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Latin America: Five Centuries of Globalization

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I. Introduction

Ongoing processes of globalization are rapidly and profoundly affecting the natural and social landscape of Latin America. Changes are taking place in all aspects: ecosystems, types of production, international trade flows, communications, mainstream cultures, and many other natural and social features.

These all-encompassing contemporary trends are producing radical modifications that should not be ignored or underestimated. However, if we consider the continent's history, we realize that long before current globalization trends appeared, Latin American societies had already experienced the effects of wide-ranging globalization processes, dating back to the fifteenth and sixteenth centuries.

When Columbus and his Spanish flotilla arrived in the Lucayas Islands (Bahamas) and later to "terra firma" in the Mosquitia (Mosquito Coast) region of present-day Nicaragua, the continent was already densely inhabited by more than 100 million people[1] belonging to several hundred well-established aboriginal nations. Some of these nations were very large, even by European standards: the Guaraní, Quechua, Aymara, Mapuche, Chibcha, Arawak, Maya, and Nahuatl were numerous societies with populations of several million each.

Some aboriginal nations were organized in large state-type political entities, such as the Tahuantisuyu ruled by the Quechua, or the Nahuatl Empire of the Mexica. Other societies, like the Maya, were organized in city-states, and many others in smaller units often politically linked to form leagues or confederations such as the Mapuche or the Guaraní.

Aboriginal cultures of the Americas were very different from European ones, and the difference was not merely a matter of technology. As in "Old World" societies, American peoples had domesticated a large number of crops and animals and over the millennia had developed complex farming systems and genetic selection procedures. The main difference with European farming systems was in both the type of crops and the planting systems. On the American continent the main crops were planted manually, often seed by seed (e.g., corn and beans) or through cuttings (e.g., manioc). Sowing was done without the use of plows, normally by means of "digging sticks," or hoes, and the seeds or cuttings were manually inserted into the ground. Cleared plots of land were small; vegetation was only partially removed; and soil structure was scarcely altered. For this reason, most farming systems caused little damage to soils and ecosystems. The relationship with nature was generally respectful. The earth was considered the mother, and crops were seen as spirits generated as a result of her fecundity.

In Europe, the situation was different. European farmers had developed powerful iron plows pulled by oxen or horses. Farming systems involved the complete removal of vegetation in large areas, and very often they were damaging to soil structures and ecosystems. Although at the beginning there was also a mystic relationship with nature, that was gradually lost. Lands were systematically cleared of their "native" ecosystems, and repeated plowing sheared the soils, destroying their structure. After many centuries of plow farming, the old concept of Mother Earth became less important and the land was transformed into something that could be appropriated, destroyed, or sold — in brief, a commodity. This was probably one of the main factors in the development of private land ownership, which was a central element of social organization in many areas of Europe but which did not exist in America.

The same is true for animal domestication. Draft animals were a critical component of farming technology in Europe and the Middle East. They were required to pull the plows and had been domesticated and bred for that purpose. In some ways, draft animals were "animal slaves." The next step—from animal to human slavery—was almost a natural one. Most European and Middle Eastern societies developed production systems based on the work of numerous draft animals and a considerable slave work force. With time, the slave trade grew to become one of the most important elements of European commerce. In

order to keep the slaves under control, many European societies developed armed forces with sophisticated military technologies. Some of them were numerous, well armed, and professionally trained. Their development was a key factor in the "success" of the American adventure.

In brief, the conquering European societies of the fifteenth century were based on a complex system founded on plow farming, utilization of draft and fighting animals, private land ownership, slavery, and strong military power. The development of iron tools and weapons and other related technologies was closely linked to this social and cultural framework. Nothing of the sort happened in aboriginal America. Farming systems were more naturally rooted; they did not include plows; no draft animals had been domesticated; private land ownership was unknown; slave work (in the European sense) was rare; and professional armies less developed. It was in these more environment-friendly and militarily weaker societies that the impact of the first wave of globalization was felt.

II. The Military Wave

Although this first wave of globalization affected all aspects of society and the environment, its most distinctive feature was its military nature.[2] The impact of the extracontinental military invasion of the Americas was immediately felt. As a result of the experience gained in the Canary Islands during the war against native Guanches, the Spaniards developed effective conquest strategies that worked "well" in the newly discovered Caribbean archipelagos. On the American mainland, the effect of the arrival of the invaders was delayed for two or three decades, but in the end was equally effective (with regard to military conquest). By the end of the sixteenth century, merely one century after Columbus, practically all the major aboriginal political entities of Latin America had been absorbed or eliminated.

Although the impact of this first wave of globalization was profound, many historians have preferred to minimize it. Normally, such underrating has been done through the systematic underestimation of aboriginal societies: demographically, culturally, technologically, etc. One of the most common (and effective) ways to underestimate the importance of native societies is through low population estimates (perhaps to reduce the magnitude of genocide). By any standard, most demographic estimates found in the literature are indeed very low. For

example, Braudel[3] provides three estimates taken from the *UN Bulletin*, all ranging from 8 to 13 million people for the population of the continent before Columbus's arrival. These figures are clearly contradictory to the biological growth, the highly effective production systems, and even the chronicles of the first explorers.

Considering the estimates by Bartolomé de las Casas for the Caribbean (which exceed 3 million)[4] and the descriptions of the first explorers of the Amazon (the figures obtained from their chronicles are on the order of 2 million inhabitants for the river valley, and perhaps 8 to 10 million for the whole region),[5] it is clear that the total population of the Americas could not have been as low as some authors pretend. Assuming there were about 5 million people in Mexico, 5 million in Central America, in excess of 10 million in Peru, close to 10 million in the Guaraní and *cerrados*[6] territories of Paraguay and Brazil,[7] about the same number in the Brazilian coastal area from Pará to the Rio de la Plata, and probably a similar figure in temperate North America, a total figure of 100 million seems more reasonable. This number would also be in greater agreement with the global estimate of 350 million suggested by Braudel and the figure of 53.9 million more recently proposed by William Denevan in his book *The Native Population of the Americas in 1492*.[8]

III. Between Waves: The Forming of Latin America

During the centuries following the European military invasion of America, the effects of the physical and cultural annihilation of the indigenous population were further exacerbated: the larger cultures were decimated and their languages eliminated or weakened and replaced by Spanish or Portuguese. However, in some areas, people demonstrated a strong resilience. In spite of domination, they managed to survive and, in many cases, even to transform the dominator. The result of this dramatic scenario was a synthesis of cultures, a generalized *mestizaje* (mixture). Gradually, aboriginal America became Latin America, a syncretic version of its former self under European military, political, and cultural control. The former states, confederations, and smaller political units were incorporated into the growing empires of the Iberian Peninsula. The whole economy of the continent was redesigned to satisfy the needs of the metropolis. Metals (such as gold and silver), sugar, and other Latin American products began flowing to Europe. When obtaining local slaves became difficult due to

Table 1 Impact of the First Wave of Globalization

The Military	Some of the strongest European armies invaded the American continent. Local armies were destroyed or surrendered. After a few decades, most of the Americas were under foreign military control.
Politics	The stronger aboriginal states (e.g., the Incas' Tahuantisuyu, the Mexica State, and others) were invaded and dismembered. Political control from the European metropolis was established.
Demographics	Most aboriginal coastal societies were wiped out. Many riverine communities were eliminated, absorbed, or strongly affected. New European-controlled settlements were established in strategic areas.
Land Ownership	Private ownership of the land was established and aboriginal lands were allocated to settlers.
Slavery	Slavery and slave markets were introduced. Most activities were based on a slave work force.
Farming and Agricultural Pests	Exotic crops and domesticated animals were introduced. Native crops were displaced or eliminated. Many exotic plants and animals were introduced involuntarily, some of which became plagues.
Natural Systems	Several ecosystems (mainly in forests in coastal areas, temperate plateaus, and valleys) were degraded or destroyed. Large trees were cut to build ships, forts, dwellings, and other structures.
Health	Deadly (human) diseases were introduced and spread, in some cases purposefully.
Mining	New and numerous mines and quarries were opened and top soils removed.
Economy	Economies were deeply altered; production systems and products were radically changed; and trade flows were modified, channeling production to the metropolis.
Culture	Cultures were deeply affected. The use of native languages was discouraged or repressed. Religious symbols, books, and other cultural records of aboriginal societies were destroyed; artistic works were stolen or desecrated; metalware, particularly goldenware, was taken away and often melted. New education systems, religions, and beliefs were imposed.
Communication	Traditional communication systems were modified, ignored, or repressed, and new systems were imposed.

the high death rate of the aboriginal population, the European powers brought many African slaves. This produced additional mutations in the local societies and environments. In brief, the impacts of the first wave of globalization on America, as well as their repercussions, were numerous and profound.

IV. The Economic Wave

The second globalization drive, which I call "the economic wave," took place approximately three centuries after the beginning of the first. By this time, the Spanish and Portuguese colonies were well established; European imperial control was relatively solid; and, with a few exceptions, the former aboriginal powers had been almost completely decimated (e.g., the proud Mapuches in the Southern Pacific coastal region). The new globalization wave resulted from economic changes that occurred during the emerging industrial revolution. In Latin America, some of the modifications were exacerbated by the French invasion of Spain, which produced the political disintegration of the Spanish Empire, increasing regional vulnerability to growing industrial forces. As a result of the weakening of Spain and Portugal, many colonies became independent states. By the 1830s, most former Spanish viceroyalties, or *gobernaciones*, and the Portuguese colony of Brazil had become independent countries. As I mentioned above, the colonies' political revolution did not stop the globalization process in Latin America. On the contrary, it helped to strengthen it, although this time under British, French, or North American control.

This second wave of globalization was driven mainly by economic interests. The process began in eighteenth-century England and spread to North America in the 1800s. During the first decades of the nineteenth century, the British Empire was the stalwart of the new industrial revolution and gradually increased its control on both land and sea.

By the nineteenth century, some colonized areas of Latin America were already feeling the indirect effects of the European industrial revolution. During those years, the contribution of Latin America to the industrial process was huge. Many basic raw materials used by European industries, such as cotton, sugar, wood, tannin, and leather, were produced in the region, and some of the largest cities of Latin America had already become significant markets for the industrialized products. In spite of the importance of the continent as a provider of com-

modities, the actual expansion of the industrial revolution into Latin America (installation of factories and development of industrial cities) took place at a later stage. It was only by the late nineteenth century and early twentieth that the first industrial zones of Latin America appeared in Buenos Aires, São Paulo, and Mexico City.

During this period, the development of globalization was mainly related to the requirements of the European industrial revolution: increasing removal (and depletion) of natural resources, much greater speed and volume in communication, transportation, and trade; cultural changes; growing political control from overseas powers; continued appropriation of indigenous land; and increased farming, mining, and lumber production destined to overseas markets were all features of this progressing trend, which continued well into the twentieth century. As a result of two world wars and the economic growth of the former British colonies of North America, the leadership of the industrial world moved to the United States, and Latin America gradually became more dependent on the increasingly powerful economic centers located in the northern half of the hemisphere.

Table 2 Impact of the Second Wave of Globalization

Economy	Latin American economies continued to be dependent, producing raw materials to supply the industries of the central countries (i.e., United States and Britain). At a later phase, strategies to reduce imports and promote national production were unsuccessfully attempted through protectionism and nationalistic approaches.
Politics	Nation-states, which were formed as a result of the disintegration of the Spanish and Portuguese Empires, became well established. There was an increased political influence from the world economic powers, particularly England and the United States, on Latin America. With few exceptions, the old colonies became independent states. Borders between territorial states were defined and new nationalistic approaches developed.
Urbanization	As a result of industrial development and employment generation in urban areas, rural migration grew and large cities developed in most countries. Widespread environmental degradation affected urbanized areas.

Land Use and Ownership	Industrial farming expanded throughout the region, large companies and governments bought or took control of land to satisfy industrial requirements. Nationalization of some lands and agrarian reforms were implemented in several countries (e.g., Mexico, Bolivia, Guatemala, and Cuba).
Work Force	Industrial labor requirements were satisfied by former peasants. Women were gradually incorporated into the work force.
Farming, Tree Plantation	High-productivity monoculture (monospecific, few varieties) crops and plantations were promoted to feed industrial and urban needs. Short-term productivity increased. Industrial farming based on heavy use of machinery, agrochemicals, and genetic uniformity became widespread.
Natural Ecosystems	Large hydro works, highways, and other engineering undertakings were built throughout the continent. Logging activities boomed in forest areas. Many natural ecosystems were deforested or destroyed. Grasslands were gradually converted into agricultural areas (mainly for grain production).
Health	Infectious disease was reduced. Waterborne illnesses remained important in most rural areas as well as marginal urban areas.
Mining	Many mines and quarries were opened. Environmental degradation became acute (e.g., in copper- and iron-producing areas).
Culture	In larger countries, "national" cultures were promoted. However, the mainstream global habits remained a very important factor for cultural development. The use of native languages was discouraged for the sake of "national unity." The Catholic Church lost its influence. Freemason, positivist, and scientific approaches became dominant among intellectual urban elites. Indigenous religions were discouraged. New, more technically oriented (less humanistic) education systems were promoted.
Communication	The development of railroads, telegraphs, and steamboats produced profound changes. At a later stage, radios, telephones, and automobiles had immense impact as well. Air travel developed throughout the region.

V. Non-sustainable Industrialization Process

During the development of the second globalization wave, Latin American countries gradually became involved in industrial production. Initially, national industries focused only on the transformation of raw materials (textile factories in wool- or cotton-producing countries, sub-products of slaughterhouses in cattle regions, processing of food products, etc.). With time, the richest countries became involved in heavy industry. Brazil and Argentina developed their own metallurgic and chemical industrial centers.

At a later stage, several European and U.S. companies installed factories in some of the largest countries, increasing the role and size of the industrial sector. This process was encouraged by the implementation of protectionist and nationalistic policies protecting local industries through subsidies, tax exemptions, credits, and other advantages, and, in some cases, through the installation of government-administered enterprises.

This model proved to be unsustainable. Government-owned enterprises grew inefficient, many national private industries became unprofitable and, in some cases, were nationalized; by the end of the 1960s, the strategy began to collapse. Governments went on a money-printing spree; currency devaluations and high inflation rates became commonplace; local companies went bankrupt; many foreign companies withdrew; and social and political instability ensued. As a result, and taking opportunistic advantage of the Cold War, military rulers took over in many countries, imposing authoritarian regimes. At this time, in order to postpone the economic crisis, most Latin American governments borrowed large sums of money. This was facilitated by the oversupply of petrodollars resulting from the rise of oil prices. During the 1970s, regional ability to repay was seriously reduced. The money was poorly spent: the nationalizing of unprofitable companies, maintaining inefficient government services and enterprises, keeping artificial currency rates, paying interest or principal on past loans, and, in some cases, feeding the always-hungry corruption webs. Just one decade later, the debt crisis struck. The countries started defaulting on their loan payments, imports were suspended, hyperinflation became the rule, the purchasing power of local currencies fell abruptly, social inequality grew, and the military governments were forced to withdraw from the political scene.

During this period, governments implemented many megaprojects, such as hydroelectric dams, highways, bridges, pipelines, and urban developments. The Brazilian capital, Brasília, was built during the sixties following this paradigm. Several large dams (e.g., Itaipú in Brazil, El Chocón in Argentina, the Salto Grande Dam on the Argentinean-Uruguayan border, and the failed Pangue Dam in Chile) were also the result of these development approaches.

At the same time, cities throughout Latin America grew. Buenos Aires already housed 10 million inhabitants in the 1960s, and the populations of Mexico City and São Paulo increased to more than 15 million people each by the late eighties. This urban growth became unsustainable from an environmental point of view. Mexico City had to pump its water up from sources located more than 1,000 meters below ground,[9] and new neighborhoods grew in an inappropriate and unequal manner.[10] Water and air pollution, low-quality housing, insufficient services, and violence became commonplace in the suburbs of the largest cities. By the mid- and late seventies, a generalized urban crisis had developed throughout the entire region. It is in this economic, political, and environmental framework that the third globalization wave arose.

VI. The Cultural Wave

The third globalization wave is, in a sense, the continuation of the previously described industrial processes. It occurred as the result of worldwide economic trends and accelerated technological developments, mainly in the area of long-distance communication and information processing. Several years after the beginning of this wave, and due to the nature of technological changes, it became increasingly clear that globalization affects mainly the cultural sphere.

The root of this contemporary wave is the information revolution, which has expanded worldwide during the second half of the twentieth century. The main features are well known: general availability of powerful computers, opening of numerous channels of telecommunications, spread of air travel, increased fluidity of merchandise transportation, and development of multisource, high-efficiency energy-production systems.

In Latin America, this wave arrived several years later than it did in the northern countries. However, now, at the end of the century, the continent is catching up and most countries are already strongly

immersed in the process. Telecommunications and computers are now available almost everywhere, air travel has become widespread, energy production from hydroelectric sources and fossil fuels has grown continentwide, and trade and flow of merchandise is much easier and more all-encompassing.

All these processes have facilitated globalization throughout Latin America. The effect of this on the social, economic, and environmental makeup of the region has been enormous. The main consequences relate to the weakening of national governments as a result of their loss of control on borders, of the decreased control of information flow through and within their territories, of their increased indebtedness, and of the fast flow of financial assets through new "virtual," channels, promoting a dramatic increase of human interventions on natural environments. Simultaneously, this weakening of governments has resulted in stronger roles for multilateral banks and transnational companies, which have become still more influential in policy- and decision-making.

Although the economic and political changes caused by this globalization wave are profound, its cultural impact is even stronger. Over the millennia people had used the spoken word almost exclusively as the main means of communication. With the development of writing, strong cultural changes occurred. People were able to communicate at any distance provided there was a messenger. Among the Quechua, the messenger was called a *chasque*. European societies developed complex mail systems. The invention of the telegraph, telephone, and, later, radio allowed the logarithmic growth of communications. These technological developments produced important effects on world cultures: increased reach of mainstream culture, growing uniformity, etc.[11]

The turn-of-the-century information revolution has produced a radical qualitative change. The communication flow has increased millionfold, which is further modifying the cultural characteristics and dynamics of world societies. The changes are so important and so recent that it is still very difficult to interpret them. One of the first effects has been the development of a much larger, global and virtual mainstream culture. At the same time, it has opened up the possibility for the development of subcultures without the physical limitations of geography. It has released the flow of millions of bytes of information that were previously under government control. Censorship is becoming more difficult and, in some cases, previously isolated or vulnerable

people are being linked and empowered through their access to information and telecommunications. In an apparently paradoxical way, this globalization wave is, on some level, increasing cultural uniformity and, on another, providing the means for the survival or generation of innumerable diversities. Indigenous people from the Amazon can communicate directly with the Arctic Inuit to discuss their common preoccupations. Peasants from Mali will be able to discuss issues of mutual interest with Pakistani farmers. Young people from San José, Costa Rica, are now connected to their Swedish counterparts. The cultural impact of this globalization wave, well described by Alvin Toffler,[12] is not yet well understood but it is enormous.[13]

Table 3 Impact of the Third Wave of Globalization

Politics	Although the political configuration of the continent remains the same, nation-states are becoming weaker; political and economic control of governments over their own societies and territories is also decreasing. Regional blocks have been formed. At the same time, the role of international agencies, banks, and transnational companies is becoming more important.
Urbanization	Urbanization of coastal areas progresses at an accelerated pace. Large cities continue to grow and coastal environments are being increasingly degraded (due to overfishing and contamination). New settlements for production of raw materials or other products under the control of transnational companies have been established in strategic areas (tree plantation for pulp paper production, soy bean farming, etc.).
Land Use and Ownership	Public lands are being privatized in some countries; and transnational companies are buying land or obtaining titles/permits for forestry, mining, or farming investments.
Work Force	Women's work is becoming increasingly important (e.g., in the *maquiladora* industries, female labor represents a large majority of the work force). Unemployment is increasing practically everywhere.

Farming and Tree Plantation	High-productivity monoculture (monospecific, few varieties) crops and plantations are being promoted, mainly for export. Remaining native systems are displaced or discouraged. A new "flood" of pests has encroached into these new highly vulnerable plantations.
Natural Ecosystems	Natural ecosystems are being destroyed with ever greater efficiency. Widespread logging and deforestation are taking place in most remaining forests. Grasslands are converted into agriculture or large-scale tree plantations.
Environment	Environmental degradation continues at an accelerated pace, producing a real global risk.[14] Deforestation, soil erosion, water contamination, aquifer depletion, predatory mining, desertification, negative changes in fluvial regimes are continuing and even increasing in most countries. At the same time, this same acute crisis is generating a worldwide awareness of the need to reformulate social strategies. The environmental movement is a consequence of this trend.
Health	Old diseases are reappearing (e.g., cholera), and new ones have appeared and are spreading (e.g., AIDS).
Mining	Mining continues to affect the environment in many places. Environmental impact assessments are required in many countries in order to begin new projects. Some mines are opened and many old mines continue expanding their activities.
Economy	Economies are being deeply altered, production systems and products radically changed, trade flows channeled from production regions to a growing network of consumption centers mainly in the North but also in other areas (Europe, United States, Japan, and the larger Latin American urban centers).
Culture	Cultures are profoundly changed. A complex, mainstream culture (still based on European traditions) is emerging. Remaining native languages and local traditions are losing strength. A gradual change of religious outlook is taking place (weakening of the Catholic Church, advance of other Christian, Afro-Latin American, and syncretic indigenous religions). New, more technically oriented (less humanistic) education systems are promoted.
Communication	Telecommunications are changing continentwide: computers, cable TV, telephones, faxes, and the Internet are increasingly available. Air transport is growing quickly.

VII. The Environment and the Third Wave

Nearing the end of the twentieth century, the impacts of the third globalization wave are already felt in many fields of human life while the second globalization wave is still very much alive. In fact, during the last decade, both waves are simultaneously affecting many countries of the world. The second globalization wave is slowly fading, and the third is steadily growing. One example is provided by the continued construction of megadams. Although these endeavors are typical of the second wave, they continue to be built as a result of the inertial effect of earlier decision-making processes. Such is the case with the recently finished 64.7-kilometer Yacyreta Dam on the Paraná River, which produces 2,760 megawatts of power and has a flooding area of 1,600 square kilometers. Its original estimated cost was $2 billion; the final cost was in excess of $8 billion. More than 40,000 people were (or are being) relocated. During construction, the total amount of fish crossing the site equalled 24,000 tons per day. Today, the dam elevators lift less than one-half that load. Some species have completely vanished, and many others are under threat. Fishing communities are disappearing, and very little or no compensation was provided for most of the people affected. A similar megadam (still larger due to the very flat terrain in the area) is currently being planned for the Middle Paraná (Paraná Medio). Fortunately, however, the decision-making process for this dam is taking place at a time when environmental concerns are permeating many sectors of Southern Cone societies, and there is no certainty that the dam will ever be built. Another megaproject, which was proposed in the late eighties, the Hidrovia (navigation waterways and complementary projects), is under attack because of its threat to the Pantanal wetlands, and its scope has been significantly reduced. Several other dams planned for the Amazonian Basin have been delayed and some may be rejected. Although the pressure for production of additional power is important, environmental concerns are slowing down or altogether stopping many megaprojects. That is also happening with other larger endeavors. The 40-kilometer Buenos Aires-Colonia Bridge crossing the Río de la Plata estuary has been enthusiastically proposed by some sectors of the Argentinean and Uruguayan societies, but an increasingly strong vocal opposition is trying to block the initiative due to the serious environmental and social risks that are involved in the project. However, although nowadays it has become more difficult to approve projects with environ-

mental impact, there is still considerable lobbying pressure to support several of the largest megaprojects.

These positive effects of the third globalization wave are often largely outweighed by its negative impact. For example, new monospecific crops and plantations are being cultivated in many areas. Soybeans are produced in large volumes in Brazil, Paraguay, and Bolivia in former forest and cerrado environments mainly for export to Europe, where they are used for animal feed. Soybean production figures have substantially increased in the Brazilian states of Mato Grosso, Mato Grosso do Sul, and Paraná: total production in 1994 for these three states was in excess of 12 million tons. For the whole of Brazil, the figure was more than 25 million tons.[15] Production of this sort continued to increase, encroaching on new forest and cerrado areas.

Another type of crop that has been developed continentwide, fueled by the informational/technological changes, is tree plantation for paper pulp. One of the countries most affected by this activity is Chile, where monospecific *Pinus insigne* stocks were established to take the place of Pehuen and other native trees. The encroachment of these plantations has affected several aboriginal Mapuche communities. Similar problems occurred in Brazil, where monospecific plantations of eucalyptus and pine trees replaced cerrado, araucaria, and rain forests, seriously affecting local populations, particularly the Guaraní Kaiova nation. In Argentina and Uruguay, eucalyptus and pine tree plantations were established in former grassland ecosystems. As a result, there are losses of biodiversity, development of bird plagues (parakeets and wild pigeons) affecting neighboring crops, and modifications of hydrological regimes and balances.[16]

The production of many traditional crops, such as sugarcane and cotton, has stabilized or even decreased. In the case of sugarcane, the exception is Brazil, where cultivation expanded to replace petroleum derivatives with alcohol. The environmental effect of this increase in production has been very negative: soils with steep slopes in the Brazilian Northeast were incorporated into the sugar production areas, causing soil erosion and sedimentation in rivers and reservoirs. On the other hand, cotton production, which remains important in Argentina, has decreased considerably in Paraguay and Bolivia.

As a result of large-scale, monospecific agriculture, traditional and diversified farming has declined. The small farmer is disappearing in several countries. In Paraguay at the beginning of the twentieth cen-

tury, many traditional farms had been forced to move into monospecific farming (cotton, *yerba mate*). More recently, large-scale soybean farming has displaced the small farmers, extending the reach of monospecific agriculture throughout Paraguay and eastern Bolivia. Due to this trend, the whole of eastern Paraguay has lost 90 percent of its forest cover.[17]

In the forest areas of the Amazonian region, deforestation is increasingly threatening the survival of ecosystems. About 21,000 square kilometers of rain forest were eliminated every year during the 1980s.[18] Similar rates were observed in the period 1990–97. This is not only the result of socioeconomic processes, it is also the consequence of well-defined official policies promoting the occupation of forest lands by colonists and the exploitation of local resources by foreign or national companies. There are concerns that the whole of the Amazon may become open savannas or farmlands in only a few decades.[19]

Increased consumption of sea products in developed countries (promoted by increased access to more varied and supposedly healthier food items, such as cholesterol-free fish and other seafood) has promoted the expansion of aquaculture in many developing regions. In Latin America, this activity has spread primarily into the nutrient-rich, high-radiation coastal areas of the Pacific Ocean, and it has had important environmental consequences. This has been felt particularly in Ecuador, where the production of shrimp and other invertebrates has increased severalfold during the last few years. Moreover, the impact has been considerable on the mangroves where the larvae are trapped, reducing their number and threatening many other animals that depend on them with extinction. In addition, there is a general and growing deterioration of water quality in the large Guayas estuary.

Further south, particularly in Peru and coastal Chile, the Pacific fisheries have been overfished. On the Chilean coast, several species of mollusks and crustaceans were overharvested, and strict gathering restrictions had to be imposed on many of them (such as the *loco* in Chile). Lately, foreign fleets have also moved into the Southern Atlantic, where *merluza* (trout), croaker, and other fish are also under threat of irreversible depletion.

Another consequence of the third globalization wave is the growing number of *maquiladoras*. These are off-shore, off-border industries created by U.S.-, Japanese-, Korean- and European-based companies that manufacture products in Latin American countries to take advantage of the lower wages, lower taxes, and less-stringent environmental

restrictions. The cities where these factories are located often become seriously polluted by hazardous waste. These cities include not only several close to the U.S.-Mexican border (such as Tijuana, Ciudad Juárez, Nuevo Laredo, and Matamoros), but many located in central Mexico, Guatemala, El Salvador, the Dominican Republic, and other countries.

In summary, from the environmental point of view, the third globalization wave is having mixed effects on the Latin American continent. On the one hand, because of increased access to information on the local and national levels, it is helping to slow down some of the largest environmentally unfriendly endeavors. On the other hand, it is allowing many transnational companies to deplete and profit from inexpensive natural resources. There is clearly a conflict between these two trends. However, although the aggressiveness of the processes of intervention has increased, the empowerment that is taking place in the now-better-informed local communities is putting them in a better position to choose among the possible alternatives and to protect themselves against more harmful options.

VIII. Political Effects

As explained above, ongoing globalization processes have tended to further reduce the cultural diversity of the world, creating a new, more global culture and a large number of subordinate subcultures. Moreover, cultures are lost or impoverished and "national" features of all kinds are becoming less defined. International migration and tourism are having similar effects; people interact and intermarry, mixing cultural features and creating a gradual thinning of cultural and national identities.

However, in spite of these changes, Latin American national cultures still exist and are an important asset to regional societies. Some of these nations agree with present states, but most do not. In many of them, individuals and communities have no political control over their common destinies. They were not given a choice as to whether they wished to become separate political entities. This is true among the Mapuche, the Aymara, the Guaraní, the Afro-Brazilian communities of Bahía, and elsewhere. In some cases, if they were given the choice of becoming a separate political entity, they would probably accept. Some of the rebel movements of the continent arise from this uncomfortable collective feeling of being in the wrong "country."

Frequently, the territorial states include groups belonging to several nations, and in others, one nation may be distributed among several states. There are also countries in which important sectors of the population find it difficult to identify themselves with any nation (cases of zones with recent immigration).

It is within this dynamic framework that contemporary territorial states are trying to maintain political and cultural control over their societies.

IX. Weakening of Territorial States

Another hypothesis of this paper is that globalization processes, in addition to promoting cultural conformity, are also having a weakening effect on governments. Paradoxically, these processes are allowing a freer expression of many national cultural elements that were formerly suppressed, and, therefore, they may eventually become a tool for cultural empowerment.

The enfeeblement of states can be felt on several levels. Economically, they are affected by the decreasing control of governments over their economies. Lowering and eliminating tariffs is reducing the importance of intergovernmental boundaries, and the increasing speed of financial instruments, often crossing borders at will, is making it difficult to control finances and currencies.

At the same time, information can no longer be (fully) controlled at the government level. Although there are important elements that still remain out of the public's reach, governments are losing total control over their use and dissemination. In short, most of the information, which in earlier times was a government privilege, may now be easily accessible through the Internet or other electronic means.

X. Expansion of Transnational Companies and Banks

While governments are not in command of their realms as they used to be, transnational companies are extending their penetration into and control over larger territories worldwide. New branches of the main megacompanies sprout up every day; Coca-Cola, McDonald's, Esso, and Microsoft are only some examples of transnational companies whose products can be purchased almost everywhere.

Governments have also been weakened by their debt loads, which have forced them to allocate an increasingly higher proportion of their

budgets to debt servicing. Governments are becoming more dependent on financial institutions, which erodes their political power. Multilateral development banks are the international financial agencies most commonly dealing with the debt problems of governments. Their agreement on refinancing or renegotiating is given under some specific conditions, normally of a political nature, further reducing state power. In brief, the bottom line is quite restricted for most governments. Not too many options are available; budgets and currencies are under strong pressure; and international trade trends appear as unstoppable. Remaining alternatives are few. Those governments that dare to defy the global system are quickly brought into line.

XI. Development of Communications

The development of telecommunications is also making it more difficult for governments to hide information about ongoing or potentially critical situations. It is becoming increasingly difficult to prevent bad news from filtering through the complex telecommunications web. Now electronic mail systems and cable TV are available practically everywhere, and news from neighboring countries or global TV chains can be seen and heard in many more places.

XII. Privatization and Decentralization

This trend is taking place while banks and multilateral development (MLD) agencies are putting pressure on governments to privatize public companies. Generally, only the most profitable public enterprises can be easily privatized (and stay private), and for this reason governments tend to lose mostly high-profit operations, keeping those with less profitability (or, in the worst cases, repossessing them after bankruptcies) and thereby underscoring their dwindling power.

Another trend promoted by MLD agencies in order to streamline government activities is the decentralization of activities and services. Public education, health care, and water supply are being systematically "downloaded" from central government systems and transferred to local powers, such as provinces or municipalities.

XIII. A Window of Opportunity

This weakening of state capacity and the increase in access to information from multiple sources is opening a window of opportunity for communities and individuals.

On the other hand, the vacuum of political power created by the global situation is often used by transnational companies to encroach upon all corners of the world. In that sense, globalization provides tools that can be utilized to penetrate practically any country on the planet. Nonetheless, in some cases, local authorities, groups, and communities may utilize this situation to their own benefit. They have much more access to information, can communicate better with others, and can join forces to form new solidarities and confederations. In summary, although globalization strengthens the control of transnational powers, it may also provide countries the means to resist them.

Before the information revolution, territorial states were in complete control, against which communities and local groups were often powerless. With the current weakening of territorial states, new liberating alternatives can be explored. In some cases, pressure on international agencies for appropriate decision-making or policy formulation may produce the desired results (e.g., loans for an unwanted project can be stopped). Similar action may be taken against transnational companies, which may be afraid of bad publicity. As normally happens with any dramatic social change, globalization has both potentially negative and positive impacts (if we define as negative those promoting stronger foreign control and as positive those increasing local and national self-reliance and autonomy). From that point of view, the weakening of territorial states is not necessarily a negative process, and it may finally provide new alternatives for communities and local groups worldwide if the positive aspects are intelligently utilized.

In a time when humankind is risking overshooting the limits[20] of nature, due to the global and blind power of market forces, the tools that are offered by this new globalization wave may provide the necessary window of opportunity for planetary survival and social renewal. ◉

Notes

1. Alberico (Amerigo) Vespucci in his letter to Lorenzo Pedro de' Medici states: "The [American] continent [is] inhabited by a larger crowd of peoples and animals than our Europe, or Asia or even Africa." Daniel Vidart, ed., "Las navegaciones de Vespucio," *La República* 6 (1992): 539.

2. The waves of globalization I describe here are different from the "waves of civilization" proposed by Alvin Toffler in *The Third Wave* (New York: Bantam, 1980). Toffler's first wave was equated with the agricultural revolution about 10,000 years ago, the second wave was the Industrial Revolution (beginning around 1650–1750), and the third wave, the "information revolution," developed during the second half of the twentieth century. Only the last two can also be considered globalization waves in the sense of this paper. A first globalization wave, which I call the "military wave," not included as a separate wave in Toffler's work, took place as a result of the European expansion that began during the fifteenth and sixteenth centuries.

3. Fernand Braudel, *The Structures of Everyday Life: The Limits of the Possible* (New York: Harper and Row, 1981).

4. According to Bartolomé de las Casas, the population of Jamaica and Puerto Rico was in excess of 60,000; the five kingdoms of Santo Domingo had a population close to 500,000; and the island of Cuba perhaps 1 million. According to these estimates, the population of the Caribbean archipelago was between 3 and 6 million people. The total number of people who died as a result of the invasion during the first forty years was estimated by las Casas at 12–15 million people (This figure also includes those who died on the mainland). See Bartolomé de las Casas, *Brevísima relación de la destrucción de las Indias* (1552; reprint, Montevideo, Uruguay: La República, 1992).

5. According to Gaspar de Carvajal (in his travels from 1541 to 1542), who described the first Spanish explorations along the Amazon River, there were more than a dozen well-established kingdoms along the river margins, with populations of 100,000 or more (e.g., the Machaparo kingdom with 50,000 warriors, the Omagua, and the Paguana). The total riverine population would probably approach 1 or 2 million. The estimates for the whole Amazonian region can be several times this figure. See Gaspar de Carvajal, *Descubrimiento del Amazonas* (1542; reprint, Montevideo, Uruguay: La República, 1992).

6. A savanna-type vegetation with trees and a bushier, grassier undergrowth.

7. An estimate of 1 million seems reasonable for the Guaraní territory in present-day Paraguay. In 1542, when the Spaniards controlled less than 5 percent of the Guaraní territory, Cabeza de Vaca was able to gather 10,000 men for his war against the Guaycuru. See Louis Necker, *Indios Guaraníes y Chámanes Franciscanos* (Asunción, Paraguay: Biblioteca Paraguaya de Antropología, 1990). We should note that the Guaraní nation extended much beyond the boundaries of Paraguay. There were probably 3 or 4 more million in the present territories of Mato Grosso, Santa Catarina, Paraná, Minas Gerais, São Paulo, Corrientes, Entre Ríos, and the Paraná Delta. A few million more inhabited the cerrado savannas of Brazil.

8. Braudel, *Civilization and Capitalism*. See also Alberico Vespucio in Vidart, "Las navegaciones de Vespucio." William M. Denevan, "Native American Populations in 1492: Recent Research and a Revised Hemispheric Estimate," in *The Native Population of the*

Americas in 1492, ed. William M. Denevan, 2d ed. (Madison: University of Wisconsin Press, 1992), xvii–xxxviii.

9. Danilo Antón, *Thirsty Cities: Urban Environments and Water Supply in Latin America* (Ottawa: IDRC, 1994).

10. Peter M. Ward, *Mexico City: The Production and Reproduction of an Urban Environment* (London: Belhaven Press, 1990).

11. Enrique Leff and Julia Carabias, eds., *Cultura y manejo sustentable de los recursos naturales*, 2 vols. (Mexico City: Grupo Editorial Miguel Angel Porrúa, 1993).

12. Toffler, *The Third Wave* and *Powershift: Knowledge, Wealth, and Violence at the Edge of the 21st Century* (New York: Bantam, 1990).

13. In a recent document, the Jesuit Latin American "Provincials" analyzed the present Latin American "neoliberal" model and agreed in emphasizing its cultural roots and impacts: "The world structural injustice finds its roots in a system of values belonging to a modern culture with world impact" and "This system of values is presented by ambiguous symbols with a considerable seduction capacity and thanks to its control of the media, can easily affect local traditions, not prepared for a dialogue enriching both parties, and preserving the identity and liberty of deep human traditions without power to communicate their messages at the market level" (my translation). See Provinciales Latinoamericanos de los Jesuitas, *Neoliberalismos en América Latina, aportes para una reflexión común* (Montevideo, Uruguay: La República, 1996).

14. As James Lovelock states, "The present frenzy of agriculture and forestry is a global ecocide as foolish as it would be to act on the notions that our brains are supreme and the cells of other organs expendable." See his *Ages of Gaia: A Biography of Our Living Earth* (Markham, Canada: Penguin Books, 1988).

15. *Folha de S. Paulo* (31 March 1994).

16. Ricardo Carrere and Larry Lohmanan, *Feeding the Pulpmills* (Montevideo, Uruguay, and Penang, Malaysia: World Rainforest Movement and Instituto del Tercer Mundo, 1995).

17. Ronaldo Dietze et al., *Los caminos de la diversidad*, Serie Debate 5, 2d ed. (Asunción, Paraguay: DGP/MAG/GTZ, 1993), and Ramón Bruno Fogel, *El impacto social y ambiental del desarrollo: El caso de las comunidades indígenas* (Asunción, Paraguay: Centro Paraguayo de Estudios Sociológicos, 1989).

18. Philip M. Fearnside et al., *Deforestation Rate in Brazilian Amazonia* (Manaus, Brazil: Instituto de Pesquisas Espaciais, Instituto Nacional de Pesquisas da Amazonia, 1990), 8.

19. Bob Holmes, "Amazonia: Can We Turn the Rainforest into Farmland?" *New Scientist*, no. 2048 (21 September 1996): 26–43.

20. In my *Diversity, Globalization and the Ways of Nature* (Ottawa: IDRC, 1995), and following the line of thought of D. H. Meadows et al. in *Beyond the Limits* (London: Earthscan, 1992), I concluded that "In this 'spaceship Earth' we cannot afford to risk overshooting the limits, whatever they may be; we may not have a second chance" (37).

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