mart and Target in the United States, or Aldi, Carrefour, and Metro in Europe, have followed suit in transcending those former geographies of politically bound place to span the globe in a new fluid market. In effect, a transnational landscape of corporate retail — one marked by dispersed regimes of logistics and supple distribution networks — is superimposed onto the more familiar mosaic map of nations. Hardly noticeable in their day-to-day functioning, the systems servicing this extensive retail web nevertheless leave their mark on the physiognomy of urban regions. Territory is reformatted in the process according to the placeless logic of hyper-rationalized movements of capital. In the venture of flexible accumulation, companies must remain agile in their response to changing market circumstances. As quickly as they move in, they might likewise move out. Take the case in Berlin; Wal-Mart has for now left the scene, as the situation did not work to the company's advantage. The company vacated the premises in 2006, discounting territory in its pursuit of strategic purpose elsewhere.

War Logistics

Wal-Mart does not produce commodities *per se* but rather systems of distribution, including all the requisite administrative procedures for managing the global movement of goods. The attendant expertise to maintain such an overview is known within the industry as "logistics" and has by now gained the status of a full-fledged discipline. And here, the devil is in the detail. Whereas logistics circumscribes all aspects of corporate operations, from data compilation and analysis, planning, organization, implementation, and project steering to the control of flows of information, material, and commodities, it comes as no surprise that the term has its origin in the domain of military science.

Open any instruction manual devised to train the armed forces, and logistics is found alongside "strategy" and "tactic" as a central tenet of military engagement. "Victory is dependent upon the logistic problem," as stated in a textbook of the United States army, was published during the Vietnam War as to ensure the efficacy of that campaign. Logistics, then as now, is the art of calculation, remaining vital to achieving supremacy with the most efficient means possible in any theater of operation. For this reason, logistics has been appropriated by business in what amounts to a transfer of practice from state to the private sector, having become by now routine, if not a buzzword, for corporate management. And with the spread of a freemarket ethos to all corners of the earth, this formula has likewise become omnipresent. Put bluntly, we are enmeshed in logistic networks. And given our current market-centered way of life, it would seem that "one never escapes the economy of war." 7

In business lingo, logistics incorporate the six R's: right product, right time, right price, right place, right quantity, and right quality. This is the recipe for success, but one requiring discipline. Hence Wal-Mart's business structure is pervaded by military thinking, and by implication, all of its associated technologies. Not only is the company organized according to a strict hierarchy, with the command center in Bentonville administering all orders, but the firm also deploys the same reconnaissance measures, data management, and communication systems developed by the United States army both during and after the Cold War.

Even satellites make up part of Wal-Mart's strategic repertoire of information control. The Satellite Business Systems (SBS) – by Hughes Corporation, currently a subsidiary of the Defense, Space, and Security Division of Boeing – tracks all transactions across the globe. Rendered as a gadget suspended in space, the satellite is portrayed in all its innocence in promotional images to attract the interest of corporate customers. The image is telling, for it depicts the view from above as supreme in its territorial coverage. The all-seeing eye, performing as an essential relay in the steady stream of data flow, "handles more than one million customer transactions every hour, feeding databases estimated at more than 2.5 petabytes – the equivalent of 167 times the books in America's Library of Congress." Given such an unrivalled vantage, the logistics industry constitutes invisible contours of power, while holding patent command over the edgeless geography of the global economy.

Back on the ground at the frontline — namely in the stores themselves where customers ultimately shop — the stock of available goods must be guaranteed. To this end, an efficiently functioning supply chain is required to link the place of production with that of consumption. It is here where Wal-Mart's contribution to the logistic revolution is most notable. To maintain a strict economy between supply and demand, the principle known in the business as "just-in-time delivery" is implemented, whereby merchandise is produced only when needed. This in turn serves the "pull supply system" responding to demand with those commodities most desired. Eliminated in the process is the need for fixed storage of any sort. Instead, everything is on the move, with transportation performing as mobile warehouse. "It never stops," according to the head of the company's global information systems.

Aimed at reducing the degree of complexity within the overall system, logistics mandates methodically calibrated protocols that can be easily put into practice, summed up under the straightforward slogan "make it simple." The tiers of management and company organization are scaled to a lean minimum, as is the assortment of products in the stores. Similarly, the standardization of all procedures aids the streamlining of the entire supply infrastructure as well as the electronic monitoring of goods. Last but not least, the operative axiom of Wal-Mart concerning simplicity at all cost extends to its facilities, whether Supercenter, distribution center, or data center.

Black Box

Different types of boxes are to be credited for the triumph of discount empires – from the cardboard box, to the shipping container, to the big box of buildings. In that all are standardized goes without saying, thus facilitating the most economic means of stacking, transporting, and displaying merchandise.

Starting with the cardboard box, contractually binding specifications for manufacturers are formulated in the most unambivalent terms. Box sizes are specified not only to consolidate packaging and thereby minimize space requirements but also to accommodate the norms of pallets, forklifts, conveyor belts, and robots. As the smallest unit in the system, boxes are comparable to pixels in the digital realm. Accordingly, goods must be tagged to be tracked. By now an industry standard, the Universal Product Code (UBC) is used for scanning goods both upon delivery and at point of purchase to close the loop of supply and demand.11 Other technologies, some developed by the military, are being tested for large-scale application in the market. Wal-Mart, for example, is exploring the use of Radio Frequency Identification (RFID) to monitor every move of every box. Generally speaking, the very act of scanning and tracking sets off a chain reaction throughout the whole machinery, with satellite transponders communicating with supercomputers to relay a constantly updated overview of product activity. Automatic identification enables collection and analysis of information leading to a veritable geography of data. Maps are instantaneously drawn, then redrawn as soon as other parameters come in to profile shopping preferences, categorized by neighborhoods and regions. Mining data increases profits. Identifying patterns in this landscape of numbers, statistics, and







Interior of Wal-Mart distribution center near Bentonville, Arkansas (promotional image from Wal-Mart)

graphs is key to the buildup of the specialized knowledge coveted by retailers to stay ahead. Even weather reports are factored into the equation as indicators of possible changes in consumer behavior.

Introduced in the 1960s, the next unit in the system catalyzed a transportation revolution. Nothing more than a simple metal box, the shipping container is characterized by some as the quintessential symbol of globalization, if not its core principle. 12 Yet containers did not appear overnight. The ur-scene of materials handling is marked by trial and error. A case in point is the pallet, which originated in the military. Promoted in the 1940s as "the war's secret weapon," the pallet made its way to the private sector when the concept was disseminated by the National Bureau of Standards in campaigns including trade magazines, newspapers, and educational films.¹³ One movie in particular was called Be Wise - Palletize. Conceived as a means to reduce the amount of muscle needed to move merchandise, the pallet made possible the sheer volume of trade that has by now become worldwide fact. Down the line. shipping containers appeared amid debates about industry standards and appropriate dimensions for train, truck, and sea transport. This yielded the ISO-Norm for containers, which in turn determined the Twenty-Foot-Equivalent-Unit (TEU) capacity of freight vessels that specifies the maximum number of containers a ship can accommodate. Entire fleets and harbors had to be rebuilt in accordance with this standard. As with the cardboard boxes, this innovation transformed the way retail business was done. Here again, goods are tracked, but now in larger quantities. In one blow, the shipping container reduced the scale of the earth

ANGELIL / SIRESS 34 SCALES OF THE EARTH 35



CFO Jack Shewmaker pointing to map registering economic data on territory, Wal-Mart Annual Report 1980

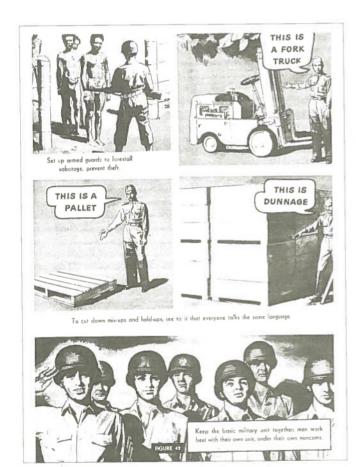


Image entitled "This is a pallet!," from Army Services Manual M703-4, Washington D.C. 1943

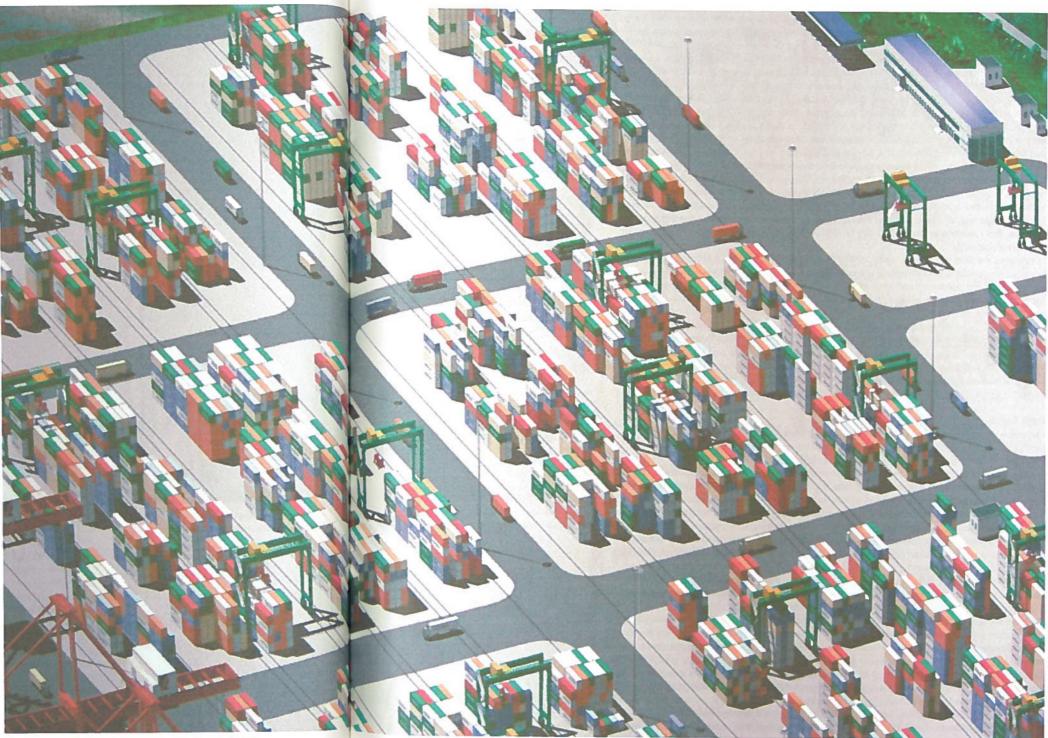


Diagram of Yangshan Port container terminal, Shanghai 2007

and simultaneously increased that of the world economy.¹⁴ And yet, with this new idea, cargo became more anonymous, an abstract thing hidden from view and only traceable with the proper scanning technology.¹⁵

The next scale up the chain is commonly referred to as "big box", a building type merging warehouse with store, and, like the cardboard box and shipping container, conceived as a standardized unit. As the name implies, bigness and simplicity rule. In the case of Wal-Mart, these buildings are under the purview of a Real Estate Division that employs hundreds of people with diverse expertise. Scattered throughout the landscape and surrounded by parking lots, the featureless facilities can cover an area of up to five acres. The company's entire fleet of buildings, including distribution centers, are determined by specification templates that spell out everything down to the last detail. Repeated ad absurdum, the same structure, the same cladding, the same fixtures are stamped out in succession, removing architecture from the equation to make way for pure enclosure. Only what has proven successful time and again to eliminate risk is integrated into Wal-Mart's blueprint. What you see is all you get. More to the point, what is interesting here is that the buildings' commonplace appearance serves to camouflage and, in effect, conceal the calculated intricacy of logistics machinery running nonstop. Not just cogs in the system, big boxes function as conduits for flows of information and commodities.¹⁶

Whether made of cardboard, metal, or any other material, the box is a principle that places a premium on performance rather than content. These units work analogously to what is known in the natural and behavioral sciences as a "black box", which designates any system or object understood solely in terms of input, output, and transfer capacity. What is here bracketed from view is the internal functioning of the box. Applied to the retail industry, this principle supports the prevalent bias in favor of opacity over transparency – fiat nox in place of fiat lux – that has ultimately become the operative program of discount retail. Companies vehemently protect their knowledge as classified intelligence in data centers guarded as one would a fortress. Whereas the Enlightenment might have promised the advance of lucidity, contemporary culture is no longer intelligible in these terms. Output the contrary, for we inhabit environments comprised of aggregated black boxes and characterized increasingly by stealth.

Real Estate

The public image portrayed by Wal-Mart is that of a conservative family business rooted in small-town values, epitomized by Sam Walton himself, who as company founder continues to serve as the firm's emblematic figurehead. His autobiography, *Sam Walton: Made in America*, is written in a plain, jovial style and sets down simple rules for running a successful enterprise. Especially revealing is his presentation of Wal-Mart's real estate strategy and its politics of spatial practice. With the motto "rolling out the formula," Walton explains his recipe for territorial expansion that rolls out store after store over the land. The fact that the book has been translated into numerous languages, including Chinese, makes clear just how fertile the soil is for such a plan. Looking for potential new locations for stores, Walton examined urban patterns from the perspective of his private plane. Those areas not yet encroached upon by the city were of particular interest, as he was attempting to anticipate future corridors of growth. Instead of shopping for sites in the city, he headed out to the periphery, with no competition in sight. Basically, the agenda was to cover entire fringe regions with stores. "We saturated northwest Arkansas. We saturated Oklahoma. We saturated Missouri." 19

Current practices have not strayed far from this original plan save for those updated by advances in data collection and communication technologies. After reconnaissance and only if a site is deemed worthy, a distribution center is planted deliberately near a highway intersection, guaranteeing the all-important connection for transport. Then the territory is peppered with branches within a circumference of several hundred miles. Conditions are negotiated with local municipalities and landowners to get the best deal on land prices, ensure tax incentives, and secure the provision of publicly funded infrastructure.

To eliminate competition, too many outlets are built, with the assumption of eventual attrition. Anything in the way is crushed. The first victims are usually the small shops in nearby towns, which cannot compete with the discount belt encircling them. Here territory is unmistakably discounted, resulting in what is often lamented in the press as "The Death of Main Street USA." The economic lifeblood of whole agglomerations is methodically sucked out in due course, and with it goes public space. Without question, the firm's objective is to establish an economic monopoly over a given region.

The next step is to remove those Wal-Mart stores that – according to the Darwinian "survival of the fittest" – do not yield the adequate quota of profit. What remains after the field

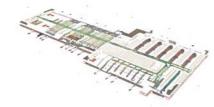


Illustration of a distribution center, "Supply Chain Management, Inc: System Overview," Dematic Corporation, 2008



Aerial photograph of Wal-Mart's distribution center in Alachua, Florida



Empty Wal-Mart Supercenter, Beaver Dam, Wisconsin (Photograph by Wilbur E. Selbrede)



Map of Wal-Mart's territorial expansion from 1970 to 1995 by Emek Basker, University of Missouri

is selectively cleared are wastelands dotted with empty boxes, in turn giving rise to ghost towns on the edge of cities. It is clear that Wal-Mart's policy of cheap construction is also motivated by the fact that their stay is limited. Flexible accumulation engulfs not only the realm of commodity production and consumption but space itself.²⁰ This is the real state of real estate. Just as goods are mobile, locations are rendered transitory in the game of moving in and out. Place is temporary and architecture disposable. That something is lost on the way should come as no surprise. Social and spatial conditions are compromised, leaving those left behind to foot the bill.

Spatial Fix

A specter is haunting America. "The history of all hitherto existing society is the history of class struggles," proclaim Marx and Engels in *The Communist Manifesto*. Whereas we encountered by chance the clash of mindsets on a street in Berlin, this confrontation is anything but geographically bound, now being most evident in the United States. In the land of market freedom, who would have thought that Wal-Mart would face fierce resistance? Those most affected by the downside of discount retail have assembled and begun to fight back in a manner recalling proletarian uprising. The company has come under attack in numerous lawsuits for accusations from human rights violations and denying worker benefits to the exploitation of female employees.

A documentary entitled *Wal-Mart: The High Cost of Low Price* captures this showdown, in a movie that Bentonville dismisses as an unwarranted rallying call.²² The film documents the destruction of social bonds and urban space, revealing the hidden cost of this destruction played out not only on the edge of the city but also on the fringes of the legal system.²³ Story after story recount personal misfortune, community tragedy, and disaster visited upon place. One scene unfolds in the jurisdictions of commercial licensing and building permits. It is when Wal-Mart seeks approval to set up shop that it faces the stiffest opposition from local stakeholders, including neighborhood organizations, city officials, and clergy. The significance of territory and its very constitution come to the fore. A "war machine" of another sort is at

ANGELIL / SIRESS 38 SCALES OF THE EARTH 39

work here, aiming to shatter the space of corporate logistics.²⁴ Activists fighting with the fervor of a guerilla movement try to re-appropriate the conditions of spatial production by galvanizing resistance as a means of holding position within territory. Space, however fragile, is forged in a geographical tug-of-war between parties, pitting tactics against strategy and vice versa. The film concludes with a call to arms, echoing the last sentence of the *Manifesto* "Working men of all countries unite!"

A rereading of Marx's and Engels's pamphlet, as suggested by David Harvey, uncovers another dimension of their plea. ²⁵ Anticipating the current operational mechanisms driving world trade, the opening passages of the *Manifesto* offer a precise, if not prophetic, analysis of the relations between capital and territory so crucial to the contemporary global economy. With an acute sense of the scale of the capitalist project, Marx and Engels describe the advance of a vast machinery that conquers the world place by place, often with violent force. The drive of this machine knows no boundary. "The cheap prices of its commodities are the heavy artillery with which it batters down all Chinese walls." What is described here is a spatial dynamic fueled by the development of technology and infrastructural networks that empower "industries whose products are consumed not only at home, but in every quarter of the globe." These networks, of course, serve the logistic system of capital to enable unhindered flows of "materiel" and to ensure flexibility in its operational deployment. Territory plays a central role in this economic colonization, for "the accumulation of capital has always been a profoundly geographical affair." ²⁸

Yet another twist comes by way of capital's need to inflict crisis upon itself through the excessive accumulation of wealth, goods, and labor, which subsequently spawns repeated collapse of price and wage levels. Like a sorcerer no longer in control of the powers summoned by his spells, capitalism perpetually jeopardizes its own interests. ²⁹ Destruction is inherent to the very buildup of capital. That such a destructive tendency depends on territory to destroy territory explains the perpetual summoning of spatial fixes to remedy the internal contradictions of the system. And the cycle continues by moving in and out of place. The current acceleration to push beyond limits in search for new markets churns up territory at an ever-faster pace, and with it produces increasingly volatile spatial relations. Nowhere are these relations more erratic than in the production of contemporary urban geographies.

With so much value granted to space, one wonders whether the situation could not be turned around. Rather than viewing urban space as a passive consequence, and thus victim, of capital, one could attribute to space an active role in reorganizing capital production, even if requiring cunning means to reorient economic processes toward more even geographical development. Here the city cannot be understood only as a physical object but moreover as a process instrumental in the production of relations, whether social, economic, or spatial. Viewing such relations as something still to be designed in more inclusive terms would amount to a devilish turn in the current orbit of capitalist cycles. Logistics would be appropriated to serve other ends, contributing to a seemingly improbable Wal-Marxian world.





Stills from Robert Greenwald's documentary film Wal-Mart: The High Cost of Low Price, Los Angeles, 2005

The authors would like to thank Jesse LeCavalier for his invaluable preparatory research that made this essay possible.

NOTE

- Rollin L. Ford, Executive Vice President and Chief Information Officer for Wal-Mart Stores, Inc., "The Age of Wal-Mart: Inside America's Most Powerful Company," CNBC, 2006.
- John Dicker, "The Growth Machine," The United States of Wal-Mart (London and New York: Penguin Books, 2005), 54-78.
- 3. Charles Fishman, *The Wal-Mart Effect* (New York: Penguin Press, 2006), 9.
- 4. Wal-Mart's attempt to establish the company's presence in Germany failed. The eighty-five stores were taken over by the German chain Metro in 2006. See Neue Zürcher Zeitung, "Wal-Mart zieht sich aus Deutschland zurück," July 29th, 2006. 5. James A. Huston, The Sinews of War: Army Logistics 1775-1953 (Washington, D.C.: Office of Military History, United States Army, 1966), 435. 6. The term logistics has its etymological origin in the Greek adjective logistikos, meaning "proficient in the art of calculation."
- 7. Jacques Derrida, Writing and Difference, first published 1967 by Édition du Seuil, translated by Alan Bass (Chicago: The University of Chicago Press, 1979), 185.
- 8. "Data, Data Everywhere," *The Economist*, issue entitled "The Data Deluge and How to Handle It," February 27th-March 5th, 2010, 3.
- 9. Edna Bonacich und Khaleelah Hardier, "Wal-Mart and the Logistics Revolution," Wal-Mart: The Face of Twenty-First-Century Capitalism, edited by Nelson Lichtenstein (New York: The New Press, 2006). 170.
- 10. Dieter Brandes, *Die 11 Geheimnisse des ALDI-Erfolgs*, (Munich: Piper Verlag, 2006) 13.
- 11. Jesse LeCavalier, "Wal-Martians; Servo-Organisms and Information Transit," unpublished essay, ETH Zurich 2006.
- 12. Christian Seiler, "Editorial," Du, issue 733, Container: Container: Das Prinzip Globalisierung, (Zurich: Niggli Verlag, 2003) 7.
- 13. Monika Doman, "Be Wise-Palletize," *traverse*, 2009, issue 3, 26.
- 14. See Marc Levinson, The Box. How the Shipping Container Made the World Smaller and the World Economy Bigger, (Princeton: Princeton University Press, 2006).
- 15. 'The interiors of these distribution centers are constituted by seemingly blank boxes and crates, the contents of which can only be accessed by workers with special 'eyes' in the form of their hand-held or 'wearable' scanners." John Harwood, Jesse LeCavalier, and Guillaume Mojon, Standpunkte 01: This Will _ This (Basel: Standpunkte, 2009), 29.
- 16. lbid., 28.
- 17. See Peter Sloterdijk, "Erleuchtung im

schwarzen Kasten – Zur Geschichte der Undurchsichtigkeit", *Der ästhetische Imperative* (Hamburg: Philo & Philo Fine Arts, 2007), 116. 18. Sam Walton with John Huey, *Made in America: My Story* (New York: Doubleday and Bantam Books, 1992 and 1993), 139-160. 19. Ibid., 141.

20. Ellen Dunham-Jones, "Temporary Contracts:
On the Economy of the Post-Industrial Landscape,"
Harvard Design Magazine, Fall 1997, Issue 3.
21. Karl Marx und Friedrich Engels, The
Communist Manifesto (1848) (New York: Labor

22. Robert Greewald (director and producer), Wal-Mart: *The High Cost of Low Price*, Los Angeles,

23. See Ken Jacobs's research report, *Hidden Cost of Wal-Mart Jobs*, Center for Labor Research and Education, University of California Berkeley, 2004.

24. See the use of the concept of "the war machine" as described by Gilles Deleuze and Félix Guattari in *A Thousand Plateaus* (1980), (Minneapolis: University of Minnesota Press, 1987), 351-423.

25. David Harvey, "The Geography of Class Power" (1998), Spaces of Capital: Towards a Critical Geography (New York: Routledge, 2001), 369.

- 26. Marx and Engels, 18.
- · 27. Ibid.
- 28. Harvey, 369.

News, 1968), 12.

29. Marx and Engels refer to the means of production as being "like the sorcerer, who is no longer able to control the powers of the nether world whom he has called up by his spells." See, 20.



Sam Walton and his personal plane.