Chapter Nine  Section One

Building and Sustaining World Cities in ECUMENOPOLIS

Managing the City-of-the-Whole - ECUMENOPOLIS

The betting odds favor a future for urban settlement in the now poorer parts of the world that will contain three times as many people at the end of the century as at the beginning, and that the governments of fully developed cities will import hundreds of millions of selected immigrants to get the undesirable work accomplished.

In addition, perhaps an equal number will outwit the guards at the perimeter, sneak into the multi-ethnic communities in the interior, and find work in the reconstruction of what are now regarded as relatively independent cities and towns.

The buildings and the infrastructure in existing cities are already starting to crumble in, all of them must be fitted the new most modern technologies. The task is huge, equal to all the city building done in all history, but probably much more. The projects will be bigger and more integrated than anything hitherto seen.

In the past civilizations have encountered:

• Engineering,
• Technological, and
• environmental challenges

beyond their capability for finding solutions. They then were toppled and other civilizations replaced them while changing overall strategy. Could that be happening soon again? The destiny of all the cultural flowerings in pre-Columbian America, and almost all the others in Asia and Africa suffered total collapse, while those in Europe have suffered dissolution of empires, which fused, and survival through closer integration since then.

It has been argued earlier, when illustrating feasible futures now open, that “convergence” and fusion through assimilation is the route to take in the future to achieve sustainability. What do big jobs look like these days, and what new resources and knowledge have come to hand to manage larger
scales in city management? An influential example in Box 9-1 the process by which various kinds of professions and organizations collaborate to get the job done.

The lessons from Boston had to be filtered through the universities and the international construction consortia, and be learned by a new generation before they could have an impact that lays down the special infrastructure needed for the transition to an integrated Ecumenopolis.

Since then we have seen started the skeleton of the global fiber-optic telecommunications network laid down, the partially failed global communications satellite systems lofted, high density settlement accumulation that makes a super metropolis and world city out of Shanghai, paralleled in Beijing, and 21st century airports opening at:

- Paris
- Hong Kong
- Seoul
- Singapore

with new aircraft designs to tie them together economically. These mega-projects overcome sizable physical barriers by bringing together top engineers, financiers, expediters and entrepreneurs to marshal the experience of the world for rejiggering sub-assemblies to fit the expected requirements.

On the opposite pole is the need to start with "grains of sand", equip them to build tiny combinations, which can be assembled into useful organizations. Sophistication emerges from experience. This bottom-up mode of organization uses large numbers of small units to solve large problems.

One class of programs greatly expedites the strategy for sustainable development in the poorest regions. Giarini (1995) proposed that, in poor cities with very high levels of unemployment, programmed work can be packaged in one thousand-hour labor units.

At going rates of pay that amount of work would supply enough income for the yearly subsistence of one to two persons. This unit of work should be called a livelihood, and it would be assigned a labor force designation, so that
each semi-employed person would have a recognized specialist identity, ranging from ditch digger to keyboard entry person.

After an apprenticeship some book learning and examination, individuals would obtain a diploma indicating level of proficiency. This provision would not only share the work, but it would enhance morale and self-respect among the most discouraged citizens in the poor districts. The Netherlands has reduced its official unemployment rate to half that of surrounding economies by instituting a similar policy.

Learning materials and apprenticeships up to a diploma level for any job, ranging from gardening to electrical maintenance, laundry worker to dry cleaner, would allow an urban immigrant to study part-time for a more skilled position at convenient hours, rather than when courses are scheduled in night school.

Designing and testing the thousands of educational disks required for elucidating the range of activities supporting a metropolis would itself be a productive new occupation for college graduates. It would speed up the development of human resources and the evolution of a harmonious order in the urban milieu.

This discussion of means of transmitting the relevant stock of Knowledge to the 20 to 30 percent of community members who are least informed was taken up at first to show what kinds of factors are involved for governments which are knowledgeable about planning and management. Economical procedures are now available that were previously not dependable.

The next section will describe the emergence of pace setters in this arena, and take a look at the top 1 percent of them. These leaders are already effectively using the new information tools to reshape the future, and they promise to expand their impact as an exceedingly effective force for constructive change.
Rise of the Community of World-Servers

A very important, rarely noticed, progression is under way that was first suggested to me by Melvin M. Webber at Berkeley (1954), and it was even then mostly transmitted by long-distance telecommunications. I have found it useful to revisit the concept occasionally since then (Meier 1987), for purposes of visualizing the momentum of structured social and cultural change.

In the 1850s the telegraph made it possible to manage integrated service on railroads, and that was followed immediately by the organization of a national postal system (Chandler 1977).

That kind of management was applied to:
- steel
- oil
- retailing
shortly thereafter. Five decades later the telephone made possible integration of business and government on a metropolitan scale.

Five more decades passed before the long-distance lines allowed communication over a continental expanse on a day-to-day, or even hourly, basis, making for much easier management of an organization on a national scale.

Now another five decades have passed and the Internet poses new opportunities for organizing on a truly global scale.

The World Wide Web makes it possible to run a multinational organization, whether it is:
- market-oriented
- educational
in function, in an almost disembodied way. The first one hundred and fifty years of telecommunications promoted strong hierarchies, which are now seen to be eroding away in a flood of bits.

New quick-acting "flat" organizations, with few status and power differences among participants, are not only flexible and effectively competitive, but they are strongly preferred as a better way to work by most of the top professionals. The visible consequences for managerial roles in ecosystems are so large they can only be taken up piece by piece.

Entities arise for which there is as yet no general name, but they have shapes that cast shadows presenting intriguing, fuzzy images that threaten dissolution of existing social structures in favor of systems not yet fully specifiable.

In pre-industrial times the image of authority was the liege lord to whom one had sworn fealty, or the master who provided livelihood for servant and slave.

Each household had a head that managed
- politics
- production
- reproduction
because marriages were arranged. As urbanization and industrialization arrived, a worker normally assigned his highest loyalty to his family or, if isolated from it, to a job in which he submitted to a supervisor or owner.

Thus the early cities were filled with people who had one of three levels of commitment: job-servers, family-servers, and a few intermediate bosses caught in an intricate web of interdependencies, but loyal to a king or a god. Those who gave highest priority to their obligations to the welfare of the community as a whole were only a handful drawn from noble families and heroic leaders.

At the beginning of the twenty-first century we see that several roles have come into being for individualists, who may have personal commitments to
their jobs or to an avocation such as gardening, a hobby, or cultural participation.

They are barely outnumbered by the nuclear family-servers with a home to maintain. A significant few are committed to the neighborhood or the face-to-face as community-servers, allowing these daily concerns to occupy most of their spare time. In the same way some job-servers may take on responsibility for the firm or office, the affairs of which monopolize their attention.

Most of these people are regarded as managers. The affairs of other corporate organizations, such as the church, the university, or the laboratory, claim many people with similar loyalties. Call them organization-servers.

We also find a thick layer of:
- politicians
- military officers
- government bureaucrats

who have careers that are basically nation-servers. Their number expands in times of national crisis, due to patriotism, but otherwise seems to have peaked. Many are supervising the managers, as prescribed by constitution, legislation, and charters.

People with the broadest interests have populated a new stratum, and are here called world-servers (Figure 9-1). Their predecessors in earlier generations were persons obsessed with pushing at the frontiers of basic knowledge in every possible dimension, and getting their findings into the record.

After World War II scientists discovered that they could overcome national loyalties and language barriers to communicate precisely about global problems, such as:
- nuclear disarmament
- control of epidemics
- exploration of natural ecosystems

They were joined by others who were committed to such causes as the empowerment of the United Nations, upholding a standard for: human rights
• the control of terrorism and rogue nationalism
• educating the illiterate
• reducing poverty
freeing people to explore the world for themselves through:
• travel
• communications
• study

Such explorers are predominantly college graduates, and expanding universities are dedicated to multiplying their numbers. The new groups developing the Internet are a particularly active and rapidly growing segment of the world-serving population.

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The most advanced group is a tiny population of universe-servers, which includes:
• astrophysicists
• non-terrestrial biologists
• space technologists
• science fiction writers
• and similar exotics

They have taken on the task of assembling and interpreting data suitable for the twenty-first century and beyond.

Much new knowledge comes in from the solar system and the universe outside. What exists beyond the Earth has begun to affect progress on Earth, and its financial markets, with the aid of communications satellites.

This group dominates the exchange of scientific data about phenomena beyond the stratosphere; their numbers are limited to tens of thousands.

World-servers in the entertainment media:
• films
• popular music
require a reallocation of spectrum as concern for others progresses in the direction of globalization, but they still register a current estimated growth rate greater than 10 per cent per year.

Populations are defined according to their strongest personal commitments. Ecosystem responsibilities expand to meet a person’s global reach. This chart (Figure 9-1) shows the relative dimensions of various urban populations at the year 2000, according to the level of their strongest loyalties.

Concave ends of the bars indicate shrinking populations, while convex ends show degrees of growth. Increases in the numbers of world-servers are due mainly to the expansion of science and higher education, but nationalists in smaller, older, established societies (i.e., the British, Scandinavians, Swiss, and Canadians) are likely to join them.

Working scientists, top medical, and higher education are closely following. National boundaries, resolutely defended by military bureaucrats, remain a serious deterrent to the scope of their activities, but this impediment is diminishing rapidly under a bombardment of new technology. It is matched by in scale by a professionalism that produces volunteers for the supervision of peace making.

Improvements in communications and the overcoming of barriers in higher education make it possible for an individual to become a world-server at an early age. It is important for understanding the future to note that, on the basis of journal subscriptions, memberships, and other indirect indicators, this population is growing by at least 10 percent per year, and its influence is amplified even more by the rapid advances in information technology, for which it is responsible.

Planners and top managers must take this new potential into account. Indeed, they must become part of it themselves by breaking through the constraining limits they had previously set for their professional expertise.

What kind of a future do the world-servers want?
A world without war has a very high priority. The active peacemakers among the atomic scientists, known as the Pug wash group, were among the first to assume the role of world citizens (Rotblat 1997).

Tens of thousands of volunteers are now putting their lives on the line trying to bring the petty wars between and within new nations to a halt.

An equal number are working on technical and diplomatic approaches to the disarmament of the great powers.

Large numbers are also involved in:
- epidemic control
- family planning
- famine prevention

The global educational deficit is a major concern, with action rapidly extended in range as more efficient new technologies appear.

The environment writ large is an especially popular preoccupation, and hundreds of thousands are "acting locally, while thinking globally."

World-servers are found at the universities, at international conferences, and on transcontinental flights. When vacationing, they are found on the tops of mountains and aboard the ships at sea, while out exploring the empty places on Earth.

World-servers are impatient with the barriers raised by nations to obstruct the free flow of people, information, and artifacts. They are involved in the negotiations to reduce passport controls, protesting censorship of the media and currency controls, and investigating civil rights violations. Their success in obtaining a much freer flow in finances led in the 1990s to a spectacular increase in liquidity and a flow of investment capital to developing countries that claimed credit could be used effectively.

A setback occurred when some of those claims in Asia were discovered to be overstated, but the unsettling experience was held to be only a painful blip in an otherwise steady course for the freeing of international trade.
With great glee, world-servers are outwitting the attempts of the nation-serving defenders of tradition who demand the right to sanitize content on the Internet in order to maintain "cultural purity" and thereby "national security."

At the same time other world-servers are inventing safety measures needed to protect the completion of larger transactions, in anticipation of both an acceleration in the initiation of major projects requiring multiple negotiations and larger aggregates of small projects.

Together they are the ecumenopolitans breaching the cobwebs of nationalism from every possible direction.

World cities -- those already equipped with the full range of:
- telecommunications services
- libraries
- laboratories
- first-run cinema showings
- five-star hotels
- international airports

are habitat for the world-servers. There they combine to overcome the chauvinistic nationalisms that once replaced still more restrictive, mainly provincial, parochialisms.

While we are moving toward a universal urbanization that is global in extent, world-servers are comfortable working in any geographical site that has opened the gates wide to global exchange.

Managers of the future will be drawn from the ranks of aspiring ecumenopolitans, as will designers of the business system that collaborates to maintain a sustainable economy over the coming decades.

Pioneers have already labored to stabilize financial markets. They collaborate to control currency fluctuations in order to prevent future inflation and ensuing deflation. They build up human resources so as to enhance productivity.
Many of them innovate new products, while refining old ones. Some will be found in specialized governmental bodies, many of them international in outlook, but they will increasingly work for supranational regulatory commissions such as the International Standards Organization and others that are still to be launched.

More world-servers will be found in businesses that are involved in intercultural collaboration while simultaneously competing on a global front. The manufacture of complex vehicles, produced for mass markets, has now become almost a global undertaking, with components for a single model arriving from as many as ten countries.

A business organization's quality-of-life features will be as strong a determinant for attracting world-servers as low cost. They have dominated the computer industries, which led the way to globalization of that kind of manufacturing in the 1990s.
Taxes to maintain supranational institutions would be very small compared to the huge increases in the global flow of funds (Cleveland, Henderson, and Kaul 1995).

The most expensive of these might be an international police force that evolves from contributions to the United Nations and NATO peacekeeping efforts. Transaction tolls ("Tobin taxes") placed on global markets should be variable, rising with sharp changes in volume and falling in normal, quiet times. The charges seem likely to be only a few tenths of 1 percent, which is much lower than the fees collected by intermediaries such as brokers and investment services at present (Kay and Henderson 1995).

This scale is low, even when compared to the overhead costs of speculative day-traders using the Internet who proliferated in the late 1990s, and remain active. The United Nations currently has no powers to exact such taxes upon global communications, because it depends upon contributions promised by nations -- although many nations, including the richest, have frequently defaulted for reasons of political convenience.

The largest implications of the global technology for the structure of urban communities will be faced in the impending retailing of goods and services on the Internet. Opportunities for reducing transaction costs are tremendous, a matter of 50 to 80 percent can be saved, so a new kind of Gold Rush to the higher margin transactions is anticipated when financial arrangements for completing transactions have been established.

We already have the level of encryption desired for the secure transmission of sizable sums, but agreement upon quality standards remains to be established. These and other transitions to the ecumenopolitan economy will
demolish many national security axioms, by rendering obsolete the controls previously in force.

It seems likely that 30 to 50 percent of consumer goods and services will be purchased through the Internet and its markets a generation or so hence.

Marketing strategies are undergoing a revolution.

Hardware stores and haberdashers, for example, were reorganized by investments in malls and catalog services, but these now have upstart, high-volume firms biting at their flanks like piranhas.

Virtual changing rooms can allow consumers to buy stylish clothing without feeling the fabric. Well-established brands and dealerships cannot live on such slight margins. A wave of "creative destruction" is under way, and it will proceed more rapidly than the change that occurred when car and truck replaced most rail transportation.

Bursts of transactions will also overload the Internet and force investment for enhancing its capacity. This growth will seem to be a repetition of history, echoing the events that led to the construction of high-capacity freeways with similar congestion around vital links.

Traffic regulators in the Internet forecast that so-called "freeways" must soon be managed with the aid of tolls that will rise with congestion. The Internet is different from the freeway system, however, because it will even out the rush-hour volumes as they enlarge and globalize more completely.

Moreover, the Internet has no sacred or patriotic holidays and no need for sleep or sunlight, so the calendar is freed to become seamless. After the period of rapid growth is digested, the frustrations now encountered in cyberspace will fade away, and people will apply their attention to more serious problems.

Government ministries and institutionalized religions will try to defend the status quo, but these attempts are expected to lead promptly to large-scale leakage through underground exchanges improvised by new kinds of
smugglers and money launderers.

Prurient activities, for instance, have always been a large underground business, and they are strikingly visible in a boomtown community that has yet to grow regulations for hiding or ejecting them.

Changes in information technology are occurring too rapidly for legislated checks and balances. Only a popularly supported commission with monitoring tools as finely tuned as those of any of the players can referee the games on this playing field. The main concern of such a commission probably would be the deterrence of aggressive hackers seeking fun or profit, because that behavior destroys the trust needed to maintain the global community.

When enforcing its standards, the commission would acquire the information needed to clean up the dirt.

Whenever manufacturing industries and services flee developed societies, they follow pioneer firms seeking very low-cost labor. The most vicious exploiters in poorer countries have been managers from societies in which their economic levels of living are close to those of the workers.

Frequently they gain subcontracts from the multinational firms by promising the lowest costs of production. They cheat women earning two to three dollars per day for piecework out of some of the pay that is due them, and they dump their industrial wastes untreated into the rivers and canals.

However, the backlash against these practices is becoming stronger. Expanding ecumenopolitan forces seem likely to reduce the frequency of extreme exploitation by chiselers, mostly by public finger pointing and by introducing more equitable redistribution of surpluses.

An outraged minority is learning to use cheap telecommunications to alert other world citizens.

The International Standards Organization, a collaboration of the world’s various standards-setting institutions, is a promising example of a global commission.
It has instituted a set of standards of ethical behavior for professionally managed firms. It has also assembled the best practices, found mostly in the longest industrialized countries, applying to:

- health
- safety
- community relations
- the environment

and similar concerns, and reduced them to a series of diploma courses.

International accounting and management firms can refer to these practices when carrying out audits, and multinational firms can deflect local criticism by following their precepts. New cohorts of managers, whether from liberal arts or engineering backgrounds, are eagerly enrolling in such courses in places such as:

- Hong Kong
- Bombay
- Manila
- Singapore

because they are regarded as internationally approved guides to professional ethics.

Messy, career-shattering scandals can be avoided by following this externalized conscience for the manager-executive, which extends far beyond practices tolerated in family enterprises and local business communities.

Modern Bureaucracies Are Knowledge Distributors

Ecosystem concepts for management are moving into a new dimension with unprecedented speed.

The virtual ecosystem now emerging will be particularly important in the consideration of survival and sustainability issues. Any group attempting to guide cities and regions toward a sustainable future must not only be alert to the trends in organizational behavior, but must also use them to establish a solid foundation for practice.
Such a group of system planners must pressure public bureaucracies to be more nimble and keep up with the means to overcome disruptions that they have previously recognized too late.

The present threat to urban sustainability is often expressed as a transfer of ordinary jobs to a place elsewhere in the world. Local officials see this as a power play and the threat an empty one.

It is the duty of the city managers and planners to assess the risk realistically and publicize their findings. A 10 percent difference in costs of ordinary labor over the middle run may be sufficient incentive to move. Higher wages require a greater coordination of skills to gain higher productivity.

This safety margin is often erased locally in a matter of three years through reorganization undertaken by competitors.

Focused attention to day-to-day affairs will be superseded by “look-about” behavior by city managers to a much greater degree than before.
Chapter Nine Section Four

Meeting Points for World-servers

World Cities

The climactic achievement for an urban ecosystem is being recognized as a world city.

This is not simply a large aggregation of upwardly mobile families one to three generations out of the boondocks, but a planned civic construction with:

• ambience
• style
• excitement
(Sassen 1991).

Its diversity is not only appreciated by world-servers as a good place to meet face to face, but is favored by many as a "home town." A world city fosters:

• scholarship
• innovation in the arts
• a wide variety of cultural institutions
• publishing capabilities of all kinds

It hosts headquarters for international organizations. A world city has:

• distinctive architecture
• tree-lined boulevards
• formal parks
• playing fields

Each world city fails in some respects to reach the composite ideal, but it contains citizen groups struggling to fill the gaps.

Until recently, imperial capital cities set the tone.

Empires linked them to distant territories, with:
• troops
• transport
• communications
set up to make these areas open for exploitation. The royal courts were patrons of the arts and the universities in the vicinity. Embassies went beyond diplomacy to open channels for cultural exchange.

• London
• Paris
• Rome
• Vienna
• Moscow
• Tokyo
came back into prominence after they were divested of their empires, because commerce and culture flowed through the channels of transport and communications that had been established earlier. Berlin and Madrid aspire to re-enter the magic circle very soon, having suffered from severe cases of fascism that lasted for decades.

Meanwhile:
• New York
• Chicago
• Boston
• Toronto
• San Francisco
• Mexico City
• Stockholm
• Frankfurt
• Sydney
• Melbourne
have joined the major leagues of cities. Also, in their own ways, Los Angeles and Hong Kong have redefined the meaning of a world city.

San Jose, in the heart of Silicon Valley, seems to be on the threshold and is making every effort to set a new precedent. Dozens of others are knocking on the door, eager to be admitted to the ranks.
For example, Atlanta made a bid by hosting the Olympic Games, and scored a managerial success.

An easy means exists for identifying nominees for a world city designation.

Start with a current list of flights in the airline guide, list the major international airports, and then count the number of destinations scheduled within a standard week.

The top cities have clearly reached a level of leadership that can be confirmed in many ways.

But then one reaches a group containing such cities as:

- Bangkok
- Delhi
- Shanghai
- Beijing
- Singapore
- Seoul
- Miami

Are they cosmopolitan enough to qualify? Sufficiently open socio-politically? And might not Vienna be overrated and therefore slip out of consideration as it ages?

Obviously, absolute criteria do not exist, leaving geographers, convention programmers, and tourist associations to make up their own lists.

Planners for the cities that fall short are likely to set metropolitan goals that promote progress toward achieving world class status. It is an objective that cannot be bought, yet money is important at various stages of development. Therefore world cities are likely to be prosperous, but still coping with major problems such as:

- poverty
- unemployment
- massive traffic congestion
Careful analysis of urban settlements suggests that there may be as many as one hundred metropolises with populations between half a million and twenty million that could qualify as world cities in the foreseeable future.

Competition for scarce talents, and the sitting of global institutions, will be very strong. A checklist for the attractions that need to come together to create a world city is shown in Figure 9-2.

Investments in further improvement are likely to be expensive, because land rents and services in these ambitious metropolises carry high prices.

Part of the "pool of mobile resources" shown in Figure 8-4 tends to be monetized (most frequently when talented people form companies that sell stock to investors or speculators from elsewhere).

Elevated living costs curb excessive inflows of poorer immigrants, but 5 to 20 percent of the total arriving will still qualify for the category of "homeless" or "marginal sojourners."

They live in the interstices of the structures and leftover spaces inside, and survive by collecting and consuming the wastes from high-intensity living, but many soon find more permanent slots.

World cities have attractive images, but their ecosystems also have back alleys.

The growth rate of the mobile pool of the global players has generally been in excess of 10 percent per year, with pauses for worldwide economic recessions. Planners for the preponderance of urban settlement must play the game of city improvement in a way that resembles the process of building a professional sports team.

Pushed by a restive public, they will select local indicators of achievement, which may include the rescue of endangered species, locating elementary schools, attendance at major musical events, and any other aspects of life believed to be relatively deficient or vulnerable to loss.
Applying crime deterrents, such as rigorous control of money laundering, may stimulate fears among the undesirable elements, which then move elsewhere.

Costs of improvements for a few indicators on the checklist, compared with other cities, may be shown to be unaffordable. In that case policies of specialization should be adopted, concentrating upon competitive advantages in attractants. Often they will be found within the numerous varieties of tourism.

If you plan a leading community, attract and hold many types of world-servers. INGO is an international non-governmental organization, e. g., a foundation. BINGO is a business-oriented international non-governmental organization. IGO is an international governmental organization, e. g., UNESCO.

World cities must compete for:
- financial resources
- energy, headquarters of organizations
- scarce talent

that is willing to move.

Noticeable rates of improvement in such attractant indicators will come to the attention of visitors, some of whom will decide to return to stay. New graduates from institutions of higher education are especially mobile and are in search of the good life.

An index of their choices will indicate whether an urban management is emphasizing the right features. Quality of immigrants versus emigrants is a long-term criterion useful for those who are responsible for urban quality.
Chapter Nine Section Five

Environment for World Peace

A Future World Order

Some communities recognize that they must be restructured internally so as to become globally responsible for the long term.

Their leaders read the recommendations of the Rio de Janeiro Conference on the Environment of 1992 and hear the public pronouncements of local environmentalists who are agents of reform. Community leaders choose social indicators that are at least partly under their control for demonstrating progress in those directions.

They then hammer out programs for changing internal structure and behavior.

Most of the communities that have started action are in developed countries, such as:
Canada
the Netherlands
Australia
New Zealand
but a few highly educated regions in developing countries, such as the state of Kerala in India, and some cities in Brazil, Taiwan and Malaysia, are making an effort.

Seattle's initiative was described in some detail in chapter 5. The risk that these communities take is that the future they envision may not be as affordable as the way that most of the world will have to go, so resources may be wasted by the narrowness of the present vision.

For example, the much-publicized "new urbanists" in the United States have proposed a higher-density urban design formula for some rapidly growing regions with higher income levels.
They have preferred a costly light rail transit option with a marked degree of inflexibility from which settlements cannot easily retreat. Investments in the future require more risk analysis for following fashionable formulas, but there are indeed some places under the sun for light rail.

Another trend affecting the typical community is that the sources for supplying its vital needs extend more and more beyond its accepted administrative boundaries.

Water supply and management have already illustrated the requirement for outreach, but solid waste disposal now requires similar foresight. Policies essential to sustainability must increasingly be adopted on regional, state or province levels, and national scales and earlier laws assigning responsibility to communities or households must be repealed.

None of these regional programs finds it easy to adjust to competing with global urbanization projects that can sell bond issues.

A nation-state’s loss of control over its own destiny cannot be discussed openly in many circles, because open admission smacks of disloyalty or even treason.

Clever political alliances are often the way to go.

**Sustaining Peace**

The goal of a stable world order assigns highest priority to the abolition of warfare between nations.

War destroys certain strata of populations in community eco-structure and tragically shrivels interaction, especially the frequency of win-win-win transactions. Developed parts of the world have recently approximated peaceful coexistence, but poorer countries trailing behind in the level of development were victimized by the Cold War and its nuclear threats, and remain distressed.
Political entities in their midst, often labeled “rogue nations”, have occasionally been aggressors and bullied nations they believed weaker than themselves. Also, among the least developed societies, rebellious paramilitary groups and pious schools advocating holy wars have sprung up, paralyzing the constructive elements and frustrating progress toward peace.

What can be done about epidemics of zealots and looters?

Destroyers of political order are too stubborn to be influenced by United Nations sanctions.

How can the disorder caused by the massacres of innocents be quelled?

Prevention is a superior method to direct intervention. It is quicker and cheaper in most instances, because it reduces the amount of uncontrolled popular attention paid to grievances and threats of force.

The few who have been involved in the United Nations experience have learned much, and have systematized the peace process by conducting negotiations at several levels. Multitrack diplomacy (Diamond and McDonald 1993) is a holistic systems approach to peace that has nine tracks for movement and action, most of which can be utilized simultaneously.

Prevention will always be underreported, but more so when it is successful and people can again look forward to a better future.

Experiments with intervention by various peacekeeping forces have been conducted during the post-World War II period. When they are successful the good news is muted, because avoided catastrophes do not make headlines, while failures grab global attention.

So far peace forces have been made up of delegations from national armies that have rarely been trained in procedures for not using lethal force, nor are they given appropriate weapons to prevent vengeful escalation of the conflict.

The Kosovo/Serbia crisis led to an attempt on the part of the international forces to minimize casualties, who seemed to cause the Serbians to be less
violent than they had been in the Bosnian/Croat conflict, but the world looks for something less expensive.

A newly created opportunity for tactics of temporary disablement has not been seriously tried.

Police forces have long used such tools as:
- tear gas
- pepper spray
- rubber bullets

to dissolve dangerous mobs with minimal casualties, but a new armamentarium is now available for preventing violent conflict without bloodshed:
- a motorized force can be halted by an engine-stopping mist
- a paramilitary infantry brigade can be entangled in sticky foam
- communications equipment for coordination can be burned out by focused electromagnetic pulses (Lewer 1998).

These are only a few of the newly tested deterrent weapons that can take the place of:
- land mines
- mortars
- helicopter gunships

NATO discreetly used a previously undisclosed method of dropping conducting strips on high-voltage power lines in Belgrade in April 1999.

It demonstrated that the joint forces held a master switch to the metropolitan power grid. When passions are spent without raising calls for vengeance, it is possible to negotiate over differences.

The editors of the Bulletin of the Atomic Scientists have a sophisticated understanding of the conditions leading to escalation of conflict, yet they have declared their opposition to non-lethal weapons.

They were apparently thinking of the use of these weapons in conventional battlefield engagements. In those circumstances, groups of troops trapped
in situations where they could not defend themselves, and unable to surrender in a recognized fashion, were promptly massacred.

Non-lethal weapons require special training beyond what was available in the 1990s in order to have the desired effect of preventing small wars.

An alternative tactic, that of flooding a territory with unarmed, briefly trained volunteer observers, has been tried recently (e.g., in Kosovo in November 1998) and needs to be tried again. In truly desperate situations, combinations of these approaches to peacemaking may be more effective and affordable (Lewer and Schofield 1997).

When peaceful expectations prevail, it is possible to invest in building up the eco-structure and laying down channels that supply the basic needs of communities. The attention that was focused upon strategies for survival in the face of immediate danger can be transferred to projects for achieving an improved quality of life.

Endangered habitats can be sustained in the absence of armed conflict. If the level of violence is reduced perceptibly, the world can tolerate increasing diversity.

Behaviors different from what one has known then seem less threatening. Those working for a peaceful world should expect new forms for living together, while preserving those that are valued at present. The sustainable society will evolve differentiation in many dimensions.

The ramifications of peaceful social evolution are worth exploring. New mass movements can be identified early by the images they employ when infiltrating the favored kinds of mass media for the new values to take root, so the tendencies for incremental change can be assessed.

Some conjectures can be offered as hints of things to come:
First. Almost everywhere opportunities for human employment will arise in services rather than in agriculture or manufacturing, except for hi-tech species of complex machines and robots.
Second. Ideas arising in the course of breakthroughs in the advance of knowledge should expand the service employment spectrum still further. The impacts of recent discoveries provide clues as to where to look for increased effectiveness.

Third, the ecosystem model for planning, management, and design is useful for identifying how to intervene. Therefore we can take a quick, systematic look at directions for peaceful evolution in the future world city by starting from the checklists diagrammed in chapter 2.

Finally, after review, analysis, exploration, and recommendations, we arrive at a vision of the major properties a technically, economically, and socially feasible sustainable city: in the conditions that can be foreseen for that period.

It will be noted that a realistic overview is still very fuzzy, but it is less ambiguous than predecessors.

Intra-community. Please refer to the flow-through diagram model for community (Figure 2-3).

Data on transactions between inputs and actors, including Knowledge, are increasingly:
recorded
categorized
analyzed
digested
reinterpreted
so as to gain a greater usefulness from second- and third-order effects.

Then consider marketing function in management: It looks for publics that sense qualitatively the kinds of transactions that have win-win outcomes.

The explosive growth of the Internet in the 1990s seems likely to reinforce the trend for mass consumer publics to subdivide into small interest groups and individuals, presumably because doing so saves time, money, and attention while achieving a better fit to individual circumstances.
The following are policies, not tactics, and so deal fundamental with natural trends:

Harmony, a smooth integration of the action, should then precede with a lesser frequency of jarring notes, such as general strikes, major street demonstrations, and inter-ethnic violence -- the best indicators for the lack of harmony. The physical boundary of the sustainable community will be even less perceptible, as will many of the urban-rural differentials. Emphasize listening to complaints of injustice, and nurture the new understandings opening up in the ecosystem.

Eco-structural Metamorphosis. Human population is expected to decline gradually in communities that feel crowded, but in the small number that are newly established or redeveloped the numbers of residents will increase for a human generation or so. Rates of change in the numbers of people within a community in which preaches sustainability is will be much slower than in the past, despite the overall growth of human settlement.

Fauna and flora in urban regions will demonstrate greater diversity as a result of managed introductions of specialized, pleasing exotics, some emerging from the laboratory. Many new varieties will also be attributable to invasions of wild species that find niches in the interior of the settlement. Management through standards-setting of sunlight and shadow, air flow and rainfall, will be more demanding.

Residences will increase in diversity, but shrink to fit the reduced household sizes needed by smaller families and the greater rents charged for fully serviced land. Style differentiation will be subdued to maintain resale value, but expressiveness will be encouraged in some precincts where freedom is valued more highly.

Facilities providing for public eating, education, medical services, and recreation may be as numerous as at present, but they will tend to shrink in size and thus contribute to compactness. This may change when new styles in image presentation, as in cinema today, attract attention.

Infrastructure for distributing water and sanitation, power, messages, fuel, goods, vehicles, and pedestrians will retreat significantly from the peak
scale of physical installations required per capita, because of substitutions, recycling, and waste reduction. That means more prefabricated construction and less formed concrete.

Vehicle populations will be about as numerous on a per capita basis as in developed societies today. But individual vehicles will consume much less energy, use less space, have elaborate instruments for safety, and be designed and serviced for prevention of air pollution. They will also last somewhat longer. Machines will be much more numerous but less visible as nanotechnology elaborates. Larger units will be designed for easy repair and salvage, thus undergoing successive life cycles under less demanding conditions.

Automata will be almost as pervasive as insects, ubiquitous in the built environment, and common in the remaining wilderness outside. They will sense the speech, behavior, and rewards related to a place, but, like hummingbirds, they can also seek it out and record it like paparazzi, if so instructed, thus radically changing the concept of privacy. Organizations will more often be shared between neighborhoods and be more diverse. They will be anchored simultaneously in the virtual ecosystem that lives in its own universe of bit streams.

Knowledge blocs will be tightly linked so that new contributions will not only refer to precedents, but will also allow prior publications to be made instantly available, thus reducing redundancy and errors in the new contributions. As people learn to communicate verbally with their computers, they will embrace more dependency upon the perception of patterns and images without names. Life cycles for humans, organizations, machines, and buildings are likely to be extended 20 to 50 percent, but dignity in dying, which can prevent waste in the unnatural preservation of life, will make way for a much longer period of productive maturity. Orderly replacements seem likely to be embraced gradually.
Chapter Nine Section Six

A Rocky Road to World Order

Nations Are Losing Sovereign Control over Cities

Almost everyone is recognizing that nations are less and less capable of fulfilling responsibilities for providing a variety of services with the huge bureaucracies they have built to:

- manage the monopolies
- regulate cartels and mergers
- issue permits for private actions
- maintain general oversight

These bureaucratic hierarchies very soon lose their resilience in the face of adversity, and are slow to adapt to the Information Revolution. The losses in effectiveness are most noticeable in:

Money management
education
communication
language propagation and standards
passenger movements
foreign trade
military conscription

Also mentioned are activities that are vulnerable to privatization. Religious establishments have already made the transition to non-official and separate status in much of the world.

National boundaries are becoming more penetrable for smuggling and illegal migration. Expansion of the Internet has revealed that nations are no longer able to control, or even effectively license, the flow of information because evasion is inexpensive.
In short, nation-states are increasingly obsolete and national sovereignty is visibly morphing into a paper tiger and a legal fiction.

Technical secrets held by nations and corporations for their own security against competition are quickly deduced by scientists from fundamentals that are out in the open, while others exercise their ingenuity in code breaking.

Fences that nations construct are easily hurdled, but much less easily than those of counties, which started losing functions early in the 20th century, leaving only a few signs marking their boundaries.

Nations that bark but do not bite are being cut back to societies held together by:
- history
- language
- elections, and other political rituals
- cultural myths
- bonds of neighborliness

That kind of national leadership cannot last long into the future, because it attracts blame for anything in human affairs that may go wrong, and it breeds dissonance within the increasingly diverse American public.

Global planning has not begun to prepare for the eventuality of loss of national power, even though a troubled era seems imminent. American nationhood is dissolving as its economy, science, and culture diffuse into the Ecumenopolis.

The losses of identity and of the freedom to make mistakes independently are resented by a consolidating, noisy segment of the more politically active population of the world. They shout their opposition to “imperialism,” but the most applicable technical term is “hegemonism.”

Unfortunately the various collections of thinking by international futurists have dodged the problem of creating a new world order.
The Encyclopedia of World Problems and Human Potential, volume 3, Actions-Strategies-Solutions, orchestrated by Anthony Judge (1996), deals with basic problems and special strategies, but has nothing on a future world order—a favorite topic of speculation four decades earlier.

In equally ambitious encyclopedic efforts by Wendell Bell (1996) and Richard A. Slaughter (1996), a similar gap is noted. The contribution nearest to the subject is an article by Ervin Laszlo on possible scenarios for the human future (contrasting laissez faire, government-managed, and world orders), that offers only a start.

Rogers and Tough (1996) introduce a psychological approach—a preliminary stance for undertaking the design of global institutions.

A few intellectuals among the world-servers yearn for a formal world government, but ways of achieving consensus and effectiveness are exceedingly unclear. A global political order will probably have to evolve one step at a time, as the myths of nationalism slowly relinquish their holds upon the imaginations of the next generation, permitting global concepts such as the Internet, the biosphere, the environment, and the promotion of the four freedoms to crystallize. The attack on the World Trade Center in New York has shaken up global politics, but for the moment, peacemaking will be a piecemeal and multi-track effort, using ad hoc crisis management techniques.

An obvious new entity that may inherit the mantle for guaranteeing world order is a potential coalition of those communities that have the most at risk: the thirty to one hundred emerging world cities that have been described as "lumpy" with communities distinguished by ethnicity, religion, and social class.

Called the Ecumenopolis by many of those who have followed urban evolution for the last four decades, this aggregation has strong interests in rationalizing telecommunications, airlines, tourism, shipping, world trade, food stocks, higher education, common technical standards, and world courts for settling disputes.
The world cities would set high standards for performance and other cities would apply to join when ready, just as happens when nations become eligible for:
NATO (North Atlantic Treaty Organization),
IMF (International Monetary Fund)
WTO (World Trade Organization)
and similar groups in the 2000s.

Can the world-servers, which will grow in number in the near future, adding many millions of the most interactive people, synthesize a middle-scale kind of urban ecosystem that can maintain worldwide public order?

It could be a kind of global Switzerland: a multilingual microcosm of local groups carefully controlling the influx of barely tolerated immigrants, but producing a high level of happiness and prosperity for both (Frey and Stutzer 1999). There the intensity of nationalism is low; democracy ranges from decent to the very best; the president is so much in the background that no one remembers his name; and the Swiss cantons with the most democratic conditions are the happiest!

The most open societies, such as:
the United States
Canada
Australia
Brazil
will become an amalgam of world peoples, even more so than they are at present. In these societies each person has representatives and a voice. There are reasons for believing, however, that North America, with immigrant peoples constituting more than 99 percent of the residents, could not by itself be a model for the world.

American schools have accelerated assimilation of immigrants at a rate beyond what seems feasible for balkanized regions. Perhaps from the remarkable global acceptance of American social science and popular culture, a new kind of political union can be forged.

For example, organizations are perfecting e-mail circles for quality control of mass output of services. How can this lightning-fast feedback be
converted speedily into multilevel, omni-local adjustments? Abrasive cultural contacts in public places can be avoided when individuals move into electronic spaces of their choice.

To serve a world system of cities, the experiments must be scaled up one hundred thousand times and delivered through a multi-dimensional web. The result may not lead to universal democracy, but it could go a long way toward keeping the peace. Fortunately, world cities will be touching each other first by their expansions into Cyberspace, where blood does not spill, and rivalries are muted.

In North America anti-immigrant sentiments have been headlined, but there has also been a strong defense of immigrants, not only on the part of liberals but also by the business class and many otherwise conservative church groups.

Channels for the flow of people across political boundaries are perhaps half open, or half closed, depending upon the preferred interpretation. As a result North America accumulates far more than its share of scientists and scholars, quite a large number of refugees with sympathetic local supporters, many economic hustlers with customer contacts, and a few terrorists. It seems likely that North America will continue adding immigration to an otherwise shrinking population by about 1-2 percent per year.

In the past, each time its military intervention elsewhere in the world failed, the United States provided within its borders a haven for its endangered Cuban, Vietnamese/Laotian and Central American collaborators, sometimes numbering over one hundred thousand refugees at a time. Successful interventions, such as those for transmitting know-how for non-explosive mixing of people, are to be preferred.

This assessment of evolutionary trends expected over the next several decades reveals a convergence in the structure of community ecosystems, while at the same time promoting an increasing, fine-grained diversity. The new world cannot be a utopia, because outbreaks of violence will continue to be headlined in the mass media, even if the casualties are much lower.
Frequent stories about problematic trends can produce deep concern, but fair comparisons of today's conditions with those of hellish past eras will have the opposite effect, and can raise the satisfaction level of the public.

Most likely, feelings about changing conditions will oscillate, leaving doubt sometimes that a sustainable ecosystem is a suitable goal. There must be some satisfactory paths for development beyond repetitions of a near future that reaches out to the Great Beyond of cyberspace, but what are the images of those possible world orders?

Futurists and social planners have a lot of work to do!
Chapter Nine Section Seven

Management Reforms

Highlights of New Urban Management

Lacking time and space for an orderly presentation of future urban management, only the issues that will be most crucial for achieving sustainability and that have not already been considered in standard management schooling have been emphasized here.

Briefly, they have been:

1. Destabilization by accelerated growth, an issue for developed metropolitan areas, is handled with increasing effectiveness in neighborhoods and suburbs.

Organizations resort to branching and franchising to exploit a successful formula for a business or a service. A manager must assuage the fears of the affected stakeholders before setting a strategy for rapid internal expansion and subsequent external proliferation living off the fallout ("positive externalities").

2. Non-profit organizations are less intimidating than business enterprises, but their strategies for growth are similar. Micro-entrepreneurs and startups must consider the implications of the multiplying numbers of NGOs by working with the planners for standard-setting.

3. Startups that are not mere replacements will be built around information technology and services, the sectors in which growth rates are three to five times more rapid than traditional industry, but the physical impact is less because they consume much less energy, water, space, and other scarce resources.
Their promise is greatest in the poorer parts of the world that are yet to be affected by modern management.

4. Integration of startups and branches into multipurpose complexes beyond manufacturing and retailing introduces a kind of management that rewards contributions to the "health" of the overall complex that supports it, and mobility of personnel within it, much as exists now within the individual firm.

5. Scale and complexity of project management for the infrastructure that modernizes the "lumpy" metropolis will impose much higher levels of specialization and teamwork. Managerial devices are being invented to package multibillion-dollar service units possessing greater reliability, which are built in half the time and at markedly reduced cost of earlier endeavors.

6. World-servers include a rapidly expanding class of super-managers, along with other professionals, whose loyalty rises above familism and nationalism. Highly skilled at using global telecommunications, they can bring to bear upon problem solving a wider range of information and expertise. They collect especially in international agencies and multinational corporations.

7. World cities are the cosmopolitan gathering places for world-servers, which support the apex in culture and services, such as health care and higher education. They induce a quality of work roughly reproducible in all the other cities and an attractive quality of life for the educated classes, while providing excellent opportunities for self-improvement of immigrants.

8. A new world order that is urbane, peaceable, stable, increasingly prosperous, humane, just, and caring, is the mutually desired outcome of ecosystem development.

It depends upon a repression of violence and discrimination, and the building of trustful relations through win-win-win transactions.
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