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CONTENTS

INTRODUCTION	Information for Applicants	5
	Board of Trustees	8
	Officers and Staff	9
	Report of the Secretary	12
<hr/>		
THE PRESIDENT'S REVIEW		16
<hr/>		
GRANTS AND PROGRAMS	Science-Based Development	24
	Agricultural Sciences	27
	Health Sciences	34
	Population Sciences	44
	Fellowships	54
	Arts and Humanities	60
	Equal Opportunity	74
	International Relations	86
	Other Interests and Initiatives	92
	Special Interests and Explorations	92
	Bellagio Study and Conference Center	96
<hr/>		
FINANCIAL REPORT AND STATEMENTS		102
<hr/>		
INDEX		114

INTRODUCTION

The Rockefeller Foundation is a philanthropic organization, endowed by John D. Rockefeller and chartered in 1913 “to promote the well-being of mankind throughout the world.” From the beginning, the Foundation’s work has been directed toward identifying and attacking at their source the underlying causes of human suffering and need. Today, the Foundation is carrying out its work within five fields: agricultural sciences, arts and humanities, equal opportunity for minority groups, health sciences and population sciences.

INFORMATION FOR APPLICANTS

The Rockefeller Foundation is administered by its president through corporate and program officers drawn from scholarly and scientific disciplines. Its programs are carried out through the awarding of grants to institutions and individuals, and fellowships to individuals.

Program guidelines and financial policy are set and appropriations approved by an independent Board of Trustees that meets four times a year—in April, June, September and December.

Program Areas

The Foundation largely concentrates its efforts on selected programs with well-defined goals, keeping its overall program flexible and dynamic through periodic reappraisals in the light of new needs and opportunities. Current Foundation program divisions are:

- Agricultural Sciences (page 27)
- Health Sciences (page 34)
- Population Sciences (page 44)
- Arts and Humanities (page 60)
- Equal Opportunity (page 74)

The Foundation also has a Special Interests and Explorations fund (see page 92), which allows staff to examine proposals that are not covered precisely by other program categories or to supply supplemental funds to its program divisions, enabling them to act favorably on proposals of exceptional merit that would otherwise go unsupported. In addition, the Foundation maintains the Bellagio Study and Conference Center in northern Italy for two programs: conferences of international importance and residencies for artists and scholars (see page 96). For further information, write to the Bellagio Center Manager at the Foundation’s New York office.

Grants

The Foundation receives some 7,000 proposals for funding each year. Limited funds permit favorable action on only a relatively small number of these. The criteria for evaluation include: relevance of the project to the Foundation's program objectives; potential for contributing significantly to the well-being of mankind; extent of the applicant's effort to secure additional and subsequent funding from other sources; and the applicant's record of achievement.

Foundation officers travel extensively to visit Foundation-supported projects and to observe programs of potential interest. Consultants are used to supplement the officers' experience in these assessments. When the nature and quality of a project meet program guidelines, the proposal is given consideration in relation to others submitted and a recommendation may be made for support in the form of a grant. In areas of special interest, program officers often solicit proposals.

Fellowships

The Foundation supports two categories of fellowships: for training, and to assist in the production of a piece of work.

General Fellowships, Biotechnology Career Fellowships and Social Science Research Fellowships are given to help prepare outstanding younger scholars and scientists, primarily from the developing world, to make significant contributions to research and training or to public service (see page 54). In addition, a number of special fellowships are awarded through specific Foundation programs on an annual basis and are listed in the divisions dealing with those programs.

Limitations

To accomplish lasting results with finite resources, the Foundation must necessarily concentrate its support on projects that fall within defined program areas. As a matter of policy, it does not undertake to give or lend money for personal aid to individuals; appraise or subsidize cures or inventions; contribute to the establishment of local hospitals, churches, schools, libraries, or welfare agencies, or to their building and operating funds; finance altruistic movements involving private profit; support propaganda or attempts to influence legislation; or invest in securities on a philanthropic basis.

The Rockefeller Foundation does not normally provide general institutional support or endowment. Occasional exceptions are made for organizations or institutions in which the Foundation has played an important creative role, and organizations that serve and support organized philanthropy in the United States. While general or core support is seldom given, efforts are made to ensure that the full direct costs of a project are taken into account in the calculation of grant budgets.

Applications

No special form is required to apply for a grant or fellowship, and applications should be sent to the secretary of the Foundation or to the director of the relevant division or program at the following address:

The Rockefeller Foundation
1133 Avenue of the Americas
New York, NY 10036

Applications should include:

- A description of the proposed project or fellowship activity, with clearly stated plans and objectives;
- A comprehensive plan for total funding during and, where applicable, after the proposed grant period;
- A listing of the applicant's qualifications and accomplishments.

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⁴ Retired April 2, 1986

⁵ Resigned April 2, 1986

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	J. William Hess	<i>Archivist¹¹</i>
	Norman E. Borlaug	<i>Life Fellow</i>

¹ Effective February 1987

² Effective June 1986

³ Effective April 1987

⁴ Effective February 1986

⁵ Resigned April 1986

⁶ Effective April 1986

⁷ Resigned March 1987

⁸ Effective March 1987

⁹ Retired November 1986

AGRICULTURAL
SCIENCES

Alva A. App *Director*
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Robert W. Herdt *Senior Economist*¹
Lynn Terreri Blackstone *Program Associate*¹

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James E. Johnston *Monrovia, Liberia*³
Lesley A. Sitch *Los Banos, Philippines*⁴
Achola Pala Okeyo *Nairobi, Kenya*

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HUMANITIES

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Assistant to the Director*
Lynn A. Szwaja *Program Associate*⁶

EQUAL
OPPORTUNITY

James O. Gibson *Director*
Phoebe H. Cottingham *Assistant Director*
Bruce E. Williams *Assistant Director*
Theodore Lester II *Program Associate*
Aida Rodriguez *Research Associate*

HEALTH
SCIENCES

Kenneth S. Warren, M.D. *Director*
Scott B. Halstead, M.D. *Associate Director*
Carol C. Jimenez *Program Associate*

¹ Effective April 1986

² Retired December 1986

³ Study leave, effective September 1986

⁴ Effective October 1986

⁵ Retired October 1986

⁶ Resigned September 1986

INTERNATIONAL
RELATIONS

Edwin A. Deagle, Jr.
John Stremiau
Geraldine P. Mannion

*Director*¹
*Acting Director*²
*Program Associate*³

POPULATION
SCIENCES

Sheldon J. Segal
Mary M. Kritz
Evelyn Majidi

Director
Associate Director
Program Associate

FIELD STAFF

Katherine Ch'iu Lyle

*Research Associate*⁴

INFORMATION
SERVICES

Henry Romney
Taras Kostecky

*Director*⁵
*Administrative Associate*⁶

¹ Resigned March 1986

² Resigned January 1987

³ Transferred to Vice-President's Office, January 1987

⁴ Closed Beijing, China office and joined New York staff, February 1987

⁵ Study leave, effective October 1986

⁶ Retired February 1987

REPORT OF THE SECRETARY

In 1986, the Foundation closed its International Relations division, as described on page 86. In early 1987, the Information Services department was closed and its functions were taken over by the Foundation's new Communications Office.

MEETINGS

The annual meeting of the Board of Trustees for 1986 was held on April 2, and regular meetings of the Board were held on June 20, September 19, and December 8-9. There were no meetings of the Executive Committee during 1986.

TRUSTEES AND PRINCIPAL OFFICERS

W. Michael Blumenthal resigned from the Board, effective September 30, 1986. He was elected a Trustee in 1971 and served until becoming Secretary of the Treasury in 1977; he was re-elected to the Board in 1979. He served as chair of the Audit Committee and as a member of the Executive, Finance, and Nominating Committees.

Kenneth N. Dayton retired from the Board, effective April 1, 1987. He was elected a Trustee in 1977 and served as chair of the Budget and Compensation Committee and as a member of the Executive, Finance and Nominating Committees.

James P. Grant retired from the Board, effective April 1, 1987. He was elected a Trustee in 1978 and served on the Executive Committee and the Trustee Task Force on Development.

Eleanor Sheldon retired from the Board, effective April 2, 1986. She was elected a Trustee in 1978 and served as chair of the Nominating Committee and as a member of the Audit and Executive Committees.

Billy Taylor resigned from the Board, effective April 2, 1986. He was elected a Trustee in 1978 and served as a member of the Executive and Finance Committees.

Richard H. Jenrette, Chairman of the Board of Donaldson, Lufkin & Jenrette and Vice-Chairman of the Board and Chief Investment Officer of the Equitable Life Assurance Society of the United States, was elected a Trustee, effective in September 1986.

Edwin A. Deagle, Jr., Director for International Relations, resigned in March 1986 to take a position with Hughes Aircraft Company. He joined the staff in 1977 as Deputy Director for International Relations,

was elected Acting Director in 1980, and Director in 1981. In 1984 he took a leave for special assignment to the Foundation's Trustee Task Force on Development.

Howard Klein, Deputy Director for Arts and Humanities since 1983, retired in October after nineteen years at the Foundation. He joined the staff as Assistant Director for Arts in 1967, was appointed Associate Director for Arts and Humanities in 1971, and elected Director for Arts in 1973.

Henry Romney, Director of Information Services since 1974, began a study leave in October 1986 to write a history of the Foundation. He joined the Information Services staff in 1964.

John Stremiau, Acting Director for International Relations since 1984, left the Foundation in January 1987 to take a position with Rockefeller Family and Associates. He joined the Foundation as Program Associate for Social Sciences in 1974, was elected Assistant Director for Social Sciences in 1975, Assistant Director for International Relations in 1976, and Associate Director in 1979.

Frank Karel III, Vice-President for Communications of The Robert Wood Johnson Foundation, was elected Vice-President for Communications, effective February 1, 1987.

Lynda Mullen, Acting Secretary, was elected Secretary, effective June 20, 1986.

**THE
PRESIDENT'S
REVIEW**

THE PRESIDENT'S REVIEW

Since 1914 . . . the award of fellowships on an international basis has constituted in the Rockefeller Foundation the most important single device for the training of competent personnel for intellectual leadership. . . . The Trustees have repeatedly affirmed their belief that funds thus placed behind intellectual capacity and imagination are never misspent.

Written almost a generation ago in a history of the Foundation by one of my predecessors, Raymond B. Fosdick, these views are no less powerful and valid today. Indeed, they take on added significance as the Foundation's international work has concentrated increasingly on the less-developed countries that constitute what is termed the Third World. The pervasive shortage of trained and educated talent in virtually all fields of human endeavor is still among the central problems facing these nations.

Mr. Fosdick's words appeared during an examination of the Foundation's fellowship activities, as plans were being made for the Foundation's new International Program to Support Science-Based Development. What we have found, in addition to Mr. Fosdick's thought, clearly illustrates the complexity and long-term nature of the international development challenge. I have, therefore, decided to record the highlights of these findings.

It is worth noting, however, that fellowships for people from developing countries represent only a fraction of those that have been given by the Foundation since 1914. Even today, fellowships awarded in this country by the Arts and Humanities and Equal Opportunity divisions are vital elements of our domestic program. Nevertheless, I believe that what we have gleaned from our more recent fellowship activities in the Third World also serves to reaffirm this Foundation's continuing faith in the worth and power of individuals, a faith that has been confirmed through the years in the lives and accomplishments of the thousands of men and women who have received Rockefeller Foundation fellowships.

The influence of the "human capital theory" has waxed and waned among public and private aid agencies, but the case for the importance of strengthening indigenous talent in less-developed countries has become more obvious over the years. Not only has the acceptance of foreign experts diminished under the pressure of national pride and assertiveness, but the shortcomings of attempting to solve a problem by importing temporary talent from abroad are now widely recognized by all of those involved in the development process.

Visiting experts are expensive, and they are likely to make mistakes through inadequate understanding of the local scene. A significant share of the shortcomings in African agricultural development strategies, for example, can be attributed to foreign experts who, often with the best of intentions, assisted African governments to import unsuitable models and implement inappropriate theories of development. Another problem is that of visiting experts who arrive with good ideas and programs, but depart without leaving behind the trained nationals needed to carry on the work.

In point of fact, the adequacy of human resource capabilities is and always has been at the heart of the struggle for independence by less-developed countries. Many of them achieved political independence in the first decade or so following World War II, only to find, as had other developing countries with longer political autonomy, that a trained and educated populace is crucial in the quest for an equitable measure of economic independence. As difficult and elusive as this objective has proved to be, it pales against the need for highly trained cadres that will be required in the years immediately ahead, when scientific independence may well prove essential for the maintenance of all other dimensions of independence.

The explosive quality of scientific and technological progress manifested in the last few years threatens to widen even farther the already enormous gaps between advanced and less-developed countries. Indigenous scientists are indispensable in the Third World to ensure that major problems peculiar to their countries are adequately addressed. Indigenous expertise in the social and management sciences, as well as the biological and physical sciences, is also necessary for governmental policy formulation and many other vital aspects of public and private endeavor in developing countries. More often than not, in the design and introduction of products and services, scientific and technological advances can only be successfully applied when social and cultural contexts receive careful attention.

This latter point—the importance of social and cultural factors—has become especially salient as the Foundation redefines the objectives of its Agricultural, Health and Population Sciences divisions to emphasize the equitable distribution of benefits. Under the Foundation's new, overarching International Program to Support Science-Based Development, as was reported last year, the objectives are not just better food production, but fewer hungry and malnourished people; not just more powerful vaccines, but control of diseases; not just improved contraceptives, but people's access to increased reproductive choice and safer family planning.

To advocate and support the creation of indigenous expertise in the Third World does not, however, deny that foreign and international

agencies and experts have important supportive roles to play in developing countries. Nor does it deny that conditions can make development extremely difficult—the lack of political power among huge, vulnerable elements of many national populations; widespread shortcomings in existing national policies; and weaknesses in planning and management that have resulted in over-extension of the public sector, to name a few. The issue is simply that well-trained men and women from a cross-section of the people in each developing country are, in the long run, what it will take to find solutions to problems that require the expenditure of scarce resources, have public policy ramifications and must be resolved in ways that do not conflict with prevailing social and cultural traditions.

The task of assisting in the development of human resources is, of course, enormous and full of ever-changing complexities. Even with the Foundation's focus narrowed to supporting the development and deployment of technology in the fields of agriculture, health and population sciences, human-resource development for the Third World is a moving target.

Take the matter of geographic distribution in funding. The largest number of Rockefeller fellows in all three science areas have been Asians and Latin Americans, with Africans lagging far behind. Priority is now being given to finding ways of redressing this balance. The need is great. While many sub-Saharan African countries pay greater attention to their population problems than they have in the past, for example, few have yet managed to put policies and programs of substance in place, even in the face of a doubling of population between 1950 and 1980. And further doubling is anticipated by the year 2010. One of the reasons for this lack of viable programs is the paucity of indigenous demographers and policy scientists who can interpret population growth in the context of economic development.

This is why the Foundation has supported doctoral-level training in African demography at the University of Pennsylvania since 1979. Moreover, after a year of exploring the situation in a number of nations, the Foundation began in 1985 a many-faceted program to strengthen research capacity in selected African countries. Grants have included support for the Center for African Family Studies in Kenya; for graduate and postgraduate training at the Universities of Ife in Nigeria, Dar es Salaam in Tanzania, and Nairobi in Kenya; and for linking African scholars into regional and international policy networks.

In another field—the agricultural sciences—a postdoctoral fellowship program which places young North American social scientists primarily with the International Agricultural Research Centers around the world has been expanded to include Africans. About 10 such fellows, North American and African, are being assigned annually. The aim: to produce

a future generation of African social scientists versed in multidisciplinary research and sensitive to the human and social complexities inherent in the agricultural transformation process.

One of the reasons that less of the Foundation's fellowship funding has gone to Africans is that our emphasis has been on postdoctoral awards at a time when relatively few Africans have been educated through the doctorate. The staff is therefore exploring the feasibility of assistance for scientific training at the predoctoral level for young Africans, possibly by enabling selected African doctoral candidates to return to their home regions for dissertation research. The idea would be to make the students' work more relevant to future careers in Africa and thereby to enhance the attractiveness of such careers for those whose talents are so sorely needed.

This matter of encouraging careers in the Third World for highly trained people from less-developed countries often leads to debate about the comparative advantage of funding institutional development, including human resources, versus supporting the best individual talents regardless of institutional base. The late James S. Coleman, considering the Foundation's support of the training of more than 1,000 foreign students under its University Development Program (later called Education for Development), summed up the issue succinctly:

One disadvantage of the institution-building focus as compared to the individual-scholar focus . . . is the forced recruitment of candidates from a much smaller pool. Some Rockefeller Foundation officers with comparative experience argued that there was a discernible decline in the overall quality of candidates after the Foundation's shift to institution-building under the UDIEFD program. The disadvantage of the individual approach is the production of a group of stranded individuals without institutional affiliation.

A clearcut answer to this dilemma is not likely to emerge, and a certain amount of creative inconsistency may not be a bad thing. After all, given its resource constraints, the Foundation is more likely to produce some suggestive models than to be able to address the problem comprehensively or resolve the issue decisively.

Nevertheless, a variety of features have been built into our various fellowship programs to reduce the risk that returning young scholars and scientists from less-developed countries can be "stranded," whether that means the lack of an institutional base in which to work, the lack of necessary tools, or simply the lack of intellectual stimulation to remain fully productive.

Since 1978, the Population Sciences division has run a program of small grants, mainly for the purchase of supplies and equipment, to provide start-up research support for population scientists of developing countries who are returning to positions at home after graduate and

postdoctoral training abroad. Initially these grants went to biological scientists, but since 1983 the scope has been broadened to include social scientists whose needs for microcomputers, books and data acquisitions are comparable to the biologists' need for laboratory equipment. The grants are awarded to the home institution but clearly earmarked for the work of a given scientist there; care is taken to ensure that both the trainee's mentor and the home institution are in support of the research project. The grants are generally in the range of \$5,000 to \$30,000, and the Foundation has appropriated \$1.1 million thus far for this continuing effort.

More recently, the Foundation has inaugurated a program of biotechnology fellowships, making it possible for some of the ablest scholars who have gone home after training in the West to return for three months a year for three years to the laboratories where they received their advanced training, or to comparable ones. Forty-four fellows have been selected in the first three years of this program, which is a joint effort by the Agricultural Sciences, Health Sciences, and Population Sciences divisions. The underlying objective is to enable the fellows to continue making direct contributions to their home countries while at the same time maintaining their skills and receiving the intellectual challenge that is so much a part of a scientist's psychic income. Even in these early stages of the program, the quality of the applicants is impressive. Clearly, the motivation to dedicate themselves to both a scientific career and service to their country is widespread among very able people.

A different approach to the need for following up advanced training is incorporated into the Health Sciences program of clinical epidemiology. Here, clusters of eight faculty members from clinical departments of twenty selected medical schools in countries throughout the Third World are brought to North America or Australia for training in epidemiology and related subjects, usually lasting from twelve to eighteen months. The objective is ambitious: to introduce the ideas and values of population-based medicine into settings where the overwhelming emphasis has been on case-by-case medical care, directing resources, especially preventive ones, toward the most prevalent health problems in a country or region.

Once home, the fellows do not require elaborate equipment and facilities to enable them to do their work. But they do need support—moral, intellectual and financial—to sustain what is very much a minority viewpoint in a professional culture that is focused elsewhere, even when it is not explicitly unfriendly to the new concepts. So, upon their return home, the fellows are provided with modest financial assistance to enable them to pursue their new field. Of even greater significance, the fellows and former fellows meet annually, and reinforcement visits are made to the start-up Third-World clinical

epidemiology units by faculty members from the training centers at the University of Pennsylvania, McMaster University, the University of Newcastle and the University of North Carolina.

Two subsequent steps that have been taken in this program can also be expected to reduce the former fellows' risk of being professionally "stranded" in their home institutions. One is a shorter training program for senior medical and health professionals in the developing countries. The other is a joint program of the Foundation and the Pew Charitable Trusts to introduce population-based medical practice and training into U.S. medical schools—a step that should be seen in the Third World as further legitimatizing the concepts of population-based medicine.

My final example of approaches to reducing the risk of professional isolation, while engaging the attention and thinking of indigenous scientists and officials in the Third World in the development process, is the Foundation's "Reflections on Development" program. Outstanding young scholars from sub-Saharan Africa and Southeast Asia, selected with the help of prominent social scientists in these regions, are given support to spend part of their time free from their regular obligations of teaching, government or international agency service to work on topics of their own choosing, having to do with the development process.

In each of the two regions, the participating fellows come together for workshops at which they exchange ideas and report their progress. At the end of the two-year process both groups meet together with senior scholars from the United States, Europe and Latin America to do the final editing of their work. The first such session was held at the Foundation's conference center at Bellagio, Italy in September 1985. In an unusually lively meeting, the scholars were stimulated by the opportunity to develop an agenda for themselves, rather than one of a funder's devising, as well as the chance to exchange ideas and criticisms with colleagues from other parts of the world.

At times there seems to be an impression in the industrialized countries that "nothing works in less-developed countries." This is palpably untrue. Not only have some very poor nations become newly industrialized countries—Singapore and South Korea, for example—but in many other lands much progress has been made. The Foundation's 1985 conference report, *Good Health at Low Cost*, for example, describes how four developing, largely rural places with very low per-capita incomes have made significant gains in child mortality and life expectancy. At the heart of the international development process, wherever it has scored successes, is the growth of a critical mass of able professionals who are nationals of the country in question.

Without gainsaying the importance of increased investments in developing countries' graduate programs, warranted for reasons of

educational relevance and cost effectiveness as well as national pride, we in the West must remain committed to securing places for their students in the best of our great universities. In the final analysis, our two most important contributions to developing countries are those of resource transfers and advanced education.

Many nations, mostly but not exclusively in Africa, lag far behind, and enabling them to make up their deficits in human skills is a formidable task, one that requires the thoughtful attention of all around the world who would assist in the development process. Institutions and governments can collapse with horrifying suddenness, and of course human capital can be expended wastefully—or even destroyed—in the storm of such events. But many will live to work and build and create again, as even so severe a case as Uganda now demonstrates.

If there is greater realization today of the dimensions, complexity and subtlety of the task of human resource development than there once was, so also is there increased understanding of what is needed and what works. The perspective has to be a long one, but there are rewards of success all along the path in the form of individuals whose abilities and potential have been set free by the opportunity to learn and, having learned, to act.

Richard W. Lyman

**SCIENCE-BASED
DEVELOPMENT**

SCIENCE-BASED DEVELOPMENT

The International Program to Support Science-Based Development, established in 1986, provides a new focus for three of the Foundation's divisions: Agricultural Sciences, Health Sciences and Population Sciences. It is based on the premise that scientific advance and technical innovation can serve the cause of international equity by helping to reduce the incidence of poverty, disease, malnutrition, unwanted pregnancies and illiteracy in developing countries, and thereby advance the well-being of their peoples.

This new program stems from the recommendations of a Trustee Task Force that was formed in 1984 to determine what the Foundation could do to speed human and material progress in the Third World over the next fifteen years. The ability to couple theoretical knowledge with technological innovations—in chemistry, communication, computation, materials-processing, agriculture, medicine and contraception—has led to striking improvements in the physical conditions of life. Worldwide, however, these benefits have been differentially distributed, and, for many reasons, the prospects for greater equity in the future do not appear promising.

In brief, the Foundation's concern is that trends in world science threaten to widen the already great inequalities between the wealthier and poor nations—between those that have acquired the human resources base to master and apply modern science and those that have not. Today, the vast private and governmental investments in research are largely focused upon industrial-country competition, not upon developing-country conditions. Moreover, advances taking place in the research laboratories of the richer countries—in such areas as automation, synthetic materials and genetic engineering—could result in the poorer countries losing the few comparative advantages that they now enjoy in the world economy.

Building on the science-based strengths of the Foundation, the Task Force devised a long-term strategy, now embodied in the new program, that seeks to counter these trends by harnessing scientific and technological advances to benefit the peoples of the Third World. It is a prescription in four parts that calls for fostering undertakings that require the cooperation of many organizations and institutions and for adding value to the considerably larger investments made by bilateral and multilateral development agencies:

1. **Scientific Research Leading to Development-Promoting Technologies.** The world's scientific capacity is underinvested in the search

for solutions to hunger, disease, and overpopulation in the developing world. The Foundation will therefore support laboratory and field research in areas of science likely to improve the lives of people in developing countries, doing so in a manner consciously designed to increase the international scientific community's contributions to this work; and will promote the search for technologies that are simple to deliver and use, culturally acceptable, safe, inexpensive, and mobile across barriers of social class and gender.

2. The Equitable and Effective Use of Development-Promoting Technologies. Scientific discovery and technical innovation are proceeding more rapidly than their adaptation for and application to conditions in the developing countries, and existing technologies are not always adequately or appropriately used. The Foundation will therefore increase the investment in human skills, institutional arrangements, and application strategies needed to assure the equitable and effective use of the results of science in the development process.

3. An Interdisciplinary Approach to Understanding Science-Based Development Strategies. Current efforts to accelerate development through science-based strategies are hampered by the separation of technical expertise from knowledge of non-technical influences. The Foundation will therefore bring together diverse disciplines in an effort to establish the knowledge-base necessary for technology design, and for adaptation and adoption programs which are equitable in their impact, efficient in their use of indigenous resources, respectful of established cultures, and humane in their consequences for local populations.

4. Professional Competence and Development Policies. Science-related development requires a national competence to assess the opportunities and constraints presented by technological advances; and, on the basis of this assessment, to establish appropriate policies, effective management, and suitable education and training programs. The Foundation will therefore help developing countries establish and strengthen the professional competence necessary for making informed policy choices about the place of science-based strategies in their efforts to improve the well-being of their peoples.

During the year, the directors and officers of the Foundation's three science-based divisions, led by Vice-President Kenneth Prewitt, began the process of redefining their grantmaking guidelines in terms of the new directions and with an added emphasis on increased interdivisional collaboration.

The new guidelines are scheduled for publication in the spring of 1987. Anyone interested in applying for a grant through the divisions of

Agricultural, Health or Population Sciences should study these new guidelines before preparing and submitting a proposal. For single copies, write to:

Communications Office
The Rockefeller Foundation
1133 Avenue of the Americas
New York, NY 10036

More than half the people in the world get at least 60 percent of their calories from rice, and 97 percent of the 145 million hectares of rice paddies on the surface of the planet are in Third-World countries. What's more, population projections reveal that a 45 percent increase in rice production will be imperative by the end of the century. And in Asia, where the possibility of area expansion is limited, most of the increase would have to come from higher yields per crop or extra crops per year.

It's not surprising, therefore, that when a new cereals-improvement program was envisioned in 1984, the Agricultural Sciences division chose to focus initially on rice, targeting \$3.1 million in 1984, \$3.4 million in 1985 and \$3.9 million in 1986 for a new *Rice Biotechnology* program. The other two program components were still in an exploratory phase in 1986: *Improving Family Food Production Systems in Africa*, where the most dramatic food shortages in the world exist, and *Enhancing International Agricultural Research Collaboration*, which will assist international agricultural research centers to become more responsive to the pressing needs of developing countries.

The *Rice Biotechnology* program was inspired by the promise of new ways to improve rice varieties through advances in cellular and molecular biology. The backbone of this component is a vertical integration of the study and practice of conventional breeding with new genetic-engineering techniques. Many of the 26 projects supported in 1986 represent sophisticated research, especially the regeneration of plants from cells and protoplasts and development of techniques for gene transfer and control of gene expression. Others concern the practical application of these new findings to national agricultural research programs and on the plots of small-scale farmers in the developing world.

New Breeding Techniques

Major funding was allocated for research and training in national and international rice improvement programs, with an emphasis on the development and use of tissue-culture techniques, wide-cross hybridization, genetics, cytogenetics and chromosome mapping. Grants also supported research on potential socioeconomic and environmental impacts of genetically-engineered rice varieties, recognizing that problems of hunger and malnutrition call for a partnership of the biological and social sciences.

Tissue-culture techniques have been advanced in national rice-breeding programs in China, Korea, and Latin America. This involves growing

rice cells taken from the anther, stem or embryo of a plant, under laboratory-culture conditions. Such projects are the Foundation's primary investment in preparing Third-World countries to be able to apply powerful molecular and cellular technologies in the future.

However, there are important present-day benefits of anther culture. For example, at the China National Rice Research Institute, the International Rice Research Institute in the Philippines and the International Center for Tropical Agriculture, Colombia, new methods of anther culture are being incorporated into central rice-breeding programs, promising to shorten the "fixing" time necessary to establish the desired genes. At the same time, scientists in Korea's Rural Development Administration are using anther culture to speed the development of rice varieties with cold tolerance and disease resistance.

Other 1986 accomplishments include use of embryo-rescue techniques by scientists at the International Rice Research Institute, where they are seeking to develop better plants by cross-breeding the finest cultivated rice with "wild cousins" having such useful genetic traits as resistance to major insect pests. These techniques make possible a whole gamut of experimental crosses with hardy wild and weedy rice relatives, heretofore hindered by the fact that embryos produced by crossing two very different species usually abort.

Genetic Transformation

Advanced genetic-engineering research, the key to a future revolution in rice production, has received Foundation support in laboratories all over the world. At the University of Nottingham, England, E. C. Cocking and his colleagues recently made a major technical breakthrough, developing a method to regenerate whole plants from rice protoplasts—plant cells whose rigid wall has been removed.

Support was provided which enabled Dr. Cocking to offer a training course for other laboratories on the use of this valuable new research methodology. Other laboratories have discovered techniques that permit study of the factors controlling gene expression by enabling rice protoplasts to absorb new genetic information. If such techniques can be combined with plant regeneration, scientists should be able to attain the genetic transformation of rice.

In a Foundation-supported project at the Plant Breeding Institute, Cambridge, England, viral genes were successfully incorporated into plant chromosomes in order to create virus-resistant plants. These results show that the products of incorporated viral genes interfere with subsequent virus infection, replication and/or transmission. The Foundation is now examining proposals on the best way to apply this strategy to rice improvement.

The genetic transformation of rice through the introduction of alien or modified genes is a principal objective of the program, and several such long-term research projects received funding support in 1986. Since most rice genetic engineering will require introducing or modifying genes and expressing them in a desired manner, other research programs look toward understanding the characteristics of rice genes and the regulatory mechanisms that control their expression. A wide assortment of rice genes, now being characterized, were isolated and cloned in 1986, some of them candidates for future manipulation, others of interest mainly because their regulatory sequences will be needed to direct or modify the expression of foreign genes.

A 1986 grant went to Cornell University to produce molecular genetic markers and linkage maps of rice. The development of a genetic map for rice lags far behind that of food crops important in the developed countries. By employing new molecular techniques, this program should produce a much more complete and valuable map in a short time. The markers will be immediately useful for conventional and wide-cross breeding, and serve as a starting point for many longer-term genetic-engineering experiments.

Strengthening National Research Systems

The Agricultural Sciences division's second program component, *Improving Family Food Production Systems in Africa*, began to take form in 1985 and was still in an exploratory phase in 1986. The challenge: how to make a significant contribution to agricultural and rural development on that continent, given the severe problems there. A major strategy of the program is to improve the food-production capacities of farming families in sub-Saharan Africa by strengthening selected national agricultural research systems. The Foundation offers support both to individuals and institutions within this framework. Emphasis will be placed on biological and socioeconomic research on such crops as roots and tubers, which are the nutritional mainstay of much of the population.

The division's third program component, *Enhancing International Agricultural Research Collaboration*, is also in a developmental stage. Funding is focused on facilitating better communication and cooperation between the various international agricultural centers and national agricultural research systems, which have urgent, immediate priorities. Several questions will be addressed in the further refinement of this program, such as how the centers can become more responsive to national systems, and how the latter might best convey their priorities to the centers and choose from the different forms of assistance that are offered. Future grants will be aimed, in part, at strengthening the capacity of national systems to select the technologies and services most vital to them.

The objectives of both components, *Improving Family Food Production Systems in Africa* and *Enhancing International Agricultural Research Collaboration*, will be advanced by a modification of the Rockefeller Foundation Social Science Research Fellowships in Agriculture. Since 1974, these fellowships have been awarded each year to several outstanding young North American social scientists for collaboration with biological scientists at the centers. By 1985 the Fellowship program had received total funding of \$2.4 million and produced a cadre of 43 fellows. A 1986 appropriation extended grants to additional North American fellows and provided for three Africans, who will apply the experience they gain to furthering agricultural research and training programs in Africa.

GRANTS

RICE BIOTECHNOLOGY

AMERICAN CHEMICAL SOCIETY, <i>Washington, DC</i>	\$2,000
For disseminating information about the Chemical Research Applied to World Needs program.	
CENTRO INTERNACIONAL DE AGRICULTURA TROPICAL, <i>Cali, Colombia</i>	\$141,200
To develop methods and procedures for anther culture in Latin-American rice-breeding programs.	
CORNELL UNIVERSITY, <i>Ithaca, NY</i>	\$503,110
For initiation of a major research program constructing a genetic-linkage map of rice chromosomes.	
HARVARD UNIVERSITY, <i>Cambridge, MA</i>	\$110,000
For research on the genetic engineering of the photosynthetic apparatus of rice.	
INTERNATIONAL RICE RESEARCH INSTITUTE, <i>Manila, Philippines</i>	\$500,000
For research for the wide-cross hybridization program.	
To equip a plant pathology laboratory for research on the molecular basis of disease resistance in rice.	\$104,740
For travel and other expenses of keynote speakers at the First International Symposium on Chromosome Engineering in Plants, held in Xian Shaanxi, China.	\$20,000
IOWA STATE UNIVERSITY, <i>Ames, IA</i>	\$253,000
For research on the regulation of carotenoid synthesis in cereals.	
KANSAS STATE UNIVERSITY, <i>Manhattan, KS</i>	\$41,660
For research on the molecular biology of rice storage proteins.	
To study the genome organization of <i>Xanthomonas campestris</i> pv. <i>oryzae</i> , the cause of bacterial blight in rice.	\$50,000
KYOTO PREFECTURAL UNIVERSITY, <i>Japan</i>	\$94,040
For research on rice storage protein genes and the control of their expression.	

McGILL UNIVERSITY, Montreal, Canada	\$6,000
For participation by developing-country scientists in the Third International Symposium on the Molecular Genetics of Plant Microbe Interactions.	
OHIO STATE UNIVERSITY FOUNDATION, Columbus, OH	\$28,682
For research on pollen development and pollen callus formation in rice.	
PURDUE RESEARCH FOUNDATION, West Lafayette, IN	\$176,400
For research on the regeneration of rice plants from callus, cells and protoplasts.	
RURAL DEVELOPMENT ADMINISTRATION, Suwon, Korea	\$65,000
For research on rice tissue culture and its application to rice varietal improvement.	
SALK INSTITUTE FOR BIOLOGICAL STUDIES, San Diego, CA	\$75,075
For research on the molecular characterization of rice plasma-membranes.	
SHANGHAI ACADEMY OF AGRICULTURAL SCIENCES, China	\$60,000
For integrating rice tissue culture into its rice-breeding program.	
STANFORD UNIVERSITY, CA	\$173,250
For research on the genetic engineering of rice.	
UNIVERSITY OF CALIFORNIA, Davis, CA	
For research on the development of apomixis and transposable genetic elements of rice.	\$62,000
For research on the molecular genetic basis of salt tolerance in cereals.	\$10,000
UNIVERSITY OF MINNESOTA, St. Paul, MN	\$10,000
For participation by developing-country scientists in the VI International Congress of Plant Tissue and Cell Culture.	
UNIVERSITY OF NOTTINGHAM, England	\$91,000
For research and training on the culture of rice protoplasts for plant regeneration and genetic manipulation.	
UNIVERSITY OF WISCONSIN, Madison, WI	\$50,000
For research on the genome organization of <i>Pyricularia oryzae</i> , the causative organism of blast disease in rice.	
SPECIAL PURPOSES. The following grants were administered by the Foundation staff:	
Two grants for related costs of the program on the genetic engineering of rice.	\$110,000
For a Bellagio conference on "The Potential Use of Apomixis in Crop Improvement."	\$30,000
For a workshop at the International Rice Research Institute on "The Application of Molecular and Cellular Techniques to Developing Disease Resistance in Rice."	\$15,000
For participation by scientists from the International Agricultural Research Centers in an international workshop on "Biotechnology of Cereal Crops," in West Germany.	\$2,746

**IMPROVING FAMILY
FOOD PRODUCTION
SYSTEMS IN
AFRICA**

CORNELL UNIVERSITY, *Ithaca, NY* \$50,000

For the planning of a long-term program to improve food production and availability in selected African countries.

INTERNATIONAL CENTRE OF INSECT PHYSIOLOGY AND ECOLOGY, *Nairobi, Kenya* \$50,000

For a project on household food production in Kenya.

INTERNATIONAL FERTILIZER DEVELOPMENT CENTER, *Muscle Shoals, AL* \$50,000

For establishing a Center for Research and Development of Fertilizers in sub-Saharan Africa.

INTERNATIONAL TRYPANOTOLERANCE CENTER, *Banjul, The Gambia* \$21,000

For a seminar on trypanotolerance.

NATIONAL INSTITUTE OF IMMUNOLOGY, *New Delhi, India* \$10,000

For a symposium, "Progress in Vaccinology" (co-funded with the Health Sciences and Population Sciences programs for a total of \$30,000).

**INTERNATIONAL
AGRICULTURAL
RESEARCH
COLLABORATION**

CENTRO INTERNACIONAL DE AGRICULTURA TROPICAL, *Cali, Colombia* \$30,000

For project coordination of its new cassava drying program in Ecuador.

CHINESE ACADEMY OF AGRICULTURAL SCIENCES, *Beijing, China* \$170,000

For establishing a national plant genetic resources center.

CURRY FOUNDATION, *Washington, DC* \$25,000

For its public policy study, "United States Agricultural Exports and Third World Development," (co-funded with the International Relations program for a total of \$50,000).

COUNCIL ON FOREIGN RELATIONS, *New York, NY* \$19,500

For use by Paul Thompson, assistant professor of philosophy and agricultural economics, Texas A&M University, for a project, "Goals of U.S. Government Assistance for Agricultural Research in the Developing World."

INSTITUTE FOR INTERNATIONAL ECONOMICS, *Washington, DC* \$25,000

For a study, "Agriculture and the GATT: Issues in a New Trade Round" (co-funded with the International Relations program for a total of \$50,000).

INTERNATIONAL CENTER FOR LIVING AQUATIC RESOURCES MANAGEMENT, *Manila, Philippines* \$8,470

For evaluating research approaches for tilapia breeding programs.

INTERNATIONAL CENTRE OF INSECT PHYSIOLOGY AND ECOLOGY, *Nairobi, Kenya* \$10,000

For its second Triennial Review.

INTERNATIONAL FUND FOR AGRICULTURAL DEVELOPMENT, <i>Rome, Italy</i>	\$40,000
For a seminar on Strengthening National Agricultural Research Systems of Less-Developed Countries.	
INTERNATIONAL INSTITUTE OF TROPICAL AGRICULTURE, <i>Ibadan, Nigeria</i>	\$50,000
Toward costs of its Strategic Planning Study.	
INTERNATIONAL IRRIGATION MANAGEMENT INSTITUTE, <i>Kandy, Sri Lanka</i>	
For core support.	\$45,000
For a workshop, "The Role of Social Science in Managing Agricultural Technology."	\$32,055
For developing a collaborative research and training program in irrigation management with the International Rice Research Institute.	\$10,000
INTERNATIONAL RICE RESEARCH INSTITUTE, <i>Manila, Philippines</i>	\$30,000
For a workshop, "Biotechnology for Crop Improvement: Potentials and Limitations."	
INTERNATIONAL SERVICE FOR NATIONAL AGRICULTURAL RESEARCH, <i>The Hague, Netherlands</i>	\$36,460
For a training seminar on Management of Systems Research with a Focus on Rural Households and Farms.	
NATIONAL ACADEMY OF SCIENCES, <i>Washington, DC</i>	\$50,000
For initial costs of its project, "Managing Global Genetic Resources: Agricultural Imperatives."	
UNIVERSITY OF HAWAII, <i>Manoa, HI</i>	\$45,000
For a training workshop in soil taxonomy and agrotechnology transfer for Chinese scientists, in conjunction with the Institute of Soil Science, Nanjing, China.	
UNIVERSITY OF MINNESOTA, <i>St. Paul, MN</i>	\$5,760
For a study of the Cuban agricultural research system, by its Department of Agricultural and Applied Economics.	
UNIVERSITY OF NAIROBI, <i>Kenya</i>	\$35,000
For research and information dissemination activities about food policy and security, by its Department of Agricultural Economics.	
WORLD RESOURCES INSTITUTE, <i>Washington, DC</i>	\$12,000
For a research project to assess the impact of the World Bank's contributions to international agricultural development.	
SPECIAL PURPOSES. The following grants were administered by the Foundation staff:	
For preparing background reports for and co-sponsoring a Bellagio conference on tropical forestry.	\$75,000
For related costs of the Social Science Research Fellowship Program in Agriculture.	\$15,000
For Biotechnology Career Fellowships in Agricultural Sciences for three scientists from the School of Veterinary Medicine, University of Ibadan, Nigeria.	\$75,000

Reducing the ravages of widespread disease in less-developed countries has been given funding priority by the Health Sciences division for the last ten years in two major interactive components. The *Great Neglected Diseases* program (*GND*) has emphasized research on major Third-World diseases, the drugs for treating them, and the vaccines that might prevent them. *Health of Populations* is creating a worldwide network in clinical epidemiology that includes cadres of medical school faculty in developing countries using population-based research methods to identify the most cost-effective disease management strategies and health-care policies for their countries.

Attending to Neglected Diseases

In the years since 1978, the *GND* effort has become a \$17 million investment in the future health and well-being of the developing world's populations. Its task: to improve the knowledge, means of treating, and control of such major diseases as malaria, schistosomiasis, hookworm and childhood diarrheas. For in spite of the fact that such scourges afflict hundreds of millions of people, they had received little attention from the biomedical research community, which was largely engaged in investigating the chronic diseases of industrialized countries.

An early priority of the program was to induce scientists of outstanding quality to apply their brainpower to the neglected diseases. Over the past ten years, an average of 130 scientists has been at work at any one time, some 1,000 students and postdoctoral fellows have been trained, and the new knowledge generated has been reflected in more than 2,000 papers published in scientific journals by program participants.

Three of the fifteen *GND* research units are in Third-World countries—Egypt, Thailand, and Mexico—and collaborative projects involve at least 20 more countries in the developing world. The network of scientists and laboratories has now begun to attract funding from other sources, and the Rockefeller Foundation will conclude its support under a final appropriation made in December 1986. A program to replace it, emphasizing the ability of science and technology to impinge directly on people's health and to form new research partnerships between developed- and developing-world institutions, is being planned.

GND research has included both basic laboratory investigation and field studies. Successful ventures range from diagnostic tests for leishmaniasis, schistosomiasis, malaria and leprosy to protective vaccines in laboratory animals against malaria, schistosomiasis, filariasis, and hookworm. A new low-cost process was developed for the production of

praziquantel, a miracle drug against flatworm infections such as schistosomiasis. Field validation was made of an excellent new drug for onchocerciasis and filariasis. Mechanisms were discovered by which genes control growth, development and protective responses of the parasite which causes African sleeping sickness. In addition, the toxin responsible for diarrhea in bacillary dysentery was purified and its structure determined. In the *GND* unit at Rockefeller University in 1986, working with sleeping sickness in laboratory animals, the research team identified a substance in the blood, cachectin, that causes severe weight loss and mediates the process of irreversible shock. These and other promising leads are being widely explored within the biomedical community.

Population-based Medicine

The principal activity under *Health of Populations*, begun in 1980, has been the training in clinical epidemiology of Third-World medical school faculty members who, in turn, are creating teaching and research units in their home countries. It has brought new focus and direction to community-based health care, for while major monies are spent in advanced laboratories on complex diseases and expensive treatments, much needs to be done for the poor of the world who continue to die of common, preventable, and easily treatable maladies. The International Clinical Epidemiology Network (INCLEN) was designed to teach physicians how to conduct research on their country's most serious large-scale health problems, and how to use this knowledge to shape less costly and more effective health policies and priorities.

As a first step to form the network, medical schools from developing countries have been invited to nominate candidates from their staff with leadership potential and several years of faculty experience. The physician-teachers undergo intensive training at one of the Clinical Epidemiology Resource and Training Centers (CERTCs), established with Foundation support at McMaster University in Canada, the University of Newcastle in Australia, and the University of Pennsylvania in this country. A 1986 grant opened a fourth CERTC, at the University of North Carolina at Chapel Hill.

The newly-trained physicians return to their own country with the necessary skills to teach their students and set up research units in clinical epidemiology. By agreement with the developing-country medical school and with start-up support from the Foundation, they commit 25 percent of their time to the study of major disease problems in their country.

Begun in Asia, the program was extended to South America. In 1986, representatives from the United States Agency for International Development (USAID), the Rockefeller Foundation and 26 medical schools in India met in a national conference. Six of them have since

been selected to form part of the network, and USAID is helping to fund them. In Africa, a year was spent identifying and evaluating possible INCLLEN sites, and four medical schools have been chosen: in Cameroon, Kenya, Zimbabwe, and Ethiopia. Nigeria has been part of the network since 1984.

New funding in 1986 broadened the training centers' curricula to include cost-effectiveness considerations in medical practice and disease control, and the introduction of a short training course for deans and directors, which would also prepare senior administrators for posts in health ministries. This latter course, at the University of Toronto, was jointly funded with the International Development Research Centre in Canada.

By the end of 1986, the development phase of the program has come to an end. To date, 119 fellows have been selected, and trained, or are in training. Ultimately, fellowships will be provided to faculty in 25 medical schools in 15 countries. An important part of the program in 1986 was the development of a new initiative for research collaboration among the Clinical Epidemiology Units in developing countries, and between them, the training centers, and selected medical research institutions. Largely as a result of the INCLLEN initiative, the importance of epidemiological studies on the medical care and health problems of developing countries is becoming recognized by physicians and by those who formulate medical and public health policy.

Other New Initiatives in 1986

The major focus of *Health of Populations* since 1980 has been on developing nations, but in 1986 a major new initiative was undertaken, aimed at giving public health, clinical epidemiology and preventive medicine a higher priority in U.S. medical schools as well. The Pew Charitable Trusts and the Rockefeller Foundation have each targeted \$5 million over the next five years to the joint venture. Some 140 North American medical schools were invited to submit brief proposals for programs which could influence mainstream training of health professionals. Twelve applicants were selected to submit detailed proposals, and plans call for selecting four to six of the schools for major grants in 1987.

Another new direction for Health Sciences, begun in 1985, was further developed in 1986: to help Third-World countries develop, test and produce their own vaccines against widespread lethal viruses. Support has been given for the transfer of new tissue-culture techniques for the production of human and veterinary rabies vaccine, and Colombia was selected as the first country to be assisted. A grant was also given to the Ministry of Public Health in China for the development of a vaccine against Japanese encephalitis, a threat to the hundreds of millions of

people in China, most of India and all of Southeast Asia, where the deadly mosquitos breed in rice paddies.

Other initiatives begun in 1986 include a grant to Ohio State University, to set up an international network that would monitor antibiotic use in the developing world, an urgent problem because overuse of these therapeutic agents may contribute to resistance and ineffectiveness of antibiotics throughout the world. A Thai research project was funded to quantify the incidence and behavioral risk factors of diarrhea in Bangkok. Project Hope, with a Foundation grant, is helping to establish and staff a pediatric intensive care unit at the University of Indonesia Medical School. In Brazil, a Foundation-sponsored study of treating tuberculosis by means of home rather than hospital care was completed in early 1986 and implemented immediately by the government. It has already provided major savings over the previous treatment approach.

Immunizing All the World's Children

In 1986, the Rockefeller Foundation supported the Task Force for Child Survival in its aim to immunize all the world's children against preventable diseases by 1990. According to the World Health Organization, the number of deaths each year from vaccine-preventable diseases, which was estimated five years ago at five million, has now been reduced to 3.5 million. However, the fact remains that, for example, some 40,000 children around the world still die each week of measles. The project, which originated at the Rockefeller Foundation Bellagio Conference Center in March 1984, has resulted in coordinated efforts from five international agencies: UNICEF, the World Health Organization, United Nations Development Program, the World Bank, and the Foundation. Recently other funders have joined forces on a grand scale, such as Rotary International with \$120 million for polio vaccine; the government of Italy with \$100 million; the United States with \$75 million; and Canada with \$25 million. The Foundation's 1986 support in this campaign was in the form of a grant to provide management structure within the Ministry of Health of Uganda to facilitate the immunization of all the children in that country against measles, whooping cough, polio, tetanus, diphtheria and tuberculosis.

GRANTS

GREAT NEGLECTED DISEASES

ASSOCIATION FOR THE STUDY OF SCHISTOSOMIASIS, <i>Marseilles, France</i>	\$24,100
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For a research project to engineer a schistosomular vaccine against *S. mansoni*.

BRIGHAM AND WOMEN'S HOSPITAL, Boston, MA	
For research on the cellular mechanisms of immune resistance in experimental cutaneous leishmaniasis.	\$90,000
For use by the Department of Medicine's Immunoparasitology Division.	\$50,000
CASE WESTERN RESERVE UNIVERSITY, Cleveland, OH	
For research on the characterization of <i>S. mansoni</i> protective antigens.	\$90,000
For research on the isolation and biochemistry of protective filarial antigens.	\$140,000
For overseas research, by its Division of Geographic Medicine.	\$100,000
CENTER FOR RESEARCH AND ADVANCED STUDIES OF THE NATIONAL POLYTECHNIC INSTITUTE, Mexico City, Mexico	\$5,000
For the tenth International Seminar on Arnebiasis.	
CHILDREN'S HOSPITAL, Boston, MA	\$35,000
For research on the fundamental elements of immunopathogenetic mechanisms in dengue.	
COLD SPRING HARBOR LABORATORY, NY	\$45,000
For its annual conference, Modern Approaches to Vaccines: 1986-1988.	
ALAIN DESSEIN, Centre d'Immunologie, Marseilles, France	\$50,000
To develop an effective vaccine against <i>S. mansoni</i> and to determine the role of IgE antibodies in immunity against <i>S. mansoni</i> and <i>T. spiralis</i> infections.	
THOMAS EGWANG, Kampala, Uganda	\$29,400
For research on the drugs for filariasis, at the Naval Biosciences Laboratory, University of California, Berkeley.	
PHYLLIS K. FREEMAN, Washington, DC	\$36,000
For research on the development and distribution of new vaccines.	
HARVARD UNIVERSITY, Boston, MA	
For use by its Medical School (Children's Hospital) for a Geographic Medicine Center with an emphasis on virology and pediatrics.	\$50,000
For use by its School of Public Health project in the meta-analysis of clinical research.	\$31,277
INSTITUT PASTEUR, Paris, France	\$12,500
For a research project on <i>Leishmania mexicana</i> .	
ALTAF A. LAL, New Delhi, India	\$26,500
For research on the structure of genes encoding the circumsporozoite protein of <i>P. berghei</i> and <i>P. vivax</i> and the effect of immune pressure on their structure, at the National Institute of Allergy and Infectious Diseases, Bethesda, MD.	
LEARNING THROUGH AN EXPANDED ARTS PROGRAM, New York, NY	\$20,000
For films on malaria, typhoid, leprosy and salmonellosis.	
PAUL LIZARDI, National Autonomous University of Mexico, Mexico City, Mexico	\$12,750
For research on <i>Plasmodium vivax</i> .	
LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE, England	\$50,000
For research on leprosy, by its Department of Clinical Tropical Medicine.	

MAHIDOL UNIVERSITY, Bangkok, Thailand	\$100,000
For research on parasite biochemistry, in its Department of Biochemistry.	
MEMORIAL SLOAN-KETTERING CANCER CENTER, New York, NY	\$30,000
For research on the characterization of <i>P. falciparum</i> genes implicated in merozoite invasion and erythrocyte sequestration.	
NATIONAL INSTITUTE OF IMMUNOLOGY, New Delhi, India	\$10,000
For a symposium, Progress in Vaccinology (co-funded with the Agricultural Sciences and Population Sciences programs for a total of \$30,000).	
NEW YORK UNIVERSITY, New York, NY	\$4,000
For use by its Medical Center, for research with the Oswaldo Cruz Institute on a malaria vaccine.	
MUTURI NJOGU, Nairobi, Kenya	\$2,200
For research on trypanosomiasis at Meharry Medical College, Nashville, Tennessee.	
NORWEGIAN RADIUM HOSPITAL, Oslo, Norway	\$35,000
For research on immunization against tuberculosis.	
JAMES NTAMBI, Kampala, Uganda	\$3,510
For study at the International Laboratory for Research on Animal Diseases, Nairobi, Kenya.	
PAN AMERICAN HEALTH ORGANIZATION, Washington, DC	\$48,000
For planning a Latin-American regional program for the development, improvement and production of vaccines.	
SUDA RIENGROJPITAK, Mahidol University, Bangkok, Thailand	\$17,400
For studies toward a Ph.D. degree, at York University, England.	
ROCHESTER GENERAL HOSPITAL, NY	\$29,500
For research on the use of a non-structural glycoprotein as a dengue vaccine.	
ROCKEFELLER UNIVERSITY, New York, NY	
For research on the role of trypanothione in trypanosomatids.	\$90,000
For a study on the use of parasite antigens to produce a vaccine against malaria.	\$23,087
For a Pharmacoparasitology Research Unit in the Laboratory of Medical Biochemistry.	\$50,000
PATRICIA ROMANS, Bethesda, MD	\$25,000
For postdoctoral studies on the molecular genetics of <i>Anopheles gambiae</i> . at the National Institutes of Health.	
SCRIPPS CLINIC AND RESEARCH FOUNDATION, La Jolla, CA	\$27,360
For research on the conformation of the human heat-stable <i>E. coli</i> enterotoxin.	
MICHAEL SELA, Rehovot, Israel	\$20,000
For a book on synthetic antigens and vaccines (co-funded with the Population Sciences program for a total of \$40,000).	
UNIVERSITY OF CONNECTICUT, Storrs, CT	\$25,000
For research on schistosomiasis.	

UNIVERSITY HOSPITALS, <i>Cleveland, OH</i>	\$6,551
For research on differences in <i>Onchocera volvulus</i> strains.	
UNIVERSITY OF OXFORD, <i>England</i>	\$150,000
For research on prenatal diagnosis programs for thalassemia in Thailand.	
UNIVERSITY OF PENNSYLVANIA, <i>Philadelphia, PA</i>	\$30,000
For research to analyze the cellular milieu of malaria as a function of its red blood cell stage.	
UNIVERSITY OF VIRGINIA, <i>Charlottesville, VA</i>	
For research on the pharmacologic alteration of enterotoxin-induced secretion.	\$28,900
For research to construct a cDNA expression library for <i>Entamoeba histolytica</i> .	\$16,000
For the Division of Geographic Medicine of the Department of Medicine.	\$50,000
UNIVERSITY OF WASHINGTON, <i>Seattle, WA</i>	\$92,000
For a Geographic Medicine Unit in the Department of Medicine.	
WALTER AND ELIZA HALL INSTITUTE OF MEDICAL RESEARCH, <i>Melbourne, Australia</i>	\$140,000
For research on immunization against leishmaniasis.	
WAYNE STATE UNIVERSITY, <i>Detroit, MI</i>	\$25,000
For research on the expression of <i>Schistosoma mansoni</i> egg antigens in <i>Escherichia coli</i> .	
WEIZMANN INSTITUTE OF SCIENCE, <i>Rehovot, Israel</i>	\$175,000
For its Unit for Molecular Biology of Parasitic Diseases.	
WISTAR INSTITUTE, <i>Philadelphia, PA</i>	\$32,500
For a research project in Argentina to develop an anti-rabies vaccine.	
WORLD HEALTH ORGANIZATION, <i>Geneva, Switzerland</i>	\$250,000
For its Programme on Vaccine Development.	
SPECIAL PURPOSES. The following grant was administered by the Foundation staff:	
For the annual meeting of the Biomedical Research Network of the Great Neglected Diseases of Mankind.	\$100,000
HEALTH OF POPULATIONS	
AESCULAPIUS INTERNATIONAL MEDICINE, <i>New York, NY</i>	\$29,450
Two grants for a study, "The U.S. Military and Humanitarian Action — An Expanding Role," (co-funded with the International Relations program for a total of \$58,900).	
CHULALONGKORN UNIVERSITY, <i>Bangkok, Thailand</i>	
For core support of the Clinical Epidemiology Unit.	\$25,000
For a study of the effectiveness of aspirin in preventing complications from rheumatic heart disease.	\$9,640
For research on the incidence and risk factors of diarrhea in Bangkok's low socioeconomic community.	\$25,000

EMORY UNIVERSITY, Atlanta, GA	\$22,890
For a conference on global health.	
ESCOLA PAULISTA DE MEDICINA, São Paulo, Brazil	
For core support of the Clinical Epidemiology Unit.	\$25,000
For research on cryptosporidiosis as a cause of diarrhea in São Paulo.	\$25,000
FEDERAL UNIVERSITY OF RIO DE JANEIRO, Brazil	\$5,000
For research in clinical epidemiology.	
FOUNDATION FOR INTERNATIONAL SCIENTIFIC COOPERATION, Madison, WI	\$30,000
To strengthen the epidemiologic capabilities of the National Institute of Hygiene and Epidemiology, Vietnam.	
INTERNATIONAL EPIDEMIOLOGICAL ASSOCIATION, Silver Spring, MD	\$15,000
For travel to meetings of the International Epidemiological Association in Nairobi and Scotland.	
KHON KAEN UNIVERSITY, Thailand	\$25,000
For core support of the Clinical Epidemiology Unit.	
MAHIDOL UNIVERSITY, Bangkok, Thailand	\$30,000
For a project to support nurse practitioners who will augment the King's primary health care program in rural areas of Thailand.	
McMASTER UNIVERSITY, Hamilton, Canada	
For training young candidates from developing countries in clinical epidemiology.	\$850,000
For a health economics training program for INCLEN fellows.	\$107,000
MINISTRY OF PUBLIC HEALTH, China	\$90,000
For use by its National Institute for the Control of Pharmaceutical and Biological Products, to establish a neurovirulence testing facility in China.	
MINISTRY OF PUBLIC HEALTH OF THAILAND, Bangkok, Thailand	\$50,000
For planning a National Epidemiology Board of Thailand.	
CHRISTOPHER MURRAY, Oxford, England	\$20,000
For research on the factors influencing health policies and programs in the developing world.	
NETWORK OF COMMUNITY-ORIENTED EDUCATIONAL INSTITUTIONS FOR HEALTH SCIENCES, Maastricht, The Netherlands	\$27,200
For use by its task force studying, "Priority Health Problems in Curriculum Development."	
OHIO STATE UNIVERSITY, Columbus, OH	\$90,000
For an international multicenter study of antibiotic usage in Asia and Latin America.	
PEOPLE-TO-PEOPLE HEALTH FOUNDATION (Project Hope), Millwood, VA	\$50,000
For an educational research program in pediatric intensive care in Indonesia.	
PONTIFICIA UNIVERSIDAD JAVERIANA, Bogotá, Colombia	\$5,000
For research in clinical epidemiology.	

QUEENSLAND INSTITUTE OF MEDICAL RESEARCH, <i>Brisbane, Australia</i>	\$6,000
For an Arbovirus Symposium.	
RIJKSINSTITUUT VOOR VOLKSGEZONDHEID IN MILIEUHYGIENE, <i>Bilthoven, Netherlands</i>	\$350,000
For vaccine production equipment and materials for the Veterinary Products Company of Colombia, and quality control equipment and materials for the Colombian National Institute of Health.	
SHANGHAI MEDICAL UNIVERSITY, <i>China</i>	\$25,000
For core support of the Clinical Epidemiology Unit.	
UNITED NATIONS CHILDREN'S FUND, <i>New York, NY</i>	\$180,000
For use by the Task Force for Child Survival in the campaign to immunize all the world's children.	
UNIVERSIDAD DE LA FRONTERA, <i>Temuco, Chile</i>	\$5,000
For research in clinical epidemiology.	
UNIVERSITY OF CALIFORNIA, <i>Berkeley, CA</i>	\$10,000
For a reference book, <i>Organized Health Services in China</i> .	
UNIVERSITY OF NEWCASTLE, <i>Australia</i>	
For a health economics training program for INCLIN fellows.	\$66,000
For a collaborative project with Gadjah Mada University, Indonesia, "Socio-cultural perspectives on clinical epidemiology research."	\$11,400
UNIVERSITY OF NORTH CAROLINA, <i>Chapel Hill, NC</i>	\$425,000
For establishing a Clinical Epidemiology Resource and Training Center (CERTC) in its School of Medicine.	
UNIVERSITY OF PENNSYLVANIA, <i>Philadelphia, PA</i>	
For a health economics training program for INCLIN fellows.	\$127,000
For establishing an INCLIN executive office.	\$42,000
UNIVERSITY OF THE PHILIPPINES, <i>Manila, Philippines</i>	\$15,000
For research in clinical epidemiology.	
UNIVERSITY OF TORONTO, <i>Canada</i>	\$50,000
For a short course in evaluative management skills for physicians/health administrators from the developing world.	
UNIVERSITY OF WISCONSIN, <i>Madison, WI</i>	\$25,000
For its project on epidemiologic surveillance and health manpower training in Laos.	
WEST CHINA UNIVERSITY OF MEDICAL SCIENCES, <i>Chengdu, China</i>	\$25,000
For core support of the Clinical Epidemiology Unit.	
WORLD FEDERATION FOR MEDICAL EDUCATION, <i>Edinburgh, Scotland</i>	\$30,000
For national and regional conferences in preparation for a world conference to review medical education.	

WORLD HEALTH ORGANIZATION, Geneva, Switzerland

For technical discussions on the role of intersectoral cooperation in national health strategies at the World Health Assembly in Geneva.	\$27,900
For the Conference on Intersectoral Cooperation—A Paradigm for Health Development.	\$2,325
For a meeting on intersectoral action for health in the Southeast Asia region, in New Delhi.	\$25,000
For three African regional meetings on intersectoral cooperation in national strategies for health.	\$25,000
For support of a media strategy for its program, Intersectoral Action for Health.	\$13,000

SPECIAL PURPOSES. The following grants were administered by the Foundation staff:

For the International Clinical Epidemiology Network (INCLIN) fourth annual meeting, Shanghai, China.	\$170,000
For interchange activities including adjustments to Clinical Epidemiology Resource and Training Centers (CERTC).	\$75,000
For INCLIN's fifth annual meeting, in Mexico.	\$140,000
For a commission to visit African countries, under INCLIN.	\$32,000
For CERTC Advisory Committee meetings (two per year), under INCLIN.	\$10,000
For consultative meetings between U.S. and Thai health officials, preparatory to establishing the National Epidemiology Board of Thailand.	\$8,700
For related costs of the Pew Charitable Trusts/Rockefeller Foundation program on Health of the Public.	\$60,000

With the world's population at five billion, efforts to understand the causes and effects of population growth occupy center stage. Major funding of the Population Sciences division in 1986 was directed toward research on new ways to interrupt the fertility cycle; testing current contraceptive methods for safety and acceptability; and policy studies. High priority was also given to training Third-World scientists and policymakers.

Reproductive Biology Research, a key program component of the division, supports work on the basic reproductive processes of men and women. Indeed, there are aspects of the reproductive processes which, though still poorly understood, suggest areas for the future development of contraceptives.

Interference at the Core of the Process

Research on small molecules (polypeptides) which play an important role in ovum maturation could lead to new understanding of the intra-ovarian regulatory process, as opposed to the traditional focus on the pituitary as a remote regulator of ovary and testis. A 1986 grant for such an investigation was given to the Population Council in New York.

Another project which could lead to understanding of how to interfere successfully at the core of the reproductive process is the investigation of the mechanisms of hormonal action. How hormones act on their target cells by means of specific receptors is under study at the University of Tampere, Finland, recipient of a 1986 grant for research on the regulation of avidin gene expression. Study of how the gene for avidin, a protein found in the chicken oviduct, is controlled by the hormone progesterone could clarify how the hormonal regulation mechanism works, whether in the chicken or in the human reproductive process.

The egg turns out to be an active partner in fertilization, guiding sperm to the appropriate receptors on the egg's surface. Experiments are under way to test the feasibility of using antiprogestins to interfere with this mechanism. A 1986 grant went to Alexandre Psychoyos at the National Center of Scientific Research in France for a study of the antiprogestin compound RU 486, and its capacity to interfere with essential hormonal events in the pre-fertilization process.

Grants were also given to the Instituto de Biología y Medicina Experimental in Buenos Aires, Argentina, for studies of estrogen receptors in the pituitary gland, and to the Catholic University of Chile, for research on the regulation of the female reproductive cycle.

Vaccines Against Conception

A grant to the Chinese Academy of Medical Sciences supports the work of Dr. Linfang Wang, who is exploring the possibility of a vaccine to prevent conception by interfering with the successful union of egg and sperm. She is attempting to identify a protein found on the surface of sperm in naturally-infertile men that triggers the immune response, resulting in the production of antibodies that inhibit sperm movement. Production of such a protein by recombinant DNA technology could lead to the development of a male vaccine. Dr. Wang first initiated this research in 1982 as a Foundation fellow in New York, and since her return to China has been awarded a Foundation Biotechnology Career Fellowship.

Another study, which could lead to the development of a vaccine for women, concerns the pregnancy hormone, hCG. A Foundation fellowship was given to Wang Hai-yun from the Institute of Zoology at the Chinese Academy of Sciences, who is doing pioneering research on that hormone at the Population Council in New York.

The division gave priority in 1986 to the preparation of Third-World scientists to participate in advanced reproductive biology research, and to set up their own research and training centers. The Instituto Nacional de la Nutrición Salvador Zubiran, Mexico City, with Foundation assistance, has been offering a rigorous program in contraceptive technology and reproductive biology for postdoctoral fellows from all over Latin America since 1979. The research and training program has been expanded to include African scientists as well, through 1986 support from the Foundation.

Other Approaches to Contraception

Under the division's program component of *Contraceptive Technology*, several grants centered on studies of NORPLANT, a new contraceptive which is now approved in seven countries and used in 31. This implant of capsules under a woman's skin effectively interferes with ovulation over a three- to five-year period by releasing the steroid levonorgestrel into the bloodstream.

A 1986 grant supports research at Assiut University, Egypt, on how NORPLANT interferes with ovulation and fertilization. Another grant will enable the Population Council, the World Health Organization and Family Health International to initiate long-term surveillance of NORPLANT use in 12 developing countries.

Male contraceptive studies are focused on gossypol, a natural substance extracted from the cotton plant, and identified by Chinese researchers as having an anti-fertility effect on men. Before widespread use can be recommended, further investigation is needed to see if lowering the dosage can eliminate undesirable side-effects without reducing its

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effectiveness as a contraceptive. The Foundation supported research on gossypol's safety, reversibility and efficacy in seven different 1986 grants.

Through the years the Population Council, the Foundation's major partner in this field, has developed the world's largest scientific staff devoted to population issues, carrying out biomedical contraceptive investigations, technical-assistance activities in developing countries, and research on population dynamics, as well as providing fellowships to developing-country scholars. Foundation support for these programs, which averaged \$1.4 million in the 1970's and \$1.2 million in the 1980's, gave the Council flexibility to carry out a diversity of programs. An outright grant of \$7 million in 1986 will provide orderly termination of Foundation support for these activities, which have received up to 25 years of funding, as well as contribute to the Council's long-term financial stability.

Factors that Influence Fertility

The third program component of the Population Sciences division, *Policy Studies*, includes support for training programs in the social sciences and demography at universities in developing countries, and research on the supply and demand factors that influence fertility, as well as on intervention strategies that would increase the use of contraception.

To further the education of scholars from developing countries in the population sciences, the program funds predoctoral, postdoctoral and mid-career training, as well as providing support for their institutions. To this end, three training programs received grants in 1986:

- A collaborative effort between China's Beijing Medical College and The Johns Hopkins University for a graduate training program in medical demography.
- A project to strengthen demographic training in Cameroon, Africa.
- A three-year grant to the Center for Regional Planning and Development in Minas Gerais, Brazil.

Earlier Foundation funding enabled the Brazilian center to develop that country's first graduate training program in economic demography and to begin developing Latin America's first doctoral program in population studies. Strengthening graduate training programs in developing countries is a key element of the division's strategy.

In the last two years, the division has undertaken to clarify the major causes of success and failure in national family planning programs of developing countries. Grants in support of research to identify the factors that influence why people do or do not use family-planning services were made in 1986 for studies of national programs in Thailand, China and Bangladesh.

The Status of Women and Fertility program supports studies of the complex contextual factors that underlie the attitudes of couples and communities toward having children. The program seeks to understand how the role of women within the household shapes the family's reproduction strategies and behavior, as well as willingness to use contraceptives. Grants in 1986 went for such studies in Latin America, sub-Saharan Africa, the Philippines and Pakistan.

"Hum Log," a popular Indian television soap-opera with dialogue and action that promoted the message that women should be respected as equals and have the right to control their fertility, offers an opportunity to assess actual intervention. A grant from the Foundation supports an evaluation of the effect of the soap opera in India by investigators from the Annenberg School of Communications, University of California, Los Angeles. The study will reveal whether soap operas are an effective means for public education in the field of family planning.

Cooperation Among Developing Countries

In 1986, the division introduced a new initiative to advance cooperation among developing countries in the population sciences and reproductive health. A major goal of this program is to create an international consortium to plan and implement projects on fertility regulation and reproductive health that could be of use to policy makers in developing countries. Grants from this \$1 million appropriation will sustain collaborative research, training courses, workshops, publications, and other activities which encourage exchange and cooperation among Third-World scientists and family-planning experts.

A similar initiative, part of a five-year program, aims at raising the level of national research and policy expertise in the population sciences in sub-Saharan Africa. In 1986, grants were given in Nigeria to the University of Ibadan's Department of Obstetrics and Gynecology and to the University of Ife's Department of Social Statistics, which is one of the four university programs in all sub-Saharan Africa offering graduate degrees in population studies. Another grant went to Kenya's Center for African Family Studies, to develop a training module on management and evaluation systems with technical assistance from Columbia University.

A grant administered by the University of Dar es Salaam, Tanzania, will be used to study the effects of modernization on women's roles and fertility in a rural area. Other allocations, including one to the International Union for the Scientific Study of Population, and a joint University of Ife/University of Pennsylvania workshop in Nigeria, respond to the need for linking African scholars in regional and international policy networks. Further grants are planned under this program in 1987.

GRANTS

REPRODUCTIVE BIOLOGY

CATHOLIC UNIVERSITY OF CHILE, <i>Santiago, Chile</i>	\$250,000
For research on the regulation of female reproductive function, by the Laboratory of Endocrinology.	
INSTITUTO DE BIOLOGIA Y MEDICINA EXPERIMENTAL, <i>Buenos Aires, Argentina</i>	\$15,500
For research on the significance and regulation of unoccupied estrogen receptors in the nuclei of the anterior pituitary.	
KYOTO UNIVERSITY, <i>Japan</i>	\$25,000
For research on factors regulating mammalian oocyte maturation, at the College of Agriculture.	
MARINE BIOLOGICAL LIBRARY, <i>Woods Hole, MA</i>	\$35,000
For research and training of two scientists from Argentina on the application of video microscopy for investigation of reproductive cells.	
McMASTER UNIVERSITY, <i>Hamilton, Canada</i>	\$4,000
To enable four Indian scientists to attend the Third International Congress of Reproductive Immunology.	
POPULATION COUNCIL, <i>New York, NY</i>	
For a study on "Gametogenesis Regulating Factors: Oocyte Maturation Prevention Factor."	\$35,000
To enable scientists from developing countries to attend the Seventh International Congress on Hormonal Steroids, in Madrid.	\$10,000
MICHAEL SELA, <i>Rehovot, Israel</i>	\$20,000
For a book on synthetic antigens and vaccines (co-funded with the Health Sciences program for a total of \$40,000).	
TECHNION—ISRAEL INSTITUTE OF TECHNOLOGY, <i>Haifa, Israel</i>	\$29,000
For a study on uterine angiogenesis factor, at the School of Medicine.	
UNIVERSITY OF CHILE, <i>Santiago, Chile</i>	\$25,000
For research on the regulation of human corpus luteum function, at the School of Medicine.	
UNIVERSITY OF GENEVA, <i>Switzerland</i>	\$39,200
To enable a biology professor to participate in a project to isolate oocyte meiosis inhibitor from ovarian follicular fluid, at the Salk Institute for Biological Studies.	
UNIVERSITY OF IDAHO, <i>Moscote, ID</i>	\$15,000
For research on implantation to be conducted by a visiting Zambian scientist, at the Department of Biological Sciences.	
UNIVERSITY OF TAMPERE, <i>Finland</i>	\$35,000
Two grants for research on the regulation of avidin gene expression.	
UNIVERSITY OF TOKYO, <i>Japan</i>	\$11,728
Two grants to enable developing-country scientists to attend the Fifth International Symposium on Spermatology.	

**CONTRACEPTIVE
TECHNOLOGY**

ASSIUT UNIVERSITY, <i>Egypt</i>	\$85,100
Two grants for a study of the probability of ovulation and fertilization during the use of NORPLANT contraceptive implants.	
CATHOLIC UNIVERSITY OF LOUVAIN, <i>Belgium</i>	\$30,000
For a study of gossypol toxicity in dogs.	
CENTRO DE PESQUISAS E CONTROLE DAS DOENCAS MATERNO-INFANTIS DE CAMPINAS, (CEMICAMP), <i>Campinas, Brazil</i>	\$20,000
For studies on the number of menstrual ovulatory cycles and the use of oral contraceptives as risk factors in breast cancer.	
CHINESE ACADEMY OF MEDICAL SCIENCES, <i>Beijing, China</i>	\$100,000
For studies on the molecular biology of sperm-membrane proteins.	
CHINESE ACADEMY OF SCIENCES, <i>Beijing, China</i>	\$28,160
For a low-dose gossypol study to be conducted by the Shanghai Institute of Materia Medica.	
CORNELL UNIVERSITY, <i>Ithaca, NY</i>	
For a study of the three-dimensional structure of gossypol.	\$3,000
For an exploratory study on gossypol nephrotoxicity, at the New York Hospital-Cornell Medical Center.	\$11,000
INSTITUTO DE BIOLOGIA Y MEDICINA EXPERIMENTAL, <i>Buenos Aires, Argentina</i>	\$25,000
For research on an immunological approach to male contraception.	
INSTITUTO NACIONAL DE LA NUTRICION SALVADOR ZUBIRAN, <i>Mexico City, Mexico</i>	\$260,000
For the research and training program at the Department of Reproductive Biology.	
NATIONAL INSTITUTE OF IMMUNOLOGY, <i>New Delhi, India</i>	\$10,000
For a symposium, <i>Progress in Vaccinology</i> (co-funded with the Agricultural Sciences and Health Sciences programs for a total of \$30,000).	
POPULATION COUNCIL, <i>New York, NY</i>	
To provide orderly termination of Foundation support for activities of the Council that have received up to 25 years of Foundation funding and to contribute to the long-term financial stability of the Council.	\$7,000,000
For a post-marketing surveillance of NORPLANT contraceptive implants in developing countries.	\$300,000
For a study of a potential contraceptive based on beta-hCG vaccine synthesized in bacteria.	\$35,000
ALEXANDRE PSYCHOYOS, <i>National Center of Scientific Research, Bicetre, France</i>	\$50,000
Two grants for research on the effects of antiprogestins, particularly the compound RU 486.	
ROCKEFELLER UNIVERSITY, <i>New York, NY</i>	\$30,100
For further research on the reproductive endocrinology of progestin and antiprogestin compounds.	
SLOAN-KETTERING INSTITUTE FOR CANCER RESEARCH, <i>New York, NY</i>	\$49,870
For research on the interaction of gossypol with human erythrocytes.	

UNIVERSITY COLLEGE, <i>London, England</i>	\$32,000
For research on the mitochondrial role in the inhibition of spermatogenesis by gossypol, at the Department of Genetics and Biometry.	
UNIVERSITY OF IBADAN, <i>Nigeria</i>	\$75,000
For research on the safety of NORPLANT contraceptive implants for use by women with sickle-cell anemia, at the College of Medicine.	
UNIVERSITY OF NORTH CAROLINA, <i>Chapel Hill, NC</i>	\$25,000
For research on the effect of gossypol on spermatogenesis in vitro.	
WORLD HEALTH ORGANIZATION, <i>Geneva, Switzerland</i>	\$700,000
To coordinate a post-marketing surveillance of NORPLANT contraceptive implants in developing countries.	
SPECIAL PURPOSES. The following grant was administered by the Foundation staff:	
For an international symposium on gossypol research in Wuhan, China.	\$44,100
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POLICY STUDIES	
AKBAR AGHAJANIAN, <i>Shiraz University, Iran</i>	\$4,820
For a study on fertility and the value of children in Iran.	
ALAN GUTTMACHER INSTITUTE, <i>New York, NY</i>	\$500,000
For its activities on adolescent pregnancy.	
AUSTRALIAN NATIONAL UNIVERSITY, <i>Canberra, Australia</i>	\$4,500
For publication and distribution of a study by Makhlisur Rahman, "Determinants of Areal Variation in Contraceptive Practice in Bangladesh."	
BANGLADESH FERTILITY RESEARCH PROGRAMME, <i>Dhaka, Bangladesh</i>	\$14,180
For a study on program effort and performance of family-planning services in Bangladesh.	
BEIJING MEDICAL COLLEGE, <i>China</i>	\$94,430
For a graduate training program in medical demography.	
CENTRE FOR AFRICAN FAMILY STUDIES, <i>Nairobi, Kenya</i>	\$200,000
To strengthen its management, evaluation and training capacities.	
COLUMBIA UNIVERSITY, <i>New York, NY</i>	
To help selected African institutions improve their family planning and health programs, at the Center for Population and Family Health.	\$300,000
To monitor and analyze the national family planning programs of the developing world, at the Center for Population and Family Health.	\$50,000
For a collaborative research project with the International Planned Parenthood Federation, Western Hemisphere Region, on "Gender, Work and Fertility."	\$15,100
MICHAEL A. COSTELLO and MARILOU PALABRICA-COSTELLO, <i>Xavier University, Cagayan de Oro City, Philippines</i>	\$35,850
For research on women's religious, educational, and occupational status and fertility in the southern Philippines.	

ALAN DUBEN and CEM BEHAR , <i>Bogazici University, Istanbul, Turkey</i>	\$15,650
For a study on fertility, family and society in Istanbul from 1880-1940.	
EAST-WEST CENTER , <i>Honolulu, HI</i>	\$100,000
For cooperative research with Chinese state agencies on population dynamics in China.	
FEDERAL UNIVERSITY OF MINAS GERAIS , <i>Belo Horizonte, Brazil</i>	\$300,000
For a program in demography, by the Center for Regional Planning and Development.	
TIMOTHY H. GATARA and RACHEL M. MUSYOKI , <i>University of Nairobi, Kenya</i>	\$33,554
For research on women's status and fertility levels in Kenya.	
HARVARD UNIVERSITY , <i>Cambridge, MA</i>	
For a study on how family-planning services affect the availability of contraceptives in China, at the Center for Population Studies.	\$66,950
For a study on the relationship between the level of training of the health provider and the use of contraception in developing countries, at the School of Public Health.	\$35,000
HOWARD UNIVERSITY , <i>Washington, DC</i>	\$171,000
For a summer-employment program of high school students in university life-sciences research laboratories (co-funded with the Equal Opportunity program for a total of \$342,000).	
INSTITUT DE FORMATION ET DE RECHERCHE DEMOGRAPHIQUES (IFORD) , <i>Yaounde, Cameroon</i>	\$85,000
To strengthen the research component of its demographic training program.	
INSTITUTE FOR RESEARCH IN HISTORY , <i>New York, NY</i>	\$15,000
For the collection and publication of the papers of Margaret Sanger.	
INTERNATIONAL PLANNED PARENTHOOD FEDERATION, WESTERN HEMISPHERE REGION , <i>New York, NY</i>	\$16,300
For a project with Columbia University: "Gender, Work and Fertility: The Social, Economic and Political Impacts of Women's Business Ownership in the Formal Economic Sector in Latin America."	
INTERNATIONAL UNION FOR THE SCIENTIFIC STUDY OF POPULATION , <i>Liège, Belgium</i>	\$200,000
For a project to strengthen demographic training and research in Africa.	
C. LWECHUNGURA KAMUZORA , <i>University of Dar es Salaam, Tanzania</i>	\$42,450
For research on high fertility and women's life circumstances in rural Tanzania.	
LATIN AMERICAN SOCIAL SCIENCE RESEARCH COUNCIL , <i>Buenos Aires, Argentina</i>	\$100,000
For a regional collaborative program on population.	
R.J. LESTHAEGHE , <i>Free University of Brussels, Belgium</i>	\$19,000
To study nuptial systems, social organization, and demographic transition in sub-Saharan Africa.	
LIN LEAN LIM , <i>University of Malaysia, Kuala Lumpur, Malaysia</i>	\$1,200
For research on women's status, development, and ethnic differentials in fertility in peninsular Malaysia, at Cornell University.	

JUSTIN YIFU LIN , <i>Beijing University, China</i>	\$16,950
For research on the effects of the new Chinese household responsibility system on rural population growth, education and income distribution.	
MAHIDOL UNIVERSITY , <i>Bangkok, Thailand</i>	\$74,280
For a study of program effort and performance of family-planning services in Thailand.	
CHRISTIANA OKOJIE , <i>University of Benin, Benin City, Nigeria</i>	\$8,000
For research on women's status and fertility in selected communities of Bendel State, Nigeria.	
CHRISTINE OPPONG , <i>Geneva, Switzerland</i>	\$25,000
For a monograph on how the changing roles of African women have affected their fertility.	
PENNSYLVANIA STATE UNIVERSITY , <i>University Park, PA</i>	\$31,000
For a review of the effects of rural electrification projects on fertility in selected developing countries.	
POPULATION COUNCIL , <i>New York, NY</i>	\$10,237
To enable a senior associate in its Bangkok office to participate in a study of program effort and performance of family-planning services in Thailand.	
RUTGERS UNIVERSITY , <i>New Brunswick, NJ</i>	\$25,000
For a study of reproductive rights, law and policy, at the Institute for Research on Women and the School of Law (co-funded with Special Interests and Explorations for a total of \$50,000).	
G. WILLIAM SKINNER , <i>Stanford University, CA</i>	\$50,000
For a study of women's autonomy and reproductive behavior during the Tokugawa Shogunate in Japan.	
UNIVERSITY OF THE ANDES , <i>Bogota, Colombia</i>	\$31,220
For a study on the impact of the demographic transition on Colombian rural households.	
UNIVERSITY OF BENIN , <i>Nigeria</i>	\$35,500
For a study of the effects of population growth on social services in three Nigerian states.	
UNIVERSITY OF LAGOS , <i>Nigeria</i>	\$50,000
For a study of the characteristics of groups receptive to family planning in Lagos.	
UNIVERSITY OF SOUTHERN CALIFORNIA , <i>Los Angeles, CA</i>	\$29,900
For a study by the Annenberg School of Communications on how a television series designed to elevate the status of women and promote family planning affected viewers in India.	
UNIVERSITY OF ZIMBABWE , <i>Hurare</i>	\$8,300
For a study on child feeding, malnutrition and mortality in a rural area of Zimbabwe, by the Sociology Department.	
THE WORLD BANK , <i>Washington, DC</i>	\$25,000
To enable participants from Latin America to attend a conference on safe motherhood in Nairobi, Kenya.	

SPECIAL PURPOSES: The following grants were administered by the Foundation staff:

For a workshop on women's status and fertility.	\$30,000
For a conference on the sociocultural determinants of fertility in Africa, in Ile-Ife, Nigeria.	\$44,000
For the purchase of microcomputer equipment and supplies for Kenyan scholars receiving support under the Foundation's research and training program in the population sciences in sub-Saharan Africa.	\$27,000
For related costs of the program of research on the status of women and fertility in developing countries.	\$35,000
To cover costs of personnel, clerical support and publications for the program research on the evaluation of family-planning programs in the developing countries.	\$45,000
For related costs of the program to support research and training in the population sciences in sub-Saharan Africa.	\$30,000

FELLOWSHIPS

Grants made to individuals, either directly or through selected organizations, are an important means of achieving the Foundation's goals. Such fellowships are made either for the purpose of advanced training or to enable a person to produce a piece of work, and are listed within other parts of this report describing the various program divisions and Other Interests and Initiatives.

In addition, the Foundation offers three major fellowship opportunities within the framework of its International Program to Support Science-Based Development: General Fellowships, Social Science Research Fellowships and Biotechnology Career Fellowships. In 1986, more than \$2.4 million was awarded under these fellowship programs.

GENERAL FELLOWSHIPS

The Rockefeller Foundation has had a General Fellowship program for more than 70 years. Its purpose has been to select from all over the world men and women of outstanding promise in fields of interest to the Foundation, and to help prepare them to make significant contributions to research and teaching or public service. More than 12,000 individuals have held such fellowships. During 1986, a total of 83 persons held General Fellowships—63 that were continued from previous years, and 20 new awards that became active during the year, as listed below:

AGRICULTURAL SCIENCES

CHINA

QU XIANGDONG, molecular genetics.

Appointed from the China National Rice Research Institute, Hanzhou. Place of study: Cornell University, Ithaca, NY.

WANG ZHENYUAN, cytogenetics/plant breeding.

Appointed from the Institute of Crop Germplasm Resources, Beijing. Place of study: Cornell University, Ithaca, NY.

KOREA

KWEON CHIANG HEE, veterinary molecular biology.

Appointed from the Veterinary Research Institute, Anyang. Place of study: University of California, Davis, CA.

OH DAE-GEUN, plant breeding.

Appointed from the Horticultural Experiment Station, Suweon. Place of study: Purdue University, West Lafayette, IN

YUN CHOONG-HYO, plant pathology.

Appointed from the Institute of Agricultural Sciences, Suweon. Place of study: Montana State University, Bozeman, MT.

U.S.A.

MARK ALLAN VAN KOEVERING, plant breeding.

Appointed from Cornell University. Place of study: Cornell University, Ithaca, NY.

HEALTH SCIENCES

BRAZIL

MITERMAYER GALVAO DOS REIS, molecular biology.

Appointed from the Federal University of Bahia, Salvador. Place of study: Case Western Reserve University, Cleveland, OH.

INDIA

RENU BANSAL LAL, parasitology.

Appointed from the National Institute of Immunology, New Delhi. Place of study: National Institutes of Health, Bethesda, MD.

THAILAND

WORACHART SIRAWARAPORN, parasitology of malaria.

Appointed from Mahidol University, Bangkok. Place of study: University of California, San Francisco, CA.

POPULATION SCIENCES

CHILE

JUAN A. LEAL, reproductive physiology.

Appointed from the Catholic University of Chile, Santiago. Place of study: Eastern Virginia Medical School, Norfolk, VA.

CHINA

BEN KUNLONG, reproductive biology.

Appointed from Kunming Institute of Zoology. Place of study: Eastern Virginia Medical School, Norfolk, VA.

WANG FENG, sociology.

Appointed from Hebei University, Baoding. Place of study: University of Michigan, Ann Arbor, MI.

ZHENG YI, reproductive immunopathology.

Appointed from Beijing People's Hospital. Place of study: University of Pennsylvania, Philadelphia, PA.

INDIA

BHUSHAN KUMAR GANGRADE, reproductive physiology.

Appointed from Banaras Hindu University, Varanasi. Place of study: University of Missouri, Columbia, MO.

ARJUN L. KADAM, reproductive biology.

Appointed from the Institute for Research in Reproduction, Bombay. Place of study: Population Council, New York, NY.

MAN MOHAN MISRO, reproductive biology.

Appointed from the National Institute of Health and Family Welfare, New Delhi. Place of study: University of Iowa, Iowa City, IA.

ARVIND PANDEY, biostatistics.

Appointed from the International Institute for Population Sciences, Bombay. Place of study: University of North Carolina, Chapel Hill, NC.

KEDAR NATH SINGH YADAVA, demography.

Appointed from Banaras Hindu University. Place of study: Australian National University, Canberra, Australia.

JAPAN

KURASAWA SHIGEAKI, reproductive biology.

Appointed from Keio University School of Medicine. Place of study: University of Pennsylvania, Philadelphia, PA.

SRI LANKA

ANTHONY ABEYKOON, demography.

Appointed from the Ministry of Plan Implementation, Colombo. Place of study: University of Michigan, Ann Arbor, MI.

SOCIAL SCIENCE RESEARCH FELLOWSHIPS

This competitive program provides opportunities for young North American social scientists to conduct collaborative research in agriculture or population studies at foreign institutions.

DONALD J. ADAMCHAK — a sociologist/demographer participating in the teaching and research activities of the Department of Sociology, University of Zimbabwe, Harare. (PS)

SALLY E. FINDLEY — a sociologist/demographer participating in the research and technical assistance activities of the Institut du Sahel, Bamako, Mali. (PS)

FRANKLIN W. GOZA — a sociologist/demographer participating in the teaching and research activities of the Centro de Desenvolvimento e Planejamento Regional (CEDEPLAR), Federal University of Minas Gerais, Belo Horizonte, Brazil. (PS)

JANE C. HOPKINS — an agricultural economist analyzing production and demand data, and planning and implementing a consumption survey, while located at the International Food Policy Research Institute (IFPRI) coarse grains project in Niamey, Niger (in cooperation with the International Crops Research Institute for the Semi-Arid Tropics). (AS)

DAVID KAIMOWITZ — an agricultural economist studying the formation of agricultural research policy in Latin America, and how the organization and structure of national research systems reflect the societies in which they are found, while located at the International Service for National Agricultural Research (ISNAR), The Hague, Netherlands. (AS)

WILLIAM M. LOKER — an anthropologist studying the role of pastures in mixed farming systems in the western Amazonia, while located at the Centro Internacional de Agricultura Tropical (CIAT) project in Pucallpa, Peru. (AS)

BIOTECHNOLOGY CAREER FELLOWSHIPS

This program endeavors to assist Third World scientists to maintain leadership in the development and application of the new biotechnologies that offer great promise for improving the agricultural, health, and population prospects of their countries, by establishing ongoing relationships between biotechnology scientists working at Third-World institutions, and research teams at advanced laboratories.

BRAZIL

GUSTAVO BALLEJO, Universidade de São Paulo.

Contraceptive steroids and growth factor receptors, at the University of Illinois College of Medicine, Chicago, IL. (PS)

GABRIEL GRIMALDI, Jr., Oswaldo Cruz Institute, Rio de Janeiro.

Antigen characterization, identification, and mapping of New World *Leishmania* species and subspecies, at the Yale University School of Medicine, New Haven, CT. (HS)

EDILSON PAIVA, Centro Nacional de Pesquisa de Milho e Sorgo, Sete Lagoas.

Special types of corn for human nutrition, at Purdue University, West Lafayette, IN. (AS)

NOBUKO YOSHIDA, Escola Paulista de Medicina, São Paulo.

Antigenic diversity of malaria parasites, at the New York University Medical Center, New York, NY. (HS)

CAMEROON

VINCENT P. K. TITANJI, Université de Yaoundé.

Characterization of the genome of *Onchocerca volvulus*, at the University of Uppsala Biomedical Center, Sweden. (HS)

CHINA

MA JIAN-CHUAN, Sun Yat Sen University of Medical Sciences, Guangzhou.

Gene expression, at the University of Edinburgh, United Kingdom. (HS)

EGYPT

MOHAMED ALI SABER, Theodor Bilharz Research Institute, Cairo.

In situ localization of specific mRNAs in hepatocytes on the ultrastructural level and its application to schistosomiasis, at the Population Council Center for Biomedical Research, New York, NY. (HS)

INDIA

A. JAGANNADHA RAO, Indian Institute of Science, Bangalore.

Hormonal regulation of Leydig cell growth and function in mammals, at the Louisiana State University Medical Center, New Orleans, LA. (PS)

CHANDRIMA SHAHA, National Institute of Immunology, New Delhi.

Selection of a sperm vaccine antigen, at the Population Council Center for Biomedical Research, New York, NY. (PS)

M. S. SHAILA, Indian Institute of Science, Bangalore.

Molecular changes in the genome of rinderpest virus in persistent state, at the Animal Virus Institute, Pirbright, United Kingdom. (AS)

KENYA

ALEX K. CHEMTAI, University of Nairobi.

Cellular and humoral regulation of protective immunity in *Plasmodium falciparum* malaria, at the Wenner-Gren Institute, Stockholm, Sweden. (HS)

MEXICO

ALFREDO ULLOA-AGUIRRE, National Institute of Nutrition, Tlalpan.

Synthesis and processing of follicle-stimulating hormone, at the University of Pennsylvania, Philadelphia, PA. (PS)

NIGERIA

AUGUSTINE U. ORJIH, University of Port Harcourt.

Application of recent advances in molecular and cellular biology, immunology and biochemistry to malaria, at the New York University Medical Center, New York, NY. (HS)

PAKISTAN

RABIA HUSSAIN, Aga Khan University, Karachi.

Role of IgG subclasses in blocking the IgE-mediated histamine release in filariasis and allergic diseases, at the National Institute of Allergy and Infectious Diseases, National Institutes of Health, Bethesda, MD. (HS)

**ARTS AND
HUMANITIES**

Three major aspects of American cultural life are reflected in the three major program components of the Arts and Humanities division. The first, *Support for the Creative Person*, expresses the basic thrust of the division, as individual artists and scholars receive funding for creative work through a variety of programs. *Strengthening Secondary School Education* allocates grants which further the status and expertise of humanities teachers in the public schools. *Enhancing the Public's Understanding of International Affairs* supports projects which increase understanding across cultural boundaries.

Theater Director Peter Brook has called "the celebration of the discovery of links where apparently there are only divisions . . . the most necessary act of our times." The activities of the division in 1986 affirmed this celebration in the funding of substantial international and intercultural works under all three components. At the same time, these efforts have provided a significant base for the new grant-making guidelines that will be announced in 1987. Anyone interested in applying for a grant should study these new guidelines before preparing and submitting a proposal. For single copies, write to the Foundation's New York office.

Support for the Creative Person

The first program component is especially indicative of the continuing commitment of the Foundation to support individual scholars, playwrights, composers, and choreographers, as well as media and visual artists. Though many funding sources support institutions, few focus on stimulating new works by individual creative people. For this reason, the division has given priority to a number of national programs that address the needs of artists and scholars. Such programs are often administered by outside organizations, many in the form of fellowships or residencies, connected with institutions that have a ready audience for the created works. All grantees and fellows are selected with the aid of national panels of experts.

The Rockefeller Foundation Resident Fellowships in the Humanities are chosen by selected institutions that organize their own competitions and offer three-year residencies to two scholars each year. Since the start of the program in 1983, fifteen organizations have selected fellows, and a 1986 appropriation provides funds for seven more. Current institutions are indicative of the Foundation's growing interest in supporting international and intercultural works.

Participating programs and institutions are: Dartmouth College's Institute for the Study of Applied and Professional Ethics; the University

of Virginia's Center for the Study of Civil Rights at the Carter G. Woodson Institute for Afro-American and African Studies; the University of Michigan's Near Eastern and North Asian Studies Program; a Duke University/University of North Carolina Women's Studies Research Center project focusing on development issues; a study on group identities at Princeton's Institute for Advanced Study, School of Social Science; narrative studies at the Center for the Humanities, Wesleyan University; and a media culture program at the Whitney Museum of American Art.

A 1986 grant to Dance Works in New York City renewed support to the National Choreography Project, which offers opportunities for choreographers to expand their dance vocabulary by mounting new works with selected repertory dance companies (see p. 71 for list of current grantees). Since 1983, Dance Works has administered awards for 17 such collaborations, co-funded by the Foundation, the National Endowment for the Arts and Exxon Corporation. To complement the project, the Foundation also initiated a program for single-choreographer dance companies, which are not eligible for support under the National Choreography Project. An appropriation for this new initiative was approved in 1986, and grants to these companies will be made in 1987.

Collaboration of artists from different disciplines and cultural traditions was encouraged through a renewal grant for a 1985 pilot project—the Interdisciplinary Artists Fellowship Program—jointly supported with the National Endowment for the Arts. Eight regional arts organizations have been selected to administer grants to artists whose work crosses traditional boundaries. Grants in 1986 went to the Contemporary Arts Center in New Orleans, Diverse Works in Houston, Hallwalls in Buffalo, UC Video in Minneapolis, Contemporary Exhibitions in Los Angeles, Nexus in Atlanta, 80 Langton Street in San Francisco, and Real Art Ways in Hartford. Fellows will be announced in 1987.

Mid-career playwrights are linked with regional theaters in the Fellowships for American Playwrights program, administered by the Foundation. The 1986 grant specifies two types of awards, one to writers, enabling them to spend a year in residence at a theater they select, and the other to theaters, allowing them to choose a local playwright for residency. Almost 90 percent of the 222 collaborations made since the project began in 1970 have resulted in full-scale new productions, and both minority and women artists have figured prominently in them (see p. 71 for list of current grantees).

A 1986 grant renewed support to Meet the Composer for its composers-in-residence program, which aims to establish better working relationships between American composers and major symphony orchestras. Such residencies have been offered since 1982, co-funded by

the Foundation, the National Endowment for the Arts, Exxon Corporation, and participating orchestras (see p. 71 for list of current grantees).

A special grant was given to the Recorded Anthology of American Music (New World Records), which has made the work of individual American composers and performers available to the public. The organization has received a total of \$3.9 million in support from the Foundation since 1973, for making records that span the history of American musical life in all the diversity of its cultural heritage, and for distributing them to 7,000 educational and cultural institutions. The additional 1986 grant is to initiate the conversion to compact discs and cassettes of selected titles from a treasury of 141 long-playing records.

Teacher Enrichment in Languages and Social Studies

Another program component of the division, *Strengthening Secondary School Education*, supports a national network of collaborating school systems, universities and cultural organizations engaged in teacher training and enrichment programs in languages, history and other disciplines of the humanities. There will be a broadening focus on international education as the new thrust of the division evolves toward international initiatives. Begun in Philadelphia in 1983, the network now includes programs in Seattle, Atlanta, and Pittsburgh (1984), as well as St. Louis, St. Paul and Los Angeles (1985), and grants were made in 1986 to include New York City and the state of South Carolina.

Individual programs in this network differ according to local needs, demographics and other circumstances. Some operate out of independent nonprofit organizations while others are located within their school systems, but all draw on university and corporate resources. All offer teachers opportunities for in-service training, classroom experimentation, professional and cultural connections and other aids and incentives for improving their work.

Initiatives include a network effort to develop curricula that will improve writing ability among secondary school students, intensive summer study opportunities for the teachers in their fields, mini-grants for innovative classroom projects and conferences at which teachers and nearby university faculty can work together on problems in teaching the humanities. In addition to including the two new programs, 1986 grant funds were used to renew assistance to the other seven programs, and to underwrite a second annual meeting of their representatives.

Another secondary school program is the Rockefeller Foundation Fellowships for Foreign Language Teachers in the High Schools, begun in 1985 and continued in 1986. This program emphasizes the

importance of foreign languages in the high schools, and provides summer study opportunities abroad for teachers. Travel grants to the countries whose language they teach allow teachers to develop insights and make personal explorations that can enrich their work with their students. A hundred fellows were selected out of 800 applicants in 1986. The program is administered by the University of Pennsylvania through its Academic Alliances project.

Enhancing Understanding of International Affairs

Efforts of experimental artists and scholars, many of whom are now involved in international, interdisciplinary works of great subtlety and power, offer windows on a world in which rigid cultural barriers lose their meaning. A number of international, intercultural activities were supported by the division in 1986, including ethnic celebrations such as the New York Shakespeare Festival's "Festival Latino," in which some of the Latin-American performing groups subsequently toured other cities; and visits by selected South African theater companies which contributed to the performance of "Woza Africa!" A grant was given to the 55th Street Dance Theater Foundation for the North American tour of the Japanese dance group Dai Rakuda Kan. Another grant went to the Dance Theater Workshop, which offers a "suitcase" fund to assist foreign companies touring here and American companies going abroad. The Next Wave Production and Touring Fund of the Brooklyn Academy of Music received support which will allow theater audiences across the country to have a taste of international excitement through the mixed-media, dance and theater collaborations of performers from Europe and the United States.

The Foundation has a history of funding international theater projects, and current work supported by the division builds on this initiative. The most recent work of this kind is Peter Brook's *Mahabharata*, a great Indian religious epic researched by Sanskrit scholars and performed in several languages by an international team of actors. Already presented in Paris and London, it will soon be shown in the United States, Africa, and Australia. Though few original works can compete with the magnitude of the task of adapting this epic, its true significance lies in its affirmation of our common humanity.

The division also seeks to further a better understanding of foreign cultures through selected awards to American museums. Grants have been given to the Houston Museum of Fine Arts since 1983 in support of its effort to organize a national exhibition of contemporary Hispanic-American Art. Scheduled to open in May 1987 in Houston, the show will then go on tour over the next three years to Mexico City, Miami, Los Angeles, Brooklyn, Chicago, Washington, DC, and Santa Fe, NM.

Also in 1986, an appropriation was approved for a major museum initiative which will aim at helping American museums promote better

understanding of the cultures of sub-Saharan Africa. The program will include funds for exhibitions, an international conference and publications.

In addition to fostering international and intercultural understanding through international theater, festivals, touring companies and museums, the Foundation is interested in the use of television as a means to broaden horizons and alter the misconceptions that often confound our thinking about foreign cultures. Support for efforts to bring other civilizations and societies right into American homes was given in 1986 to:

- ETV Endowment of South Carolina to research possible African programming for inclusion at the 1987 International Public Television (INPUT) screening conference.
- The Press and the Public Project's documentary "Assignment Africa," which bore witness to inadequate coverage of African issues by the American media.
- WNYC's "Window on World Television."
- Educational Broadcasting Corporation's (WNET) telecast of works by Asian and Western artists, "Bye Bye Kipling," and program acquisitions for the series, "Channel Crossings."
- Twin Cities Public Television in Minneapolis/St. Paul, for showcasing "Alive from Off Center," (co-funded with the Corporation for Public Broadcasting, National Endowment for the Arts, and the Public Broadcasting System).

In addition to such grants for specific television programming, the Foundation wishes to encourage artists engaged in creating new expressions that challenge the narrowness of traditional documentary forms and interpret cultural diversity both here and abroad. In 1986, an appropriation was made for intercultural film and video fellowships, administered by the Foundation, to provide travel and production support for competitively selected film and video artists whose work reflects international and multicultural concerns. The winners of these fellowships will be announced in 1987.

GRANTS

SUPPORT FOR THE CREATIVE PERSON

CONTEMPORARY ARTS CENTER, <i>New Orleans, LA</i>	\$5,500
For an Interdisciplinary Artists Fellowship program.	
DANCE WORKS, <i>New York, NY</i>	\$150,000
For its National Choreography Project.	

DARTMOUTH COLLEGE, <i>Hanover, NH</i>	\$175,000
For a Resident Fellows program at the Institute for the Study of Applied and Professional Ethics.	
DIVERSE WORKS, <i>Houston, TX</i>	\$14,250
For an Interdisciplinary Artists Fellowship program.	
80 LANGTON STREET, <i>San Francisco, CA</i>	\$9,000
For an Interdisciplinary Artists Fellowship program.	
HALLWALLS, <i>Buffalo, NY</i>	\$14,250
For an Interdisciplinary Artists Fellowship program.	
INSTITUTE FOR ADVANCED STUDY, <i>Princeton, NJ</i>	\$175,000
For a Resident Fellows program on the study of group identities at the School of Social Science.	
MASSACHUSETTS INSTITUTE OF TECHNOLOGY, <i>Cambridge, MA</i>	\$25,000
For artists-in-residence fellowships at the Center for Advanced Visual Studies.	
MEET THE COMPOSER, <i>New York, NY</i>	\$350,000
For its Composers-in-Residence program.	
LOS ANGELES CONTEMPORARY EXHIBITIONS, <i>CA</i>	\$14,250
For an Interdisciplinary Artists Fellowship program.	
NEXUS, <i>Atlanta, GA</i>	\$14,250
For an Interdisciplinary Artists Fellowship program.	
REAL ART WAYS, <i>Hartford, CT</i>	\$14,250
For an Interdisciplinary Artists Fellowship program.	
UC VIDEO, <i>Minneapolis, MN</i>	\$14,250
For an Interdisciplinary Artists Fellowship program.	
UNIVERSITY OF MICHIGAN, <i>Ann Arbor, MI</i>	\$175,000
For a Resident Fellows program on contemporary Middle Eastern literature at the Center for Near Eastern and North African Studies.	
UNIVERSITY OF NORTH CAROLINA, <i>Chapel Hill, NC</i>	\$175,000
For a Resident Fellows program at the Duke University/University of North Carolina Women's Studies Research Center.	
UNIVERSITY OF VIRGINIA, <i>Charlottesville, VA</i>	\$175,000
For a Resident Fellows program at the Center for the Study of Civil Rights, Carter G. Woodson Institute for Afro-American and African Studies.	
WEST VIRGINIA UNIVERSITY FOUNDATION, <i>Morgantown, WV</i>	\$5,000
For a contemporary music program for conductors and composers at the University of West Virginia's Conductors' Guild Summer Institute.	
WESLEYAN UNIVERSITY, <i>Middletown, CT</i>	\$175,000
For a Resident Fellows program in narrative studies at the Center for the Humanities.	

WHITNEY MUSEUM OF AMERICAN ART, <i>New York, NY</i>	\$94,500
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For a Resident Fellows program in "Media Culture: New Technology and the Arts."

SPECIAL PURPOSES. *The following grants were administered by the Foundation staff:*

Related costs of the American Playwrights program.	\$40,000
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Related costs of the Interdisciplinary Artists program.	\$10,000
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**STRENGTHENING
SECONDARY
SCHOOL
EDUCATION**

AMERICAN HISTORICAL ASSOCIATION, *Washington, DC*

For a History Teaching Alliance to develop regional school-university collaborations.	\$37,500
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For a meeting on the feasibility of revising <i>The AHA Guide to Historical Literature</i> .	\$2,000
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ASSOCIATED COLLEGES OF THE MIDWEST, *Chicago, IL* \$37,500

For a pre-service teacher-training program.

ASSOCIATION FOR ASIAN STUDIES, *Ann Arbor, MI* \$50,000

Two grants for a 1986 and 1987 summer institute for secondary school teachers of Asian Studies.

ASSOCIATION OF AMERICAN COLLEGES, *Washington, DC* \$22,000

For a national survey of existing undergraduate arts and sciences teacher-preparation programs.

COUNCIL OF CHIEF STATE SCHOOL OFFICERS, *Washington, DC* \$6,000

For a 1986 CCSSO conference, "Civic Responsibility: Values Transmitted through the Nation's Schools."

EDUCATIONAL TESTING SERVICE, *Princeton, NJ* \$175,000

To conduct field tests of new techniques for assessing learning in the arts, with Harvard University's Project Zero.

GLOBAL PERSPECTIVES IN EDUCATION, *New York, NY* \$125,000

Two grants for a teacher-training program in international education in New York City schools.

HARVARD UNIVERSITY, *Cambridge, MA* \$125,000

To enable Project Zero to conduct field tests of new techniques for assessing learning in the arts, with the Educational Testing Service.

INTERNATIONAL EDUCATION CONSORTIUM, *St. Louis, MO* \$85,000

For a teacher-training program to strengthen international education in city secondary schools.

MODERN LANGUAGE ASSOCIATION OF AMERICA, *New York, NY* \$50,000

For a 1987 national conference on teaching English.

NATIONAL HUMANITIES FACULTY, *Atlanta, GA* \$40,000

For a program on humanities education in the Wake County North Carolina Public Schools.

NATIONAL ACADEMY OF EDUCATION, *Cambridge, MA* \$25,000

For review and dissemination of the National Assessment of Educational Progress.

PHILADELPHIA ALLIANCE FOR TEACHING HUMANITIES IN THE SCHOOLS, PA	\$25,000
For meetings to design a system-wide writing assessment and a new curriculum in world history.	
THEATRE FOR A NEW AUDIENCE, New York, NY	\$15,000
For the educational aspect of its arts and humanities program, "The Shakespeare Celebration."	
UNIVERSITY OF PENNSYLVANIA, Philadelphia, PA	\$550,000
For the Rockefeller Foundation Fellowships for Foreign Language Teachers in the High Schools, administrated by the Academic Alliances project.	
WORK IN AMERICA INSTITUTE, Scarsdale, NY	\$50,000
For a study, "The Teacher: Ally in Educational Reform."	
SPECIAL PURPOSES. The following grant was administered by the Foundation staff:	
For the annual meeting of the Network for Secondary School Improvement in the Arts and Humanities, and for a program evaluation.	\$65,000
ENHANCING THE PUBLIC'S UNDERSTANDING OF INTERNATIONAL AFFAIRS	
AMERICAN COUNCIL OF LEARNED SOCIETIES, New York, NY	\$50,000
For planning sessions and scholarly projects associated with an archival exchange between the United States and the Soviet Union, by the International Research and Exchanges Board.	
COUNCIL OF AMERICAN OVERSEAS RESEARCH CENTERS, Washington, DC	\$25,000
For further development of its programs in behalf of American scholars working abroad.	
DANCE PERSPECTIVES FOUNDATION, New York, NY	\$5,000
For translating foreign-language texts of a projected <i>International Encyclopedia of Dance</i> .	
DANCE THEATER WORKSHOP, New York, NY	\$100,000
For its Suitcase Fund, a program of reciprocal touring by artists and companies from the United States and abroad.	
EDUCATIONAL BROADCASTING CORPORATION, New York, NY	
For "Bye Bye Kipling," a broadcast of works by Asian and Western artists and sports events from the 1986 Asian games.	\$50,000
For program acquisitions for the television series, "Channel Crossings," and to develop a consortium for such work on American television.	\$50,000
ETV ENDOWMENT OF SOUTH CAROLINA, Spartanburg, SC	\$13,400
To research and identify African programming for possible inclusion in the 1987 International Public Television (INPUT) screening conference.	
55th STREET DANCE THEATER FOUNDATION, New York, NY	\$19,000
For the 1987 North American tour of Dai Rakuda Kan and performances at the City Center Theater.	

FUND FOR ARTISTS' COLONIES, <i>New York, NY</i>	\$25,000
For developing an International Fellowship Program.	
INDEPENDENT BROADCASTING ASSOCIATES, <i>Littleton, MA</i>	\$37,000
For a ten-part series of half-hour radio broadcasts on Indian culture and society.	
INSTITUTE OF INTERNATIONAL EDUCATION, <i>New York, NY</i>	\$50,000
For its Arts International program, to strengthen and increase international arts programming.	
MUSEUM OF FINE ARTS, <i>Houston, TX</i>	\$150,000
For organizing and mounting the first national exhibition of contemporary Hispanic-American art.	
NATIONAL COUNCIL ON FOREIGN LANGUAGE AND INTERNATIONAL STUDIES, <i>New York, NY</i>	\$25,000
For planning the merger between itself and Global Perspectives in Education.	
NEW PLAYWRIGHTS THEATRE OF WASHINGTON, <i>Washington, DC</i>	\$50,000
For the presentation of a festival of South African plays, "Woza Afrika!"	
NEW YORK SHAKESPEARE FESTIVAL, <i>New York, NY</i>	\$75,000
For its "Festival Latino."	
THE PRESS AND THE PUBLIC PROJECT, <i>New York, NY</i>	\$50,000
For developing a one-hour documentary for public television, "Assignment Africa."	
READERS INTERNATIONAL, <i>New York, NY</i>	\$30,000
For translating and expanding distribution of selected contemporary non-Western literature.	
UNIVERSITY OF HOUSTON, <i>University Park, TX</i>	\$10,000
For "Houston Hispanic: A Juried Exhibit of Houston-area Hispanic Art" to be seen in conjunction with "Hispanic Art in the United States" at the Museum of Fine Arts.	
VISUAL ARTS RESEARCH & RESOURCE CENTER RELATING TO THE CARIBBEAN, <i>New York, NY</i>	\$25,000
For archiving its collections and establishing a Resource Center.	
WNYC FOUNDATION, <i>New York, NY</i>	\$40,000
For "Window on World Television," a series of foreign television programs shown to U.S. viewers.	

**FORGING
CONNECTIONS
BETWEEN ARTISTS,
HUMANISTS AND
SOCIETY**

AMERICAN COUNCIL FOR THE ARTS, <i>New York, NY</i>	\$22,800
For the preparation and publication of a comprehensive listing of funding for the arts.	
AMERICAN MUSIC CENTER, <i>New York, NY</i>	\$45,000
Two grants to coordinate activities associated with American Music Week, plan future activities of the Center, and conduct a survey of the contemporary American music field.	

AMERICAN MUSIC THEATER FESTIVAL, Philadelphia, PA	\$25,000
For the Music Theater Production Alliance.	
AMERICAN PLACE THEATRE, New York, NY	\$25,000
For collaboration by playwrights and scholars to produce original theater pieces that illuminate American history and culture.	
ASPEN MUSIC FESTIVAL, Aspen, CO	\$25,000
For a composers-in-residence program at the Aspen Music Festival's Conference of Contemporary Music.	
BROOKLYN ACADEMY OF MUSIC, New York, NY	\$250,000
For its Next Wave Production and Touring Fund.	
CENTER FOR UNDERSTANDING MEDIA, New York, NY	\$20,000
For research and development of "The Picture Opera," an interdisciplinary work of performances and exhibitions.	
CENTRE INTERNATIONAL DES CIVILISATIONS BANTU (CICIBA), Libreville, Gabon	\$15,000
For an international seminar in Zaire on the cultural dimensions of development.	
CIVIL RIGHTS PROJECT, Boston, MA	\$50,000
For written materials to accompany its public television series, "Eyes on the Prize" (co-funded with the Equal Opportunity program for a total of \$100,000).	
DOWNTOWN COMMUNITY TELEVISION CENTER, New York, NY	\$50,000
For stabilization of its activities through acquisition of a permanent facility.	
EDUCATIONAL BROADCASTING CORPORATION, New York, NY	\$25,000
For "New Television," a series of experimental works by video artists.	
FREE ENGLISH, Washington, DC	\$15,000
For development of a television series in English language instruction for non-English-speaking residents of the United States.	
GROUP 1 ACTING COMPANY, New York, NY	\$25,000
For touring costs of "Orchards: Seven American Playwrights Present Stories by Chekhov."	
HISTORY OF SCIENCE SOCIETY, New York, NY	\$33,000
For a program for unaffiliated scholars in the humanities.	
JOURNAL OF INTERDISCIPLINARY HISTORY, Cambridge, MA	\$12,500
For a conference, "The Origins and Prevention of War," (co-funded with the International Relations program for a total of \$25,000).	
MINNESOTA COMPOSERS FORUM, St. Paul, MN	\$40,000
For a fund in support of concerts, radio broadcasts and recordings of work by contemporary American composers.	
MUSEUM OF CONTEMPORARY ART, Los Angeles, CA	\$35,000
For its public radio series, "The Territory of Art."	

MUSICAL OBSERVATIONS, <i>New York, NY</i>	\$25,000
For research activities in musical performance.	
NATIONAL ARCHIVES TRUST FUND BOARD, <i>Washington, DC</i>	\$25,000
For the Afro-American Editing Consortium (co-funded with the Equal Opportunity program and Special Interests and Explorations for a total of \$100,000).	
NATIONAL JAZZ SERVICE ORGANIZATION, <i>Washington, DC</i>	\$20,000
For its Technical Assistance Program.	
NEW YORK CITY OPERA, <i>New York, NY</i>	\$50,000
For its Fire Emergency Fund to replace sets and costumes.	
RECORDED ANTHOLOGY OF AMERICAN MUSIC, <i>New York, NY</i>	\$250,000
For converting the Recorded Anthology of American Music to compact disc and cassette.	
REPERTORY DANCE THEATRE, <i>Salt Lake City, UT</i>	\$25,000
For its twentieth anniversary program of performances of historical and contemporary dance works.	
SMITHSONIAN INSTITUTION, <i>Washington, DC</i>	\$25,000
For an exhibition and conference on "Women in the Progressive Era" at the National Museum of American History (co-funded with Special Interests and Explorations for a total of \$100,000).	
THEATRE FESTIVAL, <i>New York, NY</i>	\$25,000
For an international theater festival in New York during the 1987-88 season.	
TWIN CITIES PUBLIC TELEVISION, <i>St. Paul, MN</i>	\$150,000
For the performing-arts television series, "Alive From Off Center."	
UNIVERSITY OF ARIZONA, <i>Tucson, AZ</i>	\$12,000
For the Peer Perspectives on Science program, designed to lessen misunderstanding between the sciences and the humanities.	
UNIVERSITY OF CALIFORNIA, <i>Irvine, CA</i>	\$50,000
For its Objective Drama program.	
WGBH EDUCATIONAL FOUNDATION, <i>Boston, MA</i>	\$25,000
For "New Television," a series of experimental works by video artists.	
YALE UNIVERSITY, <i>New Haven, CT</i>	
For Lloyd Richards' staging and directing of August Wilson's play, "Joe Turner's Come and Gone" in selected American regional theaters.	\$15,000
For color reproductions in "The Desert is No Lady," a book on the response of women artists and writers to the landscape of the Southwest.	\$2,000

1986 AWARDS

AMERICAN PLAYWRIGHTS

Spalding Gray	Center Stage, Baltimore
Allan Havis	Chocolate Bayou Theater, Houston
Len Jenkin	Ensemble Studio Theatre, New York
John Jesurun	Mark Taper Forum, Los Angeles
Milcha Sanchez-Scott	Los Angeles Theatre Center
John Patrick Shanley	Pipeline, Los Angeles
Megan Terry	Roadside Theater, Whitesburg, Kentucky
George C. Wolfe	Victory Gardens Theater, Chicago

DANCE WORKS

Ballet Metropolitan, Columbus, Ohio (David Parsons)	Limon Dance Company, New York
Boston Ballet (Jim Self)	(Meredith Monk)
Dallas Ballet (Susan Marshall)	Oakland Ballet (Brenda Way)
Feld Ballet, New York (Carolyn Carlson)	Washington Ballet, Washington, DC
Joffrey Ballet, New York/Los Angeles (Mark Morris)	(Manuel Alum)

MEET THE COMPOSER

Stephen Albert (Seattle Symphony)	Tobias Picker (Houston Symphony)
John Corigliano (Chicago Symphony)	Christopher Rouse (Baltimore Symphony)
John Harbison (Los Angeles Philharmonic)	Alvin Singleton (Atlanta Symphony)
Elizabeth Larsen and Stephen Paulus	Joan Tower (St. Louis Symphony)
(Minnesota Orchestra)	Charles Wuorinen (San Francisco Symphony)

**EQUAL
OPPORTUNITY**

The Rockefeller Foundation, which has supported minority participation in many areas of American life for more than 20 years, has begun to focus its attention even more sharply on the problems surrounding hard-core poverty. Some Foundation support in 1986 went to this new initiative, and grant-making guidelines were under development at the end of the year, centered on finding and measuring the urban underclass and addressing conditions associated with its emergence. To reserve a copy of the new guidelines, which will be available for distribution when they have been completed and approved, write to the Foundation's New York office.

At the same time, the division intends to restructure its two major components, *Securing and Protecting Basic Rights*, and *Expanding Economic Opportunities*. Within the former, staff and consultants concluded an analysis of financial needs of several of the major civil-rights litigating organizations and made provision for support of their efforts to achieve long-term financial stability. Much of the funding for *Expanding Economic Opportunities* was directed toward the Minority Female Single Parent program, which will continue into 1988.

Securing and Protecting Basic Rights

Civil-rights organizations have been indispensable for the slow but steady progress made over three decades to extend the basic rights of minority Americans, and the Foundation renewed support in 1986 to two of these groups. The National Association for the Advancement of Colored People (NAACP), whose Special Contribution Fund has received \$2.7 million since 1968, was given a grant for continuing class-action employment litigation, as well as for further interpretation of the constitutional precedents for affirmative action. The Native American Rights Fund, principal legal-defense agency for those living on reservations, received support for its Promotion of Human Rights project.

In December 1986 the Foundation initiated a new funding approach, under which several key groups long assisted by the division will be given stabilization-support grants to finance litigation; to provide a program reserve fund; to strengthen long-range planning and financial management capabilities; and to develop strategies for attracting new donors.

The first grant of this kind, totalling more than \$1 million, was made to the NAACP Legal Defense and Educational Fund. Most of the monies are for immediate investment as a five-year declining fund from which specific amounts may be withdrawn to help finance litigation, with a residual balance to serve as a program reserve fund after 1991.

The remainder will be allocated over the next three years to carry out recommendations made by the accounting firm of Price Waterhouse for long-term program planning, administrative reforms, recruitment of a development director, and management assistance.

A 1986 appropriation provides support for six regional and national nonpartisan voter registration/education organizations, and a grant for a seventh is anticipated early in 1987. These organizations have been particularly effective over the past several years in providing training, research, educational materials and technical assistance to numerous community and neighborhood groups that conduct volunteer voter registration among minorities and the poor.

Over the past three years, the Children's Defense Fund in Washington, with Foundation assistance, has established itself as the single best source of information and technical assistance to community groups and leaders on effective strategies for teenage-pregnancy prevention. Floods of inquiries for more information have been answered, and bimonthly publications have been issued by the Adolescent Pregnancy Prevention Clearinghouse, begun in 1985. By 1986, a 30-state Child Watch network had been developed to train and assist interested community groups and agencies, and the Foundation renewed support of this important initiative to alleviate a major problem of disadvantaged youth.

Support for Scholars

Further assistance also went to the University of Pennsylvania for Judge A. Leon Higginbotham's landmark study, *In the Matter of Color: Race and the American Legal Process*, which the Foundation has supported since 1978. The first volume, on the Colonial period, won the Silver Gavel Award, and the second volume, on the antebellum and Civil War period, is being prepared for publication. The author, a federal appeals court judge and University of Pennsylvania professor, is now engaged in bringing this encyclopedic, unique study up to the present day.

Henry Hampton's six-part television documentary series, "Eyes on the Prize," to be shown on the Public Broadcasting System in early 1987, is an important affirmation of the civil rights movement. To provide a viewer's guide, course book and other written materials for schools and universities interested in the series, the Arts and Humanities and Equal Opportunity divisions co-funded a grant to Hampton's Civil Rights Project in Boston.

More than a hundred scholars since 1979 have been given grants for studies on minority issues through the Foundation's Research Fellowship Program for Minority-Group Scholars. Listed on p. 82 are the fourteen scholars whose fellowship began in 1986. A 1986 appropriation provides for future grants.

Through the exploration of the long-term implications of changing gender roles, the Foundation seeks to contribute to greater understanding of the profound social and economic phenomena associated with the rapidly changing status of women. Grants under a 1986 appropriation for this purpose (co-funded with Special Interests and Explorations) will be made in 1987.

America's Most Vulnerable Minority

While all low-income families are threatened by today's economy, the minority single parent with children is the fastest growing family constellation below the poverty line. In September 1981 the President's Advisory Council on Economic Opportunity reported that "if the proportion of the poor in female-householder families were to continue to increase at the same rate it did from 1967 to 1978, the poverty population would be composed solely of women and their children before the year 2000."

The Minority Female Single Parent (MFSP) program, which the Foundation initiated in 1981, has funded community organizations in different regions of the country in an effort to recruit, train, and place single minority mothers in private-sector jobs with starting salaries at least 30 percent above the minimum wage. In 1986, an appropriation of \$2.25 million was committed to the next phase of the program, which includes ongoing evaluation studies, bringing the Foundation's commitment to the program to a total of some \$13 million.

The organizations which are participating in the program and its evaluation, receiving renewal grants in 1986, were the Atlanta Urban League; Wider Opportunities for Women, Washington; the Center for Employment Training, San Jose; and the Opportunities Industrialization Center, Providence. Each recruits some 200-250 single mothers every year, and provides assistance in education, occupational training, child care, and counselling.

By the end of the program, some 4,700 women will have participated in program activities. After the Foundation's involvement in the operational aspect of the MFSP program comes to a close in 1988, collection and analysis of data in the program evaluation will continue under a 1986 contract with Mathematica Policy Research, Incorporated.

The evaluation has been designed to provide valuable information on the best ways to help single mothers secure economic self-sufficiency and improve their children's future. It will include data on the impact of the MFSP program on job placement, as well as its effect on subtler factors like self-esteem, parenting, health, children's well-being and development, fertility and family formation, home environment, and attainment of skills. A separate study of the implementation of random assignment procedures in the community organizations has been undertaken by Northwestern University, under a 1986 grant.

Literacy education activities have been conducted in conjunction with the MFSP program by the Institute for Literacy Studies of Lehman College, under a 1985 grant to the Research Foundation of the City University of New York, which was renewed in 1986. Literacy specialists trained the staff at the program sites in more effective ways of teaching the single mothers. Techniques to motivate them to improve their skills through projects such as producing a newsletter or keeping a private journal were among those found to be highly effective.

An evaluation of another literacy enrichment experience, for the staff at the California site, was completed at the end of 1986 by University of California researchers, and a report will soon be published. The need for literacy experts to assist the trainers became apparent in groups learning such widely divergent skills as word processing and building maintenance.

Support for single mothers was provided in another way by the Women's Legal Defense Fund in Washington with a 1986 grant for developing new child-support guidelines for use by the courts. More than half of the 8.7 million American women who raise their children alone receive no financial help from the father, primarily because they have no child-support awards. Even those who are supposed to receive support seldom get the full amount. One study estimates that actual child-support payments each year are less than a third of the amount mandated in existing court orders. The Fund has been a major force in calling attention to the need for more economic security for women and children, providing technical assistance for a number of state initiatives on child support.

Attacking Persistent Poverty

In preliminary efforts to understand and assess the effects of hardcore poverty, the division looks to identify and investigate the conditions of the urban underclass. Support in 1986 went to the Greater Washington Research Center for its committee to develop better collaboration between local governments and the private sector to reduce persistent poverty in the District of Columbia. The program focuses on how to:

- improve wage-earning capabilities of low-income minority women heading families;
- increase job opportunities for underemployed and unemployed minority men;
- reduce the incidence of pregnancy among minority teenagers; and
- raise education levels of low-income minorities, with special emphasis on keeping young people in school.

Other grants went to a variety of studies. The New School for Social Research in New York City received support for a project that includes a major conference on community-based economic development in

distressed urban and rural areas. A grant to the University of Chicago will assist William Julius Wilson and a team of social-science researchers to study how economic, social and cultural factors and welfare policy affect inner-city minority family structure. It includes a survey and ethnographic research among black, Mexican-American, Puerto Rican, and white households in low-income Chicago neighborhoods.

GRANTS

SECURING AND PROTECTING BASIC RIGHTS

CENTER FOR COMMUNITY CHANGE, <i>Washington, DC</i>	\$20,000
For the Funders' Committee for Voter Registration and Education.	
CIVIL RIGHTS PROJECT, <i>Boston, MA</i>	\$50,000
For written materials to accompany its public television series on the Civil Rights Movement, "Eyes on the Prize," (co-funded with the Arts and Humanities program for a total of \$100,000).	
INSTITUTE FOR JOURNALISM EDUCATION, <i>Berkeley, CA</i>	\$25,000
For a national conference of researchers, news industry executives and minority news professionals.	
INSTITUTE FOR PUERTO RICAN POLICY, <i>New York, NY</i>	\$26,720
For a report on Hispanic women in the United States.	
LEAGUE OF WOMEN VOTERS EDUCATION FUND, <i>Washington, DC</i>	\$40,000
For voter-registration education and monitoring activities.	
MARY McLEOD BETHUNE MUSEUM OF THE NATIONAL COUNCIL OF NEGRO WOMEN, <i>Washington, DC</i>	\$50,000
For its Development Office.	
MIDWEST VOTER REGISTRATION EDUCATION PROJECT, <i>Columbus, OH</i>	\$35,000
For voter-registration education and monitoring activities.	
MISSISSIPPI ACTION FOR COMMUNITY EDUCATION, <i>Greenville, MS</i>	\$50,000
For its financial analysis and economic-stabilization project.	
NAACP LEGAL DEFENSE AND EDUCATIONAL FUND, <i>New York, NY</i>	\$1,125,000
To provide stable support for the Fund's litigation activities in the field of civil rights, and to help establish planning and management practices and initiate fund-raising strategies to attract new donors.	
For its program to combat employment discrimination.	\$300,000
NATIONAL ARCHIVES TRUST FUND BOARD, <i>Washington, DC</i>	\$25,000
For the Afro-American Editing Consortium (co-funded with the Arts and Humanities program for a total of \$100,000).	

NATIONAL ASSOCIATION FOR EQUAL OPPORTUNITY IN HIGHER EDUCATION, <i>Washington, DC</i>	\$25,000
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For a division to conduct research and establish a data base on black colleges.

NATIONAL COALITION ON BLACK VOTER PARTICIPATION, <i>Washington, DC,</i>	\$40,000
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For voter-registration education and monitoring activities.

NATIONAL COMMITTEE AGAINST DISCRIMINATION IN HOUSING, <i>Washington, DC</i>	\$50,000
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For research on The Role of Housing Mobility in Achieving Equal Opportunity for Minorities.

NATIONAL PUERTO RICAN/HISPANIC VOTER PARTICIPATION PROJECT, <i>Union, NJ</i>	\$35,000
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For voter-registration education and monitoring activities.

NATIVE AMERICAN RIGHTS FUND, <i>Boulder, CO</i>	\$300,000
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For its Promotion of Human Rights project.

NORTHERN CALIFORNIA GRANTMAKERS, <i>San Francisco, CA</i>	\$17,000
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For its Management Plan for Hispanics in Philanthropy.

PUBLIC EDUCATION ASSOCIATION, <i>New York, NY</i>	\$31,770
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For an in-depth inquiry into the governance structure of the New York City public school system.

PUERTO RICO COMMUNITY FOUNDATION, <i>San Juan, Puerto Rico</i>	\$500,000
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For operating and administrative costs, and the establishment of an endowment.

SOUTHWEST VOTER REGISTRATION EDUCATION PROJECT, <i>San Antonio, TX</i>	\$40,000
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For voter-registration education and monitoring activities.

UNIVERSITY OF PENNSYLVANIA, <i>Philadelphia, PA</i>	\$200,000
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For historical research on race and the American legal process.

UNIVERSITY OF SOUTH CAROLINA, <i>Columbia, SC</i>	\$25,000
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For a chapter, "Improving Educational Research Opportunities for Minorities and Women," in a forthcoming book on the federal role in educational research.

WASHINGTON URBAN LEAGUE, <i>Washington, DC</i>	\$15,000
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For a national conference on the Education of the Black Child.

EXPANDING ECONOMIC OPPORTUNITIES

ATLANTA URBAN LEAGUE, <i>GA</i>	\$250,000
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For an employability-development program for minority female single parents.

CATHOLIC UNIVERSITY OF AMERICA, <i>Washington, DC</i>	\$10,000
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For a Family Impact Seminar overview paper and other publications relating to young unwed fathers.

CENTER FOR EMPLOYMENT TRAINING, <i>San Jose, CA</i>	\$350,000
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For an employability-development program for minority female single parents.

CHILDREN'S DEFENSE FUND, Washington, DC	\$400,000
For its program to reduce the incidence of pregnancy among black adolescents.	
CLEVELAND TOMORROW, Cleveland, OH	\$16,000
For an analysis of economic and community-development strategies on older and lower-income urban neighborhoods.	
LEON DASH, The Washington Post, Washington, DC	\$25,000
For the book, <i>At Risk: Chronicles of Teenage Pregnancy</i> .	
FLORIDA INTERNATIONAL UNIVERSITY, Miami, FL	\$25,000
For the development and implementation of the "service credit" concept to communities whose residents have been the historic victims of discrimination.	
GREATER WASHINGTON RESEARCH CENTER, Washington, DC	\$376,166
Two grants for establishment and general operations of the Committee for DC, a public-private action task force.	
Two grants for the Committee for DC and other agencies to update census data and undertake policy analyses addressing the problem of persistent poverty among black families in the Washington area.	\$230,600
HARVARD UNIVERSITY, Cambridge, MA	\$32,000
For a conference on the effectiveness of family support and education programs.	
HUBERT H. HUMPHREY INSTITUTE OF PUBLIC AFFAIRS, University of Minnesota, Minneapolis, MN	\$25,000
For a forum, "Venture Capital and Job Development Strategies in the Black Community."	
NATIONAL ACADEMY OF SCIENCES, Washington, DC	\$35,000
For a study on how best to bring hard-to-reach, high-risk pregnant women into prenatal care early in pregnancy.	
NATIONAL BOARD OF THE YWCA OF THE USA, New York, NY	\$6,000
For a visit by a delegation from the Soviet Women's Committee.	
NATIONAL CONGRESS OF NEIGHBORHOOD WOMEN, Brooklyn, NY	\$92,500
For an employability-development program for minority female single parents.	
NATIONAL DEVELOPMENT COUNCIL, Washington, DC	\$25,000
For a series of national forums and hearings, and a report to Congress on strategies to create permanent new jobs in the private sector.	
NATIONAL LEAGUE OF CITIES INSTITUTE, Washington, DC	\$37,000
For the development of the Children and Families in Cities project.	
NATIONAL OPINION RESEARCH CENTER, Chicago, IL	\$35,000
For the children's survey supplement to the National Longitudinal Survey of Labor Market Experiences of Youth.	
NEW SCHOOL FOR SOCIAL RESEARCH, New York, NY	\$50,000
For a conference to assess community-based economic development in distressed urban and rural communities.	

NORTHWESTERN UNIVERSITY, <i>Evanston, IL</i>	\$30,990
For a study of the use of the random assignment process in evaluating service-delivery programs of four community organizations in the Foundation's MSFP Program.	
OPPORTUNITIES INDUSTRIALIZATION CENTER OF RHODE ISLAND, <i>Providence, RI</i>	\$350,000
For an employability-development program for minority female single parents.	
PITON FOUNDATION, <i>Denver, CO</i>	\$48,400
Two grants to identify the persistently poor, and to propose a strategy for addressing the problem of the underclass in Denver.	
PUBLIC ADVOCATES, <i>San Francisco, CA</i>	\$25,000
For a project based in Oakland, aimed at reducing persistent poverty.	
RAND CORPORATION, <i>Santa Monica, CA</i>	\$55,000
For a historical study of youth policy and juvenile delinquency (co-funded with Special Interests and Explorations for a total of \$75,000).	
RESEARCH FOUNDATION OF THE CITY UNIVERSITY OF NEW YORK, <i>NY</i>	\$100,000
For Lehman College to provide technical assistance on literacy education to community organizations in the MFSP Program and prepare a report on alternative methods of adult basic education.	
UNIVERSITY OF CHICAGO, <i>IL</i>	\$200,000
For a comprehensive examination of poverty and family structure in Chicago's inner city, led by William Junius Wilson.	
UNIVERSITY OF CALIFORNIA, <i>Santa Barbara, CA</i>	\$125,109
For a study of literacy training at one of the sites of the MFSP program.	
URBAN INSTITUTE, <i>Washington, DC</i>	
For reports on central empirical issues related to the underclass.	\$50,000
For research on the effects of changing governmental policies on nonprofit organizations (co-funded with Special Interests and Explorations for a total of \$250,000).	\$125,000
WIDER OPPORTUNITIES FOR WOMEN, <i>Washington, D.C.</i>	\$350,000
For an employability-development program for minority female single parents.	
WOMEN'S LEGAL DEFENSE FUND, <i>Washington, DC</i>	\$50,000
For a conference to develop child-support guidelines.	
WOMEN'S RESEARCH & EDUCATION INSTITUTE, <i>Washington, DC</i>	\$7,500
For publishing the proceedings of its conference on the health-care gap.	
YALE UNIVERSITY, <i>New Haven, CT</i>	\$36,800
Two grants for a book, <i>The Politics of American Social Welfare Policy</i> , by Theodore R. Marmor and Jerry L. Mashaw.	

SPECIAL PURPOSES. *The following grants were administered by the Foundation staff.*

For assistance from the Joint Center for Political Studies, to help develop a multi-year program that addresses critical problems of the urban underclass.	\$50,000
For an economic report, to help develop a multi-year program that addresses critical problems of the urban underclass.	\$10,000
For research on employment opportunities in the Washington, DC metropolitan area for those with less than twelve years of formal education, to help develop a multi-year program that addresses critical problems of the urban underclass.	\$33,400
For evaluation studies by Mathematica Policy Research and others of implementation, impacts and costs, as well as dissemination activities of the Minority Female Single Parents program.	\$721,000

**BROADENING
CAREER
OPPORTUNITIES**

BAYLOR COLLEGE OF MEDICINE, Houston, TX	\$35,000
For a program of Research Apprenticeships for Minority High School Students.	

HOWARD UNIVERSITY, Washington, DC	\$171,000
For a summer-employment program of minority-group high school students in university life-sciences research laboratories (co-funded with the Population Sciences program for a total of \$342,000).	

**FELLOWSHIP
PROGRAM FOR
MINORITY-GROUP
SCHOLARS**

RICHARD L. ALLEN, Assistant Professor, Department of Communications, University of Michigan, Ann Arbor, MI	\$25,000
"Blacks, Black Media, and Social Reality Effects."	
M. BEATRIZ ARIAS, Assistant Professor, School of Education, Stanford University, CA	\$24,500
"Multiracial Desegregation in California: 1970-1985."	
LERITA M. COLEMAN, Assistant Professor of Psychology, University of Tennessee, Knoxville, TN	\$25,000
"Evidence of Psychological Bondage: Toward a Better Understanding of Self-Stigmatization."	
CARLOS E. CORTES, Professor of History, University of California, Riverside, CA	\$24,900
"The History of Ethnicity and Foreignness in American Feature Films."	
SHARON HARLEY, Assistant Professor of History, University of Maryland, College Park, MD	\$23,800
"Myths Versus Reality: Gender, Work, and Family Roles of Black Americans, 1917-1980."	
AIDA HURTADO, Assistant Professor of Psychology, University of California, Santa Cruz, CA	\$25,000
"Language Use and Language Attitudes of the Mexican-Descent Population in the United States."	
GRACE C. MASSEY, Research and Development Coordinator, Institute for Developmental Studies, Oakland CA	\$25,000
"Continuities/Discontinuities: A Longitudinal Look at Black Students, Home and School."	

VONNIE C. McLOYD , <i>Associate Professor, Department of Psychology, University of Michigan, Ann Arbor, MI</i>	\$25,000
"Job Loss in Black Female-Headed Households: Response and Adaptation."	
TAHI L. MOTT , <i>Assistant Professor, Department of Sociology and Anthropology, Occidental College, Los Angeles, CA</i>	\$28,000
"Pathways to Success: Careers of Older Black and White Women."	
GLORIA J. ROMERO , <i>Research Associate, Chicano Studies Research Center, University of California, Los Angeles, CA</i>	\$25,000
"Women Without Work: Stress and Coping Among Hispanics and Blacks."	
JULIET E.K. WALKER , <i>Associate Professor, Department of History, University of Illinois, Urbana, IL</i>	\$28,000
"Black Entrepreneurship and Business Enterprise in Antebellum America."	
WILLIAM WEI , <i>Assistant Professor of History, University of Colorado, Boulder, CO</i>	\$23,000
"Yellow Pearl: A Social History of the Asian-American Movement."	
MELVIN WILSON , <i>Assistant Professor of Psychology, University of Virginia, Charlottesville, VA</i>	\$25,000
"A Social Interaction Analysis of Two- and Three-Generational Black Families."	
EMILIO ZAMORA , <i>Assistant Professor of History, University of Houston, TX</i>	\$25,000
"Texas-Mexican Labor Struggles, 1880-1940."	
SPECIAL PURPOSES. <i>The following grant was administered by the Foundation staff:</i>	
For related costs of the Foundation's Fellowship Program for Minority-Group Scholars.	\$10,000

**INTERNATIONAL
RELATIONS**

INTERNATIONAL RELATIONS

In 1986, the International Relations division was closed. A number of the program interests of this division relating to international development are being incorporated in the Foundation's new International Program to Support Science-Based Development. In all instances, however, the division's grant commitments made prior to the decision to close were not affected by this action.

Grants were made during 1986 in pursuit of three principal objectives: (1) within the United States, to strengthen the contributions of non-governmental international relations institutes' research to U.S. foreign policy; (2) outside the country, to strengthen the analytical capacity of international relations research institutes that can operate substantially without government constraint and have the potential to increase the intellectual underpinnings of these countries' foreign policies; and (3) to provide more effective opportunities for public and private experts from different countries to analyze problems jointly and develop practical solutions that can command wide public support.

GRANTS

INTERNATIONAL SECURITY

AESCULAPIUS INTERNATIONAL MEDICINE, <i>New York, NY</i>	\$29,450
Two grants for a study, "The U.S. Military and Humanitarian Action—An Expanding Role" (co-funded with the Health Sciences program for a total of \$58,900).	
AFRICAN ASSOCIATION OF POLITICAL SCIENCE, <i>Harare, Zimbabwe</i>	\$25,000
For a workshop, "Whither South Africa?"	
AMERICAN INSTITUTE OF MAGHRIBI STUDIES, <i>Los Angeles, CA</i>	\$25,000
For a workshop, "Regional Cooperation—Implications for the Maghrib."	
ARAB COUNCIL FOR PUBLIC AFFAIRS, <i>Jerusalem, Israel</i>	\$35,000
For a research program, "Monitoring Key Public Issues in the West Bank."	
ARAB THOUGHT FORUM, <i>Amman, Jordan</i>	\$45,000
For an international conference, "Non-Violence in Political Affairs."	
DARKO BEKICH, <i>Washington, DC</i>	\$12,000
For field research in connection with a project, "Soviet policy toward Yugoslavia and the Balkans."	
BROOKINGS INSTITUTION, <i>Washington, DC</i>	\$25,000
For its project, "Ten Years After Camp David."	

CALIFORNIA INSTITUTE OF TECHNOLOGY, <i>Los Angeles, CA</i>	\$300,000
For a program in regional security studies to be jointly administered with the University of California.	
CENTRO LATINOAMERICANO DE ESTUDIOS ESTRATEGICOS, <i>Mexico City, Mexico</i>	\$40,000
For a regional meeting, "Security Studies in the Context of International Relations."	
CHARLES F. KETTERING FOUNDATION, <i>Dayton, OH</i>	\$35,000
For the Dartmouth series of unofficial meetings between Soviets and Americans on topics relating to arms control and international conflict.	
CHINESE SCHOLARS OF INTERNATIONAL STUDIES, <i>Washington, DC</i>	\$10,000
For a symposium, "Chinese Foreign Policy in the 1980s."	
COMMITTEE FOR NATIONAL SECURITY, <i>Washington, DC</i>	\$100,000
For its women's leadership conferences.	
COUNCIL ON FOREIGN RELATIONS, <i>New York, NY</i>	\$40,000
For its project on European-American relations.	
COUNCIL ON OCEAN LAW, <i>Washington, DC</i>	\$130,000
Two grants for its program activities.	
JULIE FREDERIKSE, <i>Harare, Zimbabwe</i>	\$15,000
For a book on the history and practice of non-racialism in resistance to apartheid in South Africa.	
GEORGETOWN UNIVERSITY, <i>Washington, DC</i>	\$30,000
For a project on nuclear risk reduction centers, by its Center for Strategic and International Studies.	
GRADUATE INSTITUTE OF INTERNATIONAL STUDIES, <i>Geneva, Switzerland</i>	\$16,317
For a conference, "War, Society, and Politics: Iran and Iraq, 1980-1986," by its Programme for Strategic and International Security Studies.	
INSTITUTE OF SOUTHEAST ASIAN STUDIES, <i>Singapore</i>	\$250,000
For its new Regional Strategic Studies Program.	
INTERNATIONAL HUMAN RIGHTS LAW GROUP, <i>Washington, DC</i>	\$10,000
For a fact-finding/trial observer mission to Liberia.	
INTERNATIONAL PEACE ACADEMY, <i>New York, NY</i>	\$75,000
For its regional peacekeeping training programs and seminars.	
JOURNAL OF INTERDISCIPLINARY HISTORY, <i>Cambridge, MA</i>	\$12,500
For a conference, "The Origins and Prevention of War" (co-funded with the Arts and Humanities program for a total of \$25,000).	
KING'S COLLEGE, <i>London, England</i>	\$38,000
For a project on the Falklands/Malvinas conflict of 1982, by its Department of War Studies.	
MOZAMBIQUE-TANZANIA CENTRE FOR FOREIGN RELATIONS, <i>Dar es Salaam, Tanzania</i>	\$188,000
For a regional training and security studies program.	

NEW YORK ACADEMY OF SCIENCES, <i>New York, NY</i>	\$25,000
For a conference, "The High Technologies and Reducing the Risk of War."	
MITCHELL B. REISS, <i>New York, NY</i>	\$3,500
For a case study on India for his book, <i>The Determinants of Non-Proliferation: Why Countries Decide Not to Acquire Nuclear Weapons.</i>	
STANFORD UNIVERSITY, <i>CA</i>	\$12,000
For a conference, "U.S.-Soviet Efforts to Cooperate in Security Matters," by its Center for Russian and East European Studies.	
UNITED NATIONS ASSOCIATION OF THE UNITED STATES OF AMERICA, <i>New York, NY</i>	
For its Soviet-American Parallel Studies Program.	\$100,000
For its Parallel Studies Program with Japan: Arms Control and Security Issues.	\$40,000
UNITED NATIONS REGIONAL CENTRE FOR PEACE AND DISARMAMENT IN AFRICA, <i>Lome, Togo</i>	\$40,000
For the inaugural meeting of its advisory committee.	
UNIVERSITY OF OXFORD, <i>England</i>	\$12,500
For a symposium, "The Crisis of Afghan Migration: Domestic and Foreign Implications," by its Queen Elizabeth House.	
UNIVERSITY OF THE PHILIPPINES, <i>Quezon City, Philippines</i>	\$20,000
For a conference, "Issues on Socio-Political Transformations in Asia and the Pacific: the Recent Philippine Political Experience," by its Center for Integrative and Development Studies.	
ECONOMIC COOPERATION	
AUSTRALIAN NATIONAL UNIVERSITY, <i>Canberra, Australia</i>	\$35,000
For use by the Pacific Trade and Development Conference Secretariat, for its conference series.	
CENTRE FOR ECONOMIC POLICY RESEARCH, <i>London, England</i>	\$47,238
For a project, "The Conduct of Macroeconomic Policy by Interdependent Countries and Blocs."	
CURRY FOUNDATION, <i>Washington, DC</i>	\$25,000
For its public policy study, "United States Agricultural Exports and Third World Development (co-funded with the Agricultural Sciences program for a total of \$50,000).	
ASHOK V. DESAI, <i>Ottawa, Canada</i>	\$70,000
For a study, "India and the Multinational Trade Negotiations."	
EMORY UNIVERSITY, <i>Atlanta, GA</i>	\$25,000
For a symposium, "The Debt Crisis: Adjusting to the Past or Planning for the Future?"	
FRIENDS COMMITTEE ON NATIONAL LEGISLATION EDUCATION FUND, <i>Washington, DC</i>	\$5,000
For a briefing, "Responding to the Crisis in U.S. Foreign Aid."	
FUNDACAO INSTITUTO DE PESQUISAS ECONOMICAS, <i>São Paulo, Brazil</i>	\$120,000
For its project, "Brazil and the New GATT Round."	

FUNDACION MEDITERRANEA, Córdoba, Argentina	\$20,000
For Latin-American participants to the sixth Latin-American meeting of the Econometric Society.	
INSTITUTE FOR INTERNATIONAL ECONOMICS, Washington, DC	
For its second biennial conference of research institutions.	\$45,000
For a study, "Agriculture and the GATT: Issues in a New Trade Round" (co-funded with the Agricultural Sciences program for a total of \$50,000).	\$25,000
INSTITUTE OF SOUTHEAST ASIAN STUDIES, Singapore	\$150,000
For a project, "The Association of South East Asian Nations, Trade Policy Options."	
INTERNATIONAL ECONOMIC ASSOCIATION, Paris, France	\$10,000
For a conference, "Economics of Public Debt."	
KOREA DEVELOPMENT INSTITUTE, Seoul, Korea	\$110,000
For a study, "The New GATT Round Studies: the Korea Project."	
ROGER S. LEEDS, Washington, DC	\$35,750
For a study, "Privatization: An Option for Development."	
LEHRMAN INSTITUTE, New York, NY	\$141,000
For research on the politics of economic stabilization and structural change in developing countries.	
MASSACHUSETTS INSTITUTE OF TECHNOLOGY, Cambridge, MA	\$25,000
For a conference on comparative macroeconomic stabilization programs, by its Department of Economics.	
OVERSEAS DEVELOPMENT INSTITUTE, London, England	\$25,000
For a joint World Development/Overseas Development Institute symposium, "The Role of Non-Governmental Organizations in the Changing Development Assistance Process."	
SRI INTERNATIONAL, Menlo Park, CA	\$20,000
For a meeting on U.S.-Japan economic relations to focus on their bilateral economic relationship.	
TRADE POLICY RESEARCH CENTRE, London, England	\$40,000
For a conference, "Political Economy of Export-Restraint Arrangements."	
UNION COLLEGE, Schenectady, NY	\$13,000
For an Arden House Conference on Chinese Economic Reforms, by its Department of Economics.	
UNITED NATIONS AFRICAN INSTITUTE FOR ECONOMIC DEVELOPMENT AND PLANNING, Dakar, Senegal	\$50,000
For a workshop, Capacity-Building in International Economics in Sub-Saharan Africa.	
UNIVERSITY OF MICHIGAN, Ann Arbor, MI	\$15,300
For a project, "China's Entry into the Keystone International Economic Organizations," by its Institute for Social Research.	
UNIVERSITY OF OUAGADOUGOU, Burkina Faso	\$25,000
For a conference by its Centre d'Etudes, de Documentation, de Recherches Économiques et Sociales, "The Thoughts of African Economists and their Contributions to the Development of the Continent."	

YALE UNIVERSITY, *New Haven, CT* **\$50,000**

For a project, "The Political Economy of Less-Developed-Country Policy Change: A Comparative Analysis," by its Economic Growth Center.

SPECIAL PURPOSES. The following grants were administered by the Foundation staff:

For a trade policy workshop of prospective project directors from Brazil, Mexico, Southeast Asia, southern Africa, Korea, and India. **\$42,000**

For a symposium, "Economic Stabilization Efforts in Africa: The Evidence." **\$50,000**

**PUBLIC
EDUCATION**

CHURCH OF THE PILGRIMS, *Washington, DC* **\$9,500**

To provide current and factual information on the status of political prisoners in Liberia, by its Network for Human Rights in Liberia.

TRANSAFRICA FORUM, *Washington, DC* **\$50,000**

For its Southern Africa Media Project.

**TRAINING AND
RESEARCH**

ARMS CONTROL ASSOCIATION, *Washington, DC* **\$216,300**

For conferences of young scholars and professionals in the field of international security and arms control, by its joint program with the International Institute for Strategic Studies, London.

INSTITUTE OF INTERNATIONAL EDUCATION, *New York, NY* **\$400,000**

For a program on developing international relations expertise in China, by its Committee on International Relations Studies with the People's Republic of China.

PHELPS-STOKES FUND, *New York, NY* **\$100,000**

For the Bishop Desmond Tutu Southern African Refugee Scholarship Fund.

RAND CORPORATION, *Santa Monica, CA* **\$500,000**

For core support of the Rand/UCLA Center for the Study of Soviet International Behavior.

SOCIAL SCIENCE RESEARCH COUNCIL, *New York, NY* **\$900,000**

For implementing the Rockefeller Foundation/SSRC International Fellowship Program for the Study of Soviet Foreign Policy.

**OTHER
INTERESTS AND
INITIATIVES**

OTHER INTERESTS AND INITIATIVES

The Foundation's principal interests are expressed through the grant programs of its divisions of Agricultural, Health and Population Sciences; Arts and Humanities; and Equal Opportunity. Within these divisions, the Foundation makes strategic, long-term commitments to advance its clearly defined goals.

At the same time, the Foundation remains open to important initiatives outside its principal programs, as well as new opportunities within these programs that may arise as time and circumstances change. In addition, the Foundation owns and operates an international study and conference center in Bellagio, Italy, located on a historic estate in the Italian Alps. Bequeathed to the Foundation in 1959, the Center, also known as the Villa Serbelloni, is administered from the New York office by a committee chaired in 1986 by Nan S. Robinson.

At the end of April 1986, the Center was closed for major renovations for the first time in the Foundation's tenure, following a plan to make more intensive use of the buildings and site, and to ensure their preservation. The Center will reopen in the spring of 1987.

GRANTS FOR SPECIAL INTERESTS AND EXPLORATIONS

For projects within its principal program areas in 1986, described in preceding sections of this Annual Report, the Foundation provided a total of \$295,000 in supplemental monies from its Special Interests and Explorations fund. Exploratory projects and those outside the guidelines of the Foundation's principal program areas that received support from this fund in 1986 are listed below:

AID TO ARTISANS, INC., <i>Chestnut Hill, MA</i>	\$20,000
For its Market Link program to help Third-World artisans get their products to developed-world markets.	
AMERICAN ACADEMY OF ARTS AND SCIENCES, <i>Cambridge, MA</i>	\$24,000
For the publication of a special <i>Daedalus</i> issue on gender, technology and education.	
AMERICAN COUNCIL OF LEARNED SOCIETIES, <i>New York, NY</i>	\$1,000,000
To contribute to the long-term financial stability of the Council and maintain its core fellowship program for humanities scholars.	
ASHOKA SOCIETY, <i>Arlington, VA</i>	\$100,000
For fostering social change in Third-World countries through fellowships.	

CENTRE INTERNATIONALE DE LIASON DES ECOLES DE CINEMA ET DE TELEVISION (CILECT), Copenhagen, Denmark	\$15,000
For consultants to identify and contact funding sources for its Training in Developing Countries program.	
COUNCIL OF AMERICAN OVERSEAS RESEARCH CENTERS, Washington, DC	\$25,000
For the start-up of the Council, established to facilitate the flow of information among overseas centers.	
EASTERN AND SOUTHERN AFRICAN MANAGEMENT INSTITUTE, Arusha, Tanzania	\$10,000
For development of a research and publication program.	
EQUATOR FOUNDATION, Hartford, CT	\$20,000
For its project to support creation and expansion of a marketing plan for a chicken farm in Zambia.	
INSTITUTE OF SOUTHEAST ASIAN STUDIES, Singapore	\$9,260
For printing a collection of papers, <i>Reflections on Southeast Asian Development</i> .	
NATIONAL CHARITIES INFORMATION BUREAU, New York, NY	\$4,900
For core support.	
NATIONAL CONFERENCE ON SOCIAL WELFARE, Washington, DC	\$70,000
For dissemination of research findings of its project on the Federal Social Role to key policymakers.	
NATIONAL COUNCIL FOR COMMUNITY SERVICES TO INTERNATIONAL VISITORS, Washington, DC	\$15,000
For a symposium on the effect of exchange on international relationships and the development of solutions to global problems.	
NEW YORK PUBLIC LIBRARY, New York, NY	\$1,000,000
To establish a Rockefeller Foundation Performing Arts Fund at the Schomburg Center for Research in Black Culture.	
RESEARCH FOUNDATION OF THE CITY UNIVERSITY OF NEW YORK, NY	\$25,000
For planning the affiliation of the Feminist Press with the University to create a new, expanded City University Press.	
SOCIAL SCIENCE ASSOCIATION OF THAILAND, Bangkok	\$3,000
For printing a Thai-language publication, <i>Buddhist Approaches to Development</i> , by Somboon Suksamran.	
SOCIAL SCIENCE RESEARCH COUNCIL, New York, NY	\$9,000
To establish a funding base for foreign language and international studies.	
UNIVERSITY COLLEGE, London, England	\$10,000
For a report summarizing the case for greater mobilization of indigenous technical knowledge in Third-World rural development.	
UNIVERSITY OF ZIMBABWE, Harare, Zimbabwe	\$196,345
For faculty development.	
WGBH EDUCATIONAL FOUNDATION, Boston, MA	\$40,000
For an Advisory Board for the "State of the World" project of the NOVA Science Unit.	

WOMEN AND FOUNDATIONS/CORPORATE PHILANTHROPY, *New York, NY* \$25,000
For its 1986 program activities.

SPECIAL PURPOSES. *The following grants were administered by the Foundation staff:*

Three grants for a conference, regional workshops, advisory committees and related expenses of the Reflections on Development program. \$163,000

For a workshop on women's studies in development scholarship, preparation of proposals and related costs. \$43,000

For a workshop on gender, technology and development. \$40,000

**RESEARCH
PROGRAM ON U.S.
IMMIGRATION
ISSUES**

DAVID W. HAINES, *Alexandria, VA* \$1,150

For a book, *Southeast Asian Refugees in the United States: Ten Years of Survey Research.*

XINYANG WANG, *Nankai, China*, and DAVID MONTGOMERY, *Yale University, New Haven, CT* \$3,000

For research on the impact of Chinese politics on Chinese immigrants in New York, 1911-49.

NEW SCHOOL FOR SOCIAL RESEARCH, *New York, NY* \$7,150

For a book on refugees.

**BLACK
SOUTH-AFRICAN
LEADERSHIP
DEVELOPMENT**

ADVICE CENTRES ASSOCIATION, *Chiauwelo, South Africa* \$15,000

For program coordination.

AESCULAPIUS INTERNATIONAL MEDICINE, *New York, NY* \$4,300

Two grants for travel of a representative of the National Medical and Dental Association, Durban, South Africa, to a seminar on the medical and psychological consequences of repression in the southern cone of South America, held in Uruguay.

ARCHDIOCESE OF PRETORIA, *South Africa* \$30,000

For the Transvaal Rural Aid and Development program.

CLERMONT ADVICE CENTRE, *Durban, South Africa* \$12,000

For field coordination.

ECUMENICAL CENTRE TRUST, *Durban, South Africa* \$10,000

For its Peace Print project.

FEDERATED UNION OF BLACK ARTS, Johannesburg, South Africa	\$15,000
For developmental purposes.	
GRASSROOTS PUBLICATIONS, Cape Town, South Africa	
For its media training program.	\$14,000
For its educational newspaper, <i>Learning Roots</i> .	\$42,000
INSTITUTE FOR BLACK RESEARCH TRUST, Durban, South Africa	\$28,000
For research.	
INTERDENOMINATIONAL AFRICAN MINISTERS' ASSOCIATION OF SOUTHERN AFRICA, Port Elizabeth, South Africa	\$25,000
For launching a pilot community-education program; the funds to be administered by the Diocese of Port Elizabeth.	
LEGAL RESOURCES TRUST, Johannesburg, South Africa	\$55,000
For the Legal Resources Centre, Port Elizabeth.	
NATIONAL EDUCATION CRISIS COMMITTEE, Johannesburg, South Africa	\$50,000
For staff assistance; the funds to be administered by the Kaziso Trust.	
PIETERMARITZBURG DETAINEES SUPPORT COMMITTEE, Pietermaritzburg, South Africa	\$11,000
For fieldwork.	
SOUTHERN AFRICAN CATHOLIC BISHOPS' CONFERENCE, Pretoria, South Africa	\$29,000
For its Detainees Support Committee program (DESCOM) to provide counseling, legal advice, and relief services to detainees and their families.	
UKWAZISWA TRUST, Cape Town, South Africa	\$36,000
For its Journalism Training Project.	
UNIVERSITY OF NATAL, Durban, South Africa	\$23,000
For activities of its Built Environment Support Group (BESG).	
WILGESPRUIT FELLOWSHIP CENTRE, Transvaal, South Africa	
For use by the Self-Help Associates for Development Economics, for its Port Elizabeth Self-Help Development Association.	\$35,000
For use by its National Craft Association.	\$27,500
SPECIAL PURPOSES. The following grants were administered by the Foundation staff:	
Two grants for related costs of the Black South-African Leadership Development program.	\$80,000

**STRENGTHENING
THE
PHILANTHROPIC
SECTOR**

AGA KHAN FOUNDATION, Washington, DC	\$20,000
For a conference, "The Enabling Environment for Effective Private-Sector Contribution to Development in Sub-Saharan Africa."	

COUNCIL ON FOUNDATIONS, <i>Washington, DC</i>	\$23,200
For core support.	
DUKE UNIVERSITY, <i>Durham, NC</i>	\$50,000
For the Center for the Study of Philanthropy and Voluntarism.	
FOUNDATION CENTER, <i>New York, NY</i>	
For a consultant's study of its library operations and services.	\$15,000
For core support.	\$180,000
INDEPENDENT SECTOR, <i>Washington, DC</i>	
For core support.	\$6,900
For a forum, and compilation and distribution of a guidebook on community service.	\$15,000
NEW YORK REGIONAL ASSOCIATION OF GRANTMAKERS, <i>New York, NY</i>	\$4,700
For core support.	
NONPROFIT COORDINATING COMMITTEE OF NEW YORK, <i>New York, NY</i>	\$20,000
For core support.	
SALZBURG SEMINAR IN AMERICAN STUDIES, <i>Cambridge, MA</i>	\$20,000
For a seminar on the role of philanthropy and nonprofit institutions in the U.S. and abroad.	

GRANT FOR ARCHIVES

For the past 11 years, the Foundation's retired records have been stored and made available to scholars at the Rockefeller Archive Center, Pocantico Hills, New York, operated by Rockefeller University as a permanent depository and research facility for archival materials of the University, the Foundation, the Rockefeller Brothers Fund, the Rockefeller family, and individuals and organizations associated with their activities.

ROCKEFELLER UNIVERSITY, <i>New York, NY</i>	\$350,000
For the Foundation's annual share of the costs of the Rockefeller Archive Center.	

BELLAGIO STUDY AND CONFERENCE CENTER

Activities at the Center take the form of two programs: international conferences and month-long scholarly residencies. The Center has drawn men and women of great ability from all over the world who meet in small groups to examine issues of international importance. These week-long meetings have often led to worldwide cooperative programs and other initiatives in a variety of fields. In addition to conferences, the Foundation offers competitive five-week residencies to scientists, scholars, composers, and artists engaged in major projects. Funds are available to assist selected applicants, principally from developing countries, in meeting travel costs to the Center. In 1986, there were eleven conferences and 31 individuals from nine countries completed residencies before the Center closed for renovation.

CONFERENCES

Apomixis—Alva A. App and Gary H. Toenniessen, Agricultural Sciences program, Rockefeller Foundation.

Future Strategies for the CGIAR—Robert Herdt, Consultative Group on International Agricultural Research, Washington, DC.

The Intergovernmental Allocation of Social Benefits—Douglas E. Ashford, University of Pittsburgh, PA.

International Policy Coordination—Giorgio Basevi, University of Bologna, Italy; Francesco Giavazzi, University of Venice, Italy; Mario Monti, University of Bocconi, Milan, Italy; and Fiorella Padoa-Schioppa, International Free University of Social Sciences, Rome, Italy.

International Productivity Comparisons. 1750-1939—Patrick K. O'Brien, St. Anthony's College, Oxford, England.

Intersectoral Cooperation: A Paradigm for Health Development—A. Hammad and P. L. Rosenfield, World Health Organization, Geneva, Switzerland; and Kenneth S. Warren, Health Sciences program, Rockefeller Foundation.

Molecular Biology of Parasites: Pharmacological Perspectives—Anthony Cerami, Rockefeller University, New York, NY; Steven R. Meshnick, Cornell University, Ithaca, NY; and Christopher Walsh, Massachusetts Institute of Technology, Cambridge, MA.

The State and Social Regulation in Contemporary Italy—Peter Lange, Duke University, Durham, NC.

War and Society in East Central Europe: East Central Civilian and Military War Leaders From the 18th Century to the 20th Century—Georges Castellan, University of Paris-III; Andre Corvisier, University of Paris-Sorbonne; and Bela K. Kiraly, Brooklyn College, NY.

West African Agricultural Research and Related Issues—Belai Abbai, West Africa Projects, World Bank, Washington, DC.

Women In and After War—June Willenz, American Veterans Committee, Washington, DC.

RESIDENCIES

Carlos Altschul, Florida, Argentina
A book, *Analisis Organizacional: Consultoria Desde el Estado Para el Estado*.

Roy M. Anderson, Imperial College, London University, England
A book, *Dynamics of Human-Host-Parasite Systems* (with Robert M. May).

Winfred Best, Communications Resources Foundation, Chapel Hill, NC
A multimedia project on human reproduction and the roots of human sexuality (with Malcolm Potts and Roger V. Short).

Ann Bowden, University of Texas, Austin, TX
A book, *The International Editions of Bernhard Tauchnitz. 1841-1955: A Bibliographical History* (with William B. Todd).

Leo Braudy, University of Southern California, Los Angeles, CA
A book, *Literature and Culture in England. 1660-1714*.

Mariano N. Castex, Buenos Aires, Argentina
A novel, *El Angel*.

Howard C. Goodman, The Johns Hopkins University School of Hygiene and Public Health, Baltimore, MD
A paper, "Immunodiplomacy: The Story of the WHO Immunology Research Program."

Jack E. S. Hayward, University of Hull, England
A book, *After the French Revolution: Six Critics of Democracy and Nationalism*.

John H. Hick, Claremont Graduate School, Claremont, CA
A book, *An Interpretation of Religion*.

Thomas Kilroy, University College, Galway, Ireland
A novel, *Angela Falling from Grace*.

Ezra Laderman, Woods Hole, MA
A concerto for harp and orchestra.

Jayanta Mahapatra, Cuttack, India
A long poem, *Temple*.

Joan Mark, Peabody Museum of Archaeology and Ethnology, Harvard University, Cambridge, MA
A biography of Alice C. Fletcher (1838-1923).

Robert M. May, Princeton University, NJ
A book, *Dynamics of Human-Host-Parasite Systems* (with Roy M. Anderson).

William McCord, City College and Graduate Center, City University of New York, NY
A book, *Bread and Freedom*.

James Edwin Miller, III, *Newsweek*, West Roxbury, MA
A book, *Changing America: The Spirit of Port Huron and the Idea of Participatory Democracy*.

Lawrence Moss, University of Maryland, College Park, MD
A large-scale work for mixed chamber ensemble, *Layermusic*.

Thomas Nipperdey, University of Munich, Federal Republic of Germany
A book on "Bildungsbürgertum" and culture in Wilhelminian Germany.

Malcolm Potts, Family Health International, Research Triangle Park, NC
A multimedia project on human reproduction and the roots of human sexuality (with Winfred Best and Roger V. Short).

Geneviève Rodis-Lewis, University of Paris-Sorbonne, France
A book, *Le XVII^e Siècle et l'Amour*.

Grace Schulman, Baruch College, City University of New York, NY
A book-length poem, *Songs of My Fathers*.

Judith N. Shklar, Harvard University, Cambridge, MA
A short book and series of lectures on Montesquieu.

Roger V. Short, Monash University, Melbourne, Australia
A multimedia project on human reproduction and the roots of human sexuality (with Winfred Best and Malcolm Potts).

Anita Arrow Summers, The Wharton School, University of Pennsylvania, Philadelphia, PA
A project examining the intra-urban patterns of employment and population in the United States.

Robert Summers, University of Pennsylvania, Philadelphia, PA
A study on international patterns of government expenditures and taxation.

Jayadeva Tilikasiri, University of Peradeniya, Sri Lanka
A monograph on Asian shadow play systems and techniques.

William B. Todd, University of Texas, Austin, TX
A book, *The International Editions of Bernhard Taubnitz, 1841-1955: A Bibliographical History* (with Ann Bowden).

Claude Vigée, Paris, France
A book, *The Poetic Condition*.

Georges Vendreyes, Paris, France
A book, *Les Surgénérateurs*, in the Collection "Que Sais-je?" from Presses Universitaires de France.

David Wightman, Worcester, England
A book, *The Making of American Foreign Economic Policy, 1941-71*.

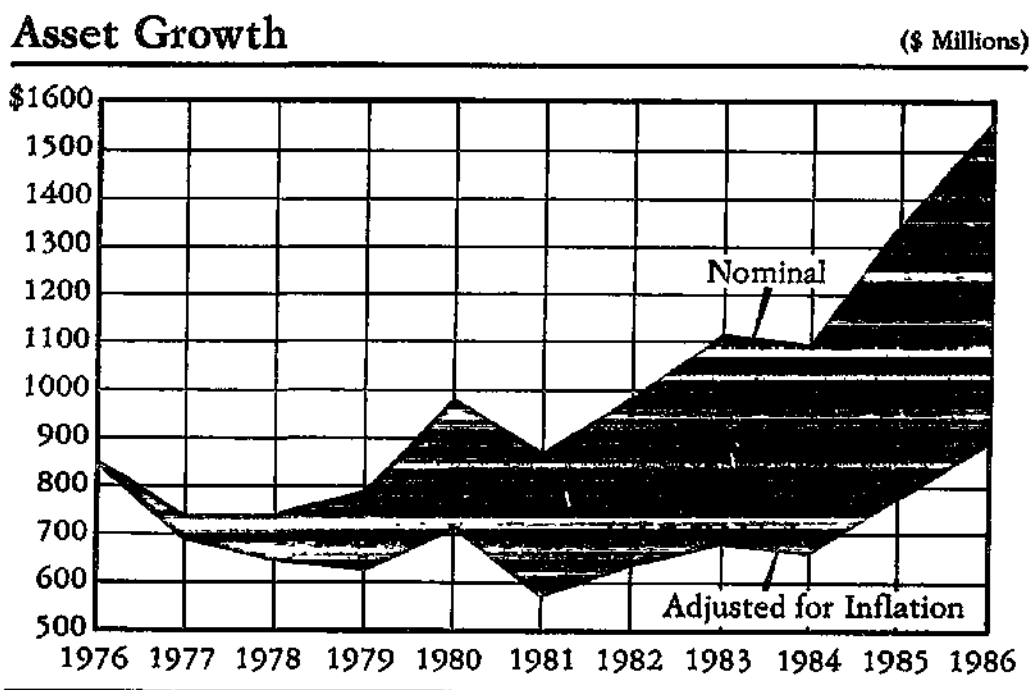
Donald J. Wilcox, University of New Hampshire, Durham, New Hampshire
A book, *The Measurement of Time in Western Historiography Before Newton*.

**FINANCIAL
REPORT AND
STATEMENTS**

**FINANCIAL
REPORT AND
STATEMENTS**

The market value of the Foundation's investments increased 15.8% during 1986. The year-end market value of \$1,556 million was a record level for the Foundation.

The graph below places year-end 1986 asset values into ten-year historical perspective. Assets in nominal dollars have grown at a 6.3% annual rate over the ten-year period. Adjusted for inflation, assets grew at a 0.6% annual rate.



As the table below indicates, the Foundation continued diversifying into foreign securities and real estate during 1986.

	Asset Mix			
	12/31/85		12/31/86	
	\$ Millions	Percent	\$ Millions	Percent
Equities	\$911	67.8%	\$954	61.3%
Bonds	193	14.4	211	13.5
Cash	114	8.5	194	12.5
Foreign Securities	91	6.8	158	10.1
Real Estate	28	2.1	29	1.9
Venture Capital	5	0.4	11	0.7
	<u>\$1,344</u>	<u>100%</u>	<u>\$1,556</u>	<u>100%</u>

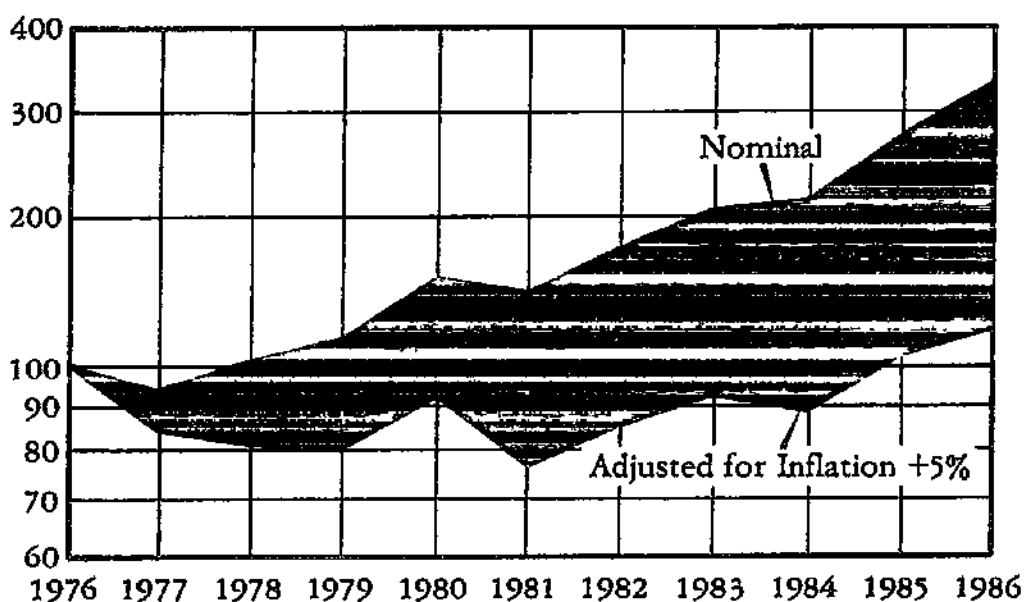
Investment Returns

The total return on assets for 1986 was +20.6%. Foreign securities provided the highest returns, followed by domestic equities and bonds.

Cumulative returns for the past ten years are shown in the graph below. The average compound rate of return for this period was +12.6%. The lower line on the graph compares returns against a benchmark of inflation plus 5%. The inflation plus 5% benchmark represents the minimum return that would permit the Foundation to make the minimum payout under current law and still maintain the value of remaining assets in real dollar terms. As the graph indicates, returns have exceeded the inflation plus 5% benchmark over this ten-year period.

Investment Returns

(Index: 1976=100, Ratio Scale)



Investment Managers

The Foundation had six equity managers at the end of 1986: Campbell Advisors; Concord Capital; Geewax Terker; Rosenberg Institutional Equity Management; Warburg, Pincus Counsellors; and Wells Fargo Investment Advisors. Bonds are managed by two firms: Rosenberg Capital and Wells Fargo. Two firms manage foreign securities: Compagnie de Banque et d'Investissements (Geneva) and Morgan Grenfell (London). A portion of cash reserves is managed internally. Northern Trust is custodian for domestic assets. Chase Manhattan Bank (London) is custodian for foreign securities.

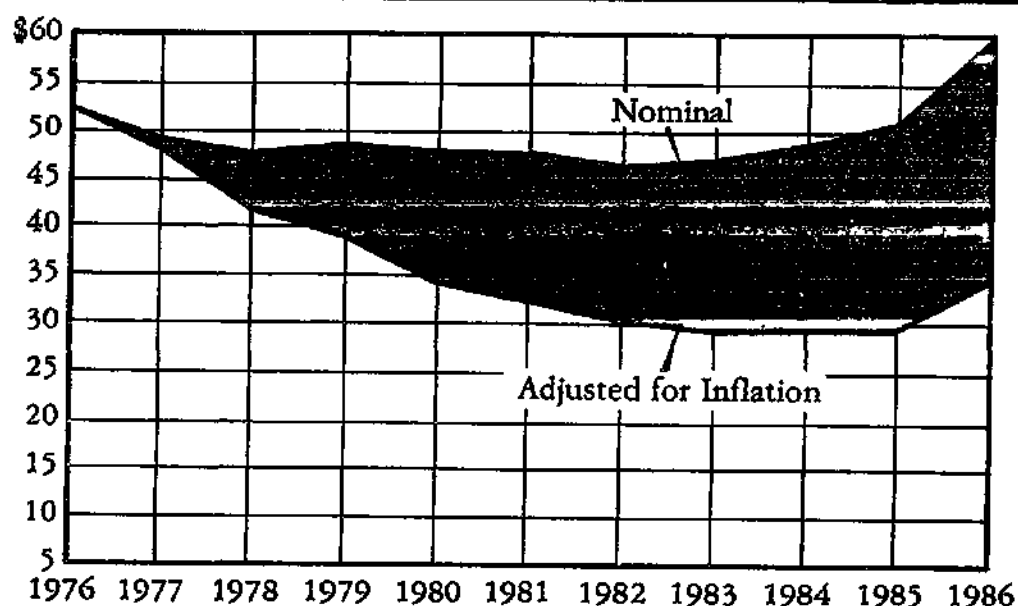
Spending

Spending in 1986 totalled \$59.8 million, up 18.4% over the \$50.5 million spent in 1985. The graph below places 1986 spending into ten-year historical perspective. Spending in nominal dollars had been

relatively flat until 1986. In real dollar terms, spending jumped sharply in 1986 but was still 34% below 1976 levels.

Spending

(\$ Millions)



Expenditures by Categories

Expenditures by categories for the three years 1984–1986 are shown in the table below.

	EXPENDITURES					
	1984		1985		1986	
	<u>\$ Mil</u>	<u>Percent</u>	<u>\$ Mil</u>	<u>Percent</u>	<u>\$ Mil</u>	<u>Percent</u>
GRANTS AND OPERATIONS						
Agricultural Sciences	\$ 4.8	9.8%	\$ 7.2	14.3%	\$ 6.9	11.5%
Arts and Humanities	5.6	11.5	7.4	14.6	7.8	13.1
Equal Opportunity	7.0	14.3	7.7	15.2	9.7	16.2
Health Sciences	4.4	9.0	5.7	11.3	6.6	11.1
International Relations	4.6	9.4	3.7	7.3	5.6	9.4
Population Sciences	4.9	10.0	5.0	9.9	6.3	10.5
Education for Development	1.5	3.1	0.7	1.4	0.3	0.5
Special Interests and Explorations	3.5	7.2	3.9	7.7	2.7	4.5
Interprogram*	1.5	3.1	1.6	3.2	1.8	3.0
Subtotal-Grants and Operations	37.8	77.4	42.9	84.9	47.7	79.8
General Administration	5.4	11.1	5.2	10.3	5.5	9.2
Capital Items	2.2	4.5	0.1	0.2	2.4	4.0
Federal excise tax paid	3.4	7.0	2.3	4.6	4.2	7.0
TOTAL	<u>\$48.8</u>	<u>100%</u>	<u>\$50.5</u>	<u>100%</u>	<u>\$59.8</u>	<u>100%</u>

*Bellagio Study and Conference Center and Rockefeller Archive Center

**THE
ROCKEFELLER
FOUNDATION
1985-86
FINANCIAL
STATEMENTS**

**ACCOUNTANTS'
OPINION**

The Board of Trustees
The Rockefeller Foundation

We have examined the accompanying statement of assets, obligations and principal fund of The Rockefeller Foundation at December 31, 1986 and 1985 and the related statements of operations and changes in principal fund and changes in financial position for the years then ended. Our examinations were made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the statements mentioned above present fairly the financial position of The Rockefeller Foundation at December 31, 1986 and 1985, and the results of operations, changes in principal fund and changes in financial position for the years then ended, in conformity with generally accepted accounting principles applied on a consistent basis during the period.

Arthur Young & Company
New York, New York

March 12, 1987

**STATEMENT OF
ASSETS,
OBLIGATIONS
AND PRINCIPAL
FUND
DECEMBER 31,
1986 AND 1985**

	<u>1986</u>	<u>1985</u>
ASSETS		
Investments (Note 2)	\$1,513,635,582	\$1,340,032,595
Cash	446,863	347,382
Accounts receivable (primarily related to security sales)	86,201,062	2,211,585
Dividends and interest receivable	9,218,034	8,631,378
Property—at depreciated cost	<u>5,319,446</u>	<u>3,002,348</u>
Total assets	<u>\$1,614,820,987</u>	<u>\$1,354,225,288</u>
OBLIGATIONS AND PRINCIPAL FUND		
Accounts payable and accrued liabilities (primarily related to security purchases)	\$ 48,074,432	\$ 1,677,956
Federal excise tax payable (Note 3)	7,716,138	4,153,124
Deferred federal excise tax (Note 3)	1,247,443	3,495,722
Appropriations by the Trustees, approved for specific grantees/purposes but not yet paid (Note 4)	<u>39,794,238</u>	<u>31,687,475</u>
Total obligations	<u>96,832,251</u>	<u>41,014,277</u>
Principal fund:		
Appropriations by the Trustees (Note 4):		
For allocation to future grantees	19,598,117	17,438,577
For operating budget of the following year	<u>74,800,000</u>	<u>63,300,000</u>
	94,398,117	80,738,577
Unappropriated	<u>1,423,590,619</u>	<u>1,232,472,434</u>
Total principal fund	<u>1,517,988,736</u>	<u>1,313,211,011</u>
Total obligations and principal fund	<u>\$1,614,820,987</u>	<u>\$1,354,225,288</u>

See accompanying notes.

**STATEMENT OF
OPERATIONS
AND
CHANGES IN
PRINCIPAL
FUND
YEARS ENDED
DECEMBER 31,
1986 AND 1985**

	<u>1986</u>	<u>1985</u>
Dividends	\$ 20,066,834	\$ 30,652,183
Interest	52,990,122	31,978,665
Other	<u>2,103,861</u>	<u>2,123,615</u>
	75,160,817	64,754,463
Realized gain on sale of marketable securities	<u>304,360,893</u>	<u>149,267,183</u>
Gross realized investment income	379,521,710	214,021,646
Less: investment expenses	<u>5,216,507</u>	<u>4,334,485</u>
Income before federal excise tax	374,305,203	209,687,161
Less: provision for federal excise tax (Note 3)	<u>7,718,844</u>	<u>4,157,042</u>
Net realized investment income	<u>366,586,359</u>	<u>205,530,119</u>
Grants approved, and program and administrative costs incurred	<u>61,441,014</u>	<u>52,407,678</u>
Net realized investment income over grants approved, and program and administrative costs incurred	305,145,345	153,122,441
Increase (decrease) in unrealized appreciation of marketable securities net of provision for deferred federal excise tax—		
1986: (\$2,252,000);		
1985: \$1,721,000 (Note 3)	(100,367,620)	87,618,396
Principal fund at beginning of year	<u>1,313,211,011</u>	<u>1,072,470,174</u>
Principal fund at end of year	<u>\$1,517,988,736</u>	<u>\$1,313,211,011</u>

See accompanying notes.

**STATEMENT OF
CHANGES IN
FINANCIAL
POSITION
YEARS ENDED
DECEMBER 31,
1986 AND 1985**

	<u>1986</u>	<u>1985</u>
Sources of cash:		
Income before federal excise tax	\$ 374,305,203	\$ 209,687,161
TOTAL—Sources of cash	<u>374,305,203</u>	<u>209,687,161</u>
Applications of cash:		
Expenditures for grants and operations:		
Agricultural Sciences	6,872,708	7,247,374
Arts & Humanities	7,837,460	7,389,946
Equal Opportunity	9,726,061	7,680,958
Health Sciences	6,613,423	5,746,159
International Relations	5,578,850	3,690,603
Population Sciences	6,284,679	4,989,811
Education for Development	298,665	736,099
Special Interests & Explorations	2,690,229	3,898,206
Interprogram	<u>1,772,393</u>	<u>1,556,489</u>
	47,674,468	42,935,645
General administrative expenditures	5,552,352	5,165,236
Capital improvements—Bellagio Center	2,424,530	—
Capital improvements—New York Office	<u>—</u>	<u>70,172</u>
Sub-total	<u>55,651,350</u>	<u>48,171,053</u>
Federal excise tax paid	4,152,108	2,279,923
Securities and repurchase agreement transactions:		
Purchases	12,443,326,211	7,629,134,330
Less: proceeds from sales, net of realized gains	<u>12,167,103,604</u>	<u>7,475,121,858</u>
	<u>276,222,607</u>	<u>154,012,472</u>
Net change in accounts receivable, dividends and interest receivable, accounts payable and accrued liabilities	<u>38,179,657</u>	<u>5,389,028</u>
TOTAL—Applications of cash	<u>374,205,722</u>	<u>209,852,476</u>
Increase (decrease) in cash	99,481	(165,315)
Cash balance at beginning of year	<u>347,382</u>	<u>512,697</u>
Cash balance at end of year	<u>\$ 446,863</u>	<u>\$ 347,382</u>

See accompanying notes.

**NOTES TO
FINANCIAL
STATEMENTS
DECEMBER 31,
1986 AND 1985**

1. Summary of significant accounting policies

Marketable securities are reported on the basis of quoted market value, and investment income and expenses are reported on the accrual basis. Realized gains and losses are calculated based on the average cost method for financial statements and the FIFO cost method for tax return purposes. Limited partnership interests are recorded at appraised value, when available; and when not available, are recorded at cost and adjusted for the Foundation's share of the limited partnership income or loss.

Appropriations by the Trustees are considered to be obligations when grants are approved for specific grantees. Program costs and general administrative expenses are charged to operations when incurred. Appropriations by the Trustees not released for specific grantees and the appropriation for the budget for the following year are considered as appropriated principal fund.

Expenditures for capital items and major improvements are included in the property account and depreciated on a straight-line basis over the lives of the respective assets or amortized over the term of the lease. The net change in the property account in 1986 was caused by additions of \$2,868,869, and a decrease of \$551,771 attributable to depreciation and amortization. The total depreciation and amortization amounted to \$472,923 in 1985.

2. Investments

	December 31, 1986		December 31, 1985	
	Cost	Market Value	Cost	Market Value
Marketable securities				
Repurchase agreements	\$ 123,019,000	\$ 123,019,000	\$ 10,189,000	\$ 10,189,000
U.S. Government obligations	207,024,408	212,590,678	173,481,550	184,712,189
Money market fund	27,786,183	27,786,183	1,187,169	1,187,169
Foreign currency—short-term	22,334,356	22,334,356	3,438,464	3,438,464
Corporate notes	51,139,027	51,114,836	67,129,517	67,145,889
Corporate bonds	40,262,664	43,186,013	43,324,741	46,831,017
Other investments	1,296,910	450,000	1,296,910	450,000
Preferred stock	833,304	879,677	1,764,912	2,390,860
Common stock	903,573,315*	992,005,018*	805,789,990	990,191,264
Sub-total	1,377,269,167	1,473,365,761	1,107,602,253	1,306,535,852
Limited partnership interests	38,707,723	40,269,821	32,152,030	33,496,743
TOTAL	\$1,415,976,890	\$1,513,635,582	\$1,139,754,283	\$1,340,032,595

*Common stock includes \$545,663,915 in money market fund attributable to an arbitrage of S&P 500 Index Futures versus the S&P 500 as of December 31, 1986.

3. Federal excise tax

The Foundation qualifies as a tax-exempt organization under Section 501(c)(3) of the Internal Revenue Code and accordingly is not subject to federal income tax. However, the Foundation is classified as a private foundation and is subject to a federal excise tax of 2% on investment income less investment expenses, and on net realized taxable gains on security transactions. Deferred federal excise tax arises from timing differences between financial and tax reporting relating to investment income and the difference between the tax basis and market value of marketable securities.

Not less than the fair market value at December 31, 1969 of securities owned at that date is used as the basis for determining taxable gains on subsequent sales of such securities. The basis for calculating taxable gains on securities held at December 31, 1986 is approximately \$1,458,900,000.

4. Appropriations and expenditures

Appropriations and expenditures for the year are summarized as follows:

	Total Appropriated	Appropriated for specific grantees/ purposes	Appropriated for allocation/ next year's budget
Balance, January 1, 1986	\$112,426,052	\$31,687,475	\$80,738,577
1986 appropriations	—	19,906,900	(19,906,900)
Releases from appropriations	—	44,268,429	(44,268,429)
Less: lapses, reversions and refunds	(973,619)	(408,488)	(565,131)
1987 Budget	74,800,000	—	74,800,000
Renovation of Bellagio Center	3,600,000	—	3,600,000
Expenditures for grants and operations	(55,660,078)	(55,660,078)	—
Balance, December 31, 1986	<u>\$134,192,355</u>	<u>\$39,794,238</u>	<u>\$94,398,117</u>

5. Long-term leases

At December 31, 1986, base rental commitments under non-cancellable leases for headquarters office space aggregate approximately \$5,250,000 and are payable at approximately \$720,000 annually until 1994. Under the leases, the Foundation is required to pay additional amounts for maintenance, electricity and taxes. Rental expense included in the statement of operations was approximately \$1,012,000 in 1986 and \$957,800 in 1985. The Foundation has subleased portions of its space under two separate sublease agreements. Net rental income under the first sublease will be approximately \$900,000 and under the second approximately \$400,000 during the remaining period of the leases.

6. Pension plan

The Foundation maintains a non-contributory pension plan for regular salaried employees who are at least 21 years old and have completed one year of service or have attained the age of 40. The Foundation makes annual contributions to the Plan equal to the amounts accrued for pension expense. Based on actuarial calculations, no contribution was made in 1986 and \$500,000 was contributed in 1985. A comparison of accumulated plan benefits and plan net assets is presented below.

	<u>January 1, 1986</u>	<u>January 1, 1985</u>
Actuarial present value of accumulated plan benefits:		
Vested	\$26,682,000	\$25,024,000
Nonvested	<u>402,000</u>	<u>481,000</u>
	<u>\$27,084,000</u>	<u>\$25,505,000</u>
Net assets available for benefits	<u>\$38,539,000</u>	<u>\$30,118,000</u>

The actuarially assumed annual interest rates underlying the determination of the value of accrued benefits was 8.0%, with 3.35% used for the expected period of pension cost-of-living augmentation.

- Abbai, Belai 97
 Abeykoon, Anthony 56
 Academic Alliances project (University of Pennsylvania) 63, 67
 Adamchak, Donald J. 56
 Adolescent Pregnancy Prevention Clearinghouse 75
 Advice Centres Association 94
 Aesculapius International Medicine 40, 86, 94
 African Association of Political Science 86
 Afro-American Editing Consortium 70, 78
After the French Revolution 97
 Aga Khan Foundation 95
 Aghajanian, Akbar 50
 Aid to Artisans, Inc. 92
 Alan Guttmacher Institute 50
 Albert, Stephen 71
 "Alive From Off Center" 64, 70
 Allen, Richard L. 82
 Altschul, Carlos 97
 Alum, Manuel 71
 American Academy of Arts and Sciences 92
 American Chemical Society 30
 American Council for the Arts 68
 American Council of Learned Societies 67, 92
 American Historical Association 66
 American Institute of Maghribi Studies 86
 American Music Center 68
 American Music Theater Festival 69
 American Place Theatre 69
Analisis Organizacional 97
 Anderson, Roy M. 97
Angel, El 97
Angela Falling from Grace 98
 Annenburg School of Communications 47, 52
 "Apomixis" (conference) 31, 97
 App, Alva A. 10, 96
 Arab Council for Public Affairs 86
 Arab Thought Forum 86
 Archdiocese of Pretoria 94
 Arias, M. Beatriz 82
 Arms Control Association 90
 Arthurs, Alberta 10
 Ashford, Douglas E. 97
 Ashoka Society 92
 Aspen Music Festival 69
 "Assignment Africa" 64, 68
 Assiut University 45, 49
 Associated Colleges of the Midwest 66
 Association for Asian Studies 66
 Association for the Study of Schistosomiasis 37
 Association of American Colleges 66
 Atlanta Urban League 76, 79
At Risk: Chronicles of Teenage Pregnancy 80
 Australian National University 50, 88
 Ballejo, Gustavo 57
 Ballet Metropolitan (Columbus, OH) 71
 Bangladesh Fertility Research Programme 50
 Basevi, Giorgio 97
 Baylor College of Medicine 82
 Behar, Cem 51
 Beijing Medical College 46, 50
 Bekich, Darko 86
 Bellagio Study and Conference Center 5, 21, 33, 37, 92, 96-99, 104
 Ben Kunlong 55
 Best, Winfred 97
 Biomedical Research Network (GND) 34-35, 40
 Biotechnology Career Fellowships 6, 20, 33, 57-58
 Bishop Desmond Tutu Southern African Refugee Scholarship Fund 90
 Blackstone, Lynn Terreri 10
 Blumenthal, W. Michael 8, 12
 Bookmyer, Joseph R. 9
 Borlaug, Norman E. 9
 Boston Ballet 71
 Bowden, Ann 97
 Brademas, John 8
 Braudy, Leo 97
 Brazil 37
Bread and Freedom 98
 Brigham and Women's Hospital 38
 Brook, Peter 60, 63
 Brookings Institution 86
 Brooklyn Academy of Music 63, 69
 Brown, Harold 8
 Buchwalter, Ellen S. 10
Buddhist Approaches to Development 93
 Built Environment Support Group (BESG) 95
 "Bye Bye Kipling" 64, 67
 California Institute of Technology 87
 Campbell Advisors 103
 Canada, Ministry of Health of 37
 Carlson, Carolyn 71
 Case Western Reserve University 38
 Castellan, Georges 97
 Castex, Mariano N. 97
 Catholic University of America 79
 Catholic University of Chile 44, 48
 Catholic University of Louvain 49
 Celli, Roberto 9
 Center for African Family Studies (Kenya) 18, 47
 Center for Community Change 78
 Center for Employment Training (San Jose, CA) 76, 79
 Center for Regional Planning and Development (Minas Gerais, Brazil) 46, 51
 Center for Research and Advanced Studies of the National Polytechnic Institute (Mexico City) 38
 Center for Understanding Media 69
 Centre for African Family Studies (Kenya) 50
 Centre for Economic Policy Research 88

- Centre International des Civilisations Bantu (CICIBA) 69
- Centre Internationale de Liason des Ecoles de Cinema et de Television (CILECT) 93
- Centro de Pesquisas e Controle das Doencas Materno-Infantis de Campinas (CEMICAMP) 49
- Centro Internacional de Agricultura Tropical (International Center for Tropical Agriculture) 28, 30, 32
- Centro Latinoamericano de Estudios Estratégicos 87
- Cerami, Anthony 97
- Changing America* 98
- "Channel Crossings" 64, 67
- Charles F. Kettering Foundation 87
- Chase Manhattan Bank (London) 103
- Chemtai, Alex K. 58
- Children's Defense Fund 75, 80
- Children's Hospital (Boston) 38
- Child Watch network 75
- China, Ministry of Public Health of 36-37, 41
- China National Rice Research Institute 28
- Chinese Academy of Agricultural Sciences 32
- Chinese Academy of Medical Sciences 45, 49
- Chinese Academy of Sciences 49
- Chinese Scholars of International Studies 87
- Chulalongkorn University 40
- Church of the Pilgrims 90
- CICIBA (Centre International des Civilisations Bantu) 69
- City University Press 93
- Civil Rights Project (Boston, MA) 69, 75, 78
- Clermont Advice Centre 94
- Cleveland Tomorrow 80
- Clinical Epidemiology Resource and Training Centers (CERTCs) 21, 35, 42, 43
- Clinical Epidemiology Units 20-21, 36, 40-42
- Cocking, E. C. 28
- Cold Spring Harbor Laboratory 38
- Coleman, James S. 19
- Coleman, Lerita M. 82
- Colombia, National Institute of Health of 42
- Columbia University 47, 50, 51
- Committee for DC 77, 80
- Committee for National Security 87
- Compagnie de Banque et d'Investissements (Geneva) 103
- Composers-in-Residence program 65
- Concord Capital 103
- Contemporary Arts Center (New Orleans) 61, 64
- Corigliano, John 71
- Cornell University 29, 30, 32, 49
- Corporation for Public Broadcasting 64
- Cortes, Carlos E. 82
- Corvisier, Andre 97
- Costello, Michael A. 50
- Cottingham, Phoebe H. 10
- Council of American Overseas Research Centers 67, 93
- Council of Chief State School Officers 66
- Council on Foreign Relations 32, 87
- Council on Foundations 96
- Council on Ocean Law 87
- Court, David 9
- Curry Foundation 32, 88
- Dai Rakuda Kan 63, 67
- Dallas Ballet 71
- Dance Perspectives Foundation 67
- Dance Theater Workshop 63, 67
- Dance Works (National Choreography Project) 61, 64, 71
- Dartmouth College 60, 65
- Dash, Leon 80
- Dayton, Kenneth N. 8, 12
- Deagle, Edwin A., Jr. 11-13
- Desai, Ashok V. 88
- Desert is No Lady, The* 70
- Dessein, Alain 38
- DeStafano, Salvatore 9
- Detainees Support Committee program (DESCOM) 95
- Determinants of Non-Proliferation, The* 88
- Diocese of Port Elizabeth 95
- Diverse Works 61, 65
- XVII Siècle et l'Amour, Le* 98
- Dos Reis, Mitermayer Galvao 55
- Downtown Community Television Center 69
- Duben, Alan 51
- Duke University 61, 65, 96
- Dynamics of Human-Host-Parasite Systems* 97, 98
- Eastern and Southern African Management Institute 93
- East-West Center 51
- "Economics of Public Debt" (conference) 89
- Ecumenical Centre Trust 94
- Educational Broadcasting Corporation 64, 67, 69
- Educational Testing Service 66
- Education for Development (formerly called University Development Program) 19
- Egwang, Thomas 38
- 80 Langton Street 61, 65
- Emory University 41, 88
- "Enabling Environment for Effective Private-Sector Contribution to Development in Sub-Saharan Africa, The" (conference) 95
- Equator Foundation 93
- Escola Paulista de Medicina 41
- ETV Endowment of South Carolina 64, 67
- Evans, John R. 8
- Exxon Corporation 61, 62
- "Eyes on the Prize" 69, 78
- Family Health International 45
- Federal University of Minas Gerais 51
- Federal University of Rio de Janeiro 41
- Federated Union of Black Arts 95
- Feld Ballet 71

- Fellowships for American Playwrights 61, 66, 71
 Fellowships for Foreign Language Teachers in the High Schools 62, 63, 67
 Feminist Press 93
 "Festival Latino" 63, 68
 55th Street Dance Theater Foundation 63, 67
 Findley, Sally E. 56
 Florida International University 80
 Fosdick, Raymond B. 16
 Foundation Center 96
 Foundation for International Scientific Cooperation 41
 Frederikse, Julie 87
 Free English 69
 Freeman, Phyllis K. 38
 Friends Committee on National Legislation Education Fund 88
 Fundacao Instituto de Pesquisas Economicas 88
 Fundación Mediterránea 89
 Funders' Committee for Voter Registration and Education 78
 Fund for Artists' Colonies 68
 "Future Strategies for the CGIAR (Consultative Group on International Agricultural Research)" (conference) 97
- Gadjah Mada University 42
 Gallegos, Herman E. 8
 Gangrade, Bhushan Kumar 55
 Garfield, Susan E. 9
 Gatara, Timothy H. 51
 Geewax Terker 103
 General Fellowships 6, 54-56
 Georgetown University 87
 Giavazzi, Francesco 97
 Gibson, James O. 10
 Global Perspectives in Education 66, 68
Good Health at Low Cost 21
 Goodman, Howard C. 97
 Goza, Franklin W. 56
 Graduate Institute of International Studies 87
 Grant, James P. 8, 12
 Grassroots Publications 95
 Gray, Spalding 71
 Greater Washington Research Center 77, 80
 Grimaldi, Gabriel, Jr. 57
 Group 1 Acting Company 69
- Haines, David W. 94
 Hallwalls 61, 65
 Halstead, Scott B. 10
 Hammad, A. 97
 Hampton, Henry 75
 Harbison, John 71
 Harley, Sharon 82
 Harvard University 30, 38, 51, 66, 80
 Havis, Allan 71
 Hayward, Jack E. S. 97
 Herdt, Robert W. 10, 97
 Hess, J. William 9
 Hick, John H. 98
 Higginbotham, A. Leon 75
- "High Technologies and Reducing the Risk of War, The" (conference) 88
 History of Science Society 69
 History Teaching Alliance 66
 Hopkins, Jane C. 56
 Hopper, William David 8
 Houston Museum of Fine Arts 63, 68
 Howard University 51, 82
 Hubert H. Humphrey Institute of Public Affairs 80
 Hurtado, Aida 82
 Hussain, Rabia 58
- IFORD (Institut de Formation et de Recherche Demographiques) 51
 "Immunodiplomacy: The Story of the WHO Immunology Research Program" 97
 INCLEN (International Clinical Epidemiology Network) 35, 36, 41-43
 Independent Broadcasting Associates 68
 Independent Sector 96
 Institut de Formation et de Recherche Demographiques (IFORD) 51
 Institute for Advanced Study 61, 65
 Institute for Black Research Trust 95
 Institute for International Economics 32, 89
 Institute for Journalism Education 78
 Institute for Literacy Studies (Lehman College) 77
 Institute for Puerto Rican Policy 78
 Institute for Research in History 51
 Institute for the Study of Applied and Professional Ethics (Dartmouth College) 60, 65
 Institute of International Education 68, 90
 Institute of Soil Science (Nanjing, China) 33
 Institute of Southeast Asian Studies 87, 89, 93
 Instituto de Biología y Medicina Experimental (Argentina) 44, 48, 49
 Instituto Nacional de la Nutrición Salvador Zubiran 45, 49
 Institut Pasteur 38
 Interdenominational African Ministers' Association of Southern Africa 95
 Interdisciplinary Artists Fellowship Program 61, 64, 65, 66
 "Intergovernmental Allocation of Social Benefits, The" (conference) 97
 International Agricultural Research Centers 18-19, 31
 International Center for Living Aquatic Resources Management 32
 International Center for Tropical Agriculture (Centro Internacional de Agricultura Tropical) 28, 30, 32
 International Centre of Insect Physiology and Ecology 32
 International Clinical Epidemiology Network (INCLEN) 35, 36, 41-43
 International Development Research Centre (Canada) 36
 International Economic Association 89
International Editions of Beverland Tauchnitz, The. 1841-1955 97, 98

- International Education Consortium 66
 International Epidemiological Association 41
 International Fertilizer Development Center 32
 International Fund for Agricultural Development 33
 International Human Rights Law Group 87
 International Institute for Strategic Studies 90
 International Institute of Tropical Agriculture 33
 International Irrigation Management Institute 33
 International Peace Academy 87
 International Planned Parenthood Federation 50
 International Planned Parenthood Federation, Western Hemisphere Region 51
 "International Policy Coordination" (conference) 97
 "International Productivity Comparisons, 1750-1939" (conference) 97
 International Program to Support Science-Based Development 16, 17, 24-26, 54, 86
 International Research and Exchanges Board 67
 International Rice Research Institute 28, 30, 31, 33
 International Service for National Agricultural Research 33
 International Trypanotolerance Center 32
 International Union for the Scientific Study of Population 47, 51
Interpretation of Religion, An 98
 "Intersectoral Cooperation: A Paradigm for Health Development" (conference) 97
In the Matter of Color: Race and the American Legal Process 75, 79
 Iowa State University 30, 31
 "Issues on Socio-Political Transformations in Asia and the Pacific: the Recent Philippine Political Experience" (conference) 88

 Jenkin, Len 71
 Jennings, Peter R. 10
 Jenrette, Richard H. 8, 12
 Jester, Glen T. 9
 Jesurun, John 71
 Jimenez, Carol C. 10
 "Joe Turner's Come and Gone" 70
 Joffrey Ballet 71
 Johns Hopkins University, The 46, 97
 Johnson, Tom 8
 Johnston, James E. 10
 Joint Center for Political Studies 82
Journal of Interdisciplinary History 69, 87

 Kadam, Arjun L. 55
 Kaimowitz, David 56
 Kamuzora, C. Lwechungura 51
 Kansas State University 30
 Katel, Frank, III 9, 13

 Kaziso Trust 95
 Khon Kaen University 41
 Kilroy, Thomas 98
 King's College 87
 Kiraly, Bela K. 97
 Klein, Howard 10, 13
 Korea Development Institute 89
 Kostecky, Taras 11
 Kritz, Mary M. 11
 Kurasawa Shigeaki 56
 Kweon Chang Hee 54
 Kyoto Prefectural University 30
 Kyoto University 48

 Laderman, Ezra 98
 Lal, Altaf A. 38
 Lal, Renu Bansal 55
 Lange, Peter 97
 Larsen, Elizabeth 71
 Latin American Social Science Research Council 51
 Lavine, Steven D. 10
 League of Women Voters Education Fund 78
 Leal, Juan A. 55
Learning Roots 95
 Learning Through an Expanded Arts Program 38
 Leeds, Roger S. 89
 Legal Resources Trust 95
 Lehman College 77, 81
 Lehrman Institute 89
 Lester, Theodore, II 10
 Lesthaeghe, R. J. 51
 Lim, Lin Lean 51
 Limon Dance Company 71
 Lin, Justin Yifu 52
Literature and Culture in England, 1660-1714 97
 LiVecchi, Kimberley J. 9
 Lizardi, Paul 38
 Loker, William M. 56
 London School of Hygiene and Tropical Medicine 38
 Los Angeles Contemporary Exhibitions 61, 65
 Lyle, Katherine Ch'iu 11
 Lyman, Richard W. 8, 9

 McCord, William 98
 McGill University 31
 Mackay-Smith, Anne C. 9
 McLoyd, Vonnie C. 83
 McMaster University 21, 35, 41, 48
 McPherson, Douglas 9
Mahabharata 63
 Mahapatra, Jayanta 98
 Mahidol University 39, 41, 52
 Ma Jian-Chuan 57
 Majidi, Evelyn 11
Making of American Foreign Policy, The: 1941-71 99
 Marine Biological Library 48
 Mark, Joan 98
 Marmor, Theodore R. 81
 Marshall, Susan 71

- Mary McLeod Bethune Museum of the National Council of Negro Women 78
- Mashaw, Jerry L. 81
- Massachusetts Institute of Technology 65, 89
- Massey, Grace C. 82
- Mathematica Policy Research, Inc. 76, 82
- May, Robert M. 98
- Maynard, Robert C. 8
- Measurement of Time in Western Historiography Before Newton, The* 99
- Meet the Composer 61-62, 65, 71
- Memorial Sloan-Kettering Cancer Center 39
- Meshnick, Steven R. 97
- Meyer, Jack R. 9
- Midwest Voter Registration Education Project 78
- Miller, James Edwin, III 98
- Minnesota Composers Forum 69
- Minority Female Single Parent (MFSP) program 74, 76-77, 79-82
- Misro, Man Mohan 56
- Mississippi Action for Community Education 78
- Modern Language Association of America 66
- "Molecular Biology of Parasites: Pharmacological Perspectives" (conference) 97
- Monk, Meredith 71
- Montgomery, David 94
- Monti, Mario 97
- Moock, Joyce L. 9
- Morgan Grenfell (London) 103
- Morris, Mark 71
- Mosher, Nancy E. 9
- Moss, Lawrence 98
- Mottl, Tahi L. 83
- Mozambique-Tanzania Centre for Foreign Relations 87
- Mullen, Lynda 9, 13
- Murray, Christopher 41
- Museum of Contemporary Art (Los Angeles, CA) 69
- Musical Observations 70
- Music Theater Production Alliance 69
- Musyoki, Rachel M. 51
- NAACP Legal Defense and Educational Fund 74, 78
- National Academy of Education 66
- National Academy of Sciences 33, 80
- National Archives Trust Fund Board 70, 78
- National Association for Equal Opportunity in Higher Education 79
- National Association for the Advancement of Colored People (NAACP) 74, 78
- National Charities Information Bureau 93
- National Choreography Project (Dance Works) 61, 64, 71
- National Coalition on Black Voter Participation 79
- National Committee Against Discrimination in Housing 79
- National Conference on Social Welfare 93
- National Congress of Neighborhood Women 80
- National Council for Community Services to International Visitors 93
- National Council of Negro Women, Mary McLeod Bethune Museum of the 78
- National Council on Foreign Language and International Studies 68
- National Development Council 80
- National Education Crisis Committee 95
- National Endowment for the Arts 61, 62, 64
- National Humanities Faculty 66
- National Institute of Allergy and Infectious Diseases 38
- National Institute of Hygiene and Epidemiology (Vietnam) 41
- National Institute of Immunology (India) 32, 39, 49
- National Jazz Service Organization 70
- National League of Cities Institute 80
- National Opinion Research Center 80
- National Polytechnic Institute, Center for Research and Advanced Studies of 38
- National Puerto Rican/Hispanic Voter Participation Project 79
- Native American Rights Fund 74, 79
- Network for Human Rights in Liberia 90
- Network for Secondary School Improvement in the Arts and Humanities 62, 67
- Network of Community-Oriented Educational Institutions for Health Sciences 41
- New Playwrights Theatre of Washington 68
- New School for Social Research 77-78, 80, 94
- "New Television" 69, 70
- New World Records (Recorded Anthology of American Music) 62, 70
- New York Academy of Sciences 88
- New York City Opera 70
- New York Public Library 93
- New York Regional Association of Grantmakers 96
- New York Shakespeare Festival 63, 68
- New York University 39
- Next Wave Production and Touring Fund 63, 69
- Nexus 61, 65
- Nipperdey, Thomas 98
- Njogu, Muturi 39
- Nonprofit Coordinating Committee of New York 96
- "Non-Violence in Political Affairs" (conference) 86
- Northern California Grantmakers 79
- Northern Trust 103
- Northwestern University 81
- Norton, Eleanor Holmes 8
- Norwegian Radium Hospital 39
- NOVA Science Unit 93
- Ntambi, James 39

- Oakland Ballet 71
 O'Brien, Patrick K. 97
 Oh Dae-Geun 54
 Ohio State University 37, 41
 Ohio State University Foundation 31
 Okeyo, Achola Pala 10
 Okojie, Christiana 52
 Oppong, Christine 52
 Opportunities Industrialization Center (Providence, RI) 76, 81
 "Origins and Prevention of War, The" (conference) 69, 87
 Orjih, Augustine U. 58
 Oswaldo Cruz Institute 39
 Overseas Development Institute 89
- Padoa-Schioppa, Fiorella 97
 Paiva, Edilson 57
 Palabrica-Costello, Marilou 50
 Palmieri, Victor H. 8
 Pan American Health Organization 39
 Pandey, Arvind 56
 Parsons, David 71
 Patterson, Belknap, Webb & Taylor 8
 Paulus, Stephen 71
 Pennoyer, Robert M. 8
 Pennsylvania State University 52
 People-to-People Health Foundation (Project Hope) 37, 41
 Pew Charitable Trusts 21, 36, 43
 Phelps-Stokes Fund 90
 Philadelphia Alliance for the Teaching of Humanities in the Schools 67
 Picker, Tobias 71
 Pietermaritzburg Detainees Support Committee 95
 Piton Foundation 81
 Plant Breeding Institute 28
Poetic Condition, The 99
 "Political Economy of Export-Restraint Arrangements" (conference) 89
Politics of American Social Welfare Policy, The 81
 Pontificia Universidad Javeriana 41
 Population Council (New York) 44-46, 48, 49, 52
 Port Elizabeth Self-Help Development Association 95
 "Potential Use of Apomixis in Crop Improvement, The" (conference) 31, 96
 Potts, Malcolm 98
 Press and the Public Project 64, 68
 Prewitt, Kenneth 9, 25
 Project Hope (People-to-People Health Foundation) 37, 41
 Project Zero 66
 Psychoyos, Alexandre 44, 49
 Public Advocates 81
 Public Broadcasting System 64, 75
 Public Education Association 79
 Puerto Rico Community Foundation 79
 Purdue Research Foundation 31
- Queen Elizabeth House 88
 Queensland Institute of Medical Research 42
 Qu Xiangdong 54
- Rahman, Makhlisur 50
 Rajic, Vera 9
 Ramanathan, Rajaram 9
 Rand Corporation 81, 90
 Readers International 68
 Real Art Ways 61, 65
 Recorded Anthology of American Music (New World Records) 62, 70
 Reflections on Development program 21, 94
Reflections on Southeast Asian Development 93
 Reiss, Mitchell B. 88
 Repertory Dance Theatre 70
 Research Fellowship Program for Minority-Group Scholars 75, 82, 83
 Research Foundation of the City University of New York 77, 81, 93
 Resident Fellowships in the Humanities 60-61, 65, 66
 Richards, Lloyd 70
 Riengrojpitak, Suda 39
 Rijksinstituut Voor Volksgezondheid in Milieuhygiene 42
 Roa, A. Jagannadha 57
 Robinson, Nan S. 9, 92
 Rochester General Hospital 39
 Rockefeller Archive Center 96, 104
 Rockefeller Brothers Fund 96
 Rockefeller University 34, 39, 49, 96
 Rodis-Lewis, Geneviève 98
 Rodriguez, Aida 10
 Romans, Patricia 39
 Romero, Gloria J. 83
 Romney, Henry 11, 13
 Rosenberg Capital 103
 Rosenberg Institutional Equity Management 103
 Rosenfield, P. L. 97
 Rotary International 37
 Rouse, Christopher 71
 Rural Development Administration (Korea) 28, 31
 Rutgers University 52
- Saber, Mohamed Ali 57
 Salk Institute for Biological Studies 31
 Salzburg Seminar in American Studies 96
 Sanchez-Scott, Milcha 71
 Schomburg Center for Research in Black Culture 93
 Schulman, Grace 98
 Scripps Clinic and Research Foundation 39
 Sela, Michael 39, 48
 Self, Jim 71
 Self-Help Associates for Development Economics 95
 Shaha, Chandrima 57
 Shaila, M. S. 57
 Shanghai Academy of Agricultural Sciences 31
 Shanghai Medical University 42
 Shanley, John Patrick 71
 Sheldon, Eleanor D. 8, 12
 Shklar, Judith N. 98
 Short, Roger V. 98

- Singleton, Alvin 71
 Sisti, Rita P. 9
 Sitch, Lesley A. 10
 Skinner, G. William 52
 Sloan-Kettering Institute for Cancer Research 49
 Smithsonian Institution 70
 Social Science Association of Thailand 93
 Social Science Research Council 90, 93
 Social Science Research Fellowships 6, 18-19, 30, 33, 56
Songs of My Father 98
 Southern African Catholic Bishops' Conference 95
 Southwest Voter Registration Education Project 79
 SRI International 89
 Stanford University 31, 88
 "State and Social Regulation in Contemporary Italy, The" (conference) 97
 "State of the World" 93
 Strelau, John 11, 13
 Suitcase Fund 63, 67
 Suksamran, Somboon 93
 Summers, Anita Arrow 98
 Summers, Robert 98
Surgénérateurs, Les 99
 Szwaja, Lynn A. 10
- Task Force for Child Survival 37, 42
 Taylor, Billy 8, 12
 Technion—Israel Institute of Technology 48
Temple 98
 "Territory of Art, The" 69
 Terry, Megan 71
 Thailand
 Ministry of Public Health of 41
 National Epidemiology Board of 43
 Theatre Festival (New York City) 70
 Theatre for a New Audience 67
 Thompson, Paul 32
 "Thoughts of African Economists and their Contributions to the Development of the Continent, The" (conference) 89
 Tilikasiri, Jayadeva 98
 Titanji, Vincent P. K. 57
 Todd, William B. 97, 98
 Toenniessen, Gary H. 10, 96
 Tower, Joan 71
 Trade Policy Research Centre 89
 Trammell, Webb 9
 TransAfrica Forum 90
 Transvaal Rural Aid and Development program 94
 Twin Cities Public Television 64, 70
- UC Video 61, 65
 Ukwaziswa Trust 95
 Ulloa-Aguirre, Alfredo 58
 UNICEF 37
 Union College 89
 United Nations African Institute for Economic Development and Planning 89
 United Nations Association of the United States of America 88
 United Nations Children's Fund 42
- United Nations Development Program 37
 United Nations Regional Centre for Peace and Disarmament in Africa 88
 United States Agency for International Development (USAID) 35-36
 "U.S.-Soviet Efforts to Cooperate in Security Matters" (conference) 88
 Universidad de la Frontera 42
 University College (London, England), 50, 93
 University Development Program (later called Education for Development), 19
 University Hospitals (Cleveland) 40
 University of Arizona 70
 University of Benin 52
 University of California 87
 Berkeley 38, 42
 Davis 31
 Irvine 70
 Los Angeles 47
 Santa Barbara 81
 University of Chicago 78, 81
 University of Chile 48
 University of Connecticut 39
 University of Dar es Salaam 18, 47, 51
 University of Geneva 48
- University of Hawaii 33
 University of Houston 68
 University of Ibadan 33, 47, 50
 University of Idaho 48
 University of Ife 18, 47
 University of Indonesia Medical School 37
 University of Lagos 52
 University of Michigan 61, 65, 89
 University of Minnesota 31, 33, 80
 University of Nairobi 18, 33
 University of Natal 95
 University of Newcastle (Australia) 21, 35, 42
 University of North Carolina 21, 35, 42, 50, 61, 65
 University of Nottingham 28, 31
 University of Ouagadougou 89
 University of Oxford 40, 88
 University of Pennsylvania 18, 21, 35, 40, 42, 47, 63, 67, 79
 University of South Carolina 79
 University of Southern California 52
 University of Tampere 44, 48
 University of the Andes 52
 University of the Philippines 42, 88
 University of Tokyo 48
 University of Toronto 36, 42
 University of Virginia 40, 60-61, 65
 University of Washington 40
 University of West Virginia 65
 University of Wisconsin 31, 42
 University of Zimbabwe 52, 93
 Urban Institute 81
- Van Koevering, Mark Allen 55
 Vendreyes, Georges 99
 Veterinary Products Company of Colombia 42
 Vigée, Claude 99

- Villa Serbelloni (Bellagio, Italy) 5, 21, 33, 37, 92, 96-99, 104
 Visual Arts Research & Resource Center
 Relating to the Caribbean 68
- Walker, Juliet E. K. 83
 Walsh, Christopher 97
 Walter and Eliza Hall Institute of Medical
 Research 40
 Wang Feng 55
 Wang Hai-yun 45
 Wang Linfang 45
 Wang Xinyang 94
 Wang Zhenyuan 54
 "War and Society in East Central Europe:
 East Central Civilian and Military
 War Leaders From the 18th Century
 to the 20th Century" (con-
 ference) 97
 Warburg, Pincus Counsellors 103
 Warren, Kenneth S. 10, 97
 "War, Society, and Politics: Iran and Iraq,
 1980-1986" (conference) 87
 Washington Ballet 71
 Washington Urban League 79
 Way, Brenda 71
 Wayne State University 40
 Wei, William 83
 Weizmann Institute of Science 40
 Wells Fargo Investment Advisors 103
 Wesleyan University 61, 65
 "West African Agricultural Research and
 Related Issues" (conference) 97
 West China University of Medical Sci-
 ences 42
 West Virginia Foundation 65
 WGBH Educational Foundation 70, 93
 Wharton, Clifton R., Jr. 8
 Whitney Museum of American Art 61,
 66
 Wider Opportunities for Women 76, 81
 Wightman, David 99
 Wilcox, Donald J. 99
- Wilgespruit Fellowship Centre 95
 Willenz, June 97
 Williams, Bruce E. 10
 Wilson, August 70
 Wilson, Melvin 83
 Wilson, William Julius 78, 81
 "Window on World Television" 64, 68
 Wistar Institute 40
 WNET 64
 WNYC Foundation 64, 68
 Wolfe, George C. 71
 Wolling, Frank J. 9
 Women and Foundations/Corporate Phi-
 lanthropy 94
 "Women In and After War" (con-
 ference), 97
 "Women in the Progressive Era" (con-
 ference) 70
 Women's Legal Defense Fund 77, 81
 Women's Research & Education
 Institute 81
 Woolf, Harry 8
 Worachart Sirawaraporn 55
 Work in America Institute 67
 World Bank 37, 52
 World Federation for Medical Educa-
 tion 42
 World Health Organization 37, 40, 43,
 45, 50
 World Resources Institute 33
 Wuorinen, Charles 71
- Yadava, Kedar Nath Singh 56
 Yale University 70, 81, 90
 Yoshida, Nobuko 57
 Young, Arthur & Co. 105
 Yun Choong-Hyo 55
 YWCA of the USA, National Board
 of 80
- Zamora, Emilio 83
 Zheng Yi 55
 Zulkoski, Joan 9

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