

The Unesco Courier

A window
open on the world

March, 1978 (31st year) 3.50 French Francs



Catalonia's
impact on
modern art



TREASURES
OF
WORLD ART

129

Romania

Golden helmet of the Getae

This gold helmet, unearthed at Cotznofanehti in Romania, was fashioned in the 5th century B.C. during the "Thraco-Getic" period of Romanian history. (The Getae, ancestors of the modern Romanians, were a people of Thracian origin.) The magnificently worked repoussé motifs, especially the sacrificial scenes on the cheekpieces, suggest that the helmet (25 cms high) might have had a ritual religious use.

Photo © Bulloz, Paris, National Museum of Antiquities, Bucharest

The Unesco Courier

MARCH 1978 31ST YEAR

PUBLISHED IN 18 LANGUAGES

English Italian Turkish
French Hindi Urdu
Spanish Tamil Catalan
Russian Hebrew Bahasa-
German Persian Malaysia
Arabic Dutch
Japanese Portuguese

Published monthly by UNESCO

The United Nations
Educational, Scientific
and Cultural Organization

Sales and distribution Offices
Unesco, Place de Fontenoy, 75700 Paris

Subscription rates

1 year: 35 French Francs

2 years: 58 FF

Binder for a year's issues: 24 FF

The UNESCO COURIER is published monthly, except in August and September when it is bi-monthly (11 issues a year). For list of distributors see inside back cover.

Individual articles and photographs not copyrighted may be reprinted providing the credit line reads "Reprinted from the UNESCO COURIER", plus date of issue, and three voucher copies are sent to the editor. Signed articles reprinted must bear author's name. Non-copyright photos will be supplied on request. Unsolicited manuscripts cannot be returned unless accompanied by an international reply coupon covering postage. Signed articles express the opinions of the authors and do not necessarily represent the opinions of UNESCO or those of the editors of the UNESCO COURIER. Photo captions and headlines are written by the Unesco Courier staff.

The Unesco Courier is produced in microform (microfilm and/or microfiche) by: (1) University Microfilms (Xerox), Ann Arbor, Michigan 48100, U.S.A.; (2) N.C.R. Microcard Edition, Indian Head, Inc., 111 West 40th Street, New York, U.S.A.; (3) Bell and Howell Co., Old Mansfield Road, Wooster, Ohio 44691, U.S.A.

The Unesco Courier is indexed monthly in the Readers' Guide to Periodical Literature, published by H. W. Wilson Co., New York, and in Current Contents - Education, Philadelphia, U.S.A.

Editorial Office

Unesco, Place de Fontenoy, 75700 Paris - France

Editor-in-Chief

René Caloz

Assistant Editor-in-Chief

Olga Rödel

Managing Editors

English Edition :
French Edition :
Spanish Edition : Francisco Fernandez-Santos (Paris)
Russian Edition : Victor Goliachkov (Paris)
German Edition : Werner Merkli (Berne)
Arabic Edition : Abdel Moneim El Sawi (Cairo)
Japanese Edition : Kazuo Akao (Tokyo)
Italian Edition : Maria Remiddi (Rome)
Hindi Edition : H. L. Sharma (Delhi)
Tamil Edition : M. Mohammed Mustafa (Madras)
Hebrew Edition : Alexander Broido (Tel Aviv)
Persian Edition : Fereydoun Ardalan (Teheran)
Dutch Edition : Paul Morren (Antwerp)
Portuguese Edition : Benedicto Silva (Rio de Janeiro)
Turkish Edition : Mefra Arkin (Istanbul)
Urdu Edition : Hakim Mohammed Said (Karachi)
Catalan Edition : Cristian Rahola (Barcelona)
Malaysian Edition : Azizah Hamzah (Kuala Lumpur)

Assistant Editors

English Edition : Roy Malkin

French Edition :

Spanish Edition : Jorge Enrique Adoum

Research : Christiane Boucher

Illustrations: Ariane Bailey

Layout and Design : Robert Jacquemin

All correspondence should be addressed to the Editor-in-Chief in Paris

page

4 ONE MAN'S LUXURY IS ANOTHER MAN'S NEED

Bringing environmental issues into focus

by Peter J. Fensham

8 INFORMATION, PLEASE...

Towards a world science information network

by Yuri I. Litukhin

10 MANKIND'S MEMORY BANKS

Archives from the clay tablet to the computer

by Jean Favier

16 CATALAN MASTERS OF MODERN ART

by Alexandre Cirici

18 THE ANONYMOUS PAINTERS OF MEDIEVAL CATALONIA

Four pages in colour

24 GAUDI'S 'CATHEDRAL OF THE POOR'

Photo story

28 THE WHYS AND WHEREFORES OF EDUCATION TOMORROW

by Charles Hummel

31 JULES VERNE

Seer of the Space Age

by Alain Bombard

38 HUNDREDTH ISSUE OF 'DIOGENES'

by Jean d'Ormesson

2 TREASURES OF WORLD ART

ROMANIA: Golden helmet of the Getae

I-IV NEWS FROM UNESCO

Special supplement



Cover

This month's cover was specially created for the *Unesco Courier* by the Catalan painter Joan Miró, one of the world's greatest living artists. In this watercolour, Miró has illustrated the theme of our articles devoted to the originality and lasting influence of Catalan art and culture. (See also back cover.)

Watercolour © Miró Foundation, Barcelona

ISSN 0041-5278
N° 3 - 1978 MC 78 - 3 - 341

Baby polecats scurry along after a little boy on an experimental farm at Novosibirsk (U.S.S.R.), where scientists are studying the behaviour patterns of a variety of Siberian animals.

One man's luxury is another man's need

How education can sharpen
our awareness
of environmental issues

by **Peter J. Fensham**

PETER J. FENSHAM is professor of science education at Monash University, Victoria (Australia). As a member of the Australian National Commission for Unesco, he chaired an Australian national seminar on environmental education in 1975. He led the Australian delegation at the intergovernmental conference on environmental education organized by Unesco and the U.N. Environment Programme (UNEP), and held at Tbilisi (U.S.S.R.) in October 1977.

HOW can education help us meet the challenges of environmental problems? This was the question facing the 330 participants and observers who attended the world's first Intergovernmental Conference on Environmental Education, held in Tbilisi, Georgia, (U.S.S.R.), from 14 to 26 October, 1977.

This meeting was the culmination of the first four-year phase of the international programme for environmental education launched by Unesco and the United Nations Environment Programme (UNEP) in response to a recommendation of the U.N. Conference on the Human Environment in Stockholm in 1972.

What emerged from the working sessions at Tbilisi were a number of insights that go right to the heart of the problems facing environmental education. These might be summed up as follows. Environmental education must be seen, not as a new "subject" to be taught in schools, but as an added dimension to the educational

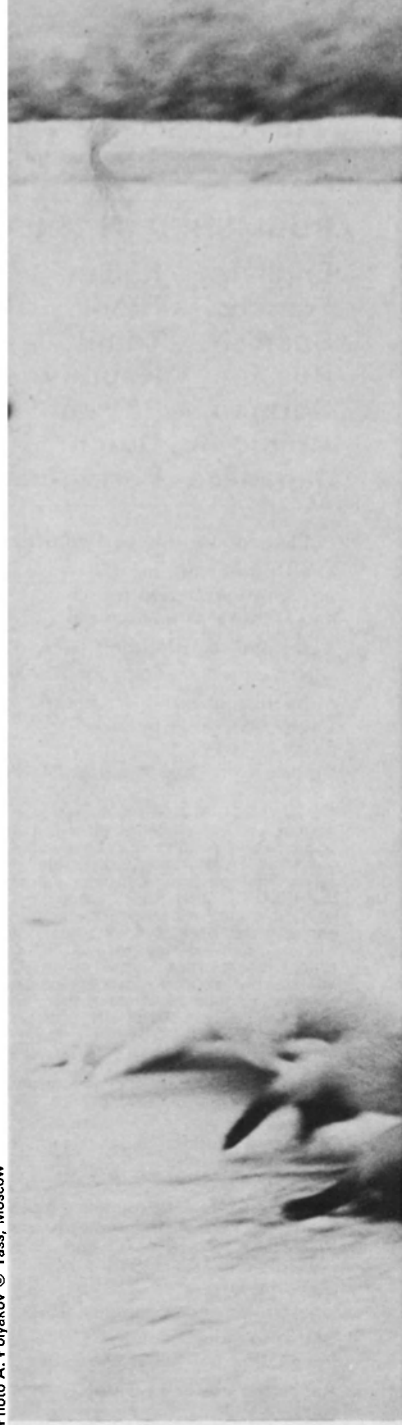
process. It should be a global, lifelong activity involving society as a whole, a training to distinguish "environmental luxuries" from "environmental necessities", and an aid to development.

As yet very little headway has been made in many countries to reshape teaching programmes so that this concept of environmental education becomes a real part of formal learning.

Geography and biology seem to be the subjects which have been most able to incorporate environmental issues. And yet in many ways, these subjects reflect the symptoms of environmental problems rather than their causes.

Environmental issues bring into play social values, political organizations, economic policies and structures, technological control and development, and national and international patterns of distributing resources. All these are, in fact, more naturally related to other subjects such as

Photo A. Polyakov © Tass, Moscow





literature, social studies, the physical sciences, and mathematics.

Much needs to be done to assist teachers in elementary and secondary education to present in simple form some of these radical issues. For example, the way in which resources are distributed and the indicators (such as Gross National Product) that we use to measure economic growth are both fundamental to our perception of environmental issues.

Yet these concepts are often taught only in a formal, analytical way during the senior years of secondary schooling. Teachers might well be surprised how readily six- or seven-year-olds can grasp these basic ideas if they play a game in which they share out differently, on successive days at school, the same number of things like favourite story books or coloured pencils.

Or, again, the younger children in a family regularly have their desires overruled by others.

Until now we have made very little use of

these real experiences to familiarize youngsters with the processes of power, control by groups, and decision-making in society.

Environmental education must not only involve all the disciplines normally taught in schools, but must also force schools out of their isolation from the community. Environmental education set wholly within the confines of the classroom is a contradiction in terms.

But this certainly does not mean that field trips, camping, or museum visits automatically constitute environmental education. Unless these experiences "help groups and individuals acquire the skills for identifying and solving environmental problems," they are not environmental education as expressed in the Tbilisi recommendations.

Environmental education must be a life-long process. Not only should learning continue beyond school; different age groups should also learn together. The

roles of teacher, student, parent and citizen become more flexible, as they join in a learning situation that serves to enhance awareness of their environment.

Learning by doing is one approach developed in recent years. It may take the form of a movement like "Make Cuba a Garden", or a community or school effort to eliminate litter in Singapore. Or it may be a drive to reduce energy consumption in home or factory.

There has been a tendency, particularly in the industrially developed world, to define the environment in terms of middle-class values. There has been more emphasis on the conservation and preservation of aspects of the man-made and natural environments that are enjoyed by the middle class than on the quality of life enjoyed by the less privileged. As the preservation of certain of these resources clashes with the provision of jobs, sustenance and shelter, there is likely to be a backlash against many

▶ aspects of today's environmental education programmes.

The concepts of "environmental luxuries" and "environmental necessities" may prove useful since they provide criteria and bases for choice. They may make it easier to tackle such questions as the merits of a building in New York whose energy consumption approaches that of a city the size of Pittsburg. During a campaign for a new national park, these concepts may also help us see the viewpoint of workers who would be obliged to leave the area, even though they have no powerful lobby to voice their claims for adequate compensation and alternative job opportunities.

Again, it may turn out that the land rights of the 800 or so aborigines living on or near the uranium deposits in northern Australia are the "environmental necessities" in that situation, and that the economic consequences of mining—which may

shore up the "environmental luxuries" other Australians enjoy—are of lesser merit. Similar problems for environmental education crop up on the international scene.

In the developing world there is a tendency to see environmental education and education for development as one and the same, and many environmental educators in the industrially developed world would also like this to be the case. However, many of them fail to recognize the contradictions that exist between the conservation of many things the developed world is coming to appreciate as "quality of life," and the redistribution of the world's resources in such a way that development also takes "quality of life" into account.

Two examples come to mind. Environmental education in Japan developed initially almost entirely in response to a compelling environmental issue—rampant

Photo © MTI, Hungarian Press Agency, Budapest



The wood and the trees

The problems posed by the conservation of the environment and the exploitation of natural resources are not always seen in the same way. In the industrialized countries, city-dwellers are taught at an early age (above) to respect and care for trees and greenery. Wood is often imported, even if this sometimes leads to the deforestation of tropical regions (right). The establishment of a new international order means that environmental problems, like those of development, must be approached in a spirit of solidarity, for there is still too much injustice in the management of mankind's common resources.

Straying off the beaten track

The spread of cities, towns and villages often disturbs the habits of animal life in the natural environment. Left, a bear beats a retreat from a village in the Ural Mountains (U.S.S.R.). It is not unknown for a bewildered animal to blunder its way into a big city, like the moose (below) that turned up one morning in a Moscow street.



Photo V. Mussinov © APN, Moscow



Photo © Tass, Moscow



Photo Georg Gerster, © Rapho, Paris

industrial pollution. Although they have by no means solved this problem, the Japanese have made some progress. Some processes that produce effluent are now controlled by local and national legislation. Others have been "stopped" altogether by exporting the problem to other less developed countries in Southeast Asia. For example, a particularly dirty phase in the processing of iron ore imported from Australia now takes place in the Philippines, en route to Japan.

Again, Australia's strict re-forestation rules now make some local timber very expensive. Accordingly, Australia now imports large quantities of cheap timber from Southeast Asian countries which, because of their urgent need for trade with the developed world, cannot afford to lose this revenue by enforcing the same expensive environmental controls as Australia.

Unesco and UNEP have a vital role to play in promoting international cooperation in the development of teaching programmes and materials that bring an awareness of such global interactions, both to students in formal education and to the general public. If left to individual national efforts, these issues are always likely to be underplayed because of national constraints and the natural myopia that shrouds the consequences of one's own actions.

Formal education has been a delusion for many people in most countries. It promises to be the key to social development, but

instead it serves to select a small elite, and as a result most people experience a sense of failure. The environmental education movement suggests that at each stage of education the question should be asked: Is the programme enabling the maximum number of learners to extend their mastery over their environment?

An excellent example of what can be done is the alternative approach to elementary education formulated by the APEID programme in the Asian Region of Unesco, and its pilot projects in various countries have shown that such a goal is not impossible. If children at school in Nepal can, in fact, learn how to choose the right fuel, then their families will indeed have a new sense of mastery, since many families in that deforested land spend hours each day seeking firewood.

There is a pointlessness about so much schooling in the industrially developed world that this approach is just as urgently needed there as it is in countries like Nepal. Perhaps the "back to the basics" movement in a number of countries is really a call for educational programmes that have the same relevance as true environmental education.

It is clear that the Unesco-UNEP Programme has served as a catalyst for national developments in environmental education. What for many countries in 1975 was simply an idea has now become a much more concrete movement through the development of teaching materials for

schools, national plans and programmes, expanded non-formal environmental education, and new legislation establishing environmental education.

The response to the Tbilisi recommendations will vary according to the political and educational structures in each country. Nevertheless, in many countries educational innovators now have a chance to get their contributions to environmental education recognized and established.

■ Peter J. Fensham

Each year two million scientific articles written by 750,000 specialists appear in some 50 languages. To help scientists keep up with this "information explosion", Unesco and the International Council on Scientific Unions decided 11 years ago to launch a programme of international co-operation in scientific information. Much progress has already been made in some parts of the world towards the ultimate goal of hooking up all the world's regions in a single automatic scientific information network.

Information please...

Towards a world science
information network

by
**Yuri I.
Litukhin**

SCIENTISTS form an international community whose common bond, science itself, leads them to see beyond national boundaries and sectarian attitudes. When a scientist makes a discovery, he wants to tell, not just his fellow-countrymen, but the world.

YURI IVANOVICH LITUKHIN, Soviet specialist in computer science, is a staff member of Unesco's division for the international development of social sciences. He is the author of many studies on the application of information systems to economic development.

Similarly, when he seeks information, he wants to be provided with it as quickly as possible, regardless of whether its source is inside or outside his own country.

Today, no one scientist or engineer can hope to keep up to date with the avalanche of technical articles, books and abstracts which threaten to engulf even the most conscientious researcher.

At the beginning of the 19th century, a solution to the increasing number of specialized reviews was found in the form of the abstract journal. But since then both

Photo © APN, Moscow





abstract journals and periodicals have proliferated at an astounding rate so that each year the scientist and technical expert must confront some 50,000 scientific and technical journals, publishing almost two million articles written by some 750,000 authors in as many as 50 languages.

This "information explosion" is both exciting and frustrating. On the one hand, scientists are eager to share in the knowledge and ideas of their colleagues. On the other, they have neither the time nor the resources to sift through a heap of publica-

tions to unearth those items which fall within their field of interest.

And when the scientist does gain access to the material he wants, linguistic and other barriers often prevent him from putting it to good use. The resultant wastage and loss are staggering: for every thousand new ideas in science, only three or four are ever put to practical use.

To reduce these information gaps and frustrations, an intergovernmental cooperative venture called UNISIST has been set up under Unesco auspices. It is de-

signed to stimulate the creation of national and international information systems in the social, natural and exact sciences. Its beginnings go back to a January 1967 meeting between the International Council on Scientific Unions (ICSU) and Unesco at which it was decided to work towards a world scientific information system.

Clearly, this goal is far from realization, but much progress has been made towards it. A preliminary step involved establishing new relationships and better co-ordination on a national and regional scale between

Mankind's memory banks

The story of archives
from the clay tablet
to the computer

by *Jean Favier*

Around the beginning of the 3rd millennium of the pre-Christian era, the Sumerians of southern Mesopotamia invented cuneiform writing as a means of recording names, speech and actions. This clay tablet, dating from around 2000 B.C., is inscribed with a text concerning the income earned from the sale of cattle by the ancient Babylonian city of Isin. A gift from the government of Iraq, it is today exhibited at Unesco's H.Q. in Paris.



Photo Unesco-Dominique Roger

LONG before they became the hunting-ground of historians, archives were the stuff of history itself.

From the very earliest times administrators have committed to public archives the records of state business, just as individuals have kept private records of their own or their families' activities, noting down today what might be of use to them tomorrow.

The materials on which these documents were recorded were as varied as their content. Wax tablets and tablets of baked clay, shells and potsherds, were all used at one time or another. In this way material as varied as the correspondence of ancient kings of Asia Minor, surveys of the Roman Empire, estate-books of the Roman Catholic Church, and William the Conqueror's record of his estates, was preserved for posterity by men who can hardly have been aware that they were acting as the custodians of history.

But if these documents owed their existence to matters of immediate concern, and were in no way conceived with the needs of future historians in mind, they also had two other features in common.

In the first place they were relatively durable. Constant reading could never wear away a tablet or a marble plaque, nor could it harm the fragile papyrus (although the latter might suffer from rough handling or excessive exposure to light). Secondly, each of these documents, no matter how many copies of it were made, was unique.

Although procedures for handling the documents were varied, a copy of the origi-▶

JEAN FAVIER, Director General of the French National Archives, is a member of the Executive Committee of the International Council on Archives. He is a former professor of medieval economic history at the Sorbonne, where he also headed the Institute of History from 1971 to 1975. Among his many published works on medieval history are volume 4 of *Paris au 15^e Siècle* ("Paris in the 15th century"), Hachette, Paris 1975.



Photo Y. Trankvitskiy © APN, Moscow



For centuries, archives have been used to store and preserve historic documents and books. Top, a reader consults the largest of the million volumes in the library at Tambov (U.S.S.R.) Below, a fragment of a nation's memory is stored in this section of the U.S. National Archives in Washington, D.C.

Photo © National Archives, Washington, D.C.



This ancient inscription on clay is another document in cuneiform (wedge-shaped) writing. Unearthed in the Arab Emirate of Bahrein, it was produced around 1800 B.C. Cuneiform was used for writing a number of languages in the ancient Near East.

nal was generally made in the interests of administrative efficiency, while the author also kept a copy as a record of the decisions and information it contained. Thus, there grew up the "registers" and "rolls" which, from the Middle Ages onwards, came to constitute a wealth of information revealing how rulers conducted their affairs.

A glance at the Rolls kept by the medieval kings of England, the papal registers and the documents conserved in the *Trésor des Chartes* in France is sufficient for us to realize the debt which history owes to the systematic compilation of official documents of all kinds.

Together with society's need to conserve documentary evidence came the need to organize this material. It is, after all, to the archives that people turn when they seek precedents for their decisions and the basis for actions and judgements whose rules are not prescribed by law.

For this purpose, the archivists of Antiquity initiated, and those of the Middle Ages—particularly from the 13th century onwards—expanded and extended the process of listing and drawing up inventories, classifying their material alphabetically, chronologically and topographically, so that it could be consulted with greater speed and efficiency.

These traditional archives had their drawbacks, foremost among which was their extreme vulnerability—above all to fire, the nightmare of all ancient towns and cities. When historians think of all the documents that have, over the centuries, gone up in flames, they are reduced to speculation and surmise about their contents, if not to tears of frustration.

Another scourge of archives has always been "borrowing", to use a euphemism. Outright theft is relatively uncommon, but many precious documents have disappeared because their users neglected to return them. If archives were less useful, their contents would be much richer!

From the 17th century onwards, Western historians increasingly felt a need to base their work on documentary evidence, and archivists began to take into account the historical interest of the documents they handled, in addition to their legal content and their value as precedents. Collections of historical documents were made, composed of copies as well as originals. Wealthy collectors enriched their libraries with such miscellaneous acquisitions, which often included documents "diverted" from their original homes.

Scholars ranged far and wide across Europe in quest of unpublished texts, making copies for themselves and their

friends. In many cases, these copies are all the evidence we have of important records, since the originals were subsequently destroyed by fire or tossed into the dustbin during an epidemic of manic "sorting".

This preoccupation with History turned the archivist's world upside down: the servant of administrators became the servant of the historian. During the 19th century, this even led to a reversal of priorities: a scholar himself, the archivist often gave the needs of the historian priority over the immediate demands of the bureaucracy.

Thus the century that saw the development of the positivist approach to history was also the century whose history is in many ways the most difficult to write, because it paid scant regard to future generations of historians. Preoccupied as they were with the past, people forgot that the present too would one day be the past.

At the same time, however, the 19th century also made a major contribution to the writing of history, through the great collections of inventories, exhaustive catalogues of publications and documents that were compiled in many countries.

While archives were acquiring a new scientific and cultural dimension, the right of public access to their contents, as part of a universal heritage, found clearer and more forceful expression.

As a result, the management of archives was subjected to fresh constraints, from which emerged the modern concept of the archivist as a public servant whose duty is to communicate, to assist research and to advise. The development of research in universities would pack the reading-rooms with an enthusiastic yet disinterested public, for whom the right to consult archives was part of the right to discover the truth.

With the coming of the 20th century, archivists began to be faced with a massive increase in the output of official documents, primarily due to the expansion of the state's activities in most countries of the world.

Only a century ago, countless transactions were handled purely on a private basis by the individuals concerned. Today, the state has a finger in every pie—from house-building to symphony concerts—with its permits and prohibitions, its regulations, aid, and taxes. Public records today thus reflect virtually all the activities of the community. At the same time archivists are now more concerned than in the past with preserving additional sources of information in the form of private archives, whether compiled by the man-in-the-street or the statesman, the shopkeeper or the multinational corporation.

Technological progress has also brought upheaval to the archivist's world. The last century has seen the replacement of the quill pen by the ball-point, and of the ink-fingered copyist by the electric typewriter, the duplicator and the Xerox machine. Once, original documents were the rule; now they are the exception.

"Papers, papers, everywhere..." is the result, swamping the archivist, who can no longer cope single-handed with a flood of

Some archives are today a tantalizing mystery. The signs and symbols on the seals produced between 2500 and 1500 B.C. by the ancient civilization of the Indus, have defied all attempts at decipherment. This elephant seal was discovered at the famous site of Mohenjodaro (Pakistan).

Photo Frances Mortimer © Rapho, Paris



documents which may not be of immediate or daily use, yet are not sufficiently uninteresting to be destroyed. Highly specialized new techniques must be used to handle this mass of new material.

Whether the specialists concerned are "archivists" or "documentalists", their task is not merely to let the archives pile up until there is time to attend to them, but to "process" systematically documents which are still useful for administrators and already sought-after by research workers.

The sheer bulk of the material means that closer attention must be paid than in

the past to sorting and selection. Some weeding out is essential, but it must be done with care. The solution is to use a "sampling" procedure, thus avoiding the total disappearance of documentary evidence concerning certain activities.

Thus, the archivist may keep archives concerning one year in five, or one in 20. He may take samples on a geographic basis, taking care that the samples are sufficiently varied to reflect a whole range of social and economic affairs. Or he may take samples according to subject, so that the historians of the future will be able to

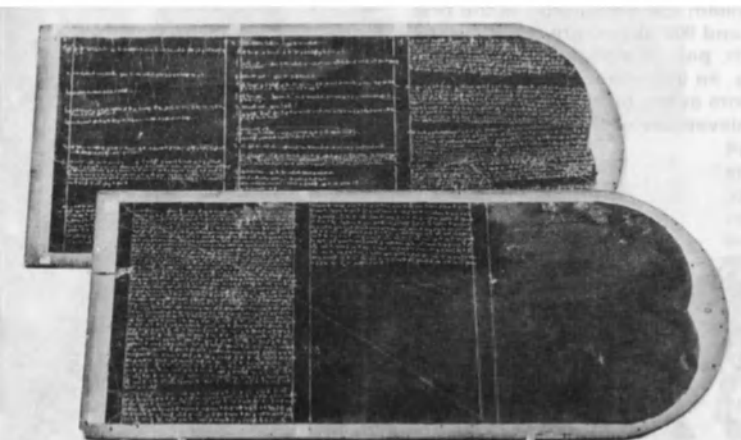
grasp the full complexity of events at any given point in space and time.

The storage of vast quantities of archives is also a costly process. Here, microfilm may seem to be a solution not far short of miraculous, when one compares the cost of a metre of film with that of a metre of shelving, and when one considers that documents which would once have filled whole buildings can now be stored in a few small canisters.

And yet, when the cost of preparing documents for microfilming is added to the costs of the labour and the equipment required, it turns out that it is twice as expensive to microfilm a big collection of archives for storage as it is to construct a special building to house the full-sized documents.

This may mean that the creation of archives on microfilm will not become a serious alternative until the end of this century. Another major drawback must also be faced: in most countries microfilm, which defies many forms of analysis and expert examination, is not yet legally recognized as documentary evidence.

Nevertheless, there can be no doubt that microfilm offers the archivists of our century invaluable possibilities for storing material in limited space, and providing



The use of the stylus to keep records on wax-covered tablets was a practice that persisted from Antiquity into the Middle Ages. Wax tablets at left were used by Jean Sarrazin, Chamberlain of St. Louis, king of France, in the mid-13th century.

Photo © Archives Nationales, Paris



Photo © Photo Department, Archives Nationales, Paris

Among the treasures preserved in archives are documents recording some of the great moments of history. Left, a letter bearing the royal seal written in January 1196 by Richard the Lion-Heart, King of England and lord of much of France, concerning a peace treaty with the French King Philippe Auguste.

But as a computer absorbs new information, it cancels earlier entries as obsolete. If no remedy is found, the historian who consults the memory of a computer may well find the "final result", but not the full story of the game.

The growth of scientific curiosity during the past half-century has also modified the nature of the demands made on archives. The archivist of 1914 had a fair idea of the requests that would be made in a few years time: they would be the same as those made a few years earlier. He would be asked to produce "traditional" material for political, institutional and local history, biographies and genealogies.

Today, however, historians look to the same archives, as well as records of other kinds to which scant attention was paid in the past, for a much broader range of information on economic and social history, the history of collective attitudes and religious beliefs. In the course of a single day, an archivist may be asked to provide documentation concerning the evolution of prices, the development of technology, matters of public health, and forms of religious observance.

At a time when many historians are turning their attention to the recent past, people are concerned with the right to privacy in their own and their family affairs. For archivists, this has created a problem which was unknown to their predecessors a century ago. How can they open their most recent records to public scrutiny, so that the history of our times may be scientifically studied and the workings of government may be clearly understood by the governed, and at the same time protect the individual and his private life from prying eyes and pressures? The archivist's task is indeed full of contradictions.

access to documents whose originals are in distant libraries.

This technological revolution brought renewed awareness of a threat which archivists have, perhaps, tended to neglect since the age when records were inscribed on papyrus: the fragility of documents. What will remain, a few centuries from now, of our photographs which yellow with time, of our photocopies, and of carbon copies on flimsy paper? In 30 years time, what will have become of our recordings on tapes which deteriorate with every playing and eventually become demagnetized?

The widespread use of computers poses an even more serious problem. Even if

ways are found of preserving from decay the memories contained in today's data banks, who can be sure that the machines of the late 21st century will be able to use them? What shall we do if the memories are silent?

The methods used for storing archives on paper may be inadequate when it comes to preserving the records of the computer age. A document committed to paper bears traces of all the stages of its life; successive entries mark its passage through different hands. A register, an account book or a file shows an unfolding pattern in the work of a law court or the activity of a business, and enables us to follow the development of a career and a life.

Domesday Book, compiled in 1086 on the orders of the King of England, William the Conqueror, is the first official census of property owners in England. Its two volumes (760 pages and 900 pages) are the earliest "public" archive preserved at the Public Record Office in London. Below left, part of a page of Domesday describing in minute detail the land and possessions of Edward of Salisbury, an important landowner. Right, a plough-team from an 11th-century calendar showing costume and implements at the time of Domesday Book, which is considered by many scholars to be the greatest administrative achievement of the Middle Ages.

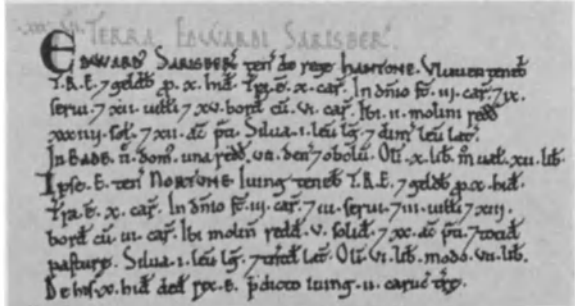


Photo © Public Record Office, London

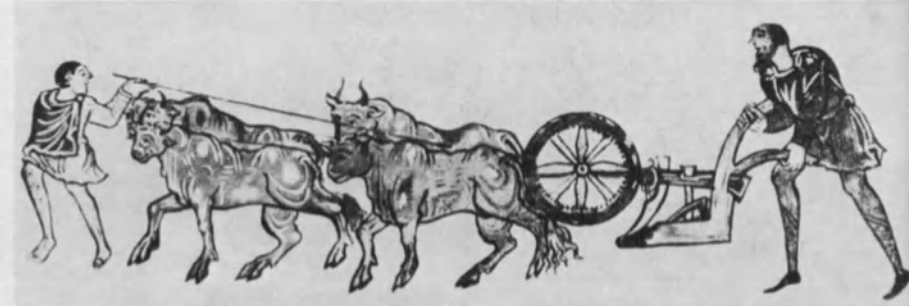


Photo © British Library, London



Photo © National Archives, Washington, D.C.

Design (above) proposed by William Barton in 1782 for the Great Seal of the United States is now in the National Archives, Washington, D.C. The small design in the upper right-hand corner was adopted as the reverse of the seal and also appears on a dollar bill. The rest was rejected.



Original document of the *Lei Aurea*, the Golden Law abolishing slavery in Brazil, dated 13 May 1888. The first two articles read as follows: "Article 1—Slavery in Brazil is herewith declared illegal as from the date of this law. Article 2—All contrary provisions are hereby rescinded."

Photo © Arquivo Nacional, Brazil

Human rights are one thing. The rights people actually enjoy are another. The break-up of great empires, which began as long ago as the Middle Ages but which acquired particular momentum in the past two centuries, has obliged many peoples to look outside their own countries for some or all of the records of their history.

This has led to claims which are as comprehensible as they are difficult to satisfy.

The present distribution of archive material does not necessarily reflect the territorial changes which followed the fall of the Ottoman or Austro-Hungarian Empires or the end of colonial and military occupations.

And although microfilm may offer a scientifically acceptable solution, it is no help in settling questions of principle. Nor—as we have seen—is it an inexpensive process. This is one of the problems which are being examined today by Unesco, the International Council on Archives and the International Round Table on Archives.

The history of archives goes back 3,000 years. Throughout this period, they have reflected human difficulties in every age. Today, they are part of the national and international policies of every country. A thread of continuity runs through this history—the quest to improve the tools of government and administration, pursued by both medieval kings and the Heads of State of developing countries today.

When modern states define the laws which govern access to their own archives, and negotiate with other states the right to consult archives which are not in their own keeping, they are turning a new page in the history of human memory.

■ Jean Favier



Photo © Photo Department, Archives Nationales, Paris

People often think of archives as stacks of musty papers stored in deserted rooms. Today this image is increasingly false. Archives now contain a mass of recent documents, which are often recorded by modern techniques such as microfilm and are consulted by the general public as well as specialists. Left, microfilm reference room at the Archives Nationales, Paris.

Catalan masters of modern art

by *Alexandre Cirici*

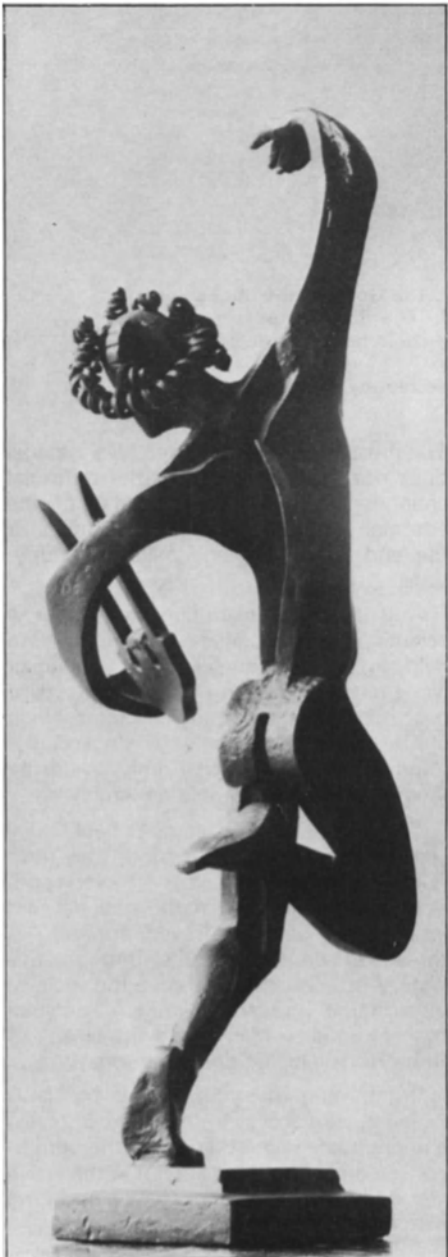


Photo Jean Bescos © Editions Carmen Martinez, Paris

CATALONIAN art can only be fully understood when set in its geographical and historical context.

The Catalan language is used in a broad area on the western littoral of the Mediterranean. Catalonia, which was for many centuries an independent state, is today inhabited by some 10 million people and divided between Spain and to a lesser extent the Principality of Andorra and France. In France, Catalonian territory coincides almost exactly with the administrative department of the Pyrénées Orientales (Eastern Pyrenees), and in Spain with the provinces of Gerona, Barcelona, Lerida, Tarragona, Castellon, Valencia, Alicante and the Balearic and Pitiusan Islands.

Catalonia first appeared in history in 801 as an outpost of the Carolingian empire known as the Spanish March (Marca Hispanica). In the 10th century, during the rule of Count Borrel II, it declared its independence of the Frankish empire. Thus was born a sovereign state which would last until the 18th century.

In the 12th century Catalonia began to grow, with the conquest of Tarragona and Lerida, and in the 13th, when expansion to the north was blocked by the French, it acquired fresh territory further south. Mallorca was conquered in 1229, Ibiza and Formentera in 1235, Valencia in 1238 and Minorca in 1287. The resulting confederation between Catalonia, Valencia and the Balearic Islands marked the appearance of national unity in the territory where the Catalan language is still used today.

The construction of a vast Catalonian

ALEXANDRE CIRICI, *Barcelona-born Spanish art historian and art critic, is professor of the sociology of art in the university of Barcelona. The author of some 80 published works, including studies on Gaudi, Picasso, Miró and Tapies, he is member of the Miro Foundation in Barcelona. He is also a member of the Spanish senate and of Spain's delegation to the European Parliament in Strasbourg.*

empire in the Mediterranean then got under way with the annexation of Sicily in 1282, Greece in 1311, Sardinia in 1323, and the kingdom of Naples in 1443.

Pyrenean Catalonia, where people lived mainly from farming and livestock rearing, became a meeting-point of cultures. The urban civilization of Islamic Cordoba, then the greatest city in the West, spread from the monasteries of Ripoll and Cuixa to the rural areas of Europe. Monumental sculpture, instrumental music, secular poetry and so-called "Arabic" numerals were important features in this process of cultural transmission. Catalonia was also among the birthplaces of troubadour poetry.

At the beginning of the 16th century, the last king of Catalonia and the queen of Castile made the Fleming Charles V their sole heir. Thus Catalonia and Valencia came to figure among the states ruled by the House of Austria.

In 1660 France annexed the northern part of Catalonia (present-day Roussillon), and in the 18th century Spain brought the Catalans under its rule. Valencia lost its independence in 1705, and in 1713 Minorca became an English possession. Mallorca and Ibiza lost their autonomy in 1715, as did Catalonia in 1717. From that moment on, France and Spain began to stamp their imprint on their new acquisitions.

Even so, 19th-century Catalonia enjoyed a remarkable economic, literary, scientific and political renaissance, which transformed it into a modern industrial region equipped with a major seaport. At the same time, Catalan came to the forefront of the world's "non-official" languages in terms of published output.

Catalan is today the only official language of Andorra. It is also one of the two official languages of Catalonia, a status which it is also expected to acquire in Valencia and the Balearic Islands during 1978. Since 1977, the area of Catalonia which forms part of the Spanish state has



Catalonia, which produced a remarkable school of Romanesque painters and sculptors in the Middle Ages (see following pages), has also made a major contribution to modern art. Some of the boldest artistic innovators of the century were Catalonians, such as Julio González (see page 23) and Pau Gargallo. A pioneer of cubist sculpture, Gargallo was one of the first artists to experiment with modern industrial techniques for fashioning metal. Shown here, two typical examples of his work: *The Prophet* (detail left) and *David with his Harp* (opposite page).

Photo © Mas, Barcelona. National Museum of Contemporary Art, Madrid

been moving towards the autonomous status it enjoyed between 1931 and 1939. It now has a government of its own that devotes special attention to Catalan language and culture.

The most remarkable contribution of the Catalan people to world culture is without doubt their art. Architects, sculptors and painters from Catalonia have played a major role in the revolution in visual idioms that has taken place in this century.

The development of modern art in Catalonia can be broken down into three main phases.

Between 1890 and 1910 the Symbolists opened up new horizons, and their works reflect the joy of life and the spontaneous, instinctive manifestations of human nature.

The period from 1910 to the outbreak of the Spanish Civil War in 1936 was marked by bold experimentation, as artists sought new directions, new methods and intellectual concepts, as well as a fresh sensibility.

A renewed spirit of adventure in the arts appeared around 1950, when the fascist régime ceased to be applied in all its severity.

The first of these periods was that of "Modernism", a revolutionary movement in the arts that affected architecture in particular, but also radically changed the forms of objects such as ceramic ware and curtains, stained-glass windows and metal ornaments, jewellery, porcelain, clothes, posters and books.

Everywhere the forms inherited from classical art began to give way to sinuous lines and a profusion of floral shapes, the lyrical manifestation of a quest for an intensified sensuality which could only find expression in the most mysterious art which on the one hand sought its inspiration in grandiose concepts, and on the other took delight in a close scrutiny of details—the meticulous observation of twigs and insects.

Art of this kind existed in other European countries as a form of decorative fantasy, but in Catalonia it had a remarkable vitality that expressed itself in hundreds of buildings and in decorative ensembles and objects of exceptional quality.

The most outstanding figure in this movement was the architect Antoni Gaudí, who broke with dull, colourless academic traditions to create a highly original type of architecture rich in colour, sometimes infused with Islamic or Japanese motifs, and always looking to Nature for its inspiration.

Gaudí began with shapes borrowed from exotic styles, but he was soon covering his buildings with a coating of sculptural forms taken from the landscape and from the living world of Nature—stars, constellations, clouds, rocks, icicles, plants, animals and people.

Later he even went so far as to treat architectural features as organic shapes. Thus windows became gaping mouths, cornices eyebrows, columns thighbones, rooftops scaly skins, domes garlic bulbs, vaults rib cages, and so forth.

Towards the end of his life Gaudí put this imitation of natural forms behind him and

CONTINUED PAGE 23

The anonymous painters of medieval Catalonia

CATALONIA is a land steeped in an age-old civilization and hence in art. The Catalan language and culture came into being around the same time as the other great languages and cultures that grew out of the collapse of the Roman world: French, Italian, Spanish, Provençal, Galician-Portuguese, Romanian and others.

Like them Catalan emerged around the year 1000 and gradually took shape in the later Middle Ages down to the Renaissance and the great voyages of discovery in the 16th century.

Catalonian culture reached a high level during these centuries, producing such great figures as Raymond Lully in philosophy, Joanot Martorell in literature and Juan Luis Vives in humanist thought.

But it was in art, and especially painting, that early Catalan culture achieved its finest splendours, as it would do again centuries later with its world-famous modern architects and painters. (See article page 16).

With the exception of the mural paintings in the Pantheon of Kings which adorns the basilica of San Isidoro in the city of Leon, most of the treasures of Spanish Romanesque painting are concentrated in the churches and monasteries of Catalonia. These works, many of them executed on wood panels, are examples of a humane, powerful, and emotionally charged art that, until recent times, was known only to a few specialists.

Most of the artists who created these masterpieces were monks. Their names are unknown, and they are identified by the names of the places where they worked. The Master of Pedret, the Master of Tahull, the Master of Soriguera, the Master of Osorjord and the Master of Espinelves were some of the most famous of these painters who worked between the 11th and 13th centuries.

For hundreds of years the marvels of Catalonian Romanesque painting remained hidden in small churches, convents and monasteries in the towns and villages of Catalonia. It is only since the beginning of this century that specialists have been bringing them to the attention of a wider public. Today most of these works are preserved in Catalonian museums, notably Barcelona's Museum of Catalonian Art, which has an unrivalled collection of Romanesque painting.

Romanesque art in Catalonia—and elsewhere in Spain—bears traces of various outside influences. The road that ran from Cordoba in the South to Toledo and Leon in the North was the principal route along which Muslim art and culture spread from Cordoba, until the fall of the caliphate early in the 11th century. There was, for example, an important Mozarabic school of panel painting that left its mark on painting in the Christian kingdoms of the Iberian peninsula.

Then, too, the pilgrims' road to St. James of Compostella crossed northern Spain from east to west bringing artistic influences from elsewhere in Europe, starting with that of the Benedictine abbey of Cluny in Burgundy which was the fountainhead of Romanesque art.

The works of the anonymous painters of medieval Catalonia blazoned forth the great themes of the Old, and even more often the New Testament, as well as the lives and legends of the saints, in a style that is sometimes strikingly modern. On the following pages we present a selection of these masterpieces. (See also back cover.) ■

Colour pages

Centre double page

Scenes from the life of St. Clement are shown on this frontal from the church dedicated to the Saint in Tahull, a Pyrenean village in the Spanish province of Lérida. The painting, executed in the 12th century by an anonymous painter known as the Master of Tahull, is now in the Art Museum of Catalonia, Barcelona.

Photo © Spanish Embassy, Paris

Opposite page

St. Margaret devoured by dragons: a detail from a frontal in the ancient monastery of St. Martin, in Sescorts near Vich (Barcelona province). The 12th-century work is now preserved in Vich Episcopal Museum.

Photo © Spanish Embassy, Paris





IN USC TO







concentrated on the inner logic of structural design.

Another architect of the period, Lluís Domènech i Montaner, combined a search for technical innovations with a lavish use of decorative floral motifs, covering every inch of his buildings with ceramic flowers in high relief, mosaics, stained glass and trees sculptured in stone.

Younger than both Gaudí and Montaner, Josep Puig i Cadafalch carried on where they left off. To the fantastic, polychrome architectural style of "Modernism" he added a whole range of structural and decorative forms taken from the folk art of Catalanian rural houses to which he gave a rich ornamental character. He was also instrumental in helping to revive the traditional skills of blacksmithing, glassworking, graffito decoration (1) and tile-making.

The most original figurative artist of the period was Isidre Nonell, who broke with academic theory by choosing to paint the slums, the poor, the mentally retarded, gypsies and outcasts. The most important phase of his artistic career might be the record of a descent into hell. During this sombre period a bronze-green colour predominates in canvases depicting the melancholy faces of gypsies bowed down by care and rapt in silent thought. Yet despite the gloomy subjects and the sombre

(1) Graffito is a method of decoration in which designs are produced by scratching through a superficial layer of plaster, etc., revealing a ground of a different colour.

tones of these paintings they are rich in subtle colour gradations.

Nonell was a friend of Picasso during the latter's famous "blue period" in Barcelona, and his own development followed similar lines. Only towards the end of his life did he again come to terms with joy, beauty, light and transparent hues.

Aristide Maillol, the sculptor from French Catalonia, stands on the borderline between the dreams and visions of the turn of the century and the new taste for simple, concrete forms which was to characterize art after 1910. He discarded the concept of sculpture viewed as the interplay of light and shadow, and introduced the new idea that sculpture was the art of volumes set in space.

Two other Catalanian sculptors took part in the avant-garde movement in Paris and went on to win international acclaim. One of them, Pau Gargallo, was a key figure in the creation of cubist sculpture. His great contribution was to show that volume did not necessarily imply a physical mass but that it could also be represented by empty space. Gargallo discovered that it was possible to express volume by the use of intersecting planes and the technique of perforation.

The other sculptor, Juli González, after working for many years as a jeweller, invented an art form that would be widely imitated—sculpture made by welding metal with an acetylene torch. This technique often produced dramatic results because of the effects of the molten iron dripping.

The most important contribution to the avant-garde, however, came from the painters associated with the surrealist movement.

The most brilliant was Joan Miró, who has today become the national painter of Catalonia and is still as active and productive as ever.

Miró began to be known about 1918. In 1923, influenced by his friendship with the surrealist poets in Paris, he made the great discovery that was to lead to his distinctive type of painting.

As he himself said, he stopped looking for Nature and let Nature come to him. Thus he learned to look at landscape for a long while, allowing it to impress itself on his mind. Only then would he paint, giving his hand free rein, guided only by the feelings that contemplation of the countryside had aroused in him.

Since that time Miró has painted his own highly personal world. It is a world full of mystery, strength and joy, but one which also sends out cries of despair, a universe peopled by creatures that hover between a mythological earth and sky filled with signs, where birds and star clusters exist side by side with great red suns and blue moons.

A few years later there appeared another surrealist vision, that of Salvador Dalí who used a meticulous, academic manner to paint his dreams and obsessions, revealing in his work a whole new world of subconscious realities.

The Spanish Civil War (1936-1939) did not interrupt, but on the contrary stimula-



Photo © Editions Carmen Martínez, Paris

Julio González, a Catalanian who settled in Paris as a young man and became a friend of Picasso, is one of the founders of modern sculpture. He used the techniques he learned as a welder in a car factory to create works in sheet metal. Above, *Don Quixote*, a cubist work by González.

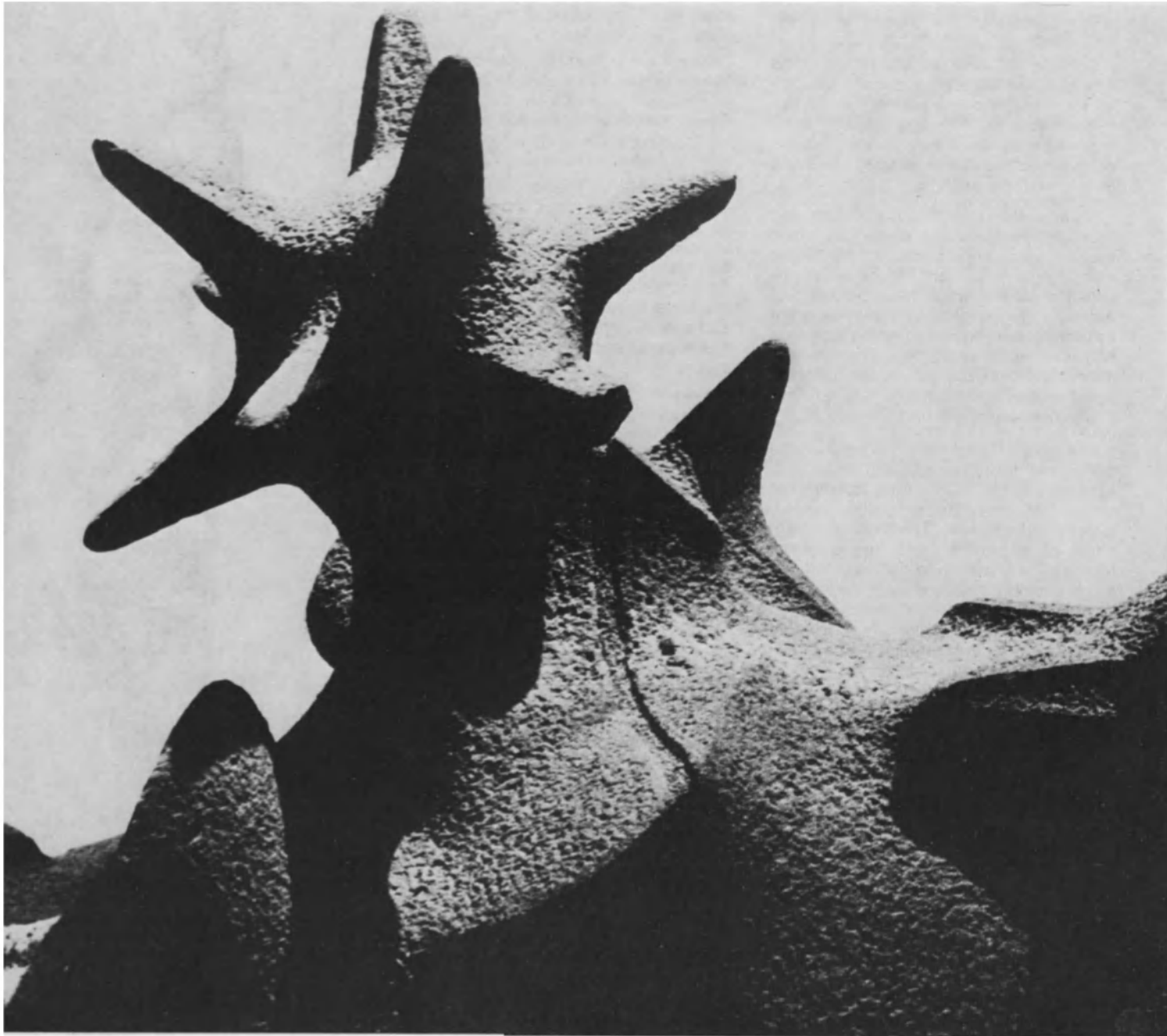
Colour page opposite

Above left: the Nativity, detail of an altar panel from the church of St. Andrew, in Sagàs, north of Barcelona. This 12th-century work is now in the Diocesan Museum, Solsona. Above right, Lazarus at the rich man's gate. A detail of murals from the 12th-century church of St. Clement, in Tahull, it is now in the Art Museum of Catalonia, Barcelona. Nativity (below) from a frontal of the church of St. Mary, Avia, was painted around 1200 by the Master of Avia. It is also in the Art Museum of Catalonia, Barcelona.

Photos Unesco

Photo © Spanish Embassy, Paris

CONTINUED PAGE 26



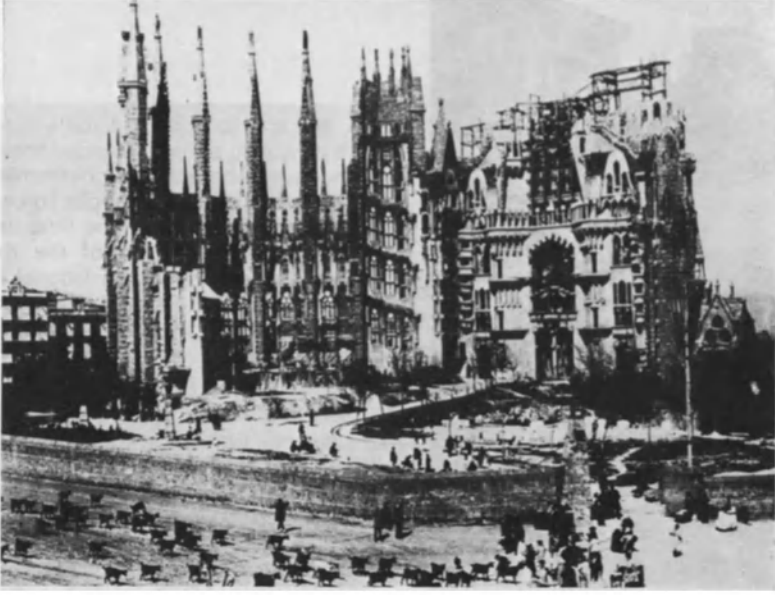
1

Gaudi's phantasmagoria in stone

The best-known work of the celebrated Catalan architect Antoni Gaudi (1852-1926) is undoubtedly the cathedral of the Sagrada Familia (Holy Family) in Barcelona. The conception and construction of this extravagant building (which was never completed) show Gaudi at the height of his creative powers. In 1891, he took over the project from another architect who had built the crypt, and worked on it for the rest of his life. Photo 2



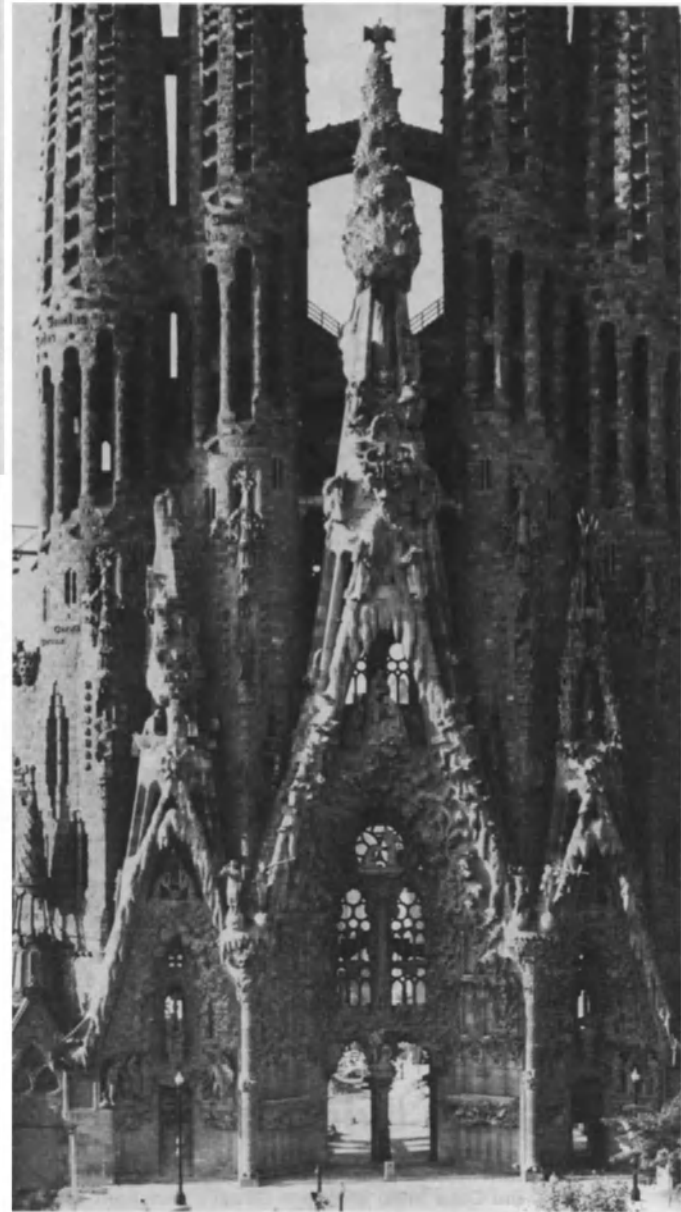
5



2



4



Photos © Clovis Prévost-Robert Decharnes, Paris

3

shows the building at the turn of the century. Initially inspired by neo-Gothic and Arabic models, Gaudi soon left behind all consideration of the past, and began to cover the cathedral's façade of the Nativity (photo 3) with a riot of complex forms from Nature. The stone seems to flow in curves like lava, solidified in a wild profusion of plant and animal motifs, stalactites and stalagmites, clouds, stars and constellations. Photo 1 shows in close-up a detail of what Gaudi called his "Milky Way coagulations". But the architect also moved away from the use of natural imagery for its own sake to a conception of architecture in which there is often a logical structural reason behind the apparently capricious forms. The many sculptures adorning the cathedral illustrate a tireless quest for realism. All the New Testament figures were portrayed from life. Gaudi used his workmen and their families as models, and the church became known as "the cathedral of the poor". In photo 5, a mason's sister poses with a baby in front of a mirror for the Nativity scene. Photo 4, the Nativity as finally depicted on the cathedral façade.



Photo © Clovis Prévost-Robert Descharnes, Paris

Surreal living quarters

Two multi-storied apartment buildings in Barcelona (above, the Casa Battlo; below right, the Casa Mila) illustrate Gaudí's penchant for highly animated surfaces. Broad wavy balconies enliven the façade of the Battlo house, which is covered with pieces of coloured glass and enamelled ceramic tile. Building with stepped gable end, at left of the Battlo house, is by another Catalan architect, Josep Puig i Cadafalch, who played a leading role in the modernist movement. The Mila house, and especially the roof terrace shown here, is one of Gaudí's most astounding creations. An undulating path without handrails runs round the void of two inner patios, creating an atmosphere of insecurity heightened by the weirdly-shaped chimneys. Another great Catalan artist, Salvador Dalí, is a fervent admirer of Gaudí and drew inspiration from the Mila terrace in architectural drawings (below).

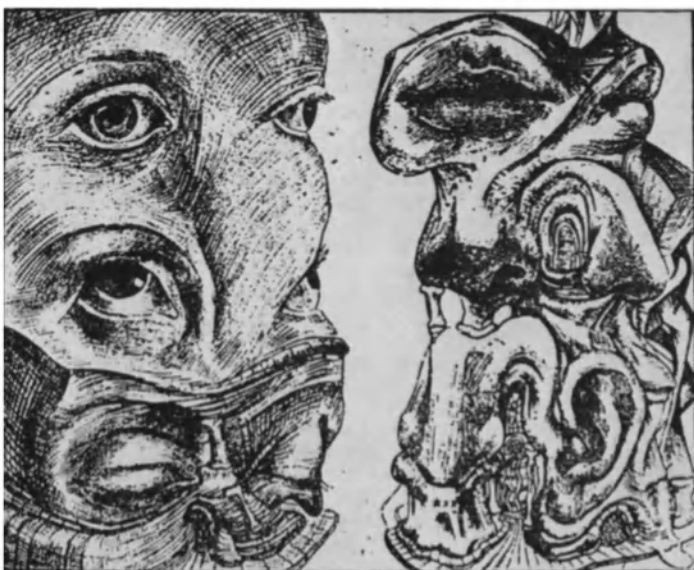


Photo © Robert Descharnes, Paris

ted, the artistic efforts of the Catalonians who almost to a man defended their autonomous regional form of government and the Republic against Falangist forces. An example of the spirit of the time was the opening of the pavilion of the Spanish Republic at the Paris International Exhibition in 1937 where Picasso's *Guernica*, Juli González's *Montserrat* and Joan Miro's *Segador* were all displayed in a building designed by Josep Lluís Sert.

Sert is an architect who took part from the outset—from 1929, to be exact—in the creation of the international movement in favour of functionalist architecture. His contribution consisted in broadening its programme by incorporating features drawn from Mediterranean folk art, as well as the equally Mediterranean concept of deep interior spaces where light filters in. Sert was exiled at the end of the Civil War and sought refuge in the United States, where he became Dean of Architecture at Harvard University.

For years the directives of the Falangist State forbade any attempt to build in a modern style, until finally the treaty concluded between Spain and the United States in 1951 brought with it more freedom in architecture.

From then on a style known as organic architecture began to develop around J.A. Coderch, an innovator with a fondness for trapezoidal spaces and star-shaped ground plans, though he later evolved towards sophisticated experiments in the use of materials and space.

The restless yearnings of Catalanian architects ultimately crystallized in the Barcelona School, in which Oriol Bohigas played a leading role. Members of this school followed the tenets of empiricism, which was given the name of "realism", and looked for a fresh kind of visual poetry, while continuing to use traditional building methods.

In the last 25 years Catalanian painting has been dominated by the personality of



Photo © Clovis Prévost-Robert Descharnes, Paris



Masters of despair

Isidre Nonell (1873-1911) was a leading figure in the Catalan artistic revival of the early 20th century. As a young man he broke away from prevailing trends in academic painting, and turned to portraits of gypsies, outcasts and the poor. In Barcelona around the turn of the century, he was closely associated with the young Pablo Picasso, who made a careful study of Nonell's work. Several of Picasso's paintings from this famous "Blue Period", such as the *Absinthe Drinker* (left) display a strong affinity with such typical Nonell works as the *Seated Gypsy* (right).

Antoni Tàpies. After a period in which he painted magical, mysterious imagery, he began to produce what has been called "matter painting", in which terrifying graffiti are scraped or scratched on rough, simple materials to express the anguish of life

and a protest against death and destruction.

Since 1970 there has been a marked trend towards the "dematerialization" of art and the use of media such as video tapes. Antoni Muntadas, in conjunction with certain groups in the United States, is carrying out highly original research in this field, as well as experiments in tactile and olfactory art.

Catalonia continues in the forefront of world art developments.

■ Alexandre Cirici

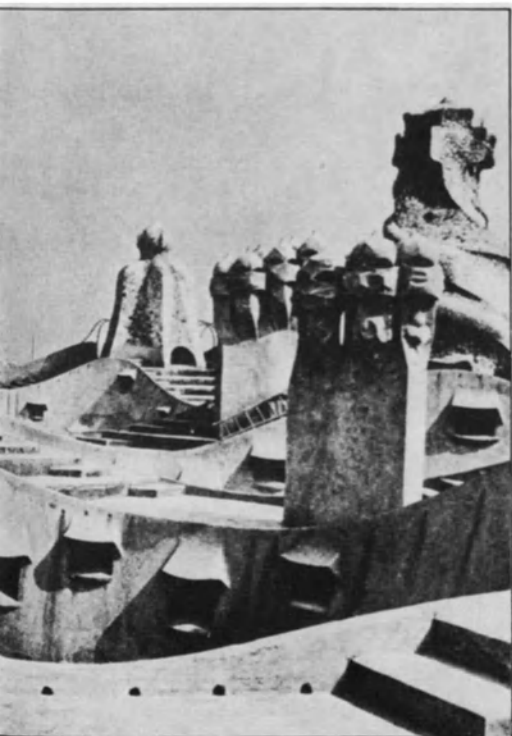
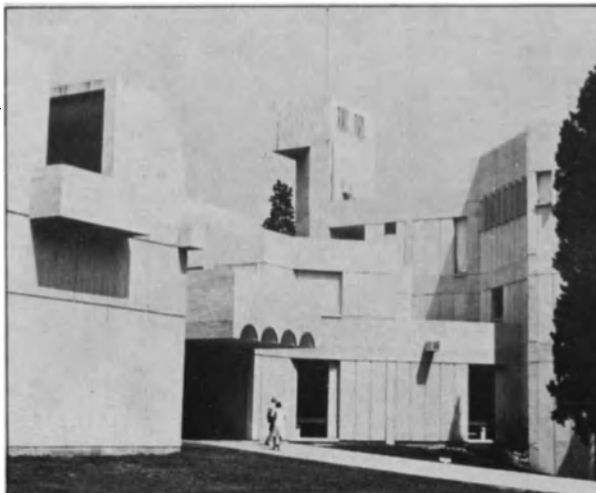


Photo © Douline-Centre de Création Industrielle, Paris



The Centre for Contemporary Art Studies in Barcelona (left) is a major work by José Luis Sert, one of Catalonia's most outstanding modern architects. Also known as the Miró Foundation after its creator, the great Catalan painter Joan Miró, the Centre has just been awarded a prize by the Council of Europe for "its contribution to the creation of a new conception of the art museum as a cultural centre". The Centre houses an important collection of works donated by its founder.

The whys and wherefores of education tomorrow

by Charles Hummel

CHILDREN who enter school today will be about thirty years old in the year 2000 and will therefore still be in the early stages of their professional careers. Those already in school will shape the beginning of the next millennium.

In education, reforms and innovations conceived today will not come into force until a few years from now and it will be several decades before their effects are felt.

Whenever an attempt is made to reform existing educational systems, planning is automatically implied, and it is thus essential to try to make forecasts. Planning means making choices, taking out options on the future. Educational planning also presupposes the existence of a political purpose, for its aim is to bring into being a given type of society.

A few years ago, educational planning was still primarily conceived in quantitative terms. For example, planners set out to forecast the number of enrolments in schools, colleges and other educational institutions, as well as the number of graduates they would turn out, and tried to furnish a "product" that corresponded to manpower requirements drawn up in the light of economic and other objectives.

To some extent, this type of quantitative educational planning has proved a failure, largely because manpower needs cannot be predicted over a long period.

It is generally admitted today that educational planning should form part of a comprehensive social policy designed to promote changes and innovations that will last. Since any policy reflects a system of values, it is clear that educational planning should be concerned with quality as much as with quantity.

Planning also means forecasting how the present situation will evolve, and defining goals which are both desirable and realistic. But the future is never completely open,

CHARLES HUMMEL, Switzerland's permanent delegate to Unesco, is a member of Unesco's Executive Board. He also represents Switzerland on the Council of the International Bureau of Education, and was rapporteur at the International Conference on Education held in Geneva in 1975. The text published here forms the conclusion of a study prepared for the International Conference and published by Unesco in 1977 as *Education Today for the World of Tomorrow*.



Photo Bajande © Rapho, Paris

sense an educational one. Although we may not realize it, the race is on between education and catastrophe.

The new world order cannot be based exclusively on economic considerations. It must be social and cultural as well. Insofar as it does—or does not—come into being, it will determine the future development of education throughout the world. If it does not come about, world peace will be gravely threatened. If, on the other hand, there is a real determination to reduce injustice in this world of ours, then the educational systems of the developing countries are bound to expand at an unprecedented rate.

But even if we accept the most optimistic forecasts about the resources available to the developing countries after successful negotiations on the establishment of a new world economic order, it seems highly unlikely that the educational problems of these countries will be solved by traditional European teaching methods, often dating from the 19th century.

It seems more realistic to suppose that the new forms of non-formal education now being developed will gain ground. One does not need to go so far as the famous thinker Ivan Illich, who believes that the school as an institution is on the way out, to feel that education will increasingly be affected by a certain "deschooling" process. Teaching methods being developed outside the schools, especially those such as group dynamics now being used in adult education, will have a growing influence on teaching in the schools. Non-formal educational activities and above all the mass media are bound to have a stronger impact.

All these influences will force schools to open their doors to the outside world. Teaching will become more flexible and more relevant. It will break out of the straightjacket of tradition and become more closely associated with "cultural development" in the widest sense.

This flexibility will be reflected in the classroom: instead of being grouped according to age, pupils will be grouped according to the extent of their knowledge. Wide areas of the curriculum will be taught outside the school, especially in other cultural institutions.

The extent of "deschooling" will, however, depend on future economic performance. It will take place at a faster rate if there is economic growth, for it is bound to slow down during a recession if only because new schools (or educational and cultural centres) will have to be built to free education from the excessively rigid structures of today.

The concept of lifelong education seems certain to change the face of education throughout the world, even though it is still far from being generally understood and has not yet been fully integrated into any educational system. But wherever major educational reforms are carried out, they will be conceived with lifelong education in mind. This means that education systems will become more coherent, but at the same time more complex and therefore more unwieldy.

and the possibilities it holds are to a large extent determined by the present and by the past.

The future of education will depend more on external factors—political, economic, social and cultural—than on the intrinsic characteristics of educational systems. These factors, which vary from country to country and from region to region, will determine tomorrow's education just as they determine today's. However, as certain similarities exist between educational problems in different parts of the world, one might expect to find certain common trends appearing as well.

Certain trends do undoubtedly exist which are bound to influence the future of education. But their impact will obviously depend on more general factors such as economic growth. Until 1973 no one hesitated to base forecasts on the assumption of continuing economic growth. Today this hypothesis is extremely dubious, to say the least.

It is more than likely that a slowdown in economic growth, not to mention economic stagnation or even a prolonged recession, would hamper any attempts to restructure educational systems, as well as putting a brake on educational expansion. The first signs of this have already appeared. There is a danger that reforms may lose their impetus, especially in the industrialized countries.

If the world, or at least most countries, should enter a period of widespread instability and insecurity—and this seems to be happening—far-reaching changes in human relationships could be on the way. In seeking greater stability, social systems may well tend to become more rigid. For education this would imply a return to more authoritarian teaching methods and more rigid structures.

On the world political scene there is a growing awareness that the future destiny of mankind hinges on the establishment of a new international economic order.

The task that lies ahead is to strike an acceptable balance between the developing world and the industrially developed countries, and to create a world-wide solidarity among peoples. Without this solidarity, we cannot hope to survive on our planet, that rudderless boat adrift on hostile waters. This task must be accomplished in the very near future and it is in the broadest



Photo Douglas Kirkland © Look magazine

Between 1960 and 1972, enrolment in secondary schools throughout the world grew faster than in primary schools, and enrolment in higher education increased even more rapidly. The greatest discrimination seems to occur when children reach primary school age, but for those who succeed in entering the system, chances of gaining admission to the higher levels are improving.

It also means that more and more people will be engaged in learning. Pre-school education will become universal, young people will stay on longer at school, and adults—including the elderly—will enjoy many more educational opportunities. Education is already a mammoth undertaking: there are more than 50 million young people in school in the U.S.A., and India has over 100 million schoolchildren. Tomorrow it may be absorbing an even bigger share of national budgets, and so cheaper, more efficient ways of teaching will have to be found.

Expanded education systems will become even more inert and resistant to change than they already are. Far-reaching reforms will need the most powerful backing if they are to succeed. There is a danger that the "old democracies", where unstable political situations seem to be gradually developing, may lose the necessary strength to launch major reforms. The most remarkable educational innovations in the future may well appear in the "young" developing countries.

The democratization of education is already a major priority in many countries. This trend will continue, and will probably be reinforced by a growing decentralization, particularly in educational administration.

It is likely that lessons will be learned from certain failures to achieve equality of opportunity, but one can assume that the idea of equality will be further developed and refined. This will be encouraged by the strong trend towards individualized teaching, for equality no longer means "the same education for all", but "the best education for everyone".

The democratization of education will put greater pressure on higher education, and the resulting difficulties such as graduate unemployment, will become more serious. The remedy for these problems will not be found within educational systems.

It may well be asked whether a different division of labour may not solve the problem. It is also possible that we may be moving towards an increasingly strong meritocracy.

As education becomes more democratic, there will probably be an even greater tendency to standardize instruction up to the end of the first stage of secondary school, but adding an increasingly wide choice of options to this common core. The same trend will also be encouraged by the continuing need of qualified people to keep abreast of the latest developments in science and technology. It will become normal practice to change careers at least once in a lifetime. The distinction between general and vocational education will gradually disappear, since the ability to adapt to change will become more important than the possession of specific knowledge or skills.

A few years ago, everyone expected that such technological developments as classroom TV and computers would completely revolutionize education. But although some changes have occurred, they have been far fewer than might have been fore-

seen. Education systems have so far proved surprisingly resistant to the impact of new educational technology. It is thus unlikely that they will bring about any major changes in the future.

International and regional organizations will play an increasingly important role in the development of education systems. There have already been several instances of new guidelines for education being worked out in such organizations before being taken up at the national level.

It is thanks to international organizations that avant-garde thinking is crystallized and disseminated. The international organizations are the great catalysts of thought, research and development in the service of all nations.

It is also the international organizations, and primarily Unesco in the field of education, which are creating networks for the exchange of information and experience—arteries which are vital to modern processes of innovation—as well as structures for practical co-operation.

There is, however, a certain tendency to establish international co-operation on a regional basis. In some cases regional bodies are tending to take the place of the truly international organizations, which have often become too unwieldy, too ambitious and too "politicized" to provide with maximum efficiency the "technical" services that governments need.

Perhaps the promotion and co-ordination of regional activities will become new tasks for the international organizations, whose work will in turn become more decentralized.

As the world becomes increasingly interdependent, international co-operation in education will become more imperative than ever. As a result the problems to be solved will be increasingly similar, and there will be an ever growing need for the exchange of information, the comparison of solutions adopted, and united action.

■ Charles Hummel



Photo Nadar © Archives Photographiques, Paris

Portrait of Jules Verne (1828 - 1905) by his friend Nadar. When this photo was taken about a century ago, Jules Verne already had a wide readership. Today his popularity is still growing. According to Unesco's *Statistical Yearbook 1976*, he is one of the three most translated authors in the world (with 156 translations in 1976). Only Lenin (348 translations) and Agatha Christie (159) had a higher score. His universal appeal is due not only to his outstanding gifts as a storyteller but also to his prophetic qualities. In *Autour de la Lune*, 1870 (published in English as *From the Earth to the Moon... and a Trip Around It*, 1873) he described the weightlessness that modern astronauts would later experience. Right, drawing from the first edition showing the hero happily and weightlessly afloat.

Jules Verne

Seer of the Space Age

by *Alain Bombard*



Photo © Editions Hachette, Paris

To mark the 150th anniversary of the birth of Jules Verne the *Unesco Courier* has asked Dr. Alain Bombard to evoke the life and work of the great French writer who was one of the founders of modern science fiction. Dr. Bombard could qualify as a Jules Verne hero in his own right. In 1952, to test shipwreck survival techniques, he sailed across the Atlantic on a tiny rubber raft without either food or fresh water, surviving the 65-day crossing from the Canary Islands to the West Indies by catching fish.

JULES Verne was born in the Breton seaport of Nantes 150 years ago, on 8 February 1828.

His stories have been part of my life ever since my earliest childhood. My mother's parents had known him at the height of his fame, and their house near Paris, where we used to spend our Sundays, was crammed with his books.

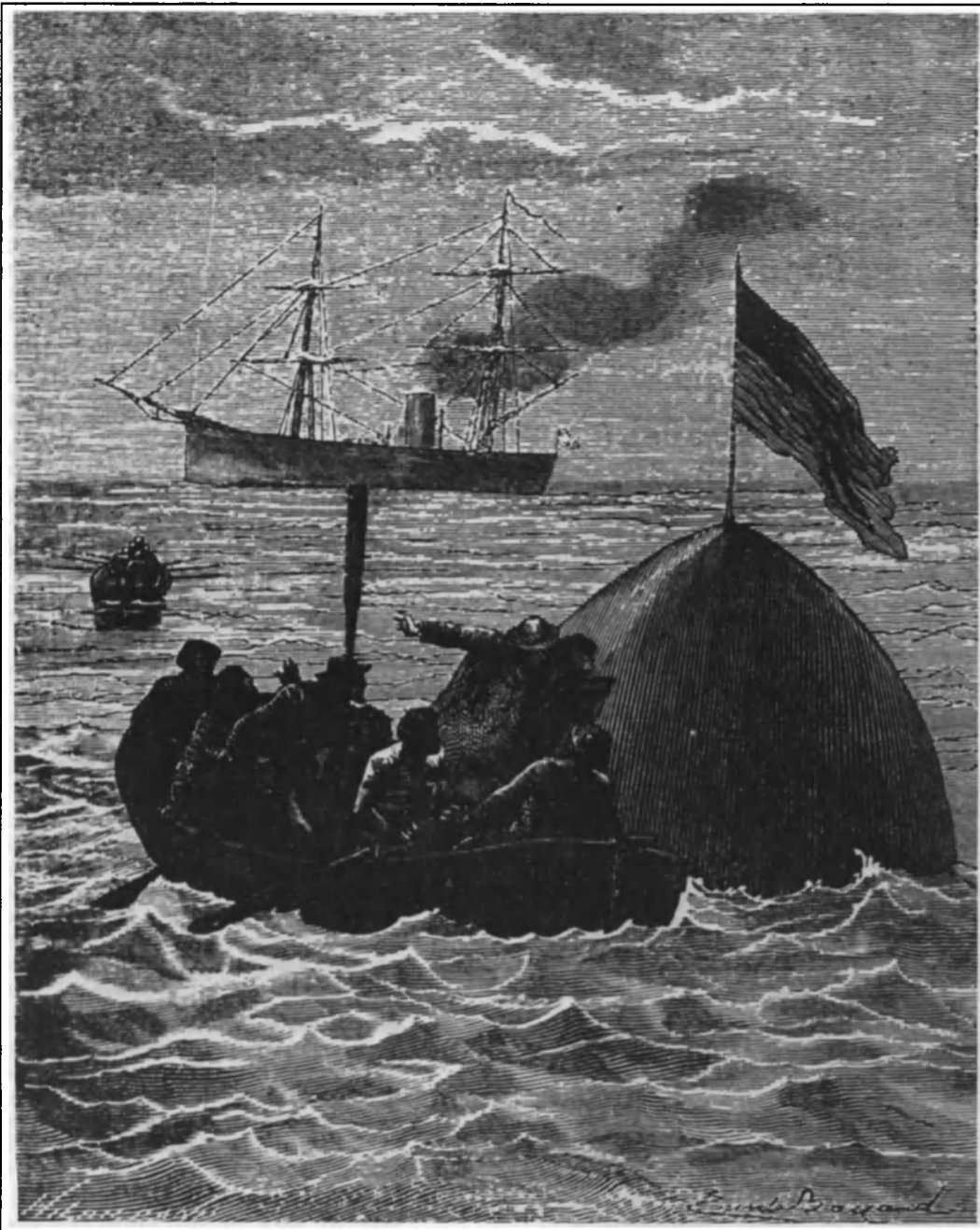
We used to imagine we were the children of Captain Grant, and pretend to be other heroes of his novels, such as Dr. Lidenbrock and Captain Hatteras. We fought tooth and nail for the honour of being Cap-

tain Nemo of *20,000 Leagues under the Sea*.

Maybe that was how my destiny was shaped. I would be a mariner like Nemo, a discoverer like Cyrus Smith, a shipwrecked sailor like Kazallon (in *The Survivors of the Chancellor*), a castaway on a Mysterious Island.

Jules Verne was the apostle of a constructive, useful science, as opposed to the kind that kills or threatens mankind. He foresaw many later inventions (for Verne invented nothing himself; he simply projected his ideas of progress into the future) but he also perceived their potential for evil

ALAIN BOMBARD, French marine biologist and doctor, is the author of numerous scientific studies. His account of his trans-Atlantic crossing on a rubber raft has been translated into a number of languages, and appeared in English as *Dr. Bombard Goes to Sea* (Vanguard Press, New York).



Verne prophesies a Pacific splashdown

The astronauts' splashdown in Jules Verne's novel *From the Earth to the Moon* (left, the original illustration by Emile Bayard) proved astonishingly prophetic over a century later when the U.S. Apollo 8 spacecraft landed in the Pacific (right) a mere two and a half miles from the point mentioned in the novel. In a letter to Jules Verne's grandson, the commander of Apollo 8, Frank Borman, paid tribute to Verne's visionary genius as "one of the great pioneers of the space age". "Our space vehicle was launched from Florida, like Barbicane's," he wrote, "and it had the same weight and height." Would Verne have been surprised by this uncanny accuracy? Perhaps not, for he once wrote: "For Americans the Moon isn't much further than Texas."

(as we can see in such works as *The Begum's Fortune*, *For the Flag* and *Master of the World*), and spoke out against their use for destructive purposes.

Jules Verne was a prophet of progress, not of violence. He may have had an over-optimistic view of progress, but he believed that it was bound to bring an improvement in people's lives, take the backbreak out of their labour, and ultimately bring them happiness.

Jules Verne first answered the call of the sea in 1839 when at the age of 11 he stowed away aboard the *Coralie*, a three-master bound for the Indies. What an adventure it would be to bring back a coral necklace for his cousin Caroline, with whom he had fallen madly and unhappily in love!

As the anchors were weighed and the vessel slipped out of Nantes into the Loire estuary, a life of adventure stretched before him. But the escapade lasted only a

day, for when the boat put into the nearby port of Paimbœuf that evening, the would-be sailor was recovered by his anxious father.

His wings clipped, he decided to settle for a legal career, and left Nantes to study law in Paris in 1848, shortly after the dramatic events that had drowned the fledgling Republic in blood and trampled the demands of the workers. A reluctant law student, he nevertheless managed to obtain his degree in 1849.

He began to dabble in literature and tried his hand as a playwright. Thanks to the friendship and help of the elder Dumas, one of his plays was performed, but it was received with a chorus of boos and cat-calls, and the budding dramatist wondered whether he might not be better off as a lawyer after all.

About this time, Verne developed a passion for science. First of all he studied geography, and then took up mathematics

with the help of his cousin, a student at the Polytechnique. He became fascinated by the way the slightest miscalculation in physics could have disastrous consequences.

Here lie the origins of the mathematician J.T. Maston's astonishingly accurate calculations in *From the Earth to the Moon*, as well as his monumental error in *Sans Dessus Dessous* ("The Purchase of the North Pole"), one of Verne's most remarkable novels.

This is the tale of an attempt to shift the Earth's axis to the perpendicular, as a result of which the whole world will enjoy a temperate climate without extremes of heat and cold. A tunnel is dug into Mount Kilimanjaro to house a gigantic cannon which will fire a single shell whose recoil will be powerful enough to "correct" the Earth's axis. The experiment takes place, but fails when Maston, who is responsible for the calculations, loses his concentration at a

First inklings of the laser beam?

"... He added that by sending light rays concentrated in beams by parabolic mirrors, it would be possible to establish direct communications. These rays would be as visible on the surface of Venus or Mars as the planet Neptune is from the Earth. He concluded by saying that bright spots already observed on the nearest planets could well be signals being made to Earth."

Jules Verne

*From the Earth to the Moon...
and a trip around it (1870)*

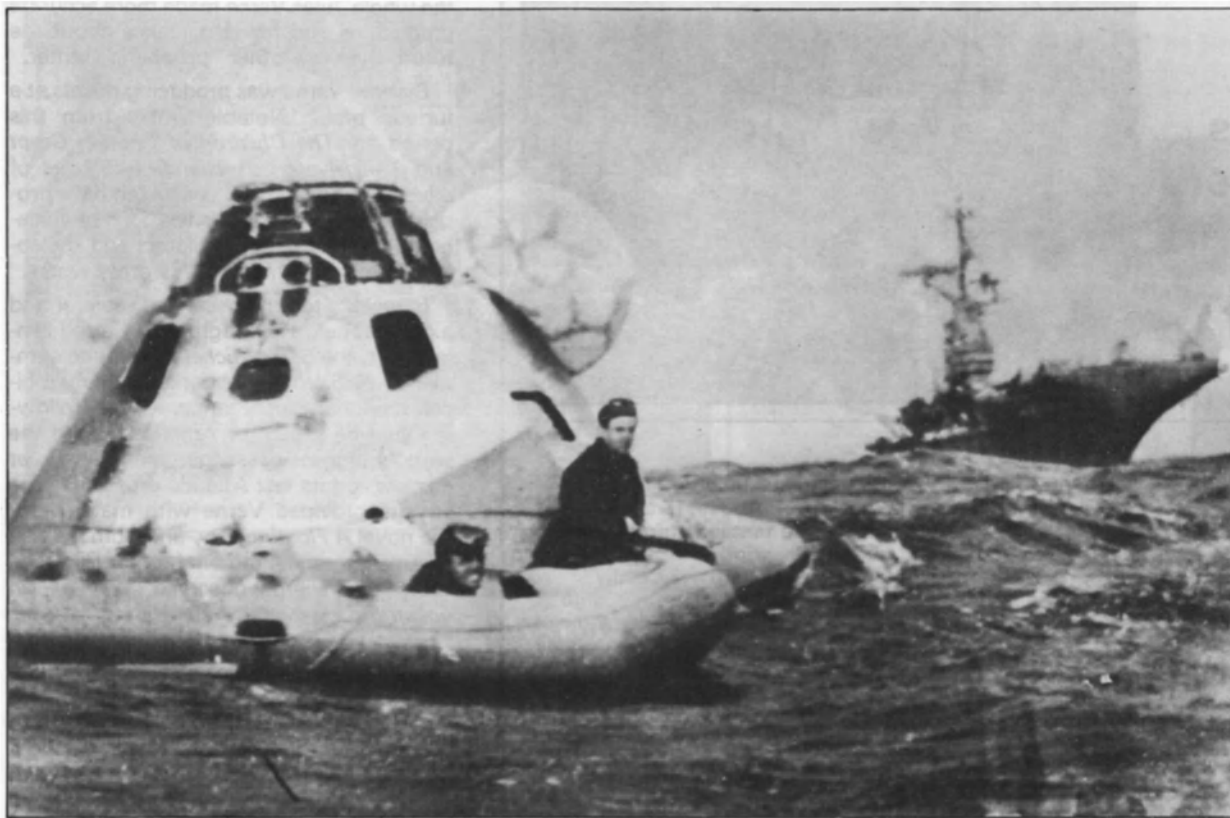


Photo © USIS, Paris

crucial moment and makes a colossal error.

In the 1850s Verne tried his hand at two travel stories, *Un Voyage en Ballon* ("Journey in a Balloon") and *A Winter amid the Ice*. They were only moderately successful, but they finally decided their author to turn away from the theatre (where he had had another ignominious flop).

In 1857, he married a young widow named Honorine de Vignes, whom he had met at a friend's wedding in Amiens. Two years later, he was offered a free trip to Scotland, and used his experiences there as the basis for an exciting novel called *Black Diamonds* in which he plunged his readers into the depths of an abandoned Scottish coal-mine.

For most of his life, however, Verne was an armchair traveller, who took his often limited daily experiences and transformed them in his work. He always used a factual starting-point for those flights of the imagi-

nation which took him through time and across distant continents.

On his return from Scotland, he met Jules Hetzel, a young Paris publisher with a particular interest in children's books. Verne showed him the manuscript of "Journey in a Balloon", which was reworked and published by Hetzel as *Five Weeks in a Balloon*, the account of an expedition across then-uncharted regions of Africa. At that time, geographers were involved in heated controversy about the location of the main source of the Nile, and in *Five Weeks in a Balloon* Verne opted for the hypothesis that it flows out of Lake Victoria. Fifteen years later he was proved right.

Author and publisher became firm friends, and Verne signed a contract with Hetzel, committing himself to writing three volumes a year. Now he was well and truly launched as a writer of fiction and his genius could begin to express itself fully.

With his Scottish jaunt still fresh in his

memory, he started work on *The English at the North Pole*, the first part of a long novel about polar exploration called "The Adventures of Captain Hatteras". (All his life Verne was fascinated by the polar regions, which appear in many of his stories such as *20,000 Leagues under the Sea*, *The Fur Country*, *The Clipper of the Clouds* and *An Antarctic Mystery*.) Before completing his polar novel, however, he published *A Journey to the Centre of the Earth* in 1864.

This was the only occasion when Jules Verne's extremely logical mind led him astray, for this gripping and amusing tale is packed with scientific howlers. The plot is highly implausible, to say the least, and generations of vulcanologists have tut-tutted at the idea of being able to plunge into the bowels of the Earth through Mount Sneffels, the mysterious volcano in Iceland, and then pop up in the Mediterranean during a volcanic eruption of Stromboli.

· Captain Hatteras's search for the North

Machines for mastery of air, land and sea



Jules Verne took immense care with the details of the ingenious locomotive machines and contraptions that play such a memorable part in his work. Above, rivalling the eagles: a scene from *Master of the World* (1904). To make the fantastic birdlike flying machine sound as feasible as possible, Verne went over its description word by word with an engineer. But of course, he was not propounding a device that actually worked but drawing attention to the possibilities of heavier-than-air flight at a time when most people believed only in the dirigible balloon. Steam-driven elephant (below left) is a more far-fetched Verne vehicle. It pulled two wheeled edifices through India in *The Steam House* (1880). Below right, one of Verne's most unforgettable characters, Captain Nemo of *20,000 Leagues under the Sea* (1870) gazes through a porthole of submarine *Nautilus* at "a squid of colossal dimensions."

Photos © Editions Hachette, Paris



Pole aboard the *Forward*, on the other hand, turned out to be astonishingly accurate. The *Forward* sailed as far North as latitude 83°35' before becoming ice-bound. Further north the ice never melts, not even in summer, and no one had ever ventured to these desolate regions. Forty years later, the American explorer Commodore Peary chose a spot just 10 km. away from this same latitude to establish the base camp for his successful trek to the North Pole.

In 1865 came a novel of space exploration, *From the Earth to the Moon*. Here again, Verne was almost dead on target. His Moon projectile was fired from a spot in Florida not far from the present-day Cape Kennedy. What is more, Verne's manned projectile made a splashdown in mid-ocean, just like Apollo 8 a century later. On the whole Jules Verne made more accurate predictions and fewer mistakes about the future than any other "prophetic" writer.

By now Verne was producing novels at a furious rate. Notable works from this period are *The Children of Captain Grant* and *The Mysterious Island*, two tales of adventure on land and sea which have probably influenced later generations of vulcanologists, submarine explorers and speleologists more than any of his other works.

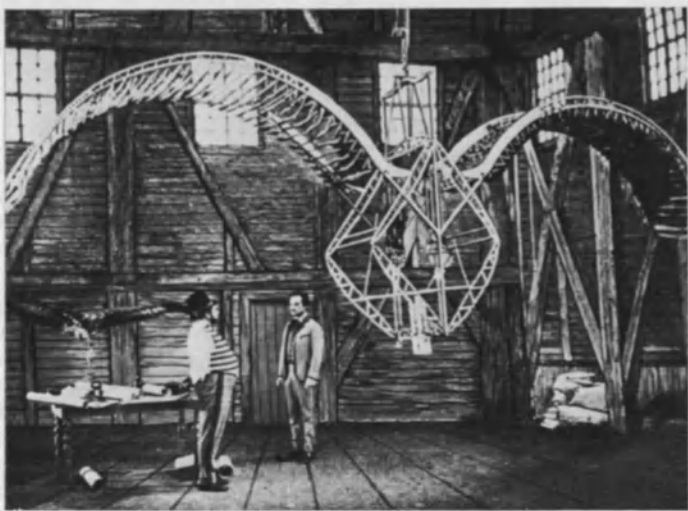
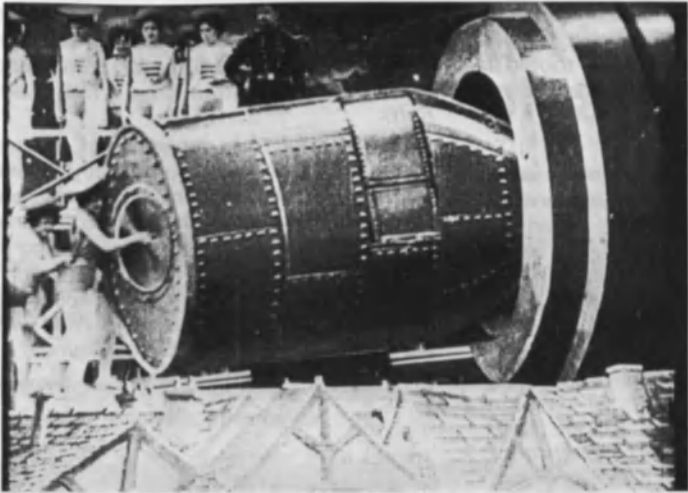
In real life too, he became a seafarer and a geographer. He bought a converted fishing boat, the *Saint Michel*, and in the summer of 1866 wrote a remarkable geographical dictionary of France. The following year he sailed for America aboard the world's biggest passenger liner, the *Great Eastern*, on its last Atlantic crossing. The voyage provided Verne with material for the novel *A Floating City*, and from his visit to America, much too brief for his liking, he drew the sharply-observed *Will of an Eccentric*.

The characters in this amusing and little-known novel play a game with dice and a checkerboard covered with a map of the United States. After throwing dice, the players move their counters forward by a corresponding number of squares and must then visit the state shown in the square before playing again.

A few years later, in *20,000 Leagues under the Sea*, Verne created the unforgettable Captain Nemo, perhaps the most fascinating figure in all his work. Nemo is a greater man than even the mighty Robur, hero of *The Clipper of the Clouds*, although

Around the world in films

With their unique blend of adventure, dreamlike fantasy and precise observation, Jules Verne's stories have been a gold-mine for 20th-century film-makers in many countries. Some, such as *The Children of Captain Grant* and *Around the World in Eighty Days*, have been filmed more than once, and no less than nine screen versions have been made of *Michel Strogoff*. Shown here, stills from three films based on Verne's works. (1) *Le Voyage dans la Lune* by the pioneer French cineast Georges Méliès (1902), freely adapted from the novel *From the Earth to the Moon*; (2) and (3): scenes from *The Invention of Destruction* (1957) by the Czech Karel Zeman, based on *For the Flag* (and other Verne novels). Zeman skilfully recreated the period flavour in backdrops, props and costumes, so that the settings looked exactly like the original illustrations. (4) David Niven as a debonair Phileas Fogg is attended by his valet Passepartout (played by the Mexican actor Cantinflas) in this airborne scene from Mike Todd's *Around the World in Eighty Days* (1956) directed by Michael Anderson.



Photos © Cinémathèque Française, Paris



Tolstoy sketches Phileas Fogg

Among Jules Verne's millions of fans all round the world was the great Russian novelist Leo Tolstoy (1828 - 1910). Tolstoy often read Verne's stories aloud to his children, and amused himself by sketching a number of scenes from *Around the World in Eighty Days* in the margin of his copy of the novel, which was not an illustrated edition. Left, Tolstoy's drawing of Phileas Fogg's dramatic return to London after his round-the-world trip.

Photo © L N Tolstoy Museum, Moscow

▶ Robur wields mastery of the air and the oceans by inventing a fantastic heavier-than-air flying machine which retracts its wings and propellers to become a submarine and sprouts wheels for driving on land. For Jules Verne, Nemo is a complete man: he is the personification of genius, altruism, goodness, generosity and learning, in spite of his one great failing, his thirst for vengeance.

In the person of Harry Killer, Verne also created a character who used science for evil purposes. In *L'Etonnante Aventure de la Mission Barsac* (published in English in two volumes as *Into the Niger Bend* and *City in the Sahara*), Killer rules a town in which he keeps a huge force of slaves and a captive team of scientists and technicians who spend their lives producing fabulous inventions—weapons, devices for fertilizing the desert, ingenious flying machines—all used to serve the purposes of crime, murder and tyranny. Verne's message is that the scientist, who is capable of providing humanity with inestimable benefits, can also perpetrate the greatest evil.

Although Jules Verne foretold the machine age, he did not foresee the social changes that the 20th century would bring. In this respect he remained firmly rooted in the 19th century; he never produced any "politics fiction".

His genius lay first and foremost in his extraordinary scientific rationalism and his faith in humanity. He predicted the advent of the submarine (in *20,000 Leagues Under the Sea*), the aeroplane (the "Mission Barsac"), the helicopter (in *The Clipper of the Clouds* and *Master of the World*), and weapons of destruction (*The Begum's Fortune* and *For the Flag*) as well as prophesying

interplanetary and interstellar travel (in *From the Earth to the Moon... and a Trip Around It*, and *Hector Servadac*), and describing big city life (*Propellor Island*) and life in natural surroundings (*The Giant Raft*).

He foresaw the depletion of natural resources, but he failed to predict pollution and the rift between man and his environment. He was blind to the need to preserve the balance of Nature and knew nothing of ecology. No work of "biology fiction" came from his pen. This is perhaps one's sole cause for regret when confronted with his otherwise monumental achievement.

■ Alain Bombard



Unesco Courier now in 18 languages

We are happy to announce the launching of a new language edition of the "Unesco Courier". The first issue of "Kurier", the "Unesco Courier" in Bahasa Malaysia, has just been published in Kuala Lumpur (Malaysia) by Penerbit Universiti Malaya (University of Malaysia Press). The publication of this new edition, which began in February, brings the total number of language editions of the "Unesco Courier" to 18: English, French, Spanish, Russian, German, Arabic, Japanese, Italian, Hindi, Tamil, Hebrew, Persian, Dutch, Portuguese, Turkish, Urdu, Catalan and Bahasa-Malaysia. The launching of editions in Korean and Kiswahili are scheduled to take place later this year.

To our readers

In the last few months there has been a steep increase in the number of subscribers to the UNESCO COURIER. We now count tens of thousands of new readers, to whom we should like to extend a warm welcome.

However, we regret to say that because of the sheer number of new subscriptions, it has proved difficult to respect our usual schedules for processing them (between six and eight weeks).

Furthermore, for reasons beyond our control, the most recent issues of the UNESCO COURIER have been published with a certain delay. We ask our readers' indulgence for this situation, which we are doing all we can to remedy.

We sincerely hope that you will continue to enjoy our magazine in spite of these temporary difficulties.

Information please...

Continued from page 9

the various information handling institutions such as libraries and documentation centres. Internationally, the aim is to further develop transnational information systems and ensure compatibility among existing and prospective programmes, especially those related to the storage and retrieval of scientific information.

UNISIST is also concerned with formulating national information policies, planning information service networks, and promoting research on the acquisition, processing, and dissemination of data, as well as setting international standards and guidelines. In addition, it provides assistance to countries in setting up information centres, as well as in training and retraining information specialists. The ultimate aim is the progressive integration of national, regional and international information services into a single world network.

The most spectacular demand for a rapid transfer of knowledge comes, of course, from developing areas. Developing countries, handicapped by a scarcity of accessible information and expertise, can only develop scientifically and technologically as the result of enormous effort and sacrifice. Moreover, a natural tendency to imitate foreign models sometimes leads such countries to turn their backs on more productive and original paths to economic development.

B

Y endeavouring to make scientific information more easily available to developing countries, Unesco hopes to help them in technological and scientific policy-making, as well as stimulating industrial and economic growth. In other words, there is an awareness of the close connexion between a new world information network and a new international economic order. Indeed, this is one reason why Unesco has made assistance to developing countries an important feature of the UNISIST programme.

This assistance comprises field missions by experts and consultants, practical recommendations for improving national information services, organization of seminars and refresher courses for local specialists, and provision of direct financial aid. In 1977, help of this kind was extended to Somalia, Senegal, Sudan, Morocco and Ghana.

While assistance to developing countries accounts for a significant part of UNISIST programme activities, it is also imperative to think in terms of larger regional units.

Consequently, in 1976 and 1977 Unesco organized a number of regional meetings—in Delhi, for South and Central Asia; in Tunis, for the Arab countries; in Bali, for South-East Asia, to name but three—to draw up a blue-print for regional co-operation and to promote the access of developing countries to world stocks of scientific documentation, and to train documentalists.

In Europe, the first regional conference on the exchange of social science information took place under Unesco auspices in Moscow in June 1977. This conference, which brought together representatives of information centres in Western Europe and the Socialist countries, was jointly organized by the European Centre for co-ordination of Social Science Research and Documentation (Vienna) and the Institute of Social Science Information of the U.S.S.R. Academy of Sciences. It constitutes a positive step towards implementing decisions reached during the Helsinki conference and may serve as a model for European co-operation in this field. A second European conference is due to be held in Poland in October, 1978.

Unesco initiatives at the regional level complement international efforts to build a flexible network based on the voluntary co-operation of a number of information services, such as the International Nuclear Information System (INIS).

INIS exchanges information among its 49 Member States through a world information centre located in Vienna (Austria). Each Member State, together with a number of international organizations, issues monthly data on scientific research. This data is fed into a computer, micro-copies of scientific abstracts are made, and the resulting information is forwarded to each national centre. In this way, each Member State processes its own data using a standard system and receives data on scientific research in the other Member States.

Countries can thus make use of available information in an economical way. Each month, for example, Vienna forwards to Mexico's National Institute for Nuclear Energy information on the latest scientific publications together with reports from France, the U.S.S.R., the U.S.A., Italy, Poland and other countries—all of it condensed, ready to use, and in one language.

Some of these information systems also play an important part in the regional development of UNISIST. A case in point is the

Moscow International Centre for Scientific and Technical Information. It has been given a key role by the Council for Mutual Economic Assistance (CMEA) within the scientific and technological information system currently being organized by Bulgaria, Hungary, the German Democratic Republic, Mongolia, Cuba, Poland, Romania, the U.S.S.R. and Czechoslovakia.

T

HE Moscow Centre's activities cover virtually every field of natural science and technology, from industry and transport to energy and medicine. In the case of research reports, periodicals and translations from little-used languages, it receives information from different countries. As a research institute, it provides advice on standardization, technical planning and electronic data-processing equipment.

As a regional agency within the framework of the UNISIST programme, the Centre is compiling a world register of scientific periodicals, and is helping Mongolia and Cuba to develop their national information systems.

In Western Europe, the Euronet system represents an ambitious attempt on the part of the Common Market countries to store and exchange scientific and technical information. The need for an improved system of information-exchange made itself felt as early as 1967 and in December 1975 representatives of the post-offices of the nine member countries signed a contract to set up such a system.

The Common Market's Committee for Research, Science and Technology (CREST) plans to make the network operational as quickly as possible. It is tackling three major areas: extending and rationalizing information services; providing access to computerized data bases by means of a telecommunications network; and training professional staff and system users. An idea of the overall scope may be gauged by the projected figure of 700 terminals, each asking three or four questions a day, giving an estimated total traffic of some half a million questions per year by 1980.

The exchange of information across national boundaries is a desirable development, but it also brings new problems in its wake. Sometimes, relevant information is

scattered in a wide range of documentation in scores of languages. Then too, information is becoming obsolete at an accelerating rate. As a result, governments often lack the up-to-date, complete information needed to take pressing decisions.

To meet this new demand, Unesco is working on a project called SPINES, an international science and technology policies information exchange system. Initially, it is envisaged as a voluntary co-operative arrangement between eight to ten countries (the United States, the U.K., France, the Federal Republic of Germany, the German Democratic Republic, Poland, Spain, the U.S.S.R. and possibly also India and Japan) but its potential users range from governments and national scientific

bodies to academic institutions, industry and international organizations.

What kind of problems would SPINES help to solve? For developing countries the possibilities are endless. Imagine that a developing African country has discovered vast deposits of uranium within its territory. How should it exploit this newfound source of wealth? Export the crude uranium ore, export pre-processed ore, or establish a uranium enrichment plant and then export enriched uranium?

Depending on circumstances, any one of these solutions may be correct. But whatever the choice, the information obtained through SPINES should afford a wide range of experience on which to base an informed decision.

The worldwide preoccupation with information systems reflects something more than a sudden surge of interest in data processing; it represents a marked social and economic trend.

Whether we like it or not, information theory and its applications have already begun to bring about far-reaching changes in the lives of millions of people, and we must prepare ourselves for the consequences. The next two or three decades may well see the completion of a fully automatic science information network serving the majority of the countries taking part in the UNISIST programme.

■ Yuri I. Litukhin

Hundredth issue of DIOGENES

WITH the publication of its 100th issue, the quarterly review *Diogenes* celebrates its 25th anniversary. Published with Unesco support by the International Council for Philosophy and Humanistic Studies, it appears in three language editions (English, French and Spanish). It also produces yearly anthologies in Arabic, Hindi, Japanese and possibly Portuguese in the near future. Its role is unique in contemporary culture.

The current issue, though not devoted to a single theme, is nevertheless bigger than usual and its contents are extremely rich and varied. (The French edition is now available; the English edition will be published early in the summer.)

Each article sheds new light on an unusual aspect of contemporary life, ranging from the new "sign language", a study of the signs, posters and billboards in modern cities, to "articulurists", those who live from art without creating it; from healing by radio as practised by certain Brazilian religious sects to a study of the cultural level of illiterate peoples.

Arthur Koestler, Jean Starobinski and Jean Fourastié examine the nature of imagination and discuss the relationship between science and poetry. The sources and meaning of Pop Art are also analyzed, while a mathematician looks into the conditions which favour the birth of scientific hypotheses. Another article, a study of America's "new economists", examines the latest of those intellectual movements that sweep America before reaching Europe and the rest of the world.

The aims of *Diogenes* have been defined on several occasions by its founder and editor-in-chief, Roger Caillois. First and foremost, it is international in outlook and scope. Most literary, artistic and scientific magazines and reviews, as well as those originating in the universities, are linked to a specific culture. *Diogenes*, as the organ of an international council and supported by Unesco, knows no cultural boundaries. Obviously, it takes into account the decisive importance of cultural identity, but since it does not originate from within a given culture, it deliberately adopts an international and intercultural outlook.

It is also interdisciplinary in approach. "Interdisciplinarity" has come into vogue in recent years, and the pages of *Diogenes* may have had something to do with that. However, unlike many publications, *Diogenes* is not content merely to present a diversified, many-sided approach to problems. It also tries to establish parallels between often remote fields and disciplines.

Such hitherto hidden affinities herald those "diagonal sciences" with which the name of Roger Caillois is so closely linked.

Along with this, *Diogenes* has also helped to broaden the very concept of human sciences. Though it is a cultural review, it also covers such rapidly changing disciplines as those connected with biology, physics and chemistry. The interests and curiosity of *Diogenes* range from the study of poetry and art through linguistics, anthropology, psychiatry and economics to the exact sciences.

Diogenes is thus opposed to narrow specialization and an excessive division of labour in the sciences. This does not mean, however, that it questions the need for analysis or scholarship, nor that it champions hastily-formulated synthesis. The avowed aim of *Diogenes* is to forge much-needed links between the various branches of science today.

This already gives some indication of the public *Diogenes* wants to reach. Steering between excessive detail and vague generalization, it is designed for specialists who wish to keep up with developments in disciplines other than their own. Useless jargon and glib systematizing are equally banned, as the review seeks to provide for its readers the fullest possible picture of the way science is moving and the relationships between its various branches.

Diogenes rejects both pedantry and simplistic explanations, and in so doing meets a need felt in a broad range of scientific and cultural circles. In the last 25 years it has earned a reputation which can be measured not only by the fidelity of its readers but by the number of scientific studies and university theses that quote it.

Diogenes feels that it has remained faithful to its ambitions and that in contemporary cultural life it is playing the role of a pioneer, a catalyst and a vehicle for ideas. In this way it forms a link between scientific innovation and the curiosity of a wide public.

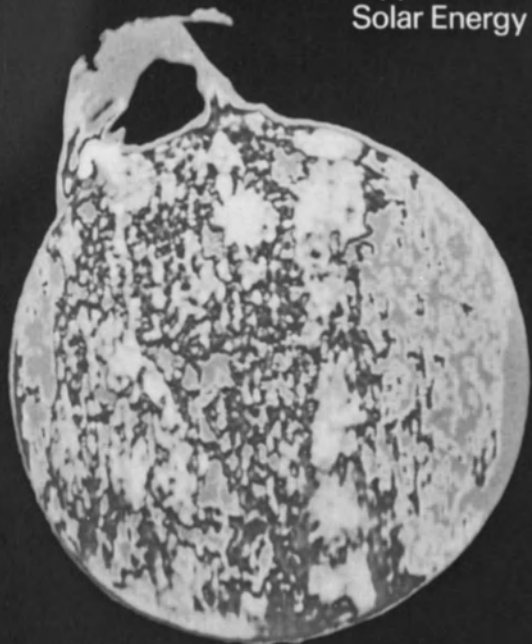
Jean d'Ormesson
of the Académie Française.
Secretary-general of the International
Council for Philosophy and Humanistic Studies

Editorial offices of *Diogenes*: 1, rue Miollis, 75732 Paris CEDEX 15

Subscriptions for English edition:

Casalini Libri
50014 FIESOLE (Florence), Italy
Single issue: \$3
Year's subscription: \$10

Wolfgang Palz
SOLAR ELECTRICITY
 An Economic Approach to
 Solar Energy



Butterworths · UNESCO

292 pages

140 French francs

Just published

The development of solar energy systems is one of the greatest challenges facing our fuel-hungry and increasingly polluted world. In

Solar Electricity

Wolfgang Palz surveys all the known ways in which the sun's radiation can be converted into power. For the non-scientific reader, the book provides a full and clear introduction to the science and techniques of solar energy. Specialists and prospective users of solar devices will also be interested in the reviews of the latest research and development.

Co-published with Butterworths, London, who have exclusive sales rights in the United Kingdom.

Where to renew your subscription and place your order for other Unesco publications

Order from any bookseller or write direct to the National Distributor in your country. (See list below; names of distributors in countries not listed, along with subscription rates in local currency, will be supplied on request.)

AUSTRALIA. Publications: Educational Supplies Pty. Ltd. P.O. Box 33, Brookvale, 2100, NSW. Periodicals: Dominie Pty. Subscriptions Dept., P.O. Box 33, Brookvale 2100, NSW. Sub-agent: United Nations Association of Australia, Victorian Division, Campbell House, 100 Flinders St., Melbourne (Victoria), 3000. — **AUSTRIA.** Dr. Franz Hain, Verlags- und Kommissionsbuchhandlung, Industriehof Stadlau, Dr. Otto Neurath-Gasse 5, 1220 Wien. — **BELGIUM.** "Unesco Courier" Dutch edition only: N.V. Handelsmaatschappij Keesing Keesinglaan 2-18, 2100 Deurne-Antwerpen. French edition and general Unesco publications agent: Jean de Lannoy, 202, avenue du Roi, 1060 Brussels, CCP 000-0070823-13. — **BURMA.** Trade Corporation N° 9, 550-552 Merchant Street, Rangoon. — **CANADA.** Renouf Publishing Co. Ltd., 2182 St. Catherine Street West, Montreal, Qu* H3H 1M7. — **CYPRUS.** "MAM", Archishop Makarios 3rd Avenue, P.O. Box 1722, Nicosia. — **CZECHOSLOVAKIA.** — S.N.T.L., Spalena 51, Prague 1 (Permanent display); Zahranicni literatura, 11 Soukenicka, Prague 1. For Slovakia only: Alfa Verlag — Publishers, Hurbanovo nam. 6, 893 31 Bratislava — **CSSR.** — **DENMARK.** Munksgaards Boghandel, 6, Norregade, DK — 1165, Copenhagen K. — **EGYPT (ARAB REPUBLIC OF).** National Centre for Unesco Publications, N° 1 Talaat Harb Street, Tahrir Square, Cairo. — **ETHIOPIA.** National Agency for Unesco, P.O. Box 2996, Addis Ababa. — **FINLAND.** Akateeminen Kirjakauppa, Keskkatu 1, SF-00100 Helsinki 10. — **FRANCE.** Librairie de l'Unesco, 7, place de Fontenoy, 75700 Paris, C.C.P. 12598-48. — **GERMAN DEMOCRATIC REP.** Buchhaus Leipzig, Postfach 140, 710 Leipzig or from Internationalen Buchhandlungen in the G.D.R. — **FED. REP. OF GERMANY.** For the Unesco Kurier (German ed. only): 53 Bonn 1, Colmantstrasse 22. For scientific maps only: GEO CENTER D7 Stuttgart 80, Postfach 800830. Other publications: S. Karger GmbH Karger Buchhandlung, Angerhofstrasse 9, Postfach 2, 8034 Germering/München. — **GHANA.** Presbyterian Bookshop Depot Ltd., P.O. Box 195, Accra; Ghana Book Suppliers Ltd., P.O. Box 7869, Accra; The University Bookshop of Ghana, Accra; The University Bookshop of Cape Coast; The University Bookshop of Legon, P.O. Box 1, Legon. — **GREAT BRITAIN.** See United Kingdom. — **HONG KONG.** Federal Publications (HK) Ltd., 5A Evergreen Industrial Mansion, 12 Yip Fat Street,

Aberdeen. Swindon Book Co., 13-15, Lock Road, Kowloon. — **HUNGARY.** Akadémiai Könyvesbolt, Váci u. 22, Budapest V; A.K.V. Konyvturosok Boltja, Népköztársaság utja 16, Budapest VI. — **ICELAND.** Snaebjörn Jonsson & Co., H.F., Hafnarstraeti 9, Reykjavik. — **INDIA.** Orient Longman Ltd., Kamani Marg, Ballard Estate, Bombay 400038; 17 Chittaranjan Avenue, Calcutta 13, 36a, Anna Salai, Mount Road, Madras 2; B-3/7 Asaf Ali Road, New Delhi 1; 80/1 Mahatma Gandhi Road, Bangalore-560001; 3-5-820 Hyderguda, Hyderabad-500001. Sub-Depots: Oxford Book & Stationery Co. 17 Park Street, Calcutta 70016; Scindia House, New Delhi; Publications Section, Ministry of Education and Social Welfare, 511 C-Wing, Shastri Bhavan, New Delhi 110001. — **INDONESIA.** Bhartara Publishers and Booksellers, 29 Jl. Oto Iskandardinata III, Jakarta; Gramedia Bookshop, Jl. Gadjah Mada 109, Jakarta; Indira P.T., Jl. Dr Sam Ratulangi 47, Jakarta Pusat. — **IRAN.** Kharazmie Publishing and Distribution Co., 139 Shah Reza Ave., opposite to University of Teheran, P.O. Box 14/1480, Teheran; Iranian Nat. Comm. for Unesco, Ave. Iranchahr Chomali No. 300, B.P. 1533, Teheran. — **IRAQ.** McKenzie's Bookshop, Al-Rashid Street, Baghdad. — **IRELAND.** The Educational Company of Ireland Ltd., Ballymount Road, Walkinstown, Dublin 12. — **ISRAEL.** Emanuel Brown, formerly Blumstein's Book-stores, 35 Allenby Road and 48 Nachlat Benjamin Street, Tel Aviv; 9, Shlomzion Hamalka Street, Jerusalem. — **JAMAICA.** Sangster's Book Stores Ltd., P.O. Box 366, 101 Water Lane, Kingston. — **JAPAN.** Eastern Book Service Inc., C.P.O. Box 1728, Tokyo 100-92. — **KENYA.** East African Publishing House, P.O. Box 30571, Nairobi. — **KOREA.** Korean National Commission for Unesco, P.O. Box Central 64, Seoul. — **KUWAIT.** The Kuwait Bookshop Co., Ltd, 2942, Kuwait — **LESOTHO.** Mazenod Book Centre, P.O. Mazenod, Lesotho, Southern Africa. — **LIBERIA.** Cole and Yancy Bookshops Ltd., P.O. Box 286, Monrovia. — **LIBYA.** Agency for Development of Publication & Distribution, P.O. Box 34-35, Tripoli. — **LUXEMBOURG.** Librairie Paul Bruck, 22, Grande-Rue, Luxembourg. — **MALAYSIA.** Federal Publications, Lot 8323, Jl. 222, Petaling Jaya, Selangor. — **MALTA.** Sapientzas, 26 Republic Street, Valletta. — **MAURITIUS.** Nalanda Company Ltd., 30, Bourbon Street, Port-Louis. — **MONACO.** British Library, 30 bd. des Moulins, Monte-Carlo. — **NETHERLANDS.** For the "Unesco Koerier" Dutch edition only: Systemen Keesing, Ruysdaelstraat 71-75, Amsterdam-1007. Agent for all Unesco publications: N.V. Martinus Nijhoff, Lange Voorhout, 9, The Hague. — **NETHERLANDS ANTILLES.** G.C.T. Van Dorp & Co. (Ned Ant.), N.V., Willemstad, Curaçao, N.A. — **NEW ZEALAND.** Government Printing Office, Government Bookshops at: Rutland Street, P.O. Box 5344, Auckland; 130, Oxford Terrace, P.O. Box 1721 Christchurch; Alma street, P.O. Box 857 Hamilton; Princes Street,

P.O. Box 1104, Dunedin, Mulgrave Street, Private Bag, Wellington. — **NIGERIA.** The University Bookshop of Ife; The University Bookshop of Ibadan, P.O. 286; The University Bookshop of Nsukka; The University Bookshop of Lagos; The Ahmadu Bello University Bookshop of Zaria. — **NORWAY.** All publications: Johan Grundt Tanum (Booksellers), Kari Johansgate 41/43, Oslo 1. For Unesco Courier only: A.S. Narvensens Literaturneeste, Box 6125, Oslo 6. — **PAKISTAN.** Mirza Book Agency, 65 Sarah Quaid-e-azam, P.O. Box No. 729, Lahore 3. — **PHILIPPINES.** The Modern Book Co., 926 Rizal Avenue, P.O. Box 632, Manila D-404. — **POLAND.** Orpan-Import, Palac Kultury i Nauki, Warsaw; Ars Polona-Ruch, Krakowskie Przedmiescie No. 7.00-901 WARSAW. — **PORTUGAL.** Dias & Andrade Lda, Livraria Portugal, rua do Carmo 70, Lisbon. — **SEYCHELLES.** New Service Ltd., Kingsgate House, P.O. Box 131, Mah*. — **SINGAPORE.** Federal Publications (S) Pte Ltd., No. 1 New industrial Road, off Upper Paya Lebar Road, Singapore 19. — **SOMALI DEMOCRATIC REPUBLIC.** Modern Book Shop and General, P.O. Box 951, Mogadiscio. — **SOUTH AFRICA.** All publications: Van Schaik's Book-store (Pty.) Ltd., Libri Building, Church Street, P.O. Box 924, Pretoria. For the Unesco Courier (single copies) only: Central News agency, P.O. Box 1033, Johannesburg. — **SOUTHERN RHODESIA.** Textbook Sales (PVT) Ltd., 67 Union Avenue, Salisbury. — **SRI LANKA.** Lake House Bookshop, 100 Sir Chittampalam Gardiner Mawata P.O.B. 244 Colombo 2. — **SUDAN.** Al Bashir Bookshop, P.O. Box 1118, Khartoum. — **SWEDEN.** All publications A/B C.E. Fritzes Kungli, Hovbokhandel, Fredsgatan 2, Box 16356, 10327 Stockholm 16. For the Unesco Courier: Svenska FN-Förbundet, Skolgränd 2, Box 150 50 S-104 65, Stockholm. — **SWITZERLAND.** All publications: Europa Verlag, 5 Ramistrasse, Zurich. Librairie Payot, rue Grenus 6, 1211, Geneva 11, C.C.P. 12-236. — **TANZANIA.** Dar-es Salaam Bookshop, P.O.B. 9030 Dar-es-Salaam. — **THAILAND.** Nibondh and Co. Ltd., 40-42 Charoen Krung Road, Siyaegi Phaya Sri, P.O. Box 402, Bangkok; Suktapan Panit, Mansion 9, Rajdamnern Avenue, Bangkok; Sukt Siam Company, 1715 Rama IV Road, Bangkok. — **TURKEY.** Librairie Hachette, 469 Istiklal Caddesi, Beyoglu, Istanbul. — **UGANDA.** Uganda Bookshop, P.O. Box 145, Kampala. — **UNITED KINGDOM.** H.M. Stationery Office, P.O. Box 569, London, S.E.1., and Government Bookshops in London, Edinburgh, Cardiff, Belfast, Manchester, Birmingham, Bristol. — **UNITED STATES.** Unipub, Box 433 Murray Hill Station New York, N.Y. 10016. For "Unesco Courier" in Spanish: Santillana Publishing Company, Inc., 575 Lexington Avenue, New York, N.Y. 10022. — **U.S.S.R.** Mezhdunarodnaya Kniga, Moscow, G-200. — **YUGOSLAVIA.** Jugoslovenska Knjiga, Terazije, 27, Belgrade; Drzavna Založba Slovenije, Titova C 25, P.O.B. 50-1, Ljubljana.

news from unesco

A bulletin published by
the Office
of Public Information
Unesco
7, Place de Fontenoy
75700 Paris, France

Bogotá: a 'turning-point' in international cultural co-operation

Despite the ethnic variety and the cultural diversity of their peoples, Latin America and the Caribbean constitute a single region with a common destiny and a mission to serve mankind.

This conclusion, in the view of many observers, was one of the chief accomplishments of the Intergovernmental Conference on Cultural Policies in Latin America and the Caribbean. Held in Bogotá from 10 to 20 January, the conference was termed "a turning-point in the history of international cultural co-operation" by Unesco Director-General Amadou-Mahtar M'Bow.

"You have reached a very broad consensus with regard to the general questions on the conference's agenda," he told the delegates at the closing session. "Such unity, as many of you have stressed, is made up of many diversities, but it is solidly founded on a

rich cultural heritage regarded very much as a common one. Above all, it is founded on solidarity and on respect for others, which is not merely a commitment or a tactic but is derived from ethical values, from a feeling for the human that is a characteristic of your civilizations."

"A major theme of your debates has been that of cultural pluralism," he continued. "Such pluralism is much more than just a general openness to others—which even in itself would not be so bad; it is the very essence of your cultural identities. Openness to the most diverse contributions and a welcome for all immigrations, certainly; but also, and above all, it is the unceasing and often heroic struggle of the humble, the oppressed and the exiled from everywhere. Thus the revolt of the African slave to achieve his dignity finds its counterpart in the hopes of the emigrant from Europe or Asia seeking in your countries not only well-being but also freedom and respect for human rights."

The Bogotá meeting was the fourth such conference to be convened by Unesco, the others having been held in Helsinki for the Organization's European Member States, in 1972; in Jogjakarta in 1973 for Asia, and in Accra in 1975, for Africa. A similar conference is planned for the Arab states in 1979, to be followed by a world conference on cultural policies in 1981 or 1982.

The Bogotá conference declared that more economic growth, unless offset by adequate and effective cultural policies, leads to serious imbalances in the life style of peoples, and called on Member States to "incorporate the cultural dimension in integral development plans where this has not yet been done, and increase and organize it properly where it already exists."

The Mint at Potosi, Bolivia, a fine example of the architectural heritage of Latin America.

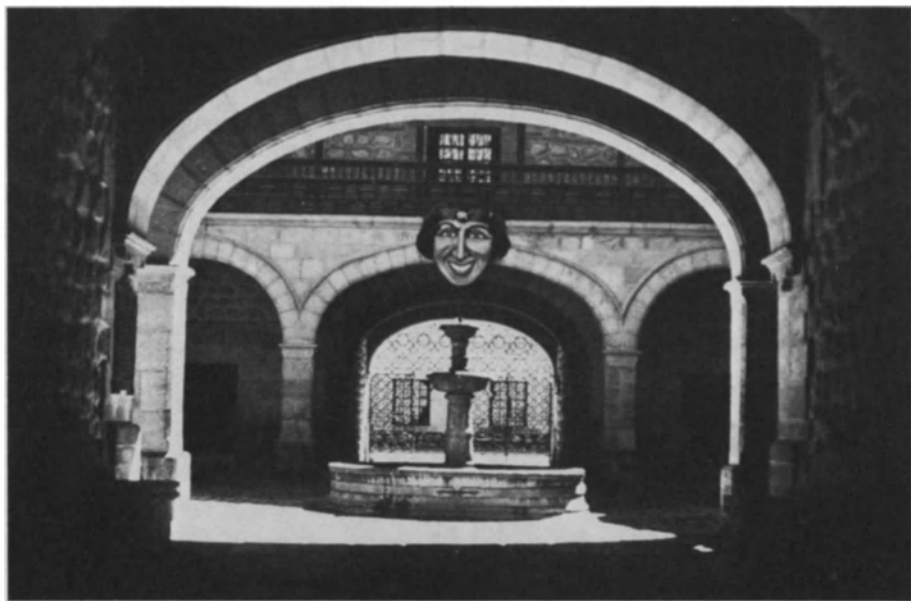


Photo Unesco - Barrios

Cultural policies, the conference added, should be founded on the basic concept of personal freedom within the framework of each community and "with maximum respect for the originality, authenticity and freedom of cultural values."

The conference called upon the Director-General of Unesco to take concrete action to secure the restitution of works of art which have been claimed by countries of the region and to study the possibility of international action to safeguard the rich artistic and historical heritage of Latin America, particularly the town of Potosi in Bolivia, which is threatened with destruction.

Delegates also gave their approval to a mechanism permitting continuous implementation of the conference decisions based on close co-operation among Latin American countries themselves and with international organizations such as the United Nations Development Programme and the Inter-American Development Bank.

Calling for the stepping up of action already undertaken to achieve a "Common Market in Books" in the region, the conference also stressed the vital importance of the circulation of books for the diffusion of ideas and the working of intercultural influences. It also demanded a programme to facilitate—financially, technically and administratively—the free circulation of cultural property as well as theatrical exchanges and exchanges of cultural services among countries of the region.

The conference also proclaimed the right of Latin American and Caribbean states to produce their own information, stressing the particularly critical relationship which exists between culture and communication in Latin America. It favoured the harmonization of cultural policies and communication policies in the region on the lines of resolutions adopted at the Costa Rica Conference on Communication Policies and those of the last Unesco General Conference in Nairobi.

Unesco study hits Namibia repression

"Africans are worse off in Namibia than in either the Republic [of South Africa] itself or Southern Rhodesia."

Such is Marion O'Callaghan's bleak conclusion in a new Unesco study: *Namibia: The Effects of Apartheid on Culture and Education*. This situation is not surprising, she writes, since Namibia is one of the few remaining colonies in the world and "we have here a degree of colonial rule that has seldom been surpassed."

"We have found racial discrimination at every level of society," she adds, "in land ownership, in administration and education, in access to urbanization, credit and technology and (although it was not strictly within our brief) in access to political power."

"We have found that human rights have been infringed as regards the right to education, the right to information, the right to freedom of movement, the right to culture, the right to freedom of religion."

"However... it seemed to us that racial discrimination and the denial of human rights were inadequate as concepts to explain or analyze the situation in Namibia... The denial of human rights

and the policy of racial discrimination, repugnant as they both are, are not problems. They are the inevitable result of the social structure of Namibia, of its history of conquest, of its present occupation by the Republic of South Africa, of the pattern of its economy and of the method of capital accumulation.

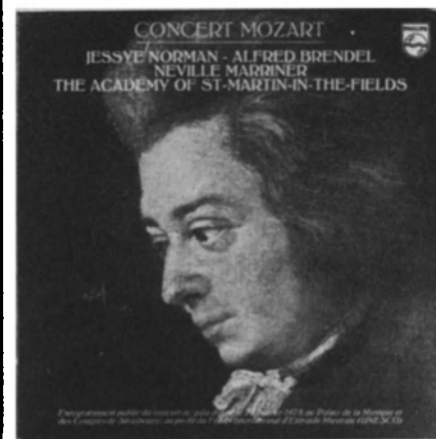
"Race is the factor used to provide the cheap labour on which profits are built, the justification for the allocation of land, the ideology which consolidates the white group, and the method by which the State can limit its expenditures. Tribalism is complementary to this, as is the deliberate construction of tribal identities and tribal units."

The study is a companion volume to other Unesco analyses of social structure in the white-dominated territories of southern Africa: *Apartheid: its Effects on Education, Science, Culture and Information* (Unesco, 2nd revised edition, 1972); *Portuguese Colonialism in Africa: the End of an era* (Unesco, 1974); and *Southern Rhodesia: the Effects of a Conquest Society on Education, Culture and Information* (Unesco, 1977).

Mozart Concert aids Musicians' Fund

A record album, produced by Philips for the benefit of the Unesco-sponsored Musicians International Mutual Aid Fund, sold more than 5,000 copies in France alone in the first week of its release.

Recorded during a gala concert organized by the International Music Council on 27 January in Strasbourg, the album features soprano Jessye Norman and pianist Alfred Brendel with the orchestra of the Academy of St. Martin-in-the-Fields under the direction of Neville Marriner. The all-Mozart programme includes concert arias, the Idomeneo Overture, the Symphony No. 40 in G-minor and the Piano Concerto No. 25 in C. All of the musicians donated their services, and the concert was broadcast by France Musique and



three German radio networks as well as being filmed for future television showing.

The Musicians International Mutual Aid Fund was established by the International Music Council and Unesco in 1974 in order to contribute to the quality of musical life and the well-being of the musical profession in all cultures, irrespective of nationality, race or creed. It promotes young performers at the outset of their careers, encourages mutual appreciation of music and musicians among different cultures and helps to preserve authentic forms of traditional music.

African journalists ask aid boost for rural press

A seminar of African journalists has urged Unesco to step up its assistance to Member States for the development of rural newspapers and rural radio services and to make this a priority in its communication programme.

Meeting in Libreville, Gabon, from 30 January to 2 February, the seminar brought together directors and editors-in-chief of newspapers and news agencies from all parts of the continent to discuss the theme "Unesco, the information media and journalists in Africa and their roles in the global development of the continent." The seminar was jointly organized by Unesco and the Government of Gabon.

Pilot projects in several countries had demonstrated the effectiveness of rural newspapers in stimulating support for literacy campaigns and rural development, the journalists declared, and assistance in this area should now be increased. As for radio, it would remain in most African countries and for many years to come the chief means of communication. Unesco was urged to help Member States enlarge and improve their radio services to rural areas and to provide information materials on rural development problems which could be adapted to the needs of each nation.

In other recommendations, the journalists called on Unesco to intensify its efforts in the training of journalists and in mass communication research and to diversify its production of public information materials to make them more suitable for different regions and audiences. Finally they recommended the establishment of effective unions or associations of journalists in each country.

Japan gives \$10 million more to U.N. University

Japan has contributed another \$10 million to the Endowment Fund of the United Nations University which is jointly sponsored by the United Nations and Unesco and which became operational in 1975. Japan pledged \$100 million to the Fund and the latest contribution brings her total payments to \$70 million.

The Unesco Executive Board last year called on all of the Organization's Member States to make substantial contributions to the U.N. University.



Photo Unesco - Dominique Roger

'Save the Acropolis' ceremony



During a recent ceremony in Paris, the Director-General of Unesco, Mr. Amadou Mahtar M'Bow, presented Mr. George Plytas, the Greek Minister of Culture, with a complete set of the medals (gold, silver and bronze) produced by Unesco for the benefit of the International Campaign to Save the Acropolis.

Spanish gains ground as Unesco language

This year Unesco's *Statistical Yearbook* has been published for the first time in a tri-lingual edition—Spanish as well as French and English, and beginning in 1979 all Unesco periodicals will appear in Spanish editions as well.

Addressing a ceremony in honour of the Thousandth Anniversary of the Spanish language, Mrs Martha Hildebrandt, Unesco's Assistant Director-General for social sciences, cited this as evidence of an increasing use of Spanish for official purposes in Unesco. Spanish has, of

course, been a language for conferences and other meetings since the beginning of the Organization, she added, noting that the Second General Conference of Unesco was held in Mexico City in 1947. However, its use has been intensified in recent years in conformity with resolutions of the 18th and 19th sessions of the General Conference.

The Spanish edition of the *Unesco Courier*, Mrs. Hildebrandt said, has the second highest circulation among the magazine's 17 language editions and the number of subscribers is growing constantly. Furthermore Unesco published some 47 books in Spanish last year, not counting twelve volumes produced by outside publishers. Spanish is also one of the leading languages for Unesco films and radio and television programmes.

It has been estimated that \$500 million will be required to carry through the planned programme of research into such global problems as world hunger, human and social development and natural resources.

Of the 16 nations which have contributed so far, Japan has made the largest gift. Japan also supplies facilities for the U.N.U.'s Programming and Coordinating Centre in Tokyo. The Endowment has also received \$4 million from Venezuela.

World literacy: theme of Unesco exhibit in Montreal

The campaign for literacy in the world will be one of the principal themes of the Unesco pavilion at the Montreal *Man and his World* exhibition this summer.

Announcing Unesco's participation in the exhibition, which opens on 22 June, Montreal Mayor Jean Drapeau said that the main aim of the annual event is to bring people together. It is a successor to the international exposition which was held in Montreal in 1967, and uses the pavilions which were constructed on that occasion.

In addition to literacy, the Unesco pavilion, which covers 20,000 square feet, will feature other activities of the Organization world-wide. One wall will be given over to a world map illustrating Unesco projects in various countries. A selection of art works donated to

Unesco over the years will also be on display. In a section devoted to the restoration of monuments it is hoped to include a scale model of the temple at Borobudur, Indonesia.

Showings of some 20 Unesco films in a wide variety of languages will be organized, and there will also be four different audio-visual shows with colour slides and taped commentaries. From time to time during the summer there will be gala concerts performed by musicians and performers of international stature.

Arrangements are also being made with the International Civil Aviation Organization, the U.N. agency which has its headquarters in Montreal, to show some of its work, including an exhibition of the history of flight over the past 50 years.

Getting together

"East is East and West is West", wrote Kipling, "and never the twain shall meet."

But that was in the days before Unesco, where not only East and West but North and South and every other conceivable region meet virtually every day and on a bewildering variety of subjects.

A provisional calendar for 1978 lists no fewer than 250 gatherings this year ranging from major international

conferences and congresses through advisory committees, meetings of experts, seminars and symposia, to training and refresher courses. Furthermore this list does not include the meetings of Unesco bodies such as the Executive Board or the General Conference, nor meetings organized on behalf of Unesco by governments of Member States, non-governmental organizations, universities or other outside institutions.

Participants in these affairs may number as many as a thousand (Unesco General Conference), or from 300 to 500 (Meeting of Government Representatives to Prepare a Draft Declaration on Race

and Racial Prejudice or the Intergovernmental Conference on Strategies and Policies for Informatics) or as few as five (Meeting of Experts on Application of Nuclear Techniques in Hydrology). Many if not most of the meetings will be held in Unesco Headquarters in Paris, but even a partial list of the others reads like a travel agent's catalogue: Colombo, Kathmandu, Santiago, Ouagadougou, Dakar, Beirut, Bangkok, Geneva, Amman, Turin, Penang, Bucharest, Athens, Montreal, Mexico City, Caracas, Rabat, Alexandria, Rio de Janeiro, Munich, Quito, Abidjan, Lagos, Leningrad, New York and Vienna.

Major Unesco meetings in 1978

- 13-20 March, Paris, Meeting of Government Representatives to Prepare a Draft Declaration on Race and Racial Prejudice
- 28 March - 7 April, Nijmegen (Netherlands) International Conference on Integrated Science Education
- 4-13 April, Lisbon, Special Committee of Governmental Experts to prepare a Draft Declaration and, if possible, a Draft Convention concerning the Prevention and Coverage of Risks to Movable Cultural Property
- 23-30 May, Paris, Interim Intergovernmental Committee for Physical Education and Sport
- 19-28 June, Kuala Lumpur (Malaysia) Intergovernmental Conference on Communication Policies in Asia and Oceania
- 24 July - 1 Aug., Colombo (Sri Lanka) 4th Regional Conference of Ministers of Education and those Responsible for Economic Planning in Asia and Oceania
- 28 Aug. - 6 Sept., Torremolinos (Spain) Intergovernmental Conference on Strategies and Policies for Informatics
- 11-15 Sept., Belgrade, Conference of Ministers responsible for Science and Technology Policy in the European and North American Region
- 12-16 Sept., Vienna, International Congress on Teaching of Human Rights
- 24 Oct. - 28 Nov., Paris, Unesco General Conference, 20th Session

St. Michael weighing the souls

This painting, a 13th-century altar panel from a Romanesque church in the Ribes valley, Catalonia (Spain) shows the archangel Michael weighing the souls of the dead while the devil waits expectantly to claim the damned. The work of an artist known as the Master of Soriguerola, it is now preserved in the Episcopal Museum at Vich, Catalonia. For Catalan Romanesque painting, see page 18 and central colour pages.

