

U N E S C O

SOURCES



No 87 - FEBRUARY 1997

**UNDERWATER
HERITAGE**

**A TREASURE TROVE
TO PROTECT**



SCARY STORIES

Jacqueline Cretté
Dialogue and Cooperation Association
Paris (France)

✉✉✉ I was particularly interested in *Source's* issue "The Trials and Tribulations of Teaching" (No. 82). Our association brings together teachers from around the world, especially primary school public teachers. We regularly hear stories of the growing problems facing them: lower and lower salaries, discredited teachers, badly equipped schools... The current trend of privatization is affecting the most vulnerable groups; poor parents can only send their children to badly maintained and overcrowded classrooms, as is certainly the case in India and Africa.

INTERESTING BUT SAD

Mokhtar Ben Cheham
Student
Metlili (Algeria)

✉✉✉ I read with interest the last few issues of your magazine, in particular the dossier on teachers (*Sources*, No. 82) which was both interesting and saddening. I would like to thank you for your excellent work.

I also appreciate your editorials. The spirit in which they are written and their contents offer a calming and rare insight into the latest problems and issues.

KEEP IT UP!

V.Bhunjun
Secretary of Northern UNESCO Club Action Network
Triolet (Mauritius)

✉✉✉ *UNESCO Sources* reflects the Organization's activities at the grass-roots level and thus addresses a most valuable partner. It keeps one updated with UNESCO's orientation and so helps with efficient planning and effective action on the part of UNESCO clubs. Keep it up!

THE REGULARS

Juan Gonzalez Diaz
President of the "Ramon Rubiera" Centre
Los Palos (Cuba)

✉✉✉ The information provided in your magazine is always well received. The members of our information, documentation and literature research centre are regular readers.

A MILESTONE

Nicolas Cosío Sierra
Arab-Islamic Study Group
Havana (Cuba)

✉✉✉ I would like to thank you for your excellent editorial entitled, "The Power of Symbols", in issue No. 83. As you pointed, Haram El-Sharif is one of Islam's three holy sites. Jerusalem, the seat of monotheism, has always respected the holy sites of Islam, and showed consideration to Judaism and Christianity.

Other international institutions and organizations have hushed up the profanation resulting from the state of Israel's construction of the archaeological "tunnel" heading to one of the most sensitive and mystic places in Jerusalem. In this light, your editorial, which reaffirms UNESCO's postulates, is like a milestone for the understanding of history by future generations.

LOOKING AHEAD

Olga Dassiou
Archaeologist
Thessaloniki (Greece)

✉✉✉ Your magazine offers a modern view on the subjects raised. I particularly like the "Focus", "Planet" and "Looking Ahead" sections.

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PARADOXICAL

The demonstrations that ignited the Republic of Korea in recent weeks made headlines around the world. Because of their magnitude, of course, but also because the country has been so economically successful that such social discontent came as a surprise.

After the war, South Korea figured among the world's poorest nations. Half a century later, and after several incredible years where the annual growth rate nudged 10% (and is still a healthy 6%), the republic is one of Asia's four "dragons", a member of the much envied club of "newly industrialized countries", whose big companies can offer salaries on par with those paid in the United Kingdom. The press is thus asking: "does the rigidity of the labour market pose a major obstacle to the return of buoyant growth?" However, it has largely ignored another major question, valid in South Korea as in many other countries: why should employees give up hard-won advantages while the economy is booming?

The main argument is that globalization, which the Republic of Korea has certainly reaped the benefit from, is today working against it: elsewhere, on its doorstep and further afield, labour can be had more cheaply. If this argument, which is widely given credence and especially in the industrialized world, is accurate, the effects will be devastating. For there will always be cheaper labour elsewhere. And this because the combination of globalization and scientific and technological progress engenders say some, and accompanies say others, an extension of extreme poverty by demanding ever cheaper methods of production.

In other words, unchecked global-scale competition has its bright and dark sides. Undoubtedly a powerful springboard for growth that can generate enormous wealth, it will, sooner or later if maintained in its present form, align conditions and salaries to those that the poorest are forced to accept. And this knowing that there will always be even poorer supply of workers available. Paradoxical, no?

René LEFORT

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BOOKS

THE PROTECTION OF CULTURAL PROPERTY IN THE EVENT OF ARMED CONFLICT

An essential reference for decision-makers, policy-planners and other experts dealing with cultural property, the book offers a detailed but clearly written analysis of The Hague Convention 1954 - still the only universal legal instrument in this area.

The author begins by tracing the convention's roots, looking back to the 1863 Lieber Instructions insisting that American armed forces try to spare "charitable" property like that belonging to hospitals and "classical works of art, libraries, scientific collections or precious instruments".

Reviewing the pre-paratory conferences and consultations, the book moves on to the convention itself with an article-by-article commentary also focusing on the rules for applying it and its protocol - illustrated by references to source materials and examples of how and under what conditions the convention has been invoked in the past 40 years.

● **The Protection of Cultural Property in the Event of Armed Conflict** by Jiri Toman, Dartmouth/UNESCO 1996, 525 pp., 220 FF.

COMPACT DISCS

THE TRADITIONAL MUSIC OF HERAT

"Khorasan is the oyster-shell of the world and Herat is the pearl," reads a proverb, telling of the 15th century Persian



capital of a vast empire under Timurid rule. Since then, the city has experienced a steady decline, punctuated by violent conflicts, like the Soviet bombing campaign in 1979.

However, traces of its golden past are still found in traditional forms of expression, like music. The music of Herat is a rich blend of genres. While that of the 15th century Timurid court was closely related to the contemporary Arab-Persian music of the Middle East, 20th century trends found inspiration in Hindustani music. Wedding dances, chants to the Prophet Mohammad, prayer calls and lullabies, the CD's 14 recorded pieces are played mainly on the 14-stringed *dutâr* (long-necked lute), the hand-pumped Indian harmonium and *tabla* drums.

● **The Traditional Music of Herat. Musics and Musicians of the World.** UNESCO/AUVIDIS. Price: 145 FF.

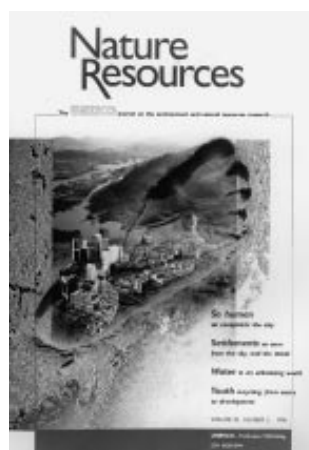
PERIODICALS

THE UNESCO COURIER

Contrary to what many think, television has not killed radio - on the contrary, millions of people around the world depend daily on this media. Entitled, "Radio - A Future for Sound", the February issue of *The Courier* looks to communication specialists, programme directors, journalists and researchers in presenting some "chronological milestones" for this media born just 100 years ago. Used as a mouthpiece to spread lies, as seen in the Soviet Union during the 1970s, the radio can serve as a lethal "weapon". But it can also be an essential building block for democratic development, as seen with the rise of community stations enabling people excluded from the "information superhighways" to make their voices heard.

NATURE AND RESOURCES

Take a step back to consider our "ecological footprints" - meaning the amount of land



needed to provide for our consumption needs and assimilate our waste. Urban footprints usually span more than ten times the city's surface area. Indeed, if everybody lived like today's North Americans, it would take at least another two planets to produce the resources needed and absorb the waste of such a space-hungry lifestyle. This issue looks at our urban footprints in exploring cities as ecological systems dominated by human activity. The issue (Vol. 32, No. 2) presents a series of 15 brief articles written by researchers, educators and planners on the ways science may help to resolve urban challenges like poverty, disease and environmental degradation. Flying with the photographs of Yann Arthus-Bertrand, we take an aerial view of settlements from Kenya to Oman, before hitting the streets to explore the colourful social fabric enveloping city-life, from the *shared space* of Abidjan, to the *laminated* Sao Paulo and the *frayed* places of Sofia. The dossier closes with a look at water resource management and youth recycling activities in diverse cities.

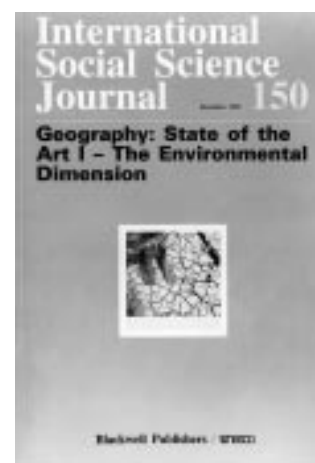
INTERNATIONAL SOCIAL SCIENCE JOURNAL

Geography, "a subject in considerable ferment", is the focus of the latest issue (No. 150), the first of a two-part series looking at the environmental dimension. Six authors describe how this field has gone about organizing knowledge in a world in which

relations between people and the physical environment are in constant flux.

The articles explore the major changes that have transformed this discipline - from collapsing intellectual "partitions" artificially dividing human and physical geography to new cartographic techniques like remote satellite sensing.

The issue also examines the impact of the information revolution in offering new insight in understanding the ways people are transforming the planet's surface, before envisioning a future world shaped by climate change in anticipating societal responses to looming environmental dangers.



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JEAN-BERTRAND ARISTIDE: THE FORCE OF CHARACTER

Before the fevered energy of his penniless supporters demanding justice or the glazed look of diplomats attending the award ceremony of the biennial UNESCO Prize for Human Rights Education, Haiti's Jean-Bertrand Aristide knows how to work a crowd. Instead of letting rip with fire and brimstone, the former priest seems to deliberately keep his voice down, using hushed tones not to address his audience, but to get people to listen.

"On the threshold of the third millennium, one of the challenges we must face consists of sharing with everyone the bread of education. We cannot remain passive



(Photo UNESCO/Fabien Charaffi)

before the people (of Haiti), 85% of whom are illiterate, but fortunately, not stupid," said the former president on 8 January at Headquarters. "We must educate the children and speak to them of their rights, but at the same time we will have the joy of listening to their voices," he said in accepting the prize worth \$10,000, which the Aristide Foundation for Democracy will use for a new

building to house Radyo Timoun, a radio station run by and for the country's street children and impoverished youth.

Recounting the injustices of a world in which the poorest countries devote twice as much of their budgets to the military rather than to health and education while the richest fail to reinvest cold war dividends in peace and development, Mr Aristide recited what the sophisticated audience in Paris could probably have recounted by rote. But he mesmerized - with the force of his character overshadowing his unimposing physique.

Born to a poor family in 1953, he should have joined the ranks of Haiti's illiterate peasants. Instead, he earned a university degree in psychology, became fluent in five foreign languages while pursuing his theological studies with the Salesian order. But he made a major detour - finding inspiration not just in the scriptures but the slums of the poorest country in the western hemisphere.

The combination proved explosive - resulting in a fiery brand of activism and faith which left his church in ashes after an attack by the Tontons Macoutes and his expulsion from his religious order. It also led to his presidential election, exile and dramatic return in 1994.

Today, another force seems to have taken hold - a political sophistication leading him to once again make history as the country's first democratically elected leader to constitutionally hand power over to another in February 1996.

Amy OTCHET

KEVIN MACKS: YET TO LOSE A ROOF

On Christmas eve 1971, Althea roared into Townsville, Australia, leaving a trail of damage amounting to \$65 million. As the cyclone screamed, Kevin Macks huddled with his wife, three young children and dog in the hallway - the most secure place in the house. "We were just as frightened as everybody else," recounts the architect, "terrified in fact". But Althea singled Macks out, leaving him as "the bloke who didn't lose a roof". All of the buildings he designed (through his private firm) remained standing, a claim not one other building professional in the area could make.

The storm also offered proof of his long-standing argument: "that making a building secure from cyclone or strong wind damage is relatively easy and adds only six % to the overall cost". Macks began organizing workshops on "how many nails to bang in and where", which didn't just attract the locals but international experts trying to cope with the region's tempestuous climate - from cyclones in Sri Lanka to floods in China.

Working as a consultant with UNESCO since 1985, Macks has added landslides, earthquakes and even bushfires to his repertoire, sharing his expertise in reducing the risks of catastrophe by offering training classes, architectural designs, evaluations and books like "The A.B.C. of Cyclone Rehabilitation" (see Sources, No. 86). "I work like a conduit, translating the engineer's high falutin' wind codes to local craftspeople. Architects and builders have a similar language. So we can go to a country, keep

our eyes open and quickly understand local building methods instead of trying to implant some copy-cat designs. You don't take a magazine and pick a roof shape on page 94 - do this and you end up with a camel with six humps."



(Photo © all rights reserved)

For Macks, Bangladesh has presented the greatest challenge and satisfaction. He has been working with UNESCO and the government for more than a decade to train people to design safe schools and other public buildings. "The poorer villagers live in mud huts with thatch roofs which melt in big floods. So during a storm, a safe school could serve as a haven for the entire village." In 1970, floods there claimed some 400,000 lives. Yet in 1991, the death-toll was less than half, even though the population had doubled. "The lesson out there is hope," he says. "People say, 'Give up! You can't beat it.' But I say, if Bangladesh - one of the poorest countries in the world - can make such progress in 20 years, why can't you?"

A.O.

● The President of Guatemala **ALVARO ARZU** and Guatemalan guerilla leader **ROLANDO MORAN** are the winners of UNESCO's Felix Houphouët-Boigny Peace Prize, awarded on January 22nd in recognition of

their role in ending their country's 36-year old civil war. The jury, said its president, Henry Kissinger, hoped that the internationally backed peace agreement signed last December 29th "would be the model

that should be followed everywhere where civil and ethnic conflict are causing such enormous human suffering." The 800,000FF (about \$160,000) annual prize, named after the late president of Côte

d'Ivoire, honours "people, institutions or organizations which have contributed significantly to the promotion, research, safeguarding or maintaining of peace".



THE MECHANICAL ARM OF A REMOTE OPERATED VEHICLE (ROV) RETRIEVES OBJECTS FROM THE TITANIC, NOW OWNED, BY DIRT OF THE "FINDERS KEEPERS" LAW BY THE MANHATTAN-BASED RMS TITANIC, INC. (Photo © RMS Titanic, Inc.).

UNDERWATER HERITAGE, A TREASURE TROVE TO PROTECT

Modern technology has opened the gates of a new world under the Earth's oceans; a world that has preserved several chapters of human history in the form of harbours, cities, temples, statues and shipwrecks that have been sunk after losing a battle with the elements or by the cannon fire of an enemy (see below). However, this technology, brought to the world's attention with the discovery of the Titanic (p. 14) is not only being used to explore this realm, but also to pillage it. Sites are worked over by treasure hunters - from unwitting sports divers and fishermen to major commercial outfits led by adventurers such as Bob Marx (p. 9). Profiting from a less than watertight legal situation (pp. 10-11) they remove valuable artefacts and destroy evidence essential for the archaeologist to unravel the story behind these sites and which can yield up so much about our past, as witnessed by the excavation of the Mary Rose (pp. 12-13), the Wasa (p. 15) and the Alexandria Lighthouse (p. 16). UNESCO has been called on by the archaeological and legal communities along with numerous Member States to help rectify this situation by preparing an international convention for the protection of this vast underwater treasure trove.

In 1589, a flotilla of English corsairs commanded by the Duke of Cumberland sank the Nuestra-Señora de Guia off the coast of Terceira in the Portuguese Azores Archipelago in the mid-Atlantic. The Spanish galleon had taken on a cargo of gold in the Mexican port of Veracruz and was on its way home. This was the era when Spanish and Portuguese galleons regularly returned from the New World and the West Indies laden with gold, silver and precious stones, making an obligatory stopover in the Azores before reaching their homeport on the Iberian peninsula.

"The Nuestra Señora was only one of hundreds of ships registered as sunk in Portuguese waters during this golden age of adventurers," wrote journalist Javier Garcia in a recent article published in the Spanish daily, *El País*. According to records at the National Museum of Archeology in Lisbon, some 850 ships have gone to the bottom of the seas surrounding the Azores since 1522. At least 90 of them were Spanish galleons and another 40 of them Portuguese Indiamen.

These wrecks constitute *"one of the most outstanding underwater archaeological sanctuaries on the planet,"* Garcia continued, time capsules that could provide a remarkable view of life as it was back

then, complete with all of its trappings. The archaeologists know this. But so do the treasure hunters, who now have access to incredible technology allowing them to reach depths that up until recently the oceans had forbidden to human beings.

At least six international companies, representing the treasure hunters' big league, set up base in Portugal with the aim of exploiting this immensely rich heritage, expecting to profit from laws passed in 1993 that, according to Portuguese archaeologist Francisco Alves, welcomed them in. UNESCO expressed its concern at the time and the archaeological community girded itself for battle. The laws were effectively blocked and, according to Alves, are about to be changed.

THE BOTTOM LINE

But none of these companies would blatantly say they were in it for the booty. Thus, a *"better knowledge of our past, the way ships were built and armed; an understanding of historical and cultural development; and the contribution of important archeological objects to national and regional museums,"* is the stated goal of the Arqueonauticas company, directed by Vice-Admiral Isaias Gomes Teixeira. However the bottom line is that these *"explorations"*

must be paid for, and they don't come cheap. *"You can't do archaeology and hunt for treasure at the same time,"* argues M Paulo Montero, a marine archaeologist from the Angra Do Heroismo Museum in Terceira. *"Treasure hunting is driven by commercial logic; time is money, so they have to work quickly to raise as many artefacts as possible and sell them. An archaeologist can spend 10 years or more studying and excavating a ship, conserving its objects and publishing findings. We gain an enormous amount of information and knowledge from this work. With treasure hunters, all of this is lost; records are not kept and artefacts are spread around the world in private collections. This is tragic, for humanity as a whole and especially for Portugal; where there is no knowledge, there is no memory."*

A similar situation exists in the Philippines, another stopover for the Spaniards, and an important maritime trade link with Southeast Asia for more than 1,000 years. *"We cannot even begin to count the wrecks in Philippine territorial waters ... it would not be surprising if there were thousands of them,"* says Wilfredo Ronquillo, head of the archaeology division of the national museum in Manila. *"The Museum has a permit system for joint underwater*

archaeological projects with organizations or companies wanting to do so. Under this system one-of-a-kind items go to the government and the rest are divided on a 50-50 basis. The weakness is that there is very little control. Some enterprising foreigners even contact fishermen and show them tradeware ceramics they are interested in buying. Now a lot of fishermen are looking for these underwater cultural resources and destroying sites as a result."

The same story is heard in the Caribbean, and the seas surrounding the countries of Southeast Asia, off Viet Nam, Malaysia and Indonesia. In Turkey, a survey conducted in 1974 concluded that there was no classical age wreck off its coasts that had not been interfered with.

"DID I HEAR \$16 MILLION?"

That treasure hunting has become big business is further evidenced by sales at the international auction houses. Christie's has become the world specialist in what it calls "material recovered legally or under license from historical shipwrecks". In 1986 it raised \$16m from the sale of 3,786 lots of Chinese porcelain and gold ingots from what was called the "Nanking Cargo", salvaged from the Dutch-flagged *Geldermahlsen*, wrecked in 1752 in the South China Sea. And in 1992, the sale of porcelain known as the "Vung Tao Cargo," raised from a wreck off the southern coast of Viet Nam, brought in almost \$7.2 million.

An increasing number of countries are becoming aware of the urgency of the situation. But the means to contain treasure hunters are limited and the issues involved complex. To fill the gaps and provide a framework for dealing with these issues, UNESCO, the UN Office of Legal Affairs, Division of Ocean Affairs and the Law of the Sea (DOALOS) and the International Maritime Organization (IMO) have begun working on an international convention to protect underwater cultural heritage. "This is not a new field for UNESCO," says Lyndel Prott, the head of the Organization's International Standards Section. "In the late 1950s we expressed concern about underwater heritage and set out guidelines for underwater archaeological excavation, essentially covering activities in inland and territorial waters of states. Technological developments since then, and the spread of sport diving have greatly increased the threat to underwater sites to the point where further regulation is urgently needed."

The International Law Association (ILA) has presented a draft to UNESCO which could be used as the basis for an eventual convention. But what exactly would it aim to protect?

According to the ILA draft "underwater cultural heritage means all underwater traces of human existence including sites, structures, artefacts and human remains, together with their archaeological and natural contexts, as well as wrecks,

LEAVE IT
THERE,
SAY THE
ARCHAEOLOGISTS
(Photo ©
SYGMA).



such as vessels, aircraft, other vehicles or any part thereof, its cargo or other contents, together with its archaeological and natural heritage."

"This definition was designed to help administrators and courts to decide whether something is covered by the convention," explains Graham Henderson, Chairman of the International Council on Monuments and Sites' (ICOMOS) International Committee on Underwater Cultural Heritage, and Director of the Maritime Museum of Western Australia. However it has its limits. "It only applies to heritage which has been lost or abandoned and submerged for at least 100 years. It would be up to states parties to introduce national legislation covering sites underwater for less than this. But it would leave the *Titanic*, which sank in 1912, unprotected," said Henderson. "Neither does the draft apply to any warship, military aircraft, naval auxiliary, or other vessels or aircraft and their contents owned or operated by a state."

The *Titanic* also illustrates another major problem, that of heritage sunk in international waters. The ILA draft proposes three solutions: one is for states to control the activities of their nationals; another is to forbid the use of their ports to service vessels engaged in excavation by improper methods; and the third is to for-

bid entry to their territory of artefacts improperly raised.

In terms of the types of activities that can be carried out on a site, the ILA suggests that as a first option, underwater heritage should be preserved *in situ*. It proposes that public access be encouraged, and that non-destructive techniques, non-intrusive sampling, be given preference to excavation. It insists that investigation be accompanied by adequate documentation.

The treasure hunters argue that this approach benefits very few, that while a wreck lies buried no-one gets to share its knowledge or contents, and that archaeologists, research institutes and governments don't have the means to pay for excavation, especially in deep water.

However the public interest generated by the discovery of such a dramatic slice of history can often overcome these problems. Consider Turkey, where underwater excavations at Bodrum led to a tripling of the region's population and made it one of the country's most visited sites; or the *Wasa* wreck, which is the biggest tourist drawcard in Sweden bringing \$300 per tourist per day to the national economy; the Western Australian Maritime Museum with a quarter of a million tourists per annum; and the wreck of the *Mary Rose* in the U.K which has been visited by more than four million people. On the other hand, the commercial recovery of the *Geldermahlsen's* porcelain not only led to the destruction of the wreck, but the \$16 m raised from the cargo's sale was a one-off profit. Had it been placed in a museum, it may have raised this amount annually for the local community, and allowed the international community to share the discovery of this window on the past.

Sue WILLIAMS

MARX IS THE NAME, TREASURE'S THE GAME

He's been tagged "plunderer", "scoundrel", "swindler", but also "the most important explorer of our times" with "enormous experience" and "fabulous" knowledge" of Spain's colonial period.

Bob Marx, the world's most successful treasure hunter, is a man marine archaeologists love to hate: a reason in his own right, they would say, for a convention protecting underwater heritage.

Marx, 60, has spent 40 years scouring the ocean bottoms for the treasure galleons that sailed between the New World and the Old and the trading vessels that brought spices from Asia to Europe as well as great cargoes of bullion and porcelain.

"I have discovered more wrecks and raised more treasure than anybody else," he boasts. Few would contest this. By his own count he has "looked at" some 2,500 wrecks scattered around the globe. He has worked in 62 countries, often as a consultant for the government and national or maritime museums, and was among the first to use high technology on wrecks. Locked away in a cabin in remote Saskatchewan (Canada), he taught himself old Spanish so that he could study the Spanish maritime archives detailing the routes taken by the treasure fleets and the cargoes they carried. The Spanish government decorated him in the 60s after he reconstructed Columbus' caravel, the *Niña II*, and duplicated the 1492 voyage from Spain to San Salvador.

A DETAIL

A born adventurer driven by a boyhood passion for shipwrecks and nautical history, his CV reads like an Indiana Jones movie script. It lacks however, any formal qualification in archaeology. Marx considers this an irrelevant detail and argues that his vast experience more than makes up for the lack of any diploma.

"When I started there was no such thing as marine archaeology," he says defiantly. "And I worked out pretty quickly that if I wanted to pursue my obsession with shipwrecks and nautical history, I had to find the means to fund such ventures. Working a wreck can cost between \$30,000 and \$40,000 a day. That means private investors who expect a return for their money, and that means a share of the goodies."

He denies allegations of often having taken a larger share of these "goodies" than was his due. "The normal split is 75% for us and 25% for the government in whose

waters we work. The country also gets all unique objects found." At the same time he staunchly defends his methods of excavation and recovery for which he is regularly attacked by the specialists.

"Everybody in this game works with archaeologists these days and they tell us how things should be done. And the technology we use allows for a precision previously unheard of. We can do three dimensional grids of a site, for example, pinpointing exact locations of objects - although this

anything old which one might find under the sea. It has always been my belief that shipwrecks and other underwater finds belong to all of mankind..." he told the US subcommittee on oceanography during a review of America's abandoned shipwreck act in October 1985. A bluff to gain recognition from the archaeological community or win favour (and excavation permits) with governments claim his critics. His determination to get his own way, his contempt of red-tape and "nationalism", the way he

MARX (RIGHT) WITH A DIVER AND A HAUL OF EARTHENWARE WATER JARS RECOVERED FROM A MANILA GALLEON (Photo © Phoenixian Explorations).



is obviously much more difficult when wrecks are spread over several kilometres as is often the case."

Motivated, he says, more by the excitement of discovery and the knowledge gained than by the treasure ("I'm a millionaire, I don't need the money"), he has consistently argued for the protection of underwater cultural heritage. A long list of articles with titles such as "Shipwrecks should belong to the state so valuable data will be preserved", "Why Cádiz must be saved", "The Disappearing Underwater Heritage", admirably present the case for safeguarding wrecks and other sites such as the sunken city of Port Royal in Jamaica (where Marx served as director of excavation for the government in Kingston). He argued, alongside of the "grandfather" of underwater archaeology, George Bass, and explorer-technologist Robert Ballard, who worked on the Titanic, for the rewriting of American shipwreck laws to ensure their protection from treasure hunters. "The concept of 'finders keepers' should never apply to shipwrecks or

uses friends in high places to gain influence (and change laws, as happened in the Azores) is renowned to the point where many governments have now closed their doors to him.

Nonetheless he makes a valid point when he suggests that the archaeological community should work more closely, with and not only better inform people like himself who have access to the technology and finance, but also and especially with sports divers or even fishermen who often don't think twice before lifting a curious object from the seabed.

Just how far he is prepared to go though to adapt his methods of work (both on the diplomatic front and underwater), remains to be seen. When asked what he thought about a convention that basically aimed at curtailing his activities, he gave a surprised laugh, paused for a few seconds and then replied most sincerely "but I work as an archaeologist, why should it affect me?"

S.W.

LEGAL LOOPHOLES...

Present laws do not adequately protect underwater heritage. A brief look at the history of the law of the sea shows why.

Prior to 1958, coastal states enjoyed sovereignty over their internal waters, extending to the low-water line, and over the adjacent belt of territorial sea (in most cases) to three nautical miles from the low-water line. The only other maritime zone over which they had any kind of jurisdiction or control was the contiguous zone, situated adjacent to the territorial sea and of variable breadth. It was not relevant to cultural heritage. At that time, the idea of claiming sovereign rights over the continental shelf was still in its infancy and the area lying seaward of the three-mile limit was generally regarded as the high seas. Under the general principle of the freedom of the high seas, states and their citizens were free to engage in any activities not forbidden by specific rules of international law.

Then, the coastal state needed only to adopt national legislation applicable out to the three-mile limit of the territorial sea to protect specific sites. However, the advent of SCUBA during the Second World War, and its increasing use by divers from the late 1950s, opened up a gap between technology and law which has not been closed.

RESPONSIBLE EXPLORATION

Apart from SCUBA, sonar, remote-operated vehicles, underwater video cameras and manned submersibles have now opened up the whole of the world ocean, including, in particular, the outer continental shelf and the deep sea-bed. It is precisely in these areas that much of the still-to-be explored cultural heritage is situated. For chemical and biological reasons, wrecks in deeper areas tend to be exceptionally well preserved and it is all the more necessary that new law should be put in place to ensure their responsible exploration.

Since the 1950s there have been two major conferences which codified and developed the law of the sea. The Geneva Conference in 1958 produced four Conventions on the Law of the Sea but made no reference to underwater cultural heritage. It did give general recognition to the concept of the legal continental shelf but accorded to coastal states only "sovereign rights" enabling them to explore and exploit the "natural resources" of the shelf, a term clearly excluding cultural heritage.

The second conference was the Third United Nations Conference on the Law of the Sea (UNCLOS III) which produced the UN Convention on the Law of the Sea in 1982. The UN Convention runs to 320 articles but only two of them concern underwater heritage.

Article 149 covers "all objects of an archaeological and historical nature found in the area", that is, the sea-bed of the oceans lying seaward of the outer limit of the continental shelf - a zone for which the Convention established a sea-bed mining regime to be administered by an international authority. Article 149 is a well-

the coastal state to punish treasure hunters who remove objects from the sea-bed of the contiguous zone, which may extend out to a maximum of 24 nautical miles from the coast. Unfortunately, 303 also goes on to say that nothing in the article affects the law of salvage or other rules of admiralty. This, of course, raises considerable difficulties for the substantial lobby which feels that salvage law (which allows the salvor to recover a reward for saving goods "in peril of the sea") should have no place in relation to cultural heritage.

It would be quite misleading to give the impression that no law exists for the

SCUBA
CHANGED
EVERYTHING
(Photo ©
GAMMA/
Brian Roman).



intentioned attempt, based on Greek and Turkish proposals, to ensure that objects found in this area "shall be preserved or disposed of for the benefit of mankind as a whole, particular respect being paid to the preferential rights of the state or country of origin, or the state of cultural origin, or the state of historical and archaeological origin". Although an early draft accorded a regulatory role to the authority, the final version of Article 149 omitted any reference to the authority and no clue is given as to how in practice such objects are to be preserved or disposed of for humanity's benefit.

The only other relevant provision is found in Article 303. This article embodies the admirable - but somewhat general - principle that states have the duty to protect objects of an archaeological and historical nature found at sea and have to cooperate for this purpose. It also employs a very complicated legal fiction to enable

protection of the underwater cultural heritage other than the framework articles of the UN Convention. A great many countries have legislation to protect historic shipwrecks and other relics in territorial seas. More recently, a number of states have assumed legislative powers to control underwater excavation - whether on the continental shelf, the exclusive economic zone or the contiguous zone. The difficulty is that there is little uniformity in this legislation and no consensus on the underlying rules of international law.

Obviously this is an intolerable situation and action is urgently required to close the gap between the threat which technology has created and the degree of protection the law provides.

Prof. Edward BROWN
Director, Centre for Marine Law and Policy
U.K.

...MEAN FINDERS KEEPERS

But how to decide who owns what or whether a wreck has been abandoned? The subject has already been at the heart of several big legal battles.

It is undisputed that states have control over wrecks and sites found in their territorial waters and many exercise it. But this does not mean the state can claim ownership.

Where the state is not involved - in international waters for example - the owner of a wreck may prohibit work on the site or claim any artefacts raised. But who is the owner?

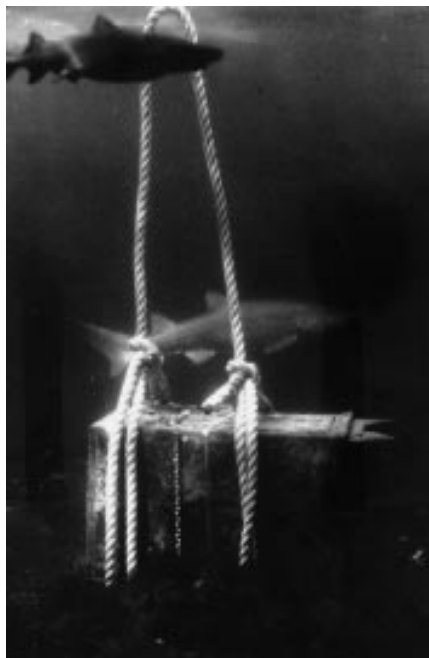
Consider the S.S. *Central America* which sank in 1857 some 160 miles off the South Carolina coast (U.S.A.) with its cargo of gold bullion, then worth a million dollars. She lay at a depth of about 2.4 kms. The remains were located in 1988 by Columbus-America Discovery Group which raised a number of artefacts and a large quantity of gold. Action by the Group in American courts to be declared the owner of the gold was opposed by some 31 British and American insurance organizations who argued they had paid claims made by the owners at the time of the sinking. The court upheld this, even though the documentation was minimal - much having disappeared or been destroyed over the years.

ABANDONED

One question in that case was whether the insurance companies had abandoned their property. The US court held that they had not, taking the view that abandonment can only be shown by an express statement by the owner to that effect. Columbus-America were thus salvors. The court held that they should get 92.7% on the sale of the insured gold and could keep all the other gold and artefacts.

For over 100 years the insurers had done nothing to recover the gold. For some, that in itself would constitute abandonment even though for most of that time the technology did not exist to reach the wreck. In the case of the *Lusitania* a British Court held that the contents of this famous wreck had been abandoned following 67 years with no attempt at recovery. Spain has never enforced title to the wrecks of its treasure fleets in the Caribbean or the Armada wrecks of 1588. But The Netherlands claims, as successor in title, all wrecks of vessels that belonged to the Vereenigde

Oostindische Compagnie (VOC, i.e. the Dutch East India Company). This became a matter of issue in Norway in the early 1970s following the discovery of gold and silver coins from the *Akerendam*, which sank off Runde Island in 1725. The government of The Netherlands claimed it still had title to the wreck and eventually a negotiated settlement resulted in it getting 10% of the coins.



MAKING A CLAIM?
(Photo © SYGMA/O. Franken).

The same issue arose when the remains of VOC ships were found off Western Australia. The Australian government considered that the passage of 300 years or so without any attempt to locate the vessels constituted abandonment. The Netherlands disagreed. The issue was resolved by the 1972 Agreement between Australia and The Netherlands Concerning Old Dutch Shipwrecks. Under this, The Netherlands transferred "all its right, title and interest in and to wrecked vessels of the V.O.C. lying on or off the coast of the state of Western Australia and in and to any articles thereof to Australia". An annex to the Agreement provides for distribution of excavated material and its reassembly if necessary for research.

These issues disappear as one goes further back in time. It is unlikely that an

owner will come forward for a Phoenician galley! But there can be other problems, particularly if the wreck lies outside territorial waters or another zone which a state claims to control (for example, Australia and Ireland claim control of wrecks on their continental shelves).

What happens if two groups of excavators claim to have discovered the site and both want to work on it independently? One or both groups could go to a court and ask to be declared the owner of any artefacts raised from the site. For example, a court in Virginia has conferred salvor-in-possession status of the *Titanic* to R.M.S. Titanic Inc. - an American corporation - and granted it exclusive rights over any artefacts it raises from the wreck even though the wreck itself is hundreds of miles from the territory of the United States of America. In spite of this decision, the corporation could have difficulty keeping persons having no contact with the United States from the site.

WARSHIPS

Many states claim sovereign immunity for their warships, military aircraft and associated artefacts. Broadly, this means that permission of the flag state should be sought before any activity takes place affecting the site, even if it lies in the waters of another state.

This raises a number of issues. For example, how far back in time does it extend and what exactly is a warship? Up until 1856, privateers - private vessels commissioned by letters of marque and reprisal to seize enemy ships and cargo - often supplemented conventional naval forces. It is not known how a claim to sovereign immunity for the wreck of such a vessel would be met.

The issues discussed above make it difficult to foresee how a wreck site will be treated so as to preserve the information contained in it and the artefacts not of commercial value. Those drafting an international convention on the subject will need to consider such matters.

Patrick O'KEEFE
Consultant in cultural heritage law
and management

THE RAISING OF THE MARY ROSE

The excavation and salvage of the 16th century Tudor warship, the Mary Rose, show how underwater archaeology should be done. It also shows that such a task is a long-term undertaking,



(Photo © The Mary Rose Trust).

The *Mary Rose* was built between 1509 and 1511 and served in Henry VIII's navy for 34 years until she sunk off the south coast of England on July 19th, 1545. The French claim one of their cannons sent her to the bottom, but other evidence indicates she may simply have been overloaded or mishandled.

Early salvage attempts failed and the wreck was forgotten. She was rediscovered in 1971 and the outline of the hull gradually exposed and surveyed (left). Only when this had been completed - seven years later - was a trench opened up across her bows giving archaeologists their first view of her interior. They struck it lucky. Many of the crew's personal possessions as well as the ship's stores were preserved *in situ*. The hull was also shown at this point to be salvageable.

The Mary Rose Trust was then formed in January 1979 "to find, to record, to excavate, raise, bring ashore, preserve, report on and display for all time in Portsmouth, the Mary Rose."

"Although the aim was to raise the hull if at all possible," explains Christopher Dobbs from the Trust, "the decision to go ahead with the salvage operation was not taken until January 1982 when all necessary information to make the decision was available. Even after that there were various cut-off dates when the decision to halt, survey and backfill could still be taken."

The warship was finally raised on October 11th, 1982 (below). An estimated 60 million television viewers worldwide watched her come to the surface in the first ever live broadcast from underwater. The initial lifting was carried out over a period of eight hours to avoid any suction effect. When the process of gently detaching the hull from the silt was complete, a giant floating crane carefully transferred it underwater into a purpose-built cradle positioned on the sea-bed nearby. Once secured to the cradle the whole package, weighing 580 tons, was raised and towed ashore. As soon as it broke the surface, the water inside the hull was pumped out to reduce the load on the structure.



(Photo © The Mary Rose Trust).

that can generate enormous public support which doesn't need to be a drain on the government's coffers.



(Photo © The Mary Rose Trust).

A member of the conservation team inspects main deck timbers at the stern of the ship (left), which now stands upright (still in its salvage cradle) in a specially built shelter over a dry dock not far from where she was originally built. For 12 years after her dramatic exit, during which time the hull was turned upright and the deck structures replaced, the *Mary Rose* was conserved by constant spraying with chilled freshwater. In 1994, active conservation was begun using the water-soluble wax polyethylene glycol which, over 10 years, will eventually replace the water in the ship's timbers and coat the hull. The wreck will then be slowly air-dried to remove any remaining moisture. Strict hygiene is necessary to prevent wood decay or micro-biological contamination.

The building in which the *Mary Rose* is housed includes air-conditioned viewing galleries to screen visitors from the conservation chemicals.

13

Over 19,000 artefacts were collected from the *Mary Rose* (right). But she has contributed much more than this, adding volumes to our knowledge of ship design and construction from the Tudor period and the life and times of a warship's crew.

The excavation has also honed expertise in maritime archaeology. Five hundred amateurs trained by a small team of qualified professional diving archaeologists made 28,000 dives between 1979 and 1982 alone. Their work helped prove that it is quite possible to excavate and record underwater sites to the same quality as on land.

Up until 1982, the *Mary Rose* project cost some £2.8 million (\$4.5m), financed by private sponsors - who contributed equipment, time and expertise - as well as the fund raising activities of the Mary Rose Trust and visitor income. So far more than 4.25 million people have been to see the wreck and her remarkable contents.



(Photo © The Mary Rose Trust).

20,000 LEAGUES UNDER THE SEA

Today's technology has opened up the ocean depths; a cause for great excitement and added caution. Witness the controversial salvage of the Titanic.

No ship better illustrates the promise and pitfalls of technological progress than the *Titanic*. Hailed as unsinkable, the luxury liner hit an iceberg on her maiden voyage in 1912, killing some 1,500 people in the worst maritime disaster of the time. But in 1985 the wreck re-emerged in a spectacular example of what naval know-how could do in civilian hands.

Teaming up with Inframer (Institut Francais de Recherche pour l'Exploitation de la Mer), American experts led by Robert D. Ballard, an oceanographer and former

lights to provide an intimate glimpse of the lost liner. The floating eye and other cameras moved in and out of the ship, photographing thousands of objects lying in the ooze of the debris field - coal, fine china, wine bottles and pairs of shoes.

Ballard initially called for the recovery and restoration of artefacts strewn between the stern and the bow, arguing that they should be restored as a memorial to the dead. He later reversed his position, as survivors and *Titanic* societies around the world branded it grave robbing.

Having spent \$20m, RMS Titanic Inc. is anxious to turn a profit through a range of merchandising angles. The Bass Ale company, with 12,000 bottles having gone down with the ship, has paid \$250,000 so that its sweepstakes winners could watch an expedition in August 1996. Money also lies in deep cinematography, with the cable tv Discovery Channel paying \$3m for access to the expeditions.

TO WITNESS THE EVENT

As expensive and astonishing as it is, this technology still doesn't guarantee that a wreck and its contents will not be damaged. On 31 August 1996, RMS Titanic Inc. tried to raise the largest piece of the sunken liner yet: a 8m x 7m section of the hull, weighing about 14 tonnes and bearing four portholes and the remnants of four others. The team attached four large diesel-filled rubber bags to the hull plate and within several hours, it had floated to about 60 m below the ocean surface.

The plan was to lift the section onto a ship heading to New York Harbour, symbolically ending the doomed voyage that began 85 years ago from Southampton, England. Two cruise ships came to witness the event, with passengers paying as much as \$6,000 per place in a cabin. But when the seas became rough, the salvagers decided to tow the hull about 80 miles away expecting smoother and shallower waters. But still far from the new destination, two of the balloons broke loose, setting free the hull section, and the *Titanic* hit the bottom, once again. But "they're planning on going back," said Philip S. Pennellatore, a spokesman for RMS Titanic.

Perhaps these are normal setbacks. But the *Titanic* is such a cultural icon that the jolts should sound alarms and spur discussion. Submersibles, ROVs and sonar scans have launched us into the space age of deep sea exploration. The question remains, however, as to who will use these tools and who will benefit from what they uncover - a question rich in new kinds of promise and peril.

William J. BROAD
Author of *The Universe Below*
(to be released in April 1997)

MANY BELIEVE THAT THE CELEBRATED WRECK IS CURSED (Photo © SIPA PRESS).



naval officer, discovered the wreck 380 miles off Newfoundland (Canada) by towing over the sea-bed four-metre robot named *Argo*. (The French team tried using side-scan sonar to find the ship, but while the reflected sound waves can span large areas, the resulting images are fuzzy.) More than four km down, *Argo's* video cameras beamed up images over fibre-optic lines of the ghost ship, broken in two with the bow and the stern lying about a half-mile apart.

Triumphant, Ballard and the team returned in 1986 with *Alvin*, a Navy submersible, capable of carrying three people to depths of 4,000 m. Originally designed to find wrecked planes and plant deep microphones, Ballard used the craft to energize and direct *Jason Junior*. Known as ROVs, these remotely operated vehicles have revolutionized deep-sea exploration, with operators using video screens and joysticks to direct them from surface vessels or submersibles. Ballard focused *Jason's* video and still cameras with high intensity

His French partners, however, returned in 1987, joined forces with a New York businessman, George Tulloch, who formed the company RMS Titanic Inc. Under international law, the team won salvage rights to the liner's hulk by being the first to recover artefacts using the French submersible *Nautile*. The craft's mechanical arms, each capable of lifting about 115 kilos, recovered some 4,000 artefacts, often by attaching them to lift bags filled with diesel fuel or syntactic foam, which floats but does not compress at great depths.

Pledging to neither sell the artefacts nor disturb the main wreckage, RMS Titanic Inc. restored and exhibited many of them in Europe, with a North American debut scheduled this April. "If those items are left down there, eventually they'll disappear," said Charles A. Haas, a *Titanic* historian. "Government funding of deep-sea archaeology is zero. It's essential that corporate funding of one form or another be found."

The technology required for the excavations certainly commands a steep price.

WASA GOES DOWN, CAN COME UP!

Despite steep initial costs, the sunken failure that was the *Wasa* has become a startling success attracting millions of visitors and dollars to one of Stockholm's most unusual museums.

It has been called a monument to the Swedish sense of humour. With cannons gleaming, the crown of the Swedish armada, the *Wasa* set off on 10 August in 1628 to teach the enemy Poles a lesson. Crowds lined the shore on the clear, almost windless day. But within minutes of starting her maiden voyage, the mighty warship suddenly sank, marking one of the biggest fiascos in Scandinavian history.

More than three centuries later, the *Wasa* is once again bringing in the crowds, this time as a major tourist attraction. Raised and restored with extraordinary technological finesse, the *Wasa* is now the focus of Sweden's only self-sustaining museum. Attracting more than 750,000 visitors each year, the *Wasa* Museum of Stockholm earned a total income of five million dollars in 1996.

UNDER THE BELLY

Major salvage efforts didn't get underway until 1956 when a Swedish petroleum engineer, Anders Franzén used a home-made core-sampler to locate the ship, which he was convinced was well preserved, spared from the devastation of shipworm by the cold brackish water. After divers confirmed his predictions, the government with the support of private industry began preparations to raise it. It took three years for divers to string steel cables through tunnels blasted with water jets under the belly of the 1,400-ton craft. Other divers removed the ship's masts, spars and rigging. By pumping tons of water through two pontoons, the wires pulled taut, thereby raising the *Wasa* in 1961, as the tv cameras rolled and historians and archaeologists cheered. At the time it was the world's oldest wreck to re-emerge, beating Lord Nelson's famous *Victory* by 130 years.

However, the trick lay not just in lifting the ship, but preserving it. Setting the vessel under the constant jets of a sprinkler system, experts invented and then applied the "glycol-method", impregnating the black oak with polyethylene glycol for 17 years to prevent it from shrinking and cracking as it dried. Some 580 tons of water evaporated, during the process.

"The *Wasa* has provided us with a wealth of new facts about shipbuilding and

craftsmanship at the time," says Klas Helmersson, the museum's acting director. While a letter to King Gustav Adolph II described the catastrophe historians have never been able to get to the bottom of why it occurred. One long-lived theory was that the *Wasa's* 64 cannons were left unfastened, sinking the ship as they rolled across it. Today, we know that the stones filling the keel didn't weigh enough to stabilize the vessel.

replicated captain's quarters, sailors' cabins and a cannon deck.

"Swedes are finally discovering this period, specifically the years around 1628, which brought major changes to the society," says Helmersson. "Under Gustav Adolf II, Sweden rose to be a major power in Europe."

The hundreds of displayed artefacts let alone the ship are enough to fire the imagination. Not only can kids piece together

WHEN THE SHIP REACHED THE SURFACE, EVERY KILO OF WOOD CONTAINED 1.5 KILOS OF WATER (Photo © *Wasa Museum, Stockholm*).



"But most importantly," says Helmersson, "we have the opportunity to dig very deep into a precise time period." Indeed, the *Wasa* offers a window onto the past, illuminating the life of the 17th-century sailor and the horrible scenes of a desperate, drowning crew. Teams of archaeologists have explored every nook and cranny of the veritable time-capsule, complete with 500 sculptures and such ordinary objects, as watches, games, forks, shoes, a bible, carpenter's tools and Sweden's oldest clay pipes. They have also uncovered remains from 25 of the 50 men and women who went down with the ship, including the skeleton of a seaman, still carrying his leather money pouch.

Up until 1990, the *Wasa* Museum was housed in a basic aluminium building which slowly rusted with the 98% humidity need for the ship's restoration. But in 1990, a brave new museum awaited: a modern building crowned by three masts, complete with cinemas, computer rooms,

the life of a long-gone mariner - from his barber's tools to his boots - they can build their own ships on computer screens, seeing that if the real *Wasa*, 69 meters long and reaching as high as 51.5 meters, had been only about 0.4 meters wider than its original 11.3, the accident probably would never have happened. For the large masts, heavy cannons and insufficient ballast made for a treacherously wobbly design.

The *Wasa's* belated triumph raises new questions and expectations about salvaging in the Swedish archipelago in the Baltic Sea. Historians know of twelve sunken warships from the 16th and 17th centuries, six of them not yet located. Between the cold brackish water protecting them from shipworm and the Swedish laws protecting them as national antiquities, chances look good of finding and benefiting from yet another treasure trove of history.

Petter KARLSSON
Stockholm

SWIMMING WITH THE SPHINXES

The ruins of the seventh wonder of the world, the Alexandria Lighthouse, could soon rival the pyramids as a tourist drawcard... underwater.

The waters around Pharos, off the coast of Alexandria, Egypt, are peopled by strange creatures. Dive down six or eight metres and you'll find yourself face to face with sphinxes and colossal statues of men and women. It's easy to forget the brilliantly coloured fish swimming gaily among the enormous stone blocks...

Underwater archaeologists swim around just as blissfully, overjoyed by the certainty of having discovered what remains of the seventh wonder of the world: the Alexandria Lighthouse. Diving buffs will soon be able to share their enthusiasm if a project to turn this unique site into an underwater archaeological park takes shape. The project will be discussed by archaeologists, marine environment specialists and decision-makers at a multidisciplinary workshop in Alexandria from 7 - 11 April, initiated by the University of Lille (France), UNESCO and the Supreme Council of Egyptian Antiquities (SCA). Launched by Hassan El-Banna of the Alexandria University and Selim Morcos, a UNESCO consultant, the project is aimed at preserving the relics *in situ*.

EARTHQUAKES

The story of Pharos begins in the third century BC, when Ptolemy II built the lighthouse on an idea of his father Ptolemy I. It rose some 100 metres in a kind of courtyard of colonnades, set on a square base surmounted by an octagonal level, then a third cylindrical level. At its summit was a lantern crowned with a statue of Poseidon. From the fourth to 15th centuries AD, however, the mighty structure was destroyed by a series of earthquakes. When the Arab traveller Ibn Battuta visited Pharos in 1349, he found it "*in such a state of ruin that it was impossible to enter*". Over a century later, the Mameluke sultan Ashraf Quaitbay built a fort on the site.

What happened to the lighthouse? Certain parts were recuperated and integrated with the fort. But there was little interest, until recently, in knowing more about the main building and the statuary which lay underwater. In the early 1960s an amateur diver, Kamel Abul Saadat, pressured the navy to bring up a colossal statue of a Ptolemaic queen with the features of Isis.

At the request of the Egyptian antiquities authorities, a preliminary study sponsored by UNESCO was conducted by the British underwater archaeologist Honor Frost in 1968. It proved to be a false start; the site fell back into oblivion because of a lack of specialized archaeologists and the fact that the area was in a military zone.

It was only in the 1990s that the lighthouse resurfaced. While shooting underwater scenes for a film on Hellenistic Alexandria, the Egyptian director Asmaa El-Bakri noticed a concrete dike being built

Ptolemaic practice of reusing Pharaonic vestiges, generally taken from Heliopolis (near Cairo). Some of these, mixed with Hellenistic and Roman elements were probably thrown into the sea at the end of the Roman period and at the time of the Mamelukes to protect the port of Alexandria from enemy attack.

The other category of findings consists of much heavier blocks of granite - 49 to 69 tonnes. The fact that some were broken into two or three pieces indicates that they fell from a great height. Empereur's team

HOW IT USED
TO LOOK
ACCORDING
TO THE
ARCHAEOLOGISTS
(Photo ©
GEDEON/EX
MACHINE/
SYGMA).



on top of the ruins to protect Fort Quaitbay. The subsequent press campaign led the SCA to suspend work and give the green light to an archaeological mission to save the vestiges. Begun in 1994 under the direction of Jean-Yves Empereur, head of the Alexandria Study Centre, the mission has thus far classified over 2,000 pieces. Funds were contributed by the Institut français d'archéologie orientale (IFAO) and Gedeon - a multimedia company which has produced a documentary in cooperation with the Louvre Museum, the cultural foundation of Elf Aquitaine and Electricité de France.

The profusion of objects superposed from different periods - Pharaonic, Ptolemaic and Roman - complicate the job. But a computerized analysis of maps of the site and examination of each block has enabled them to distinguish two categories of findings. According to Empereur and Jean-Pierre Corteggiani, an IFAO Egyptologist, the presence of sphinx and hieroglyphic inscriptions can be explained by the

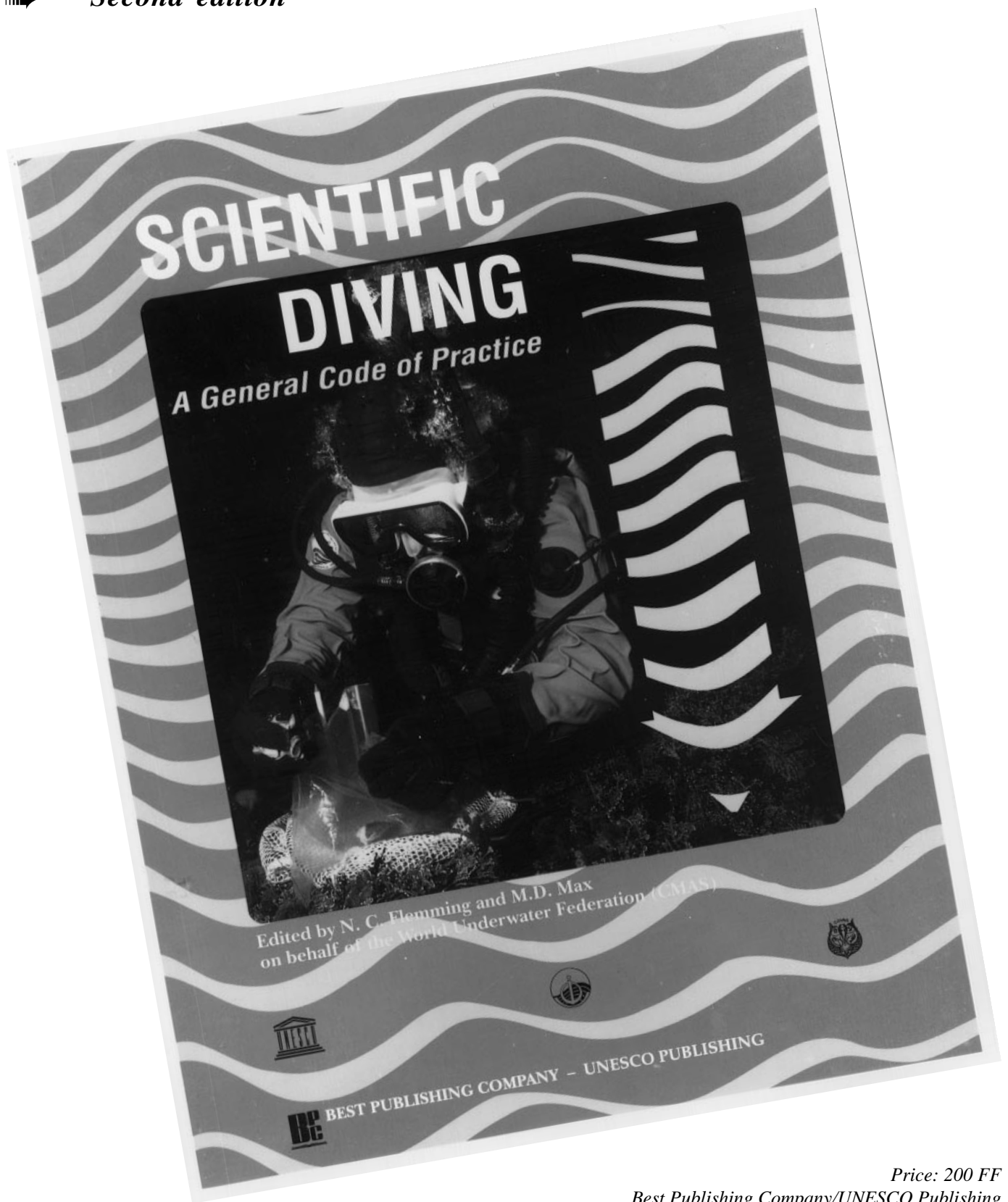
is convinced that these are remnants of the lighthouse. Several dozen pieces have already been raised, restored and are currently on view in the open-air amphitheatre of Kom el Dikka, in Alexandria.

The discoveries opened new perspectives for Egyptian archaeologists. Just two months ago, the CSA created a department of underwater archaeology. Nonetheless, the project under consideration is making waves. The archaeologists want to dismantle the concrete dike to salvage the elements of Pharos underneath but the Egyptian antiquities department is turning a deaf ear. The department has also stopped the raising of more vestiges after being accused of privileging a pre-Islamic site to the detriment of the Mameluke fort. Hopefully, the April meeting, which will bring together all the actors concerned, will be able to pour some oil on the troubled waters.

Sophie BOUKHARI
with Hala HALIM, Alexandria



Second edition



Edited by N. C. Flemming and M.D. Max
on behalf of the World Underwater Federation (CMAS)



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REORDERING PRIORITIES

● *"It is both a hymn to life in glorious colours and a dirge evoked by the 48 pictures of victims. The photographs were assembled after three months' search in the Sao Paulo shantytowns,"* explained Alex Peirano Chacon, describing the 1997 calendar he designed to draw attention to the plight facing so many of Brazil's children. Produced by the publisher Graficos Burti, the calendar's proceeds will go towards UNESCO's programme for Brazilian **CHILDREN IN NEED**. Selected from among 2,000 paintings done by children in 70 schools and centres in 15 of the country's states, the 13 works contrast photographs of children assassinated in the last two years. An exhibition at Headquarters presented more than 150 of the children's works from 21 January to 13 February.



THE CALENDAR IS PRESENTED TO THE MOTHER OF ONE OF THE MURDERED CHILDREN. (Photo © Samuel Iavelberg/CAMERA 1).

▼ Entitled "UNESCO and the World Summit for *SOCIAL DEVELOPMENT*", this anthology presents papers, speeches and working documents prepared for the conference. From education for all to unemployment and social exclusion, the sections cover diverse facets of this broad subject.

↔ Sector of Social and Human Sciences

UNESCO SOURCES

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Latin America can no longer afford to side-line adult education, delegates conclude at regional conference.

● According to conservative statistics, on the eve of the 21st century 17% of Latin American adults are illiterate. In Brazil alone there are more than 25 million of them. The problem is tending to worsen because social integration into the workforce and community life increasingly requires an ability to acquire, update and utilize knowledge that goes beyond a rudimentary command of reading, writing and arithmetic, as pointed out by UNESCO's International Commission on Education for the 21st Century, chaired by Jacques Delors.

● The Regional Preparatory Conference for the Fifth International Adult Education Conference (COFINTEA V) held in Brasilia (Brazil) from 22-24 January was marked by bitter criticisms of the education policies pursued by Latin American governments. In the opinion of a large number of specialists meeting in the Brazilian capital, results are modest even within initiatives specifically designed for young people and adults outside the formal education system. According to the strongest critics, the problem is due to the "neoliberal concepts that have taken over the continent".

POLARIZED

● Government representatives tried to avoid an ideological debate but recognized that the efforts being made are inefficient. In a number of cases they admitted that the education of citizens over school age is not a priority for governments, which instead focus on standard basic education. The polarization of the debate became clear at the start of the conference, in statements made by Carlos Nuñez, the president of the Latin American Adult Education Council (CEEAL) and by the authorities of the host government.

● Nuñez was among those who attributed the deficiencies of adult education and the deterioration of a number of social indicators in the region to the application of neoliberal concepts. According to him, the concentration of effort on the formal education of children and the neglect of young people and adults has led to "the creation of an army of individuals who lack the wherewithal to obtain employment in a globalized economy".

● *"The general improvement seen in school availability and the number of years children spend there, has not reduced the need to offer additional or complementary instruction for thousands of young people and adults whose education, although better than that of their parents, is insufficient to meet the new requirements of the labour market and of society,"* acknowledged Brazil's education minister, Paulo Renato de Souza.

BASIC EDUCATION FIRST

● *"Brazil's position,"* stated de Souza, summing up the policy of many Latin American governments, "continues to be that the primary objective of educational policy is to offer adequate instruction at the right age and as part of basic education, surmounting truancy and the need for pupils to repeat courses, and increasing the percentage of pupils who complete their basic education. This policy will eliminate, to a large extent, the need to provide juvenile and adult education, except as a form of continuing education."

● In the opinion of Jorge Werthein, UNESCO's representative in Brazil, "adult education here is closely associated with the extreme poverty and social exclusion of vast sectors of the population. It constitutes a social obligation for the benefit of those who have never entered the education system or who have very limited schooling. In that sense, adult education becomes something eminently temporary and transitory."

● Werthein, supported by the representatives of several countries, advocated creative and well-structured action by state, non-governmental and private institutions to overcome educational deficiencies, particularly where young people and adults are concerned. Quoting the UNESCO's Director-General, Federico Mayor, he told the conference that "UNESCO has undertaken to work for the poorest, for those most exposed to social exclusion, for those who are most disadvantaged in terms of access to knowledge, and for the most vulnerable". In the opinion of the NGO representatives however, the young people and adults of today need and are entitled to specific educational programmes however

difficult it may be to plan and implement them. They also affirm that because of certain structural aspects of Latin American societies that cannot be altered in the short term, not even the most successful school systems are capable of preventing the emergence of new contingents of under-educated young people and adults.

According to the non-governmental specialists, government policies are not capable of providing adequate responses to two different aspects of the problem of educating young people and adults in Latin America, who require different policies



HER CHILDREN HAD BETTER LUCK
(Photo UNESCO/
Education Ministry of Colombia).

specially designed to deal with them. These aspects are the imbalances that have so far prevented large sectors of the population from moving into the modern way of life, and the typical post-modern transformations that threaten to produce a new kind of social exclusion like that occurring in developed countries. There is a need to educate the citizen who cannot find employment because he is illiterate or has little schooling as well as the worker who is threatened with losing her job because the system of production requires other kinds of knowledge and skills. In neither of the two cases does formal education adequately meet these needs. In this sense, improving formal education systems was not a solution.

Despite their differences, the participants managed to produce a final document which reflected the views of government

delegates and NGO representatives. Thus, while it reaffirms the inescapable responsibility of the state to guarantee access to basic education of good a quality for everyone, the text also upholds the need "to create institutional mechanisms that make it possible to link together the different authorities and actors involved in education", including NGOs.

A PERMANENT PROCESS

In addition to calling for the integration of juvenile and adult education in a permanent and institutionalized process, the document advocates: the revival of the practical know-how acquired by teachers in the workers' education movement; an extension of the scope of juvenile and adult education; the preparation of flexible, diversified and participative curriculums; the use of mass media; and the creation of programmes specifically designed for the training of juvenile and adult education personnel. The conference also considered that appropriate financing from different sources should be secured for adult education on the basis of equity and of affirmative action for the benefit of underprivileged social groups. It also expressed itself in favour of a review of the concept of literacy teaching and of a guarantee of the right to education of girls and young women, particularly those in special circumstances, such as teenage mothers.

The question of gender in education received special attention from participants, who recommended that governments adopt measures and mechanisms to secure compliance with the agreements reached at the international UN-sponsored conferences held in Cairo in 1994 (on population) and Beijing in 1995 (on women), especially measures to put an end to sexism in what is taught, to guarantee equality in organization, participation and leadership in collective activities.

Given the importance of adult education, the Brasilia conference also proposed the establishment of regional citizens' observation posts to monitor agreements reached at the remaining regional conferences and the main event itself, the Fifth World Conference on Adult Education, which will be held in Hamburg, Germany, next July.

Carlos MILLER
Brasilia

● Celebrating the 1,700th anniversary of the founding of SPLIT (Croatia), an exhibition held at UNESCO, 6 to 16 January, traced the city's many faces - from the palace of the Roman Emperor Diocletian to contemporary architecture. With artefacts depicting daily life and dress of the distant past to modern paintings and sculptures, the show presented the cultural and historical wealth of this city, inscribed on the World Heritage List since 1979.



MARKO MARULIC, FATHER OF CROATIAN LITERATURE (Photo UNESCO/Michel Claude).

▼ About 25 leading scientists, health experts, engineers and other specialists in disaster reduction met with about 30 representatives of various international organizations at the eighth session of the Scientific and Technical Committee on the International Decade for NATIONAL DISASTER REDUCTION (1990-1999). Meeting at Headquarters from 20 to 24 January, they focused on the role education can play in promoting prevention. "A strategy that puts the main accent on relief action is essentially short-sighted," said the director-general, Federico Mayor. "What we need to work for is a significant shift from post-disaster response to pre-disaster prevention."

UNDER THE MICROSCOPE

● The recently revised "Directory of the International Network for Information in SCIENCE AND TECHNOLOGY Education" (INISTE) provides basic profiles of 260 participating national, regional and international organizations involved with teacher training, out-of-school and curricular activities in this field at the primary and secondary levels. Addresses, contact persons, geographical coverage, staff size, working languages, periodicals and other data are included in addition to several indexes making this an easy-to-use reference guide.

✉ INISTE Secretariat -
Division for the Renovation of
Educational Curricula and Structures

▼ With painted banners spanning three metres, posters and photographs accompanied by poetry, a total of 250 artistic works illustrating the theme "FOR A CULTURE OF PEACE" were displayed at UNESCO from 6 to 16 January. Marking the 50th anniversary of the United Nations as well as the atomic bombing of Hiroshima and Nagasaki, the multidisciplinary exhibition displayed the commitment to peace on the part of artists from some 20 countries around the world.



(Photo UNESCO/Michel Claude).

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● **Instead of blowing their own horn, eminent scientists ask, "where did we go wrong".**

● "If ever there was a century of science, it is this one," announced the Indian physicist Mambillikalathil Menon, at the inaugural session of UNESCO's International Scientific Advisory Board (ISAB), composed of 56 of the world's leading scientists and policy experts, including seven Nobel laureates. From 20 to 21 January, the board brain-stormed about possible themes and objectives of a world science conference planned by UNESCO for 1998-1999.

● From a walk on the moon to an approaching map of the human genome, a chorus of voices fawned over science's achievements. But the back-patting soon wore thin, as speakers turned to the flip-side of the century's breakthroughs.

● "We are responsible in the view of the public for Hiroshima, Nagasaki and n-
apalm," warned Ernesto Carafoli, president of the International Cell Research Organization. "We're now supposedly in the process of genetically engineering new
Hitlers," continued the Italian biochemist. "We need to convince people that we are not as evil as they see us."

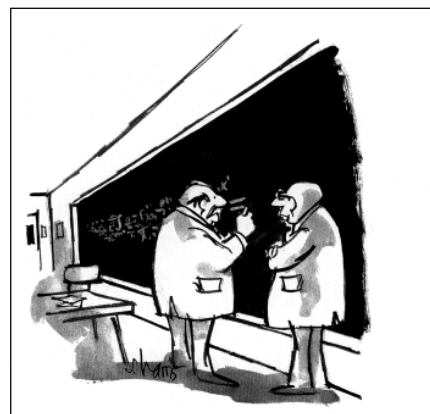
TOMORROW'S WIZARDS

● One speaker after another piped in with tales of the bad rap science is getting: people no longer respect scientists or their work, thanks in part to the media's sensational misrepresentation, providing the perfect cover for politicians to slash budgets, which in turn forces researchers to compromise their intellectual curiosity for commercial interests, thus, sacrificing the long-term interests of humanity. The "crisis" has even hit the school systems - from primary to university levels - now incapable of providing the quality science teaching needed to attract, let alone train, future wizards. The conclusion: it's time to highlight science's contributions with a world conference.

● Or is it? Recalling the early praise, Dr Khotso Mokhele, director of South Africa's Foundation for Research Development, asked, "why do we now need to make a case for it? Why has religion succeeded while science has had so much difficulty? Where did we, the scientists, go wrong?"

● "Religion always provides answers, but science doesn't," offered Dr Peter Bridgewater, chief executive officer of Australia's

Nature Conservation Agency. "Over the years, we have promised and provided answers which we should have doubted... We have over-sold ourselves and science to our political masters."



Cartoon © Sidney Harris

"ON THE OTHER HAND,
MY RESPONSIBILITY TO SOCIETY
MAKES ME WANT TO STOP RIGHT HERE."

● But "there is no place to discuss these doubts and ambiguities," reminded Prof Paolo Fasella, a specialist in experimental medicine and biochemistry, pointing to Europe's recent "mad cow" scandal in which decision-makers didn't ban the consumption of tainted meat on the grounds of inconclusive scientific results. For Fasella, it is a classic example of the "serious crisis" in which "public opinion and governments don't fully understand the limits of science. Governments make decisions for political reasons which they would then like to attribute to science because it makes the public feel more secure."

● "Conveying scientific facts to the political sector is especially difficult in this era of professional politicians, who have spent their entire career planning electoral strategies," said the British engineer and consultant Martin Lees. "They just don't know how to manage risk." As a case in point, Fasella harked back to 1983, when Luc Montagnier sought assistance from European officials for his AIDS research project. It took him three years to win support. "We need to convince governments that it is more expensive **not** to do science".

● Here again, science is at a disadvantage, as "religion doesn't call for public

funding,” pointed out Wadi Haddad of the World Bank. Scientists from rich and poor countries alike decried governments’ growing resistance to fund research projects, leaving industry to not just foot the bill, but order the results.

But remember, warned Lees, “governments are cutting back on everything - education, health and so many other fields, including science... Instead of pleading for more money, we need to change perceptions. Just as we saw with environment policy, we need to move from public financing to a system of incentives,” with, for example, financing schemes matching private investment with public funds.

ABSOLUTE JOY

Mokhele couldn’t have agreed more. “I cannot keep going back to my government and asking, ‘give me more money.’ We need to examine ourselves,” he said, pointing, for example, to in-fighting (“physics is still defending itself against chemistry as to which forms the essence of life”) and problems communicating with the “outside”.

“The labour movement, for example, is anti-science because it takes jobs away,” said Mokhele. “Obviously, it’s not as simple as that. But has organized science attempted to bring labour into the debate concerning science for the future? Science is an absolutely joyful experience, but I think we’ve gotten too caught up in it.”

“Part of the answer to ‘where did we go wrong’, lies in recognizing that things are not as bad as we tend to suggest,” explained the American physicist Donald Langenberg, who is also the chancellor of the University of Maryland. “Every survey taken in the US suggests that scientists and science are at the top of the prestige list. Now we are seeing that some people are

getting a little weary of hearing us whine. During the cold war, it was easy to argue that science was needed to defend our way of life against ‘them’. And ‘they’ argued the same.” That’s no longer the case. “But scientists still insist, ‘if only we could get politicians in our room to see what we do best’. Instead, we have to see what they have to teach us.”

This is why “a world science conference should not be a conference of scientists,” according to Langenberg, but must include significant representation of the political and industrial sectors, the media and non-governmental organizations. Anything else would be “Alice in Wonderland”, said Lees, “because that’s where the money and power lies”.

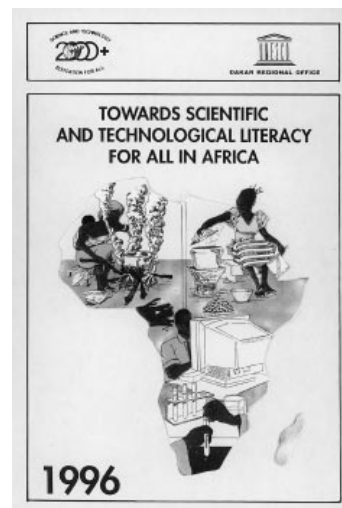
For while things may not be so bad in countries like the USA, there are still issues like gene patents to be resolved. Most importantly, “science still doesn’t exist for billions. From what I understand, just \$60 million is spent on malaria research, which is insufficient in comparison to the suffering involved. Eighty percent of research and development goes on in industrialized countries, with the results rarely reaching those developing,” he said. “At the same time, we all are at risk in the losing battle against microbes, as seen with the ebola virus... We must reach out to the people who make the decisions. Otherwise the conference could be a success in reaching an internal consensus, but a tragedy in terms of concrete action.

“People everywhere are looking at problems with the environment, urban migration and family-related issues, and saying, ‘we’ve got it all wrong!’ Science is now feeling this debate - and just maybe we can do something to resolve it.”

A.O.

“I feel it is essential to emphasize the importance of basic sciences - which are too often neglected by decision-makers and politicians seeking short-term successes and benefits,” said Federico Mayor in his opening address to ISAB on 20 January. The Director-General created the open-ended board, to advise UNESCO on strategic science issues and to recommend activities promoting, sharing and applying scientific knowledge. With Werner Arber, the Swiss microbiologist and Nobel laureate as president, ISAB also has the mandate to propose themes and objectives of a world science conference, which should call for a few “very clear proposals that will be a challenge for decision-makers to adopt”, said Mr Mayor.

● Priding itself as the “cradle of human civilization”, Africa lays claim to being the place where some of the earliest technologies were first developed. Yet today, it lags far behind in terms of **SCIENCE AND TECHNOLOGY**. Entitled “Towards Scientific and Technological Literacy for All in Africa”, the book published by UNESCO’s regional office in Dakar (Senegal) sheds light on the way this form of education has been perceived on the continent from the colonial period to the present and suggests strategies so that every African can “be equipped with the basic skills necessary to understand, explore and exploit judiciously the physical environment and resources”.



▼ Part of the project “EDUCATION FOR ALL: Making it Work”, a new series of thematic portfolios presents concise issue-papers and case-studies featuring innovative and successful teacher education initiatives in developing countries worldwide. From democratic education workshops in Chile to a “self-help action plan” in Zambia, the first dossier offers diverse alternatives in moving “towards a new paradigm of teacher education”.

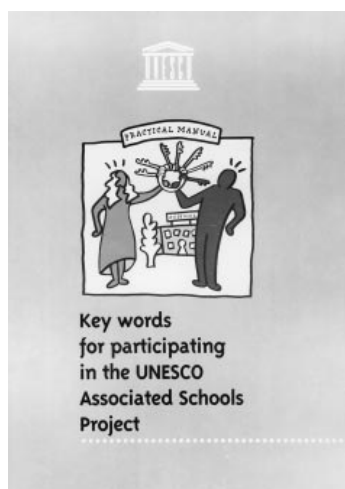
↪ ED/EFA Education Sector

MEN AT RISK

● Because "the water and the earth invite us to dreamings drifting to creation", the UNESCO Centre of Troyes (France) is organizing an international visual arts competition entitled, "EARTH AND WATER". Youth from 3 to 25 years old can compete (within set age categories) by submitting their work by 15 March 1997. All forms of expression (drawing, pastels, painting, photography, sculpture, engraving, etc.) using any material (cardboard, wood, polystyrene, earth...) are accepted.

✉ UNESCO Centre Louis François
Hôtel du Petit Louvre
B.P. 279

▼ Just what is the ASSOCIATED SCHOOLS Project (ASP)? How does it work and to what end? What kind of major projects are there and how can you get involved? A practical manual entitled, "Key words for participating in the UNESCO Schools Project" answers all of these questions. Each section contains examples, illustrations and suggestions on how to become an active member of the ASP network. Readers can add relevant material in using the "open" guide like a personal handbook.



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● ***In the Caribbean, the education gap between boys and girls is widening rapidly, with the girls way out in front.***

● Educating girls and women is a top priority everywhere for organizations like UNESCO which has fought long and hard to convince governments and male populations of the ensuing benefits to the rest of society. However, in the Caribbean it's the men who lag behind, to the point where alarm bells are ringing.

● In his book, "Men at Risk", the head of the Education Department at the University of the West Indies and long-time



(Cartoon C. Champin).

● UNESCO consultant, Professor Errol Miller points out that the Caribbean is one of the few regions in the world where there are more illiterate men than women. In Jamaica, for example, 31% of men are illiterate compared to 19% of women. The male:female enrolment rate is more or less evenly distributed at the pre-school and primary school levels. However, in the final year of primary school, girls move ahead, due to higher drop-out and repetition rates among boys.

● In the traditional secondary schools which have a more academic programme than others at this level, girls outnumber boys three-to-one. This pattern continues in higher education. Some 63% of students enrolled at the University of the West Indies in 1993/94 were women.

● Girls also do better in examinations at the end of primary and secondary levels. At the pre-university level both genders perform equally. However, at the University of the West Indies more women are awarded diplomas than men, with 82% of the degrees in arts and general studies, 60% in law and 53% in medicine.

● As a consequence, Caribbean women are gradually replacing men in managerial and professional occupations, even though

economic power and the highest paying jobs are still male-dominated.

● Why is this? Outside school, boys are freer while girls are more closely disciplined, staying at home to look after younger siblings and helping with domestic chores. Also, schools do not provide boys with positive male role models. Almost 90% of all teachers from the early childhood level to junior high are women. At the senior secondary level they account for 75% of teaching staff.

THE CONSEQUENCES

● The main risk of such a situation is the isolation and exclusion of men from society and development initiatives. Frustrated, many turn to drugs, violence against women, gangs and criminal activities. And Errol Miller is convinced that the phenomenon is not limited to the Caribbean, but is already visible in the United States and the countries of the ex-Soviet Union. He even goes so far as to argue that these social patterns are forerunners of similar changes that will eventually come to the rest of the modern world.

● Jamaica has taken a number of initiatives to ensure gender equity at all levels of the system. The University of the West Indies, for example, has launched a programme known as "Fathers and company" aimed at making fathers more aware of their family responsibilities and the fact that their attitude has an enormous influence on their sons' education. UNESCO, as well, is taking a grass-roots approach. Its Education and Skills Training Pilot Project, launched in the village of Blackstonedged (Jamaica), made a considerable impact on the young men there. Originally drawn up as a project for out-of-school girls and women, at the request of the community's unemployed men, it was expanded to include them. Apart from basic literacy and numeracy, the learners were trained in needlework, crafts and agriculture.

● The situation should not be taken lightly. An in-depth study of the phenomenon should be done and parents and teachers provided with special training in how to educate their children in a spirit free of gender stereotypes. ■

REEL NIGHTMARES

Film archivists and directors like Lester James Peries of Sri Lanka sound the alarm as Asia's cinematic heritage disintegrates.

The father of Sri Lankan cinema is in mourning. The first to entirely shoot a full-length film in his native country and in his native tongue in 1955, Dr Lester James Peries has lost all seven of his documentaries and five of his 20 features like "The Message", an epic tale of the island's Portuguese occupation in the 16th century. The negative is "gone", lost to sprocket damage, and legend has it that the last copy of one of the most expensive and popular Sinhalese film ever produced lays buried in a jungle temple.

but a temporary solution, as the colours tend to deteriorate. Digital technology offers a longer-term option, but is now financially out of the question, to the chagrin of 60 of the region's film archivists who met at UNESCO's initiative in Beijing (China) last October. Besides, they say, even with the most sophisticated technology, you cannot restore what you don't have. Many of the countries' films and documentaries belong to private distributors. In Japan, for example, the government-sponsored film archive has less than a tenth of the country's feature productions.



A KISS FROM PERIES' "THE TREASURE" (Photo © All rights reserved).

"You can go mad if you don't reconcile yourself to the loss," says Peries. "You think you have a permanent art medium to find that it is as perishable as vegetables. To preserve films, you need more than just an air-conditioned room, you need dehumidifiers and experts checking the reels. Preservation is an art unto itself."

Despite an impressive cinematic history, Asia's archives are young compared to those in Europe and North America which date back to the 1930s. According to a UNESCO survey conducted in 1995 - 1996 by Australia's National Film and Sound Archive, the "greater part" of Asia's film heritage, especially that before 1960, is lost. In Indonesia, for example, copies of only 36 of the 371 films produced in the 1950s are in the archives. India's archives have just 23 of the 1,080 made in the 1920s and 260 of the 1,929 from the 1940s.

The region's humid climate is the main culprit, speeding up decomposition especially for the early nitrate films. The move is on to transfer them onto acetate. This is

"It's a national disaster in Sri Lanka," says Peries. "I lost a classic child's film because my distributor lost the negative he kept under his bed when he moved house. Many producers are paranoid and think, 'Hmm. Why are the archivists so interested in these films? I better hold on to them.' Directors are also ignorant. My wife, Sumitra (also a renowned filmmaker) and I air-conditioned a room in our house where we stored our films in metal cabinets. Later we found them eaten by termites."

Lobbying for a proper national film archive since 1957, Peries senses "commitment" on the part of Prime Minister Kumaratunga, whose deceased husband was a movie star. In the meanwhile, UNESCO has just offered Peries \$15,000 to restore three of his films. "It's a small but important start," says Peries, "You expect to show your work at least to the next generation and you find it survives just a decade."

A.O.

● UNESCO will support the NAZARETH 2000 Project, announced Director-General Federico Mayor on 20 January while meeting at Headquarters with the town's Mayor Rames Jaraysi. The Organization will offer technical expertise in restoring Nazareth's cultural and archaeological heritage and is encouraging the creation of a museum. Like Bethlehem 2000 (see Sources, No. 86), the project is within the framework of activities to celebrate the turn of the century.

▼ France became the first northern member of the European Union to join the Convention against ILLICIT TRAFFIC IN CULTURAL PROPERTY on 7 January. The ratification "confirms the commitment of French professionals such as museum curators, police and administrators, with whom UNESCO already has excellent cooperation, to stop the illegal trade," said the Director-General. France is the 86th country to ratify the Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property of 1970.

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"Societies in Transition - CHALLENGES FOR THE MEDIA" will be discussed by the Inter-governmental Council of the International Programme for the Development of Communication (IPDC) at its 17th session at Headquarters, 17 to 21 March. At Headquarters from 19 March to 16 April, "Places of Power, Objects of Veneration" of the INUIT OF CANADA will come to life through an art exhibition and photographs by Canadian Norman Hallendy who will give a related lecture on 24 March. International Day for the ELIMINATION OF RACIAL DISCRIMINATION will be commemorated on 21 March. With World Water Day on 22 March, the first WORLD WATER FORUM will draw top-ranking decision-makers, experts, representatives of governmental organizations and NGOs to Marrakech (Morocco) from 20 to 25 March to explore ways of managing this precious resource in the 21st century. Governmental experts will meet at Headquarters from 24 to 27 March to review The Hague Convention 1954 intended to PROTECT CULTURAL PROPERTY in the event of armed conflict. A group of some 20 international experts will meet at Headquarters, 24 to 28 March, to lay the conceptual and philosophical foundations of the project "UNIVERSAL ETHICS", which will submit a major report in 1998 based on a series of consultations. In preparing for the World Conference on HIGHER EDUCATION to be held in 1998 at Headquarters, a regional consultation for Africa will be held in Dakar (Senegal), 1 to 4 April. About 150 sociologists, doctors, political scientists and others will meet at Headquarters, 1-4 April for a colloquium on DRUGS IN SUB-SAHARAN AFRICA, examining production, consumption and trafficking within the region and by looking at countries like Brazil, China and India. An international conference on TECHNOLOGICAL EDUCATION AND NATIONAL DEVELOPMENT will be held in Abu Dhabi (United Arab Emirates), 6 to 8 April.

What can be done to help street children pursue their education? OUR NEXT DOSSIER presents a series of projects involving these kids and adolescents, their families, teachers and those who they generally run into the most, police officers.