

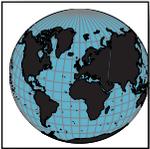


# ONE COUNTRY

*"The earth is but one country, and mankind its citizens" – Bahá'u'lláh*

## INSIDE

Newsletter of the Bahá'í  
International Community  
January–March 2002  
Volume 13, Issue 4



2

Perspective: The importance of moral renovation in combatting corruption.



4

Partnership emerges as a key theme in lead up to the Johannesburg Summit.



6

In London, a ground-breaking exploration into the science of morality.



16

Review: In *The Future of Life*, Edward O. Wilson seeks to establish the imperative of protecting biological diversity.

## In Bolivia, a distinctive training program in moral leadership shines brightly

*Operated by Nur University, the project serves many groups, from youth to teachers to municipal leaders, drawing support from major donors and government agencies and offering a vision of community service.*



*At the Luis Espinal School, students in Nur University's youth moral leadership program pose before a garden they have planted. Left to right are Ever Chino, Anne Isabel, Silvia Tarachi, and Franklin Barrientos.*

**S**ANTA CRUZ, Bolivia — On the southern edge of this fast-growing city on Bolivia's western lowlands is the barrio of La Fortaleza. Like most of the poor shantytowns that have sprung up around Latin American cities, it faces numerous problems, such as sub-standard housing, illiteracy, and high rates of crime.

That environment is partly what makes the activities of 18-year-old Silvia Tarachi and her friends so remarkable. In a place where there are few social institutions to provide support or guidance, Ms. Tarachi and her friends have on their own organized a small youth group to do service projects in their neighborhood.

"We meet every Saturday afternoon and we decide what we're going to do for an activity," said Ms. Tarachi, a student at the Luis Espinal School in La Fortaleza. "Sometimes, we go to help do cleaning at a children's home or to visit invalids. Sometimes we go collecting food for the poor in the neighborhood. We've done that five or six times."

Ms. Tarachi attributes her desire to serve the community to a moral leadership training program for youth started by Nur University, a Bahá'í-inspired private university in Santa Cruz. Established so far in 12 high schools in the city's poorest neighborhoods, the program offers workshops and activities designed to help young people see beyond themselves and to identify with a concept of leadership that gives community service the highest priority.

*Bolivia, continued on page 10*



is published quarterly by the Office of Public Information of the Bahá'í International Community, an international non-governmental organization which encompasses and represents the worldwide membership of the Bahá'í Faith.

For more information on the stories in this newsletter, or any aspect of the Bahá'í International Community and its work, please contact:

ONE COUNTRY  
Bahá'í International  
Community - Suite 120  
866 United Nations Plaza  
New York, New York 10017  
U.S.A.

E-mail: [1country@bic.org](mailto:1country@bic.org)  
<http://www.onecountry.org>

Executive Editor:  
Ann Boyles

Editor:  
Brad Pokorny

Associate Editors:  
Vladimir Chupin and  
Galina Tumurova (Moscow)  
Christine Samandari-Hakim  
(Paris)  
Kong Siew Huat (Macau)  
Guilda Walker (London)

Editorial Assistant:  
Veronica Shoffstall

Design:  
Mann & Mann

Subscription inquiries should be directed to the above address. All material is copyrighted by the Bahá'í International Community and subject to all applicable international copyright laws. Stories from this newsletter may be republished by any organization provided that they are attributed as follows: "Reprinted from ONE COUNTRY, the newsletter of the Bahá'í International Community."

© 2002 by the Bahá'í  
International Community

ISSN 1018-9300  
Printed on recycled paper ♻️

## Corruption and moral renovation

When government leaders met in Monterrey, Mexico, earlier this year for the International Conference on Financing for Development, a powerful undercurrent in the speeches and discussions was the importance of combating corruption.

"We know that in countries with good governance and strong policies, aid can make an enormous difference," said James D. Wolfensohn, president of the World Bank. "Yet we know too that corruption, bad policies, and weak governance will make financial aid ineffective — even counterproductive."

At many levels, corruption is increasingly understood as a major barrier to development around the world — one that must be widely addressed if the world is to move from an era of still-too-widespread poverty to all-encompassing global prosperity.

Corruption, which is generally defined as the misuse of public office for private gain, diverts and squanders valuable resources and assistance, undermines the confidence of donors and investors, and, most important perhaps, saps the will of the people to undertake positive efforts on their own.

It encompasses abuses by government officials such as embezzlement and nepotism, as well as abuses linking public and private actors such as bribery, extortion, influence peddling, and fraud.

In the political realm, it undermines democratic processes and good governance. It erodes the institutional capacity of government as procedures are disregarded, resources are siphoned off, and officials are hired or promoted without regard to performance. At all levels, it undermines key values like trust and tolerance.

Around the world, governments, international agencies and organizations of civil society are increasingly collaborating in the fight against corruption. In broad terms, the fight is being waged on two fronts: institutional reform and, in the words of one expert, "moral renovation."

Institutional reform encompasses those structural and legal changes that make corrupt practices more difficult, that expose them to daylight, and that seek to ensure

that those who subvert their office for private gain will pay a high penalty.

Transparency International (TI) has identified a range of institutional reforms under its "National Integrity System" concept. As outlined by TI, the pillars of such a system include an emphasis on free elections and equitable campaign financing, the independence and separation of powers between the legislative, executive and judicial branches of government, the establishment of independent watchdog agencies, protections for freedom of expression and the media, and a strong civil society.

Other organizations suggest similar measures. Some stress legal system reforms and stronger laws against corruption; others push for transparency and accountability in government procedures. In the end, however, there is general agreement on the actions that tend to stifle corruption.

The second direction in fighting corruption is less tangible but no less important: "moral renovation" or "cultural change" or even "an elevation of consciousness."

Creating a change in moral culture is important because there are generally ways around new laws and institutions, and as the barrier to specific illegal activities is raised, clever but corrupt individuals devise new ways to promote their own selfish interests at the expense of the public good.

However, changing a society's moral culture is widely acknowledged as more difficult than institutional reform.

It is on this point, then, that we must consider the contribution of religion, which has historically proven to be perhaps the most powerful force in promoting cultural change and ethical reform.

All of the world's great civilizations have at their heart a religious impulse. Social advancement, history tells us, arises from the ideals and shared beliefs that weld society together. Meaningful social change results as much from the development of qualities and attitudes that foster constructive patterns of human interaction as from the acquisition of technical capacities. True prosperity — a well-being founded on peace, cooperation, altruism, dignity, rectitude of

conduct and justice — flows from the light of spiritual awareness and virtue as well as from material discovery and progress.

Through the teachings and moral guidance of religion, great segments of humanity have learned to discipline their baser propensities and to develop qualities that conduce to social order and cultural advancement. Such qualities as trustworthiness, compassion, forbearance, fidelity, generosity, humility, courage, and willingness to sacrifice for the common good have constituted the invisible yet essential foundation of progressive community life. Religion provides the bricks and mortar of society — the ethical precepts and vision that unite people into communities and that give tangible direction and meaning to individual and collective existence.

At the root of all forms of corruption is a certain self-centered materialism, a belief that the acquisition of power or money outweighs all other virtues. All religions teach that the opposite is true, including the Bahá'í Faith, the most recent of the world's independent religions.

Underlying the Bahá'í International Community's general support for both institutional reforms and efforts to promote moral renovation, is its view of the entire enterprise of civilization as a spiritual process involving the progressive awakening of humanity's moral and creative capacities. The creation of a "corruption-free" public milieu consequently depends on the building up of moral capacity within individuals, communities and social institutions.

In the Bahá'í writings, those individuals who are engaged in government service are exhorted to "approach their duties with entire detachment, integrity and independence of spirit, and with complete consecration and sanctity of purpose." Their personal fulfillment comes not from material reward but from "the devising of methods to insure the progress of the people," from experiencing the "delights of dispensing justice," and drinking from "the springs of a clear conscience and a sincere intent." In the end, the "happiness and greatness, the rank and station, the pleasure and peace" of the public servant does not consist in "his personal wealth, but rather in his excellent character, his high resolve, the breadth of his learning, and his ability to solve difficult problems."

The manner in which the Bahá'í community conducts its own affairs — through a broadly decentralized system of freely

elected governing councils at the local, national, and international levels, with parallel advisory institutions to promote and safeguard the common good at every level — provides a model worthy of examination in the search for new institutional models.

The Bahá'í system devolves decision-making to the lowest practicable level — thereby instituting a unique vehicle for grassroots participation in governance — while at the same time providing a level of coordination and authority that allows collaboration on a global scale.

A unique feature of the Bahá'í electoral process is the maximum freedom of choice given to the electorate through the prohibition of nominations, candidature and solicitation. Election to Bahá'í administrative bodies is based not on personal ambition but rather on recognized ability, mature experience, and a commitment to service. Decision-making authority rests with corporate bodies, not individuals, thus eliminating one source of power and potential pathway to corruption.

On a practical level, the moral leadership training program of Nur University, a Bahá'í-inspired institution of higher education [see page 1], offers one concrete example of the worldwide Bahá'í community's efforts to promote a culture of morality, both inside and outside its membership.

As we consider how to combat corruption in our emerging global civilization, the spiritual and ethical teachings of the Bahá'í Faith — and the transformational power that they have been shown to possess — become especially relevant.

The Faith's main themes of human oneness, religious unity, and the creation of a united world — and supporting progressive social principles such as the equality of women and men, the elimination of prejudice and the harmony of science and religion — can be embraced entirely by modern minds. In an otherwise cynical age, the door is open for both personal transformation and social reform, suggesting new possibilities for a real change in moral culture, entirely consonant with a globalized world.

"O people of God!," wrote Bahá'u'lláh. "Do not busy yourselves in your own concerns; let your thoughts be fixed upon that which will rehabilitate the fortunes of mankind and sanctify the hearts and souls of men. This can best be achieved through pure and holy deeds, through a virtuous life and a goodly behavior.\*"

*Creating a change in moral culture is important because there are generally ways around new laws and institutions, and as the barrier to specific illegal activities is raised, clever but corrupt individuals devise new ways to promote their own best interests at the expense of the public good.*

## Partnership a key theme in lead up to the World Summit on Sustainable Development

UNITED NATIONS — Among the outcomes of the 1992 Earth Summit in Rio de Janeiro was an unprecedented coming together of civil society from all sectors on a global scale. Some 30,000 representatives of non-governmental organizations (NGOs) concerned with a wide range of issues gathered in Rio, making the Summit among the most dynamic and colorful meetings of the decade.

At the time, many believed the engagement of so many NGOs with the issues, with each other, and with governments meeting there represented a great new impulse in the pursuit of sustainable development.

If organizers of the upcoming World Summit on Sustainable Development (WSSD) have their way, one of the main outcomes will be a deepening and formalizing of the burgeoning partnerships between governments and civil society in pursuing the goals of poverty eradication, promoting sustainable consumption and production, and protecting the integrity of the earth's ecosystems — which are the main themes of the conference, scheduled for 26 August – 4 September 2002 in Johannesburg, South Africa.

Some 65,000 people, representing governments, NGOs, businesses, and other “major groups,” are expected to participate in the WSSD. And creating a stronger, more effective, and more detailed partnership between them is a major agenda item.

“What a partnership can do is to give the people who have to implement the program at the field level, at the community level, at the local level, at the national level, a far more direct involvement in the design of policies and programs that are going to guide the deployment of financial and technical resources,” said Nitin Desai, secretary general of the WSSD, addressing the opening session of the Third Preparatory Committee of the WSSD (Prepcom III) in New York on 25 March 2002.

More specifically, WSSD organizers have outlined a concept called “Type II” agreements. Such agreements “would consist of a series of commitments and action-oriented coalitions

focused on deliverables and would contribute in translating political commitments into action,” according to a paper presented by Emil Salim of Indonesia, chairman of Prepcom III. (Type I agreements are understood to be the traditional government-to-government agreements that are typically signed at United Nations meetings.)

However, many of the representatives of civil society gathered at Prepcom III, which ended on 5 April 2002, expressed considerable skepticism about pinning great hopes for achieving sustainable development on such partnerships, saying that governments had so far over the last ten years failed to meet the commitments and targets they made in Agenda 21, the Earth Summit's ground-breaking action plan for sustainable development.

The concern is that governments will use the partnership concept to avoid responsibility for genuine commitment to change and will place the responsibility for the main work of solving environmental problems and promoting sustainable development on the shoulders of the so-called “major groups” in the Agenda 21 process — civil society, business, trade unions, farmers, women, and indigenous peoples, among others..

“We are not against partnerships, but they must be developed to support the actions and political measures that governments must agree on at the Summit,” said Remi Parmentier, political director of Greenpeace International. “We must not get lost in this strategy of confusing everybody with this Type II Partnership business.”

Civil society representatives were further concerned by the fact that, as of the end of the Prepcom III, many of the details about how such partnerships might work had not yet been worked out. As well, governments failed to reach consensus on other major initiatives of the Summit, such as how to deal with the topics of oceans, energy, small island states and Africa as they relate to sustainable development.

Summit organizers hope to work out details on those and other topics at a final

*Some 65,000 people, representing governments, NGOs, businesses, and other “major groups,” are expected to participate in the Johannesburg Summit. And creating a stronger, more effective, and more detailed partnership between them is a major topic.*

Prepcom, scheduled to be held in Bali, Indonesia, from 27 May–2 June 2002.

A number of NGO representatives suggested that if governments do not make more firm their commitments to implementing and achieving the goals of Agenda 21, which have been widely acknowledged to be largely unfulfilled, Johannesburg could be the scene of major demonstrations.

“It is still hoped that something will be accomplished at Bali,” said Peter Pavlovic, a member of the World Council of Churches ecumenical team to Prepcom III. “But if not, Johannesburg will be a second Seattle,” referring to sometimes violent protests at a World Trade Organization meeting in Seattle a few years ago.

Other NGO representatives, however, believe that the action will not be extreme. “Demonstrations won’t be intended to shut down the Summit,” said Pieter Van Der Gaag, executive director of the Amsterdam-based Northern Alliance for Sustainability (ANPED). “They will be to put pressure on governments to get things done.”

The organizers of the NGO Forum for the Summit said they are working hard to create an environment where governments, NGOs, and representatives of other major groups can come together in a spirit of collaboration and partnership. “Quite a lot of interaction is planned to happen,” said Solomzi Madikane, head of international process at the Civil Society Secretariat of the WSSD.

Summit organizers have, for example, created a special meeting place, the Ubuntu Village, located roughly halfway between the NGO Forum site and the governmental meeting hall, to provide a place for governments, UN agencies, and major groups to “unite on common ground to stimulate dialogue and maximize partnership opportunities,” according to the WSSD Secretariat.

Many of the broad concerns of civil society were outlined at Prepcom III with the release of the “Johannesburg Memorandum,” a 70-page document calling for the widespread adoption of an alternative model of international development that would create “fairness in a fragile world.”

Authored by 16 independent activists, intellectuals, managers and politicians who were brought together by the Heinrich Böll Foundation in order to contribute to the global debate from a civil society perspective, the “Joburg Memo” argues for a new balance between the concerns of the “North” and the “South” by suggesting that the pov-



erty eradication so desperately desired by underdeveloped and developing countries can be achieved in the long run only by more sustainable development practices — practices which must also be mirrored in the developed world.

“[F]ulfilling the ambition of Rio requires the effective response to the demand for equity arising from the South, but in a manner which takes full account of the biophysical limits of the Earth,” states the Memo. “Some claim that humanity faces a choice between human misery and natural catastrophe. This choice is false. We are convinced that human misery can be eliminated without catalyzing natural catastrophes.... Getting ready to meet this challenge, however, requires revisiting the technologies, the institutions, and the world views that dominate the globe today. Johannesburg can forge a new beginning.”

Peter Adriance, representative of the Bahá’í International Community to the WSSD, said that the Johannesburg Memorandum puts forward creative and constructive ideas and upholds a positive vision.

“Certainly, when it speaks of the importance of ‘world views’ as they relate to sustainable development, Bahá’ís see this as something of supreme importance in achieving the kind of global transformation that is necessary for creating a world where poverty is eliminated — and the earth’s environment is protected,” said Mr. Adriance.

“In the Bahá’í view, nothing short of a new vision of unity, rooted in the recognition of the essential oneness of humanity, can bring this about,” said Mr. Adriance. “The Johannesburg Summit will be successful in relation to the degree it embraces a vision, which is essentially spiritual in nature, that all humanity is as a single family, living together in a single household.”\*

Carl Murrell, second from left, alternative representative to the United Nations for the Bahá’í community of the United States, chaired a meeting of the Earth Values Caucus during the Second Preparatory Committee of the World Summit on Sustainable Development, held in New York 28 January–8 February 2002.

***“The Johannesburg Summit will be successful in relation to the degree it embraces a vision, which is essentially spiritual in nature, that all humanity is as a single family, living together in a single household.”***

— Peter Adriance

## In London, a ground-breaking exploration into the science of morality

*Is there a scientific basis for morality? Is there a place in the brain where the capacity for morality resides? These were just two of the questions posed at a conference on the "Science of Morality."*

**L**ONDON — Is there a scientific basis for morality? Is there a place in the brain where the capacity for morality resides? These were just two of many thought-provoking questions posed at a ground-breaking conference on the "Science of Morality" here on 8 and 9 February 2002.

Organized by surgeon Graham Walker and held at the Royal College of Physicians, the meeting sought to examine the scientific evidence for a neurological location, genetic basis and/or an innate capacity for morality.

"Wherever one looks inwardly and outwardly, one meets conflict, mostly because of the moral diversity caused by differing perspectives of culture, religion and age," said Dr. Walker, a prominent London head and neck surgeon and a member of the Bahá'í community of the United Kingdom.

"What happened on September 11 was a question of moral diversity," continued Dr. Walker. "Most people said this is the most awful catastrophe, one of the most inhuman things ever done. But some said it was the right thing to do, in order to rectify an injustice. This kind of problem will continue until we can establish a common moral ground. And one way to do that is to appeal to science and logic, which is independent of culture."

More than 60 delegates, representing a wide variety of medical, scientific and philosophical disciplines, attended the event. Among the speakers were Ian Craig, a renowned specialist on genetics from the In-

stitute of Psychiatry in London; Baroness Susan Greenfield, a neurobiologist at Oxford University; Faraneh Vargha-Khadem, a professor of neurosciences at the Institute of Child Health, University College, London; Hossain Danesh, a professor of psychiatry and president of Landegg International University in Switzerland; and William Hatcher, professor of mathematics at Laval University, Quebec, Canada.

"This conference was historic in that it brought together some of the world's most accomplished researchers to explore, in an earnest, open and cordial search for truth, the biological, psychological and social factors that appear to be responsible for healthy moral development," said Dr. Michael Penn, a professor of psychology at Franklin and Marshall College, USA, who presented a paper suggesting that a necessary precondition for moral development is an understanding of justice.

"To my knowledge, it was one of the first times that scholars in biology, psychology, philosophy, psychiatry and some of the other social sciences gathered to explore what their disciplines and research can tell us about processes of normal and abnormal moral development," said Dr. Penn. "The hope would be that such conferences will multiply throughout the world as the moral dimensions of human life have not been much studied from an interdisciplinary perspective."

Dr. Danesh delivered the keynote speech, exploring the consonance between science, religion and ethics. His thesis was that humanity is moving from a self-centered, survival-oriented basis towards a peace-centered future.

"Due to the fact that all individuals and societies are subject to the universal law of development and progress, we are able to identify three distinctive worldviews that are present, to a lesser or greater degree, in all human societies," said Dr. Danesh. "These worldviews reflect the particular characteristics of three distinctive phases in the development of every individual and society,

*Held at the prestigious Royal College of Physicians, the Science of Morality conference drew some 60 experts in the fields of psychiatry, neurology, and related fields. At right are Dr. Adam Zeman of the University of Edinburgh, left, and Dr. Hossain Danesh of Landegg International University.*



which are designated respectively as survival-, identity-, and peace-centred worldviews.

“This assertion is based on one of the fundamental laws of existence — the law of growth,” said Dr. Danesh. “Evolution, at the biological level; development and maturation, at the psychological level; and transformation and transcendence, at the spiritual level; all are different expressions of the same fundamental law. Thus, everything is subject to the dynamics of change, development and creativity that result in ever-higher levels of order, equilibrium and harmony — in short, peace.”

The general discussions that followed that presentation and other papers covered everything from research on how brain injuries sometimes affect moral behavior to the degree of self-consciousness among great apes to an exploration of the common “content” of near death experiences.

### A center of consciousness?

Baroness Greenfield sparked vigorous discussion with her thesis that there is no specific location for consciousness and, by extension, for the capacity of morality in the brain. Her research suggested that our sense of morality is more a matter of life experience than genetics.

“There is no such thing as a center for consciousness,” said Baroness Greenfield. “Autonomous brains within brains makes no logical sense. And brain imaging data on patients under anaesthesia reveals that multiple sites are involved.”

Baroness Greenfield noted that our awareness of the world around us and our response to it evolves and develops from infancy, as the brain makes connections between neurons in response to outside stimuli. “As we go through life, personalized, ‘hard-wired’ circuits form in the brain, leading to the ability to be self-conscious and to exercise moral judgments.”

Other speakers presented evidence that suggests the orbitofrontal area of the brain might be the location of a moral center. Specifically, Dr. Vargha-Khadem and Sean Spence, a senior clinical lecturer in psychiatry at the University of Sheffield, UK, said some studies show that injuries to the injuries to the orbitofrontal cortex in childhood may seem to heal only to reveal sociopathic behaviour at puberty.”

“The late emergence of sociopathic profiles in children who have suffered early bi-



There was active participation from the audience at the Science of Morality conference.

lateral orbitofrontal lesions suggests that perhaps these regions assume their functional significance later during childhood, possibly after the onset of puberty,” said Dr. Vargha-Khadem in response to questions after the conference.

Dr. Vargha-Khadem said research of this kind may “aid in understanding how these antisocial behaviors and their precursors develop during normal adolescence, how the normally maturing individual channels in acceptable ways the emotions and motivations that would otherwise lead to antisocial behaviors, and how the maturation of the underlying brain system normally allows for such control.”

### The effort of deception

Dr. Spence presented evidence, obtained from brain scans using modern neuro-imaging technology, that the act of lying can be associated with significantly increased activity in the bilateral ventrolateral prefrontal cortices.

“Lying and deception behave like ‘higher’ executive functions,” said Dr. Spence in an interview. “The brain takes longer to tell a lie than to tell the truth. This is indicative of longer processing time and is the kind of finding often obtained with executive functions when they are compared with the ‘baseline’ condition, in this case ‘truth’.

“Interestingly this accords well with St. Augustine’s view that truthfulness was the ground state of man,” added Dr. Spence. “Hence, it is consistent that we find ‘higher’ — i.e. prefrontal — brain systems activated preferentially on our model of lying.

Dr. Spence also said that lying and deception seem to “develop” in the course of normal human development — as opposed to those syndromes where cognitive development is impaired, such as autism. He also noted that some reports indicate that lying or “strategic deception” increases among

*“As we go through life, personalized, ‘hard-wired’ circuits form in the brain, leading to the ability to be self-conscious and to exercise moral judgments.”*

– Baroness Susan Greenfield

Dr. Graham Walker, the convenor and organizer of the Science of Morality conference.



those non-human primates with a proportionally larger prefrontal cortex.

“There is an implication that you need higher centers to develop normally in order to be able to deceive,” said Dr. Spence. “My take on this is that deception is an example of the misapplication of a higher skill, while creative activity, such as improvisation, is its moral application.”

### Brain size and primates

Robin Dunbar, a professor of evolutionary psychology at Liverpool University, reported on his work with primates, discussing the connection between the volume of the brain’s neocortex and social cognition in great apes — and humans.

“In essence, neocortex volume has increased dramatically through the primates in the lineages leading to modern humans,” said Dr. Dunbar in an interview. “This is closely related to the increasing demands of large group size within this group as a whole.

“The important point is that at the brain size of great apes, there is a sudden and quite dramatic increase in the volume of the frontal parts of the neocortex. This seems to be because there is no further advantage in devoting more neural volume to vision,” he said, noting that the frontal cortex is “where all the clever stuff is done.”

“It seems to be no coincidence that this is exactly the point where you start to find evidence for advanced social cognition, that which underpins everything we do,” said Dr. Dunbar.

He added that the degree of social cognition required for a sense of ethics seems beyond the capacity of the great apes. But he said that patterns of moral behavior are evident among apes that form social groups.

“The costs of sociality are the need to forego one’s immediate wishes or desires in

the interests of achieving a cooperative social solution to the problems of life,” said Dr. Dunbar. “In other words, social species like primates opt for a cooperative solution to the problems that beset them, but in doing so they are obliged to trade-off short-term costs for long-term benefits.

“That always leaves the cooperators open to exploitation by free-riders. Morality is one way we try to manage free-riders and reduce their impact — in other words, make people toe the social line so as to make the group work for us the way it was intended. These implicit social bargains are very unstable and need intense pressure to prevent the group being broken apart by too much cheating on the system.”

Dr. Dunbar said that the discussion of science and morality — and religion — that took place at the conference was interesting. “I have argued, in a book currently in press, that religion itself is only possible with advanced social cognition, beyond that of which even apes are capable. In one sense, religion and its key component — our willingness to bow to the collective will in a way that no other species is willing to do — is perhaps the most intriguing — and unsolved — problem of human evolution. My guess, though, is that it is all part of the need to manage free-riding within large complex dispersed social groups.”

### Near death experiences

Dr. Peter Fenwick, a senior lecturer at the Institute of Psychiatry in London and a consultant neurophysiologist at Radcliffe Infirmary in Oxford, presented the results of interviews with individuals who have had so-called “near death experiences” (NDEs), wherein they often experience feelings of peace and joy, the apparent entry into another world and an encounter with a mystical being.

The research indicated that some of those experiences took place after the individuals had been pronounced “clinically dead,” with little or no brain activity, suggesting that the mind or consciousness can survive the death of the brain, said Dr. Fenwick. Previous critics of NDE research have suggested that survivors experienced a physical manifestation of the brain’s dying gasp as all of the brain’s neurons fire at once.

“After studying over 2000 near death experiences and looking at the phenomena of the NDE, I have come to the conclusion that reductionist explanations may not give a complete account of the experience, par-

***“Religion itself is only possible with advanced social cognition, beyond that of which even apes are capable. In one sense, religion and its key component — our willingness to bow to the collective will in a way that no other species is willing to do — is perhaps the most intriguing — and unsolved — problem of human evolution.”***

— Robin Dunbar

ticularly in those NDEs which occur in a coronary care unit, when the experiencer is clinically but reversibly dead,” said Dr. Fenwick in an interview.

Dr. Fenwick added that near death experiences seem to be highly moral in their content. “They point to the basis of the universe being love and light — difficult for us to understand in our everyday world — and they also suggest that you are responsible for your actions and thoughts and you will judge yourself in the near death review,” said Dr. Fenwick. “Thus there is a responsibility on every individual because they are human, and, whatever we do, the experience shows that we will be unable to miss this final reckoning.”

Dr. Hatcher presented a philosophical viewpoint on human morality in a paper entitled “Universal Values.” In that paper, he argued that there are indeed certain fundamental and universal human values, in contrast to currently popular notions of cultural relativity.

“The fact that knowledge (socialization) profoundly affects value judgments does not mean that all value judgments are arbitrarily or wholly social in nature, because many value judgments are rooted in that primal experience in which we all naturally perceived various aspects of reality as relatively pleasant or relatively unpleasant,” said Dr. Hatcher, giving, as an example, the fact that all newborn humans recoil at the bitter taste of quinine but smack their lips at the sweet taste of honey. “This primary, binary experience of pleasant/unpleasant (pleasure/pain, good/bad) is rooted in essential and universal human nature, and is thus fundamentally transcultural.”

## Universals in human nature

The fact that humans respond positively to love, acceptance and kindness is “not just a dictum of moralists, but a scientific fact of human nature,” Dr. Hatcher said. “We, therefore, posit, as a fundamental metaphysical truth, that there does exist an intrinsic, essential, universal human nature.”

Participants said much of the research presented at the conference pointed to a twofold aspect to the development of morality: that it has both a physical and/or a genetic component, and also a component based on life experience or education.

“There was wide agreement that without the proper development of a specific set of neurobiological processes, moral development is very difficult,” said Dr. Penn. “In



Dr. William Hatcher spoke about the existence of an “intrinsic, essential, universal human nature.”

other words, the conference seemed to show, from a variety of perspectives, that the natural world provides the necessary preconditions for the development of moral capabilities and that therefore, any attempt to redress deficiencies in moral growth will also need to attend to the basic biological needs of human beings. In addition, social factors that are not at all person-centered — such as social justice — would seem indispensable to proper moral development.”

Dr. Walker, likewise, felt that participants reached a general conclusion that “there is a neurological aspect to morality, or the development of morality.”

“This conclusion implies that if there is such a capacity, you can induce this with the right type of exposure to experiences,” said Dr. Walker. Alternatively, he said, it seems that exposure to negative experiences might take an individual “down the other pathway to become immoral, and rather more likely to be criminal or sociopathic.”

Dr. Walker said his practice of the Bahá’í Faith had inspired him to organize the conference. “While the connection between religion and science is not unique to the Bahá’í Faith, it is certainly a strong tenet,” he said. “If indeed there is a consonance between science and religion, then it should be extendable to concepts like spirituality and morality, which are among the main pillars of religiosity.”

Dr. Walker hopes to start building a body of respectable, affirmable evidence of a scientific basis for morality which can act as a locus where varied disciplines can meet and agree. He is already planning a similar conference next February, this time on the topic “Can lifestyle-induced disease help to define morality?” As well, a book of the conference proceedings has been commissioned by the Royal College of Physicians.\*

— Reporting contributed by Rob Weinberg

*“The conference seemed to show, from a variety of perspectives, that the natural world provides the necessary preconditions for the development of moral capabilities and that therefore, any attempt to redress deficiencies in moral growth will also need to attend to the basic biological needs of human beings.”*

— Michael Penn

## In Bolivia, a distinctive training program in moral leadership shines brightly

*Cira Torrez, one of the leaders of Nur University's youth leadership program, speaks to high school students from around Santa Cruz at a recent training workshop.*



### *Bolivia, continued from page one*

***“There is a growing consciousness among many agencies that there is a leadership crisis, and that traditional leadership models and patterns are unable to respond to the challenges faced in developing societies.”***

— Eloy Anello

“Before the youth moral leadership program, it was never in my mind to form such a group in my neighborhood,” said Ms. Tarachi. “The program has helped me to be more creative and to be more understanding. If I hadn’t been in the program, I wouldn’t have been as socially active to help other people who don’t have resources.”

More than 1,200 young people in Santa Cruz have participated in the program since it began in 1998, and they have undertaken dozens of small projects like those of Ms. Tarachi and her group, from planting trees at their schools to painting classrooms or even cleaning up a neighborhood plaza.

In March 2002, it was chosen by the Inter-American Development Bank (IADB) as one of the 12 most successful youth projects in Latin America and the Caribbean.

The youth program’s record of success, however, is only one example of Nur University’s overall effort to promote a

new concept of moral leadership, which focuses on encouraging teamwork and service to the community at large instead of self-centered ambition. The effort is embodied not only in the undergraduate and graduate curricula at Nur itself but also in various outreach projects that over the last decade have involved the participation of thousands of rural school teachers, civil society activists, and municipal leaders in Bolivia, Ecuador and Argentina.

The outreach effort has won considerable acclaim. Indeed, Nur’s moral leadership training projects have gained backing from a wide range of international, national, and local agencies, ranging from the World Bank to the Bolivian Ministry of Education to the Office of the Mayor of Santa Cruz.

“There is a growing consciousness among many agencies, whether international or national or municipal, that there is a leadership crisis, and that traditional leadership models and patterns are unable

to respond to the challenges faced in developing societies,” said Eloy Anello, president of Nur’s board of trustees and a primary author of its moral leadership program. “So they have found that the conceptual framework for moral leadership that Nur is offering is empowering and motivating people who want to change to fulfill their highest potential to serve the common good.”

More specifically, Nur has provided moral leadership training in a series of external projects that includes the youth program in Santa Cruz as well as the following:

- Training of rural school teachers — Since 1994, in close collaboration with government education ministries in Bolivia and Argentina, more than 1,100 rural school teachers have participated in Nur’s 12-module program of specialized training to become facilitators of local community development in the communities where they teach. This program is on-going.

- Educational Leadership Program in Ecuador — In 1998, Nur was contracted by the World Bank and the Ministry of Education in Ecuador to train 1,000 facilitators of Ecuadorian educational reform. Nur led the consortium of 11 universities in the 18-month project.

- Training of Municipal Workers — Under a series of recent government reforms aimed at strengthening democracy in Bolivia, and with funding from agencies such as the World Bank, the Inter-American Development Bank, and the Bolivian government, Nur has launched a series of training programs for municipal officials, civil servants and members of civil society. These have provided elements of the moral leadership training program to mayors, senior municipal executives, technical staff and functionaries in 46 municipalities in the state of Santa Cruz, and, through a separate project, to some 200 indigenous leaders in a joint program with the Qullana Foundation in the state of La Paz. Other similar programs, involving hundreds more participants, are on-going.

“The program created a teamwork environment and changed people’s attitudes regarding their individual and group responsibilities for the education of society,” said Magaly Robalino, who coordinated the moral leadership training project in Ecuador for the Ecuadorian Ministry of Education. “Leadership is not seen as an isolated individual action, but as a social construct

in continual development and change.”

Elena Swarez, chief of the special programs section at the Inter-American Development Bank (IADB), said they singled the Santa Cruz youth project out for commendation because it “is dealing with issues that are perhaps not common practice, such as service learning and the importance not only of building technical skills but of character building and promoting citizenship.

“We also thought that the way the project was structured, with a network, bringing a lot of different sectors together, integrating parents and high school and college students and the community, is very important when we are talking about social and economic change,” said Ms. Swarez. “And we certainly think it has potential for replicability and that it can be used as a model for other programs.”

### Highly participatory approach

Nur’s moral leadership training programs have proven effective in a variety of settings because of their highly participatory approach, said Dr. Anello and others. The approach leads participants themselves to identify the flaws of traditional leadership models and then to build a new conceptual model for what makes a good leader.

“The idea is that you are not just teaching theory, nor simply how to do something, but rather we are working on the transformation of mental models, and, ultimately, the transformation of the individual,” said Juanita Hernandez, coordinator of the Department of Education at Nur. “Because if you don’t change the way you think, you won’t change the way you act.”

Accordingly, the training sessions for the program almost always begin with a discussion of traditional leadership styles or models. The program’s authors have boiled these models down to four: authoritarian, paternalistic, “know-it-all,” and manipulative. The “democratic” model of leadership is also considered and its promise of greater participation is carefully examined.

The flaws of these traditional models are then discussed. Participants come to see how each of the first four models tends to aggrandize the power of the leader while giving little consideration to the opinions or capacities of others in the community. And, while democracy in its ideal form should avoid such pitfalls, its practice too often simply leads to the election of leaders who then function in one of the first four

*“We are working on the transformation of mental models, and, ultimately, the transformation of the individual. Because if you don’t change the way you think, you won’t change the way you act.”*

— Juanita Hernandez



The main building of Nur University in Santa Cruz, Bolivia. The moral leadership training framework is incorporated into the University's curriculum and, through various projects, is a major outreach program.

***“All of the problems that have been generated by traditional leadership styles —by authoritarian, paternal, manipulative and know-it-all styles —are ineffective because they are not based on noble human values but instead are based on the egocentric and self-serving pursuit of power.***

— John Kepner

modes.

As the course progresses, a new model is presented: that of moral leadership. Such leadership, it is explained, is marked by a number of characteristics, including a consistent orientation on service for the common good, active engagement in the process of individual and collective transformation, commitment to searching for the truth and applying truth in all aspects of one's life, the use of consultation in all aspects of decision-making, and recognition of the essential nobility of each human being.

All of these concepts, the program originators say, emerge from an understanding of human nature that recognizes both its material and spiritual reality.

“We really believe that morality and ethics cannot be divorced from spirituality,” said John Kepner, director of social and economic development programs at Nur. “All of the problems that have been generated by traditional leadership styles — by authoritarian, paternal, manipulative and know-it-all styles — are ineffective because they are not based on noble human values but instead on the egocentric and self-serving pursuit of power.

“But the recognition of our inherent nobility and the spiritual side of our nature, by establishing a set of higher values, makes it possible for the individual to keep control of his or her ego so as to be free to serve others,” said Kepner, who explained that the basic principles of the program are derived from the Bahá'í teachings but are consonant with virtually every religious belief.

Those who have worked with or gone through the program say it has indeed proved to be a transforming process, both

professionally and, sometimes, personally.

Jorge Orihuela, a consultant with the national Rural Participation Investment Project II (PDCR II), said moral leadership training provided by Nur to municipal officials and local civil society leaders has contributed significantly to greater accountability in local government.

### **“Change in mentality”**

“There has been a notable change in mentality regarding transparency in municipalities where Nur has worked,” said Mr. Orihuela. He said Nur's training program, which has been financed by PDCR II, has helped both municipal officials and newly constituted “vigilance” or watchdog committees to better understand how government should work.

“It is Nur's methodology that makes it work well,” said Mr. Orihuela. “The group dynamics used in the classroom are based on participation, to take advantage of a person's real-life experiences. So the learning cycle is based not just on theory but practice.”

Juan Condori, a 41-year-old educator in Sucre, Bolivia, said the training he received in moral leadership from Nur was instrumental in helping him change from a strictly authoritarian and rather stifling leadership style to a much more open and creative one in his job as director of a small rural school in Alcala.

“I used to practice administration based on control, and relations between the teachers and myself were not the best,” said Mr. Condori. “But after the Nur training, as I advanced through it, I starting applying what I'd learned and relations got much better.”

“We started focusing on the idea that the school should project itself into the community and we came up with the idea of adding courses in vocational training,” said Mr. Condori.

The school now offers courses to its regular students in carpentry, agriculture and animal husbandry, and it has applied for government assistance to make those courses available to adults in the community.

Marisol Consuelo Flores, who teaches religion and morals to primary students in a public school in Sucre, says that the program helped her to appreciate the diversity of her students. “I have Jehovah's Witnesses, some Mormons, Pentecostals, Evangelicals and two Bahá'is in my classes, in addition to Catholics,” said Ms. Flores, who is 32. “Before, I just tried to give the Catholic point of view of religion, but now I know that everyone has the

## Nur University: training a new generation of leaders

**S**ANTA CRUZ, Bolivia — Since its founding in 1982, Nur University has broken much new ground in Bolivia. It was among the first in a new wave of private universities to be founded in Bolivia in modern times and the first to be established by a presidential decree.

In 1986, Nur set up the first graduate school of any kind in Bolivia. And it has led the way in a series of educational innovations here, from a pioneering effort in distance education to the use of flexible course scheduling to allow students with work or family obligations to pursue higher education at their own pace.

More important, from the point of view of its founders, Nur has also been tangibly successful at fulfilling its own mission: that of helping to train a new generation of leaders in Bolivian society.

Since opening its doors less than 20 years ago, a number of its graduates have already gone on to positions of influence throughout the country. Individual graduates have, for example, served on the national medical college board, occupied a position as a departmental-level director of the national census program, established a highly successful low cost health centers program throughout the country, acted as director of a major Bolivian television channel, and held key posts at the Bolivian embassy in Brussels.

Perhaps the most prominent of Nur's graduates is Roberto Fernandez, who was appointed mayor of Santa Cruz in 2001. Santa Cruz is now Bolivia's largest city, with a population of more than a million people, and Mr. Fernandez has already begun to apply some of the leadership principles he learned at Nur in his administration.

Since taking office, for example, Mr. Fernandez has asked all municipal employees to devote some time each week to voluntary service projects in the city, such as picking up litter at parks and green areas, painting buildings or helping at the hospital.

"Everyone in the city administration does it, my secretary, my advisors, employees, on the weekends, and, of course, myself," said Mr. Fernandez, who received a degree in business administration from Nur in 1999.

The inspiration for the policy, he said, came from his experience at Nur, which requires every student to do a 120-hour community service project and emphasizes concepts of moral leadership throughout its curriculum.

"At Nur, we were obligated to be involved in service, and out of that you begin to realize that service is so important," said Mr. Fernandez, who has also employed a number of Nur graduates and professors in his administration. "I see it as solidarity, as unity, as not just being interested in the problems of others but to become directly involved with the solution of the

problems. And this whole principle will be advanced in my administration."

It was out of exactly such an ideal — that its graduates would go on in Bolivian society to promote such principles — that Nur was established, said Jeremy Martin, one of Nur's founders and currently its director of institutional development.

"We were looking for a way to contribute positively to the development of Bolivia and we were convinced that education is the hub of any integral development process that seeks an improvement in the quality of life, and that what Bolivia really needed was a new kind of leader," said Mr. Martin, who, with nine other Bahá'ís, founded Nur. "Latin American nations were then, and still are, moving towards democratic institutions and consolidating them, and our idea was to contribute to this process, especially with a focus on increasing levels of participation, and encouraging leaders to have a broader vision of service to society."

Nur has grown substantially since opening its doors in 1985. That first year it enrolled 97 students. By 1990, it had 993 students. It currently has an enrollment of some 3,000 students in undergraduate and graduate programs, plus another 1,000 in outreach projects, such as its various moral leadership training programs.

Of these, 51% are women and 49% are men. Approximately 40% of the students receive financial assistance from the University through scholarships, discounts based on economic need or work-study positions. The University employs 180 full and part-time faculty and administrative staff and has an annual operating budget of approximately US\$ 3 million.\*



*Santa Cruz mayor Roberto Fernandez, left, with Manocher Shoaie, rector of Nur University, in the mayor's office.*



*A major thrust of Nur University's moral leadership program has been to train rural school teachers. Shown here are participants in the "Rural Teacher as a Community Development Agent" program in Sucre, Bolivia. Left to right are Oscar Calvo, Lenny Lupe Fernandez, Juan Condori, and Marisol Consuelo Flores.*

right to believe something different and that I have to respect different beliefs."

Many say the training has also helped them in their personal lives. Lenny Lupe Fernandez, a 30-year-old teacher for the blind in Sucre, said the ideas presented in Nur's teacher training program have not only helped her to be a better teacher but have also contributed to the resolution of some challenges in her family life, problems surrounding the fact that her husband's two sisters live with them.

"Before, everyone went their own way in the family," she said. "If my in-laws cooked, they'd leave a big mess. But we've started having regular family meetings and we've drawn up a family contract. And now everyone cleans up after cooking and the relationships are much better."

Luis Venegas took Nur's "Rural Teacher as a Community Development Agent" training in 1993 when he was working as a primary school teacher in Bolivia's southern Chaco region. He became so convinced of the program's effectiveness that he now works full time as a trainer for Nur teacher training programs.

### **"Existential crisis"**

Mr. Venegas, now 49, said his initial exposure to the program provoked a "deep existential crisis," inasmuch as it led him to call into question the work he was doing as an organizer for the Communist Party. "I was an atheist and a militant, and I identified with the Communist doctrine of social justice," said Mr. Venegas.

But the analysis of various leadership models presented in the course led him to conclude that although Communist leaders talked about "democracy," they

were in fact "very centralized and authoritarian" and not truly concerned with the development of the people.

"I became disillusioned with the Communist leadership, perceiving that their actions were for personal interest and not the common good," said Mr. Venegas. "And I realized that the Party was looking for social or collective transformation without personal transformation, that there was no emphasis on moral values, and that this led to a big vacuum.

"In the Party, the question is how can the grassroots serve the Party, whereas in the moral leadership program, the question is how can leaders best serve the grassroots," said Mr. Venegas, who has now left the Party.

At the Luis Espinal School in La Fortaleza, the school's principal has been so pleased with the youth leadership training program that she has decided to incorporate it into the school's regular curriculum, so that all of the school's upper class students can benefit.

"The program has had a very positive effect," said Anna Maria Riva de Neira, Luis Espinal's director. "The students learn to work better in a group and are more integrated."

Ms. Riva de Neira and teachers at the school agree that the program has indeed motivated students to do more for their community, such as the efforts undertaken by Silvia Tarachi and her friends. In and around the school, students have undertaken such projects as cleaning out and renovating a classroom, planting trees, and starting a modest garden to beautify the school.

"It gives the students the capacity to think, to reason, and to share among themselves," said Magaly Espinosa Rosales, a philosophy teacher at Luis Espinal. "And the idea of doing something for others, especially doing work in the community — to me this has been important."

For their part, students say the program has given them a new direction and sense of potential. Franklin Barrientos, an 18-year-old senior at Luis Espinal, said that without the program, he might well have become involved with gangs — as have many of his friends.

"I see many gang members near my house at night, drunk and in pick-up trucks," said Mr. Barrientos. "But the program helps us to form a vision for the future. Without it, I would have no orientation. But now I've decided I want to have a career in agriculture or mechanics or perhaps military college."\*

## Review: *The Future of Life*

*Review, continued from back page*

writes Dr. Wilson. "In 1997 the city raised an environmental bond issue and set out to purchase forested land and to subsidize the upgrading of septic tanks in the Catskills."

But Dr. Wilson acknowledges that other environmental choices are not so clearly defined. Which is obviously why Dr. Wilson spends so much time making economic arguments for preserving biological diversity — a diversity that is being catastrophically lost day by day with the relentless destruction of tropical rainforests and coral reefs and the short-sighted overfishing of the oceans.

"Is there any way now to measure even approximately what is being lost?" he writes. "Any attempt is almost certain to produce an underestimate, but let me start anyway with macroeconomics. In 1997 an international team of economists and environmental scientists put a dollar amount on all the ecosystems services provided humanity free of charge by the living environment. Drawing from multiple databases, they estimated the contribution to be \$33 trillion or more each year. That amount is nearly twice the 1997 combined gross national product (GNP) of all countries in the world, or gross world product, of \$18 trillion."

Dr. Wilson also spends considerable time indicating the vast future economic potential that might be drawn from the medicines, biochemical processes and foodstuffs that remain undiscovered in rainforests and other wilderness areas. He also argues that we ought to work harder to protect biological diversity out of a concept he calls "biophilia" — or love of life. "The creature at your feet dismissed as a bug or a weed is a creation in and of itself," writes Dr. Wilson. "It has a name, a million-year history, and a place in the world."

In his last chapter, Dr. Wilson offers what he calls "the solution" to the erosion of biodiversity. Roughly put, he believes that current trend towards democracy, the increasing participation of civil society, international law and, especially, the growth of conservation-oriented non-governmental organizations, offer an opportunity for the creation of powerful partnerships that can buy up, set aside, swap for debt or otherwise protect the wilderness lands, shores and ocean beds that must be preserved if humanity is to reverse the increasing extinction of species.

He is also optimistic about the "growing

prominence of the environment in religious thought." "The trend is important not only for its moral content, but for the conservatism and authenticity of its nature," he writes, noting that virtually every major world religion has in recent years come out with major new statements on nature and the environment.

Certainly, from a Bahá'í point of view, the key to making the kinds of transformations in the way humanity does its business that will be necessary both to protect the environment and ensure global prosperity for all, lies in just the kind of change in moral consciousness that has traditionally been associated with the emergence of a new religious movement.

*The Future of Life* is an important and timely book, offering a practical and hard-headed road map away from the kind of "species death" that threatens if humanity continues its largely unsustainable patterns of development, production and consumption. It offers compelling arguments on the need to protect biodiversity — arguments that are cast in rational terms that can be easily understood by even the most ardent proponent of rapid development.\*

---

## Bahá'ís in Tajikistan killed for their beliefs

**H**AIFA, Israel (5 March 2002) — Two Bahá'ís in Dushanbe, Tajikistan, were determined in recent weeks to have been killed for their religious beliefs.

Rashid Gulov was shot and killed on 23 October 2001 while returning home from work. A second man, Mosadegh Afshin Shokoufeh, was shot outside his home on 3 December 2001 and died from his wounds on the way to the hospital.

Authorities in Tajikistan made the determination, after investigating the crimes, that the two men were killed because of their religious beliefs.

Both men, along with their wives and families, were active in the Bahá'í community and both were members of the local Bahá'í administrative body of Dushanbe. Mr. Shokoufeh had also previously served on the Bahá'ís' national governing body for Tajikistan.

These deaths follow the assassination of Abdullah Mogharrabi in September 1999. Mr. Mogharrabi was another Bahá'í living in Dushanbe whose murder was determined to be religiously motivated.\*

— Bahá'í World News Service

*"The creature at your feet dismissed as a bug or a weed is a creation in and of itself. It has a name, a million-year history, and a place in the world."*

— Edward O. Wilson

## What is the real value of that weed at your feet?

The Future of  
Life

By Edward O.  
Wilson

Alfred A. Knopf

New York

Although he is known primarily as a biologist, Edward O. Wilson spends a lot of his time in his latest book talking like an economist.

Dr. Wilson, a tenured professor at Harvard specializing in the study of ants and their social systems, has won the Pulitzer Prize twice for previous books. One was about ants and one was about human nature.

In *The Future of Life*, Dr. Wilson takes up one of the most hotly debated issues of our times: the importance of protecting and preserving the earth's biological diversity.

And, knowing that he faces many who argue that human progress and economic development are more important than going the extra mile to protect a few endangered species, Dr. Wilson spends considerable time calculating just how much monetary value humans derive from healthy ecological systems, which he says are reliant on diversity.

He notes, for example, that economist Colin W. Clark did a study in 1973 that examined the economic value of protecting the blue whale, the largest animal that has ever lived on land or sea. At the time, only several hundred individual blue whales were left, their population having been decimated by hunters in the 20th century.

"The Japanese were especially eager to hunt even at the risk of total extinction," writes Dr. Wilson. "So Clark asked, What practice would yield the whalers and humanity the most money: cease hunting and let the blue whales recover in numbers and then harvest them sustainably forever, or kill the rest off as quickly as possible and invest the profits in growth stocks? The disconcerting answer for annual discount rates over 21 percent: kill them all and invest the money."

And in that example one finds the essence the conundrum currently facing humanity with respect to protecting and preserving our natural environment — and a crucial question facing the upcoming World Summit on Sustainable Development: Do we put the fight against human poverty first? Or must we also spend time, money and other resources to pro-

tect the natural world, even if the payoff is not so immediate?

The answer, as fleshed out by Dr. Wilson, is that Colin Clark's calculations about blue whales — and every similar calculation that trades a loss in biodiversity against short-term economic gain — are fundamentally flawed. They are flawed, writes Dr. Wilson, because they do not take into account the real and quite tangible value provided by the ecological systems of our planet — or the fact that biological diversity is a key factor in the health and stability of such ecosystems.

Dr. Wilson notes, to cite but one of many examples salted throughout the book, that forested watersheds do a superb job of cap-



turing and purifying rainwater — all for free. He writes that New York City officials once considered spending \$6 to \$8 billion to build a filtration plant to replace the water purification capacity lost by an environmentally degraded Catskills Watershed. Or they could spend about \$1 billion to restore the Watershed and protect it.

"The decision was easy, even for those born and bred in an urban environment,"

*Review, continued on page 15*