

*George Ronald Bahá'í Studies Series*

# **Processes of the Lesser Peace**

edited by

**Babak Bahador and Nazila Ghanea**



George Ronald  
Oxford

## **The Environment and the Lesser Peace**

Arthur Lyon Dahl'

The environment refers to everything that surrounds us and particularly everything that has some influence on us. It thus includes the natural resources and life-support systems of the planet, its physical and chemical processes and biological riches. It also includes human beings, who have become the dominant species in the planetary ecosystem, and all the social and cultural conditions that influence our life.<sup>2</sup> The human environment that we have built for ourselves has been imposed on nature. When we think of the environment, most often we think first of all the problems caused by human activity, such as pollution and resource depletion, and the consequences they may bring including climate change, stratospheric ozone depletion, land degradation and desertification, and the loss of biodiversity. These are generally negative associations derived from the damage modern civilization has caused to the natural environment.

The environment and peace are two subjects that are not usually directly associated, the former being scientific in orientation and the latter political. If anything, environmental

problems are seen as an important source of conflict, as well as a consequence of war and preparations for war. Population pressure overshooting the environmental carrying capacity of available resources was one of the causes of the genocide in Rwanda. The Gulf conflict saw environmental pollution used as a weapon of war. The Vietnamese environment has only slowly recovered from the widespread use of defoliants during the Vietnam War. The destruction caused by war inevitably produces widespread pollution. Unexploded munitions and land mines can render large areas of the environment inaccessible and unproductive. Warfare is an environmental as well as a human calamity.

One could easily see the environment as just another source of human discord but this would disregard the larger context of the evolutionary pressures on society. It is this context that gives the relationship of the environment and peace its directionality, with the environment a driving force more towards peace than conflict. Society is not simply buffeted by various random pressures. It is in the midst of a significant evolutionary transformation driven by technological developments.<sup>3</sup> A biological example can help to illustrate this. If islands in an archipelago are long isolated by water, their plant and animal populations will evolve distinct differences, as Charles Darwin observed in the Galapagos Islands.<sup>4</sup> If the sea level then dropped, joining all the islands into one land area, the different species would intermingle and compete with each other. After a period of chaos and confusion, a new ecological balance would be struck, either by some species replacing others or by competing species evolving different means of coexisting. This is precisely what has happened with human societies. The many tribes, cultures and nations of the planet evolved in relative isolation until the technological revolution of the last two centuries broke down the barriers between them and transformed the social environment. Much of today's warfare and conflict results from this recent mixing of peoples and cultures and represents part of a natural transitional process towards a larger level of unity in the human system.<sup>5</sup> This also allows some optimism about the natural outcome of what is

really an organic process:<sup>6</sup> the evolution of a single world human system balancing unity and diversity. We can swim with the current and accelerate the process, or fight against it and slow things down. The result will ultimately be the same, unless we destroy the very basis of modern society in the process and force a reversion to a more primitive culture.

In this larger sense, the environment has joined technology as an important force pushing nations towards unity and peace over the last four decades of the 20th century. Governments have increasingly recognized that their own self-interest in protecting their environment requires cooperation with other States. Transfrontier problems require collaboration among neighbouring States and those sharing common river basins and airsheds. Global environmental problems necessitate global management mechanisms. Cooperation in the environmental area can often help to improve relations in other areas, as States develop habits of working together. Peace is often made of many such small steps. The significance of the environment as a force for peace in the recent past carries over as well into its potential role in a world challenged to make peace. This paper focuses on the positive contributions that the environment has made and can continue to make to the achievement of world peace.

The 'Lesser Peace', in Bahá'í terminology, refers to the political unification of the world and the achievement of peace among nations through simultaneous disarmament and arms limitation, with a universal agreement to abandon war as a way of settling conflicts and the establishment of mechanisms of collective security.<sup>7</sup> It therefore implies a process of political unity among States, as a step in the gradual progress towards a larger unity among the nations and peoples of the world.

There are several dimensions to the interaction between processes for peace and the environment:

- Environmental science has demonstrated the unity of the world system.
- The need for international environmental management has driven increasing political cooperation and trends in the

years to come will inevitably increase the pressure for shared efforts and common solutions.

- The environment has provided areas of common interest for disparate groups to work together.

Each of these points will be elaborated in the sections that follow.

### **The Force of Scientific Evidence**

The growing number of international environmental problems has great significance for the political evolution of society. They communicate the interrelationships of all things with the force of scientific evidence which is politically neutral and hard to deny. The hole in the ozone layer, the headlines about dioxin contamination and declining sperm counts, and the worries about climate change all drive home the message that this Earth is a single system and we are all living in it together. Science is also building a better understanding of how the planetary system works, with satellite observations, new monitoring technologies and computer models. The El Niño Southern Oscillation, which shifts warm water masses across the tropical Pacific Ocean and has severe repercussions on weather patterns all around the world, can now be modelled and predicted with reasonable accuracy. There is a reality to these and other scientific discoveries about the linkages and interactions of the global environment that no politician can argue against. They emphasize the shared responsibility of all nations and peoples. The following examples, showing how science has leveraged global political action on emerging environmental issues, are based on summaries prepared for the UN system by Earthwatch.<sup>8</sup>

#### *Ozone Depletion*

The discovery of damage to the stratospheric ozone layer is a good illustration of a truly global problem. Scientific research in 1974 (which won the 1995 Nobel Prize for its authors) suggested that man-made chemicals such as the chlorofluorocarbons (CFCs)

might catalyze the destruction of ozone. This would increase ground level ultraviolet solar radiation, resulting in skin cancer and unpredictable damage to plants, algae, the food chain and the global ecosystem. A seasonal hole in the Antarctic ozone layer was in fact discovered in the 1980s. It has been growing larger and similar damage has now been observed in the Arctic. Scientists have obtained conclusive proof that CFCs and similar chemicals used in refrigerators, in manufacturing processes and as pesticides are the cause of ozone depletion in the stratosphere, by finding chemicals there that could come from no other source.<sup>9</sup> Since these chemicals are entirely man-made, the solution is for all countries to stop manufacturing and using them. However, the damage to the ozone layer continues to accelerate, thinning twice as fast as predicted, for reasons scientists cannot explain. The greenhouse effect, which causes stratospheric cooling, may be contributing to ozone hole formation and may also slow recovery even after ozone depleting substances start declining.<sup>10</sup>

#### *Persistent Organic Pollutants*

One of the most pressing environmental issues today is that presented by persistent organic pollutants (POPs), which take a long time to break down in the environment and cannot be contained once released. Pesticides such as DDT were considered one of the great miracles of industrial civilization in mid-century, until it was discovered that these and other persistent organic pollutants were accumulating in the environment, passing up the food chain and affecting human and animal health. Over the past few years there has been an increasing body of evidence documenting their devastating effects on wildlife, including wasting syndromes, shrinking populations, birth defects such as missing eyes and deformed reproductive organs, and behavioural disorders such as same-sex nests and loss of sex drive. POPs present serious human health risks including mimicking reproductive hormones, immune suppression, carcinogenesis, and effects on embryonic development including lowered intelligence, poor short-term memory, a shortened attention span and difficulties in learning to read.<sup>11</sup>

POPs are now found in a variety of food products, with millions of people potentially exposed to dangerous levels. They accumulate exponentially in fatty tissue as they move up the food chain, such that concentrations can be 70,000 times the background levels in a top predator. They thus collect in human blood and body fats, with high concentrations in breast milk.<sup>12</sup> We now have 300 to 500 measurable man-made chemicals in our bodies that would not have been found there 50 years ago.<sup>13</sup>

Furthermore, POPs are transported globally. For example, dioxin in the Great Lakes comes from as far away as Florida and California<sup>14</sup> and potentially damaging levels of DDT, PCBs and dioxin-like compounds have been found in wildlife on remote Pacific islands thousands of kilometres from heavily populated areas. There is a systematic transfer of these chemicals from warmer to colder areas through the process of global distillation. The pollutants evaporate from soils in warm areas such as the tropics, are transported as vapour around the globe and condense over cold areas as toxic snow or rain, causing widespread contamination of the arctic and antarctic ecosystems, with high levels found in wildlife and people. In some traditional Inuit villages, two-thirds of children have blood-PCB levels above Canadian health guidelines.<sup>15</sup>

### *Climate Change*

Another example is the threat of global warming and climate change. The principal driving force is the accumulation in the atmosphere of carbon dioxide from the burning of the fossil fuels that power most of Western civilization and to a lesser extent from forest destruction and other factors. Other greenhouse gases also contribute. Everyone is responsible, even if the most industrialized countries have contributed longest and the largest share. The only possible solution is a coordinated international response and the United Nations adopted a Framework Convention on Climate Change in 1992 for this purpose.<sup>16</sup>

The third assessment of the Intergovernmental Panel on Climate Change (IPCC), adopted in September 2002, states that

the world is now warming faster than at any time since the last ice age, with the 1990s the warmest decade and 1998 the warmest year in the instrumental record. It concludes that some of these changes are attributable to human activities.<sup>17</sup> The IPCC has identified an 'increased risk of hunger and famine, particularly among the poor in sub-Saharan Africa, south, east and south-east Asia, tropical areas of Latin America, as well as some Pacific Island nations'.<sup>18</sup> In its assessment of regional vulnerability to climate change impacts, it has shown that billions of people could be affected by exacerbated problems in drinking water supply, sanitation and drought. Food production could decrease in the tropics and subtropics, despite steady global production. Significant adverse effects on small island States and low-lying deltas such as in Bangladesh, Egypt and China could displace tens of millions of people with one metre of sea-level rise. Heat stress mortality and vector-borne diseases could increase. Most effects are negative for the most vulnerable developing countries.<sup>19</sup>

Much of the controversy about proving scientifically the reality of climate change is because the wrong effects are being measured. The effects should appear not as global warming, since the tropics and the poles will show little temperature change, but as global heating expressed by increased variability and shifts in the latitude of biological and climatological features in temperate regions. The tropics will grow wider and the polar regions will shrink. These effects are already being demonstrated.<sup>20</sup> Critics also pointed to a cooling rather than heating trend in the atmosphere as measured from satellites but this was recently shown to be an artifact of the failure to correct for the decreasing altitude of the satellites. While it still may be some years before human-induced climate change can be confirmed statistically, the scientific evidence is growing steadily stronger.

### *Global System*

These and other global environmental problems demonstrate the interconnectedness of the Earth system.<sup>21</sup> Some scientists go so far as to describe the planet as a single self-regulating system

comparable to an organism<sup>22</sup> based on the fact that the necessary conditions for life were created and are maintained by biological activity. It is true that the oxygen in the atmosphere was generated millions of years ago by biological processes and that the mechanisms that maintain the temperature of the biosphere within an acceptable range for living things appear quite sophisticated. The processes of evolution are also clearly planetary in scope. Drifting continents separating and combining species, global extinction events like the meteorite impact that probably eliminated the dinosaurs, and the evolution of humans and their migration across the face of the Earth, all demonstrate that nature knows no borders.

We are far from understanding how complex ecological systems and biogeochemical cycles work on this planet but rapid progress is being made. Each new discovery reinforces the picture of complex interrelationships, interactions and feedbacks, combining surprising resilience and worrying vulnerability. In addition, many of the large-scale systems operate with very long time lags. By the time we detect a problem, it may be far too late to do much about it, hence the importance of modelling, predictions and the application of the precautionary principle. Still, natural systems have a much longer record of success than human systems. Ecological systems can therefore provide models with many useful lessons for the design of human society.<sup>23</sup>

The environmental movement has built itself on this scientific demonstration of world unity. The early concern focused on widespread contamination by pesticides and on major oil spills resulting from the global trade in petroleum products. Whales, which roam all the seas of the world and were nearly driven to extinction by unregulated hunting, became a symbol of environmental concern. The slogan of the first world environmental conference in 1972 was 'Only One Earth'.

### **Political Cooperation on the Environment**

From the time of that first United Nations Conference on the Human Environment, held in Stockholm in June 1972, the envi-

ronment has been a growing force for political cooperation. That conference gave rise to the United Nations Environment Programme (UNEP), charged with catalyzing a global response to environmental problems. Many international conventions have been adopted to legislate controls on environmental problems ranging from marine pollution, trade in toxic chemicals and hazardous wastes, to biodiversity conservation, trade in endangered species, climate change and desertification. Agreements on biosafety and persistent organic pollutants have recently been concluded.

### *Ozone Depleting Substances*

The response to the damage to the ozone layer illustrates the success of this approach. When research in 1974 first indicated that some man-made chemicals had the potential to harm the stratospheric ozone layer, UNEP called for preventive international action and finally succeeded in convincing 28 governments to adopt the Vienna Convention on the Protection of the Ozone Layer in 1985. The first evidence soon after of the ozone hole over the Antarctic pushed governments to adopt the Montreal Protocol on Substances that Deplete the Ozone Layer in 1987.<sup>24</sup> As scientific knowledge of the causes and effects increased, the protocol was amended in 1990, 1992 and 1997 to speed up the elimination of emissions of man-made ozone-depleting substances. One hundred eighty-four countries are now parties to the convention<sup>25</sup> and the substances controlled under it are now beginning to decline in the lower atmosphere.

The reduction and elimination of the production of many ozone-depleting substances in industrialized countries under the Montreal Protocol is a major international environmental accomplishment.<sup>26</sup> The results of the latest WMO/UNEP scientific assessment of ozone depletion confirm its effectiveness. The abundance of ozone-depleting substances in the stratosphere has probably peaked, although detecting the start of the ozone layer recovery may not be possible for some years. A full recovery of the Earth's protective ozone shield could occur by the middle of

this century if the Protocol is fully implemented. However, even with the reduction in the use and release of ozone-depleting substances, the long life of chemicals already released in the atmosphere will keep the depletion going for years to come. If control measures had not been taken, the ozone decline would have been much stronger and would have continued for many more decades.<sup>27</sup>

### *Chemicals*

Persistent organic pollutants are another area where governments have recognized that unified international action is needed, despite the difficulty in reconciling their concerns. They are taking action against the most threatening chemicals through legally binding conventions to ensure the protection of public health and the environment. In June 1998, 33 countries and the European Community agreed the UN/ECE Protocol on Persistent Organic Pollutants to the Convention on Long-range Transboundary Air Pollution, which bans 16 different POPs. In September 1998 in Rotterdam a legally binding convention requiring the prior informed consent of countries to international shipments of toxic chemicals was signed by 61 countries. And in 2001, over 150 countries signed the Stockholm Convention, a legally binding international agreement to reduce and/or eliminate releases of 12 of the POPs most widely implicated in damage to human health and the environment, including pesticides like DDT and dieldrin, polychlorinated biphenyls (PCBs) and dioxins.<sup>28</sup>

### *Greenhouse Gases*

In the area of climate change, the scientific uncertainty is greatest, the economic forces involved the largest and the conflict of national interests the most intense. The latest work by the IPCC on climate inertia and the long life of gases shows that the full effects of past emissions will occur even if industrialized countries reduce emissions by 30 to 90 per cent, since global emissions will

still reach two to three times 1990 levels. There are still large margins of error in calculating natural sources and sinks.<sup>29</sup> The most damaging effects will be felt in the developing countries of the tropics, while the costs of the necessary control measures will fall most heavily on industrialized countries in temperate regions. The fossil fuel technologies that produce the most greenhouse gases are the very foundation of industrial society, so there is strong resistance to any change. In addition, the long time lags before serious effects will be evident encourages decision-makers to procrastinate. Yet, given the scale of the potential consequences, failure to act would be irresponsible. The UN Framework Convention on Climate Change establishes the political mechanism to work out these conflicts, and with the Kyoto Protocol of 1997 some significant progress has been made. However, it seems unlikely at present that most industrialized countries will live up to their commitments, and the world's largest contributor to the problem has withdrawn from the protocol, seeing it as a threat to its national interests. An active interaction between science, economics and politics can be expected in this area for years to come. The fact that those interactions are now taking place within an appropriate international mechanism is already a hopeful sign, even if real progress is slow in coming.

### *Regional Seas*

The environment has also been a force for regional cooperation despite the most daunting political obstacles. UNEP, for instance, brought countries together starting in 1974 to cooperate in the protection and management of shared Regional Seas, such as the Mediterranean, the Caribbean, the Persian/Arabian Gulf and the South Pacific. In each sea area the countries adopted a Convention and implemented a joint action plan.<sup>30</sup> The imperative need to manage a shared environmental resource overcame many political barriers. In the Mediterranean, countries like Greece and Turkey, Israel and Libya cooperated successfully despite their political differences. During the

Iran–Iraq war, the two warring countries continued to meet and cooperate in the Kuwait Action Plan and its Regional Organization for the Protection of the Marine Environment while the exploding bombs across the Gulf resonated in the background. In these circumstances, the environment was truly a force maintaining the collaboration between countries that is an important step toward peace.

### **Earth Summit**

The United Nations Conference on Environment and Development in Rio de Janeiro in 1992 was another important step towards global awareness and cooperation. In what was then the largest meeting ever of Heads of State and Government, more than 100 gathered at the 'Earth Summit' and adopted a declaration and Action Plan (Agenda 21) that mapped out a wide range of cooperative activities to protect the environment and achieve sustainable development.<sup>31</sup> Conventions on climate change and on biodiversity were also signed. Another unique feature of the Rio Conference was the associated Global Forum where thousands of representatives of non-governmental organizations across the whole spectrum of major groups in civil society gathered to build their own cooperative networks and to encourage and reinforce the governmental efforts. The momentum started at Rio has continued in the work of the UN Commission for Sustainable Development that was established after Rio to pursue the implementation of Agenda 21 and been taken a step further at the World Summit on Sustainable Development held in Johannesburg ten years later.<sup>32</sup>

Other collaborative activities have spun off from the Earth Summit. The Small Island Developing States adopted their own plan of action in Barbados in 1994 and continue to explore innovative solutions to global problems.<sup>33</sup> A convention on desertification has been adopted,<sup>34</sup> as well as a global programme of action for the protection of the marine environment from land-based activities.<sup>35</sup>

All of this intergovernmental effort to address common environmental problems has been building habits of cooperation among governments. While it is never easy to reconcile conflicting national interests, in case after case the need for joint efforts to address problems from which everyone suffers has led to a consensus for action. If the disparate nations of the world can do this for the environment, perhaps some day they will be ready to do it as well in the interests of a just and lasting peace.

### **Development Choices**

Some issues do not stand out clearly when the environment is considered on a global basis. One of these is the very different environmental situations and perceptions of different groups of countries, particularly the highly industrialized countries on the one hand and the poor developing countries on the other. This debate has been going on since the Stockholm Conference in 1972 and has perhaps even been aggravated by the growing gap between the richest and poorest countries in recent years.

The industrialized countries have been trying to learn from their past environmental mistakes and recognize the cost and difficulty of cleaning up pollution and repairing past environmental damage. They therefore urge the poor countries to leapfrog the damaging stages of industrialization and to do as they say, not as they did. The poorest countries, however, faced with the often desperate needs of their population, say that environmental protection is a luxury they cannot afford. They ask why they should forego opportunities for their development, or adopt more expensive technologies, in order to protect the environment. In addition, much of the planetary capacity to produce raw materials and absorb wastes (such as the greenhouse gases) has been used up by the wealthy countries, leaving little possibility for the poor countries to develop without causing major damage.

This is a particularly challenging area in the efforts to achieve a just peace among nations. It has roots in the colonial past of many wealthy countries and is complicated today by the fact that much economic power and control formerly held by governments

has now passed to multinational corporations, institutional investors and other elements of the private sector. Only a few facets of the problem can be touched on here.

Part of the issue is the willingness to transfer financial resources in order to pay the costs of sustainable development. Agenda 21 was costed at about \$120 billion (thousand million) per year in international costs to achieve the sustainable development of the planet. This may seem high but it is only a fraction of global arms expenditures and would come out favourably in a cost-benefit analysis. However, only about \$20 billion was pledged at the Rio Earth Summit and in fact global official development assistance and support to the organizations expected to implement Agenda 21 has declined considerably since 1992. Only a few countries have respected the international engagement to contribute 0.7 per cent of their GNP in development assistance. The failure to fund the commitments made at United Nations conferences has been a major area of international friction. The wealthy nations push for others to make sacrifices but are unwilling to do so themselves. This problem will probably continue until systems of international taxation are agreed that can raise revenues for international obligations without competing with national treasuries and political pressures.

There are a few exceptions that demonstrate that international solidarity is possible. Under the Montreal Protocol to phase out ozone depleting substances, a Multilateral Fund was established to finance the costs to developing countries for the necessary changes in technologies. The Global Environment Facility (GEF) was also established to help pay developing countries for the incremental costs of adopting measures in the areas of climate change, ozone depletion, biodiversity and international waters that benefit the international community but not the country itself. The GEF has become the financial mechanism for the Framework Convention on Climate Change and the Convention on Biological Diversity signed in Rio.<sup>36</sup>

What this issue demonstrates is that both peace and the environment require a reduction in economic and technological inequalities between countries. This will have a direct benefit on

the environment, not least because much environmental damage is in fact caused by the excessive consumption of the rich and the desperate struggle for survival of the poor. There also needs to be a greater willingness to consult together in a search for the welfare of the whole planet and not just in defence of national interests. It is evident that priorities must be different at different levels of social and economic development and an evolutionary progression in environmental standards is often the only realistic option. Consultation and the application of the best scientific knowledge can help all countries to understand each others' situations and to strike an appropriate balance. Despite these differences in perspective, many developing countries have recognized the importance of sound environmental management and have made important progress in this area.

### **A New Partnership of Science and Religion**

The environment has also become a force bringing disparate groups together in new partnerships based on a commonality of interests. For example, science and religion have often been in opposition. Yet in recent years the environment has not only brought scientists and religious leaders together but has united the religions themselves in common actions for environmental protection. While there were already discussions on this theme at the Environment Forum associated with the Stockholm Conference in 1972, it was only in 1986 that the World Wide Fund for Nature (WWF) invited the major religions to Assisi to form a network on religion and conservation. Nine years later the WWF convened a World Summit on Religions and Conservation at Windsor Castle in 1995, where leaders of the Bahá'í Faith, Buddhism, Catholic, Orthodox and Protestant Christianity, Hinduism, Islam, Jainism, Judaism, Sikhism and Taoism agreed on the common moral imperative for conserving nature and protecting the environment, and launched an Alliance of Religions and Conservation.<sup>37</sup>

Another sign of this convergence has been the series of Klingenthal Symposia on ecology, ethics and spirituality organized by Pax Christi in France between 1995 and 2001, where



scientists and representatives of various religious and spiritual traditions met to agree on areas of common concern and action.<sup>38</sup> The Orthodox Church has also organized major symposia on Religion, Science and the Environment, of which the second in September 1997, on the Black Sea in Crisis, brought together nearly 200 religious leaders, leading scientists, politicians and journalists for ten days of intensive consultations on the necessary partnership of religion and science if the problems of the environment are to be solved, while visiting by ship all the countries around the Black Sea.

### **Trends Ahead**

Despite progress in a few areas, the environmental problems of the planet are worsening.<sup>39</sup> The driving forces are the growing world population and the unsustainable consumption of resources in the most developed countries and by the wealthy everywhere. The pressures for global cooperation on the environment will thus inevitably increase. Many of the past environmental agreements are still far from being implemented effectively, so further effort will be required within existing mechanisms. There are also some major threats requiring further agreement on action. It is not possible to review all the trends ahead but a few examples will illustrate the environmental pressures on governments to cooperate.

#### *Climate Change*

Responding to the threat of climate change caused by the release of greenhouse gases is a major challenge, as it threatens the very foundations of the present industrial society. Imagine the economic and social impact if all technologies using fossil fuels (oil, coal, gas) had to be phased out and the related infrastructure junked or adapted to other uses. On the other hand, failure to act in time could result in sudden climate change driving whole populations to migrate as their environments become uninhabitable. The challenge that this limit to environmental capacity presents

to society is immense. In many ways, the effluents and wastes of our affluent society are overwhelming the capacity of the environment to absorb and neutralize them. As Bahá'u'lláh warned over a hundred years ago: 'The civilization, so often vaunted by the learned exponents of arts and sciences, will, if allowed to overleap the bounds of moderation, bring great evil upon men.'<sup>40</sup>

#### *Invasive Species*

The dangers represented by invasive species introduced accidentally or intentionally from other parts of the world are now attracting increasing attention because of the ecological havoc they are causing in many ecosystems and the high economic costs of controlling them, where that is even technically possible. The full extent of the problems caused by this 'biological homogenization' of the planet can only be dimly imagined at present and is not yet fully appreciated. Another worrying trend is the overuse of pesticides and antibiotics, resulting in growing resistance in pests and diseases, which could become uncontrollable. Coupled with this is the steady erosion of natural areas and the accompanying loss of biodiversity. The rate at which productive natural ecosystems such as coral reefs are being stressed and degraded is frightening. The causes are multiple: pollution by eutrophication and siltation from adjacent land; overfishing; mining corals and sand for construction; destructive fishing methods; temperature stress from global warming; and biological imbalances and epidemic diseases; all largely of human origin or probably aggravated by human interference. Because of the long time lags between causes and effects, the significance of this biological and ecological damage and loss of diversity will only be apparent in the future.

#### *Economic Globalization and Trade*

The process of economic globalization, with the free movement of capital and increasing liberalization of trade, will bring with it increasing global pressures to exploit natural resources wherever

they occur. The global trade in forest products, for instance, puts equal pressures on all the world's forests. However, trade only values the forest as a source of marketable materials, not as an ecological system with multiple benefits. If the demand for wood chips for paper pulp or for plywood can be met more cheaply from tropical rainforests than from temperate conifers, then the tropical forests will be cut regardless of their non-market values such as for biodiversity conservation, watershed protection or carbon sequestration. It is often the poorest countries that cannot afford to say no to international logging companies, even if they know their long-term interest is in more sustainable forest management for multiple uses. New mechanisms will be required to manage these global forces and to protect environmental and other interests not accounted for by the market. In the case of forest resources, for example, a global tax on trade in forest products could be used to compensate those forest owners who forego exploiting their forests because of other non-market values they represent for society.<sup>41</sup> Ultimately, global resource exploitation will have to be accompanied by global management of all the world's resources by a world federal system for global benefit.<sup>42</sup>

This globalization of the market could have dire consequences in the case of food. If the world reaches the point where the food demand of the growing population outstrips the supply, then the wealthy countries will bid up the price of grain to feed their livestock for high-priced meat and in the process take food out of the mouths of the poor who will no longer be able to afford it. There has already been some concern that the rising standard of living in China, and therefore the demand for more meat in the rice, could already have a similar effect.<sup>43</sup> Other estimates do not suggest a food crisis in the immediate future but the mechanism is a logical consequence of global market forces. Only a collective global response that puts other human values above the free operation of the market could prevent such a situation from arising. Whether such a situation becomes a source of conflict or a pressure for more just and peaceful relations will depend on the quality of leadership at the time.

### *Conflicting International Legislation*

Another evident trend is the logical consequence of the current procedures for international legislation. At present each environmental problem gives rise to negotiations to conclude another multilateral environmental agreement. Each such agreement is a separate convention, signed and ratified by its own parties (government members), with its own decision-making bodies and secretariat. Even if the government members are largely the same, there is no direct connection between different agreements. Already there are overlaps and contradictions between different pieces of international legislation. The Convention on International Trade in Endangered Species, for instance, bans trade in listed endangered species<sup>44</sup> and the Basel Convention controls trade in hazardous wastes which industry might want to dispose of cheaply in developing countries,<sup>45</sup> while the World Trade Organization adopts agreements which prohibit any barriers to free international trade.<sup>46</sup> As more and more international legislative texts are adopted in this way, the world will move towards a kind of legislative gridlock or paralysis, since there is no mechanism to harmonize the different independent conventions or to resolve disputes between them. Ultimately the only solution will be the formation of an international legislature able to pass and modify laws across the whole spectrum of international action, as is presently done at the national level.<sup>47</sup> The processes of international environmental legislation are thus also a force that, through their present internal contradictions, will encourage the world to establish the structures necessary to bring peace.

### *Global Environmental Information*

The need for global environmental management also requires reliable information on the state of the environment and its resources. International organizations and the scientific community are putting into place the necessary programmes for observing and assessing the state of and trends in the environment, including a Global Climate Observing System, a Global

Ocean Observing System and a Global Terrestrial Observing System within the framework of an Integrated Global Observing Strategy bringing together the space agencies, the UN organizations, the scientific community and major global research programmes.<sup>48</sup> Building a coordinated international environmental information system will also reinforce cooperation and joint action among governments.

Another difficult but necessary step will be the realization that global action requires the support of global financial mechanisms, including global taxation. Such proposals are already being increasingly aired in various quarters. From the environmental perspective, some forms of global taxes could assist in a just burden-sharing of the needs of environmental protection and resource management.

### **Risks of Environmental Crisis**

These environmental trends will certainly help to leverage the coming of that political unification of nations referred to as the Lesser Peace. What is not so clear is the combination of processes by which governments and nations will finally take the necessary steps to bring such a peace to the world. It could be only after unimaginable horrors, or voluntarily through an act of consultative will.<sup>49</sup> It will probably be some combination of crisis and advancement. Unfortunately, major steps forward in human social development have generally only resulted from crises that overcame inertia and created sufficient will for action.

A major environmental crisis could be a precipitating cause for the final steps towards peace. Some possible scenarios for such a crisis might include:

- an abrupt shift in weather and climate patterns driven by changed ocean currents,
- contamination of large densely-inhabited areas by a nuclear accident, terrorist attack or the use of biological warfare agents, or

- widespread health impacts and epidemics from irretrievable chemical pollution impairing the immune system.

An environmental catastrophe could wreak ecological as well as human havoc, create floods of environmental refugees, or render large areas uninhabitable for a long period. Severe environmental impacts would almost certainly accompany any other potential crises such as a global war or economic collapse. Bahá'u'lláh warned that civilization, if carried to excess, would prove a prolific source of evil: 'The day is approaching when its flame will devour the cities.'<sup>50</sup>

If a major crisis in civilization causes widespread famine, disease and migration, environmental problems will certainly aggravate the consequences. For example, the populations in urban areas and developed regions are increasingly dependent on highly technological systems to deliver food, provide clean water and eliminate pollution. Any breakdown in those systems will leave them vulnerable to famines and epidemics. Agriculture is also increasingly dependent on sophisticated inputs. Just consider how much more interdependent Western society has become in the 60 years since the last major disruption of civilization during the Second World War and imagine the consequences of a similar disruption today.

### **Ecology and the Lesser Peace**

Regardless of whether the environment contributes directly to moves to establish peace in the world, it is difficult to imagine a political peace that is not also supported by a more sustainable society. The kinds of environmental problems described in the sections above would be a continuing source of tension and conflict incompatible with establishing and maintaining peace. Thus even the Lesser Peace implies changes in society to bring it around towards environmental sustainability. The creation of international institutional mechanisms for peace will also facilitate global decision-making and resource management to resolve environmental problems. Without them, there is little hope of significant progress on the environment.<sup>51</sup>

There are various groups and authors developing scenarios of such possible futures.<sup>52</sup> These generally start by describing 'business as usual' with the simple projection of present trends based on the dominance of the Western capitalist free market approach. The tendency is for increasing material success in the wealthiest countries and among the middle classes but growing extremes of wealth and poverty and unsustainable use of resources. This is then contrasted with a scenario of social breakdown, with the industrialized countries retreating into a 'fortress world' and giving up on trying to help solve the anarchy and chaos of the poorest regions. A third scenario explores the practicality of a constructive response based on fundamental changes in direction in present society. Such positive scenarios have the merit of demonstrating that a transformed world based on solidarity and sustainability is a rational alternative if society is prepared to make the necessary changes and sacrifices. What they do not show is how to do it.

Such studies also demonstrate that the world's problems of environmental protection and sustainability cannot be addressed in isolation. Only when all the nations come together in unity and work wholeheartedly for their common benefit will much real progress be made. The establishment of the institutions of the Lesser Peace will reinforce processes of consultation and joint action at the global level. The stage will then be set for the increasing application of spiritual principles to environmental protection and management as the foundations are laid for a new world civilization.<sup>53</sup>

The Bahá'í writings also contain a scenario or vision of a future peaceful society that incorporates essential elements of sustainability,<sup>54</sup> some excerpts from which are discussed below. They set the institutional context for sustainable management of the planetary environment as a single system. In this view, the unity of the human race will be reflected in the establishment of a world commonwealth including legislative, executive and judicial powers. A world legislature will act as the trustees of the whole of humanity to 'control the entire resources of all the component nations, and will enact such laws as shall be required

to regulate the life, satisfy the needs and adjust the relationships of all races and peoples . . . The economic resources of the world will be organized, its sources of raw materials will be tapped and fully utilized, its markets will be coordinated and developed, and the distribution of its products will be equitably regulated.' The establishment of peace will free enormous resources for scientific research, technological development, increases in human productivity, improvements in human health, and 'the exploitation of the unused and unsuspected resources of the planet'. The result will be a world federal system exercising its authority over the Earth's unimaginably vast resources and exploiting all the available sources of energy on the surface of the planet.<sup>55</sup>

Within such a framework, it will finally be possible to develop comprehensive and effective solutions to the complex challenges of sustainable development and sound environmental management on this planet. A coherent set of international environmental legislation, regulations and incentives could be evolved. The threat of climate change could be countered by reducing the increase in greenhouse gases in the atmosphere to slow the rate of change and by assisting countries and regions most affected to adapt to the consequences of inevitable change. The excessive use of threatening chemicals could be regulated and ozone depleting substances could be rapidly phased out. Development could be directed away from those areas essential to preserve biological diversity and to maintain the ecological balance of the planet. Special attention would need to be paid to the social implications of such changes. Peace will already be socially and economically traumatic, eliminating most of the armaments industry and employment possibilities in the military services. The need to respect environmental limits will impose other changes, such as in the energy and transport industries and in agriculture. Major pillars of Western economies will disappear, and while new opportunities will be created, the changes required are never easy and require a strong sense of solidarity and assistance to the millions who will be affected. The Lesser Peace will not be the end of a process of transition but only one intermediate step.

One important component of the new international machinery for peace will have to be a new approach to science. Maintaining the ecological balance of the world will require a great increase in scientific knowledge and multiple levels of environmental monitoring and management ranging from the global to the local levels. Science will have to cease being the preserve of an intellectual elite and be so organized that everyone has a basic environmental understanding and can think in terms of scientific processes. Science also needs to be combined with religion and ethical values as two complementary knowledge systems necessary to build a peaceful and prosperous society.<sup>56</sup> Providing a common scientific understanding of the environmental issues facing the planet will facilitate the search for just and peaceful means to resolve them and reinforce other dimensions of the peace process.

In this way, peace, science and the environment will be intertwined, with each supporting the others. The environment may well help to give birth to the Lesser Peace, which will in turn contribute to the resolution of the environmental challenges which are among the tragic legacies of the 20th century.

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## The Spiritual Destiny of America<sup>1</sup> and the Achievement of World Peace

John Huddleston

### Introduction

Any review of the establishment of world peace would be incomplete if it did not refer to the role of the United States. That subject is explored briefly in this essay. It begins with America's sense of destiny, the nature of world peace and the vital importance of moral leadership in achieving peace. The essay then briefly reviews three major factors in America's experience which have prepared this nation for its destiny: the melting pot, federal democracy, and religious diversity and commitment. It then reviews contributions to world peace already made by America. The essay concludes with a short comment on what now needs to be done. First, America will have to take the initiative to lead all nations further along the path to a federal world democracy, an essential permanent framework for lasting peace. Second, to be effective in such leadership, it will have to rise above present materialism to a new spiritual awakening.