

The World
of Learning
1989

The World of Learning 1989

THIRTY-NINTH EDITION

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The World of Learning 1989

FOREWORD

We have once again tried to ensure that we include the latest possible information concerning entries in THE WORLD OF LEARNING. Every year a folder containing the previous year's proof is sent to each entry; continuous research in the world press and educational journals, as well as contact with official sources all over the world, supplements this method of revision. New entries have been added throughout the book, including universities and other institutions of higher education. We have begun an extensive revision of the China and USSR chapters, which will be continued in the next edition. We welcome information and suggestions from users of the book, concerning either existing entries or possible new material.

We are always grateful to those individuals and organizations who help us to bring our information up to date with their prompt replies. We particularly emphasize the necessity for revised entries to be returned to us without delay, since important material may otherwise be held over until a later edition. Only by maintaining a strict timetable can the regular production of such a large work as THE WORLD OF LEARNING be assured.

In co-operation with IFLA we invite all institutions in the book to indicate by the sign † those of their periodical publications which are available for exchange. We ask readers who are interested in the exchange of publications to communicate directly with the institution concerned, and not with us.

We should like to point out that in the sections on Universities and Colleges our classification usually follows the practice of the country concerned. This in no way implies any official evaluation on our part. We suggest that readers who are interested in the matter of equivalences of institutions, degrees or diplomas, should correspond directly with the institution concerned, or with the national or international bodies set up for this purpose.

November 1988

ABBREVIATIONS

AAAS	American Association for the Advancement of Science	CNR	Consiglio Nazionale delle Ricerche
Acad.	Academy; Academician	CNRS	Centre National de la Recherche Scientifique
ACLS	American Council of Learned Societies	Co	Company; County
ACT	Australian Capital Territory	Colo	Colorado
Admin.	Administrative, Administration	Comm.	Commission
AFRC	Agricultural and Food Research Council	Commr	Commissioner
AIA	American Institute of Architects	Conf.	Conference
AIChE	American Institute of Chemical Engineers	Conn.	Connecticut
Ala	Alabama	Corpn	Corporation
ALECSO	Arab League Educational, Cultural and Scientific Organization	Corresp.	Correspondent, Corresponding
Alta	Alberta	CP	Case postale; Caixa postal
AP	Andhra Pradesh	Cr	Contador
Ariz.	Arizona	CSIRO	Commonwealth Scientific and Industrial Research Organization
Ark.	Arkansas	CTFT	Centre Technique Forestier Tropical
ASCE	American Society of Civil Engineers	Cttee	Committee
Assen	Association	DC	District of Columbia
Assoc.	Associate	Del.	Delegate, delegation
Asst	Assistant	Dela.	Delaware
ATC	Art Teacher's Certificate	Dept	Department
Atty	Attorney	DES	Department of Education and Science
AUPELF	Association des Universités Partiellement ou Entièrement de Langue Française	Dir	Director
Avv.	Avvocato (Advocate)	Dr	Doctor
BA	Bachelor of Arts	Drs	Doctorandus (Netherlands higher degree)
BC	British Columbia	DSIR	Department of Scientific and Industrial Research
BILD	Bureau International de Liaison et de Documentation	E	East; Eastern
Bldg	Building	EC	European Community
Blvd	Boulevard	ECOSOC	Economic and Social Council (UN)
BMA	British Medical Association	ECSC	European Coal and Steel Community
BP	Boîte postale	EEC	European Economic Community
Br.	Branch	ENEA	Comitato Nazionale per la ricerca e lo sviluppo dell'Energia Nucleare e delle Energie Alternative
BRGM	Bureau de Recherches Géologiques et Minières	ESA	European Space Agency
Bro.	Brother	ESCAP	Economic and Social Commission for Asia and the Pacific
BSc	Bachelor of Science	ESRC	Economic and Social Research Council
B/TEC	Bachelor of Technology	Est.	Established
c.	circa (approximately)	ETH	Eidgenössische Technische Hochschule
CAE	College of Advanced Education	Exec.	Executive
Calif.	California	f.	founded
CAR	Central African Republic	FAO	Food and Agriculture Organization
CEA	Commissariat à l'Energie Atomique	Fed.	Federation, Federal
CERN	European Organization for Nuclear Research	fmr	former
Chair.	Chairman	F.t.e.	Full-time equivalent (staff)
CIRAD	Centre de Coopération Internationale en Recherche Agronomique pour le Développement	F.U.T.	Federal University of Technology
Cmdr	Commander	Ga	Georgia
CNAA	Council for National Academic Awards	Gen.	General

ABBREVIATIONS

Gov.	Governor	IUHPS	International Union of the History and Philosophy of Science
Govt	Government	IUIS	International Union of Immunological Societies
HQ	Headquarters	IUMS	International Union of Microbiological Societies
HE	His Eminence; His (Her) Excellency	IUNS	International Union of Nutritional Sciences
HM	His (Her) Majesty	IUPAB	International Union of Pure and Applied Biophysics
HND	Higher National Diploma	IUPAC	International Union of Pure and Applied Chemistry
Hon.	Honourable; Honorary	IUPAP	International Union of Pure and Applied Physics
HRH	His (Her) Royal Highness	IUPHAR	International Union of Pharmacology
Ia	Iowa	IUPS	International Union of Physiological Sciences
IAEA	International Atomic Energy Agency	IUTAM	International Union of Theoretical and Applied Mechanics
IAU	International Astronomical Union	Jl	Jalan (Indonesia, Malaysia)
IBE	International Bureau of Education	Kan.	Kansas
ICAR	Indian Council of Agricultural Research	Ky	Kentucky
ICPHS	International Council for Philosophy and Humanistic Studies	La	Louisiana
ICSU	International Council of Scientific Unions	m.	million
Ida.	Idaho	MA	Master of Arts
IEC	International Electrotechnical Commission	MAFF	Ministry of Agriculture, Fisheries and Food
IEMVT	Institut d'Elevage et de Médecine Vétérinaire des Pays Tropicaux	Man.	Manager, Managing; Manitoba
IFAN	Institut Fondamental d'Afrique Noire	Mass	Massachusetts
IFREMER	Institut Français de Recherche pour l'Exploitation de la Mer	Md	Maryland
IFLA	International Federation of Library Associations and Institutions	Me	Maine
IGU	International Geographical Union	Mem(s)	Member(s)
IICA	Instituto Interamericano de Cooperación para la Agricultura	Mgr	Monseigneur; Monsignor; Magister (Master's degree)
Ill.	Illinois	Mich.	Michigan
ILO	International Labour Organisation	Min.	Minister; Ministry
IMU	International Mathematical Union	Minn.	Minnesota
Inc.	Incorporated	Miss.	Mississippi
Ind.	Indiana; Independent	MIT	Massachusetts Institute of Technology
INFN	Istituto Nazionale di Fisica Nucleare	Mo.	Missouri
INRA	Institut National de la Recherche Agronomique	Mont.	Montana
Instn	Institution	MRC	Medical Research Council
Int.	International	MS	Master of Science
Ir	Ingenieur (Engineer)	MSc	Master of Science
IRAT	Institut de Recherches Agronomiques Tropicales et des Cultures Vivrières	N	North; Northern
IRC	Institut de Recherches sur le Caoutchouc	NASA	National Aeronautics and Space Administration
IRCC	Institut de Recherches du Café, du Cacao et autres plantes stimulantes	Nat.	National
IRCT	Institut de Recherches du Coton et des Textiles Exotiques	NB	New Brunswick
IRFA	Institut de Recherches sur les Fruits et Agrumes	NC	North Carolina
IRHO	Institut de Recherches pour les Huiles et Oléagineux	ND	North Dakota; National Diploma
ISME	International Society for Music Education	NDD	National Diploma in Dairying
ISO	International Organization for Standardization	NERC	Natural Environment Research Council
IUB	International Union of Biochemistry	Neb.	Nebraska
IUBS	International Union of Biological Sciences	Nev.	Nevada
IUCr	International Union of Crystallography	NH	New Hampshire
IUGG	International Union of Geodesy and Geophysics	NJ	New Jersey
IUGS	International Union of Geological Sciences	NM	New Mexico

ABBREVIATIONS

NS	Nova Scotia	S	South; Southern
NSW	New South Wales	SA	South Africa(n); South Australia
NUI	National University of Ireland	SC	South Carolina
NY	New York	S Dak.	South Dakota
NZ	New Zealand	SDI	Selective Dissemination of Information
O.	Ohio	Sec.	Secretary
OAS	Organization of American States	SERC	Science and Engineering Research Council
ODA	Overseas Development Administration	SHND	Scottish Higher National Diploma
OECD	Organisation for Economic Co-operation and Development	SIPRI	Stockholm International Peace Research Institute
OFS	Orange Free State	Soc.	Society
OIC	Organization of the Islamic Conference	SRR	Socialist Republic of Romania
Okla	Oklahoma	SSR	Soviet Socialist Republic
On.	Onorevole (Italian)	Tenn.	Tennessee
ONERA	Office National d'Etudes et de Recherches Aérospatiales	Tex.	Texas
Ont.	Ontario	UK	United Kingdom
Ore.	Oregon	UN	United Nations
Org.	Organization	UNDP	United Nations Development Programme
OU	Open University	UNESCO	United Nations Educational, Scientific and Cultural Organization
Pa	Pennsylvania	UNICEF	United Nations International Children's Emergency Fund
PCSIR	Pakistan Council of Scientific and Industrial Research	Univ.	University
PEI	Prince Edward Island	UNRWA	United Nations Relief and Works Agency
PEN	Poets, Playwrights, Essayists, Editors and Novelists (Club)	UNU	United Nations University
PhD	Doctor of Philosophy	UP	Uttar Pradesh (United Provinces)
PMB	Private Mail Bag	URSI	Union Radio-Scientifique Internationale
POB	Post Office Box	USA	United States of America
Pres.	President	USIS	United States Information Service
Prof.	Professor	USSR	Union of Soviet Socialist Republics
Publ(s)	Publication(s)	Va	Virginia
<i>q.v.</i>	quod vide (which see)	Vols	Volumes
Rep.	Representative; Represented	Vt	Vermont
retd	retired	W	West; Western
Rev.	Reverend	WA	Western Australia
RI	Rhode Island	Wash.	Washington (State)
RIBA	Royal Institute of British Architects	WHO	World Health Organization
RSFSR	Russian Soviet Federative Socialist Republic	Wis.	Wisconsin
Rt Hon.	Right Honourable	W Va	West Virginia
Rt Rev.	Right Reverend	Wyo.	Wyoming
		†	indicates a periodical title available for exchange

INTERNATIONAL SECTION

United Nations Educational, Scientific and Cultural Organization (UNESCO)	<i>page</i> 1
International Institute for Educational Planning (IIEP)	4
International Bureau of Education (IBE)	4
United Nations University	4
University for Peace	4
International Council of Scientific Unions	4
International Council for Philosophy and Humanistic Studies	7
International Social Science Council	8
International Association of Universities (IAU)	9
Other International Organizations	
Agriculture and Veterinary Science	10
Arts	13
Bibliography	15
Economics, Political Science and Sociology	17
Education	19
Engineering and Technology	24
Law	27
Medicine and Public Health	28
Music	34
Science	35

CONTENTS

Foreword	<i>page</i> v	Cuba	<i>page</i> 360
Abbreviations	xi	Cyprus	365
International	1	Czechoslovakia	367
Afghanistan	41		
Albania	42	Denmark	390
Algeria	45	Faeroe Islands	403
Angola	48	Greenland	404
Antigua and Barbuda	49	Dominican Republic	405
Argentina	50		
Australia	70	Ecuador	408
Austria	100	Egypt	414
		El Salvador	421
Bahamas	120	Ethiopia	423
Bahrain	121		
Bangladesh	123	Fiji	425
Barbados	128	Finland	426
Belgium	129	Åland Islands	440
Belize	149	France	441
Benin	150	French Overseas Departments	496
Bhutan	151	French Overseas Territories	498
Bolivia	152		
Botswana	156	Gabon	499
Brazil	157	The Gambia	500
Brunei	189	German Democratic Republic	501
Bulgaria	190	Germany, Federal Republic	511
Burkina Faso	202	Ghana	604
Burma	203	Great Britain (see United Kingdom)	
Burundi	205	Greece	607
		Grenada	615
Cameroon	206	Guatemala	616
Canada	208	Guinea	619
Central African Republic	288	Guyana	620
Chad	289		
Chile	290	Haiti	622
China, People's Republic	302	Honduras	623
China (Taiwan)	334	Hungary	624
Colombia	341		
Congo	354	Iceland	646
Costa Rica	355	India	648
Côte d'Ivoire	358	Indonesia	695
		Iran	709

CONTENTS

Iraq	page 715	Norway	page 1010
Ireland	718	Oman	1024
Israel	728	Pakistan	1025
Italy	745	Panama	1037
Jamaica	791	Papua New Guinea	1039
Japan	793	Paraguay	1041
Jordan	875	Peru	1043
Kenya	879	Philippines	1052
Kiribati	883	Poland	1067
Korea, Democratic People's Republic	884	Portugal	1111
Korea, Republic	887	Macau	1122
Kuwait	903	Puerto Rico	1123
Laos	905	Qatar	1126
Lebanon	906	Romania	1127
Lesotho	909	Rwanda	1149
Liberia	910	Saint Lucia	1150
Libya	911	São Tomé e Príncipe	1151
Liechtenstein	913	Saudi Arabia	1152
Luxembourg	914	Senegal	1156
Madagascar	915	Sierra Leone	1158
Malawi	916	Singapore	1159
Malaysia	918	Solomon Islands	1162
Maldives	924	Somalia	1163
Mali	925	South Africa	1164
Malta	926	Spain	1192
Mauritania	927	Sri Lanka	1222
Mauritius	928	Sudan	1228
Mexico	929	Suriname	1231
Monaco	950	Swaziland	1232
Mongolian People's Republic	951	Sweden	1233
Morocco	953	Switzerland	1253
Mozambique	957	Syria	1273
Namibia (South West Africa)	958	Taiwan (see China (Taiwan))	
Nepal	959	Tanzania	1275
Netherlands	960	Thailand	1278
Netherlands Dependencies	980	Togo	1286
New Zealand	981	Tonga	1287
Nicaragua	991	Trinidad and Tobago	1288
Niger	993	Tunisia	1290
Nigeria	994		

CONTENTS

Turkey	<i>page</i> 1293	Vatican City State	<i>page</i> 1825
Uganda	1306	Venezuela	1831
Union of Soviet Socialist Republics	1308	Viet-Nam	1842
United Arab Emirates	1371	Western Samoa	1846
United Kingdom	1372		
Northern Ireland	1495	Yemen Arab Republic	1847
United Kingdom Overseas	1498	Yemen, People's Democratic Republic	1848
Bermuda	1498	Yugoslavia	1849
Gibraltar	1498		
Hong Kong	1498	Zaire	1877
United States of America	1502	Zambia	1879
United States of America External Territories	1821	Zimbabwe	1882
Uruguay	1822	Index of Institutions	1887

INTERNATIONAL

UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANIZATION (UNESCO)

7 place de Fontenoy, 75700 Paris

Telephone: 45-68-10-00

Telex: 204461

UNESCO was established in 1946 'for the purpose of advancing, through the educational, scientific and cultural relations of the peoples of the world, the objectives of international peace and the common welfare of mankind'.

Functions

UNESCO's activities are funded through a regular budget provided by member states and also through other sources, particularly the UNDP.

International Intellectual Co-operation

UNESCO assists the interchange of experience, knowledge and ideas through a world network of specialists. Apart from the work of its professional staff, UNESCO co-operates regularly with the national associations and international federations of scientists, artists, writers and educators, some of which it helped to establish.

UNESCO convenes conferences and meetings, and co-ordinates international scientific efforts; it helps to standardize procedures of documentation and provides clearing house services; it offers fellowships; and it publishes a wide range of specialized works, including source books and works of reference.

UNESCO promotes various international agreements, including the International Copyright Convention and the World Cultural and National Heritage Convention, which member states are invited to accept.

Operational Assistance

UNESCO has established missions which advise governments, particularly in the developing member countries, in the planning of projects; and it appoints experts to assist in carrying them out. The projects are concerned with the teaching of functional literacy to workers in development undertakings; teacher training; establishing of libraries and documentation centres; provision of training for journalists, radio, television and film workers; improvement of scientific and technical education; training of planners in cultural development; and the international exchange of persons and information.

Promotion of Peace

UNESCO organizes various research efforts on racial problems, and is particularly concerned with prevention of discrimination in education, and improving access for women to education. It also promotes studies and research on conflicts and peace, violence and obstacles to disarmament, and the role of international law and organizations in building peace. It is stressed that human

rights, peace and disarmament cannot be dealt with separately, as the observance of human rights is a prerequisite to peace and vice versa.

Member States

(August 1988)

Afghanistan	Guyana
Albania	Haiti
Algeria	Honduras
Angola	Hungary
Antigua and Barbuda	Iceland
Argentina	India
Australia	Indonesia
Austria	Iran
Bahamas	Iraq
Bahrain	Ireland
Bangladesh	Israel
Barbados	Italy
Belgium	Jamaica
Belize	Japan
Benin	Jordan
Bhutan	Kampuchea
Bolivia	Kenya
Botswana	Korea, Democratic People's Republic
Brazil	Korea, Republic
Bulgaria	Kuwait
Burkina Faso	Laos
Burma	Lebanon
Burundi	Lesotho
Byelorussian SSR	Liberia
Cameroon	Libya
Canada	Luxembourg
Cape Verde	Madagascar
Central African Republic	Malawi
Chad	Malaysia
Chile	Maldives
China, People's Republic	Mali
Colombia	Malta
Comoros	Mauritania
Congo People's Republic	Mauritius
Costa Rica	Mexico
Côte d'Ivoire	Monaco
Cuba	Mongolian People's Republic
Cyprus	Morocco
Czechoslovakia	Mozambique
Denmark	Namibia
Dominica	Nepal
Dominican Republic	Netherlands
Ecuador	New Zealand
Egypt	Nicaragua
El Salvador	Niger
Equatorial Guinea	Nigeria
Ethiopia	Norway
Fiji	Oman
Finland	Pakistan
France	Panama
Gabon	Papua New Guinea
Gambia	Paraguay
German Democratic Republic	Peru
Germany, Federal Republic	Philippines
Ghana	Poland
Greece	Portugal
Grenada	Qatar
Guatemala	Romania
Guinea	Rwanda
Guinea-Bissau	St Christopher and Nevis
	St Lucia
	St Vincent and the Grenadines
	Samoa
	San Marino
	São Tomé and Príncipe
	Saudi Arabia
	Senegal
	Seychelles
	Sierra Leone

Somalia
Spain
Sri Lanka
Sudan
Suriname
Swaziland
Sweden
Switzerland
Syrian Arab Republic
Tanzania
Thailand
Togo
Tonga
Trinidad and Tobago
Tunisia
Turkey
Uganda
Ukrainian SSR
USSR
United Arab Emirates
Uruguay
Venezuela
Viet-Nam
Yemen Arab Republic
Yemen, People's Democratic Republic
Yugoslavia
Zaire
Zambia
Zimbabwe

Organization

GENERAL CONFERENCE

The supreme governing body of the Organization. Meets in ordinary session once in two years and is composed of representatives of the member states. 24th session: October 1987.

President: G. PUTZEYS ALVAREZ (Guatemala).

EXECUTIVE BOARD

Consists of 50 members. Prepares the programme to be submitted to the Conference and supervises its execution. Meets twice or sometimes three times a year.

SECRETARIAT

Director-General: FEDERICO MAYOR ZARAGOZA (Spain).

Director of the Executive Office: L. MARQUES.

The Director-General has an international staff of some 2,500 civil servants. Of the professional staff (specialists in various disciplines and administrators), about two-thirds are away from headquarters on technical assistance missions to member states.

CO-OPERATING BODIES

In accordance with UNESCO's constitution, national commissions have been set up in most member states. These help to integrate work within the member states and the work of UNESCO.

UNESCO LIAISON OFFICES

Office for Liaison with United Nations: Room 900, UN Bldg, 42nd St at First Ave, New York, NY 10017, USA.

UNESCO Liaison Office in Geneva: Villa des Feuillantines, Palais des Nations, CH-1211 Geneva, Switzerland.

UNESCO EDUCATION OFFICES

(See also under relevant country)

Regional Office for Education in Latin America and the Caribbean: POB 3187, Santiago, Chile.

Regional Office for Education in Asia and the Pacific: POB 1425, Bangkok 10501, Thailand.

Regional Office for Education in Africa: BP 3311, Dakar, Senegal.

Regional Office for Education in the Arab States: POB 2270, Wadi Saqra, Amman, Jordan.

Regional Office for Education in the South Pacific: Apia, Western Samoa.

European Centre for Higher Education (CEPES): 39 rue Stirbei, Voda, Bucharest, Romania.

International Bureau of Education (see below).

UNESCO Regional Centre for Higher Education in Latin America and the Caribbean (CRESALC): Altos de Sebuca, Avda Los Chorros/Cruce, Calle Acueducto, Edificio Asovincar, El Sebuca, Apdo 62090, Caracas 106, Venezuela.

International Institute for Educational Planning (IIEP) (see below).

UNESCO SCIENCE AND TECHNOLOGY OFFICES

Regional Office for Science and Technology for Africa: POB 30592, Nairobi, Kenya.

Regional Office for Science and Technology for Latin America and the Caribbean: 1320 Bulevar Artigas, Apdo de Correos 859, Montevideo, Uruguay.

Regional Office for Science and Technology in the Arab States: POB 950492, Amman, Jordan.

Regional Office for Science and Technology for South and Central Asia: UNESCO House, 17 Jor Bagh, New Delhi 110003, India.

Regional Office for Science and Technology for South-East Asia: UN Bldg (2nd Floor), Jl. Thamrin 14, Tromol Pos 273/JKT, Jakarta, Indonesia.

Office of UNESCO Representative (Science and Technology) in China: 5-15-3 Jianguomenwai, Waijiaogongyu, Beijing, People's Republic of China.

UNESCO CULTURE OFFICES

Regional Office for Culture in Latin America and the Caribbean: Calzada 551, esq. a D, Vedado, Apdo 4158, Havana, Cuba.

Regional Office for Book Development in Asia and the Pacific: POB 8950, Karachi, Pakistan.

UNESCO Liaison Office for the Safeguarding of Venice: Palazzo Reale, Piazza San Marco 63, 30124 Venice, Italy.

Activities

About 200 issues of periodicals and 100 new publications are produced annually, and about 80 meetings and conferences and 30 seminars are held; close relations are maintained with some 400 non-governmental organizations, some carrying out projects for UNESCO programmes.

EDUCATION

UNESCO has an overall policy of regarding education as a lifelong process. As an example, one implication is the increasing priority given to pre-primary training and adult education. This approach has been the guideline for many of the projects recently planned. 'Education for All', 'The Formulation and Application of Educational Poli-

cies' and 'Education, Training and Society' were three recent major programmes.

Each year expert missions are sent to member states on request to advise on all matters concerning education. They also help with programmes for training abroad, and UNESCO provides study fellowships; in these forms of assistance priority is given to the rural regions of developing member countries. The issues and problems involved in human resources development have been at the forefront of UNESCO's education programme since the Organization's foundation. Objectives include the eradication of illiteracy, universal primary education, youth training, higher education, adult, non-formal and permanent education, and education of women and girls. In addition to its regular programme budget, UNESCO's extra-budgetary sources include the World Bank, UNDP, UNFPA, UNICEF, etc.

NATURAL SCIENCES AND TECHNOLOGY

While the main emphasis in UNESCO's work in science and technology is on harnessing these to development, and above all on meeting the needs of developing countries, the Organization is also active in promoting and fostering collaborative international projects among the highly industrialized countries. UNESCO's activities can be divided into three levels: international, regional and sub-regional, and national.

At the international level, UNESCO has over the years set up various forms of inter-governmental co-operation concerned with the environmental sciences and research on natural resources. The Man and Biosphere Programme (MAB) has initiated more than 1,000 programmes in 100 countries, involving local people in solving practical problems of environmental resource management in such areas as arid lands, humid tropical zones, mountain eco-systems, urban systems, etc.; the International Geological Correlation Programme (IGCP) in 1988 adopted 12 new projects; the International Hydrological Programme (IHP) deals with the scientific aspects of water resources assessment and management; the Intergovernmental Oceanographic Commission (IUGG) promotes scientific investigation into the nature and resources of the oceans through the concerted action of its member states; the International Lithosphere Programme was set up in 1981 by ICSU, IUGG and IUGS, to succeed the International Geodynamics Programme. Another programme, the Intergovernmental Informatics Programme (IIP) has been set up to foster, through education, information exchange and co-operation in the computer sciences, a reduction in the gap between developed and developing countries in this field. Major disciplinary programmes are promoted in the fields of physics (including support to the International Centre for Theoretical Physics), the chemical sciences, life sciences, including applied microbiology, mathematics, informatics and new sources of energy.

At the regional and sub-regional level, UNESCO develops co-operative scientific and technological research programmes through organization and support of scientific meeting and contracts with research institutions, and the establishment or strengthening of co-operative networks.

At the national level, UNESCO assists member states, upon request, in the field of policy-making and planning in the field of science and technology generally, and by

organizing training and research programmes in basic sciences, engineering sciences and environmental sciences, particularly work relevant to development, such as projects concerning the use of small-scale energy sources for rural and dispersed population.

SOCIAL AND HUMAN SCIENCES

The social sciences programme is expanding so as to ensure the development of the social sciences throughout the world by strengthening national and regional institutions, the conceptual development of the social sciences, training, the exchange and diffusion of information, and co-operation with international non-governmental organizations.

The activities concerning Human Rights and Peace include two major programmes: the elimination of prejudice, intolerance, racism and apartheid; and a programme for peace, international understanding, human rights and the rights of peoples.

CULTURE

In the field of cultural heritage, the programme concentrates on three major lines of action: activities designed to foster the world-wide application of three international conventions aiming at protecting and preserving cultural property and inserting it into the life of contemporary societies; operational activities such as international safeguarding campaigns designed to help member states to conserve and restore monuments and sites (in 1988 there were 22 campaigns in progress and seven others in preparation); activities designed to improve the quality of museum management, to train specialists, to disseminate information, such as the most up-to-date conservation methods and techniques, and to promote greater public awareness of the value of cultural heritage.

In addition to a new edition of the *History of the Scientific and Cultural Development of Mankind*, work is continuing on histories of Africa, Latin America, the Caribbean and the civilizations of Central Asia, as well as on a six-volume publication on the various aspects of Islamic culture. A 10-year programme for the collection and safeguarding of the non-physical heritage (oral traditions, traditional music, dance, medicine, etc.) was launched in 1988.

With respect to the cultural dimension of development, the programme includes continuing assistance to member states in the preparation and evaluation of cultural development policies, plans and projects and in the training of cultural development personnel. Activities designed to strengthen active participation in cultural life will, as in the past, be concentrated on women and young people. Proclaimed by the United Nations General Assembly on 8 December 1986, the World Decade for Cultural Development was launched on 21 January 1988 and will end in 1997. The principal objectives of the Decade are: acknowledging the cultural dimension in development; asserting and enhancing cultural identities; broadening participation in cultural life; and promoting international cultural co-operation.

Following the approval by the General Conference of the Recommendation concerning the Status of the Artist, efforts are being made to encourage its systematic application in the member states. Particular attention is given to the promotion of music, dance, theatre, architecture, fine arts, design and arts and crafts, as well as the organization of interdisciplinary workshops and other experimental workshops related

to the use of new technologies in artistic creation. To contribute to the mutual appreciation of cultures, UNESCO fosters, in the framework of the UNESCO Collection of Representative Works, translation and publication of literary masterpieces, publishes art albums, and produces and disseminates records, cassettes, audio-visual programmes and travelling art exhibitions.

UNESCO's programme for the promotion of books and reading includes activities for the development of book publishing, production and distribution infrastructures as well as for the training of personnel in all the book fields (including editing, layout and design, ad hoc management courses and courses at university level). A major thrust of the programme is aimed at reinforcing the development of reading at all levels of society (and especially that of children) through promotional activities, reading animation programmes, book weeks and book years.

COPYRIGHT

UNESCO's programme in the field of copyright consists of five types of activities: (i) those aimed at heightening member states' awareness of the role played by copyright as a stimulant to intellectual creativity; (ii) the preparation of international instruments, the implementation of which is assured by the Secretariat (among these instruments should be cited the Universal Copyright Convention, adopted in 1952 and revised in 1971, which, guaranteeing the minimal protection of the authors, facilitates the circulation of intellectual and cultural materials); (iii) activities intended to ensure the adequacy of traditional laws vis-à-vis the means of reproduction and of successive diffusion made possible by the latest technological revolutions in the field of reprography, satellites, computers, cable television, cassettes and magnetic discs; (iv) the organization of individual or group training courses intended mainly for the nationals of the developing countries; (v) activities to promote access to protected works.

COMMUNICATION

UNESCO's programme aims at fostering a free flow and a wider and better balanced exchange of information among individuals, communities and countries. The international movement of persons and circulation of materials are promoted through measures for the reduction of obstacles of a legislative, administrative or economic nature.

Assistance is provided to member states in the formulation of national communication policies, and a series of conferences on the impact of new communication technologies is being organized. UNESCO also promotes research in the field of communication, and for this purpose has been instrumental in setting up an International Network of Documentation Centres on Communication Research and Policies.

UNESCO co-operates with member states, particularly in the developing countries, in strengthening and expanding their communication systems and networks, and for this purpose executes a number of programmes both in individual countries and at the regional and sub-regional levels, to provide advisory services and help advance professional training in communication skills.

In 1980 the International Programme for the Development of Communication (IPDC) was established to increase

resources for the development of communication. IPDC receives project proposals from all regions of the world, and its Intergovernmental Council decides on allocation once a year.

INFORMATION SYSTEMS AND SERVICES

UNESCO's General Information Programme is an intergovernmental programme concerned with the development and promotion of information systems and services in the fields of scientific and technological information, documentation, libraries and archives at the national, regional and international levels. Its activities, including those directed to the development of UNISIST, fall into the following categories: promotion of the formulation of information policies and plans; promotion and dissemination of methods, norms and standards for information handling; contribution to the development of information infrastructure; contribution to the development of specialized information systems; promotion of the training and education of information specialists and users.

Since the Intergovernmental Conference on Scientific and Technological Information for Development (UNISIST II) and the United Nations Conference on Science and Technology for Development (UNCSTD), held in 1979, the General Information Programme has decided to attach particular importance to socio-economic information and to the special needs of developing countries. Its programme will increasingly favour a user-oriented approach, and specifically, those users taking part in the development process; the programme will endeavour to facilitate the member states' choice, use, and adaptation of advanced information and communication technology.

A new intergovernmental informatics programme has been proposed to help countries, particularly in the Third World, to benefit from recent advances in computer science.

PUBLICATIONS

UNESCO Courier: monthly illustrated journal devoted to the general interest of UNESCO; published in 35 languages.

UNESCO News: 2 a month, giving official information, records of meetings, reports, and articles on UNESCO's programme, etc.; English and French.

Copyright Bulletin: quarterly review of special studies and documentation on the legislation in different countries, and on UNESCO's work on behalf of the harmonization of the various copyright laws; English, French, Spanish and Russian.

Museum: quarterly international review of museums and museology around the world; English, French, Spanish, Russian and Arabic.

Impact of Science on Society: quarterly reports on science as a major force for social change; English, French, Spanish, Russian, Arabic and Chinese.

International Social Science Journal: quarterly journal; English, French, Spanish, Arabic and Chinese.

Nature and Resources: quarterly review on environment and conservation; official bulletin of the Man and Biosphere Programme, the International Hydrological Programme and the International Geological Correlation Programme; English, French, Spanish, Russian.

INTERNATIONAL

Prospects: quarterly review on education; English, French, Spanish, Russian, Arabic and Chinese.

International Marine Science Newsletter: quarterly, issued on behalf of the Inter-governmental Oceanographic Commission and UN Specialized Agencies with interest in the marine field.

INTERNATIONAL INSTITUTE FOR EDUCATIONAL PLANNING (IIEP)

7-9 rue Eugène Delacroix, 75116 Paris, France

Telephone: 45-04-28-22
Telex: 620074

Established by UNESCO in 1963 to serve as a world centre for advanced training and research in educational planning. Its purpose is to help all member states of UNESCO in their social and economic development efforts, by enlarging the fund of knowledge about educational planning and the supply of competent experts in this field.

Legally and administratively a part of UNESCO, the Institute enjoys intellectual autonomy, and its policies and programme are controlled by its own Governing Board, under special statutes voted by the General Conference of UNESCO.

Chairman of Governing Board: Prof. MALCOLM S. ADISESHIAH.

Director: JACQUES HALLAK.

A catalogue of publications, listing over 400 titles, is available on request.

Budget 1987: US \$3,000,000.

INTERNATIONAL BUREAU OF EDUCATION (IBE)

CP 199, 1211 Geneva 20, Switzerland

Telephone: (022) 98-14-55

Telex: 22644

Fax: (022) 98-14-86

Founded in 1925, the IBE became an inter-governmental organization in July 1929 and was incorporated into UNESCO in January 1969 as an international centre of comparative education.

COUNCIL

The Council of the IBE is composed of representatives of 24 member states designated by the General Conference of UNESCO.

Director: (vacant).

FUNCTIONS

International Conference on Education (every two years). 41st session: diversification of post-secondary education in relation to employment.

International Education Library: 100,000 vols; some 1,200 journals received regularly; 250,000 research reports on microfiche.

International Exhibition of Education.

BUDGET

Financed from the budget of UNESCO 1988-89 (US \$4,450,900).

PUBLICATIONS

International Yearbook of Education, Vol. XL 1988.

Educational Sciences, series.

Studies and Surveys in Comparative Education, series.

Experiments and Innovations in Education, series.

Ibedata, reference series (thesaurus, terminologies and directories).

International Bureau of Education Bulletin (quarterly).

Educational Innovation and Information (quarterly newsletter).

UNITED NATIONS UNIVERSITY

Toho Seimei Building, 15-1, Shibuya 2-chome, Shibuya-ku, Tokyo 150, Japan

Telephone: (81) (3) 499-2811

Telex: 25442

(Office for Europe: 20 Buckingham Gate, London SW1E 6LB, England)

The University is sponsored jointly by UN and UNESCO. It is an autonomous institution within the UN framework, guaranteed academic freedom by a charter approved by the General Assembly in 1973. Work began in September 1975, financed

WORLD OF LEARNING

from an Endowment Fund and operational funds to which many countries have contributed. The University is not traditional in the sense of having students or awarding degrees, but works through its own research and training centres and networks of collaborating institutions and individuals. The University now has 38 Associated Institutions and collaborates with many other institutions of higher learning, through which it carries out its work in more than 60 countries. By the end of 1987 nearly 1,000 UNU fellowships had been awarded. Two research and training centres have been established, and others are planned. The first, the World Institute for Development Economics Research (*q.v.*, below), was established in Helsinki in 1984. The second, the Institute for Natural Resources in Africa, was established in Yamoussoukro, Côte d'Ivoire, in 1986.

The University works in the areas of Peace, Development and Democracy; Global Economy; Global Life Support Systems; Alternative Rural-Urban Configurations; Science Technology and Global Learning.

Rector: Prof. HEITOR GURGULINO DE SOUZA.

Vice-Rectors: Dr ROLAND J. FUCHS (Research and Training), Dr KINHIDE MUSHAKOJI (Dissemination).

Chairman of Council: Dr JUSTIN THORENS.

UNIVERSITY FOR PEACE

Apdo postal 199, 1.250 Escazú, Costa Rica

Telephone: 49-10-72

Telex: 2331

Founded 1980 by the UN but financially independent; will conduct academic research on all aspects of peace, including disarmament, conflict resolution and mediation, the relation between peace and development, and the effects on peace of migration and refugees; various int. and governmental institutions are collaborating with the university; first students were admitted in 1985.

Rector: ADOLFO PÉREZ ESQUIVEL

Executive Secretary: Dr FRANCISCO BARAHONA

Librarian: OLGA MARÍA RODRÍGUEZ

Number of teachers: 6

Number of students: 25

Publication: *Carta Informativa* (in Spanish and English).

INTERNATIONAL COUNCIL OF SCIENTIFIC UNIONS

International Council of Scientific Unions/Conseil international des unions scientifiques: 51 blvd de Montmorency, 75016 Paris, France; tel. 45-25-03-29; telex 630553; the ICSU was founded in 1931, succeeding the International Research Council founded in 1919, to co-ordinate international efforts in the different branches of science and its applications; to initiate the formation of international associations or unions deemed to be useful to the progress of science; to enter into relations with the governments of the countries adhering to the Council in order to promote investigations falling within the competence of the Council. Adhering organizations represent 74 countries and 20 international unions. In December 1946 an agreement was signed between UNESCO

and the ICSU recognizing the latter as the co-ordinating and representative body of international scientific unions; Pres. Prof. M. G. K. MENON; Vice-Pres. Prof. W. A. ROSENBLITH; Sec.-Gen. L. ERNSTER; Treas. Prof. K. THURAU; Exec. Sec. F. W. G. BAKER; publs *ICSU Year Book*†, *ICSU Newsletter*†.

UNION REPRESENTATIVES

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IUPAP L. KERWIN
IGU Prof. P. SCOTT
IUBS Prof. O. SOLBRIG
IUHPS (vacant)
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IUTAM Prof. J. HULT
IMU Prof. O. LEHTO
IUB Prof. J. ALLENDE
IUPS Sir ANDREW HUXLEY
IUGS Prof. U. G. CORDANI
IUPAB Prof. J. TIGYI
IUNS Dr M. K. GABR
IUPHAR Prof. P. LECHAT
IUIS Prof. J. B. NATVIG
IUMS Prof. S. W. GLOVER
IUPsyS Prof. F. KLIX

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E. U. EMOVON	(Nigeria)
M. ITO	(Japan)

I. LANG (Hungary)
 Prof. S. MASCARENHAS (Brazil)
 Dr. A. P. MITRA (India)
 J.-P. SCHAEER (Switzerland)
 Prof. M. SELA (Israel)
 B. SENDOV (Bulgaria)
 Dr O. G. TANDBERG (Sweden)

UNIONS FEDERATED TO THE ICSU

International Astronomical Union/Union astronomique internationale: 61 ave de l'Observatoire, 75014 Paris, France; tel. 43-25-83-58; telex 205671; f. 1919 to facilitate co-operation between the astronomers of various countries and to further the study of astronomy in all its branches; 50 affiliated countries, c. 6,000 individual mems; Pres. Prof. J. SAHADE (Argentina); Gen. Sec. Dr J. P. SWINGS (Belgium); publs *Transactions of the International Astronomical Union and Symposia organized by the International Astronomical Union*.

International Geographical Union (IGU)/Union géographique internationale: f. 1922 to encourage the study of problems relating to geography, to promote and co-ordinate research requiring international co-operation, and to organize international congresses and commissions; 88 mem. countries; Pres. Prof. PETER SCOTT (Australia); Sec.-Treas. Prof. LESZEK A. KOSINSKI, Dept of Geography, University of Alberta, Edmonton, Alta T6G 2H4, Canada; tel. (403) 432-3329; telex 0372979; fax (403) 432-7219; publ. *IGU Bulletin* (2 a year).

International Mathematical Union: Dept of Mathematics, University of Helsinki, Hallituskatu 15, SF-00100 Helsinki, Finland; tel. (358) 0-1912883; telex 124690; fax (358) 0-656591; f. 1950 by a convention of delegates of national cttees representing 22 countries which met in New York, to promote international co-operation in mathematics; to support and assist the International Congress of Mathematicians and other international scientific meetings or conferences; to encourage and support other international mathematical activities considered likely to contribute to the development of mathematical science—pure, applied, or educational; 52 mem. countries; 2 commissions: Int. Comm. on Mathematical Instruction, Comm. for Development and Exchange; Joint Int. Comm. on the History of Mathematics, with the Int. Comm. on the History of Mathematics; Pres. Prof. L. D. FADDEEV; Vice-Pres. Prof. W. FEIT, L. HÖRMANDER; Sec.-Gen. Prof. O. LEHTO.

International Union of Biochemistry/Union internationale de biochimie: c/o Dept of Biochemistry, Duke University, School of Medicine, POB 3711, Durham, NC 27710, USA; tel. (919) 684-5326; telex 802829; f. 1955 (a) to encourage the continuance of a series of International Congresses of Biochemistry, (b) to promote international co-ordination of research, discussion and publication, (c) to organize a permanent co-operation between the societies representing biochemistry in the adherent countries, and (d) to contribute to the advancement of biochemistry in all its international aspects; 51 adhering bodies, five assoc. adhering bodies; Pres. Prof. M. GRUNBERG-MANAGO (France); Sec.-Gen. ROBERT L. HILL (USA); Treas. Prof. K. YAGI (Japan).

International Union of Biological Sciences/Union internationale des sciences biologiques: 51 blvd de Montmorency, 75016 Paris, France; tel. 45-

25-00-09; telex 630553; f. 1919 for the promotion of international co-operation in biology; 44 countries are represented; Pres. Prof. O. T. SOLBRIG (USA); Sec.-Gen. Prof. F. DI CASTRI (France); Treas. Prof. D. F. ROBERTS (UK); Exec. Sec. Dr T. YOUNES; publs *Biology International—The IUBS News Magazine*† (quarterly), *Proceedings of the General Assemblies*† (every 3 years), *IUBS Monographs Series*.

International Union of Crystallography/Union internationale de cristallographie: f. 1947 to promote international co-operation in crystallography; to contribute to the advancement of crystallography in all its aspects, including related topics concerning the non-crystalline states; to facilitate international standardization of methods, of units, of nomenclature and of symbols used in crystallography; and to form a focus for the relations of crystallography to other sciences; 35 mem. countries; 15 commissions; Pres. Prof. M. NARDELLI (Italy); Gen. Sec. and Treas. Prof. A. I. HORDVIK (Norway); Exec. Sec. Dr J. N. KING, 5 Abbey Square, Chester, CH1 2HU, England; tel. (0244) 42878; publs *Acta Crystallographica*, Section A (monthly), Section B (every 2 months), Section C (monthly), *Journal of Applied Crystallography* (every 2 months), *Structure Reports* (2 vols a year), *International Tables for Crystallography*, *World Directory of Crystallographers*, *Index of Crystallographic Supplies*, *Bibliographies*, etc.

International Union of Geodesy and Geophysics/Union géodésique et géophysique internationale: Observatoire Royal, Ave Circulaire, 1180 Brussels, Belgium; tel. 375-24-84; f. 1919 to promote the study of problems relating to the form and physics of the earth; to initiate, facilitate and co-ordinate research into those problems of geodesy and geophysics which require international co-operation; to provide for discussion, comparison and publication. The Union is a federation of 7 associations representing Geodesy, Seismology and Physics of the Earth's Interior, Physical Sciences of the Ocean, Volcanology and Chemistry of the Earth's Interior, Hydrological Sciences, Meteorology and Atmospheric Physics, Geomagnetism and Aeronomy, which meet at the General Assemblies of the Union. In addition, there are Joint Committees of the various associations either among themselves or with other unions. The Union organizes scientific meetings and also sponsors various permanent services, the object of which is to collect, analyse and publish geophysical data; 78 mem. countries; Pres. D. LAL (India); Vice-Pres. C. KISSLINGER (USA); Sec.-Gen. P. MELCHIOR (Belgium); publs *IUGG Chronicle* (every 2 months), *IUGG Monographs* (irregular), *Proceedings of Assemblies*; in addition each member association has its own series of publs.

International Union of Geological Sciences/Union internationale des sciences géologiques: Geological Survey of Norway, Leiv Eirikssons vei 39, POB 3006, 7002 Trondheim, Norway; tel. (7) 92-15-00; f. 1961 as an offspring of the International Geological Congress; mems from 95 countries; Pres. (vacant); Vice-Pres. Prof. V. L. BARSUKOV (USSR), Dr M. BENSARD (Morocco), Dr ZHANG BINGXI (China), Prof. U. G. CORDANI (Brazil), Dr G. KAUSKY (Sweden), Prof. Z. KIELAN-JAWOROWSKA (Poland), Prof. C. A. KOGBE (Nigeria), Dr S. K. MUKERJEE (India); Treas. Dr J. A. REINEMUND (USA); Sec.-Gen. Prof. R. SINDING-LARSEN (Norway); publs *Episodes*,

Geological Newsmagazine (quarterly), *Reviews or Annotated bibliographies on geological topics of current interest* (irregular).

International Union of Immunological Societies (IUIS)/Union Internationale des Sociétés d'Immunologie: 9650 Rockville Pike, Bethesda, Md 20814, USA; tel. (301) 530-7178; f. 1969; 37 national societies; Pres. GUSTAV NOSSAL (Australia); Sec.-Gen. Dr HENRY METZGER (USA).

International Union of Microbiological Societies (IUMS)/Union internationale des sociétés de microbiologie: Dept of Genetics, University of Newcastle, Ridley Bldg, Claremont Rd, Newcastle upon Tyne, NE1 7RU, UK; tel. (091) 232-8511 ext. 3897; telex 53654; f. 1930; mems: 87 national societies; Pres. Prof. K. ARIMA (Japan); Sec.-Gen. Prof. S. GLOVER (UK); Treas. Dr G. G. STEWART (Canada); publs *Microbiological Sciences* (monthly), *International Journal of Systematic Bacteriology* (quarterly), *Intervirology* (monthly), *International Journal of Food Microbiology* (every 2 months), *Advances in Microbial Ecology* (annually), *Journal of Biological Standardisation* (quarterly).

International Union of Nutritional Sciences (IUNS)/Union Internationale des Sciences de la Nutrition: f. 1946 to study the science of nutrition and its applications; 60 corporate mems; Pres. Prof. J. E. DUTRA DE OLIVEIRA (Brazil); Vice-Pres. Prof. A. S. TRUSWELL (Australia), Prof. A. VALYASEVI (Thailand); Sec.-Gen. Prof. Dr J. G. A. J. HAUTVAST, c/o Dept of Human Nutrition, Agricultural Univ., Bomenweg 2, POB 8129, 6700 EV Wageningen, Netherlands; tel. (8370) 82589; fax (8370) 84762; Treas. Prof. E. MENDEN (FRG).

International Union of Pharmacology (IUPHAR)/Union Internationale de Pharmacologie: f. 1959 as section of Int. Union of Physiological Sciences, independent 1963; promotes international co-ordination of research, discussion, symposia, and publication in the field of pharmacology; co-operates with WHO in matters concerning drugs and drug research, and with related international unions; three-yearly international congresses; 44 national and regional mem. socs; integral sections of Clinical Pharmacology, Toxicology and of Drug Metabolism, which also arrange international meetings; Pres. Sir COLIN DOLLERY (UK); Sec.-Gen. T. GODFRAIND, Université Catholique de Louvain, Lab. de Pharmacodynamie Générale et de Pharmacologie, UCL 73.50, Ave E. Mounier 73, 1200 Brussels, Belgium; publ. *TIPS (Trends in Pharmacological Sciences)*.

International Union of Physiological Sciences: c/o Dr R. NAQUET, Laboratoire de Physiologie Nerveuse, CNRS, 91190 Gif-sur-Yvette, France; f. 1953 to encourage the advancement of physiological sciences, to facilitate the dissemination of knowledge in the field of physiology, to promote the International Congresses of Physiology and such other meetings as may be useful for the advancement of physiological sciences; 54 mem. countries; Pres. Sir ANDREW HUXLEY (UK); Sec.-Gen. Dr R. NAQUET (France); publs *News in Physiological Sciences* (quarterly), *World Directory of Physiologists* (every 3 years).

International Union of Psychological Science/Union internationale de psychologie scientifique: f. 1951 at the 13th International Congress of Psychology (the first of which took place in 1889); congresses are held every four years; membership: 48 national societies; Pres. WAYNE H.