

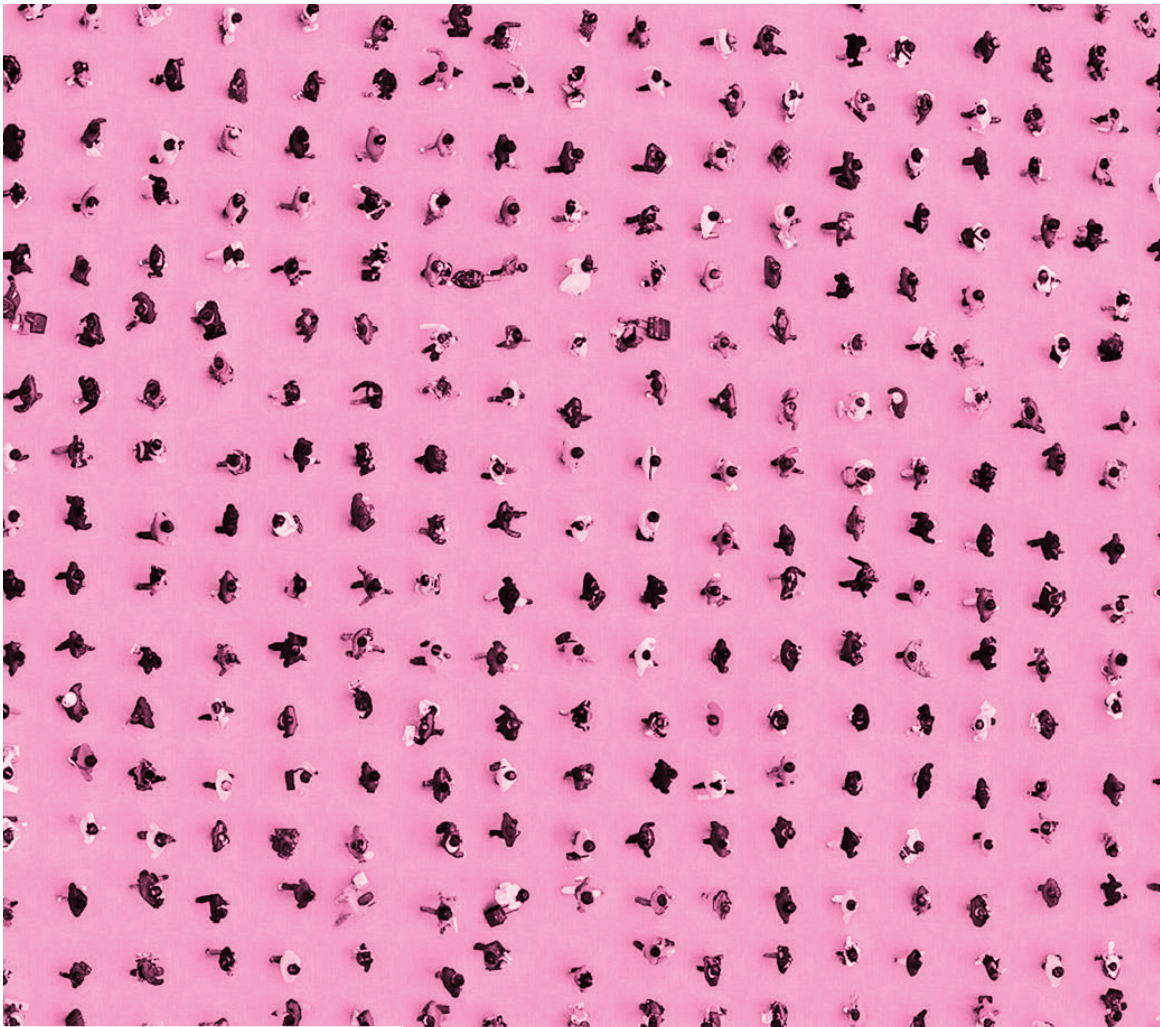
306–344

KNOW EVERY THING STATIS TICS

ON PRODUCTION Peak Oil: What is it?

306 → The peak oil theory is the belief that at some point the production of oil will reach a peak and then start to decline. The result of this decline will be a significant increase in the cost of oil, and that will have a serious impact on the economy. The peak oil theory has been around since the 1950s but it has really started to gain traction in the last couple of decades. This is because it is only possible to tell when oil has peaked after the fact. The successful prediction of when oil would peak in many countries has helped to lend credibility to the theory.



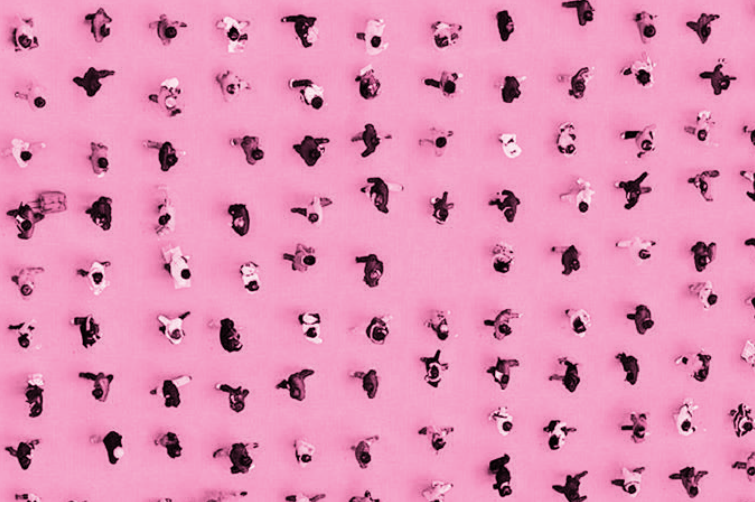


ON POPULATION

World Population: 7 Billion

307 — World population had reached 6 billion in 1999. According to the United Nations the 6 billion figure was reached on October 12, 1999 (celebrated as the Day of 6 Billion). According to the U.S. Census Bureau,

instead, it was reached on July 22, 1999, at about 3:49 AM GMT. Yet, according to the U.S. Census web site, the date and time of when 6 billion was reached will probably change because the already uncertain estimates are constantly being updated.



308 — Here's what the first six months of 2012 brought: The hottest January to June ever recorded in the continental United States. More than 22,000 daily high temperature records tied or broken. The largest drought declaration in over 50 years, with more than two-thirds of the continental United States in drought at the end of July. One of the most destructive freak derecho storms in history. Fires in Colorado that have destroyed more than 700 homes.

ON CLIMATE

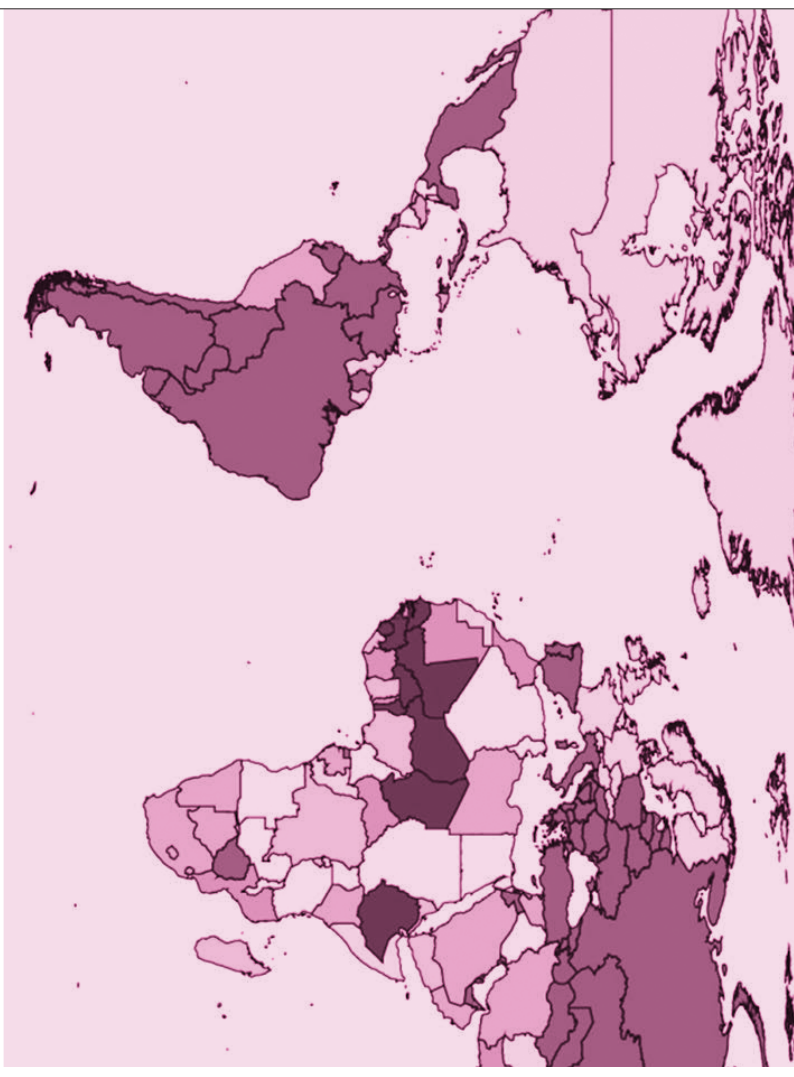
Extreme Weather: Impacts of Climate Change



ON NETWORKS

Manuel Castells

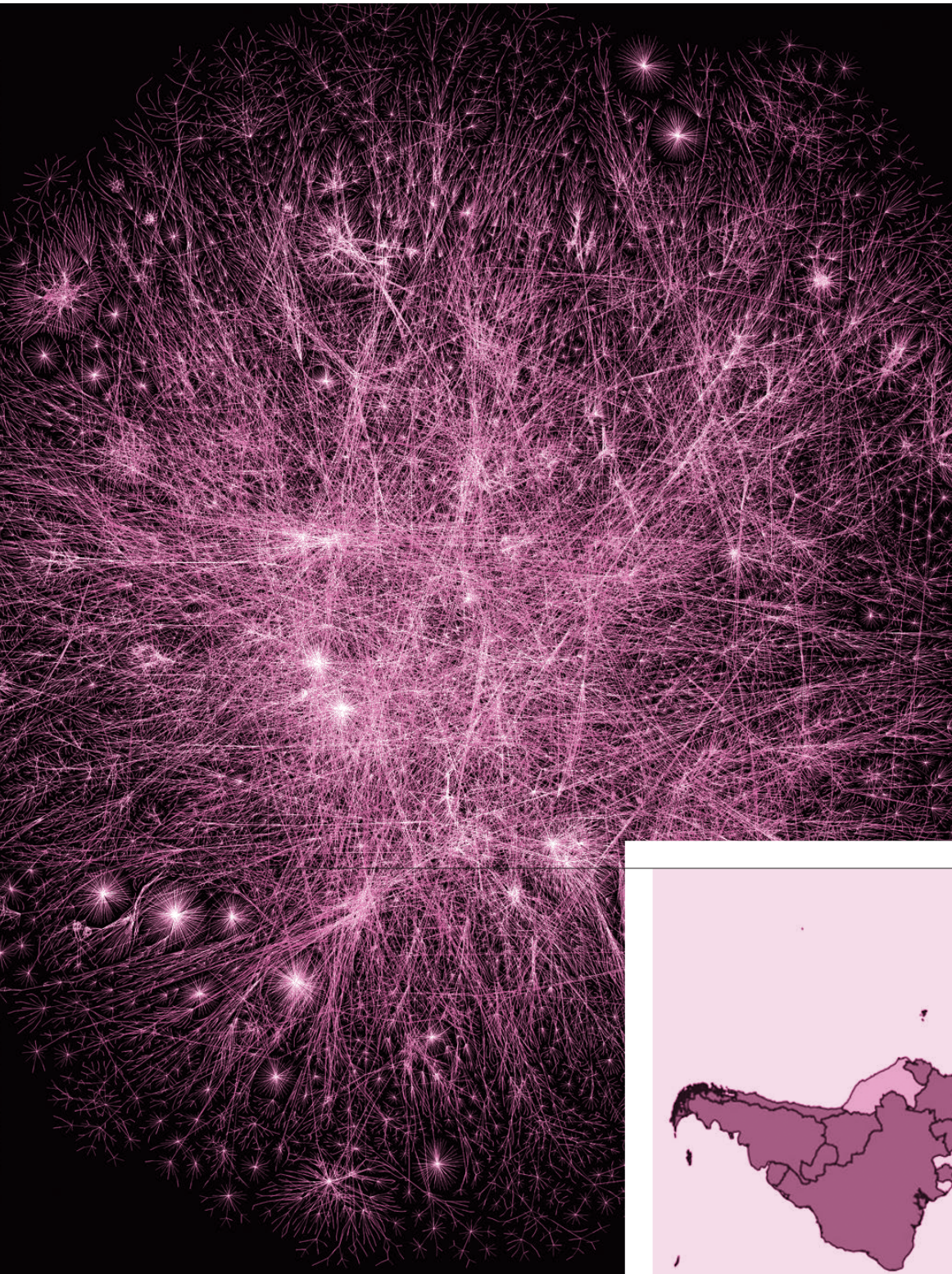
310 → The promise of the Information Age is the unleashing of unprecedented productive capacity by the power of the mind. I think, therefore I produce. In so doing, we will have the leisure to experiment with spirituality, and the opportunity of reconciliation with nature, without sacrificing the material well-being of our children. The dream of the Enlightenment, that humankind, is within reach. Yet there is an extraordinary gap between our technological overdevelopment and our social underdevelopment.



ON EDUCATION

Literacy Rates

310 → The lowest literacy rates are observed in sub-Saharan Africa and in South and West Asia. Adult literacy rates were below 50% in the following 11 countries: Benin, Burkina Faso, Chad, Ethiopia, Gambia, Guinea, Haiti, Mali, Niger, Senegal and Sierra Leone. In Central and Eastern Europe, Central Asia, East Asia and the Pacific, and Latin America and the Caribbean, the average adult and youth literacy rates were greater than 90%. No regional averages are available for North America and Western Europe due to limited data coverage. It is important to note that regional averages can mask disparities at the country level. This is most apparent in sub-Saharan Africa, where the adult literacy rate ranges from 29% in Niger to 94% in Equatorial Guinea.

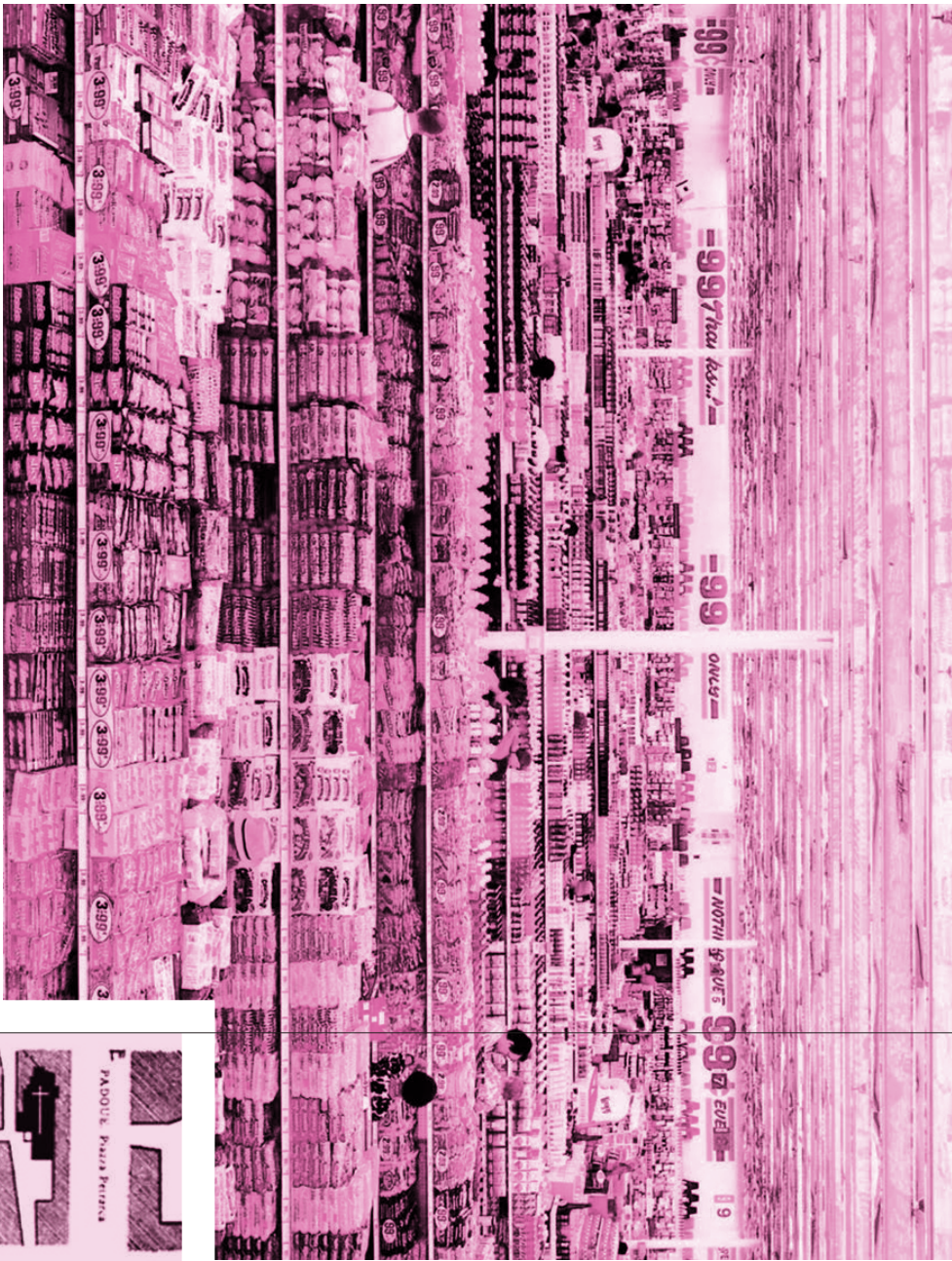
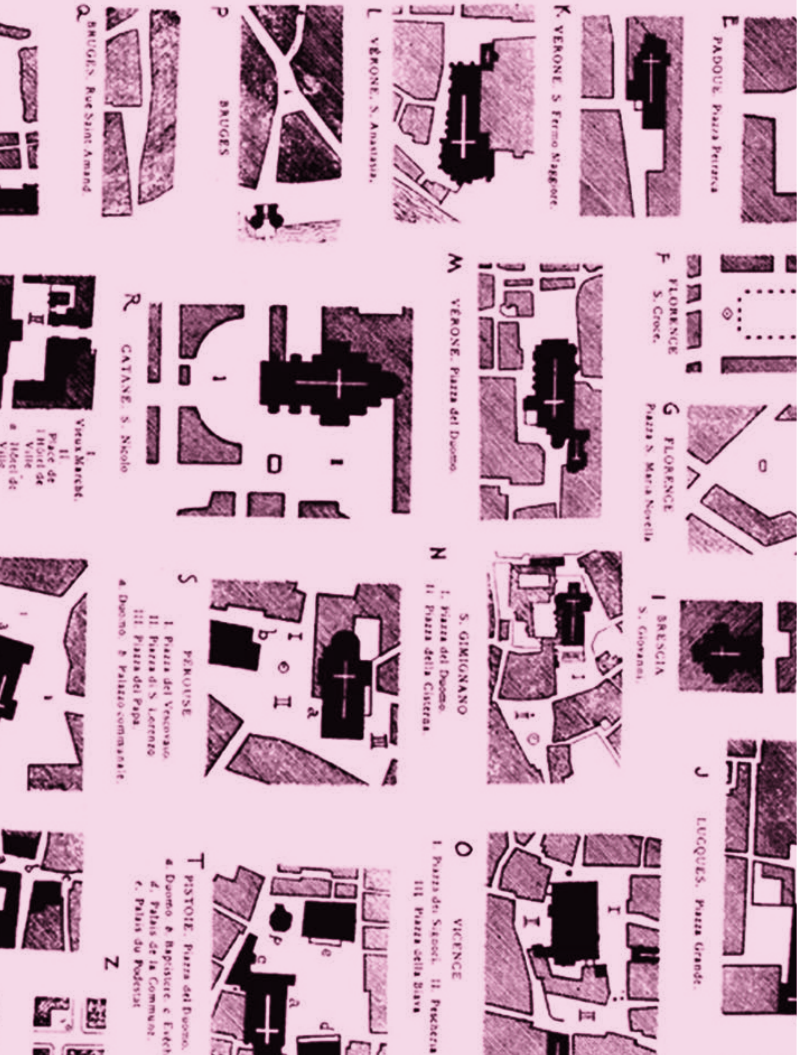


MAPS

313

← The innate conflict between the picturesque and the practical cannot be eliminated merely by talking about it; it will always be present as something intrinsic to the very nature of things. This inner struggle between the two opposing demands is not, however, characteristic of town planning alone; it is present in all the arts, even in those apparently the freest, if only as a conflict between their ideal goals and the limiting conditions of the material in which the work of art is supposed to take shape.

CAMILLO SITTE Modern Systems, Artistic Limitation of Modern City Planning



ON CONSUMPTION The Limits to Growth

311

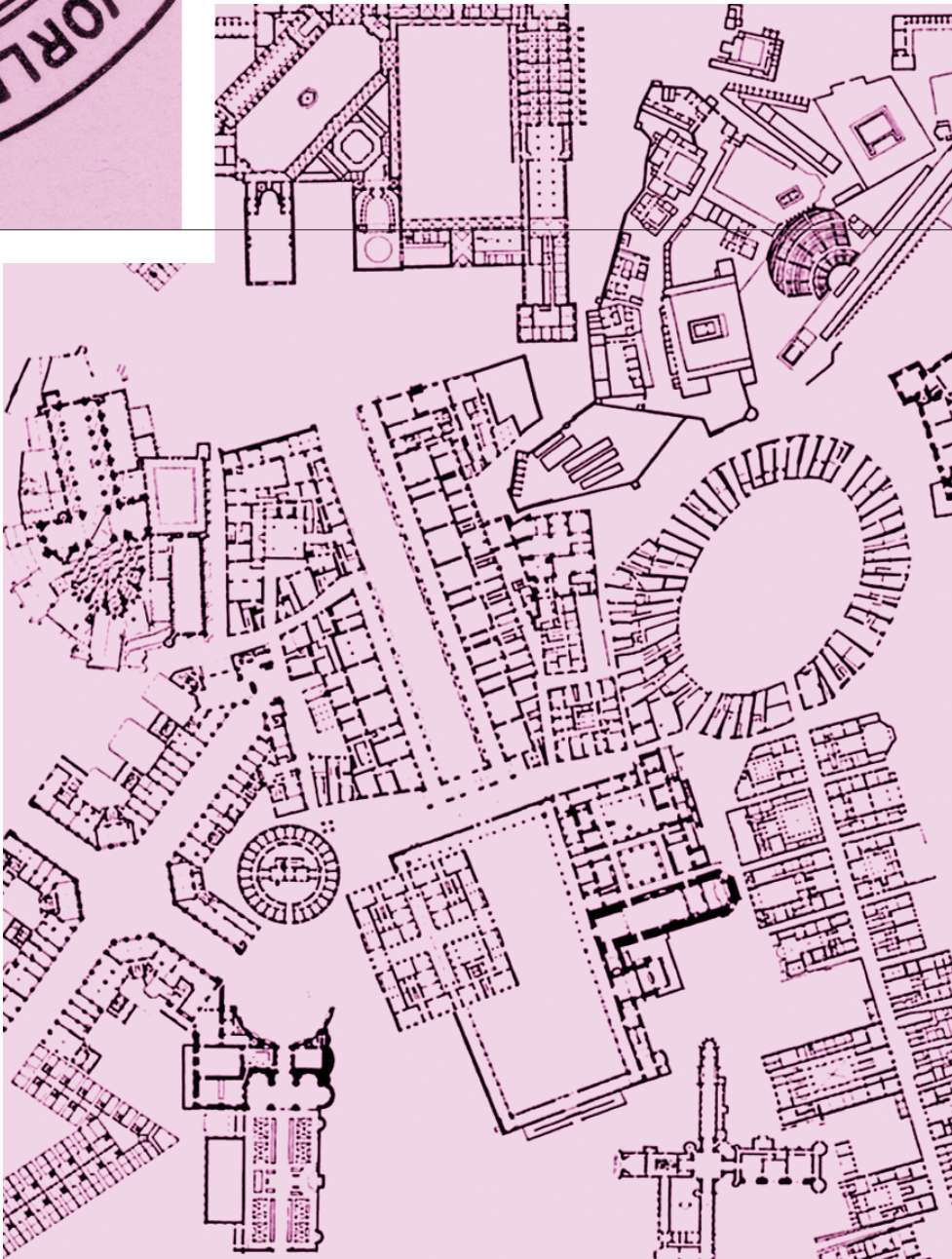
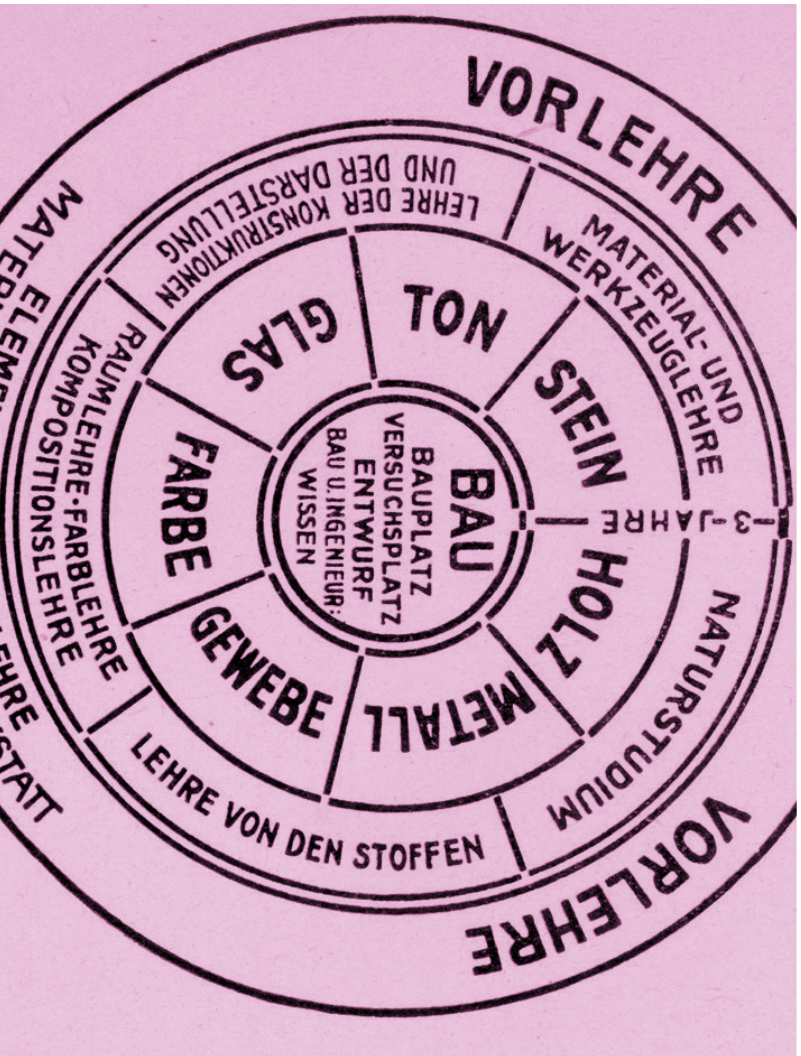
← In inviting the MIT team to undertake this investigation, we had two immediate objectives in mind. One was to gain insights into the limits of our world system and the constraints it puts on human numbers and activity. Nowadays, more than ever before, man tends toward continual, often accelerated, growth—of population, land occupancy, production, consumption, waste, etc.—blindly assuming that his environment will permit such expansion, that other groups will yield, or that science and technology will remove the obstacles. We wanted to explore the degree to which this attitude toward growth is compatible with the

dimensions of our finite planet and with the fundamental needs of our emerging world society from the reduction of social and political tensions to improvement in the quality of life for all. A second objective was to help identify and study the dominant elements, and their interactions, that influence the long term behavior of world systems. Such knowledge, we believe, cannot be gathered by concentrating on national systems and short-run analyses, as is the current practice. The project was not intended as a piece of futurology. It was intended to be, and is, an analysis of current trends, of their influence on each other, and of their possible outcomes.

315 ← That is why the movement must be purged from within if its original aims are to be saved from the strait-jacket of materialism and false slogans: inspired by plagiarism or misconception. Catch phrases like “functionalism” (die neue Sachlichkeit) and “fitness for purpose = beauty” have had the effect of deflecting appreciation of the New Architecture into external channels or making it purely one-sided. This is reflected in a very general ignorance of the true motives of its founders: an ignorance that impels superficial minds, who do not perceive that the New Architecture is a bridge uniting opposite poles of thought, to relegate it to a single circumscribed province of design.

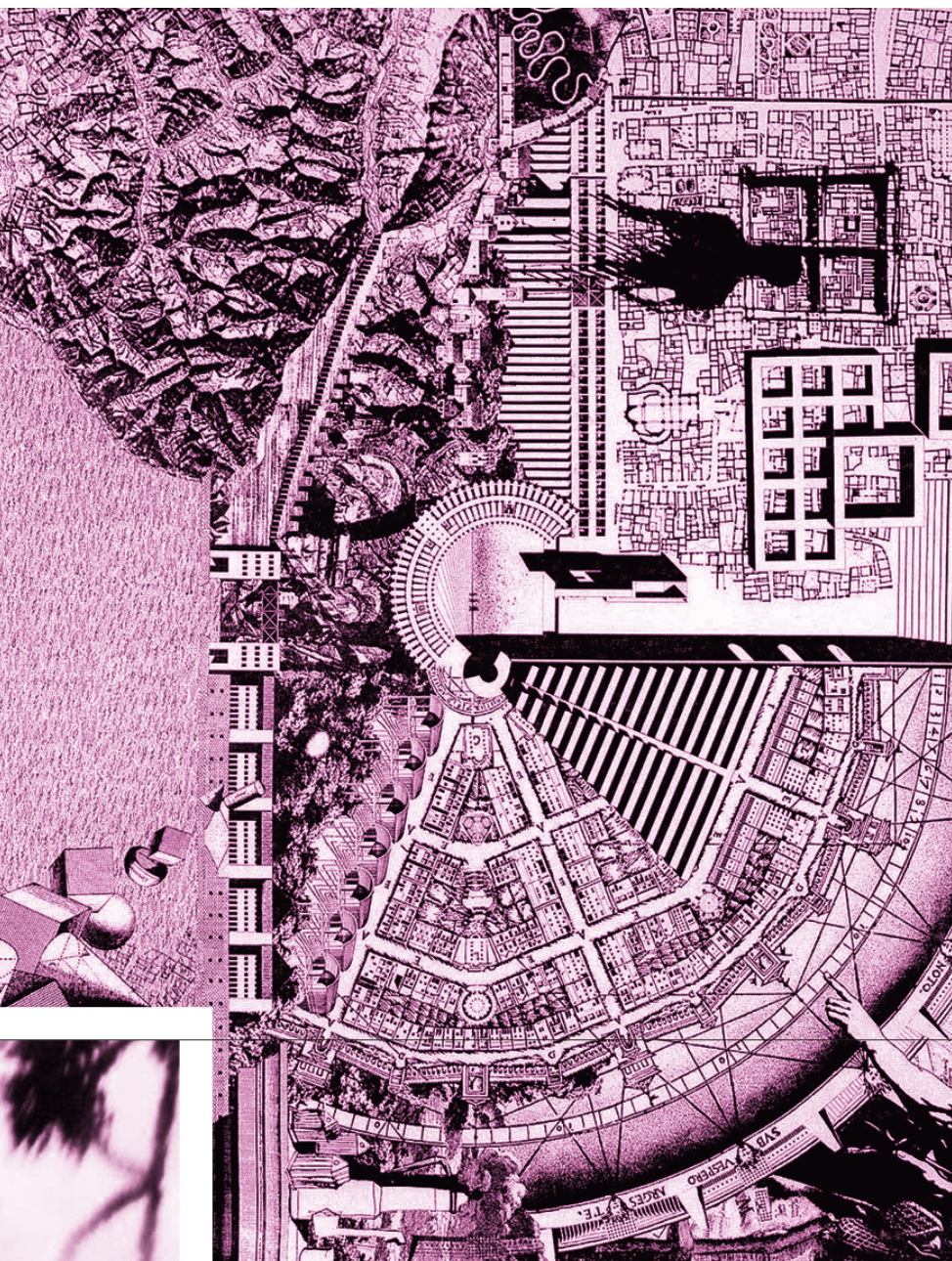
WALTER GROPIUS

The New Architecture and the Bauhaus



COLIN ROWE AND FRED KOETTER
Collage City

316 ← Because collage is a method deriving its virtue from its irony, because it seems to be a technique for using things and simultaneously disbelieving in them, it is also a strategy which can allow utopia to be dealt with as image, to be dealt with in fragments without our having to accept it in toto, which is further to suggest that collage could even be a strategy which, by supporting the utopian illusion of changelessness and finality, might even fuel a reality of change, motion, action and history.



ALDO ROSSI
The Architecture of the City

318 ← Urban studies never attribute sufficient importance to research dealing with singular urban artifacts. By ignoring them—precisely those aspects of reality that are most individual, particular, irregular, and also most interesting—we end up constructing theories as artificial as they are useless. With this in mind, I have sought to establish an analytical method susceptible to quantitative evaluation and

capable of collecting the material to be studied under unified criteria. This method, presented as a theory of urban artifacts, stems from the identification of the city itself as an artifact and from its division into individual buildings and dwelling areas. While the division of the city along these lines has been proposed many times, it has never been placed in this particular context.

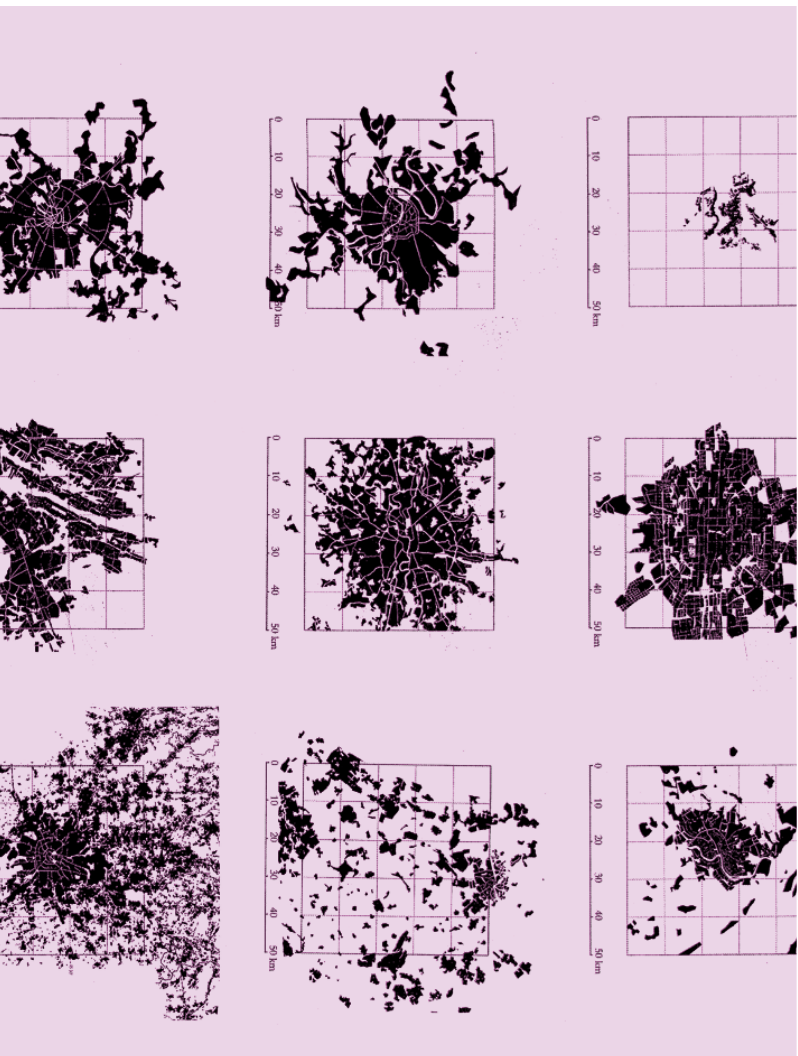


REMI KOOLHAAS
The Generic City

321 ← 1. Introduction
1.1 Is the contemporary city like the contemporary airport—"all the same"? Is it possible to theorize this convergence? And if so, to what ultimate configuration is it aspiring? Convergence is possible only at the price of shedding identity. That is usually seen as a loss. But at the scale at which it occurs, it must mean something. What are the disadvantages of identity, and conversely, what are the advantages of blankness? What if this seemingly accidental—and usually regretted—homogenization were an intentional process, a conscious movement away from difference toward similarity? What if we are witnessing a global liberation movement: "down with character!" What is left after identity is stripped? The Generic?

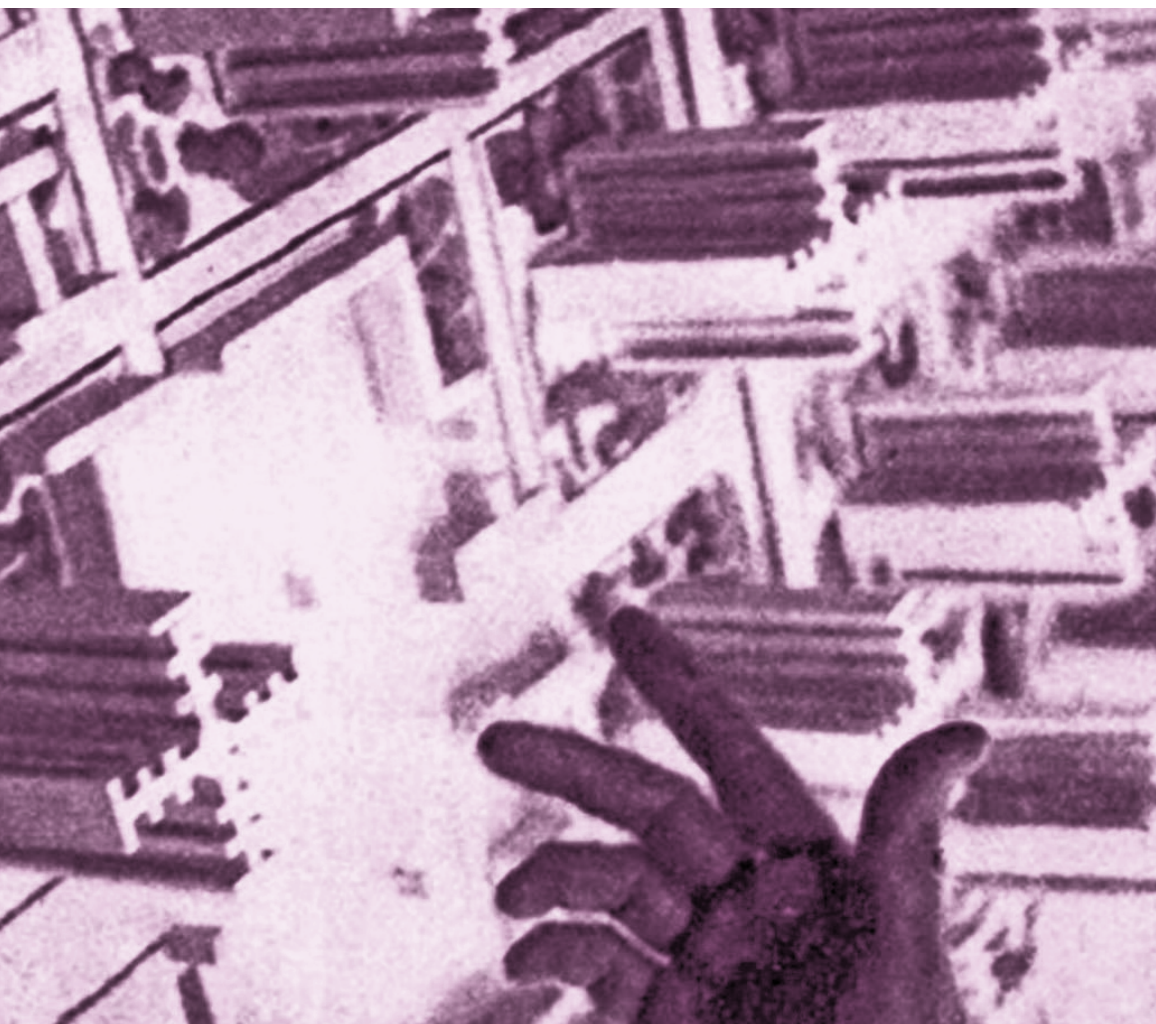
323 — At present, it is highly relevant to watch the cities of the world from space, and not only the expanding and dispersing cities in the developed world. When comparing the footprints of the world's largest cities, two observations stand out clearly: The first is that human tolerance for density, varies to a stunning degree. The second observation is related to form. There might be increasing similarity when city extensions are viewed on the ground, but when seen from space, it is clear that not two urban agglomerations are the same. The reasons for the distinctive shapes of urban agglomerations are largely related to local landform, especially water systems.

PETER BOSSELMANN
Urban Transformations



ILDEFONS CERDÀ
The Five Bases of the General Theory of Urbanization

325 — From the (Latin) word *civis* (citizen) comes *civitas* (city), a collective name that, in its origin, meant nothing more than the sum of the inhabitants of Rome and also of all the prerogatives and distinctions inherent in the use of the title "citizen". We find it used in both of these senses by the most ancient and purely Latin of authors. However, over the course of time, the content and container must have become mixed up and considered as a single entity. And since then, the word *civitas* is used to signify either the collectivity of the citizens, or the group of buildings in which this collectivity is sheltered, or finally, the two collectivities of dwellers and dwellings considered as forming a single object. (1867, TGU, I, 485)



328 — You can see that it is no more complicated than a cookery book: first you list your ingredients, then you describe how they behave in heat or water or whatever and then you put them together and there it is, a loaf. The only difference between the two is that most people have a lust for eating which justifies the apparently inexhaustible supply of cookery books, whereas the environment is, at the moment, a lust-vacuum. It isn't really surprising. The dialogue stopped when they killed off the environmental virtues of Victorian architecture and substituted a lot of personal virtues such as truth, honesty and self-expression. You can see where that's got us, everybody is bored stiff. We've lost our audience. We have to join, separate, divide, conceal, reveal, concentrate, dilute, trap, liberate, delay and accelerate. Throw the ball about, get those stiff muscles working. There is much to do.

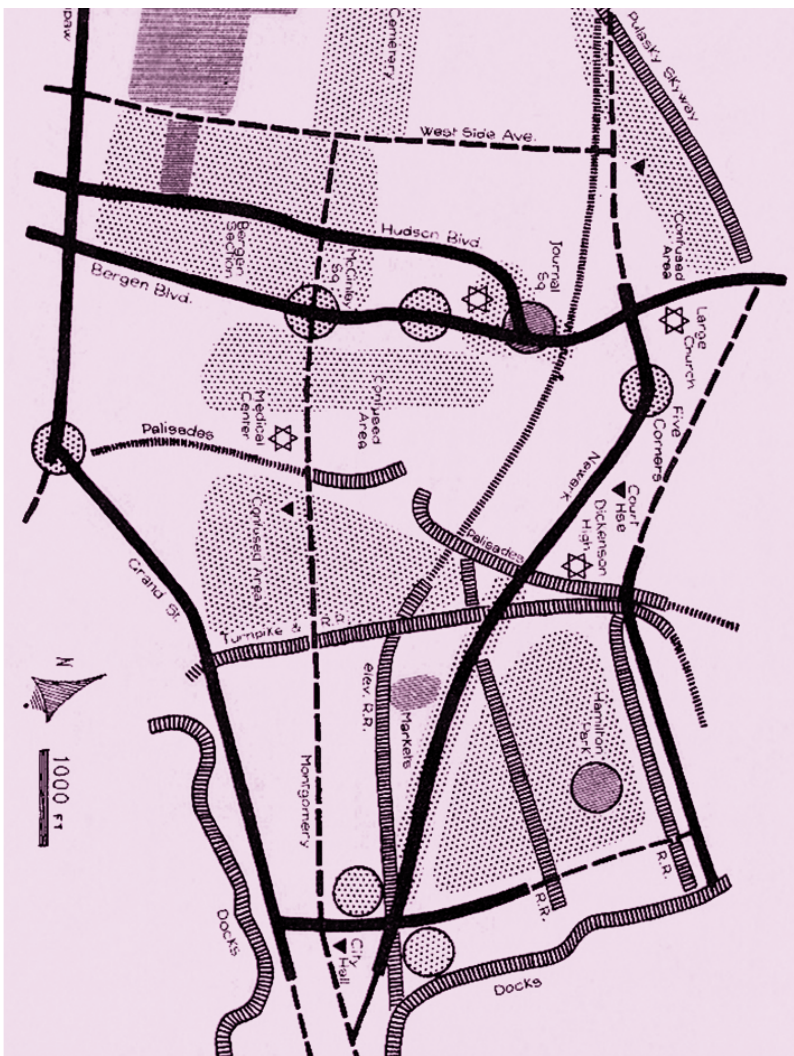
GORDON CULLEN
The Concise Townscape

LE CORBUSIER
Towards a New Architecture

326 — One day Auguste Perret created the phrase: "The City of Towers," a glittering epithet which aroused the poet in us. A word which struck the note of the moment because the fact itself is imminent! Almost unknown to us, the "great city" is engendering its plan. This plan may well be a gigantic affair, since the great city is a rising tide. It is time that we

should repudiate the existing lay-out of our towns, in which the congestion of buildings grows greater, interlaced by narrow streets full of noise, petrol fumes and dust; and where on each storey the windows open wide on to this foul confusion. The great towns have become too dense for the security of their inhabitants and yet they are not sufficiently dense to meet the new needs of "modern business."





KEVIN LYNCH

The Image of The City

329 ← Looking at cities can give a special pleasure, however commonplace the sight may be. Like a piece of architecture, the city is a construction in space, but one of vast scale, a thing perceived only in the course of long spans of time. City design is therefore a temporal art, but it can rarely use the controlled and limited sequences of other temporal arts like music. On different occasions and for different people, the sequences are reversed, interrupted, abandoned, cut across. It is seen in all lights and all weathers.

ROBERT VENTURI AND DENISE SCOTT BROWN

Learning from Las Vegas

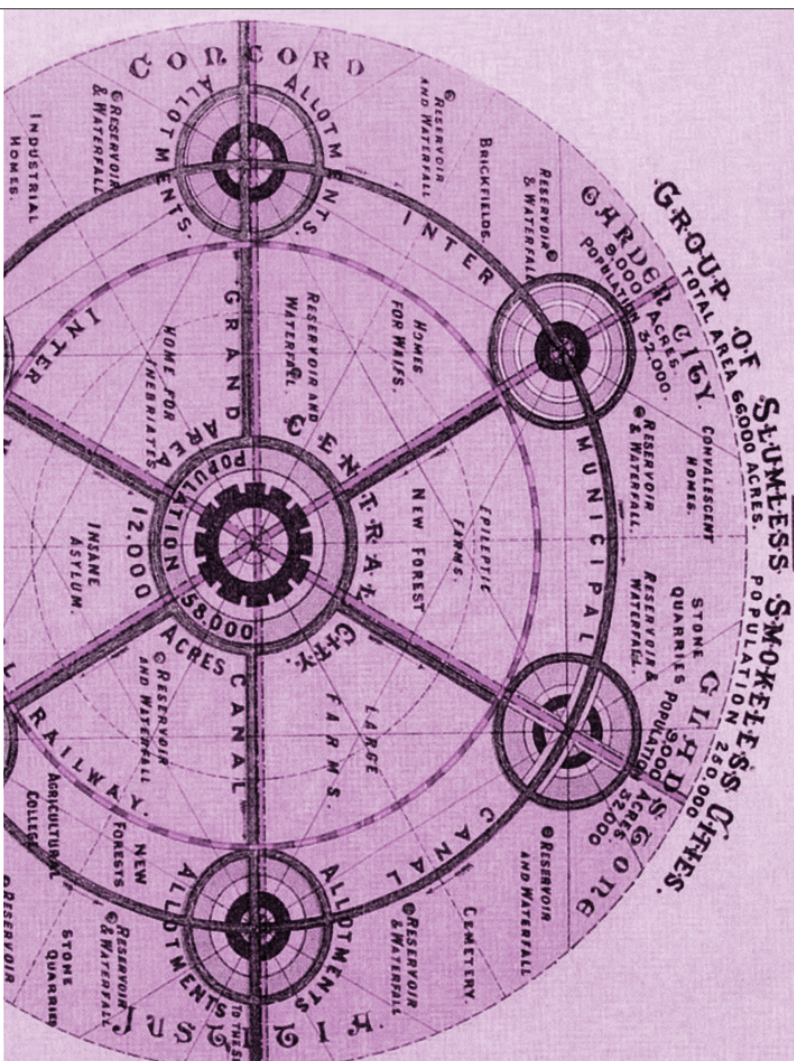
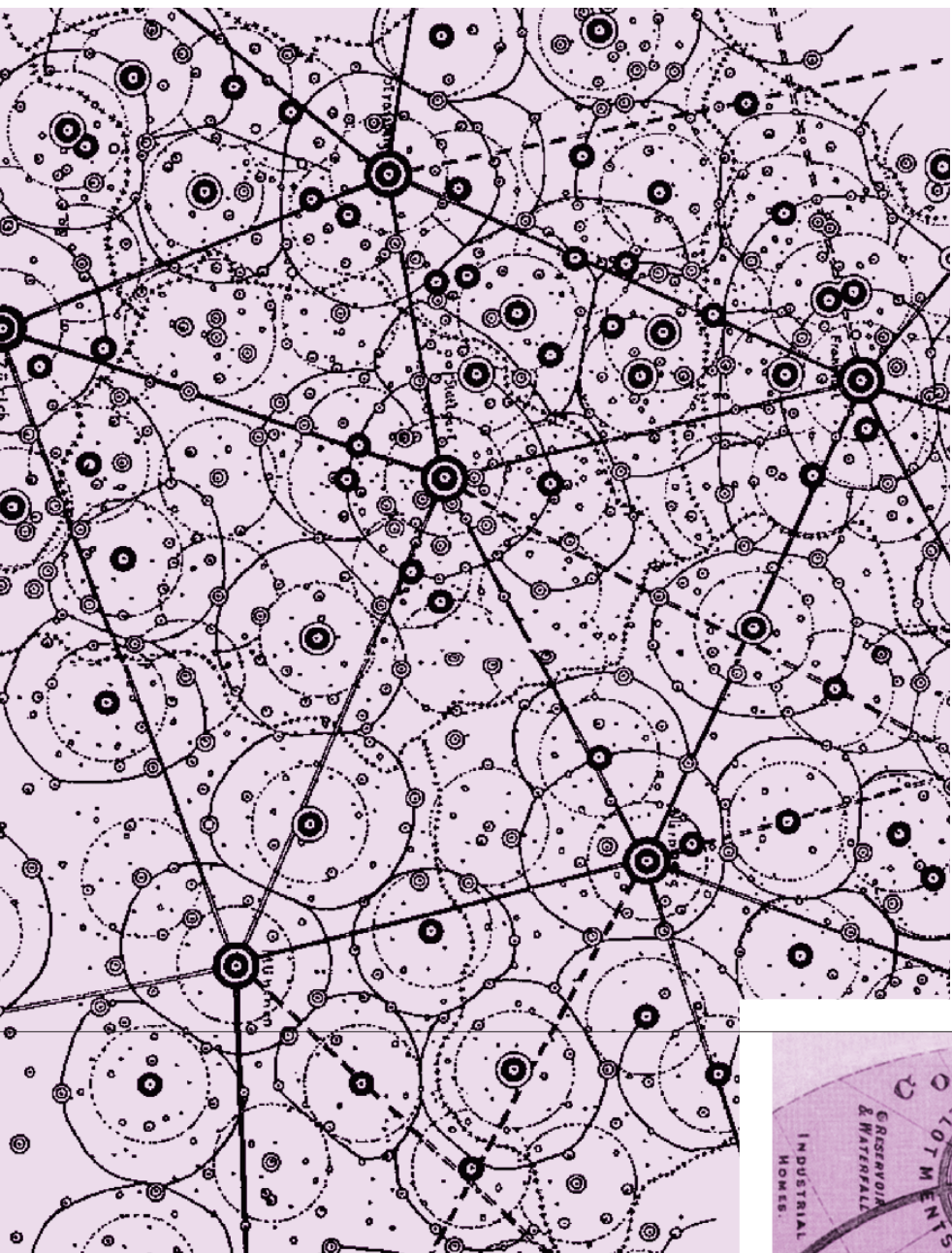
331 ← Architects who can accept the lessons of primitive vernacular architecture, so easy to take in an explicit like "Architecture without Architects," and of industrial, vernacular architecture, so easy to adapt to an electronic and space vernacular as elaborate neo-Brutalist or neo-Constructivist megastructures, do not easily acknowledge the validity of the commercial vernacular. For the artist, creating the new may mean choosing the old or the existing. Pop artists have relearned this. Our acknowledgment of existing, commercial architecture at the scale of the highway is within this tradition.



DIA GRAMS

332 — We do not look at the entire appearance of a town, but only at those definite characteristics which are decidedly important to the meaning of the town and the geography of settlements. It is that meaning which Gradmann has called the chief profession of a town, namely, "to be center of his rural surroundings and mediator of local commerce with the outside world."

WALTER CHRISTALLER
Central Place Theory



EBENEZER HOWARD
Garden Cities of To-Morrow

333 — I will undertake, then, to show how in Town-country equal, nay better, opportunities of social intercourse may be enjoyed than are enjoyed in any crowded city, while yet the beauties of nature may encompass and enfold each dweller therein; how higher wages are compatible with reduced rents and rates; how abundant opportunities for employment and bright prospects of advancement may be secured for all; how capital may be attracted and wealth created; how the most admirable sanitary conditions may be ensured; how beautiful homes and gardens may be seen on every hand; how the bounds of freedom may be widened, and yet all the best results of concert and co-operation gathered in by a happy people.

335 ← Intelligibility and functionality, defined as formal properties of spatial complexes, are the keys to 'generic function'. In the case of settlements, generic function refers not to the specificities of different cultural, social and economic forms, but to what these forms have in common when seen from a

spatial point of view. The deep invariant structure of urban grids is generated, it will be argued, from generic function creating emergent invariants, while the typological differences arise from cultural, social and economic differences, and individualities from topographical and historical specificities.

BILL HILLIER
Space Is the Machine



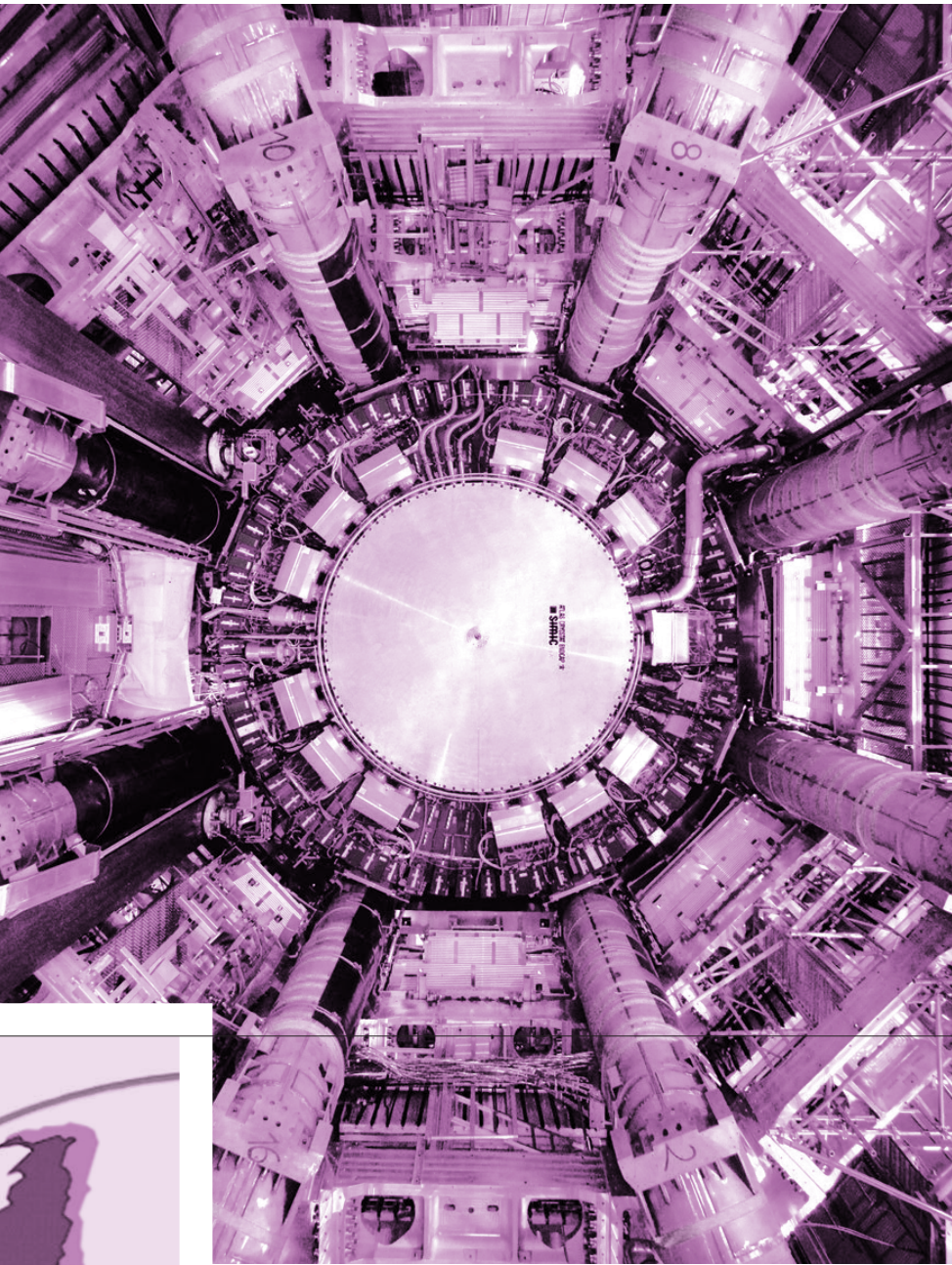
PAUL KRUGMAN
How Did Economists Get It so Wrong?

336 ← So here's what I think economists have to do. First, they have to face up to the inconvenient reality that financial markets fall far short of perfection, that they are subject to extraordinary delusions and the madness of crowds. Second, they have to admit—and this will be very hard for the people who giggled and whispered over Keynes—that Keynesian economics remains the best framework we have for making sense of recessions and depressions. Third, they'll have to do their best to incorporate the realities of finance into macroeconomics.

SIMULATIONS

341 → The historical reasons why the European world-economy came into existence in the sixteenth century and resisted attempts to transform it into an empire have been expounded at length. We shall not review them here. It should however be noted that the size of a world-economy is a function of the state of technology, and in particular of the possibilities of transport and communication within its bounds. Since this is a constantly changing phenomenon, not always for the better, the boundaries of a world-economy are ever fluid.

IMMANUEL WALLERSTEIN
The Modern World-System



CERN LARGE HADRON COLLIDER
Large Hadron Collider Guide

SENSORS

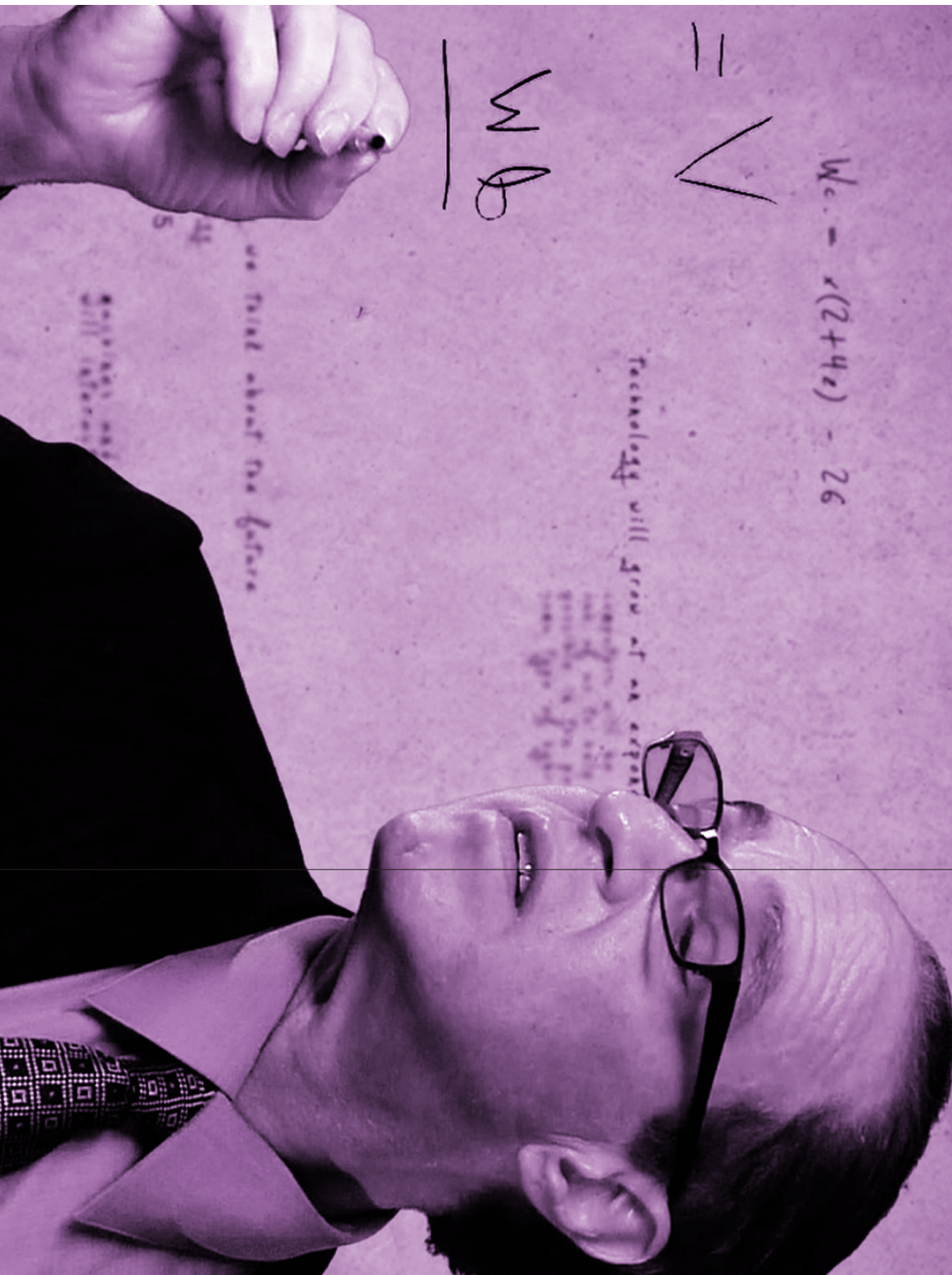
339 → Our current understanding of the Universe is incomplete. The Standard Model of particles and forces summarizes our present knowledge of particle physics. The Standard Model has been tested by various experiments and it has proven particularly successful in anticipating the existence of previously undiscovered particles. However, it leaves many unsolved questions, which the LHC will help to answer.



342 ← Within a quarter century, nonbiological intelligence will match the range and subtlety of human intelligence. It will then soar past it because of the continuing acceleration of information-based technologies, as well as the ability of machines to instantly share their knowledge. Intelligent nanorobots will be deeply integrated in our bodies, our

brains, and our environment, overcoming pollution and poverty, providing vastly extended longevity, full-immersion virtual reality incorporating all of the senses (like The Matrix), "experience beaming" (like "Being John Malkovich"), and vastly enhanced human intelligence. The result will be an intimate merger between the technology-creating species and the technological evolutionary process it spawned.

RAY KURZWEIL
The Singularity Is Near



344–349

**BEING
EM
PATHIC**



THE POOR AFRICAN CHILDREN
Circumventing or Superimposing Poverty on the African Child?

344 ← Child abuse manifested by neglected and deprived children is a common debased phenomenon in Northern Nigeria (Musa 2008; Alabe n.d.). Nigeria is the most populous country in Africa with over 148 million people (Population Reference Bureau 2008) and accounts for the highest percentage of child births on the continent. In 1988, the population of children

in Nigeria was 105.5 million (United Nations 1990: 3) outstripping all other countries in Africa, most of which suffer neglect and abuse leading to destitution. Some writers have attributed this social malady to Nigeria's problems of mass poverty and maladministration (Alemika et al. 2005: 10; Osiruemu 2007: 117; Shertima 2009).



346 ← Hunger, undernourishment and poverty continue to scar the lives of millions, while consumers in rich countries waste as much food as the entire net food production of sub-Saharan Africa. Recent World Health Organisation research reveals that, for the first time ever, the number of years of healthy living lost globally as a result of over-eating outweighs the number lost by people eating too little. Our global food system is dangerously out of control: out of control for consumers, out of control for farmers and out of control in the way food is traded and distributed. We know there is enough food for everyone, but everyone is not getting enough food. 2013 is the year that we need to put the politics of food on the public agenda and find better solutions to the insanity of our broken food system.

FAIR TRADE
Powering up Smallholder Farmers to Make Food Fair



347

← The story is surprisingly similar in a very different type of machine.

Modern airplanes are extremely effective for steady-level flight in still air. Propellers produce thrust very efficiently, and today's cambered airfoils are highly optimized for speed and/or efficiency. It would be easy to convince yourself that we have nothing left to learn from birds. But, like ASIMO, these machines are mostly confined to a very conservative, low angle-of-attack flight regime where the aerodynamics on the wing are well understood. Birds routinely execute maneuvers outside of this flight envelope (for instance, when they are landing on a perch), and are considerably more effective than our best aircraft at exploiting energy (eg, wind) in the air.

BAREFOOT MIT

Fully Actuated vs. Underactuated Systems



KNOWING BY HEART

Children Can't Think if They Don't Learn Facts

349

← The "spellings, facts and rules" that these clever fools are attacking have another name—an education. Without spellings, facts and rules, you aren't educated. Instead, you're left floundering in a knowledge-free vacuum, barely comforted by the progressive lie that ignorance somehow magically generates thought.

At one point in their letter, the academics say that a "mountain of data will not develop children's ability to think". I'm afraid that is exactly what a mountain of data leads to—proper, considered thought, rooted in knowledge and the logical jumps and inferences that naturally develop from the simple gift of knowing stuff.