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Globalization and the World Cities

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GLOBALIZATION AND THE WORLD CITIES

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World cities are no new phenomenon. Patrick Geddes already recognized them and defined them, as long ago as 1915, in a book that has become a classic of the planning literature: *Cities in Evolution* (Geddes 1915). And nearly thirty years ago I published a book entitled *The World Cities*, defining them in terms of multiple roles: they were centres of political power, both national and international, and of the organizations related to government; centres of national and international trade, acting as entrepôts for their countries and sometimes for neighbouring countries also; hence, centres of banking, insurance and related financial services; centres of advanced professional activity of all kind, in medicine, in law, in the higher learning, and the application of scientific knowledge to technology; centres of information gathering and diffusion, through publishing and the mass media; centres of conspicuous consumption, both of luxury goods for the minority and mass-produced goods for the multitude; centres of arts, culture and entertainment, and of the ancillary activities that catered for them. And, I argued, these kinds of activities tended to grow in importance; so, in the twentieth century, the world cities went from strength to strength: even as they shed some kinds of activity, from routine manufacturing to routine paper-processing, so they took on new functions and added to existing ones (Hall 1966, 1984).

This definition, I would argue, still applies thirty years later. But it does need amplification and modification, because of the phenomenon of globalization and its impact on the urban system, coupled with what can be called the informationalization of the economy, the progressive shift of advanced economies from goods production to information handling, whereby the great majority of the workforce no longer deal with material outputs. John Friedmann was the first to suggest this relationship to a global hierarchy, in which London, New York and Tokyo are "global financial articulations", Miami, Los Angeles, Frankfurt, Amsterdam and Singapore and "multinational articulations", and Paris, Zurich, Madrid, Mexico City, São Paulo, Seoul and Sydney are "important national articulations", all forming a "network" (Friedmann 1986; Friedmann and Wolff 1982; q. Smith and Timberlake 1995, 294). Manuel Castells has characterized this as the fundamental economic shift of the present era, as momentous as the shift from an agrarian to an industrial economy in the eighteenth and nineteenth centuries (Castells 1989). The process was already recognized half a century ago (Clark 1940); by the 1980s, 30-40 per cent of the workforce in advanced countries were engaged in informational industries. Some argue that these activities still depend on production (Gershuny and Miles...
1983; Cohen and Zysman 1987); but evidently, as the combined effect of globalization and informationalization, the production of services becomes increasingly disarticulated from that of production. As Saskia Sassen (1991) has put it:

The spatial dispersion of production, including its internationalization, has contributed to the growth of centralized service nodes for the management and regulation of the new space economy ... To a considerable extent, the weight of economic activity over the last fifteen years has shifted from production places such as Detroit and Manchester, to centers of finance and highly specialized services (Sassen 1991).

Thus, as production disperses worldwide, services increasingly concentrate into a relatively few trading cities, both the well-known "global cities" and a second rung of about twenty cities immediately below these, which we can distinguish as "sub-global". These cities are centres for financial services (banking, insurance) and headquarters of major production companies; most are also seats of the major world-power governments (King 1990, Sassen 1991). They attract specialized business services like commercial law and accountancy, advertising and public relations services and legal services, themselves increasingly globalized, and related to controlling headquarters locations. In turn this clustering attracts business tourism and real estate functions; business tourism allies with leisure tourism because both are in part drawn to these cities because of their cultural reputations, with effects on the transportation, communication, personal services and entertainment-cultural sectors. There is intense competition between cities both at a given level in the hierarchy and also between levels in the hierarchy; but also a great deal of historic inertia. Further: these informational industries locate in order to gain access to their central raw material, information. To understand the significance, we need to understand how the informationalization of the economy has occurred.

**Long Waves of Development**
**and the Growth of the Information Economy**

More than fifty years ago, in his book *Business Cycles*, Joseph Schumpeter (1939) borrowed and interpreted the theory of the early Soviet economist Nikolai Kondratieff: that, throughout its history, the capitalist economy had shown a profound and regular tendency to develop in long waves of some fifty years duration. Specifically, Schumpeter argued that the Kondratieff waves were 57 years long and that shorter cycles, such as the familiar business cycle of nine years' duration, nested within them. But, of equal importance, he produced evidence that each was technology-driven: the starting-point of each Kondratieff wave was a bunched series of innovations, the "carrying out of new combinations" whether in technology or in industrial organization, which generated new industrial complexes: cotton textiles, coal, iron and steam in the first Kondratieff (1785-1842), Bessemer steel and railways and steamships and machine
tools in the second (1843-97), cars and electrical goods and chemicals in the third (1898-). Each of these bunches of innovation would come in a period of recession at the end of a Kondratieff wave, when the industries of the previous wave had in effect saturated the market. So, in the subtitle of the book by the German economist Gerhard Mensch (1979), *Innovations overcome the Depression*. Mensch, reinterpreting Schumpeter, argued that indeed such innovation peaks could be precisely dated: in 1764, 1825, 1881 and 1935. He argued that the process was a regular one (though with a complex periodicity, since the eaves themselves shortened progressively); thus, the next innovation wave would come in 1987.

Ever since the first appearance of *Business Cycles*, the notion of the Kondratieff waves has excited huge controversy, some observers denying their existence or arguing for alternative cyclical schemes, others reaffirming their validity. A recent and important contribution, from the geographer Brian Berry, argues that they are systematically related to the construction waves first identified by Simon Kuznets as an alternative to the Kondratieff cycles; that these are related to major transport investments, which in turn shape urban growth generally (Berry 1991). This is highly persuasive; it suggests that economists generally have ignored the effects of transportation innovations, though one distinguished economist, Colin Clark (1957, 1967), certainly did not. Certainly, each long wave seems to have been associated with a distinct advance in transportation technology: the first with turnpike roads and mail coaches, the second with the first long-distance railways and steamships, the third with subways and electric commuter railways and tramways and motor buses and airplanes, and the fourth with cars and expressways and jet airplanes. And, quite apart from their fundamental role in influencing patterns of world trade and movements of people on business, each of these revolutions - at any rate, from the second Kondratieff onward - just as profoundly helped shape the subsequent growth of cities.

If the relationship of the Kondratieff waves and transport investment had been underplayed before Berry's work, the relationship to information technology seems to have been ignored almost completely. Yet it is evident enough. As revealed in the path-breaking work of the Canadian scholar Harold Innis, and of others who have worked in the same tradition, there were momentous achievements in information technology before capitalism: notably, the discovery of papyrus by the ancient Egyptians, of cuneiform and hieroglyphic scripts by the ancient Babylonians and Assyrians, of the alphabet by the ancient Greeks, of paper by the ancient Chinese, and of printing during the Renaissance (Innis 1950, 1951; Crowley and Heyer 1991). But after 1800 the innovations become distinctly cyclical, and each is clearly related to a
Kondratieff wave: photography, the electric telegraph, the penny post and Pitman's shorthand at the start of the second Kondratieff; the typewriter, telephone, phonograph, duplicating machine, linotype, high-speed press, cinematography and radio at the start of the third; television, the photocopier, tape recording for sound and then pictures, and the computer at the start of the fourth. And, very evidently coming out of Mensch's innovation peak of the 1980s, networked computers, multimedia and convergent information technology: without doubt, the basis of the fifth Kondratieff long wave that can be expected to begin its upward phase sometime around the end of the first decade of the 21st century.

A significant feature can of course be noticed: with each successive Kondratieff, the information content of the innovation wave became more and more pronounced. In the first Kondratieff, it was negligible: the only contribution was indirect, through transport technology in the form of the turnpike roads and the fast mail coach, which significantly speeded the exchange of letters. In the second, as well as transport technology in the form of the railway and the steamship, came the significant innovation of the electric telegraph, for the first time (experiments in semaphore and similar telegraphy apart) effectively separating the message from the human carrier. The third Kondratieff saw one of the greatest bursts of information technology innovation; yet oddly, since electrical generation and transmission were also an outcome of this innovation wave, most were not electrical but mechanical in character. The real marriage of electricity and information through electronics had to await the fourth Kondratieff just after World War II, though of course the innovations themselves were made before and during the war. And in this wave, though there were also significant developments in transport technology (for instance, the jet engine), the fundamental innovations were informational. Information for the first time drove the economy, both through innovations in production technology (the computer, the copying machine) and also through developments in consumer technology (the transistor radio, the television, audio and video recording). And the fifth wave will undoubtedly see the effective convergence of these technologies into one, which will have the interesting characteristic of being simultaneously a producer and a consumer technology in a way that no previous technology has been.

The historical background is important, because - though the informational economy is still everywhere dominant - information is still communicated in two different ways: by direct face-to-face communication, or by electronic transfer. Face-to-face communication, as long ago recognized, encourages agglomeration in the global cities, because of their historically strong concentrations of information-gathering and informational-exchanging activities and their position as nodes for national and international movement, especially by air and now also high-
speed train (Hall 1991, 1992a, 1992b, 1993). And this is fortified by the remarkable recent growth of the arts, culture and entertainment sector, where - for instance - employment grew by 20 per cent in London during the 1980s (London Planning Advisory Committee 1991), with further indirect impacts on associated personal services including hotels, restaurants, bars and associated facilities. For this group, too, clusters within the urban core and is subject to considerable locational inertia; but this can be modified by revitalisation projects like London's South Bank and Barbican, or the Grands Projets in Paris.

However, it was never feasible to operate an informational economy simply on the basis of dense agglomeration; even at the end of the Middle Ages, Florentine bankers were engaged in dense networks of activity between the major cities of Europe, and into the Far East. And, as global activity increased under capitalism, so transport networks multiplied in the form of railway systems and steamship lines. During the nineteenth century, the growth of global cities like London, New York and Tokyo was supported by their position as centres of national rail networks and of international steamship lines (though the latter might operate through subsidiary ports connected by railways, such as Liverpool and then Southampton for London, Le Havre for Paris, Hamburg for Berlin, or Yokohama for Tokyo). Then, to some extent in the interwar period but overwhelmingly after it, air travel supplanted trains and ships for all intercontinental business travel and a substantial proportion of local inter-city travel over a certain threshold [typically about 300 kilometres]. Since this revolution, which was more or less complete by the end of the 1950s, the technology of air travel has remained remarkably stable, though increases in size and range of aircraft have had a significant impact in eliminating the need for intermediate stops on long-haul flights, with some notable urban impacts - particularly over the Pacific, the world's largest ocean (O'Connor 1995). Recent studies of the interconnectivity of cities by air suggest that London is top, followed by Paris, New York and Tokyo (Smith and Timberlake 1995, 298; Cattan 1995, 304-308).

The really new element, constituting a further transport revolution of profound significance, has been the arrival of the high-speed train, first in Japan in 1964 [and thus a fourth Kondratieff technology], then in Europe in the 1970s and 1980s. Experience shows that effectively it competes with air transport in the range up to about 700 kilometres, and may effectively supplant it for much shorter-distance traffic between major urban centres, particularly if these centres are disposed in axial or corridor fashion [as is the case for instance on the Tokaido corridor in Japan between Tokyo and Osaka, or in Europe between Paris, Lyon and Marseille, or between Hamburg, Hannover, Frankfurt, Stuttgart and Munich, or more recently between London, Paris and Brussels). The significance of the trains is not merely that they compete
effectively. but that they are likely to alter the delicate geographical balance within metropolitan areas: with the exception of some services deliberately designed to interconnect with longer-distance air routes [as for instance through Paris-Charles de Gaulle], they essentially connect traditional central business districts, and thus powerfully help to correct any tendency on the part of business to migrate from these centres to suburban locations close to the airports - a trend long observed in the United States, but now becoming evident in Europe also, in developments around London Heathrow, Paris Charles de Gaulle, Amsterdam Schiphol or Stockholm Arlanda.

Electronic communication, it is often argued, works in the opposite direction, as an agent of dispersal: as telecommunications costs drop dramatically, informational activities should be free to locate away from the old central locations. Not only can they migrate to lower-cost back offices in the outer suburbs - a tendency observable worldwide, in such concentrations as Greenwich [Connecticut] and the New Jersey "Zip Strip", or Reading west of London, or the Paris New Towns, or Omiya and Kawasaki outside Tokyo; they may also migrate to quite distant provincial cities offering even greater savings in rents and salaries, such as the new financial centres of Bristol or Leeds in England, or such locations as Salt Lake City or Omaha [Nebraska] in the United States; and, eventually, there is always the prospect that some such activities can be transferred to even lower-cost offshore locations, as has happened with so much manufacturing. But there are limits: telecommunications are not costless, and [unlike the traditional arrangements with mail] the costs are not uniform regardless of distance; world cities create their own demand for state-of-the-art telecommunications services (such as all-digital systems); linguistic and cultural boundaries, especially in Europe, create powerful barriers to the transfer of any activity based on direct voice communication, whether direct telephone sale of insurance or international television transmission. Even in Europe, studies show that the diffusion of advanced information technology is far more rapid in the largest metropolitan regions than elsewhere (Goddard and Gillespie 1987, 1988; Batty 1988). And so, as the informational economy grows, the largest global cities retain their key role.

The Urban Consequences:
A Global Urban Hierarchy?

The urban consequences can be treated at two separate though related levels: first, the national and international urban system, and the competition among cities at different levels of this system; second, the internal impacts on activity and land use patterns within each metropolitan area. It is now a familiar point that cities increasingly tend to compete and to market themselves
as attractive locations for inward investment. However, in this they are obviously constrained by a sense of realism as to possibilities. It is useful conceptually to distinguish three levels of city: international, or global; a category which we can term sub-global, especially prevalent in Europe; and regional.

The global cities have already been defined and need not detain us: they are cities whose business consists mainly in the production of specialized informational services, such as financial services, media services, educational and health services, and tourism including business tourism; but, following the central place schema laid down by Walter Christaller in the 1930s, they also perform lower-order functions for more restricted areas, notably at the national level. They have lost certain functions during the 1970s and 1980s, either to their own peripheries, or to overseas locations; consequently, they have exhibited the paradox of substantial job losses in traditional sectors such as manufacturing, goods-handling and routine services, and large gains in others such as financial services and specialized business services. A major question in the 1990s is whether they are now exhibiting equally large losses of these latter functions also; certainly there have been substantial reductions in employment in both London and New York, in both cases accompanied by out-movements to other locations.

The most interesting question concerns the relationship between the global cities and the next level in the hierarchy, above all in Europe. For here, the only indisputable global city is London and, perhaps, Paris; below this level is a rich array of national capital cities - Amsterdam, Brussels, Copenhagen, Stockholm, Oslo, Bonn/Berlin, Vienna, Prague, Budapest, Warsaw, Rome, Madrid, Lisbon, Dublin - as well as a number of rather special commercial cities which effectively perform as commercial or cultural capitals, such as Barcelona, Milan, Zurich, Geneva, and Frankfurt. These effectively try to compete with the global cities, to some real effect in specialized sectors, such as Brussels and Rome and Geneva for government, Frankfurt and Zurich for banking, or Milan for design. Similar functions are performed by a very few American cities in relation to New York: Washington for government, Chicago and San Francisco for financial services, Los Angeles for culture and entertainment. And in Japan, Osaka performs a similar role in relation to Tokyo, especially as a trade centre. Here, however, because of the long political and economic union and homogenization of the country concerned, the regional cities perform a smaller role than their European equivalents. A major question for Europe, therefore, is whether the Single Market and the impacts of the Maastricht treaty will progressively assist the higher-order cities at the expense of the lower national-order ones. Related to this is the question whether cities with a distinct function within the European Union - Brussels, Luxembourg and Frankfurt - will progressively assert their role at the expense of
London and, to some extent, Paris. This is an open question; but it should be noticed that the Euro-cities form a tight inner circle surrounded by a wider group of national capitals - London, Paris and Amsterdam - all within convenient radius for face-to-face contact by air and, increasingly, by high-speed train [which, on present plans, should connect all of them by approximately 2010]. So it seems certain that they will constitute an effective central core of the European urban system, connected by air services to a number of key regional cities which effectively form an outer ring some 500-700 kilometres distant: Copenhagen, Berlin, Vienna, Zurich, Milan, Madrid, Dublin, Edinburgh.

Rather confusingly, with a typical population range of 500,000 to 4 million, the national capitals and commercial capitals overlap in size with the major provincial capitals of the larger European nation states: thus Manchester and Birmingham, Lyon and Marseille, Hannover and Stuttgart, Florence and Naples, Seville and Valencia. These typically serve as administrative and higher-level service centres for prosperous mixed urban-rural regions, and have shown considerable dynamism even while they too have lost traditional manufacturing and goods-handling functions. Similar functions, of course, are performed by major American regional capital cities such as Boston, Atlanta, Dallas-Fort Worth, Minneapolis, Denver and Seattle, as well as their Japanese equivalents such as Nagoya, Sendai and Kumamoto. These cities do not as a rule compete in any substantial respect, either nationally or still less internationally, with the higher-order cities, though they may occasionally occupy special market niches, such as Boston for financial services or Atlanta for media services. The important but subtle distinction is whether a city offers any significant presence or significant challenge at the global level; in this respect Brussels and Frankfurt and Milan, Chicago and Los Angeles, and Osaka can be said to act as global contenders in specially defined spheres, though not of course across the board, and so can best be defined as sub-global; Manchester and Munich and Copenhagen, Minneapolis and Denver, Sendai and Kumamoto, to take examples more or less at random, can not.

**Three Special Urban Categories**

Three questions are raised by this categorization. The first concerns regional cities which occupy a remote position either at the periphery of their national territories, or of wider transnational groupings such as the European Union. Many of these tend to have been manufacturing cities dominated by industries which have exhibited serious long-term structural decline, such as Belfast and Glasgow, Saarbrücken or Lille or Cadiz, Duluth or Buffalo, Sapporo or Nagaoka. They may suffer from the phenomenon identified by Cheshire and Hay as
"peripheralization of the periphery": as transport and communications effectively shrink distances between more centrally-located cities, these places may be perceived as becoming less accessible even when in an absolute sense they are not (Cheshire and Hay 1989). Such cities have tended vigorously to compete by developing new roles, either in advanced manufacturing [a major thrust of the Japanese technopolis programme] or by developing a new cultural role [Glasgow in the 1990s].

A special sub-variant of this group consists the capital cities of Eastern Europe, whose remoteness has been an artificial result of the Iron Curtain and the barriers thus created to movements of goods and, above all, people. Noticeably, despite recent improvements, these cities are still less well connected either to each other, or to the cities of western Europe, than these latter cities are to each other. Nevertheless, they offer large potential advantages in having well-educated and technically well-trained workforces with much lower wages than in the European Union; so they should be able to engineer a rapid growth similar to that of some of their southern European equivalents during the 1970s and 1980s. Further, since the service sector has been relatively weak in these countries, we should expect rapid expansion of retailing and white-collar office work, which will precipitate a commercial construction boom in the hearts of these cities and, by analogy with western cities, residential construction on the periphery. A precondition, however, will be improvement of their external connections through expansion of their air, road and high-speed rail infrastructure.

A third distinct category comprises the cities of the Asia-Pacific group, including Australasia. Since this is the single most dynamic area of the world, it is experiencing explosive urban growth concentrated especially in a number of sub-global cities, some of which - Sydney, Singapore, Hong Kong and perhaps Shanghai - are actively competing for sub-global status while others - Bangkok, Djakarta, Guangdong - operate effectively as major national or regional capitals. Such is the growth record and expectation of this region, that the urban system is exceptionally unstable and unpredictable.

The Pattern of Intra-Metropolitan Deconcentration

In the last forty years deconcentration, first of residences and latterly also of employment, has become a universal phenomenon in the world's metropolitan areas: once unique to the Anglo-American-Australian group of cities, it has now become characteristic of the whole of western Europe and of Japan. And in the largest of these areas, the global cities, it has become extremely complex, extending over very wide areas of territory in a dynamic process which
results in a highly polycentric metropolitan system. Broadly, one can say that down to about 1950 even the world’s major cities had a much simpler pattern of living and working: there was a mass of white-collar employment in the centre, a wide [and increasing] ring of commuter suburbs outside, interspersed by industrial, port and warehouse areas with their own much more localized residential areas immediately next to them; the entire complex dependent primarily on public transport, plus walking and cycling for the most local journeys. Then, already in American cities before World War II but in European cities only on any scale from the 1960s, further residential suburbanization occurred outside the limits of effective public transport systems and therefore dependent on the private car. At the same time employment began to decentralize, first routine assembly manufacturing in search of spacious premises close to highway systems; second R&D and associated small-batch high-technology production, which moved to high-amenity locations, often close to airports for international access; and third back offices performing routine processing applications for national headquarters firms, which moved to local suburban centres with ample local supplies of clerical labour; all accompanied of course by local service employment in shops, schools and other public and private services, dispersed across the region. And finally, in the late 1980s and 1990s, there was evidence from some American cities - New York, San Francisco - of a more general exodus of even headquarters offices to suburban locations, apparently impelled in some cases by high local taxes.

The result in extreme cases, represented by London and New York and Los Angeles, is a pattern of extremely long-distance deconcentration stretching up to 150 kilometres from the centre, with local concentrations of employment surrounded by overlapping commuter fields, and served mainly by the private car. The precise spatial details vary from country to country according to culture and planning regime: in the United States, lower-density and less regulated with “Edge Cities” or “New DOWntowns” on greenfield sites, exclusively accessed by the private car; in Europe, medium-density, regulated through green belts and other constraints, and centred on medium-sized country market towns or planned new towns. And the process has gone much further in some large metropolitan areas [for instance, London] than in others [for instance, Paris, where suburbanization has almost entirely been captured in the large new cities resulting from the 1965 regional master plan]. However, the general outward trend, both for population and employment, is universal. An interesting consequence has been accelerated growth in and around smaller country towns in the wider metropolitan orbit, especially those adjacent to major national highway and/or railway lines [that is, in the “transport-rich, city rich” sectors in the Lösch central place model]. Thus, in some cases there is a distinct tendency to linear corridor growth, as in the so-called M4 corridor west of London or the E4 Arlanda airport.
corridor north of Stockholm, both based on a combination of high-technology industry and back-office functions. Some regional plans, including the Stockholm plan of 1966 and the Paris plan a year earlier, made a deliberate attempt to guide development into such corridors; but the same phenomenon has occurred spontaneously in other cases, such as the I-405 "Aerospace Alley" in Los Angeles and Orange counties, or the "Dulles Airport Corridor" in the Virginia suburbs of Washington DC. And some observers purport to see the development of even more extensive growth corridors connecting cities along highways and high-speed train lines, such as the "Dorsale" or "Blue Banana" of western Europe connecting London, Brussels, Frankfurt, Zurich and Milan (Hall et al 1973; Brunet 1989). East of London, the UK government's Thames Gateway proposal is a discontinuous series of urban developments following the planned new high-speed line from London to the Channel Tunnel: the first attempt to create such a corridor on a conscious basis (GB Thames Gateway Task Force 1994).

A vigorous debate has raged in the academic prints concerning the consequences of deconcentration for commuter travel and thus for sustainable urbanization. One school, represented by Peter Newman and Jeffrey Kenworthy in Australia, has argued that low-density suburban deconcentration leads to substantially higher energy consumption; this has been supported in international work by Robert Cervero (Newman and Kenworthy 1989a, 1989b, 1992; Cervero 1985, 1989, 1995). An opposite viewpoint comes from Peter Gordon and Harry Richardson, who argue that the entire process self-equilibrates: as jobs move out behind the homes, so local employment nodes and even a completely decentralised employment develop, leading to commute distances no longer than before (Gordon, Kumar and Richardson 1988, 1989a, 1989b, 1989c; Gordon and Richardson 1989; Gordon, Richardson and Jun 1991; Gordon and Richardson 1995). Broatchie and his colleagues in Australia report similar results for Australian cities (Broatchie, Anderson and McNamara 1995). In part, the difference seems to arise because the two sets of authors are analysing different facets: it seems likely that density is related to energy consumption, but not in any simple or direct way; but that decentralization of jobs does reduce aggregate travel compared with a pattern of central jobs and dispersed homes. And this is intuitively plausible, of course. It is interesting that in a careful analysis Breheny (1995) concludes that Great Britain has moved marginally away from a pattern of sustainable urban development between 1961 and 1991, but that the effect was not very substantial.

World Cities and the Developing World

Historically, the major cities of the middle-income world have played a disproportionately large role in their countries' development, either because these countries were small [in extreme cases,
such as Singapore or Hong Kong, city states], or because they were the principal ports and industrial cities, or both. Starting in almost every case as colonial cities, they channelled the supply of raw materials to the metropolitan country and the reverse supply of manufactured goods from that country; after independence, they developed their own industrial base; they invariably became the capital cities of their new countries, and the system of nation states that then arose has proved remarkably resilient, in most parts of the world, since independence was obtained: in the early nineteenth century in the case of the Spanish empire, in the mid-twentieth in the case of the British and French and Dutch. Around the government and commercial functions developed the usual apparatus of finance, business services, the media, education and health services. Thus, almost inevitably, a pattern of uneven development occurred: modernising influences concentrated in the primate city, labour and capital were attracted to it both from outside and from the national periphery, and the national elite became heavily concentrated in this city. The city remained the chief point of articulation between the emerging nation and the world, and critical infrastructure, in the form of telecommunications or airport investment, was laid down here. This indeed was the conclusion that John Friedmann (1973) reached in his now classic study of the urban development process.

As Friedmann recognized, it reflects the nature of the urban economies and the relationships between these cities and the remainder of the world. Whether they are city-state entrepôts like Singapore and Hong Kong, or the leading cities of continental-scale countries like Rio or Mexico City, they are central points for the exchange of information. They possess sophisticated banking systems and usually stock exchanges, some of which are of sub-global rank. They are the seats of national or continental headquarters offices of major transnational corporations. They have major hub airports, connecting national and international networks, and sometimes performing important international exchange functions. A recent study of the interconnectivity of cities based on air travel, for instance, placed Hong Kong at fifth position, Singapore seventh, Mexico City eleventh, Seoul seventeenth and São Paulo twenty-second (Smith and Timberlake 1995, 298). This evidence, though so far fragmentary, strongly suggests that a small number of these middle-income cities effectively perform a sub-global or even global role in relation to other parts of the world system of cities. Further, because of the rapid economic growth of those parts of the world in which these cities are located, over the next decade we should expect them to improve their positions in the league table while others join them: Bangkok, Kuala Lumpur, Djakarta, Saigon and Shanghai are the most obvious candidates.

Many urban experts, especially those coming from a Marxist standpoint, have been openly
critical of this pattern with its heavy dependence on transnational capital. And a major theme in the literature, especially in Friedmann's World City hypothesis, was that such cities became increasingly disarticulated from their own national peripheries, resulting in hyper-urbanisation and increasing internal income disparities; while others have questioned these conclusions, finding little systematic bias in inward investment toward the primate mega-cities; certainly, this is an unresolved issue in the literature, and transnational investment is only one element among many in their growth (Lin 1994, 10-12).

Since 1950, propelled by high rates of natural increase and internal migration, many cities in this group have grown to be numbered among the world's largest. While in 1960 nine of the world's nineteen mega-cities were in developing countries, the projection for 2000 is that 50 out of 66 will be (Setchell 1995, 2, q. UNDP 1991, 12-15). In general, differentially high infrastructure investment in public services has allowed them to keep pace, but the performance has been very variable in key areas such as housing, utilities and urban transport. Further, the size and complexity of these agglomerations - several of which exceed ten million in population - have required extremely sophisticated urban management, which has not always been available. Specifically, while some middle-income cities have developed enviably efficient management systems, underpinned by generous urban investment, in others the performance has lagged well behind the needs of the population. Michael Cohen has identified this as one of the key problems for urban policy in the 1990s: he contrasts Abidjan with Lagos, Singapore and Cairo (Cohen 1990, 52-3). In Ibadan, Nigeria, water supply investments were made to produce 108 million litres of water a day; but poor maintenance cut this to 36 million litres (Cohen 1990, 54). So "urban management" had developed as a new priority for the World Bank. It is significant that some of the most successful cases of urban management were also the ones which achieved the highest rates of sustained growth of per capita income; growth both underpinned the investment effort, and was in turn assisted by it. As a result, starting as low-income cities only forty years ago, a select few Asian city-states have now entered the ranks of the advanced world. However, detailed per capita income data will show this to be equally true for other large cities in the more advanced middle-income countries such as Mexico City, Rio de Janeiro, Sao Paulo or Caracas. The striking feature about these countries is the contrast between the modernity and affluence [albeit with extremely unequal income distribution] of the primate city, often fully comparable with cities of the developed world, and the rural periphery. In effect, these cities belong to the developed world; the rural areas around them do not.

Bangkok is a representative case. Its Metropolitan Region, with nine million people, is the fifteenth mega-city in the world; it is the hub of one of the world's fastest-growing national
economies, which grew by an average of 11.2 per cent during 1987-90; it accounts for over 50 per cent of national GDP and nearly 80 per cent of output. GDP in the Metropolitan Region in 1990 was approximately $4290, equivalent to South Korea in 1986; in the rest of the country it was less than $820, equivalent to Papua New Guinea. But, because growth has been effectively unplanned, there are huge and growing problems of environmental degradation and traffic congestion: at 8.1 kilometres per hour, the traffic problem is probably the worst of any city in the world (Sethell 1995, 2-3, 5, 7).

Equally, the mega-cities of the middle-income world tend to be internally segregated into rich and poor sections, ironically reflecting and reinforcing patterns first laid down by colonial governments before independence, but now corresponding to a division between the modern and informal sectors of the economy (Balbo 1993, 27-31). Djakarta is a classic case, where luxury new developments constitute a western-style suburbia effectively shut off from the kampongs all around (Leaf 1994, 343-8).

The Sustainability of the Developing Mega-Cities

The central question remains the one that urbanists first posed over twenty years ago: does the growth of these great primate cities represent a positive development, or a huge problem? The answer seems to be: some of both. It is true that the planning and management systems are daunting. But, just as in the cities of the developed world, already considered in this paper, it appears likely that continued growth is accompanied by deconcentration of both homes and jobs, so the process may be self-equilibrating; when a city reaches 15 or 20 million people, major sub-centres develop, forming the basis for local short-distance commuter fields. And this is even more important for these cities than for their equivalents in the developed world, because these sub-centres may provide jobs and services for the less affluent, therefore car-less, section of the population.

The pursuit of sustainable urban development is governed by the same principles in every large metropolitan area: jobs should be decentralized from the central business district and brought closer to homes, though not necessarily next door to them; provision should be made for local jobs to be reached on foot or by bicycle, through specially protected route systems; jobs should be clustered in sub-centres around public transport interchanges, where buses connect with other buses and also [where such systems exist] rail networks; public transport networks should be structured so as to provide a seamless web of services, both traditional radial ones and also orbital or circumferential ones connecting one suburb with another. The principles are similar
in New York and Los Angeles, London and Paris, Djakarta and Bangkok, Mexico City and São Paulo. However, they need to be applied sensitively to take account of local geographies and cultural traditions. Tightly structured cities based on generous public housing, like Hong Kong and Singapore, offer better potentials for investment in high-density rail corridors than do loosely-structured shanty-town cities like Bogotá or Caracas. Experience in affluent, sprawling low-density western American cities like Phoenix or Houston, which have pioneered high-occupancy vehicle lanes or para-transit systems or bus hubs, may be more relevant for their Latin American equivalents. It might be more virtuous to propose higher-density redevelopment; but, if such a proposal has little prospect of implementation, then it is better to adapt the means of transportation to the urban structure that exists.
REFERENCES


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