



# the new : Courier

UNESCO MAY 2002

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Ten trends for the new century

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**the new Courier** is published by the United Nations Educational, Scientific and Cultural Organization  
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*Printed by:* Imprimerie Corlet, Condé-sur-Noireau, France

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ISSN 0041-5278

## A new Courier

# The

magazine you are holding is the trial issue of the new bi-annual *UNESCO Courier*. We hope readers

will find it has the same rigorous standards and open-minded approach that the old monthly magazine was admired for over several decades. We also hope you like the changes we have made such as:

- A lighter and more flexible layout, lending itself to both a quick glance - at titles, intros, excerpts, captions, brief items - and a good read.

- New sections -such as Zoom, UNESCO in the news and Partners- that will feature in each issue, giving different angles on UNESCO's various activities.

- A new system of distribution too for a magazine that is now free of charge, through UNESCO's regional offices and National Commissions, and the many other networks the Organization is linked to around the world. The magazine will be chiefly aimed at these key partners.

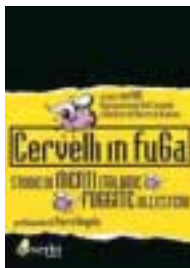
Each issue will include articles about topics linked to each one of UNESCO's fields of activity - education, culture, communication, the social and exact sciences - written by journalists from our Bureau of Public Information. It will also contain a feature dossier put together by a specially chosen guest editor. In this issue we discuss some of the major challenges to be faced in the 21st century and next October we will focus on Afghanistan.

We wish you an interesting read and thank in advance those of you who will send us comments, suggestions and criticisms.

*Michel Barton*

## Italy's brain drain

Italy's doctorate-holders, mostly engineers, physicists, biologists and doctors, are leaving the country to exercise their profession abroad. Most head for the United States, Great Britain and



Germany, where they can find the funding necessary for their work, says a book by the organization of Italian Ph.D.'s and researchers (ADI) entitled *Cervelli in fuga* ("The Brain Drain", Avverbi 2001). The book includes the stories of 20 Italian scientists who left their country because of lack of funding, cronyism and administrative obstacles.

## Moscow, 50,000 homeless children

One million homeless children and teenagers roam the streets of major Russian cities, officials say — and 90 percent of them still have their parents. Moscow alone has 50,000 homeless, 94 percent of whom are from outside the city. Most came from the former Soviet republics, and 70 percent are boys, although the number of girls is increasing, says the Moscow Times. Yet, since a 1999 law

banned non-governmental organizations from running orphanages, the city has had just three such facilities, with a total of 250 beds. Moscow's mayor plans to open seven new orphanages between

now and 2003, and has taken other steps, including a curfew: homeless children found on the streets after 11:00 p.m. are picked up by the police — then released.



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Vital signs

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## Afghan children back in school

Afghanistan's schools re-opened their doors on March 23rd, welcoming some 1.7 million children, including — for the first time in five years — girls. "Today, our people have tears in their eyes, but they are

tears of joy," said Hamid Kharzai, head of the Interim Administration. Mr Kharzai promised to devote the lion's share of the national budget to the reconstruction of the country's education system.

## Odd jobs vs. schoolwork

An "International Study on the Sciences and Mathematics" conducted in the United States shows that students' abilities decline as

they reach junior and, especially, senior high school. One possible reason: 55 percent of seniors (most of whom are 17 years old) work at least three hours a week, whereas that percentage never exceeds 18 percent anywhere else. However, the *New York Times* reports, although youth employment may harm school performance, it is

vital for the economy and impossible to call into question because teenagers work neither to round out their families' income, nor to pay for school, but to finance leisure activities and purchase clothes, which is a US \$150 billion market.



© J.C. Mézières/Rapho, Paris

## African fashion comes out of the woods

More than 40 designers from five continents will strut their stuff at the third International Festival of African Fashion (FIMA) in eastern Gabon from August 7-12. Their Africa-inspired creations will be modelled at Batéké. Nearly 6,000 people in all will gather there

under the watchwords of "Culture, Peace, Development." Workshops on peace, AIDS, tourism and the fashion industry in Africa will make the event much more than a simple fashion parade. When he organised the first festival in 1998 in northern Niger, long a war-

zone between the central government and the Tuaregs, the famous Nigerian designer, Alphadi, made fashion the symbol of national reconciliation. Today, he is on the way to achieving another ambition: "giving Africa a chance to show its true self, its solidarity, its huge generosity and its greatness."

For more: [alphadi@intnet.net](mailto:alphadi@intnet.net) ou [alphadi@club-internet.fr](mailto:alphadi@club-internet.fr)

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Vital signs

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## The mystery of the third buddha of Bamiyan

The humanitarian emergency in Afghanistan is, for the moment, dominating the headlines. However the question of rebuilding buddhas of Bamiyan, destroyed by the Taleban in March 2001 is still on the agenda, especially now that the site has thrown up another mystery. Legend has it that a third giant Buddha (nearly 380 metres long) remains buried in the Bamiyan Valley. It was mentioned by Chinese pilgrims in the 7th century and 25 years ago, an

Afghan-born French archaeologist, Zemaryalai Tarzi, said he had found it. Archaeological probes will be needed however to confirm this.



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## Killer particles

Up to a fifth of all lung cancer deaths in cities are caused by pollution mostly from vehicle

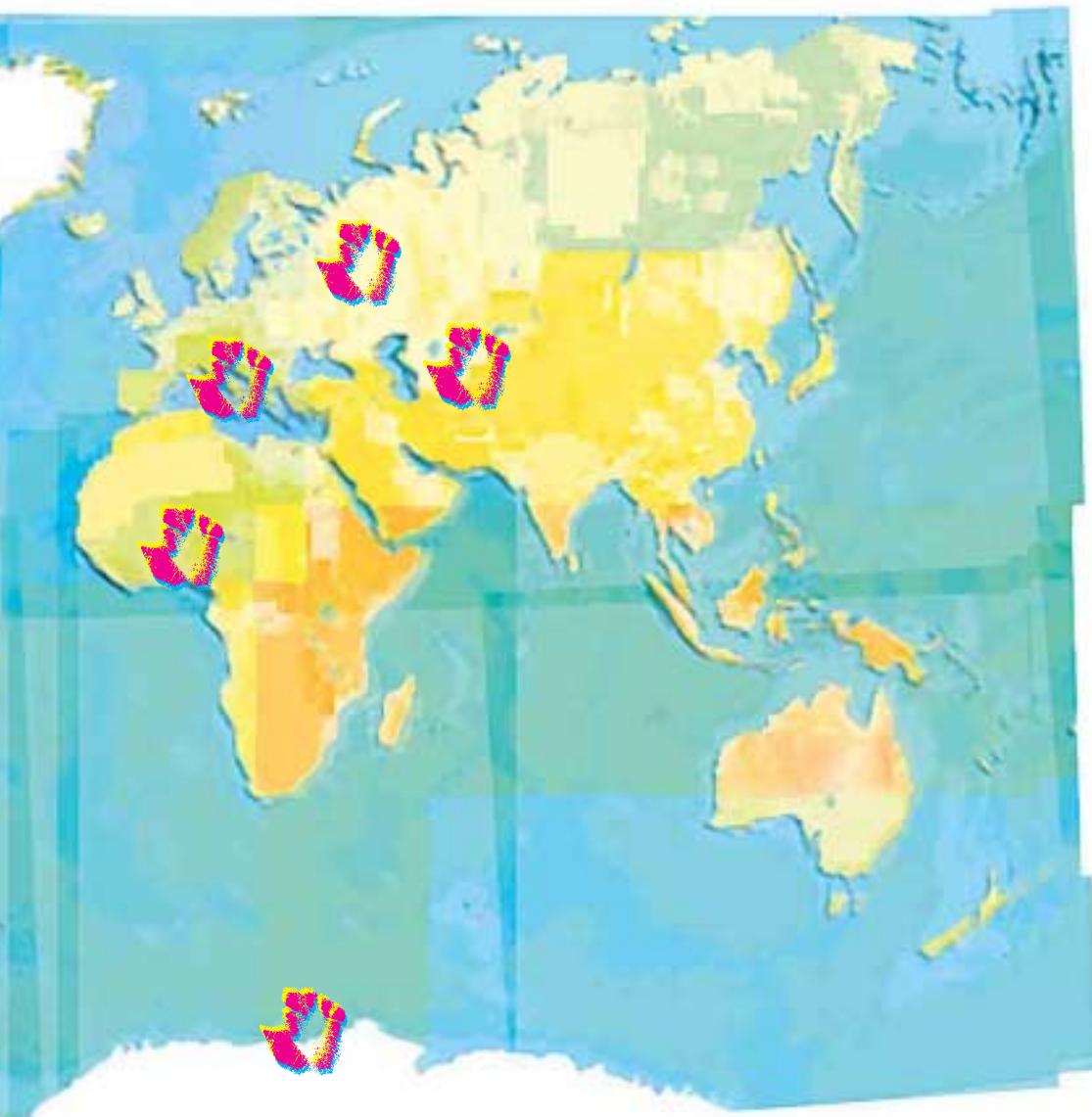
exhausts, according to the biggest study conducted on the problem. By tracking half a million Americans from more than 100 cities for more than 16 years, researchers studied the impact of tiny particles, less than 2.5 micrometres in diameter, that lodge deep in the lungs. In cities like

Los Angeles and New York, these particles range from 16 to 20 micrograms per cubic metre, even though the limit set by the U.S. Environmental Protection Agency is 15. The new research has found that for every 10-microgram increase, the death-rate from

lung cancer rises by eight percent. The new study reveals that the situation is far more dangerous than previously understood, especially in developing countries, where air pollution in many cities has reached high levels and shows no signs of abating.



© UNESCO



## The biggest census ever: Discovering life on earth

Taking their cue from international efforts to decode the human genome, an international group of taxonomists, led by Edward O. Wilson of Harvard University, has formed the All Species Foundation to complete a global biodiversity map within 25 years at an

estimated cost of US \$3 billion. The aim is to build a single catalogue of every living species, from bacteria to vertebrates, by combining results of individual taxonomic projects and hiring more researchers in the field. There are now only about 10,000 active

taxonomists. Less than two million species have been identified out of at least 10 million and perhaps as many as 100 million. The foundation will also focus on updating taxonomic techniques, notably through the use of new software. Instead of sending samples and slides

from one research centre to another, researchers could use digital and 3-D imaging techniques to exchange and verify data on new species at a fraction of the current cost. By 2007, the foundation hopes to identify 60,000 new species every year, up from the current 15,000.



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## Chilling events

Scientists have dug up the oldest ice core ever recorded, dating back more than half a million years, by drilling about 3,000 metres below East Antarctica. Samples of the giant core will now be shipped to laboratories



Vital signs

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© Gaillardet/Gamma

across Europe in order to help reveal the history of the Earth's climate and atmosphere and predict future changes.

Dramatic events along the peninsula foreshadowed the urgency of this study. In mid March, the Larsen B ice shelf, which was 200 metres thick and had a surface area of 3,250 km<sup>2</sup>, broke apart in less than a month. Scientists were shocked by the speed of the collapse and pointed to atmospheric and ocean warming, noting that region has warmed 2.5 degrees in just 50 years. Just as Larsen B collapsed, a monster iceberg, spanning 5,500 km<sup>2</sup>, broke off the western coast.

# Schools are failing our children

*Education systems need reinventing. From the courses being taught to the schools they are taught in. Author and award winning journalist Reva Klein is the Chair of the International Consortium on School*

*Disaffection, which aims at making education more humane, and more relevant*



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**In the USA, one child in four leaves school without that most basic of necessities - a high school diploma**

## **What do you mean when you speak of disaffected students?**

➤ They're the ones who slam the door on their education. Not just the kids who walk away from school, but also the those who drop out in their minds. The young people who feel alienated from the school environment or the curriculum for example and who switch off, who're not engaged with the syllabus, not engaged socially. In the education system, they take one of four routes. Either they are pushed out – excluded – or they truant persistently, fail their exams or drop out before taking

them. Whatever direction they go in , they face a precarious future, dogged by stigma, no qualifications and low self-esteem.

## **You've looked mainly at the situation in the United Kingdom, the USA**

### **How serious is the problem in those countries?**

➤ In the UK, according to official figures, nearly 20 percent of 14 to 19 year-olds are out-of-school without any qualifications. They're not in any sort of vocational training, and they're not working. They're referred to as a being at "status zero". Unofficially, their numbers are probably much higher.

At the same time, and even though the government has committed itself to social inclusion, the number of pupils being shown the door has risen inexorably over the past decade. In 1990/91, 2,910 children were excluded from English schools; by 1996/97 the number had skyrocketed to 12,700, and 1,600 of them were primary students.

In the United States, an average 25 percent of 13 year olds fail to graduate from high school. But this figure hides big differences between states and cities. In New York City and Washington D.C's public schools, the figure is a staggering 45 percent. This

means that one child out of every four in the United States leaves school without that most basic of American necessities, a high school diploma.

## **Who are the young people dropping out?**

➤ There are no simple profiles, but there are a number of factors that keep cropping up.

The home and social environment and family circumstances are obviously critical. The US Educational Testing Service, for

## **Reva Klein**

She was born in the USA but has lived in London for most of her life. As a journalist, she has worked on a range of national dailies and magazines, and has a regular column in the *Times Educational Supplement*. She is also a part-time lecturer in journalism at Goldsmith's College, University of London. She has twice won the 'Race in the Media Award', which is organized by the Campaign for Racial Equality.





**Reva Klein: fighting for the status zero group**



Talking to



example, reports that around half of all families on welfare are headed by early school leavers.

Race and ethnicity can also be major hurdles. In the U.K. disproportionate numbers of African Caribbean children are doing badly – although they don't necessarily drop-out of their education. Gypsy and Traveller children are particularly at risk of failing and dropping out, even though they, like African Caribbeans, start their schooling on a positive note.

In the US, although the situation for black children is still far from acceptable, it has dramatically improved over the last three decades. The latest figures show that about 13 percent of young black students drop out, as against 40 percent in the 1970s. On the other hand, the drop-out rate for young Latinos in the mid 1990s was around 30 percent making them the worst hit ethnic group for dropout figures.

Gender is another indicator for school disaffection and underachievement. In the United States, “special education” classes for underachieving and disruptive students are 85 percent male.

Young people living in foster situations or in the care of a local authority are one of the highest risk groups. In the UK over a quarter of 14 to 16 year olds in care are either persistent truants or have been excluded from school, and between half and three quarters of those leaving a foster or care situation have no educational qualifications.

**That's not really surprising though. Kids in underprivileged situations have always faced these sorts of difficulties. What's new?**

➤ First, although they probably make up the bulk of dropouts and disaffected students, young people in socially difficult situations are not the

only ones that don't make it. There are plenty of “mom and pop” kinds of kids who're also dropping out, or are disaffected.

Perhaps what's new though is our concern over the situation, and our understanding of the high cost of disaffection. As an example, almost 95 percent of boys in young offender institutions in the UK have either been excluded from school, persistently truanted or dropped out before reaching their 16th birthday (and every young offender costs at least £75,000 per year to keep in prison). Girls who become alienated from school run an increased risk of getting pregnant. Britain holds the worst records in western Europe for teenage pregnancies at 33 births for every thousand girls aged between 15 and 19: five times the rate of Holland.

There is now widespread acceptance of the fact that education is fundamental to a person's

development, their capacity to survive and lead a fulfilling life in our so-called knowledge societies – where knowledge is the key to a country’s economic and social development, but also the key to individual empowerment, to a decent job, home and lifestyle.

That we still have such a significant dropout problem in those countries that supposedly have the capacity to provide an education for all, means that what we are providing isn’t good enough. It means that schools are not in tune with what young people need and want today. It means that teachers are not well enough equipped with the understanding and skills to deal with the problems and difficulties of young people; that schools are not providing the right environment for children to develop as citizens.

### **What can be done to reconnect kids with education?**

➤ Clearly if the tide is to turn, so too must policies, attitudes, structures. The system must be more responsive to the various needs, backgrounds and abilities of all students while not compromising standards and expectations for the more able end of the spectrum. The response must be comprehensive in scope.

Concretely, that means designing education systems that are more

flexible. It means making schools truly democratic – and that goes beyond the simple establishment of school councils. We should be striving for real participation in the classroom. We need to open schools to the outside community and to parents. And we need to pay much more attention to individual children and have mechanisms in place to get them the expert help they need as early as possible. Kids on the skids need monitoring by properly trained people. It’s been well established that a “significant” adult in a child’s life can turn them around.

### **Are there any examples that could show us the way forward?**

➤ There are plenty. In Europe, Denmark’s education system takes top marks. The system is based on mutual respect between teacher and pupil and a culture of dialogue: the teachers don’t just stand up in front of the class – children work with them and with each other in a collaborative effort. There’s no grading system, no high stakes testing. It’s a system that also offers strong vocational programmes to students. Denmark’s drop out rate is only 4.3 percent.

While the US is home to some of the worst results and practices, it is also where some of the best work is being done. In New Haven (Connecticut), a compulsory programme of social and emotional learning for children from six to 18 – teaching skills required for decision-making, peer relationships, problem-solving, resisting drugs and alcohol, stress management, self-control, violence prevention and sexuality – has reaped amazing results. Between 1992 and 1996, the numbers of sixth graders having to repeat a grade was cut by ten percent. The number of fourth graders achieving good or excellent results in tests of their verbal



and non-verbal skills jumped from 41 to 72 percent. Dropout rates, suspensions and exclusions all fell, the number of kids carrying guns to school dropped by half.

In Australia, multi-agency approaches are turning up good results. Schools are linking up with public and private welfare organizations and community groups to bring kids in difficulty the support services they and their parents may need, and opening up different learning opportunities.

Cooperation, collaboration and coherence are also the pillars of a model being used successfully in Holland, which aims to help young people in difficulty to overcome some of the disadvantages – economic and cultural for example, that may hold them back. The main idea is that the fewer the differences between the ethos and experiences at school, at home and in the community, the greater the progress of children’s development. And because of the enormous resources available to schools, it is there where the ultimate responsibility for creating educational opportunities lies.



Talking to

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**Reva Klein**

She is the author of three books: *Defying Disaffection: how schools are winning the hearts and minds of reluctant learners*; *Citizens by Right: citizenship education in primary schools and the forthcoming We Want Our Say: children as active partners in their education.*



**“We need to pay much more attention to individual children”**

**Aren't these rather piecemeal solutions for a problem that is becoming more complex and truly international?**

➤ There are so many pedagogically and psychologically sound approaches being used in diverse corners of the world to engage young people in their learning that not a single spoke of yet another wheel needs to be invented. It's all there for the taking, if we know where to look for them and how to adapt them to our particular needs.

In an ideal world, for example, the education system in Taiwan, say, will admit that though it produces top marks internationally in math and science, the creative expression of the children there has been sacrificed in the process to their detriment. So it will look to, for example, a school in Tennessee (USA) using the Leonard Bernstein Center model, in which the curriculum is delivered through the arts, and borrow some of the methodologies from there. At the same time, pre-school educators in Britain will reassess the wisdom of introducing literacy and numeracy to four year olds and look at Hungary, where children attain higher test

scores although they start reading and number work two to three years later. And in the same hour, a secondary school in Caracas (Venezuela) with a heavy caseload of truancy, underachievement and disruptive behaviour will look to the multi-agency support systems practiced in Western Australia. There, no child is left to suffer or drift off, because assessment of all students ensures that a myriad of problems are identified and dealt with in different, student-friendly ways.

Children of the future, like those of the present, will need to communicate well, to interact at sophisticated levels with others, to solve problems creatively and to be flexible and imaginative in their thinking. For that to happen, schools need to see them and treat them as individuals, helping them to deal with the baggage that they're bringing in with them everyday and stimulating them so that they will want to learn. For unless school learning is seen as part of a continuum in the context of each child's life, it will remain stuck in the 19th century, where it remained for most of the 20th.

**The International Consortium on School Disaffection**, was created last October under the auspices of the National Dropout Prevention Centre based in Clemson, South Carolina (USA). Reva Klein is the chair.

**The consortium** is a multi-disciplinary group of academics, psychologists, researchers and practitioners working in the area of disaffection from the US, Europe, Asia, the Caribbean and Africa. Their rationale is to discuss our common concerns and challenges and to explore strategies. While they represent a diverse range of education systems and philosophies working within equally diverse political systems and economies, they recognize that school disaffection is a phenomenon that transcends these differences and unites them.

**They don't function** solely as a talking shop, although annual meetings and online communications allow for plenty of lively and informative discussion. The organization also wants to foster possibilities for educationalists to visit each other's countries to observe different ways of tackling familiar problems and then feed back and possibly adapt those strategies to meet their schools' needs.

At the forthcoming national conference in San Diego in September, the Consortium will announce the launch of the International Journal on School Disaffection, the first journal of its kind to be published anywhere.

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*Interview by  
Sue Williams*



Talking to



UNITED NATIONS YEAR FOR CULTURAL HERITAGE  
ANNÉE DES NATIONS UNIES POUR LE PATRIMOINE CULTUREL  
AÑO DE LAS NACIONES UNIDAS DEL PATRIMONIO CULTURAL  
سنة الأمم المتحدة للتراث الثقافي  
ГОД КУЛЬТУРНОГО НАСЛЕДИЯ ОРГАНИЗАЦИИ ОБЪЕДИНЕННЫХ НАЦИЙ  
联合国文化遗产年

The destruction of the Buddhas of Bamiyan in March 2001 was described by UNESCO as a “crime against culture”.

In the weeks preceding the blasting of the two giant statues, protesting voices were raised across the world - to no avail - to try to stop the action of the Taliban. Since then, the press has frequently reported initiatives proposed for the reconstruction of the statues.

**A final decision** on this has yet to be taken, but one thing is certain: no people can live without a past. In other words cultural heritage, whether it is tangible or intangible, plays a fundamental role in the way that a people constructs a history, an identity and a common purpose. Because of this, cultural heritage deserves the attention of all architects of peace, in Afghanistan and elsewhere.



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**In Cambodia** for example, Angkor has always held out the dream of unity, especially during the nation’s darkest days. Far from wiping out the memory of the former empire, the Angkar, meaning Organization, which was the supreme body of the Khmer Rouge, used it to feed its nationalist propaganda. But for the past decade, the symbolic significance of Angkor has above all helped the Cambodians to become reconciled with each other and with themselves.



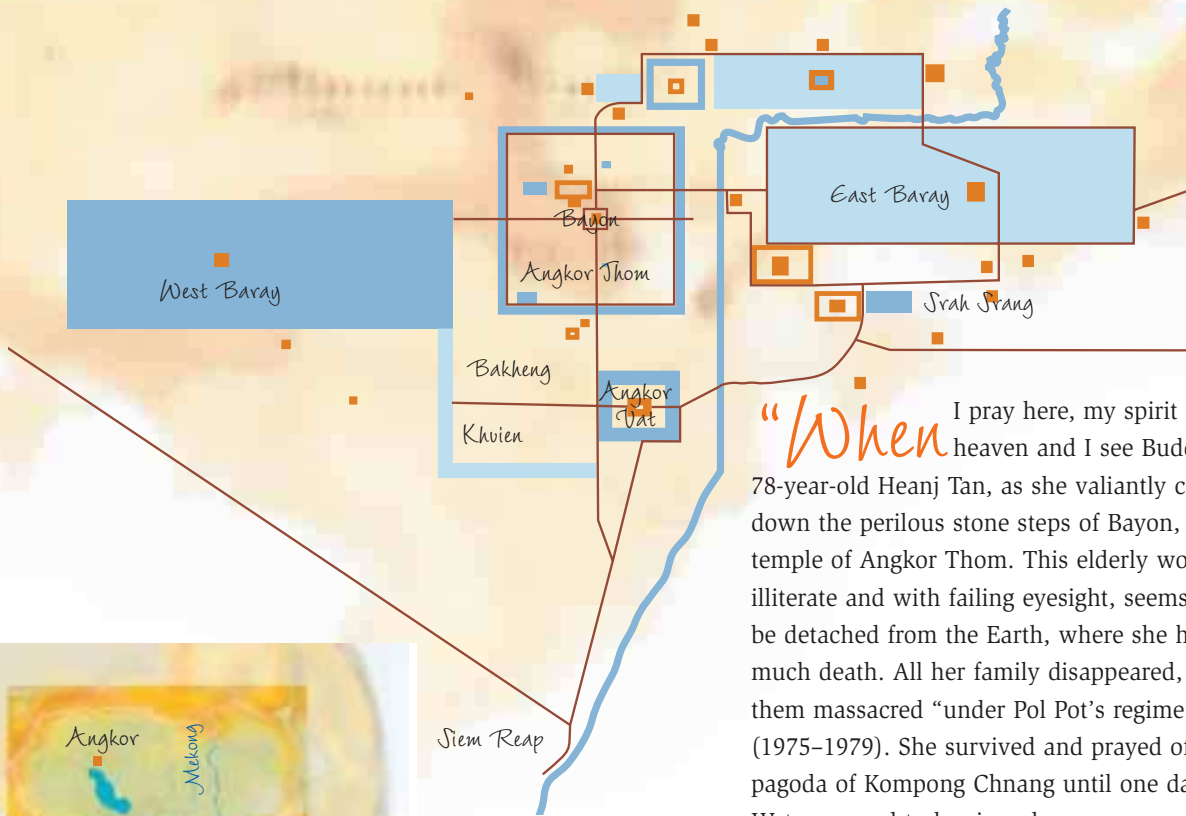
**In Bosnia**, the systematic destruction of cultural heritage during the war was an attempt to eliminate any trace of the shared past of the various Serb, Croat and Muslim communities. Today, UNESCO and the World Bank are coordinating the work of multi-cultural teams to rebuild the Mostar bridge. But for the bridge to really become “a symbol of peace and reconciliation” the residents on the opposing banks of the Neretva River have got to want to cross it.



© Robert Chertez, Paris



# Angkor's role in the search for a lost unity



*“When* I pray here, my spirit flies up to heaven and I see Buddha,” says 78-year-old Heanj Tan, as she valiantly climbs down the perilous stone steps of Bayon, the main temple of Angkor Thom. This elderly woman, illiterate and with failing eyesight, seems happy to be detached from the Earth, where she has seen so much death. All her family disappeared, some of them massacred “under Pol Pot’s regime” (1975–1979). She survived and prayed often in the pagoda of Kompong Chnang until one day Angkor Wat appeared to her in a dream.

“It was two years ago,” she says. “I saw the *wat* (pagoda in Khmer) very clearly, in my eyes and in my heart, and I came here.”

Heanj Tan’s devotion is not necessarily shared by all the Cambodians who flock to Angkor with the foreign tourists. Alongside a large number of monks, we came across a waitress who had come from Phnom Penh “just to visit”, or a young lawyer who came because he is proud of his culture. And there was also the father of an affluent family, who was conscious that a visit to Angkor is an external sign of social prestige. The number of Cambodian visitors exceeded 120,000 in 2000 and is rising every year.

Why do so many people visit Angkor? The return of peace in 1998 and the demining of the site, has allowed Cambodians to travel there in safety. But in a country which is struggling to cast off decades of nightmares and humiliation – civil war, genocide, Vietnamese occupation – the memory of Angkor soothes a shattered nation.



## Cambodia

Population : 12.8 million  
GDP per habitant: US\$1,361  
Human Development Indicator ranking: 121st place (out of 162)  
Illiteracy rate among adults: 31.8 %  
Population living below the monetary poverty line (one dollar a day): 36.1 %  
Life expectancy: 56.4 years  
Source : UNDP.



© UNESCO/Sophie Boukhari

**Heanj Tan, 78, travelled to Angkor after seeing the temple in her dreams**



“The last 25 years have been a period of intense philosophical reflection for the Cambodians,” says Azzedine Beschaouch, UNESCO’S Scientific Advisor for Angkor. “They have asked themselves whether the decline of the Angkor empire (9th to the 14th century) signalled the end of a Cambodia that was peaceful and highly cultured, and whether they themselves were part of another Cambodia, one which is destructive and barbaric. Angkor above all allows them to be reconciled with their own history: aligning themselves to this great civilisation allows them to draw a line under the barbaric times.”

“Angkor is the soul of the Khmer,” adds Ang Chouléan, an anthropologist and the director of culture at APSARA, the national agency in charge of the site’s development (see box). “In times of despair, Angkor is the only reference point.”

It is a religious symbol, the mythical base of the “Khmer nation” and therefore a national emblem. Since independence in 1953, Angkor Wat has featured on Cambodia’s national flag.

Ang Chouléan recalls that in 1991, when the four warring parties created the Supreme



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**Thousands of Cambodians travel to Angkor Wat to pray. According to legend, the Wat is an earthly replica of the stables of a celestial palace. During the Khmer New Year, up to 15,000 people visit the site**

National Council in order to reunite the country, “the first thing that the Council did was to appeal to the international community to safeguard Angkor.”

In December 1992, the site was inscribed on UNESCO’s World Heritage List, an act Ang Chouléan says sealed “the start of the process of national reconciliation”. Since then, Angkor has loomed large whenever peace in the country needed propping up. In 1993, when King Norodom Sihanouk returned to the throne, the first decree he signed – NS 001 – regulated the protection of the archaeological site.

American anthropologist Ashley Thompson underlines that after the events of July 1997 as Cambodia once again tottered on the brink of chaos, it was to Angkor that the king turned to “pay homage to the statues” and to appeal for reconciliation.

However, the control of the former capital and the tourist boom that it has led, have given rise to dissent in some quarters.

“On one hand, Angkor has shown Cambodians that they can earn a lot of money by working together but, on the other hand, it has caused numerous tensions,” says Tamara Teneishvili from UNESCO’s Bureau in Phnom Penh.

Property developers are holding up the introduction of town planning rules designed to protect the area around the site and the neighbouring town of Siem Reap, which has almost doubled in size in 10 years. And the residents of the 75 villages in the archeological park, and the long-term residents of Siem Reap have see more and more people moving into the region from other provinces to get a share of the profits.

The gold mine generated by ticket sales for Angkor is also a source of bitter dispute. The number of foreign visitors has increased greatly since 1998 (see graph), pushing ticket receipts beyond US\$5 million dollars in 2000, compared



UNESCO in Angkor

**Angkor** is a symbol of national unity but also an example of “international solidarity”, says Etienne Clément, the director of UNESCO’s Bureau in Phnom Penh. “Angkor has benefited from the sort of international cooperation which is unique in the history of heritage conservation,” he says.

**Since** the site was inscribed on the World Heritage List ten years ago, UNESCO has taken over the office of secretary of the International Coordination Committee charged with safeguarding and developing the site. This committee, made up of 35 states and international organizations, is jointly presided over by France and Japan, the two biggest contributors to efforts to safeguard the site. Every year, the committee supervises around 100 projects, worth a total of five million dollars, covering research, restoration, training, community development and tourism.

**After** helping the Cambodian authorities to define the layout of a site of more than 400km<sup>2</sup>, UNESCO encouraged the creation of APSARA in 1995. This Authority for the Protection of the Site and the management of the region of Angkor, whose acronym refers to the renowned celestial dancers which are engraved in stone there, has set up a range of projects, mainly related to tourism, town planning and the maintenance of the monuments.



with US\$1.8 million in 1999. Since April 1999, a private company, Sokha Hotels, has held the concession to sell tickets. It takes a cut of almost 40 percent of the proceeds. The rest goes to the Public Treasury, which is supposed to pay it back to APSARA, the tourism ministry and the culture ministry. The agreement has already been revised once and a new review will take place this year.

“All the donors who have contributed to the development and protection of the site, regularly denounce the situation,” says Etienne Clément, the director of UNESCO’s Bureau in Phnom Penh. He points out that elsewhere in the world, companies running the ticket operations for public monuments are rarely allowed to keep more than 15 percent of the receipts. But to place the situation in context, he observes that prior to April 1999, “all the money disappeared into a black hole”.

“In Cambodia, the tradition of transparency in public finances is a very recent thing,” says Etienne Clément, choosing his words carefully.

“Why don’t we let APSARA collect the ticket receipts?” says Son Soubert, an archaeologist and a member of the Constitutional Council. “Because, as everyone knows,” he alleges “Sokha finances the Prime Minister’s party.”

He says the situation is all the more serious

**The wanton pillage of Angkor has been much reduced thanks to the efforts of the Heritage Police, set up in 1994 with UNESCO’s help**

because the culture ministry lacks the necessary resources to fight against the pillaging of archaeological sites. The theft and the trafficking of the heads of statues and *bas-reliefs* continue in a number of provinces, even though these practices have been stopped in the Angkor park, thanks to tourism and the Heritage Police, which was set up in 1994 with UNESCO’s support.

The Angkor temples, representing the cosmos and the order of gods, have always symbolised the aspiration for unity and harmony,” says Ashley Thompson. The Cambodians like them so much because they represent the possibility of transcending the divisions of history and the failings of humanity.

*Sophie Boukhari*



**The numbers of foreign visitors to Angkor**

### Journey to Angkor



#### The Essence of Khmer Culture

• This documentary offers an extensive panorama of the site and a review of the conservation work of one

of the biggest archaeological sites in the world. Aerial views, detailed close-ups: a stunning journey. UNESCO/Fuju Television/Van Eight Productions Video (VHS, Pal), 26 min : 11.43 €

# Mostar, a bridge to peace

**Restoring** part of the common heritage of Serbs, Croats and Muslims that disappeared during the war in Bosnia could help to start the long process of healing the wounds opened by the conflict. To this end, UNESCO is helping to rebuild Mostar's Old Bridge, a jewel of Ottoman architecture, to make it once more a symbol of that heritage of peaceful coexistence.

But reconciliation is no easy task in a city that lost more than 2,000 of its inhabitants in fighting between the three communities from 1992 to 1995. The traces of war are still very visible. Near what used to be the front line, many bombed buildings are still derelict and bear signs warning of the danger of going near them. Holes in the roads and pavements made by shells and houses pock-marked with bullets are a reminder everywhere of the bloody conflict.

Soldiers of the SFOR international peace force still patrol the town daily, along with Italian *carabinieri*, French *gendarmes* and Spanish civil guards. But those who knew the city during the fighting say things have much improved.

Although the divide between the Croatian part of the town (along the west bank of the Neretva river) and the neighbourhood of the majority Bosnian-Muslim population (on the other side of the river) is still clear, three of the nine bridges destroyed in the area during the war are back in operation. But the most famous one, that gave the city its name (Mostar means "keeper of the bridge"), is still a makeshift foot crossing.

The Stari Most (Old Bridge), built in 1566 by the Ottoman architect Mimar Hayreddin, was destroyed by Croatian artillery on 9 November 1993. But the bridge lives on in the old part of the town, where artists paint it and craft workers make miniature copies of it in metal, ceramics and leather. Restaurants and radio stations are named after it and you can see it on postcards all over the town.



© Robert Cheriez, Paris

## Bosnia-Herzegovina

Area:  
51,209 sq.km.  
Population:  
3,676,000  
GDP:  
\$4.9 million  
Unemployment  
rate: 31 %

Sources:  
European Bank for  
Reconstruction and  
Development and the  
Bosnia-Herzegovina  
Bureau of Statistics.

But the memory of it burns brightest in people's hearts. "When I dream about the war, I never see my father or my brother, I always see the bridge," says Selma, a 27-year-old widow. "When I used to go out with friends, we'd always arrange to meet up at the bridge. We just called it 'Stari' (the Old Man)," says Snjezana Hadzic, a civil engineer who is a consultant with the reconstruction project.

Every August, the town's youngsters would dive off the top of the bridge's 20-metre-high single arch into the Neretva in a contest that was shown on nationwide Yugoslav television.

"When it was destroyed, I was the mayor, and we all wept," says Cistic Rusmir, head of the Old Bridge Project Coordination Unit, which is funded by the World Bank and brings together international, Croatian and Bosnian experts. "But I was also there a week later when it was decided to rebuild it. The aim of the agreement we've signed with the World Bank and UNESCO is to build a new bridge just like the old one, using exactly the same kind of stone, but on

## Whose library is it?

**Tens** of thousands of books, manuscripts and periodicals went up in flames in Sarajevo on the night of August 25 1992 after the bombing of the Bosnia-Herzegovina National and University Library. "**Many** people who hastened to deplore its destruction had never been inside the place," says young Bosnian writer Nenad Velickovic, nearly 10 years after the event. "The worst thing is that since then, it's become a kind of international badge of

good conscience. Orchestras and singers, conductor Zubin Mehta, politicians – they come from all over the place. Meanwhile, some of the people who risked their lives to save some of these treasures are today



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UNESCO  
heritage

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**In the 1960s, the bridge and its approaches were a place of leisure where the different communities mixed freely. Today, only a few stones remain, fished out of the Neretva to be used in the reconstruction**

working in temporary premises without heating. It's very sad."

"**The problem** with the library is the same as with many other civilian buildings in the region," says Léon Pressouyre.<sup>1</sup> "It's who owns the land. There've already been cases where the international community has been quick to fund restoration and renovation, only to have the real or bogus former owners appear, waving titles to the land. Before doing any such work on the library, it's vital for local authorities to come to an agreement about the future use of the land."

**Meanwhile**, UNESCO is providing US \$220,000 to renovate the temporary premises and has helped to restore one of the library's most famous manuscripts, the "Sarajevo Haggadah", a 15th century book of Jewish prayer.

(1) Annex 8 of the Dayton Accords set up a commission to preserve national monuments. Two of its five members were named by the Director-General of UNESCO and the other three from local bodies. Pressouyre, a professor at the University of Paris I, heads the commission.

condition that members of both rival communities work together on the project.

"We have only one bank account and one set of documents. I have complete confidence in my Croatian architect opposite number, Tihomir Rosic. If only all the institutions in Bosnia-Herzegovina showed the same degree of cooperation."

## SIDE BY SIDE

Members of both communities have worked side by side for more than two years in quarries and excavation sites. Sharing the goal of completing such a highly symbolic project for the town, drinking coffee and taking work-breaks together is all helping them to stop seeing each other as enemies.

This is no small achievement in a town where SFOR soldiers say Bosnian-Muslim and Croatian police patrol side by side in the same uniform sometimes without exchanging a word for weeks and where the hatred simmering just below the surface means proceeding very carefully because so many families who lost loved ones know the names of those who killed them.

Italy, Turkey, France, the Netherlands and other foreign donors have provided the US \$15 million needed to rebuild the bridge and its two towers and also restore 11 buildings in the old part of town that were badly damaged in the fighting. Of the total, US \$2 million is coming from the Mostar town council and recently the Croatian government said it would give US \$660,000 for the new bridge.

"This is a remarkable gesture from a country with economic problems, especially since the local Bosnia-Herzegovina press has kept quiet about it," says Colin Kaiser, head of UNESCO's office in Sarajevo.

Ivo Andric, the only Nobel Prizewinner for Literature that former Yugoslavia produced, wrote in 1945 that "bridges are more important than houses and more sacred than temples, because everyone uses them and they belong to everyone."

It is up to the different communities in Mostar to make sure that when the new bridge opens in 2004, it fulfils Andric's description.

*Lucía Iglesias Kuntz*



# Bioethics: The ethics of genetics

*Much hope has been placed in genetic science. But along with the promise of miracles come serious ethical questions that need some answers. Just how far should we let the scientists go?*



UNESCO  
Ethics

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Gene therapy may hold the promise of miracles, but it is still in its infancy

© Christian Vriouard/Gamma, Paris

Using human embryos as a source of spare body parts is an idea that both fascinates and terrifies. We are drawn by its promise. We are also frightened, because it has changed too quickly from science fiction to being real science and because we feel those involved in it have new and fearsome powers through their knowledge of how to alter living organisms.

The idea of beating an illness such as Parkinson's disease by replacing old or damaged cells with new and efficient ones taken from an embryo is by no means the only one that life sciences offer us these days. Other possibilities, on the contrary, are downright alarming. They include, for example, reproductive cloning of human beings, which some scientists and doctors say they are determined to press ahead with despite its prohibition by both UNESCO's 1997 Universal Declaration on the Human Genome and Human Rights – which calls it “contrary to human dignity” (article 11) – and the laws of many countries.

To the already tough question posed by life sciences of “how far shall we go?” we must add another: “how far do we have the right to go?” This is the extremely broad domain of bioethics. So what are the major problems it faces today?

Embryonic stem cell research could allow production of what we desperately lack – organs, tissue and cells for transplants – that give hope of spectacular progress in the battle against ailments that are difficult or currently impossible to cure, such as Parkinson's, Alzheimer's disease and Multiple Sclerosis.

The legitimacy of such research – which countries either ban, permit or simply tolerate – depends first of all on the status given to the embryo. If considered to be already a human being, its use obviously cannot be envisaged,

even for respectable medical treatment. But the debate goes further than this. Though not against the idea of using human embryos as a source of ESC, some people object to it in practice because of the danger of abuses and misuse of the embryo in the course of such research. Even those who consider it ethically acceptable are often concerned to establish safeguards and conditions about using them for medical purposes..

Other questions arise about the source of ESC. Is it right to create human embryos just for research purposes? And if the only embryos used are those no longer intended to grow into children (such as embryos frozen after in vitro fertilisation), how should the



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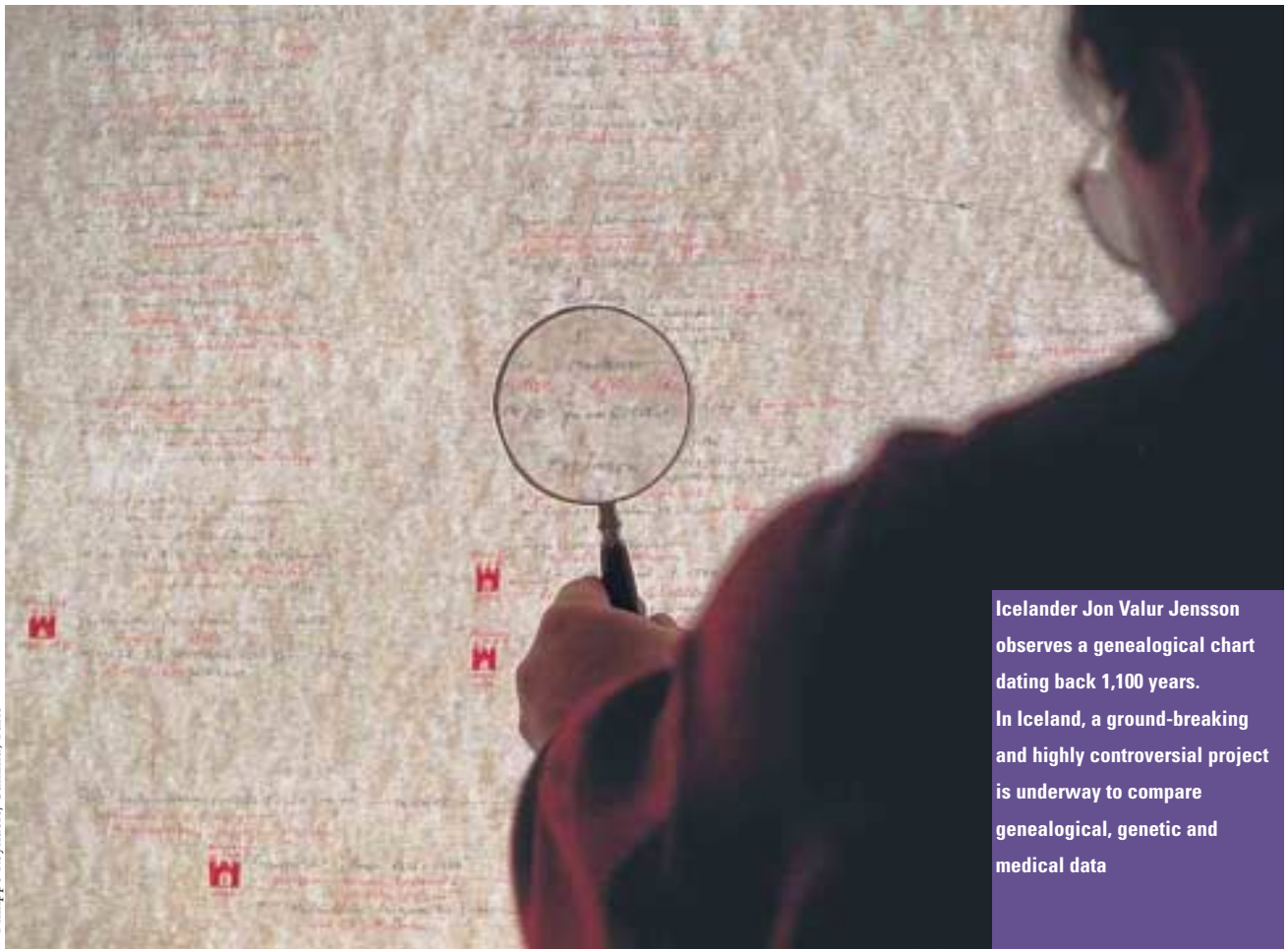
acceptability of the research be judged and how can the rights of the donor parents be respected? Ultimately, other questions must be asked. Do these cells, with their great potential for replication, risk becoming cancerous? If so, how can this be dealt with?

Several countries that banned ESC research (Germany and France, for example) have or appear to be switching to a more liberal position. Also, while the most promising cells seem to be ESC (totipotent ones), cells taken from adults (ASC –only multipotent but raising fewer ethical issues) are making a come-back after discoveries in Canada and Sweden.

The prospect of human cloning has also set off intense debate. Although the international community has already rejected the idea as an unacceptable misuse of human beings, the threat remains. Certain scientists and doctors have dismissed the widespread objections and

**Each of our cells contains DNA (deoxyribonucleic acid), the main constituent of the chromosomes of all organisms, except some viruses. It is self-replicating and is responsible for the transmission of hereditary characteristics**





Icelander Jon Valur Jensson observes a genealogical chart dating back 1,100 years. In Iceland, a ground-breaking and highly controversial project is underway to compare genealogical, genetic and medical data

## Genetic data: gathering, processing, storing and use

**The collection,** treatment, storage and use of genetic material raise a host of ethical problems. They include the purpose of gathering it, informing sample donors, obtaining their free and informed consent, regard for the sensitivity of some social, religious or ethnic groups about genetic testing (for such things as parentage), confidentiality and what happens to the samples gathered.

**The spread** of genetic “fingerprinting” could lead to all kinds of discrimination. First against people whose genes showed an anomaly indicating an existing disease or the predisposition for one. This could put them at risk of being barred from jobs, being refused or charged more for insurance, and blacklisted by credit organizations. There might be more general discrimination if a genetic survey of a given population led to stigmatisation of entire groups.

**As data banks** spring up all over the place and genetic and medical data about whole populations passes into the hands of private firms with exclusive rights, the issue of genetic data needs to be urgently tackled. UNESCO’s International Bioethics Committee is working on this and has

produced a report.\* An international instrument is being prepared and a first meeting about it was held at UNESCO headquarters in Paris on 11-12 February this year. The IBC’s drafting committee will work over the next few months on a proposal to present to the IBC before the end of the year.

1. This report – Genetic Data; preliminary report of the IBC on the collection, processing, storage and use – will be available shortly on the internet at: <http://www.unesco.org/ibc>

say they are determined to go ahead with cloning. The prospect looms of “cloning havens,” not unlike today’s “tax havens.” If this situation were ever to result in the birth of a human clone that survived, another grave question would arise: what would be the legal position of a cloned human being “conceived” or “born” in a country where such a practice was banned?

There are also questions about therapeutic cloning, which involves transferring a nucleus to create an embryo simply to provide stem cells. Is this acceptable if it can vanquish incurable or crippling diseases? Does accepting human cloning for these purposes (and developing the necessary techniques) leave the way wide open for reproductive cloning of human beings? Here we come up against the problem already mentioned: when does human life start? .

Less-frequently posed questions such as diagnosis (the core of medical practice) are just as ethically important. Bioethics has already been confronted with the question of pre-natal diagnosis, and how to prevent it from being used to determine the sex of a

foetus so as to eliminate those that are female. Technological advances have brought a new kind of diagnosis that has its own dangers: pre-implantation genetic diagnosis, which not only detects gender but countless other characteristics. The fear is that this technology – currently limited to spotting serious diseases – will be used for eugenic purposes, for “selecting” human beings.

The status of the human genome is at the root of another big question: who owns genetic data? The person who provides parts of his or her genetic material? The scientist who identifies its characteristics? The scientist who devises a use for it? The company that paid for the research? And the problem is no easier if the organism supplying genetic data is a plant rather than a person. Should scientists and laboratories who reap benefits from plant life reward the local witch doctor, or his community, who led them to the plant?

## RESERVED FOR THE RICH

In theory, only genuine inventions that have a purpose or might have industrial uses can be patented, but in fact there is an upsurge in patent applications for genomes and their uses, including gene sequences, whose future usefulness is unclear. According to the draft report on the follow-up to the international symposium on Ethics, Intellectual Property and Genomics the rocketing number of patents being granted means that “the costs of future therapies and genetic tests will become prohibitive for most human beings and nations.”

Should these “discoveries” be protected, thus depriving some people of their possible benefits? Or should intellectual property protection in this area be reduced, at the risk of deterring corporate investment because of diminishing profitability? Although genetic discoveries compound this problem, it is not a new one, as shown by the debate over the cost of AIDS drugs, which are protected by patents and therefore too expensive for some countries.

The question of equity also arises in the area of donating human organs and tissue. Scientific advances, such as xenotransplantation (transplants of genetically-altered animal organs into



## The IBC, leading the way

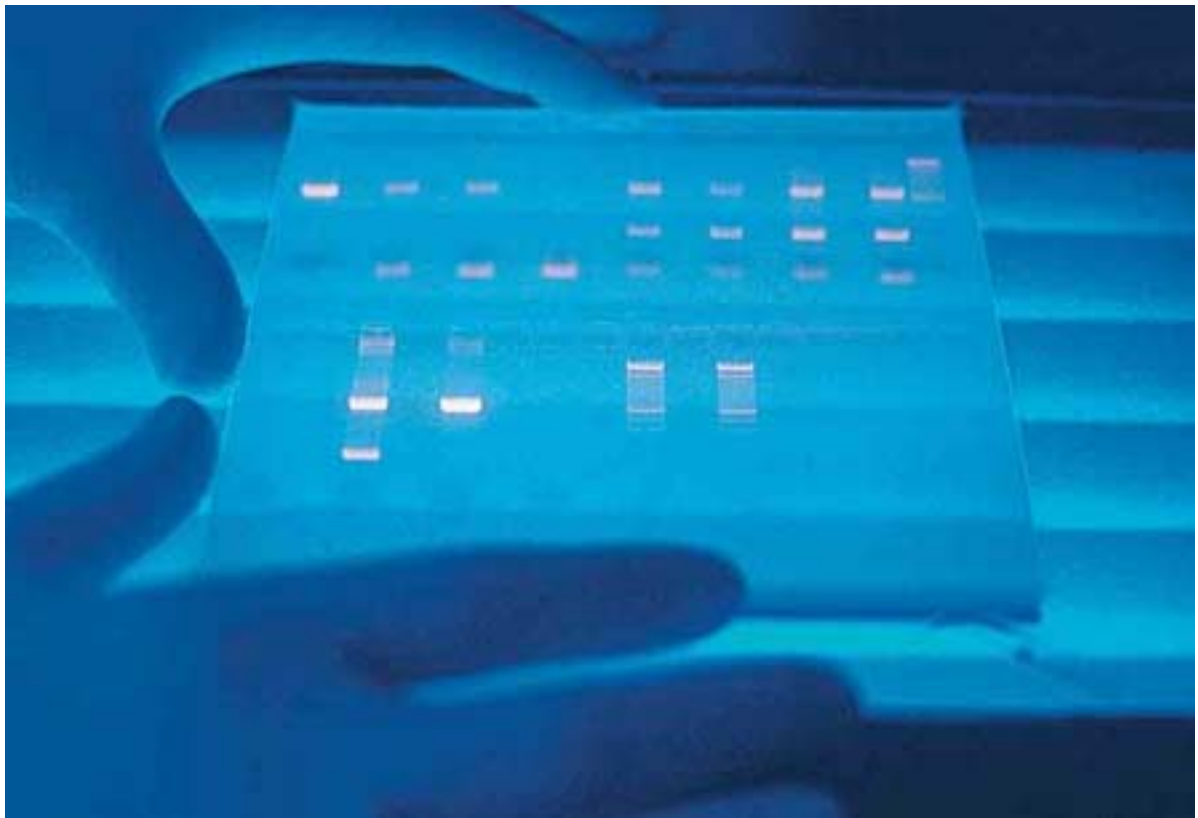
- **Currently** headed by Ryuichi Ida, professor of law at Japan’s Kyoto University, the International Bioethics Committee (IBC) was set up by UNESCO in 1993 to follow the progress of research in the life sciences and its applications by ensuring that the principles of human dignity and freedom are respected. The IBC is the only global forum which can facilitate in-depth ethical reflection by exposing the issues at stake. However it is not the IBC’s role to act as a tribunal passing judgement on one position or another. It is up to each country, particularly the legislators, to reflect societal choices within the framework of national legislation and to decide between the different positions. The Committee comprises 36 members, designated by UNESCO’s Director-General, and who serve in a personal capacity.
- **The IBC** was the author of the *Universal Declaration on the Human Genome and Human Rights*, adopted by UNESCO in 1997, which is still the only international instrument in the field.

a human body), and genetic engineering in animals as a potential source of organs compatible with the human body may mean the imbalance between supply and demand can be restored. But this will be at a heavy price mostly for poor countries. This takes us to the broader ethical problem of solidarity. Since the human genome is, according to the first article of the Universal Declaration on the Human Genome and Human Rights, part of the “heritage of humanity,” should not the benefits of this research – mainly done in rich countries often using material from elsewhere – be better shared?

Finally, there is the problem of what to do with all the genetic data gathered in the

course of all the discoveries that promise both remedies and future dangers. Such material ranges from initial biological samples, the isolated DNA, records of DNA sequences, genetic profiles and information about the state of the chromosomes. It can also include written family medical records. The collection, treatment, storage and use of this genetic material – which determines a person’s genetic identity and is passed down through generations – also raises very many ethical problems (see box p.21). The International Bioethics Committee (IBC) has published several reports on this and UNESCO has begun work this year on drawing up international guidelines in the field.

*Pierre Gaillard*



The DNA of suspects in sex crimes is decoded at the Codgene laboratories in Strasbourg (France)

© F. Demange/Gamma, Paris

# Alexandria's library rises again

*One of the world's biggest and most modern libraries opens its doors in Alexandria, close to the site of its renowned ancestor, on the Mediterranean shore of the city founded by Alexander the Great*



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**Library director**  
**Ismail Serageldin.**



**A new, hi-tech temple of knowledge for the city founded by Alexander the Great on the shores of the Mediterranean**

**Sixteen** centuries after it disappeared, the biggest library of ancient times is coming back to life in the Egyptian city of Alexandria. The library where the Bible's Old Testament was first translated from Hebrew into Greek and where Euclid invented geometry.

"It's wonderful that amid so many wars around the world, and when people are talking about the 'clash of civilisations,' that a few metres from where the old library was, a new and wonderful institution is rising that's also dedicated to universal knowledge, understanding and tolerance," says its director, Ismail Serageldin.

The official opening of the new library had been scheduled for April 23, World Book and Copyright Day. However, events in the Middle East forced a postponement. The library is noethless ready to go. It is the biggest such institution in the Middle East and Africa, with room for eight million books and equipped with state-of-the-art information technology, including a section for digitally scanning manuscripts. Its physical design is also unique. "The building is conceived as a solar disc rising out of the ground and looking towards the sea, symbolising the openness and vastness of knowledge," says Serageldin. "Like the Sydney Opera House or the Guggenheim Museum, it has its own very distinct character."



© UNESCO/Asbel Lopez

"It's much more than a library"

As well as the library itself and a spectacular reading hall for 1,700 people, there is a conference centre that can hold 3,500 people, a planetarium, five research institutions, an Internet centre, three museums and four art galleries. For Serageldin, it's much more than a library, rather "a vast international cultural centre," comparable to the *Museion* – part of the ancient library and the University of Alexandria and the gathering place for poets, scientists and artists.

Founded by Ptolemy I Soter in 288 BC, the ancient library contained nearly 700,000 manuscripts. It was there that Aristarchus suggested for the first time that the Earth revolved round the Sun, where Eratosthenes calculated the circumference of the Earth and Herophilus discovered that the brain controlled the body. After 450 years, the library disappeared, the victim of attacks and fires – the first of them in 48 BC, when Caesar backed Cleopatra against her brother Ptolemy XIII.

But this glorious past doesn't intimidate Serageldin. "I want to make the new library into a meeting-place where thinkers, artists and scientists from all over the world can lay the foundation of mutual understanding through dialogue," he says.

"Our primary vocation is the Mediterranean and then the Arab World and Africa," he says. "We're going to develop close ties with institutions such as the University of Alexandria, Senghor University, the Arab Academy of Science and Technology and the Egyptian Centre for Creativity. We will focus on researching the history of the old library, the ethics of science and technology and studying water as a development issue."

As a trained architect, Serageldin is keen to talk about the building itself: "It was designed by a group of very talented young Norwegian architects (from the firm Snohetta) and construction was supervised by an outstanding Egyptian engineer, Mamdouh Hamza, who faced the challenge of building part of it 18 metres below sea-level. You can approach the building without feeling crushed and you don't realise it's 160 metres across and 11 storeys high. It's surrounded by a wall in the shape of a half-moon, on which are carved letters from the alphabets of 120 languages. The overall effect is sedate, human, open and elegant."

Serageldin, a Moroccan academic, is most proud of the great reading hall, "one of the most beautiful in the world," he says. "The soft mellow daylight reaches everywhere and the ceiling elevated on very elegant columns creates an atmosphere of a 'cathedral of learning,' as someone put it." Looking down on the reading hall from the Callimachus Triangle, a vantage point from where you can see the building's seven levels, he adds confidently that "in future, people won't come to Egypt to see the Pyramids. They'll come to see this library."

He firmly rejects criticism of the project's cost: "The final cost was US\$220 million, US\$97.6 million of which was provided by the outside world and the remainder by the Egyptian government. For a country of 67 million people, US\$120 million over a 10 years isn't an unreasonable investment for a centre of excellence."

The Ptolemies were also criticised in their time, says Serageldin, but history proved them right. "The contribution of the Ancient Library of Alexandria to the knowledge of the world, to the patrimony of the whole human race, continues to this day to inspire us as one of the greatest adventures of the human mind."

Restoring a link with that noble tradition is what gives the project its universal character. "It's wonderful to see the excitement of thousands of people all over the world at the inauguration of the library, which they feel belongs to them as much as to Egypt," says Serageldin.

Asbel Lopez



The access stairway to the disk shaped roof that evokes the sunrise (right). Below, characters from the alphabets of 120 languages have been sculpted into the wall of the building



UNESCO  
Communication

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*International support for an Egyptian effort*

- **At the Egyptian** government's request in 1986,
- UNESCO helped give an international dimension to
- the scheme to build the Alexandria Library.
- "UNESCO's international backing was crucial to this
- project going forward," says, Ismail Serageldin, the
- library's director.
- **In 1987**, UNESCO launched an international appeal
- to support "the revival of the Ancient Library of
- Alexandria" and paid for a feasibility study that said
- a big library should supply the needs of the
- Mediterranean region. A year later, together with the
- International Union of Architects (IUA) and the UN
- Development Programme (UNDP), UNESCO
- announced an international competition to design the
- library. It also organised the Aswan Meeting in 1990,
- where it got the first international funding for the
- project – US\$65 million, mainly from Arab countries.
- **UNESCO** has provided an Internet server and money
- to set up the library's website. It has also funded an
- electronic library for blind people and the training of
- librarians, as well as providing technical documents
- and guidelines for designing the library's information
- systems and buying equipment. In addition, it has
- put together a curriculum for the International School
- for Information Studies, based at the library, and set
- up a restoration laboratory.

For more, see:

[www.bibalex.gov.eg](http://www.bibalex.gov.eg)

[www.unesco.org/webworld/alexandria\\_new/index.html](http://www.unesco.org/webworld/alexandria_new/index.html)



# Urban Greens

*Cities are not just asphalt deserts, they are also complex ecosystems with their own rules and dominant species, man. There's more in the melting pot than meets the eye*



© Michael Feller, New York

**A Peregrine falcon watches over its chick, hatched on a Manhattan rooftop. Since they were reintroduced in New York in 1983, they have colonised the city, under the watchful eye of the Environmental Protection Department. The 145 chicks hatched in 20 years have enabled the species to be reintroduced in other parts of the country**

*Here's* a surprise - there are more plant species in a fifty kilometre radius around New York City than an area of Nebraska farmland the same size. And here's an irony - New Yorkers eat the equivalent of Nebraska's entire wheat production in bread and pasta every year. These topsy-turvy statistics are only a taster of what is emerging as scientists turn their attention to cities, no longer viewing them as asphalt deserts, but as complex ecological systems in their own right - including their dominant species, man. And this interest also parallels a change in the way scientists are thinking about environmental conservation today. They are progressively abandoning the ideal of pristine wilderness sites, moving towards goals of sustainable development, that includes

local stakeholders and their economic and cultural needs.

Commissioned by Congress to study the effects of climate change on Metropolitan New York, William Solecki of Montclair State University and Cynthia Rosenzweig, of Columbia University's Earth Institute, have been taking a look "under the hood" of New York City, from an ecological point of view. In their Metro East Coast Assessment report, which has just been published ([http://metroeast\\_climate.ciesin.columbia.edu/](http://metroeast_climate.ciesin.columbia.edu/)) they emphasise the role of the City's biological diversity in reducing negative impacts of global warming. And over the past two years, these scientists have also teamed up with UNESCO's Man and Biosphere programme, to see if it can provide useful research and planning tools.



“The biosphere reserve concept (see box) and the world network of biosphere reserves have usually been associated with more pristine, scarcely populated environments,” says Christine Alfsen-Norodom, of UNESCO’s Man and Biosphere Programme, who is coordinating the project in New York. “Never before has the biosphere reserve concept been examined in terms of its direct relevance or usefulness to a mega-city, like New York.”

But for Pietro Garau, Director of the UN Center for Human Settlements (Habitat) European Office, it’s not necessarily a city’s green spaces that make it ecologically interesting. Speaking at a conference last year in New York on “Biodiversity and Society”, Garau pointed out that “a ‘passenger’ in the city uses less land and energy than a rural ‘passenger’. In a ‘no-city’ planet, if we divided all available land by the number of inhabitants, each ‘passenger’ would be using 2.16 hectares in 2001. But with population growth, this would become 1.4 hectares by 2050. So the ‘no-city’ model is not sustainable.” And, he added, provocatively, “cities may be the best we have for saving the planet’s environment.”

In fact, urban environments can provide a variety of habitats for plants and animals, sometimes mimicking natural conditions. Tall stone buildings can resemble cliffs, while lawns are like savanna. And there are some unique inner-city places, not often frequented by people, where even rare animals and plants can thrive, such as ancient churchyards, or disused railway lines, as well as abandoned factories and other brownfield sites.

## ON THE WATERFRONT

New York City’s waterfront geography also gives it some unique natural features. Much of the city, for example, is built on prehistoric swamp and salt marsh, similar to that still found in Jamaica Bay, within sight of Wall Street (see map). “Traditionally,” says Bill Solecki, “wetlands have been used as sacrifice areas to build airports, waste dumps, or whatever.” But, he warns, “the greatest biodiversity in the city is found at the water’s edge. And it is also the area most vulnerable to climate change.”

## An Urban Biosphere Reserve?

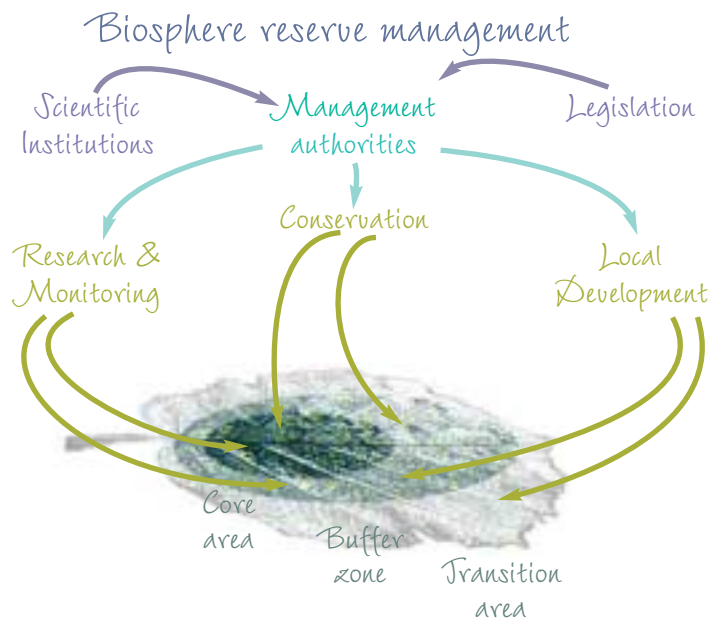
**Shortly after** UNESCO set up the Man and Biosphere Programme in 1968 it invited member states to submit proposals for the first biosphere reserves. These were to be experimental sites, attempting to strike a balance between the apparently conflicting goals of conserving biological diversity, promoting sustainable economic and social development and maintaining associated cultural values. Since then, a network of some 409 reserves has grown up in 94 countries.

**Traditionally**, biosphere reserves are organised geographically into three separate zones - core, buffer and transition. In the core area, critical habitats and biodiversity are protected. The buffer zone is there to protect the core, while the transition area serves as an intermediate zone between the buffer and the surrounding region.

**In the past**, nearly all biosphere reserves have been in relatively remote, natural areas. But since the late 1990’s MAB has been looking at ways to extend the biosphere reserve concept to urban areas. One of the difficulties is to know where to locate the “core” area in a city reserve. Some argue it could even lie outside the city, in the more pristine hinterland. But researchers running a case study in New York (see main article) have suggested the waterfront area; it is the most fragile and active in terms of biodiversity, but, historically, also the most important economically.

**Member states** themselves have to nominate areas as biosphere reserves and there are no official plans for New York at present. The concept could be a useful toolkit for discussion and research, though.

See [www.unesco.org/mab/urban/urbanhome.htm](http://www.unesco.org/mab/urban/urbanhome.htm).



Salt marshes naturally act as a buffer against sea level rise, one of the most immediate threats to New York City with global warming. But when Ellen Hartig, a wetlands consultant, compared archive and recent photos of Jamaica Bay, she found the marshes had shrunk by 12 percent since 1959 – and up to 60 percent in some small island areas. “In one Long Island bay, there were 13 islands at one point,” she says. “Now there are only seven. Six are submerged.” The marshes, she explains, would usually compensate for sea level rise by “retreating” inland. But since the waterfront has been built upon, the marshes can no longer adapt, making the developed areas prone to flooding, while killing species of salt-marsh grasses that cannot survive in deep water.

## AS THE CITY SPRAWLS ITS CENTRE GETS GREENER

The complex interactions between man and environment in an urban setting like New York, argues Solecki, can only be understood – and therefore mastered – if the city is viewed as a complete ecological system. From this perspective, then, the flood protection offered by salt marshes is one of the natural “goods and services” for which New Yorkers will have to pay if the marshes disappear. To compensate for the loss of this protection, city planners are already having to think about artificial flood barriers, while the Port Authority of New York and New Jersey has elevated JFK’s main runway once and may have to do so again. Similarly, the trees and green spaces of Central Park reduce air pollution levels, as well as the “heat island effect”, where the combination of heat-absorbing concrete and human activity causes temperatures in the city to rise.

And as the city sprawls, the natural goods and services upon which residents depend are coming from increasingly far away. In 1992 the Canadian economist, William Rees coined the term “ecological footprint”, to refer to the amount of productive land needed to sustain a city’s population and its levels of consumption. This is usually found in the local hinterland. But in a city like New York, the “footprint” might include parts of Nebraska, where acres of prairie are turned into wheat and potato fields, or even South American coffee plantations. Ironically, as the city chomps



into the hinterland, there is a move to “green” downtown areas. Since 1978 community gardening associations, like Green Thumb, have planted some 700 productive vegetable and flower gardens on over 60 hectares of vacant lots, according to its founder, Jane Weissman. And heated discussions are going on about what to do with the “Ground Zero” site left by the World Trade Center disaster last September. “Developers in NYC are stating that rebuilding commercial developments at Ground Zero is a national duty,” says Alfsen-Norodom. “But their haste shows their fear that, in a wounded city, people may aspire to alternative uses of a space made highly symbolic by its very destruction.”

Popular support seems to be moving towards a cultural use of the space, which cuts across the “nature” versus “concrete” divide. And the cultural diversity of New York is going to need to find its place in any biosphere model of the city alongside biological diversity. This could be what will set the New York case study apart from other studies of urban ecology going on in the USA at the moment, such as those in Baltimore and Phoenix, Arizona funded by the US National Science Foundation (see: [www.lternet.edu/sites/](http://www.lternet.edu/sites/)).

Meanwhile, armed with the Metro East Coast Report, city planners have realised that what is left of the City’s nature is not just pretty. It could help save New Yorkers from going to work in a rowing boat, if, as predicted, the threat of floods will increase with global warming. Christopher Zeppie, of the Port Authority, at a launch for the report, called for planners to be more proactive: “The stone age did not end because the human race ran out of stone.”

*Peter Coles*



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Canada geese in Jamaica Bay watch the New York subway cross the wetlands. A nature reserve in the bay is home to over 300 species of birds



© DonRiepe, New York



John F. Kennedy airport's main runway is built on salt marsh. One of the richest ecosystems in the area, it is home to the Fiddler crab that emerges from its burrow at low tide, giant egrets (inset) and hundreds of other species

© DonRiepe, New York



© Michael Feller, New York

## Lullaby of Birdland

**On a bright** May morning in the Ramble, a wooded area of New York's Central Park, birdwatchers can almost outnumber the birds. This is the time of year that hundreds of tiny, colourful warblers from as far away as Mexico and Bolivia, stop off in Manhattan to feed, on their long migration to the forests of Canada. And if the whole park suddenly comes alive with the din of birds' alarm calls, one of the city's resident Peregrine falcons is probably overhead.

**By the 1960's** peregrine falcons had disappeared from the state of New York – victims of the pesticide, DDT – until a project to reintroduce them in the 1980's. But no-one expected these mountain birds to move into the city, building their nests on Brooklyn Bridge. Now as many as 14 pairs nest in other unlikely spots, like Riverside Church on the sedate

Upper West Side, dive-bombing pigeons at 240 kilometres per hour for lunch. Meanwhile a pair of red-tailed hawks has been nesting on the window ledge of a chic 5th Avenue apartment for several years running.

**And really wild nature** is only a few miles away from the Empire State Building. Just outside the lazy town of Broad Channel on the "A" train line, at the very foot of JFK airport's main runway, is the Gateway Wildlife Refuge in Jamaica Bay. Here, salt marsh, beach, mudflats, thicket and trees provide a habitat for over 325 bird species, along with horseshoe crabs, tree frogs and diamond-beaked terrapins – as well as butterflies, mosquitoes and tics.

Meanwhile, a recent survey by Brooklyn Botanical Gardens found 3000 species of woody plant in the city's five boroughs.



# Quality and Quantity

*Education for all means more than getting all children into school. It also means giving them a quality education. New reports from UNESCO's Institute of Statistics show both goals are still distant in Latin America and Africa*



UNESCO  
education

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© UNESCO/Dominique Roger

**In Africa, the question of quality is still intrinsically linked to access**

An estimated two million primary-age children and 20 million secondary-age children in Latin America don't attend primary or secondary school according to UNESCO's Institute for Statistics (UIS). In the region's rural areas, two out of every five children fail to finish primary school or are at least two years behind when they finally do so. This compares to one urban child in six.

The Institute's report on Latin America and the Caribbean<sup>1</sup> examines the state of education around the world. It presents figures for 19 countries gathered over the 1998 - 1999 school year from national and other sources including the Economic Commission for Latin America and the Caribbean (ECLAC), and covers access and participation of pupils and students from early childhood to tertiary level in both public and private education, teaching staff and education expenditure.

The report shows that although overall school enrolment is improving in the region, countries there are still a long way from ensuring that their children succeed at school.

"Getting kids into school is one thing. Keeping them there, and ensuring that they learn something is another," says Ken Ross, a senior researcher at UNESCO's International Institute for Educational Planning (IIEP).

In all of the countries surveyed at least 80 percent of primary school-age children are enrolled in primary education. However, the report finds that only 54 percent of secondary school-age youth are enrolled, leaving an

estimated 20 million "out-of-school" or still in primary classes.

High drop out and repetition rates are the norm in several countries. In Brazil, for example, 24 percent of primary-school pupils and 18 percent of secondary students are repeaters. For every 100 children who enter primary school in Nicaragua, only 55 reach grade 5. Argentina has the highest "survival rate", with 94 percent of pupils reaching grade 5.

Tertiary education is one of the region's "greatest educational challenges", according to the report. Despite increased enrolment throughout the 90s, only 9.5 million people were enrolled in tertiary education in Latin America in 1998, with Brazil, Mexico and Argentina alone accounting for almost 60 percent of the total.

Overall, the report states, Latin American children spend less than nine years at school, which is only one and a half years more than 20 years ago. It is also well below the 12 years judged by the Economic Commission for Latin America and the Caribbean as being "the minimum amount of education necessary to earn a wage that will make it possible to rise above poverty in the course of a person's active life."

The report doesn't give any detailed explanation of why kids are not making through primary and secondary school in the region, but highlights difficulties in implementing institutional reforms and a continued vulnerability to external events which has left

1. Education Statistics 2001, Regional Report on Latin America and the Caribbean



© Patrick Lages, Paris

**School hours rarely take into account the need for extra hands at harvest time**

**The UNESCO Institute for Statistics (UIS)** was established in 1999 to improve UNESCO's statistical programme and to develop and deliver the timely, accurate and policy-relevant statistics needed in today's increasingly complex and rapidly changing environment.

**The statistical** information gathered by the UIS not only helps interpret and report on global developments in education, science, culture and communication, it also helps countries to formulate, implement and monitor policies and programmes in areas such as education and poverty reduction.

**UIS is located** on the campus of the University of Montreal in Montreal, Canada.

**The two reports** mentioned in the main article are available in PDF format on the UIS website:

<http://www.uis.unesco.org>

Latin America's economic performance fairly weak.

The good news is that despite the varying levels of development across the region, countries are committed to the modernization and reform of their education systems. It also notes that a real opportunity to improve is emerging as population growth slows. Across the region the population is increasing by approximately 1.5 percent annually. This means, says the report, that there will be a smaller number of children to educate without necessarily increasing education budgets.

## **AFRICA: AN UPHILL BATTLE**

In Africa, the question of quality is still intrinsically linked to access. According to the UIS, four out of every ten primary-age children in sub-Saharan Africa do not go to school, and of those who do, only a small proportion reach a basic level of skills.

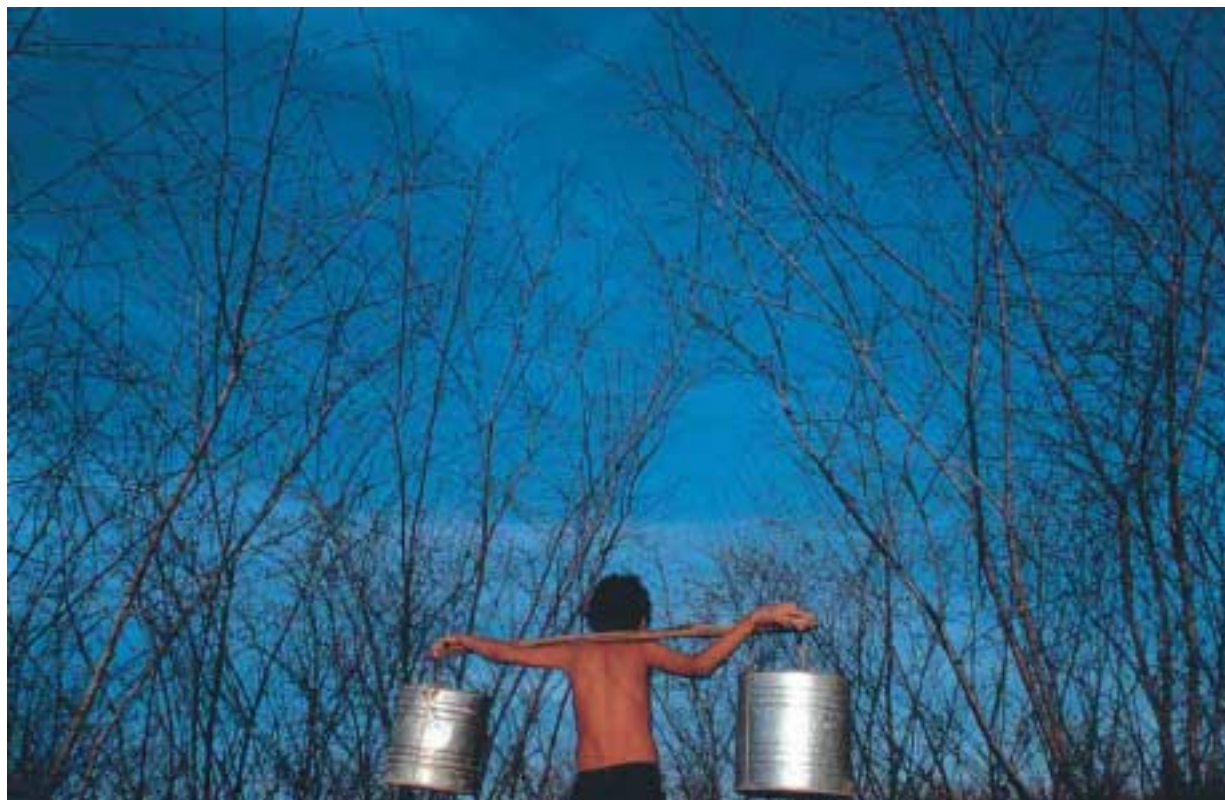
The Institute's recent report, Education Statistics 2001 – Regional Report on sub-Saharan Africa, examines education in 49 countries and, as with the Latin American report, covers the 1998 and 1999 school years.

Data were provided by national authorities responding to the annual education questionnaire from the Institute, and supplemented by figures from other international bodies including the United Nations Statistics and Population Divisions, and the World Bank.

It finds that pre-primary education is extremely limited in the region, involving only one child in ten, or some four million children. The situation varies greatly from one country to another, with Eastern and Southern Africa accounting for 62 percent of these children. The pre-primary institutions are largely private, catering for more than eight children out of every ten enrolled.

Primary education is clearly the priority for most of the countries of sub-Saharan Africa. Yet, according to the report, only 60 percent of primary-age children were actually enrolled throughout the region in the survey years, but that average hides big differences between countries. In Niger, for example, only 26 percent of primary-age children were in school,





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compared to 93 percent in Mauritius.

Based on these figures, the report estimates that some 38-million primary-age children were out-of-school in sub-Saharan Africa in 1998, about 60 percent of them in the countries of Central and Western Africa.

The data also indicates a “relatively high” level of repetition in the region, with an average of 17 percent of pupils repeating a year.

Secondary education, says the report, “is still not widespread in sub-Saharan Africa,” and complete data are not available for all countries in the region. Late entry and high repetition rates also mean that, in many countries, the majority of secondary-age children are still attending primary classes. In the 21 countries for which data were available, an average of only 19 percent of young people of secondary-school-age were enrolled at that level. In five countries (Burkina Faso, Chad, Guinea, Mozambique and Niger) it was less than ten percent.

Many more boys than girls are enrolled in secondary schools across the region. In countries such as Benin, Chad, Guinea-Bissau and Togo, more than twice as many boys as girls attend secondary classes. There are however exceptions to this pattern with girls

outnumbering boys in secondary schools in Botswana, Lesotho and Namibia.

All of the countries in the region, except St Helena, Sao Tome and Principe and the Seychelles, have at least one university. However, tertiary education remains “marginal” with only about one and a half million students enrolled in these institutions (these figures exclude Nigeria). The report signals that many students – particularly those in advanced research – have to study abroad because programmes are not available in their home countries. Within the region, a majority of tertiary students choose to study education and social sciences (including humanities).

### “MARGINAL”

Overall, there is an average of 40 pupils per teacher across the region, but again the situation varies considerably from country to country. In St Helena, the ratio is nine pupils for every teacher, but in Mozambique, Uganda, Chad, Mali and Congo it is more than 60 to one. “It should be stressed,” says the report, “that national mean figures of 60 pupils or more per teacher in fact mean these countries may have some teachers in charge of 100 pupils of more.”

**Poverty, HIV-AIDS and high population growth are preventing millions of African children from going to school...**





© UNESCO/Patrimoine 2001/Alfred Wolf

... and those who make it into class often have to share a teacher with more than 60 other classmates

## Getting a clear picture

In 1995, UNESCO's International Institute for Educational Planning (IIEP) and the education ministries of southern African countries launched a major project to monitor education quality in the region with a view to improving it. The first phase of the Southern Africa Consortium for Monitoring Educational Quality (SACMEQ) project focused on assessing the conditions of schooling - looking at the infrastructure, numbers of teachers and availability of teaching materials for example. SACMAQ II includes an assessment of the performance levels of students and their teachers in literacy and mathematics. Some 50,000 students, 5,000 teachers and 2,500 school principals from primary schools across 15 southern African countries were involved in data collection for the project. Results are expected out late this year or early in 2003.

Teachers throughout the region are generally poorly trained with considerable variation between countries. For the 16 countries, which provided figures on pre-primary education, an average of only 30 percent of teachers received any training. The situation is somewhat better in primary education, but again extremely variable. Equatorial Guinea claims that 100 percent of primary teachers there have received some training. In Guinea Bissau only 28 percent have. In half of the 26 countries for which data were available, 20 percent of primary teachers had not received any training at all.

Total spending on education ranges from one

percent of GDP in Sierra Leone to over ten percent in Zimbabwe (10.1) and Lesotho (13.2). Most of the money goes towards current expenditure, including teachers' salaries and the purchase of materials, and the lion's share is devoted to primary education.

The educational challenges facing the countries of sub-Saharan Africa are considerable. Poverty, HIV-AIDS (see box), war and civil conflicts and high population growth are major hurdles for all governments and populations throughout the region. One person in three is of primary or secondary school age compared to only one in five in Latin America and Asia and one in six in OECD countries. "A sustained and substantial increase in GDP growth rates would seem to be an important precondition for improving access to education," concludes the report.

To make a difference, the report suggests that governments need to recognize the crucial role of education in development; enhance the capacities of institutions and education personnel; and extend access and increase equity while improving the quality and relevance of education.

## COMMITMENTS

Most of the world's governments, development agencies and donor organizations now accept that education is a key factor in determining a person's quality of life, as well as productivity, employability and national development. At the World Education Forum held in Dakar, Senegal, two years ago, 164 countries committed themselves to achieving quality basic education for all by 2015 or earlier. For their part, donor countries pledged "no country seriously committed to basic education will be thwarted in the achievement of this goal by lack of resources".

Two years down the track, many countries are obviously struggling. According to a monitoring report released late last year on Education For All, at least 32 nations may not even be able to meet the basic goal of enrolling all children in primary schools by 2015, let alone make sure that they at least get a minimum and meaningful education.

Sue Williams



## School violence in Brazil

More than half of those students who know where - and from whom - arms can be bought (55 percent) say that getting hold of a weapon is easy. Seventy percent of those students who have, or have had a firearm, say that they are used in schools, and more than half of these young people say that their parents and those close to them also own weapons. These figures, and others on gangs and drug trafficking in or near schools, come from a new book, "Violencias nas Escolas" (Violence in schools), which looks at school violence in 14 major Brazilian cities. Launched in March by UNESCO's regional office in Brazil ([uhbrz@unesco.org.br](mailto:uhbrz@unesco.org.br)) the book presents the results of the biggest study of its kind ever carried out in Latin America. More than 50,000 questionnaires were distributed to students, parents and teachers and more than 2,000 people were interviewed. The study found that school violence badly affects the school environment, leads to an increase in absenteeism and a drop in the quality of education.



© UNESCO/Dominique Rogier

## Draw Me Peace

June 30 is the closing date for entries to UNESCO's "Draw me Peace" competition. It's open to classes of children from four to seven years old, who're invited to invent - with their teacher's help - a story in pictures, illustrating one or several of six themes: respect for all life, non-violence, sharing, listening to understand, preserving the planet, tolerance and solidarity.

Two winners per age group (4-5 and 6-7 year olds) will be chosen in September.

The competition is organized in the framework of the International Decade for a Culture of Peace and Non-Violence for the Children of the World (2001-2010). Details and registration forms are available on the internet at [www.unesco.org/education/](http://www.unesco.org/education/)

## Cheick Modibo Diarra, head of the African Virtual University

Cheick Modibo Diarra, the NASA interplanetary navigator and UNESCO Goodwill Ambassador, was appointed head of the African Virtual University on March 8. The new higher education institute, based in Nairobi, will link existing African universities and top colleges around the world, whose courses will be transmitted live by

satellite onto huge screens in stadiums in Africa. Tens of thousands of

students will thus be able to get quality education without having to travel.



© UNESCO/Niamh Burke

## School goes to the children

In Cambodia, more than 3,000 poor and marginalized youth, working and street children and those living in remote areas with no access to school will be the main beneficiaries of a three-year non-formal education programme, coordinated by UNESCO's Phnom Penh office.

The project will include literacy and numeracy, problem solving, appropriate skill



© UNESCO/Georges Malempré

training, health, recreational and cultural activities, small business management and reintegration wherever possible into the formal education system.

The programme is being implemented in cooperation with the Cambodian Ministry of Education, Youth and Sports and five local NGOs. Japan has agreed to fund the project to the tune of \$610,000.



© UNESCO/Daniel Riffet

## For press freedom in the Palestinian Territories

As escalating violence in the Middle East took its toll on journalists covering Palestinian territories under Israeli military attack, UNESCO's Director-General, Koïchiro Matsuura, condemned increasing restrictions on press freedom. He urged "Israel, as a signatory of the International Covenant on Civil and Political Rights," to respect its Article 19 which enshrines the "right to freedom of expression" and states that "this right shall include freedom to seek, receive and impart information and ideas of all kinds." Mr Matsuura deplored the constraints on journalists covering events in the region and condemned Israeli measures against the Voice of Palestine, the radio station of the Palestinian National Authority, and the Authority's television broadcaster.



© Tsvangirayi Mukwazhi, Zimbabwe

## UNESCO backs Afghanistan's independent media

Music, films, kite-flying and football have returned to Kabul. The independent media is back too. *Kabul Weekly* reappeared on January 24 (five years after it had closed), the women's magazine *Malalai* was launched on February 21 and the satirical monthly *Zambel e Gham* in mid-January.

The help of UNESCO and the French association Aina was crucial to the media revival of *Kabul Weekly*. UNESCO came up with US \$12,000 to fund *Kabul Weekly's* first few issues and has raised another US \$25,000 from the US government. It will continue to seek further aid from the international community.

The five journalists who produce *Malalai* and the staff of *Zambel e Gham* work at the Press Centre, a UNESCO-Aina project to give logistical support and professional training to the Afghan media. The Centre provides access to the local and regional press, satellite and cable television and news agency wires, and also has a library, an internet connection, an electronic directory and a number of

computers. The Centre will offer training for journalists and a website for the Afghan media.

This "project nursery," whose buildings have been restored with the help of US \$133,000 from DFID (the British government aid body), USAID and Reporters Without Borders, is expected to lead to other media projects being started.

<http://www.unesco.org/afghanistan>



© Manoocher/Webistan/UNESCO

## Geoffrey Nyarota of Zimbabwe awarded World Press Freedom Prize 2002

Zimbabwean journalist Geoffrey Nyarota, founder and editor-in-chief of Zimbabwe's only independent daily newspaper, the *Daily News*, was awarded the UNESCO/Guillermo Cano World Press Freedom Prize for 2002 on World Press Freedom Day, May 3, in Manila (Philippines).

Mr Nyarota, 50, has been tireless in denouncing corruption and criminal activities among top government officials in his country despite intense harassment by the authorities.

The US \$25,000 prize was awarded by UNESCO Director-General Koïchiro Matsuura on the recommendation of an international, independent jury of journalists. Mr Matsuura praised Mr Nyarota's "courage and persistence" as "an example to all the world's journalists."

Mr Nyarota has paid heavily for his professional commitment. Already in 1983, he lost his job at the *The Chronicle* in Bulawayo because he broke the story on the "Willowgate" scandal that forced the resignation of five

cabinet ministers. In 1991, he was dismissed from his post as editor of the weekly *Financial Gazette* in a dispute over editorial control. The biggest battle waged by Mr Nyarota's own *Daily News* has been over its coverage of the invasion of white-owned farms by war veterans encouraged by Zimbabwe's ruling ZANU-PF party. The paper's reports, including stories about the use of police vehicles in the pillages, has led to death threats against Mr Nyarota, to his arrest and to the bombing of the *Daily News* offices.



UNESCO  
in brief

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## Counting the grains of sand in the Caribbean

In Caribbean islands, the coastline plays an important role in the economy, from tourism to fishing. But poorly-planned construction, sand mining and even sea defences, can disturb fragile beach ecosystems, accelerating erosion and worsening the impact of natural disasters. When Hurricane Luis struck Anguilla in 1995, much of the beach was lost at Mead's Bay on

the island's north coast. But local people can help to slow down the rate of erosion and offset some of the damage done to property. In some cases, it is simply a matter of building a house, hotel or business a certain minimum distance from the beach.

For the past year UNESCO has been teaming up with local planning experts in nine Caribbean Islands

to publish a series of short, but highly informative booklets on "Wise practices for coping with beach erosion". The first of these, published with Anguilla's Department of Physical Planning, is filled with practical information. Other booklets are being published this year for Grenada, St Kitts, Nevis, Antigua Barbuda, Dominica, Monserrat, St Vincent (Bequia), and Turks & Caicos Islands.



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UNESCO  
in brief  
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## Clean water for the Afghans

Cities across Central Asia are threatened by a battery of water-related problems—from violent flooding to severe drought and disease resulting from insufficient treatment facilities. To improve the situation, UNESCO and the Islamic Republic of Iran will set up the first Regional Centre on Urban Water Management, to be based in Tehran. The centre should be operational by mid-year, with a key priority to train technicians from Afghanistan to rehabilitate what remains of Kabul's

water infrastructure and that of other major cities. In addition to training professionals, the centre will also serve as a clearinghouse for scientific data, international assistance activities and other resources required to better manage urban water problems.

Regional water managers are

particularly interested in developing "ecological sanitation," in which traditional technologies are updated and adapted to reduce the amount of treated water used to wash away sewage, which has been the standard yet expensive approach taken in most Western cities.



© Reza/Webistan

## An AIDS prevention centre for Cameroon

Dr. Luc Montagnier, one of the French biologists who discovered HIV, is working with UNESCO to create and oversee an AIDS research and prevention centre in Cameroon, where the infection rate has reached 12 percent of the national population. The centre will have branches in two hospitals, in the capital, Yaoundé, and Douala. Staff will focus on bioclinical research, teacher training activities for AIDS prevention as well

as counselling and treatment on an out-patient basis for people with HIV.

The centre is part of the World Foundation for Aids Research and Prevention, created in 1993, by UNESCO and Dr. Montagnier. A key aim is to bridge the gap in terms of research and treatment options between rich and poor nations. Various UN agencies are involved in the foundation, which operates a similar research centre in Côte-d'Ivoire.



## Democracy and its cultural variations

Lebanon, South Africa and the Democratic Republic of Congo are the first three countries to be studied by the new International Centre of Human Sciences in Byblos, in Lebanon. The Centre, officially opened on March 1, will focus on the cultures of different countries and their links with democracy. Its director, Theodor Hanf, says there

is a need to “know how people perceive their cultures and how they want to be governed, since their true wishes are not honestly reflected by politicians.” The project, which is funded half and half by UNESCO and the Lebanese government (\$200,000 each), began in 1973 but was delayed because of the 1975-90 civil war in Lebanon.



© UNESCO/Misato Le Mignon

## Africa Day

To mark Africa Day on May 25, the African Group – uniting all of the continent’s ambassadors to UNESCO – has organized a colloquium at headquarters on

the theme of “negritude”. Debate topics are: The Injustice Done to Africa; The Refusal and Negation on these Injustices; A Dialogue of Cultures.

## Kabul gets its museum back

The rehabilitation of Afghanistan’s national museum in Kabul got under way on March 1 with the signing of a memorandum of understanding between UNESCO and the Afghan government.

The museum has no roof or windows at the moment, says Jim Williams of UNESCO in Kabul.

Most of the exhibits are in storage on the ground floor or in the basement and its curator, Omar Khan Masudi, says a third of them have survived. Several boxes of items, including a number of Buddha heads and small statues, are being looked after by the culture ministry.

All these items were rescued by the museum staff who managed to hide them from the destructive fury of the Taliban who, between February and June 2001, attacked any depiction of living things with hammers and axes. Until then, the collection had about 100,000 exhibits



## The life and death of languages

Over the past three centuries, languages have died out or disappeared in alarming numbers, especially in America and Australia. Today at least 3,000 languages – half of the world’s total – are in danger. UNESCO stirred worldwide debate with the launch of the second edition of its *Atlas of the World’s Languages in Danger of Disappearing*, on International Mother Language



Day on February 21. The media in many countries have reported on often impassioned reactions to the death of local languages, frequently squeezed out by English, French, Chinese or

Russian. But experience shows that all is not lost. Linguistic diversity can be preserved through determined policy and by encouraging multilingualism, which is strongly backed by UNESCO.

# Decrypting

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## Ten long-term trends shaping humanity in the 21st century

*At a time of globalization and the acceleration and multiplication of exchanges, the future appears, if not obscure, at least opaque. Complexity and uncertainty are the defining words of our era. Caught up in the frenzy of the immediate, victims of the tyranny of urgent tasks, we do not take the time to develop well-constructed actions or to reflect on their consequences. We have embarked, without brakes and without visibility, on the adventure of the future. But the fastest automobiles need the most powerful headlights. It is therefore no longer a matter of adjusting and adapting since adjustment and adaptation are always trailing the times. We must take the initiative. We must look into the future, adopt a forward-looking vision of the world: tomorrow our children will harvest the fruits of our foresight, or of our blindness.*

Jérôme Bindé

This article is an updated and much-shortened version of a paper called "The 21st Century: an attempt to pinpoint some major trends," given by Jérôme Bindé, Director of the UNESCO's Division of Foresight, Philosophy and Human Sciences, before the UNESCO Executive Board's Task Force on the 21st Century (the full article is available in the task Force's interim report, document159 EX/39. On the web at <http://unesdoc.unesco.org>)

focus

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# the future



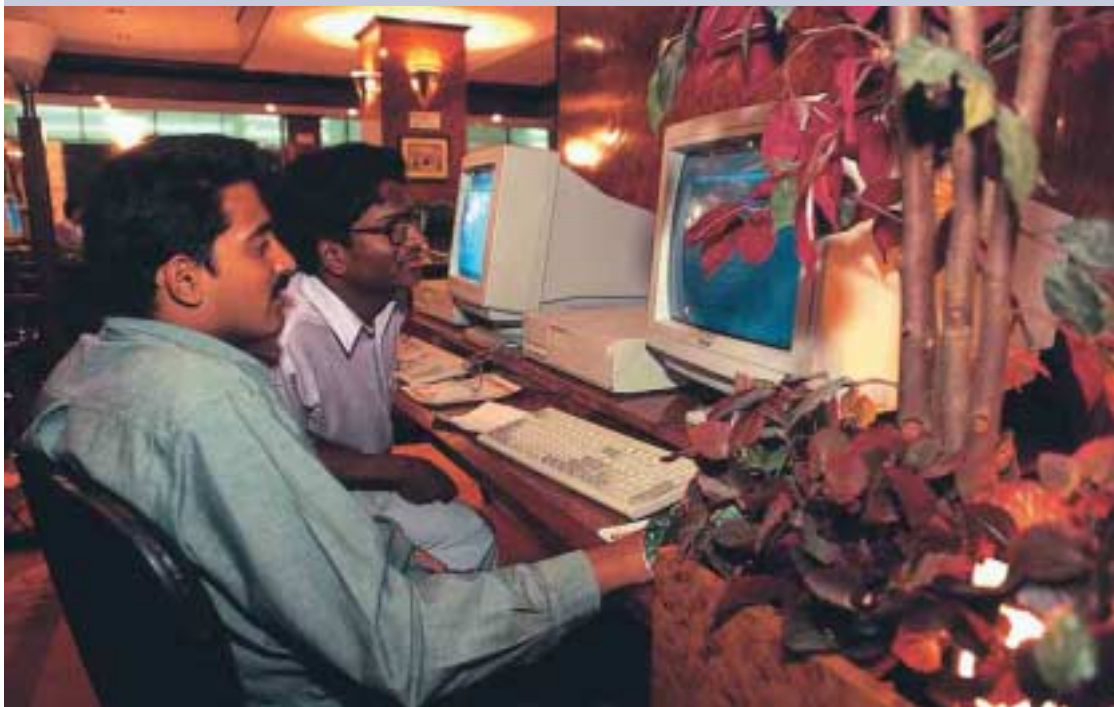
Porto Alegre,  
February 4, 2002.  
Towards a global  
conscience?

## 1 The rapid development of the third industrial revolution

The “third industrial revolution” is radically changing the societies in which we live. The signs of this are the spread of the revolution in information technology, the rapid development of communication and information sciences and technologies, and the progress made in biology and genetics and their applications. New

points of convergence are emerging between these new sectors of research and activity, and with other more traditional sectors and disciplines. The consequences of the growth of this new scientific and technical complex are only just beginning to be seen.

Built on the cyber revolution and on systems of codes – computer



© Paul Smith/Panos Pictures, Londres

A “network society”  
is emerging -  
decentralized, more  
democratic and  
less hierarchical

## What effect will this have on historically inherited structures such as schools, the nation-state, employment, family, culture and cities?

codes today, followed by genetic codes tomorrow – the third industrial revolution is subjecting the material production society to a new – immaterial – force, which is based on the signs of the “programmed society.” The advent of this society is being precipitated by the rapid growth of world networks, both public and private, which are the main instruments of globalization, the pace of which they help to accelerate. The effects of this revolution – which subjects societies to a fractal logic – have now penetrated the very fabric of our society. What effect will this trend towards dissociation have on institutions or historically inherited structures such as schools, the nation-state, employment, the family, culture and cities? Is the main risk not the shrinking of public space and the erosion of the social contract?

Above all, what will be the pace – in terms of both temporal and spatial factors – of this industrial revolution, based as it is on capital-intensive activities which require major

investment in education? How can we ensure that globalization becomes a powerful force for emancipation and international solidarity, instead of one that generates exclusion and inward-looking attitudes?

It is true that globalization offers the potential benefit of improved means of information and communication, as well as the transport of this information. The new information and communication technologies provide fresh opportunities in the area of distance learning; they hint at the promise of a society of networks – one which is decentralized, more democratic and less hierarchical. Globalization could contribute not just to the fragmentation of societies but also to the spread of an international consciousness. This is perhaps how we should see the ill-named anti-globalisation protest movement that sociologist Edgar Morin calls a second globalisation: one of awareness, alongside economic and technical globalisation.



2

## Are poverty and exclusion increasing?

Increasing poverty is not only measured economically, but also in terms of education, technology, culture, environment and health



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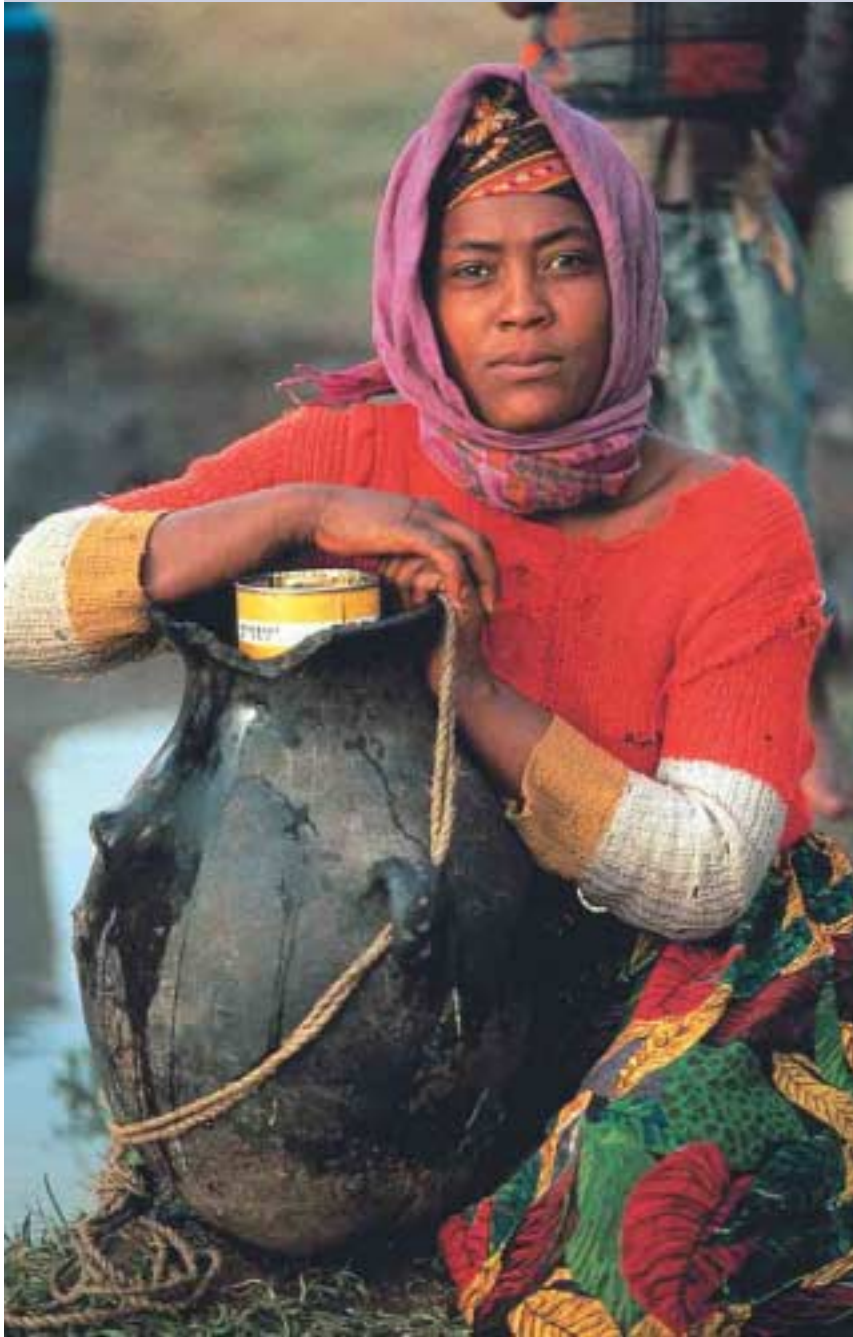
The past few decades have seen considerable progress. The UNDP says poverty has decreased more in the last 50 years than in the last five centuries. However, over three billion individuals – more than half the human race – are trying to survive, living in poverty on less than US \$2 a day; 1.5 billion individuals have no drinking water and over 2 billion do not get basic health care. Seventy per cent of poor people are women, and two thirds of poor people are under 15.

According to the World Bank, on the basis of current projections the number of people living in absolute

poverty (or on US \$1 a day) looks set to rise. By 2015, 1.9 billion people could be living below the absolute poverty threshold, compared to 1.5 billion people at the dawn of the new millennium and 1.2 billion in 1987. In 25 years time, at least 85 percent of the total world population will probably live in developing or transitional economies, which will have to bear the brunt of this demographic growth – unless there are new waves of South-North migration. And the concentration of resources in the hands of a few could continue, or even intensify, which

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1.5 billion people do not  
have access to drinking  
water

would make the situation worse. In addition, the rise in poverty can be measured not only in economic terms but also in terms of education, technology, culture, environment and health.

Some 800 million people in the developing world suffer from chronic malnutrition. The current decrease (an average of eight million people a year) is insufficient to fulfil the pledge taken at the World Food Summit in November 1996 by 186 countries: to cut by half the number of people suffering from malnutrition by 2015. This objective could only be met if this figure decreased by 20 million people a year.

**By 2015,  
1.9 billion  
people  
could be living  
below  
the threshold  
of absolute  
poverty**

## 3

# New threats to peace, security and human rights

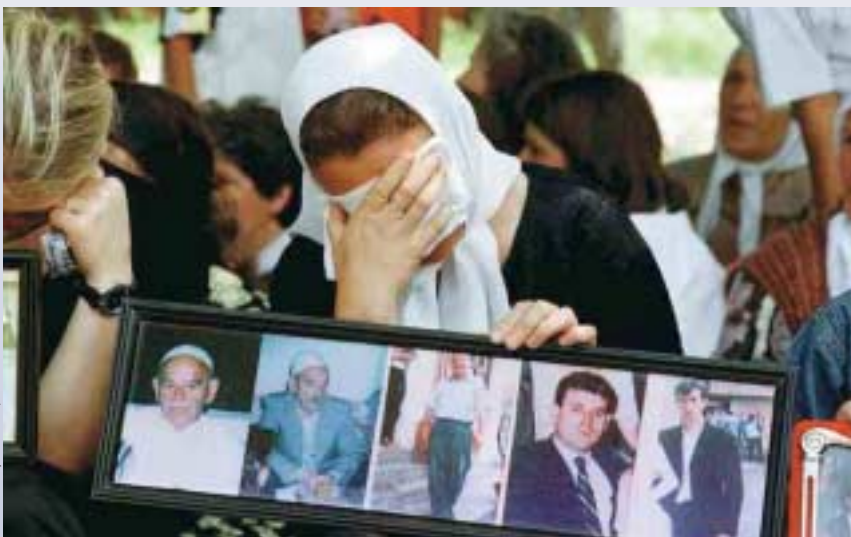
The events of September 11 and their consequences seem to have created a new pattern of international security, of war and peace, in which an alliance of “civilised” states faces countries supporting international terrorism. Of course this picture should be qualified, if only to avoid spreading the dangerous (and largely refuted) myth of “a clash of civilisations.” Despite the genuine risks of international terrorism and the tensions and imbalances it creates, we must remember that this new situation has not abolished the risks there were before: it has simply superimposed itself on them.

Since the end of the Cold War, peace appears to be less impossible,

while war often seems to be that much less improbable. A number of states continue to devote considerable sums to defence, which are then not available when it comes to dealing with the non-military threats to their future. In addition, we have seen a rise in the number of intra-State confrontations and inter-ethnic or inter-communal conflicts, which now represent the type of conflict par excellence at the dawn of the 21st century. Such conflicts often take place against a background of the breakdown of the rule of law and of the powerlessness of national institutions. In such circumstances, are we to fear the growth, in the coming decades, of the phenomenon of “failed states” and an increasing number of conflicts that take place without any respect whatsoever for international legal norms, making any attempt at mediation on the part of international institutions extremely difficult?

Intolerance, xenophobia, racism and discrimination are resurfacing, sometimes in violent and even genocidal fashion; their practitioners justify them on the grounds of religious, national, cultural and linguistic affiliation. Are we going to see further globalization of terrorism and organized crime, repeated

Refugees returning to Kosovo in 1999



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## Threats to peace and security are no longer solely of a military nature

massacres and enormous human rights violations, the growth of illegal war economies and more violence in schools and society? Will states and international institutions in the coming decades be reduced to managing differences rather than strengthening the social link?

The end of the Cold War aroused great hopes: at long last, it would be possible to substantially reduce defence budgets and invest more in human development, in particular education. However, it has to be said that the famous “peace dividends”

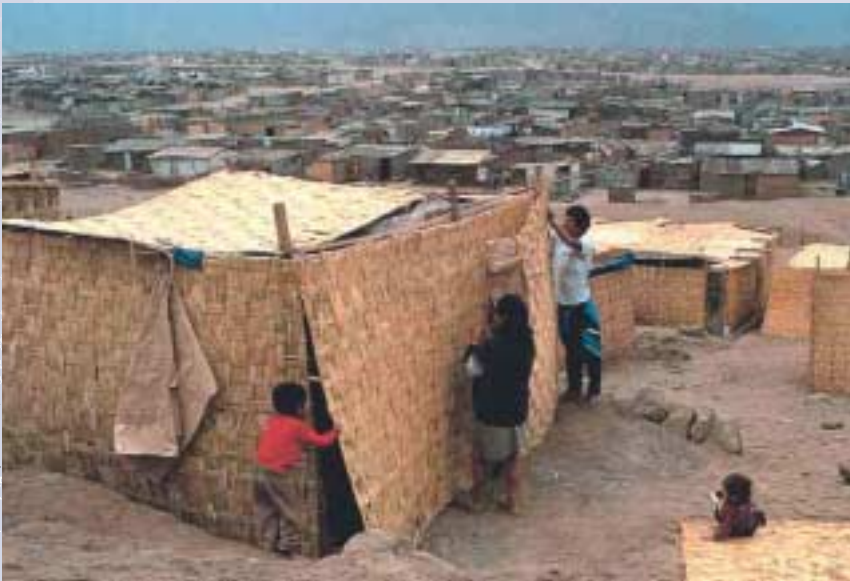
**We must avoid spreading the dangerous myth of a “clash of civilizations”**

have yet to arrive. After the hopes of a “disarmament race” which began in 1989 after the fall of the Berlin Wall, we are now seeing new increases in military spending and new growth in the arms trade.

The threats to peace and security are no longer solely of a military nature. In recent decades there has been an increase in awareness, at both the national and international level, of the many different dimensions of peace and security. In view of the increasing interdependence of political, economic, financial, social and environmental phenomena, will the United Nations Security Council not feel impelled to include on a more systematic basis, among its fields of competence, other threats which endanger human security: the degradation of the environment and living conditions; population problems; cultural and ethnic rivalries; and all forms of violations of human rights?

## 4

# Demographic changes



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**Building a “new home” in Lima, Peru; drawn by the bright lights, millions of people leave their rural villages for the miserable “accompanied” loneliness of the big city**

The United Nations projects that the world’s population could reach eight billion in 2028 and nine billion in 2054, when it will then stabilize at about that figure. Thus, there would not be any demographic bomb, but a strong increase followed by a levelling off; according to some demographers there could even be, in a few decades’ time, an implosion: the low projections by the United Nations predict that world population will reach a ceiling around 2050 of about 7.3 billion, and then begin to fall. Since the demographic transition has accelerated, it can therefore no longer be excluded that the world’s population will scarcely exceed 8 billion people by about 2050.

Moreover, the world’s population is ageing: the under 15s would go from 31 percent to 19 percent of the world’s population from 1995 to 2050, according to the United Nations’ intermediate scenario, and the over 60s would increase proportionately during the same period from 10 percent to 22 percent.

The geographical distribution of the world’s population is also changing. In the absence of strong migratory flows that cannot be ruled out, the populations of Europe and Japan should decline over the next 50 years. According to some analyses, there would be no other solution than immigration to offset the drastic decrease in the balance between the working and non-working populations.

The causes of mortality are also changing. The World Health Organization (WHO) has warned of an impending global crisis concerning infectious diseases. Despite considerable progress (smallpox has been eradicated and polio and guinea worm may also be), a third of deaths worldwide are still attributable to infectious diseases caused by bacteria and viruses: some are new, others are in constant mutation, while others still have adapted to resist the

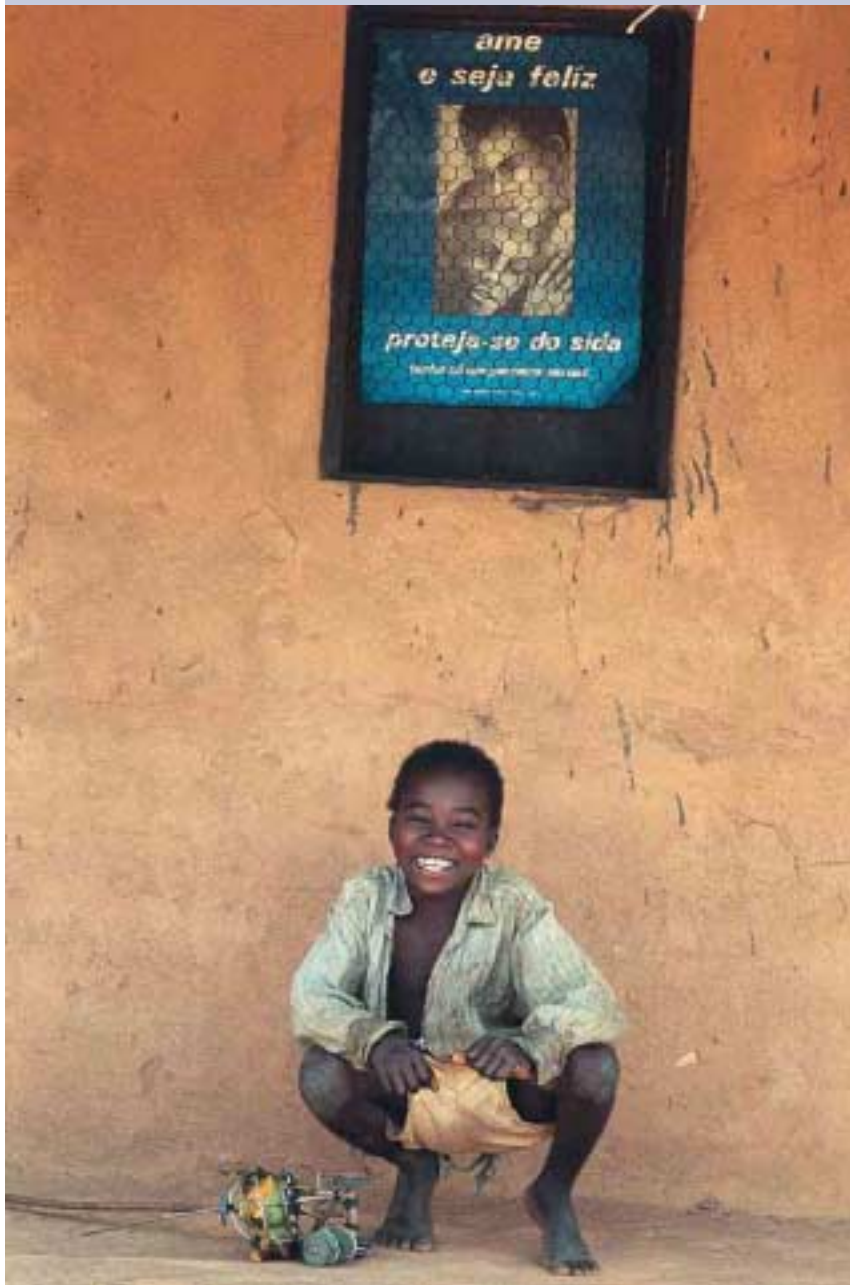
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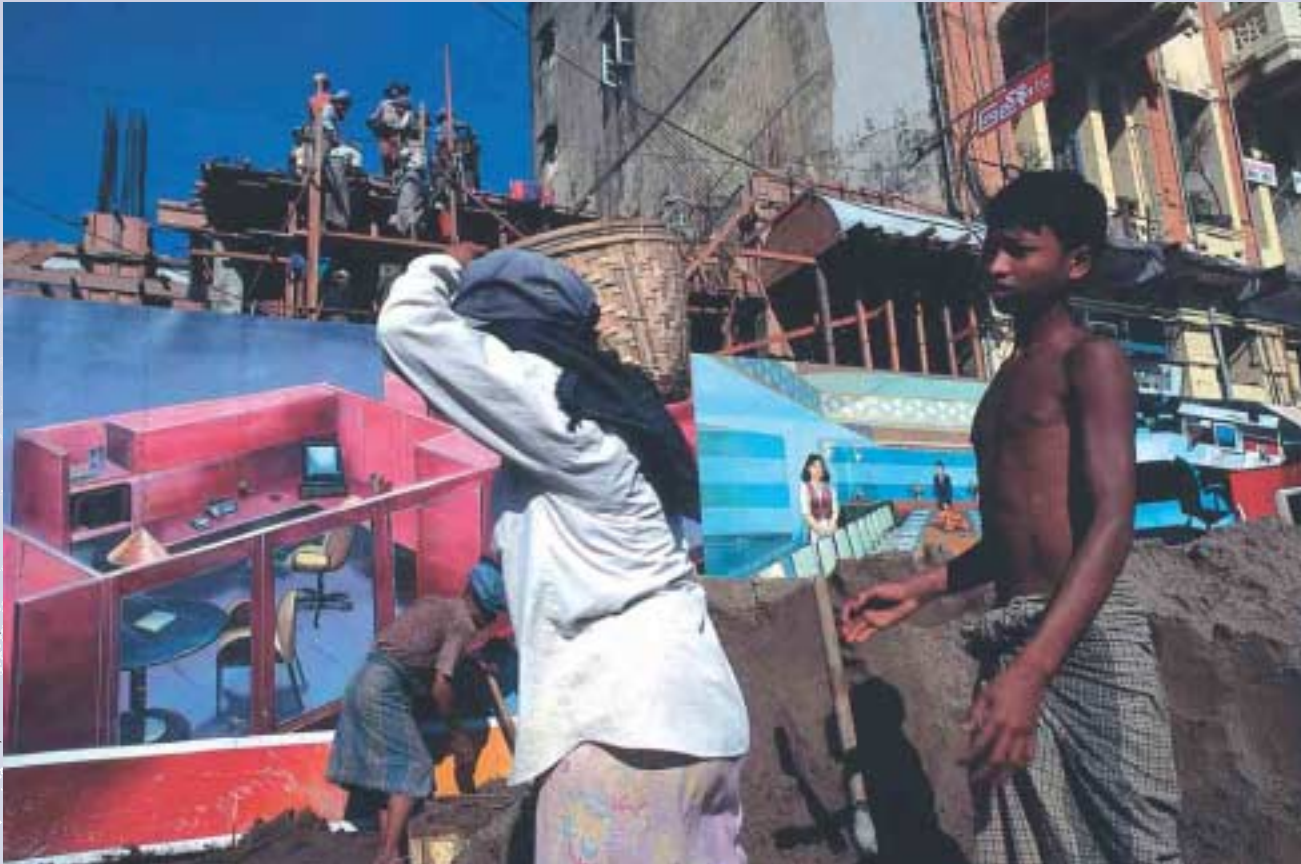
According to the UN's intermediate scenario, the under 15s would go from 31 to 19 percent of the world's population from 1995 to 2050

## The world may need a thousand new cities of three million people over the next 40 years

treatments that have protected us up to the present, and they all have a worrying tendency to travel. One disease departs and another arrives; in 1980, WHO announced the worldwide eradication of smallpox; in the following year, 1981, AIDS was identified for the first time. Meanwhile, major diseases like tuberculosis are re-emerging, new agents of infection such as the prion have been identified, several known diseases have developed resistance to the traditional antibiotics, and vaccine research is on the decline. In Botswana, the country most affected by the AIDS epidemic, a quarter of the adult population is infected by the AIDS virus. Life expectancy at birth has fallen from 61 years to 47 years over the last decade, while, without the AIDS epidemic, it would now be 67 years. Life expectancy has also fallen in the Russian Federation and in several countries of the former USSR.

There is a link between the education of girls and issues of population and development. There are plenty of case studies on the impact of the education of women on social development and health, and especially infant mortality and the birth rate. Is not the best form of contraception education for all throughout life?

World population growth is accompanied by a massive urbanization, accelerated by economic and social changes, which is bringing about a change of scale in the cities and is accompanied by unprecedented phenomena and challenges (poverty and urban exclusion; urban secession; environmental challenges; access to



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natural and cultural resources; the right to housing; new problems of urban citizenship and the contraction of public space). If these trends are confirmed, it has been estimated that the equivalent of a thousand cities of 3 million inhabitants would have to be built over the next 40 years – almost as many cities as exist today.

Urban expansion is now strongest in the poorest regions – where it is unaccompanied by real development – but also in those regions which are experiencing the most rapid economic growth. In the latter case, a “boom” often produces a chaotic explosion which gives rise to considerable problems relating to the provision of drinking water, energy and food security, and to violence, marginalization and exclusion.

Consequently, many countries have experienced a growth of “gated communities” surrounded by walls, protected by barriers or isolated by distance. In the United States, between four million and eight million people, according to some assessments, live like this in very highly protected residential areas. According to an OECD report published in 1996, 35 million Americans live in 150,000 communities managed by private associations.

Attracted by the bright lights of the city, millions of people leave the poverty of rural areas to go and live in the wretched “accompanied loneliness” of large cities, where they often find themselves lacking the most elementary amenities,

**Urban growth is now strongest in the poorest regions**

such as schools, sanitation or basic infrastructure, in a situation of poverty and exclusion that often provides fertile ground for violence and extremism. In such situations, how are cities to be humanized? How are habits of urban behaviour and civility to be re-created? How are the excluded to be assimilated?

## 5

# The world's environment in danger

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**Species are dying out at a speed 1,000 to 10,000 times greater than in the major geological periods of extinction**

We now know that failing widespread measures, the impact of human activity on the global environment threatens the survival of the biosphere and future generations:

Global climatic warming largely results, according to the vast majority of scientists, from “greenhouse gas” emissions caused by human activity and modern modes of consumption, primarily those which are bound up with urbanization (thermal power plants, industrial pollution, motor traffic, etc.). The thawing of the Earth’s glaciers would lead to a veritable ecological disaster. Global warming also seems to be accompanied by greater variability and considerable regional or local disturbances. These could be the cause of radical climatic changes in some regions of the world and of a growing number of increasingly serious “natural” disasters whose precursory signs are already to be observed. It is nevertheless clear that, where control of greenhouse gas emissions is concerned, the progress made since the Rio Conference in 1992 has had a limited impact, as shown by the problems of getting the Kyoto Protocol ratified.

Water is not evenly distributed: it is abundant, it is “running”, but not

everywhere and for everyone. Almost a quarter of humanity – 1.4 billion people – does not have access to clean and drinking water and over half the world’s population lacks proper sanitation. To meet the challenges will require above all policies on the judicious use of water resources so as to put an end to the excessive consumption of water in agriculture, which at present uses up worldwide close to two thirds of all the water taken from rivers, lakes, streams and underground. But behaviour patterns must also change.

The depletion of the ozone layer, protector of life on Earth, has never been so great. But there are encouraging signs: if the provisions of international protocols are complied with, the ozone layer could be completely reconstituted by 2050.

Desertification is spreading and today directly affects 250 million people and is threatening close to one billion human beings living on arid lands in approximately 110 countries. This figure could double by 2050 if desert areas continue to expand at the present rate.

All natural environments are directly affected. While forests still cover a quarter of the planet’s land, the net loss of forest cover in the world is estimated at some 11.3





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We have  
to change our  
ways

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11.3 million hectares  
of forest cover are  
destroyed each year

million hectares per year, even if an ever-increasing number of countries are endeavouring to manage forests more effectively and take greater account of environmental factors in this domain. The oceans are also affected: continental fishery resources, one of the main sources of food and protein for millions of people, are threatened by

environmental damage and need immediate protective measures. In addition, changes in ocean currents worldwide, accelerated by human activities, are directly endangering the present dynamics of the Earth's climate and ecosystems.

Chemical pollution and invisible pollution are on the increase. Over the past 50 years, new modes of



© Haley/Sipa, Paris

**Desertification**  
affects the lives of  
250 million people

consumption and production, primarily in agriculture-based industry, have developed and thousands of new chemical products have appeared. These chemicals are present in countless consumer and maintenance products throughout the world, in cardboard and plastic

packaging, in the waters of all the oceans and in the air, and in houses, schools and work-places. They pass through the food chain and cross the barriers of the species. Some pesticides and dangerous chemicals that have been prohibited or strictly controlled in some countries can be exported to poor countries, where they give rise to frequent cases of poisoning.

Biodiversity is also likely to diminish considerably in the coming decades. Many of the species described to date are now being depleted or even dying out at a speed 1,000 to 10,000 times greater than in the major geological periods of extinction.

### Availability of water from 1995 to 2025

(in percentages)



The area of the planet suffering from a state of absolute shortage (<math>< 500\text{m}^3/\text{inhabitant}/\text{year}</math>)

State of scarcity or relative shortage (<math>500\text{ to }1,000\text{m}^3/\text{inhabitant}/\text{year}</math>)

State of "hydric stress" (<math>< 1,700\text{m}^3/\text{inhabitant}/\text{year}</math>)

Sufficient availability of water (> <math>1,700\text{m}^3/\text{inhabitant}/\text{year}</math>)

Today, 2.3 billion people live in water-stressed areas. If current trends continue, water stress will affect 3.5 billion—or 48 percent of the world's projected population—in 2025



# The rise of the information society

Many experts consider that the informatics, telecommunications and broadcasting industries are converging

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The emergence, at greatly differing paces in the various parts of the world, of an information society is raising hopes regarding access to knowledge, communication and culture. But it will need to take up a major challenge: that posed by the unequal distribution of access between developed and developing countries, and even within countries.

Many experts consider the informatics, telecommunications and broadcasting industries to be converging. Information, sound and images can nowadays be transmitted at high speed with the same digital coding processes. However,

digitization and mathematization of the real are not without their drawbacks: a certain ontological link with reality slackens, opening the way to many abuses, of which image manipulation and electronic tricks are a foretaste. But above all, the spread of digital representations encourages a certain confusion between truth and fiction, nature and artifice, reality and the depiction of what we believe to be reality. It encourages the manipulation of codes, images and symbols.

The rapid development of new technologies nevertheless raises great expectations since it creates a new generation of instruments that can

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assist development, education and the transmission of knowledge, democracy and pluralism. But the ongoing revolution also raises some essential questions about the consequences of this form of “globalization.” Apart from the industrial innovation that the new information and communication technologies introduce, societal options can be discerned. How can we help “maintain, increase and diffuse knowledge,” as UNESCO’s Charter requires, in this radically new context? Some are already speaking indiscriminately of the “information society” and the “knowledge society”. Should we not stop confusing “information” and “knowledge”? The oversupply of information may be condemning knowledge – which involves mastery of information through knowledge and critical reflection. In short, education.

Most of all, participation in the “civilization of the immaterial” is extremely patchy in different parts of the world. How can we fight against “techno-apartheid” when, as we know, the new technologies are one of the keys to the 21st century, to accessing information and setting up distance education networks? A system where five per cent of people have access to new information sources such as the Internet is surely, “undemocratic and structurally unsound system” as Paul Kennedy suggested at UNESCO’s 21st Century Talks.

Only five percent of people have access to new information sources. How can we fight against “techno-apartheid”?

**The oversupply of information may be condemning knowledge**

# 7

## More governance?



© Edy Purnomo/Getty/Sipa, Paris

Counting the votes  
in last April's  
presidential  
elections in Timor

*Will* the “globalization” of most of the challenges that we have mentioned make it a matter of increasing urgency to strengthen systems of international and regional governance? According to Boutros Boutros-Ghali, “the only institution that exists, and which has the means for solving such global problems, is the United Nations.” In a world which is interdependent and increasingly aware of its common destiny, the solution of problems requires coordinated action at the global level, whether it concerns environment or public health, the fight against corruption or organized crime. These and many other issues transcend national borders. No

country, however powerful, can solve them by itself.

To meet all these challenges for the future, which are complex, global and interlinked, there is no task quite so difficult or so pressing as learning to live together. Faced with an increasingly globalized market, are we moving towards more developed forms of international and regional democracy?

New actors have emerged on the international scene who are changing the practice of democracy, participation, association, and even the rules of the game in international cooperation. Granted, the 21st century will most likely not see the disappearance of the world order based on the state; but within states and at the international level, the power of civil society seems set to grow. Will a new culture of democracy strengthen the links between representative and participatory democracy? The 21st century must therefore provide an answer to this crucial question: how can we humanize globalization in light of these new challenges and threats?

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# Towards gender equality?

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**The role of women should increase in the coming decades and most societies evolve towards equality of the sexes**

Of all the inequalities linked to development, gender inequality is one of the most specific, cutting across all countries, even those that are most advanced and proudest of their achievements in this regard. Contrary to received wisdom, progress in gender equality is not always related to the wealth of a country, or even – at first sight more surprisingly – to the level of what UNDP calls “human development.” It is more a question of how development is viewed, of political will, cultural change, and the commitment of society at large.

It is true that substantial progress has been achieved at global level in recent decades, particularly within

UNESCO’s fields of competence. In view of these advances, the role of women should grow during the first decades of the 21st century and most societies should move towards greater gender equality.

The most remarkable advances are those that have been made in education. Significant progress has also been achieved with regard to health: the life expectancy of women has risen at a rate 20 percent higher than that of men during the past 20 years; their average fertility rate has fallen by one third. Very slowly, the gateways to political power are opening up to women, at least in some countries. Despite popular belief, this progress has been even more appreciable in the South.

However, the progress achieved over the past 30 years in the fields of education, health and participation has far from eliminated all the obstacles. With regard to education, nearly two thirds of the 880 million illiterates in the world are women, and one adult woman in three today cannot read or write; most of them live in rural areas. Despite their specific health and nutrition needs, women, particularly in the Third World, receive poorer care than men. In politics and in the professions, in spite of recent progress,



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**Women still do not receive equal treatment with men when it comes to property and inheritance rights or rights relating to marriage and divorce**

**Of all those living in absolute poverty, 70 percent are women**

woman are still coming up against “glass ceilings.”

Poverty affects women disproportionately. Of all those living in absolute poverty, 70 percent are women, and the number of women living in poverty in rural areas has practically doubled in 20 years. With regard to work, improved training for women has not yet translated into higher income, effective equal rights and social recognition. In other words, the vast majority of women remain confined to what some economists call the “pink ghetto”: service staff, subsistence agriculture and poorly paid office jobs. In addition, in all regions of the world, unemployment and underemployment affect women more than men. Women still do not receive equal treatment with men when it comes to property and inheritance rights or rights relating to marriage and divorce.

The insufficiency of women’s rights is reflected in the moral and physical persecution and oppression of women. Violence against women and rape as an instrument of war continue to be used in order to spread terror and intimidation during armed conflicts. Domestic violence and the sexual abuse of minors, prostitution, sexual mutilation, sexual exploitation of young adolescent girls through “sex tourism,” paedophile networks, selective abortion and infanticide of girls are all too common.



# New cross-cultural encounters

focus

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© Christophe L. Paris

From the film *The Gods Must Be Crazy*; by South African director Jamie Uys, (1994)

**How to ensure the access of all to culture and to all cultures?**

It is probable that the rise of the new information and communication technologies, information networking, and growing interactivity and interconnectivity will substantially and permanently alter not only the economic, social and political landscape, but also the cultural landscape in the coming decades.

The key question is whether globalization and the new technologies will promote the rise of cultural pluralism, dialogue and cross-cultural encounters. If so, what will be the nature of those encounters? Will they be rewarding and creative, or will they be hostile and destructive? Are we heading for a “clash of civilizations” or cultural and ethnic hybridization?

Will the new encounters between cultures will lead to the dominance of one or more of them over the others

(even the cultural homogenization feared by some). Or will they exacerbate cultural differences and bring about new cultural fragmentation? Put another way, what will happen to the rich diversity of cultures in an increasingly global, “networked” and interconnected world? Let us not forget that at least half (or perhaps a lot more) of the 5,000 to 6,700 languages spoken in the world today may die out by the end of this century.

Will cultural identities, over the coming decades, replace citizenship or help to reinforce and reinvent it? According to French sociologist Alain Touraine, “the central question to which political thought and action must respond” is “how to restore a link between the excessively open space of the economy and the extremely closed and fragmented world of cultures?” Another question then arises: what type of identities and what sorts of authorities will be fostered by the information society and the information networks?

The technologization of culture is another observable trend. The application to culture of industrial techniques, while helping to disseminate culture, may also presage the disappearance of traditional ways of producing and transmitting it. Will



the new facilities for duplicating, disseminating, recomposing and manipulating images and sounds speed the rise of a society of pretence and a fully virtual era? What will intellectual property mean in the new context? What will the future of copyright be?

The 21st century will have to meet another challenge: how to ensure the access of all to culture, and to all cultures. How can we foster genuine dialogue between cultures? In what direction is the digital world moving: will networks be opening up or becoming more exclusive? In this context, one of the major issues of the

coming decades will surely be development of information in the public domain and providing equal access to it, in particular in developing countries.

What effect will the new technologies have on books and reading? The increasing digitization of written texts and the development of new aids are already giving rise to new forms of writing and reading but also of printing and circulating material; books are becoming a form of raw material that can be manipulated endlessly. With interactivity, readers now have an almost infinite number of

choices with regard to texts and, as a result, reading could become genuinely plural and pluralist.

What is more, the new technologies will be bringing about marked changes in the creation and communication of knowledge. In the 21st century, textbooks and educational texts in general might be designed with a view to greater interactivity between the various fields of knowledge in order to meet the individual needs and tastes of every learner. They would thus encourage self-instruction and self-learning and a new way of reading akin to navigation.

Another major trend is the development of the notion of heritage, which has broadened over the last few decades from preservation of the cultural and natural to recognition of intangible, symbolic and spiritual heritage and then to protection of the human genome. What will the new terrain of heritage be like in coming decades?



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Road signs in French and Breton at Spézet (France)

# Science and technology: the new ethical challenges

focus

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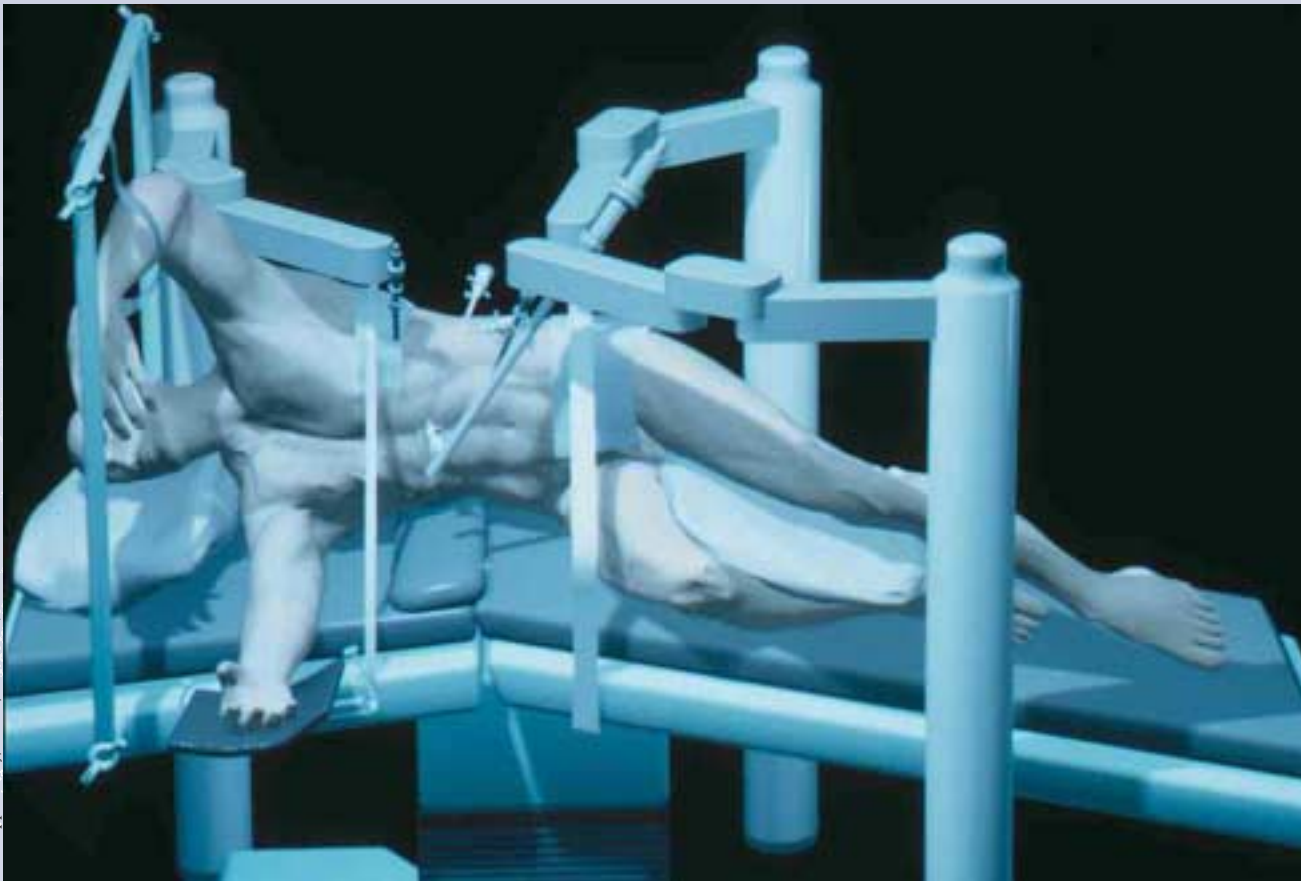
© Jim Currey/University of Michigan/Gamma, Paris

The cloning of animals is already  
a reality. And tomorrow...?

The many advances in biotechnology, genetics, astrophysics and the sciences of the infinitely large and the infinitely small are revolutionizing our perception of living things and the world around us.

In many cases these scientific and technological advances hold the promise of positive applications for the benefit of humankind. This is true of progress in genetic engineering, which is paving the way for new gene therapies. It also applies to the development of energy-efficient techniques and the field of nanotechnology, which concerns medicine and computer technology. Use of biotechnology in agriculture could, if properly controlled, help combat food shortages.

But these advances also raise questions and ethical concerns. To begin with, there is the application of technology to living organisms, especially human beings. Will the power to artificialize nature and manipulate species – even the human species – take us into the “brave new world” foreseen by Aldous Huxley and an ethically unacceptable situation in which humans domesticate other humans? What status will human beings have when they are the object of manipulation,



### Fantasies of a new bionic Frankenstein?

experimentation, mutilation or even destruction? What, in this new context, will be the meaning of life and death? Who will decide on the supposed “usefulness” of a particular genetic feature? Parallel manipulation of the genetic heritage of plant and animal species will in future decades surely be an unprecedented challenge for the global environment.

Over and above society and the environment, the very definition of the human species and its biological integrity is at stake and in danger. Human beings can now alter the genetic heritage of any species, including their own. They even have the dismal privilege of being able to plan their own destruction. What

must be done now is to agree to limit, through ethical guidelines and wisdom, the currently boundless power of technology. We must apply to technology Montesquieu’s maxim that absolute power corrupts absolutely. We must apply to science Rabelais’ observation that science without conscience is but the ruin of the soul.

### Read

Scientists, intellectuals and artists present the keys for entry into the 21st century  
UNESCO Publishing/  
Berghan Books,  
2001  
395 p., 25,15 €





# 3,000 languages of world in danger

By Paul Holmes  
REUTERS NEWS AGENCY

PARIS  
Half of the 6,000 or so languages spoken in the world are under threat and a wealth of human knowledge could be lost with them, according to a new study.

The "Atlas of the World's Languages in Danger of Disappearing" says pressures from dominant languages such as English, French, Spanish, Russian and mainstream Chinese are drowning out minority tongues at an accelerating pace.

"The dying and disappearance of languages has been going on for thousands of years as a natural event in human society, but at a slow rate," says the study, funded by the United Nations Educational, Scientific and Cultural Organization and published on Thursday.

"However, the past 300 years or so have seen a dramatic increase in the death or disappearance of languages... leading to a situation today in which 3,000 or more languages that are still spoken are endangered, seriously endangered or dying."

The study, an updated and expanded version of the first edition that appeared in 1996, pinpoints threatened languages in "crisis areas" on a series of maps on a scale ranging from "potentially endangered" to "extinct."

"The loss of any one language means a contraction, reduction and impoverishment of the sum total of the reservoir of human thought and knowledge as expressible through language," the study notes.

"To give just a few examples, many highly effective medicinal plants are known only to people in traditional cultures..."

"When their languages and cultures are lost, the knowledge about the plants and their healing properties is lost too."

The study cites the Americas and Australia as having the worst record over the past century, with hundreds of Aboriginal languages now extinct in Australia as a result of harsh assimilation policies that persisted

*While sounding the alarm, [the study] notes that a determined multilingual approach can rescue even the most threatened tongues.*

until around 1970.

It also lists about 50 languages that are at risk in Europe, including the Celtic languages of Britain, several of the Saami or Lappish tongues spoken in Scandinavia and northern Russia and the varieties of Romani spoken by Gypsies.

In Asia, the study says, the situation for minority languages is uncertain in many parts of China while in Africa, between 500 and 600 of the 1,400 or so local languages are on the decline, with 250 of those under immediate threat.

The study was edited by professor Stephen Wurm, an Australian linguist of Hungarian origin who spoke some 50 languages. Mr. Wurm died recently.

The atlas cites several reasons for the disappearance of languages, ranging from repressive government policies and assimilation to economic pressures, migratory trends, disease and natural disasters.

While sounding the alarm, it notes that a determined multilingual approach can rescue even the most threatened tongues.

In Japan, only eight elderly persons spoke Ainu on Hokkaido island by the late 1980s after decades of official neglect, but promotional policies had since revived the language.

The publication of the study was timed to coincide with UNESCO's International Mother Language Day, an occasion for the agency to promote linguistic diversity.

## HotNews

Pirating music is now old news, but its impact still packs a huge emotional, as well as financial, punch. Microsoft's foray into the music world via its XP software has new security features for the WMA file format. No doubt Microsoft doesn't view their efforts as helping the music industry, but more a strategic move to ensure the music industry has to rely on Microsoft's control of digital music distribution. Interestingly the District Court dealing with the Napster case has asked the record labels to prove they have the rights to the music the court has prevented Napster distributing. Judge Marilyn Hall Patel is questioning whether the big five record companies are willing to create a monopoly as their industry.

UNESCO, the cultural arm of the United Nations, is about to publish a study which identifies half the world's 6,000 recognised languages are about to disappear. The irony in this information age is that in order to share information, a common dialogue had to be agreed upon. But there is hope. On Hokkaido Island in Japan, only eight elderly people were left that spoke the native tongue, Ainu, in the late 1980s. As part of new language policies by

the Japanese government, Ainu and number of other languages have been recorded for not only for posterity, but also to teach the language to others. As a result of keeping these languages alive, they have uncovered herbal remedies, cultural history and even a distinct humour. Australia and the United States are recognised as the worst countries over the last 100 years when it comes to living languages - hundreds of Aboriginal languages have been lost due to assimilation policies for much of the 20th century.

Jamaica is trialling a new rehabilitation program in maximum security prisons. Prisoners are given instructional lessons on how to use a computer, surf the internet and create videos. The program's exponents say it provides the prisoners with skills and 'cognitive challenges'.

The HPCompaq saga continues with March bringing the shareholders vote. Compaq is looking likely to be a big loser, despite the fact that an 80% of product overlap exists and Compaq is the market leader. It just doesn't make sense that HP takes majority control. But after Ansett, HIH and One Tel, business doesn't make a lot of sense these days.

**LANGUAGES GOING SILENT:** About half of the world's 6,000 languages are under threat of disappearing under pressure from more dominant tongues or repressive government policies, a new study says. From France and Russia to the Americas and Australia, minority languages and the heritage that goes along with them are at risk of dying out, according to a UNESCO study to be released today.

[Sentinel (United States of America) • 21 February 2002]

[Northern Rivers Echo (Australia) • 28 February 2002]



UNESCO in the news

GO

[Le Monde • 6 février 2002]



[Hindu (India) • 9 March 2002]

## Indian scientist wins UNESCO award

By Our Special Correspondent

NEW DELHI, MARCH 8. Medical scientist, Indira Nath, has bagged the prestigious UNESCO/L'Oreal award for her work in developing medication and vaccines for leprosy treatment. The \$20,000 award is given annually to honour women scientists on International Women's Day.

Prof. Indira Nath is among the five scientists who have won the "women in science" award this year. The other winners are: Shirley Tilghman, the first woman President of Princeton University, U.S.; Nagwa Meguid, a geneticist from Egypt; Anna Maria Lopez-Colome of Mexico and Mary Osborn of Germany.

Prof. Tilghman was awarded

for her research in cloning, Prof. Meguid for her work on prevention of mental illness and Down's Syndrome, Prof. Lopez-Colome for her studies on diseases of retina and Prof. Osborn for developing immunofluorescence microscopy, which has a wide variety of applications especially in the diagnosis of tumours.

At the ceremony, which took place at UNESCO's headquarters in Paris, Marianne Grunberg Manago was presented with the lifetime achievement award for her contributions to science, in particular for her now famous work on genetic code. A former president of the French Academy of Sciences, Prof. Manago is presently Emeritus Director of Research at CNRS, the French agency for scientific research.

## Afghan weekly makes comeback

TRIBUNE NEWS SERVICE

NEW DELHI, JANUARY 30

An independent newspaper, Kabul Weekly, has hit the newsstands in the Afghan capital after five years with the help of UNESCO.

Sources in UNESCO House here said the paper was one of the first independent media publications to appear in the wake of the Taliban defeat.

The first issue of the revived paper was put together in less than two months by journalists who founded Kabul Weekly (Hafta Nameyeh Kabul) in February 1993 in the midst of disputes between rival Mujahideen factions.

UNESCO contributed to the relaunch with a grant of \$12,000 and is arranging more funds to keep the paper afloat. The relaunched paper had a print order of 2,500 copies in Kabul.

The paper has an all-Afghan staff comprising 11 men and three women (in the age-group of 28 to 35) and is produced with the help of a French NGO, Alna. The editor is Mohammed Fahim Dashty who had survived the bomb attack which killed Northern Alliance chief Ahmed Masood.



UNESCO in the news

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[The Tribune (India) • 31 January 2002]

## UNESCO'S law on wrecks

UNESCO has recently introduced a draft Convention on the Protection of Underwater Cultural Heritage, a document that has taken four years to complete and bans all underwater wrecks from being looted by privately funded commercial salvage companies and treasure hunters.

More than 3 million shipwrecks are estimated to lie in oceans across the world. Current laws give governments of different countries rights over what is found in their coastal waters, but not in international waters, and there is no law that enforces the universal preservation of wrecks.

UNESCO's main concern is that artifacts salvaged by private companies are not properly protected and recorded, and are often dispersed worldwide when sold to collectors, thus diminishing the heritage value. The draft convention has to be ratified by at least 20 countries before it will be adopted.



[Action Asia (HongKong) • February/March 2002]

# TV violence, horror scare children

BY KAVITA BAJELI-DATT

New Delhi, March 31: Nine-year-old Piyush Singh has recurring nightmares of encountering a dismembered hand or walking into a bathroom full of skeletons.

These terrifying images have been popping into his dreams ever since he began watching a horror show on television. Not long ago a carefree boy like others his age, Piyush now lives in constant fear of ghosts and spirits.

"In my dreams I see a dismembered hand on a plate. The toilet is full of skeletons and I cry for help," Piyush, who lives on the

city's eastern fringe, told a Centre for Advocacy and Research team that conducted a survey in five cities on the impact of violence in the media on children.

Piyush was one of scores of children who spoke of his anxiety, stunning researches and evoking fears that the young would be left with deep emotional scars if parents did not monitor the kind of television programmes they watched.

The survey, said to be the first of its kind in the country, found that 75 per cent of TV programmes have some form of violence and

leave deep psychological and emotional scars on children, most of whom are hooked to soap operas, horror shows and suspense thrillers. The findings were presented at a meet here.

The study, conducted in Delhi, Ahmedabad,

Lucknow, Hyderabad and Kolkata with the support of Unicef, Unesco and the Ford Foundation, covered children between 6-12 years, from different socio-economic backgrounds.

It found that family dramas account for 35 per cent of the total violence on television and chil-

dren watch TV for between two and 10 hours.

"We have found that there is a high incidence of violence even in children's programmes like cartoons," said Akhila Sivadas, executive director of the research centre.

"We have seen that 50 per cent of prime time television is devoted to adult family serials, nine per cent to horror, murder, suspense and supernatural thrillers. And almost 90 per cent of popular English films are action films with a very high incidence of violence."

"Children are enthralled by the

Turn to Page 11

## VIEWPOINT



UNESCO  
in the news

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[The Delhi Age (India) • April 2002]

## UNESCO Brings Education Reform to Nigeria

At the end of the World Education Forum held in Dakar Senegal in April 2000, the 133 participating countries including Nigeria agreed that each country would systematically develop the purse programmes aimed at achieving Education For All (EFA) by the year 2015.

Towards achieving this objective, the UNESCO Representative to Nigeria and West Africa, Mr. Hubert Charles flagged off the programme of events for the forthcoming 2-Day UNESCO PRIVATE SECTOR ROUND TABLE DISCUSSION ON EDUCATION (EFA) with pre-visits to NECA (Nigerian Employers Consultative Association), APCON (Advertising Practitioners Council of Nigeria) and IPM (Institute of Personnel Management). At the meetings, Mr. Charles stressed the importance of the participation of the Private Sector in Education beyond the contri-

bution to the Education Trust Fund. As "education for all is the business of all". He pointed out that the organized private sector would have to play a major part in helping to formulate strategies and the monitoring of the implementation of programs to ensure the overall education of the populace irrespective of age and cultural background. He also said that the Private Sector should see this as an investment opportunity, which will yield enormous dividend in the future.

EFA (Education For All) is a global effort aimed at expanding and improving "comprehensive early childhood education and care" to ensure that by 2015 all children and girls in particular, "have access to and complete free and compulsory education of good quality," to work towards achieving a 50% improvement to levels of adult literacy by 2015 and to eliminate gender disparities in terms of "access to and achievement in basic education."

The Nigerian Government aware of the tremendous benefits to be secured for the Country from the attainment of EFA has been establishing enabling structures for EFA in Nigeria.

Importantly, it has inaugurated the EFA Forum as a means to facilitate consultation and the preparation of a broad-based national EFA plan. Despite its strong commitment, Government is fully aware of the importance of the private sector in this effort, as the State cannot be the only player in the delivery game.

It is expected that this 2-day activity will result not only in a declaration of the private sector commitment to EFA goals, but to a medium to long term programme of research, experimentation and actualization within and outside of business establishments in favour of EFA. Mr. Charles therefore called on all Nigerian interest groups as well as partners in the international community to rally to the cause of EFA.

[National Interest (Nigeria) • February 2002]

Continued from Page 9

fear of the unknown, uncertainty and suspense. A child told us he fears what he sees might happen in reality.

"Researchers used clips from various television programmes, verbal exercises, drawings and interviews as tools for the study.

"We found that the children could immediately recall the clippings and are familiar with them. In some instances, we found that they are scared of horror but compulsively watch it," said Sivadas.

"What was amazing was that children were associating between television and real crimes reported in the newspapers and electronic media." Added Sivadas, "Television has led to terror and fear, nightmares and a strong belief in the supernatural in children, who also have a compulsive fascination for horror and crime.

They get emotionally involved in family conflicts, household intrigues, deceit and violence."

The report also found that children are so hooked to television that they lack interest in playing and reading.

Explained Vishwa Mohan Thakur, an Ahmedabad-based psychologist, "What is worrying is not the quality but quantity (of programmes). We can't depend on the industry or the government to bring any change in the scenario.

The parents cannot shirk their responsibility because they are the ones who bring the TV home."

"Children are unable to segregate fantasy from reality and that is where parents step in."

Added Shailaja Bajpai, a senior research consultant, "Through the survey we want to target policymakers, television and advertising industries, the parents and the teachers." (Indo-Asian News Service)

# UNESCO DG to visit Pakistan

ISLAMABAD (APP) - The Director-General of the United Nations Educational, Scientific and Cultural Organisation (UNESCO), Koichiro Matsuura will pay a three-day official visit to Pakistan and Afghanistan from January 10 to 12.

The UNESCO Director General during his stay in Islamabad will hold consultations on areas of mutual interest with the Federal Ministers of Education, Culture, Science and Technology and Womens Development.

He will also meet with the Afghanistan Support Group - a donors forum -and the Society for the Preservation of Afghanistan Cultural Heritage (SPACH).

The UNESCO Director General will also formally launch the Year 2002 as International Year for

Cultural Heritage in a ceremony being organised by the Ministry of Culture. Matsuura will inaugurate a temporary UNESCO School for Afghan Refugees in a *katchi basti* (underdeveloped area) on the outskirts of Islamabad.

He will also present the Peace Pillar Award to two members of UNESCO's Associated Schools Project - the Grammar School Rawalpindi and Roots Montessori and High School.

The Director-General of UNESCO will proceed to Afghanistan on January 11. The main purpose of his visit is to reinforce UNESCO's action on the ground, particularly corresponding to Afghanistan's reconstruction needs within UNESCO's fields of competence - education, culture, science and communication.



UNESCO in the news

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## Pearl's murder condemned

UNESCO DIRECTOR General Koichiro Matsuura has condemned the murder of American journalist Daniel Pearl. The Director General welcomed the Pakistan Authorities' pledge to pursue and punish Pearl's killers, he recalled the UNESCO's commitment to defend the freedom of journalist to exercise their profession safely.

[Pioneer/New Delhi • 1 March 2002]

## Gutenberg Bible heritage document

The Gutenberg Bible is to be registered as part of the world's documentary heritage in UNESCO's Memory of the World programme, the University of Goettingen in Germany said on Monday DPA reports from Goettingen. A certificate from the United Nations Educational, Scientific and Cultural Organisation will be presented at a ceremony here on February 1. The Gutenberg Bible was printed in 1454, the first major book printed in the west. The Memory of the World programme aims at preserving the world's documentary heritage and making works accessible using modern information technology

[Deccan Herald Bangalore • 29 January 2002]

# Conservation and tourism in World Heritage Sites

The goal of developing sustainable tourism in some of the world's most beautiful, yet fragile natural environments received a boost earlier this year with the announcement of US\$1 million to support a project that links conservation and tourism at six World Heritage sites. In the initiative, the cosmetics company, Aveda, agreed to give US \$500,000 to the project, jointly managed by UNESCO, the United Nations Environment Programme (UNEP) and the RARE Center for Tropical Conservation. The United Nations Foundation (UNF) is matching the new funds with an equal amount.

The project, which uses tourism to help mitigate threats to conservation of biological diversity, could become a blueprint for initiatives elsewhere, where the demands of tourists can be balanced with the needs and cultural traditions of local people, the landscape and environment. By working with managers, industry and local people the Heritage sites project aims to bring together conservation education, planning, business development, training and marketing techniques to create a model for using tourism to promote the protection of important habitats. A key part of the project is to involve tour operators in site specific activities so as to create better tourism products and sustainable management systems. According to UNF's Seema Paul, "There is no doubt that tourism can be beneficial, but there are not very many successful models of eco-tourism - meaning tourism that is ecologically sustainable. Our idea is to experiment with these programs in order to find the



© UNESCO/Inguat Sanjoa

best way to capture tourism revenues for the local community and the site, and then to apply those ideas to other sites." Key objectives of the World Heritage site project are to ensure that tourism is sustainable and does not negatively impact these places. But there is also the issue of why sites need to develop tourism in the first place - to generate income for parks and economic incentives for local communities. Many local managers of World Heritage sites are looking to sustainable tourism as a means of balancing the need for economic development with conservation, by bringing income into cash-strapped park budgets and impoverished local communities. The World Heritage sites to benefit from the new funding are the Sian Ka'an and El Vizcaino biosphere reserves in Mexico, Tikal national park in Guatemala, the Rio Platano biosphere reserve in Honduras, and the Komodo and Ujung Kulon national parks in Indonesia.



© UNESCO

## The tourist industry defends heritage

For the fourth year running, several tourist firms have renewed their support for UNESCO's Memories of the Future project. The companies - including tour operators EF (United States), Tui-Gruppe (Germany) and Nouvelle Frontières (France) and hotel groups Accor (France) and SAS (Belgium) - pledged at the International Tourism Fair (the world's biggest) in Berlin on 16 March to continue their commercial and advertising efforts to popularise cultural and natural World Heritage. One the main features of this project in the current International Year of Cultural Heritage is to persuade tourists it is every individual's duty to protect heritage sites.

The Memories of the Future programme has funded some of the restoration work on Prince Gong's palace in Beijing, the medina in Tunis and the old city centre in Krakow, Poland



Partners

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# Monkey business in space

*UNESCO and the European Space Agency have joined forces to check on the health of the gorilla population in the Democratic Republic of the Congo.*

The gorillas are having a tough time of it. Since the mid-1990s they've had to share their homelands – notably the World Heritage listed Kahuzi-Biega National Park – with tens of thousands of refugees, who've fled the numerous political upheavals in the countries around Africa's Great Lakes region.



© UNESCO

Seeking food and shelter, the refugees have cut down vast swathes of forest and hunted the gorillas for their meat or to sell them to traffickers who resell them to the highest bidder as pets.

The destruction of the gorillas' habitat has been further aggravated by the discovery of coltan (colombo tantalite), in the region. This precious hardening agent for metal is used in a range of high-tech industries, including the manufacture of mobile telephones.

The World Conservation Union (IUCN) reports that the illegal mining of this substance in Kahuzi Biega and the Okapi Wildlife Reserve in the east of the country is "seriously impacting on the ecology of these sites," and that "the wildlife is being des-troyed at an alarming rate."

The precise extent of the damage though is not known. To help answer that question, UNESCO is working with the European Space Agency (ESA) to analyse satellite images of the region. Such analysis will allow the experts to evaluate the degradation of the primates habitat, and allow UNESCO and local authorities to then work out ways of improving the situation.

Other leading space agencies, including NASA and the Canadian Space Agency are also interested in coming on board.



Partners

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## UNESCO's Associated Schools Network

# Banking on youth

A bunch of primary school kids from countries bordering the western Mediterranean are working to save their sea from the

perils of pollution. And a big Spanish bank, the Caja de Ahorros del Mediterraneo (CAM) is helping them get the job done.

The children are all from schools in southern Europe and Northern Africa that are part of UNESCO's Associated Schools Network. The bank has invested more than \$100,000 in the UNESCO/ASPnet Western Mediterranean Project's activities since 1996. It has made three environmental education centers available where children and teachers can attend day-long training sessions, and financed

regional summer camps for students and teachers, drawing and photo contests, and the project's coordination. The bank has also paid for several multi-lingual publications, including a CD-ROM on the project, and teaching materials.

UNESCO presented its Picasso medal to the bank's president, M. Vicente Sala Bello, in recognition of the CAM's support for the project.



© CAM, Valencia

# “we still live in a world in which science is largely a male profession”



Partners

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© UNESCO/Niamh Burke



The wealth and glamour of L'Oréal, a world-famous cosmetics company, transformed the grand hall at UNESCO headquarters on March 6th. As posh Parisians strained to see the opera diva Elisabeth Vidal, spotlights also beamed on a group of female scientists, more accustomed to microscopes rather than microphones. Yet they were the stars of the ceremony - the winners of this year's L'Oréal prizes “For Women in Science.” and the UNESCO/L'Oréal fellowships.

UNESCO's Director General, Koichiro Matsuura, and Lindsay Owen-Jones, Chairman and Chief Executive Officer of L'Oréal, presented the awards, established through a joint initiative in 1998 to recognize the outstanding achievements of women scientists and to encourage others to pursue the same caliber of research.

The prizes each worth \$20,000 were awarded to five women from different continents. The winners were selected by an international jury of renowned scientists and

represented a wide range of study. Nagwa Meguid has been working to prevent and treat genetic illnesses common to her native Egypt. Ana Maria López-Clomé has bolstered the reputation of Mexican research through her study of retina diseases leading to blindness. A world authority on leprosy, Indira Nath has been developing medication and vaccines for treating this disease that affects 1.5 million people in her country, India. Finally, Shirley Tilghman, originally from Canada, has revolutionized genetics by showing that a gene's expression depends on whether it was inherited from the mother or father.

The UNESCO/L'Oréal fellowships, each worth \$10,000, were awarded to ten young female scientists engaged in promising research projects around the world. For example, Namrita Lall of South Africa has isolated a plant compound with great potential for treating tuberculosis, while in Bangladesh, Hasina Akhter has been genetically engineering rice to withstand the saline conditions of coastal areas.

## The language of Discovery



To help save endangered languages, Discovery Channel, the world's leading non-fiction entertainment channel, has joined forces with UNESCO.

This new partnership, finalized mid-April, will serve to the channel's fans in 154 countries more aware of the world's extraordinary linguistic heritage.

Under the agreement, UNESCO will provide Discovery with critical information about specific cultures and languages at risk (see p.37). The organization will also facilitate contacts with prominent linguists and researchers also working to save the some 3,000 languages considered under threat. In return, the channel will produce special programmes for broadcast in 33 languages to the 125 million households Discovery reaches outside the United States.

As a result of globalisation

and the homogenizing influence of information technology, thousands of languages could be lost of this century. Yet, a language under threat, or even considered as having died out, can be saved through pro-active language policies. At the end of the 80s in Japan, for example, there were only eight people left on the island of Hokkaido who knew how to speak Ainu. A museum devoted to the language was established and courses offered to young people and today Ainu is on its way back. Even those languages

considered extinct can be “raised from the dead”. Such is the case with Cornish, in England, which died out in 1777 but has been in recent years, with nearly 1,000 people now speaking it as a second language.

The UNESCO-Discovery Channel partnership is also supported by the UN Works Programme, which aims to make the activities of the UN family and their impact on people's lives better known throughout the world.

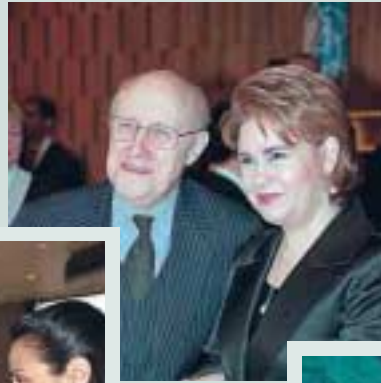
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Partners

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⑤

③



⑥



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Photos © UNESCO/Niamh Burke

## Profession : Goodwill Ambassadors

UNESCO's 36 Goodwill Ambassadors are flag-bearers for the Organization. Each these celebrity advocates have accepted to use their talent and status to help focus the world's attention on UNESCO's work. Last February, they gathered at UNESCO Headquarters in Paris to review their activities to date and plan for the future.

Above, from left to right:

① Miguel Angel Estrella, HRH Princess Firyal of Jordan, Cheick Mobido Diarra, Azziza Bennani (UNESCO), Marin Constantin, Pierre Bergé, Kitin Munoz, HRH Princess Lalla

Meryem of Morocco, Julio Werthein, Kim Phuc, Marianna Vardinoyannis and HRH Maria Teresa Grand Duchess of Luxembourg.

② Koïchiro Matsuura, Directeur-General of UNESCO, Bahia Hariri, Jean-Michel Jarre, Claudia Cardinale, HE Sheikh Ghassan I. Shaker, Ute-Henriette Ohoven, Ikuo Hirayama and Patrick Baudry.

③ Miguel Angel Estrella and Julio Werthein.

④ Mstislav Rostropovitch and HRH Maria Teresa.

⑤ Ute-Henriette Ohoven and Cheick Mobido Diarra.

Claudia Cardinale, Azziza Bennani, Koïchiro Matsuura, HRH Princess Lalla Meryem .

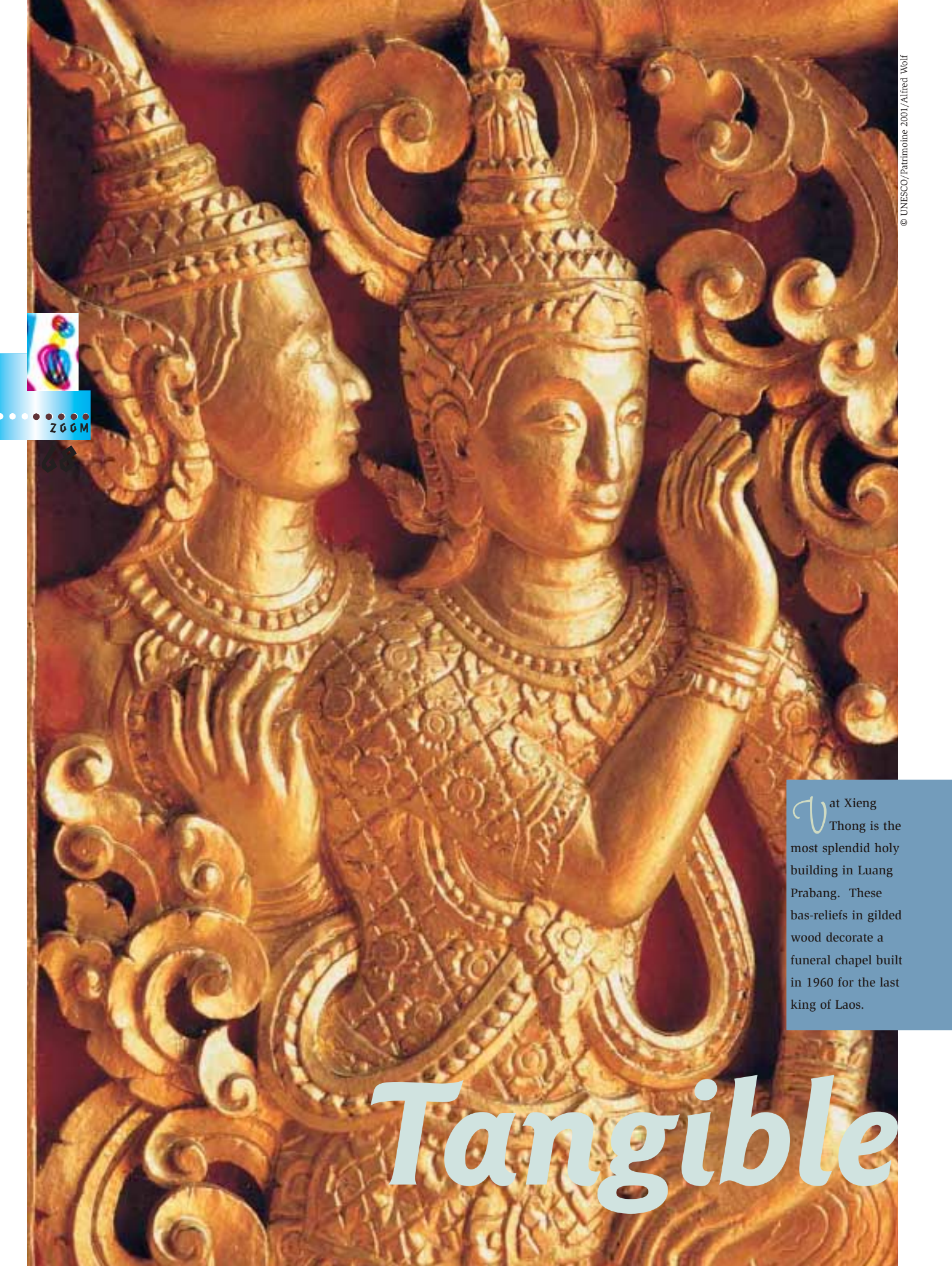
⑦ Kim Phuc and Ikuo Hirayama.

⑧ Ömer Zülfü Livaneli

See the complete list of UNESCO's Goodwill Ambassadors and their activities online at:

<http://www.unesco.org/goodwill/>

E-mail : goodwill@unesco.org



ZOOM

Wat Xieng Thong is the most splendid holy building in Luang Prabang. These bas-reliefs in gilded wood decorate a funeral chapel built in 1960 for the last king of Laos.

# Tangible



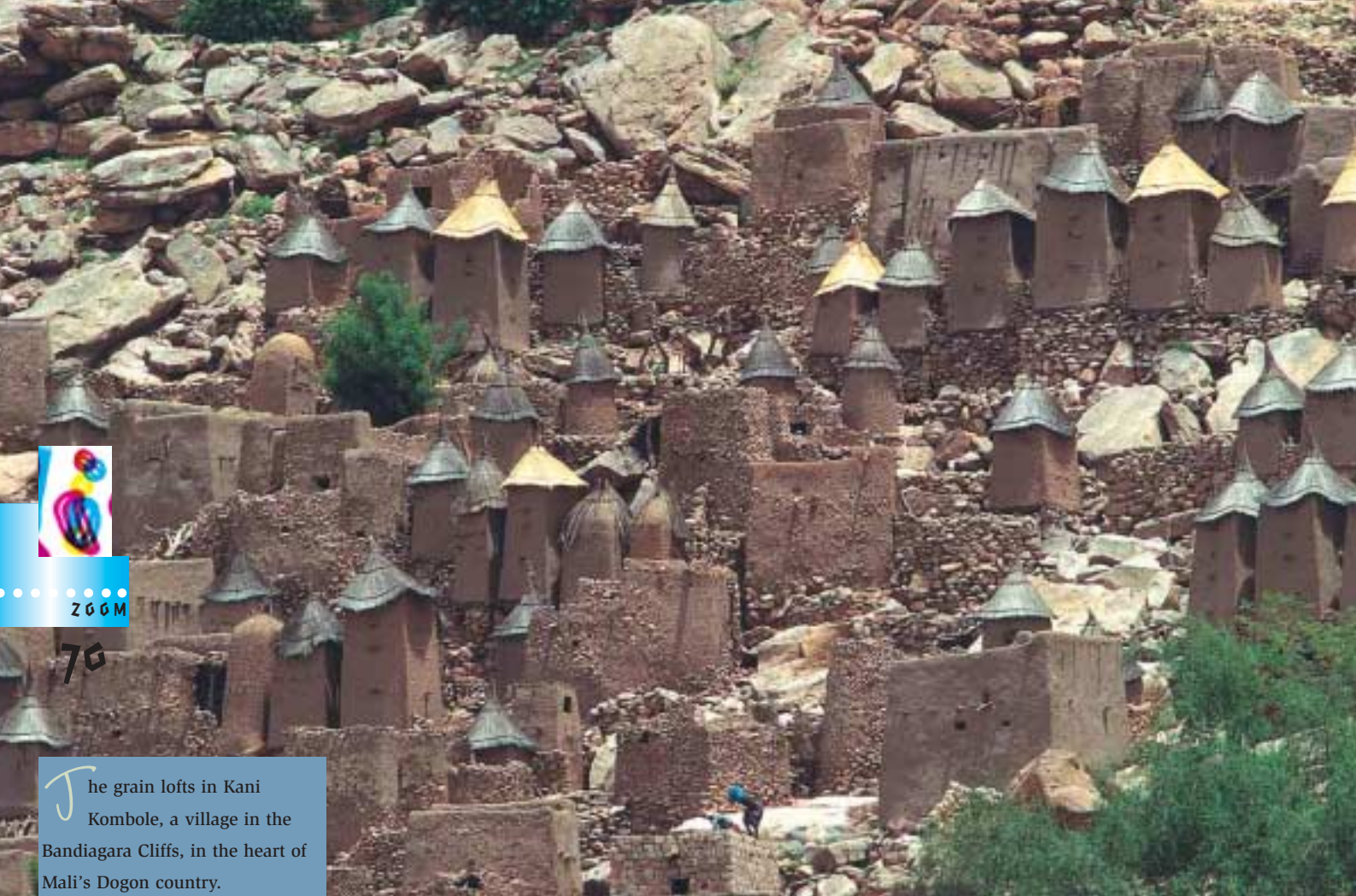
ZOOM

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In Bolivia, at an altitude of 3,700 metres, a carnival is held in Oruro every year just before Lent. More than 28,000 dancers and 10,000 musicians take part in the procession.

© UNESCO/Bolivian Delegation

# & Intangible



2006M

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The grain lofts in Kani Kombole, a village in the Bandiagara Cliffs, in the heart of Mali's Dogon country.

The 18th century royal salt-works of Arc-et-Senans, in France, were the first major work of industrial architecture to reflect the Enlightenment ideal of progress.



# The year 2002 has been proclaimed United Nations

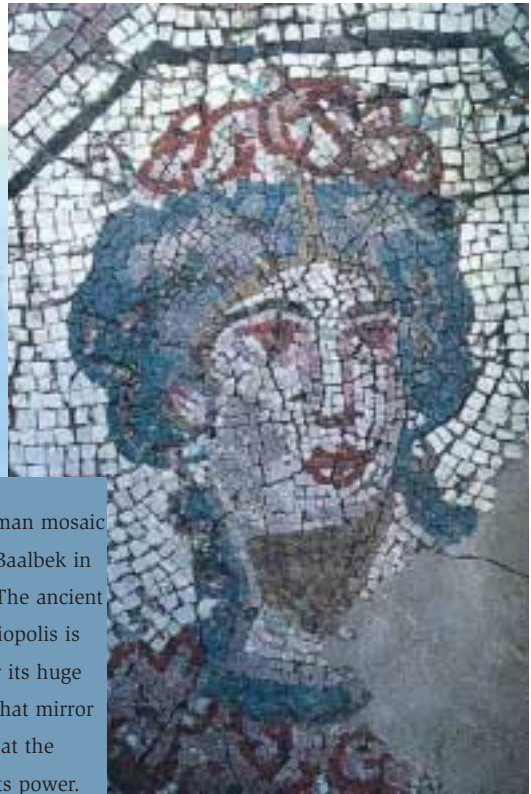


Year for Cultural Heritage. At a time when crimes against culture have become familiar alongside political violence – as in Bosnia, or Afghanistan– UNESCO is trying to get another message across.

Heritage is a target of destruction in wartime, as a way of “breaking” the enemy, but it can also help a country heal its wounds and rebuild (see pages 12-17) and contribute to peace and development.

Cultural heritage is not just old stones. It also includes the most abstract forms of human creativity, such as the processes of creating knowledge and know-how, languages, performance art, music, social and religious ceremonies, oral tradition and cultural places where remarkable human activity takes place.

For the first time, on 18 May 2001, UNESCO announced a list of the first 19 selections for its new masterpieces of oral and intangible heritage of humanity label. The Organization is also drafting an international convention that would protect such heritage from destruction or from being reduced to simply “quaint” objects by cultural uniformity, wars or mass tourism. UNESCO’s photo library shows here some of these intangible masterpieces, alongside cultural World Heritage sites.



A Roman mosaic at Baalbek in Lebanon. The ancient city of Heliopolis is famous for its huge buildings that mirror an empire at the height of its power.



Kunqu, a combination of singing, recitation, gestures and dance, is one of China’s oldest forms of opera, from the 10th-13th centuries.

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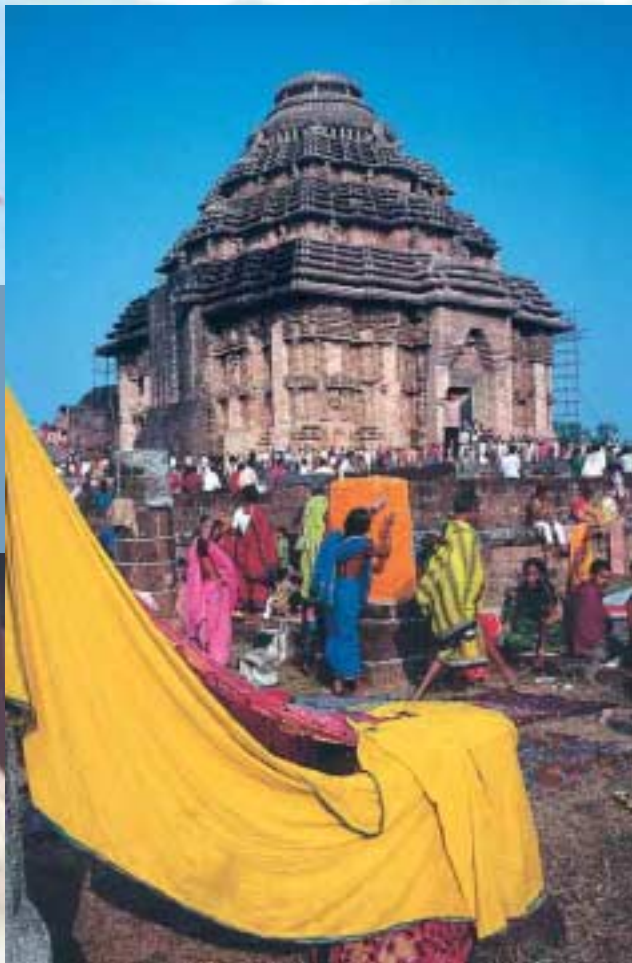
ZOOM

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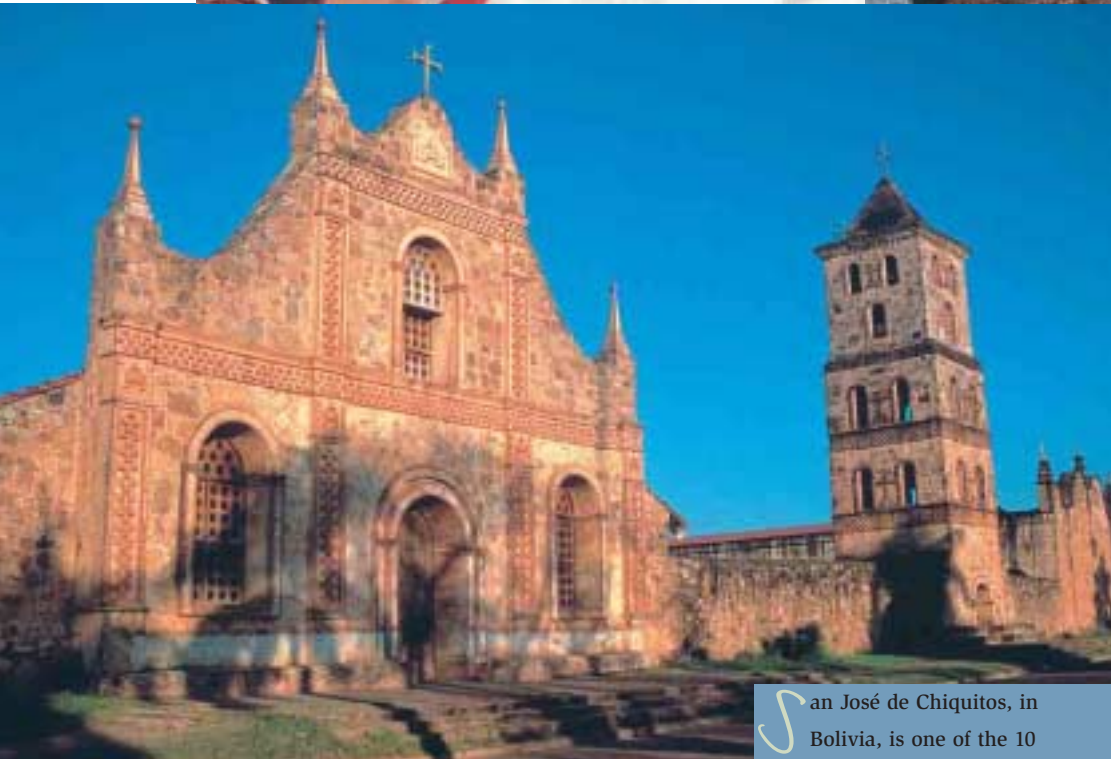
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In Guinea, celebrations take place around the Sosso-Bala, a kind of sacred xylophone, which is played to accompany the recitation of epic medieval poems.

The 13th century Brahmin temple of Konarak, in India's Gulf of Bengal, is a monumental representation of the chariot of the sun-god Surya.



© UNESCO/Patrimoine 2001/Yann Layma



© UNESCO/L. Anderson



© UNESCO/Patrimoine 2001/Alfred Wolf

San José de Chiquitos, in Bolivia, is one of the 10 'settlements' modelled after the ideal cities of 16th century philosophers and founded by the Jesuits between 1696 and 1760.

Every Dogon mask has a poem behind it, French ethnologist Marcel Griaule liked to say. In the Bandiagara Cliffs in Mali, these masks play a part in oral literature.



The UNESCO photo bank is online: [www.unesco.org/publications/photobank.asp](http://www.unesco.org/publications/photobank.asp)

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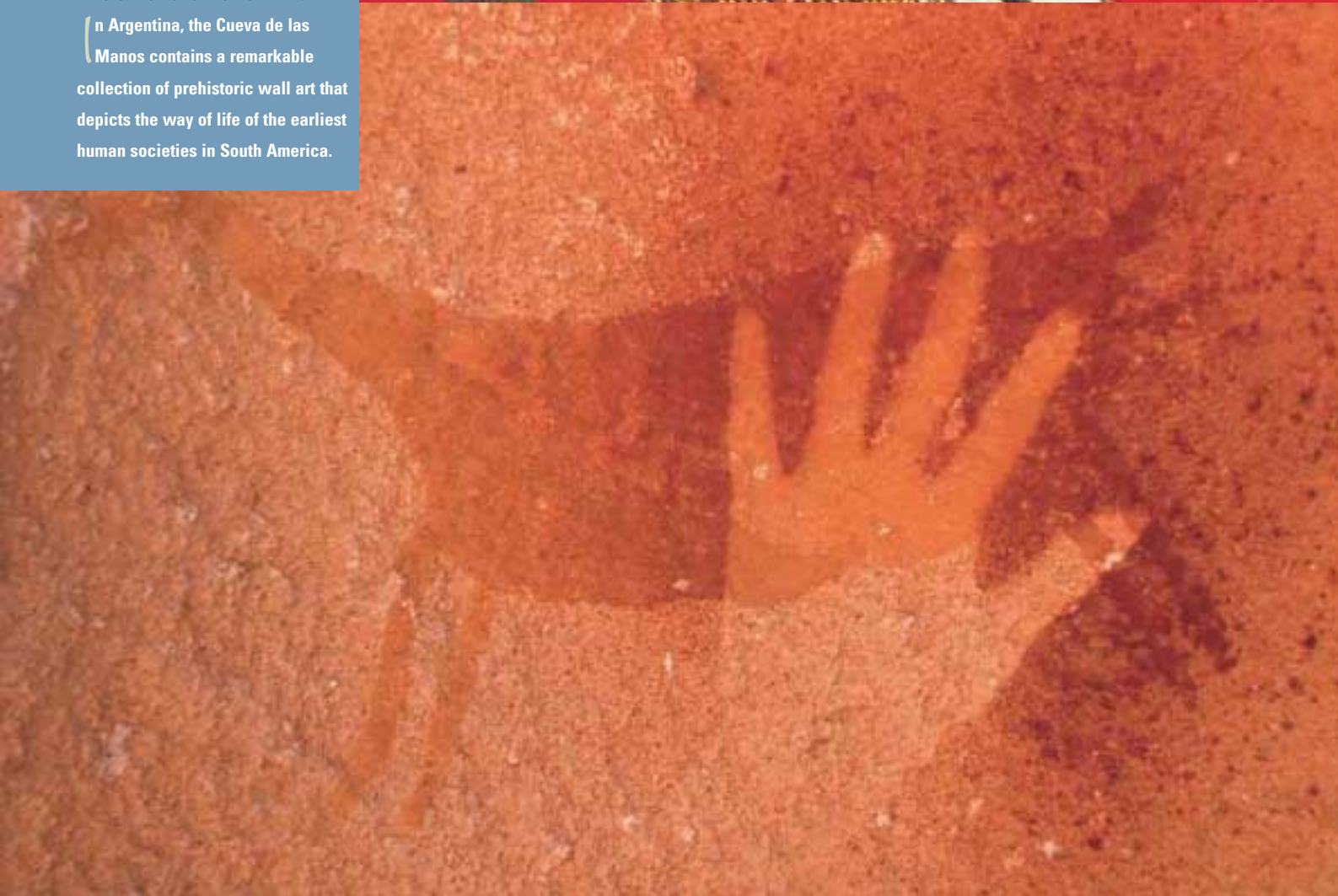


ZOOM

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The Kutiyattam Sanskrit theatre of Kerala is India's oldest living theatre tradition. It is also the only kind of performance where men and women mix.

In Argentina, the Cueva de las Manos contains a remarkable collection of prehistoric wall art that depicts the way of life of the earliest human societies in South America.



# RECONSTRUCTION still comes first



Looking back

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*When* UNESCO was created in the aftermath of World War II, reconstruction in devastated and occupied countries was one of its urgent priorities. The following texts and images from the *UNESCO Courier* and UNESCO publications in 1948-1949 give an idea of some of the issues at stake

and the actions taken by the Organization to remedy the situation. UNESCO collected emergency funds, identified and helped to fulfil the specific needs of schools, universities, libraries, scientific and cultural institutions in war-damaged countries throughout Europe and Asia. One of UNESCO's tasks was to help



In the ruins of Warsaw.  
Photo from: *Homeless Children*, UNESCO, 1949.

## “THE BOOK OF NEEDS”

“THE BOOK of Needs is UNESCO's first account of post-war educational and cultural losses and needs. It is a bird's-eye-view of the present, critical situation of education, science and culture in fifteen war-devastated countries.”

With these words Dr. Julian Huxley, Director-General of Unesco, begins his foreword to this book published by the Organization at the end of last year.

Dr. Huxley goes on to say:

“There is much repetition in this report. The same story is told again and again with only some variety in the different settings. The tragedy presented is indeed the tragedy of repetition: in every country there are ruins, lack of equipment, overworked teachers, white-faced children.”

“It is perhaps through the full realization of this repetition that the enormous extent of the harm done by the invader can best be appreciated and the immensity of the problems which still confront the world.”

But the Book of Needs is not only a survey of the widespread destruction of material resources in school buildings and school equipment. In preparing this report it was felt that additional data concerning the ravages to the health standards of children and adults, as a direct result of the war, were worthy of inclusion.

As Dr. Huxley says in his foreword:

“I hope that this first attempt to set forth a picture of losses, achievement and needs in countries still lying in the shadow of the ruin of war will reach a wide public. The reconstruction of educational, scientific and cultural life in these war-devastated countries makes a world-wide call for help which cannot be ignored by anyone who cares for the preservation of real values in tomorrow's generations.”

The majority of the schools throughout the country are either totally destroyed or only the shells of the buildings remain. The loss of equipment is almost total. The report declares:

“There is no reliable evidence that there is any village school completely undamaged, with furniture intact and adequate equipment.”

In Greece, for example, the report states that the country, always poor, is now practically destitute.

In the case of Poland, six million citizens perished and the whole country was devastated. 500,000 children lost both their parents. 3,000,000 children are undernourished; two-thirds of all books in libraries were destroyed and sixty per cent of the country's educational structure was wiped out.

The same tragic pattern of misery and want is repeated throughout the war-ravaged

countries of Europe and the Far East.

The situation is not, however, one of unrelieved gloom. The fifteen countries whose problems are discussed in the Book of Needs have not been idle; nor are they passively waiting for foreign help. Governments and national voluntary organizations are exerting every possible effort towards the reconstruction and rehabilitation of their own countries. But without outside help they cannot hope to accomplish all that still remains to be done.

The book closes on a note of urgency, with the following words:

“Much has been done, much is being done to help the war-devastated countries in their immense task of educational, scientific and cultural reconstruction. Much remains to be done. It is now two years since the war ended, but so great was the havoc wrought by the most terrible war in history that no country can yet be said to be within sight of real and total rehabilitation.”

(The Book of Needs, Unesco, Paris 1947. 315 pp. \$1.00 or 5 s.)

The UNESCO  
Courier of  
March 1948.

provide education for the 200,000 refugees of school age in the Middle East. Another important activity was the aid provided to homeless children. In Europe, 13 million children were made homeless by the war, and the number in Asia ran into tens of millions. UNESCO helped to create “The International Federation of Children’s Communities”, coordinating the 200 children’s communities for war orphans, established in Europe during the immediate post-war period.



↑ UNESCO participates in the reconstruction effort.  
Photo from: *The book of needs*, UNESCO, 1947.  
↓ Children in Swiss village of Pestalozzi.  
Photo UNESCO.



Looking back

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The UNESCO  
Courier,  
May 1948.

## AT PESTALOZZI VILLAGE

# War Orphans Are Learning To Smile Again

**WHEN** a group of Polish children, orphans of war, were brought to the Children's Village of Pestalozzi in Trogen, Switzerland they were housed in a shelter the same kind as at which found several Germans. Their distress was so great when they realized that they could attend the school and attend to their own needs.

After a few weeks, however, in the friendly and general atmosphere of the settlement they were able to look towards the best of their future under national laws.

This step, brought back to life by members of the United Nations who recently visited Pestalozzi village, is an example of one of the many small steps by which the authorities of the settlement are endeavoring to eradicate the nationalistic prejudices inherited by the war.

The actual commission of the Village of Pestalozzi began in the spring of 1948.

From its first date, Walter Rutten Curt, a Swiss national, has published his idea for the international settlement and with the aid of Mr. Otto Brunt, Secretary General of the League of Nations, money had been raised, an office was set up, and materials shipped to start a model village.

In August, 1948, the New Education Fellowship supporting the idea of the settlement proposed that a group of 200 children should be sent to Switzerland to test the feasibility of the project.

By March, 1949, thirteen temporary houses for 200 children were established.

Paul J. Hays, of the Institute of Education, London, International Union of Scientific Experts in

meeting and activities is expected that knowledge of great benefit to all psychologists and educators will be gained which eventually may lead to the eradication of racial differences in other countries.

The children who have been brought from many countries including Germany, have entered the settlement and it is expected that it will take a long time and great patience before they reach a normal level. Their experiences are recorded in their papers, which show and give a picture of their life. Their progress and position under the power of discipline and honor which they have inherited.

Support for the village, has been obtained mainly from voluntary contributions and help. People from all over the world have come at voluntary help for carrying out the work and during the 15 months of its existence, the Government has received about \$200,000.

Pestalozzi village has the type and spirit of the United Nations. Through the International Union of Educational Sciences of the Organization, voluntary donations have been received in the village.

In addition, Swiss will probably receive this July, a conference at Pestalozzi of Children's Villages of the Pestalozzi Village in Trogen, Switzerland. The conference will study the best methods of retraining children in normal life.

Photos © UNESCO

3 November 1958:  
UNESCO's new buildings are officially opened

# A symbolic modernity

**U**NESCO's special mission – to build peace on the foundation “of the intellectual and moral solidarity of mankind” – called for a grand architectural statement. This was achieved, according to Luther Evans, the Organization's then Director-General. At the opening of the new building, he praised its “harmony” which, he said “attains the purity of a symbol”.

The two years of surveys and research before actual construction began included broad cooperation between the greatest architects of the time – Walter Gropius (United States), Le Corbusier (France), Ernesto Rogers (Italy), Sven Markelius (Sweden) and Lucio Costa (Brazil).

The planners conceived a big work of art and from the beginning the architecture was blended with

paintings, sculpture, tapestry and other artistic forms. Control of the project was given to three architects. Bernard Zehrfuss (France) was in charge of the overall planning. Marcel Breuer (United States) conceived the main building in a Y-shape and the Conference Hall in the shape of an egg. Luigi Nervi (Italy) designs the 72 ribbed beton brut pillars on which the main building rests.

UNESCO finally moved into its new home on 3 November 1958, on a three-hectare site donated by the French government at the Place de Fontenoy, next to the École Militaire and not far from the Champs de Mars – “in a quintessentially French landscape” as Evans put it.

*Text written by French journalist Jacques de Barrin in June 2001, shortly before his death*



Gallery

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## Online visit

UNESCO Headquarters buildings and the art works they contain can be seen at the website:  
[www.unesco.org/visit/fr/frames/v4/build.htm](http://www.unesco.org/visit/fr/frames/v4/build.htm)



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Photos © UNESCO



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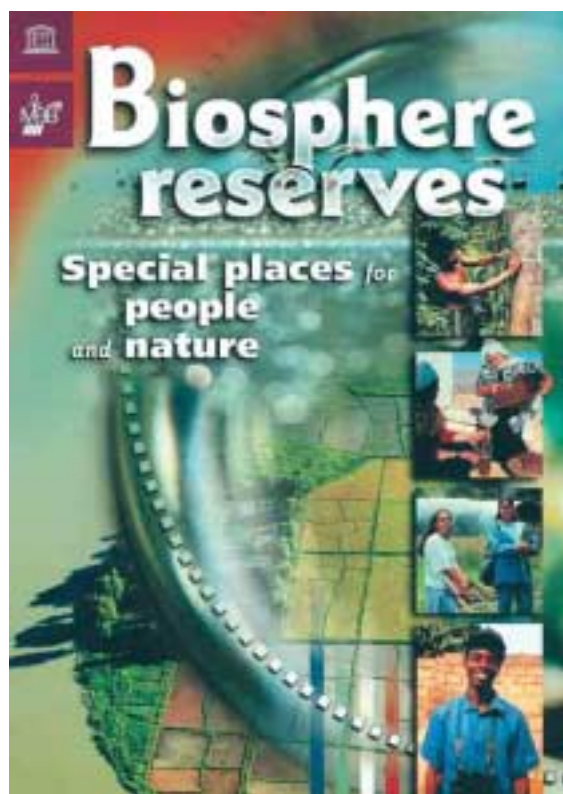
↑ Marcel Breuer, Luigi Nervi et Bernard Zehrfuss.  
 ↗ "A grand architectural statement"  
 → Looking out onto the main conference room  
 ← The "purity of a symbol"



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# Biosphere reserves

Special places for people and nature



UNESCO  
Publishing

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**Thirty years ago**, an international group of ecologists began experimenting with a radical new concept, sustainable development. But instead of debating the merits of the concept and its tools in university halls or institutes, they set up a series of “open-air” laboratories or biosphere reserves through UNESCO’s Man and the Biosphere (MAB) programme. Those testing grounds now span thousands of kilometres, from the Egyptian desert to the tundra of Greenland. Moreover, the importance of the original experiment intensifies daily, with practically every plant species or water source affected one way or another by unbridled population growth and economic consumerism.

“**Biosphere Reserves – Special Places for People and Nature**” traces the progress and pitfalls of MAB’s quest to develop the concept and tools of sustainable development. By recounting the history of MAB, the authors take a critical look at conservation. In the not-so-distant past, colonial and romantic notions of pristine landscapes were used to brand indigenous peoples as enemies of reserves from southern Africa to northern America. Yet today, growing respect for indigenous land rights takes on an ecological dimension as scientists find that cultural diversity plays an essential role in preserving biodiversity. The book provides several examples in which biosphere reserves play pivotal roles in current environmental debates.

For example, the number of species threatened with extinction far outstrips resources available for conservation. As a result, many ecologists are looking at the MAB network



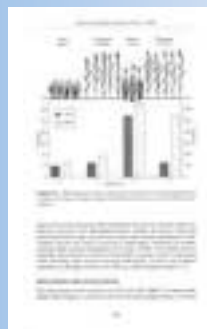
In the southern region of the Czech Republic, the Třeboň Basin has been shaped by human activities for more than eight centuries. The result is a diverse semi-natural countryside – a mosaic of more than 500 artificial fishponds, deciduous and coniferous forests, meadows, fields and wetlands crossed by numerous small streams, canals and dykes. Inscribed on the list of UNESCO's world Network of Biosphere Reserves in 1977, Třeboň is also one of about 60 reserves worldwide that are part of the Ramsar Convention on Wetlands.

This volume of the Man and the Biosphere series, renowned for its scientific rigour and precision, presents the major research findings of nearly one hundred researchers studying at Třeboň over the last few decades. These scientists have worked at a wide range of different disciplines, space and time scales as well as levels of biological complexity, from the cellular to the ecosystem. Their research findings are grouped in five sections: the key role of wetlands in the Třeboň Basin; fishpond management and its ecological consequences; the wetlands surrounding an ancient man-made lake; marginalized mires and peatlands; and future prospects for the Třeboň wetlands, including their ecological and socio-economic functions.

**Edited by J. Květ, J. Jeník and L. Soukupová**  
**2002, 495 pages, 101 €**

## Freshwater wetlands and their sustainable future

*A case study of the Třeboň Basin Biosphere Reserve, Czech Republic*



UNESCO  
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to contribute to the protection of “biological hotspots”, where exceptional concentrations of endemic species are undergoing major loss of habitat. However, other experts fear that by focusing on hotspots, we may indirectly give the green light to ravage or neglect areas surrounding areas, which require protection.

This book will serve as a useful guide for anyone involved or interested in the MAB network- from national leaders to research students and even local farmers. After laying the analytical and historical

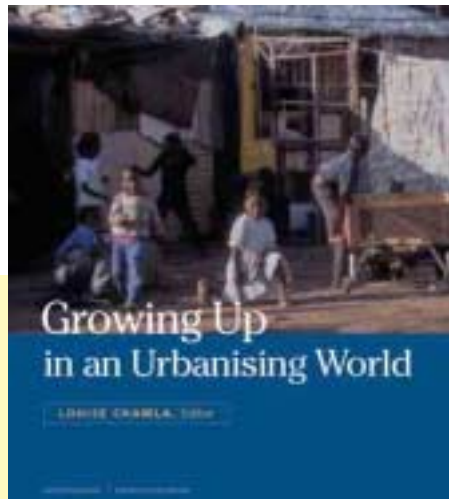


foundations of the MAB concept as well as major environmental conventions, the book presents concise portraits of diverse reserves to highlight accomplishments as well as difficulties encountered in promoting sustainable development in different socio-economic, cultural and geographic contexts. The Maya Biosphere Reserve of Guatemala, for example, has been engulfed by a steady stream of poor settlers in search of land, which threatens the fragile ecology, economy and

social relations with the indigenous population. A major effort is now underway to diversify local income. Other reserves offer important lessons on rehabilitating degraded ecosystems, such as the mangroves of Can Gio in Viet Nam. After 25 years of intensive efforts to recover this delicate ecosystem, national and local authorities are now trying to integrate protective measures with plans to enlarge local fisheries.

From the monitoring of invasive alien plant species to long-term studies on forest chimpanzees, the book shows how communities and leaders of the reserves have dealt with very different financial resources. Canadian authorities use the latest satellite images to track landscape changes, while in western Africa, reserves are investing in solar-powered ranger stations and health clinics for local communities. Local herders in both the Bookmark reserve in southern Australia and the Xilingol reserve of Inner Mongolia are working together to find ways to better manage semi-arid grazing lands. Innovative twinning projects of this kind highlight another key MAB ingredient: regional and international co-operation.

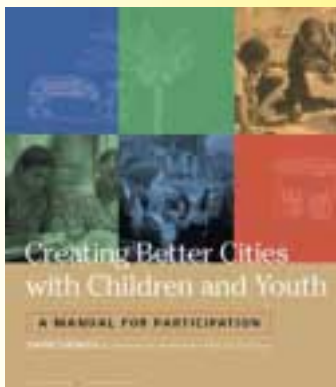
**Compiled and edited by the UNESCO-MAB Secretariat**  
**2002, 208 pp., 16 €**



## Growing Up in Cities

Children have the right to express their views freely in all matters affecting them, states Article 12 of the Convention on the Rights of the Child. A right that is almost never enforced as far as their urban environment is concerned, where more than half the children of the world live. This is a pity, because when children are given a chance to express their views and to participate in urban decision making, as the Growing up in Cities Project did in eight countries between 1996 and 1998, they know better than adults the local barriers and resources that shape the quality of their

life. And they speak up for secure housing, affordable education and transportation, freedom of movement, accessible green spaces and recreation places, and safe, animated street life. These are the qualities of better cities for everyone. By taking part in decisions, young people also have opportunities to break down misunderstandings between generations and learn essential skills of citizenship, as shown with the examples of Melbourne and Johannesburg, two cities which have integrated the children's recommendations.



**Growing up in an Urbanising World** analyses the GUIC UNESCO project, developed through the MOST programme (Management of Social Transformations). The book is accompanied by a practical manual based on concrete examples, "Creating Better Cities with Children and Youth". It explains how to develop and implement a plan of action so that the participation of children and youth in local policies can become a sustainable reality.

**Growing Up in an Urbanising World**, edited by Louise Chawla, UNESCO Publishing/Earthscan, Paris/London, 254 p. 2002.  
**Creating Better Cities with Children and Youth**, David Driskell, UNESCO Publishing/Earthscan, Paris/London, 208 p., 2002.

For more information:  
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## Atlas of the World's Languages in Danger of Disappearing

New revised edition

Close to half of the 6,000 languages spoken in the world are doomed or likely to disappear in the foreseeable future. The disappearance of any language is an irreparable loss for the heritage of all humankind. This new edition of the "Atlas of the World's Languages in Danger of Disappearing", first published in 1996, is intended to give a graphic picture of the magnitude of the problem in many parts of the world. The reader will find a comprehensive list of languages in danger and a concise summary of the worldwide language endangerment situation.

By Stephen A. Wurm

Cartographer:

Ian Heyward

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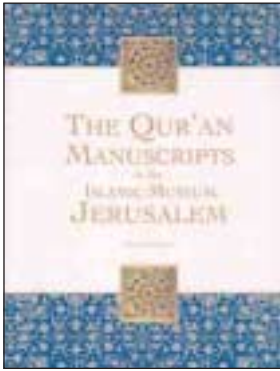
13,72 €

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**STOP PRESS:** *GUIC* has won the prestigious 2002 EDRA/Places Research Award. EDRA is the Environmental Design Research Association and Places is an international environmental design journal, both based in the USA. *GUIC* was selected ahead of 115 other candidates.



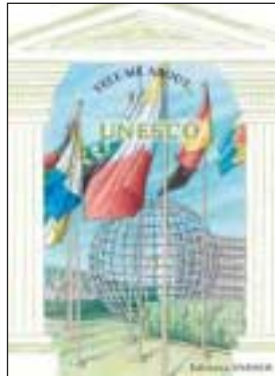
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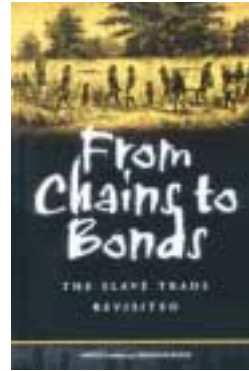
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