SMITHSONIAN INSTITUTION

MUSEUM PROGRAMS, SCIENTIFIC AND CULTURAL RESEARCH
(SPECIAL FOREIGN CURRENCY PROGRAM)

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MUSEUM PROGRAMS, SCIENTIFIC AND CULTURAL RESEARCH
(SPECIAL FOREIGN CURRENCY PROGRAM) - SFCP

LIST OF PROJECTS

The Smithsonian Institution's Special Foreign Currency Program (SFCP) administers for the United States Government a program of grants in foreign currencies to American institutions to conduct research projects in so-called "excess" foreign currency countries. These are Egypt, India, Pakistan, Poland, Tunisia, Burma and Guinea (program inactive in last two). The SFCP supports research in Archeology and Related Disciplines, Systematic and Environmental Biology, Astrophysics and Earth Sciences, and Museum Programs. In FY 1974 Yugoslavia was removed from the Treasury Department's list of "excess" foreign currency countries and the SFCP made a final award to the newly established United States-Yugoslav Joint Board sufficient to complete agreed projects already approved.

In accordance with Smithsonian tradition, the SFCP supports projects primarily in basic, as distinct from applied, research. It is frequently difficult and sometimes impossible to prove the usefulness of a specific project in basic research. However, basic research as a whole provides new information, new conclusions and often unexpected new lines of inquiry that find uses in applied research and may supply the key to known or to unforeseen problems.

Basic research must receive funds, and the SFCP is a limited but excellent source because its funds do not come from today's taxpayer. These foreign currencies were generated years ago by the export of surplus commodities or by assistance loans. Nor can these funds be used for the general needs of the United States Government. They must be dedicated to agreed purposes and only in certain countries. Not to use them is to waste them, because their value in several of those countries is being rapidly evaporated by inflation.

In FY 1974 SFCP-supported projects involved participation by some 200 host-country scientists and 370 American scientists from about 45 American institutions in 32 states. The Program provides continuing transnational cooperation among scientists and scholars in common efforts to increase knowledge.

This presentation contains a statistical and a narrative section covering Fiscal Years 1974, 1975 and 1976. The statistical section shows by country and discipline (a) actual totals of funds (in dollar equivalents) obligated for all of FY 1974 and for the first half of FY 1975, and (b) estimated totals for the second half of FY 1975 and

all of FY 1976. The narrative section includes brief descriptions of all projects for which grant obligations were actually made (i.e. above category (a)). This form of presentation omits estimates and descriptions for projects that have not been or may never be funded, while offering the latest and most comprehensive information on those actually funded.

For each project the descriptions: (a) show the funding history in obligations that are exact for the reporting period and rounded off for prior years; (b) show grant and amendment numbers; and (c) attempt to give as clear a picture of research objectives as is possible in limited space. The narrative section also includes descriptions for specific projects subsumed within comprehensive grants to the United States-Yugoslav Joint Board and, for the first time, to the American Research Center in Egypt, Inc. (ARCE). The funding histories for the comprehensive grants represent actual obligations, but the funding histories for their component projects are given in parenthesis since they are part of the comprehensive grants.

Museum Programs, Scientific and Cultural Research
(Special Foreign Currency Program) - SFCP

FISCAL YEAR 1974 - ACTUAL OBLIGATIONS

Actual Obligations by Program

	Research Projects*	Research Development	Total
Archeology and Related Disciplines	2,313,301**	16,319	2,329,620
Systematic and Environmental Biology	1,347,144	71,380	1,418,524
Astrophysics and Earth Sciences	87,117	2,285	89,402
Museum Programs	85,808	6,635	92,443
TOTAL FOR RESEARCH	3,833,370	96,619	3,929,989
SFCP Grant Administration			77,974
Transfer to NSF for "Science Information Program"			140,000
Transfer to State Dept. for "Shared Administrative Expenses"			22,382
GRAND TOTAL			4,170,345

Actual Obligations by Country

	Agency Transfers and Grant Administration	Research Projects*	Research Development	Total
Egypt	1,976	1,765,912**	701	1,768,589
India	162,497	200,461	33,291	396,249
Pakistan	70,685	272,990	43,623	387,298
Poland	670	416,679	11,018	428,367
Tunisia	4,528	690,515	7,986	703,029
Yugoslavia	-	486,813	-	486,813
TOTAL	240,356	3,833,370	96,619	4,170,345

*These projects are described in the narrative.
**Includes $1,000,000 for preservation of Philae Temples

Museum Programs, Scientific and Cultural Research
(Special Foreign Currency Program) - SFCP

FISCAL YEAR 1975 (FIRST HALF) - ACTUAL OBLIGATIONS

Actual Obligations by Program

	Research Projects*	Research Development	Total
Archeology and Related Disciplines	1,004,708**	16,746	1,021,454
Systematic and Environmental Biology	225,538	23,029	248,567
Astrophysics and Earth Sciences	11,612	4,120	15,732
Museum Programs	70,826	7,781	78,607
TOTAL FOR RESEARCH	1,312,684	51,676	1,364,360
SFCP Grant Administration			48,000
GRAND TOTAL			1,412,360

Actual Obligations by Country

	Agency Transfers and Grant Administration	Research Projects*	Research Development	Total
Egypt	-	1,024,685**	5,410	1,030,095
India	48,000	28,741	20,521	97,262
Pakistan	-	70,729	17,720	88,449
Poland	-	83,437	7,865	91,302
Tunisia	-	105,092	160	105,252
TOTAL	48,000	1,312,684	51,676	1,412,360

*These projects are described in the narrative
**Includes $1,000,000 for preservation of Philae Temples

Museum Programs, Scientific and Cultural Research
(Special Foreign Currency Program) - SFCP

FISCAL YEAR 1975 (SECOND HALF) - ESTIMATED OBLIGATIONS

Estimated Obligations by Program

	Research Projects	Research Development	Total
Archeology and Related Disciplines	746,000	4,500	750,500
Systematic and Environmental Biology	678,600	42,800	721,400
Astrophysics and Earth Sciences	95,500	3,800	99,300
Museum Programs	289,300	2,100	291,400
TOTAL FOR RESEARCH	1,809,400	53,200	1,862,600
SFCP Grant Administration			10,700
Transfer to NSF for "Science Information Program"			95,000
Transfer to State Dept. for "Shared Administrative Expenses"			24,300
GRAND TOTAL			1,992,600

Estimated Obligations by Country

	Agency Transfers and Grant Administration	Research Projects	Research Development	Total
Egypt	1,000	493,800	13,100	507,900
India	123,000	293,600	21,100	437,700
Pakistan	1,400	193,000	12,200	206,600
Poland	1,000	386,900	6,800	394,700
Tunisia	3,600	442,100	—	445,700
TOTAL	130,000	1,809,400	53,200	1,992,600

Museum Programs, Scientific and Cultural Research
(Special Foreign Currency Program) - SFCP

FISCAL YEAR 1976 - ESTIMATED OBLIGATIONS

Estimated Obligations by Program

	Research Projects	Research Development	Total
Archeology and Related Disciplines	1,304,000*	9,000	1,313,000
Systematic and Environmental Biology	443,300	33,700	477,000
Astrophysics and Earth Sciences	262,000	5,000	267,000
Museum Programs	12,000	6,000	18,000
TOTAL FOR RESEARCH	2,021,300	53,700	2,075,000
SFCP Grant Administration			7,000
Transfer to NSF for "Science Information Program"			--
Transfer to State Dept. for "Shared Administrative Expenses"			30,000
GRAND TOTAL			2,112,000

Estimated Obligations by Country

	Agency Transfers and Grant Administration	Research Projects	Research Development	Total
Egypt	1,000	1,077,000*	12,000	1,090,000
India	33,000	237,200	22,800	293,000
Pakistan	1,000	185,100	8,900	195,000
Poland	1,000	220,500	8,500	230,000
Tunisia	1,000	301,500	1,500	304,000
TOTAL	37,000	2,021,300	53,700	2,112,000

*Includes $1,000,000 for preservation of Philae Temples

SMITHSONIAN INSTITUTION
MUSEUM PROGRAMS AND RELATED RESEARCH
(SPECIAL FOREIGN CURRENCY PROGRAM) - SFCP

Fiscal Year 1974

List of Grants

ARCHEOLOGY AND RELATED DISCIPLINES

EGYPT

Research Activities of the American		FY 66	259,000
Research Center in Egypt		67	177,000
J. Dorman		68	202,000
American Research Center in Egypt, Inc.		69	109,000
Princeton, NJ		70	26,000
		71	189,000
		72	434,000
		73	643,253
	SF3-11497 Amend. 1 & 2	74	465,477
	SF3-00108 Amend. 1		-32,458

The American Research Center in Egypt (ARCE) is a consortium of 19 American universities and museums, and about 400 individual scholars devoted to research and teaching about ancient and modern Egypt. It operates a headquarters in Princeton and a center in Cairo, Egypt to provide administrative support for its members' research. SFCP grants have supported the Cairo Center (No. 1 below) as well as research projects (Nos. 2-14) subsumed within the ARCE grant, that are here described individually for the first time. Shown (in parenthesis) is the amount authorized for each project in FY 1974; the excess of the total of these amounts over the FY 1974 grant was funded by carry-overs from the FY 1973 grant.

1. Operation of the Center in Cairo		(FY 66	48,275)
J. Dorman		(67	37,275)
American Research Center		(68	40,849)
in Egypt, Inc., Princeton, NJ		(69	42,093)
		(71	50,670)
		(72	88,482)
		(73	91,269)
		(74	150,000)*

The Cairo Center obtains Egyptian permits for American research projects, particularly for archeological excavations and Islamic studies. It provides each research undertaking with administrative support, e.g., by obtaining import and export permits for project equipment and research materials, housing, local purchases, and by keeping project financial records and publishing research results. The Center also serves as an American scholarly presence in Egypt by sponsoring lectures and symposia which involve the entire scholarly community in Egypt.

*included in ARCE grant

2. Ancient Egypt: Problems of History, Sources and Methods (Conference)
D. O'Connor
University Museum, U. of Pennsylvania
Philadelphia (FY 74 24,669)*

The increasing general shortage of research funds has emphasized the need long felt by Egyptologists to agree on research priorities. This grant supported a conference sponsored by the American Research Center in Egypt, the University Museum of the University of Pennsylvania and the Egyptian Antiquities Organization that assigned research priorities studies in prehistory and to interdisciplinary studies embracing modern anthropological and geographical theory as well as modern laboratory and computer techniques for analyzing materials and data. The Conference, that was strongly encouraged by the Egyptian Department of Antiquities, is considered to have given a strong new stimulus to Egyptology and its proceedings are soon to be published.

3. Editing the Nag Hammadi Codices by the Institute for Antiquity and Christianity
J.M. Robinson
Claremont Graduate School (FY 74 47,430)*
Claremont, CA

As important as the discovery of the "Dead Sea Scrolls" at Qumran, Jordan in 1947 which date from 200 B.C. to 67 A.D., has been the accumulation in Egypt in the years immediately following the Second World War of similar texts of Christian gnostic character which date from a slightly later period. These papyrus manuscripts, which appeared in various world markets over a period of several years, were ultimately traced to a discovery made in 1946 or 1947 in a cemetery near the town of Nag Hammadi on the Nile in central Egypt. Like the "Dead Sea Scrolls," the Nag Hammadi Codices will provide badly needed information about the religious and intellectual ferment characteristic of the time Christ lived. This grant contributes to the preservation of these once scattered Egyptian manuscripts at the Coptic Museum in Cairo and to preparing them for publication, both in photographic reproduction and in translation.

*included in ARCE grant

4. Epigraphic and Architectural Survey by the Oriental Institute, U. of Chicago at Luxor
K. Weeks
Oriental Institute, U. of Chicago
Chicago, IL

(FY	66	32,725)
(	67	26,730)
(	68	31,061)
(	69	32,859)
(	71	30,665)
(	72	64,806)
(	73	80,280)
(	74	128,590)*

"...Egyptologists...realize that the monuments of Egypt...are rapidly falling into ruin." said James Henry Breasted in 1906. He had gone to Egypt to document the rich history of ancient Egypt which was carved and painted onto the surfaces of its temples and monuments. In 1919, Professor Breasted established the Oriental Institute at the University of Chicago which in 1924 sponsored the documentation of these monuments on the substantial scale which the Institute carries on to this day, primarily at Luxor. "Chicago House" at Luxor was built in 1930 to house the scholars involved in the documentation work and to serve as research center. Its library is today the best Egyptological library south of Cairo. The work of the Oriental Institute has made a major contribution to salvaging the story of ancient Egypt from the eroding surfaces of its monuments. The Institute's publications have established the highest standard for such documentation employing a combination of drawing, photography, translation and background information. As Professor Breasted had foreseen, the erosion from wind-driven sand and vandalism each year still renders some inscriptions irretrievable--their stories lost forever.

5. Excavations in the Pyramid Area at Giza
H. Goedicke
Johns Hopkins University
Baltimore, MD

(FY	72	29,472)
(	74	41,642)*

Archeology in Egypt is now turning to studies of the lives of entire communities and away from its long concentration on monuments. The Pyramids and the associated tombs of ruling elites have been studied since the early 19th century, but the full story of the communities which built these monuments has not been unearthed. Johns Hopkins proposes to excavate areas not previously studied and by careful stratigraphic excavation of homes, shops, highways and the like to add new information to that obtained from monuments and tombs and thus to describe more fully the family, community and religious life of the masses of Egyptians at the time the Pyramids were built around 2500 B.C.

*included in ARCE grant

6. Iconography of the God Bes from the Old Kingdom to the End of the Late Roman Period
B. Bothmer and J. Romano
Institute of Fine Arts, N.Y.U.
New York, N.Y. (FY 74 2,986)*

During the time from 3,000 B.C. to 100 A.D., the god Bes emerged from obscure origins, perhaps in East or Central African religions, to become one of the chief protectors of the dead and one of Egypt's dominant religious forces through wisdom dispensed by his oracle at Abydos. This god was depicted with the head of a lion and the body of a man. He is portrayed brandishing either a knife or a pair of snakes to ward off those who would tamper with tombs. This study proposes to seek the origins of the god by study in East and Central Africa, to describe his evolving appearance and function in Egyptian iconography and to prepare a chronology of his development to permit a better understanding of his role in the lives of Egyptians over a period of three thousand years.

7. Maintenance of Archeological Research at the Site of Hierakonpolis (Nekhen) in Edfu District
W. A. Fairservis, Jr.
Amer.Mus.of Nat. History
New York, N.Y.

(FY 67 3,278)
(68 41,042)
(70 10,944)
(71 7,266)
(72 11,270)
(73 4,938)
(74 2,254)*

Egypt's ancient monuments have provided a rich store of information about the civilization there over the 3,000 year period before Christ. Earlier formative times when few monuments were built, have, as a consequence, been neglected until the past decade. Recently, scholars trained in the most sophisticated and scientific techniques of excavation have been attracted to Egypt to study this earlier period. Heirakonpolis, the capital of Egypt about 3000 B.C., offers such excavators a major urban complex occupied from about 4500 to 1500 B.C. which permits study of the prehistoric origins and development of the later cultural forms.

*included in ARCE grant

8. Maintenance of a Stratified Pharaonic Site in the Egyptian Delta at Mendes
D. P. Hansen
Institute of Fine Arts, N.Y.U.
New York, NY

(FY	66	40,000)
(	67	33,551)
(	69	4,500)
(	72	9,000)
(	73	4,500)
(	74	4,500)*

Excavations at this river port site which incorporates several substantial settlements have already provided information which clearly dates for the first time several cultural phases of Greek and Roman occupation during the period from about 300 B.C. to the early Christian era. But the site gives promise of substantially greater insights into the life in this Mediterranean town in these and much earlier times. Especially interesting is the information being obtained which will make possible the valid reconstruction of the town's organization, industry, economic connections with the outside world and social relations within the community itself.

9. Medieval Islamic Astronomy: Survey of Arabic Scientific Manuscripts in Cairo
O. Gingerich
Smithsonian Astrophysical Observatory
Cambridge, MA

(FY	73	108,120)
(	74	48,500)*

The Dark Ages in Europe were a time of enlightenment in the world of Islam. Science, particularly astronomy, mathematics and medicine, flourished in such places as Persia, Syria, and Egypt. Records of the works of many of the scholars of this medieval period have been preserved in Cairo, but most of them have not been studied by present-day scientists. The Egyptian National Library has agreed to open the entire collection of scientific manuscripts for the preparation of a critical catalogue listing all the manuscripts, and of scientific analyses of works of particular importance. The project has already unearthed the largest astronomical table ever computed before the advent of modern electronic computers. An analysis of several of the Cairo documents suggests that some of the geometrical mechanisms employed by Copernicus were already developed 250 years earlier, in the 13th century, in the Islamic world.

*included in ARCE grant

10.	Akhenaten Temple Project	FY 67	65,070
	R. W. Smith, FY 67-72	68	60,000
	University Museum, U. of	69	67,153
	Pennsylvania, Philadelphia, PA	70	80,970
		71	66,150
		72	5,216
	D. B. Redford, FY 72-present	(FY 72	51,897)
	American Research Center in	(73	138,128)
	Egypt, Inc., Princeton, NJ	(74	46,491)*

Photographs of the carved and painted surfaces of more than 30,000 building blocks 3,300 years old have been sorted by computer to permit the pictorial reconstruction of temples built by Pharaoh Akhenaten. His successors razed the temples in an attempt to eliminate Akhenaten from Egyptian history. The computer, however, permitted the sorting and matching of the blocks which have been recovered over the past century, some of them by dismantling in turn the monuments of Akhenaten's successors which had been built with Akhenaten's building blocks.

11.	Program to Conserve, Record and Publish Four Old Kingdom Mastabas in the Great Western Cemetery of the Giza Necropolis		
	K. Weeks	(FY 72	29,234)
	Oriental Institute, U. of Chicago	(73	20,095)
	Chicago, IL	(74	2,790)*

The death in 1942 of the pioneer Egyptologist, George Andrew Reisner, and the death in 1969 of the only remaining student who had worked with him on some of the tombs in the shadow of the Pyramids at Giza left some 80 percent of Reisner's notes unpublished. Notes on four major tombs were made available to the principal investigator who has now completed cleaning, recording and conserving the reliefs and inscriptions in these tombs. His publication now in preparation will present an analysis of the lives of three generations of one family which served the Pharaohs in about 2500 B.C.

*included in ARCE grant

12. Research in Modern Arabic Literature: (FY 69 5,001)
III. The Literature of Ideas (71 7,862)
G. E. von Gruenebaum and S. Vryonis (72 6,809)
The Near Eastern Center (73 5,017)
U. of California Amend. 2 to (74 35,686)*
Los Angeles, CA SF3-11497

Although Arab-speaking peoples are assuming increasing importance in the modern world, little Arab literature is available to English-speaking peoples. Arabic Writing Today, Volume I, The Short Story has already appeared, edited by the late Gustav E. von Gruenebaum. The second volume, translations of stage plays, is almost ready for the printer. Selections for the third volume, The Literature of Ideas, are now being translated for publication in 1977. The series will make available for the first time in English the most characteristic and the best writing done during the recent years of ferment and turmoil in the Arab world.

13. Study to Determine the Feasibility of Clearing, Conserving and Recording the Tomb of King Ramasses II in the Valley of the Kings
B. Bothmer and R. Fazzini
The Brooklyn Museum (FY 74 6,980)*
New York, NY

Understanding the history of ancient Egyptian religion has been severely handicapped by lack of information on five tombs in the Valley of the Kings at Thebes. One of these is that of Ramasses II. It is filled with the dust and debris of ages which present a major problem to scholars hoping to study the interior walls which are covered with carved and painted inscriptions. A study of the feasibility of clearing the tomb is an essential first step in any undertaking which could last many years.

*included in ARCE grant

14. Tomb of Nespekashuty and Egyptian Private Tomb Relief Style in the First Half of the Seventh Century B.C.
B. Bothmer and E. Stefanelli
Institute of Fine Arts, N.Y.U.
New York, NY

(FY 74 3,249)*

The vitality of a people is communicated down through the ages through the medium of its surviving art. The Seventh Century B.C. in Egypt was a time of great artistic expression. The scenes carved on the interior walls of surviving structures, primarily tombs, of the period provide ample evidence of this. It is proposed to write a chapter of the history of ancient Egypt by studying and recording surviving tomb reliefs and publishing, with photographs and drawings, a comprehensive analysis of the style of the time just as one might analyze the style of the "Impressionists" of the first part of the 20th Century A.D.

*included in ARCE grant

15. The Prehistory of Central Egypt		FY 68	33,000
F. Wendorf		69	40,000
Southern Methodist U., Dallas, TX		73	29,000
	FR4-60094	74	34,433
	Amend. 1	74	35,000

Egypt today is largely desert yet in antiquity it offered man wide areas in which to thrive and create an early and highly advanced social system. Through a study of the geology and prehistoric geological remains of the Egyptian desert, this project has established a chronology of environmental changes and the appearance and development of early man. The work was carried out in cooperation with the Egyptian Archaeological Survey, the Polish Academy of Sciences, and the Washington State University.

16. The Stellar Alignment of the Egyptian Temples at Karnak		FY 71	1,000
G. S. Hawkins		72	---
Smithsonian Astrophysical Observatory		73	7,000
Cambridge, MA	FR4-60098	74	6,960

The same astronomer who demonstrated that the massive megaliths at Stonehenge in England were erected by a prehistoric people who demonstrated a considerable knowledge of astronomy is in this project testing the hypothesis that Egyptians might have lined up certain temples with the sun, moon or stars. In this project an American astronomer has teamed up with an Egyptian archaeologist, to correlate hieroglyphic inscriptions with astronomical findings. Several temples have been eliminated as possibilities but some, such as Amon-Re at Karnak, may support the hypothesis. The Principal Investigator presented preliminary results to a meeting of scientists at the Egyptian Academy of Sciences.

		FY 68	10,000
		69	17,000
17. The Dra Abu el-Naga Project		70	17,000
L. Bell		71	26,000
U. of Pennsylvania, Philadelphia, PA		72	---
	FR4-60101	FY 74	35,600

This project is intended to continue and publish work begun by the University of Pennsylvania in 1921-23, at a site in the Theban necropolis across the Nile from Luxor. Major effort has been devoted to cleaning and deciphering inscriptions on tombs of the high priests of Amun, who wielded great temporal power in the twelfth century B.C. As with all archaeological projects in Egypt, work has been supervised by the Egyptian Department of Antiquities. It has yielded much new information.

18. The Pleistocene Sediments			
of the Nile Valley, Egypt			
F. Wendorf			
Southern Methodist U., Dallas, TX			
	FR4-60109	FY 74	9,880

This project supports mapping and sediment sampling of a newly discovered section of the oldest Nile deposits, as a contribution to research that the Egyptian Geological Survey and SMU have conducted jointly since 1961. The Nile has thick Pliocene-Pleistocene deposits (over 3 km. deep in the northern delta reaches) that have preserved a unique record of the river's history. Study of this record can enhance understanding of the process of desertification and the evolution of the Sahara, the eastern Mediterranean basin, sub-equatorial Africa and the Red Sea. Results will be published in the Proceedings of the International Conference on Northeast African and Levantine Pleistocene Prehistory organized by SMU.

19. Excavations within the Town and Harbor			
Site of Malkata, Western Thebes		FY 71	28,000
D. O'Connor		72	27,000
U. of Pennsylvania, Philadelphia, PA		73	52,000
	FR4-60110	74	59,112

This research should throw new light on development and functions of towns along the Nile in ancient Egypt. Excavation and research have now proven the contemporaneity of the harbor of Kirket Habu with the palace-city of Amenhotep (1417-1379 B.C.). The project has also discovered comparatively well-preserved remains of a town probably used by workers and artisans engaged in building and decorating the palace-city.

20. US Contribution to UNESCO's Nubian Monuments Campaign - The Temples of Philae
Director General Maheu
UNESCO, Paris, France — FR4-60113 — FY 74 — 1,000,000

The United States has now completed the first of four annual $1 million contributions to help save the monuments at Philae that have been inundated by waters above the (low) Aswan Dam. These contributions are made through UNESCO to the International Campaign for Safeguarding the Nubian Monuments. A cofferdam has been completed around Philae, water is being evacuated, and monuments are being prepared for storage and transfer to the higher neighboring island of Agilkia.

21. Archaeological Excavations at Qasr Ibrim, Egyptian Nubia
W. Y. Adams
U. of Kentucky, Lexington, KY — FY 73 — 5,000
TA 74-142, 143 — 74 — 4,768

Qasr Ibrim is the last major archaeological site which has not already been destroyed by the Nile above the High Aswan Dam. The Principal Investigator of the project worked there with the Egypt Exploration Society in highly successful excavations in 1972 and has been invited back for 1974. In 1972 was discovered a temple that had been built by Egyptian colonists about 1500 B.C., rebuilt by Nubians, and finally used as a church for the Christian period (500 A.D. - 1500 A.D.)

22. Support for Activities in India of the American Institute of Indian Studies
E.C. Dimock
American Institute of Indian Studies
Chicago, IL

FY 68	147,930
FY 70	133,920
FY 71	478,660
FY 72	230,429
FY 73	1,134,030

The American Institute of Indian Studies (AIIS) is a consortium of 28 American colleges and universities in which teaching and research on India are conducted as a part of the academic program. These are almost all of the institutions in America devoting a significant portion of their resources to Indian studies and the Institute thus represents the highest level of such scholarly activity. The Government of India has concluded a formal agreement with the Institute and considers it an appropriate non-governmental channel for American scholars to employ in seeking advanced training or research opportunities in India, particularly in the social sciences and the humanities. The Institute maintains four small administrative offices on the sub-continent which receive Smithsonian support. They seek Indian collaborators for American scholars and essential approvals of institutions, and of state and federal governments. These offices provide orientation, assist with research, and publication and with housing, transportation, and shipping problems. Smithsonian funds primarily support AIIS research fellowships (item 34 in FY 1974) and projects sponsored by the Institute (See items 23 and 24 below), as well as the administrative costs mentioned above.

23. Documentation of Ritual Art Forms as Communications Systems of Traditional Culture
C.R. Jones
American Institute of Indian Studies
Chicago, IL

	FY 73	33,304
Amend. 2 to SF3-11638	74	27,100

Imagine the stories of the Bible dramatized in church by professional actors and combined with music and dancing in performances lasting several days. Such has been the traditional pattern of handing down Indian religious history from one generation to the next. Modern systems of mass communication are taking over some of this process of cultural transmission, and interest in and support for the traditional temple theater is dwindling. This project has now completed the filming of a number of these traditional events in Kerala, South of India. The films are one method of preserving these disappearing cultural forms. They are also the basis for a study of cultural transmission which is nearing completion. Texts of a representative selection of these dramas are being translated to enable English-speaking peoples to understand the nature of this Indian tradition.

24.	Support for the American Institute of Indian Studies Center for Art and Archeology at Benares		FY 66	76,850
			FY 67	130,750
	E.C. Dimock		FY 68	144,500
	American Institute of Indian Studies		FY 69	139,230
	Chicago, IL		FY 71	121,012
			FY 73	113,425
		FR4-60095	FY 74	101,370
		Amend. 1		-3,000

The Allahabad Museum turned to the AIIS Center for Art and Archeology for photographs of a statue stolen after the Center had completed its catalogue of photographs and index of the Museum's sculpture collection. Without the photograph the police would have had no chance of locating the object in the art shops of India. This is one of the more dramatic purposes served by this Center which was established to apply rigorous scholarly standards to the massive job of photographing and indexing the art collection, and the temples and monuments of India which abound in every region of the sub-continent. The Center, established in collaboration with the Benares Hindu University, is expected one day to contain sufficient material to permit art historians to establish sound priorities for research of India's art.

PAKISTAN

25.	Archaeological Excavations at the Harappan Seaport of Balakot, Pakistan			
	G. F. Dales	FR4-60092	FY 74	33,445
	University of California	FR4-60111		
	Berkeley, CA			

Harappan civilization, which flourished in South Asia about 2500-1800 BC, was contemporaneous with and may have had its origins in the civilization of Sumer. Ancient historical records suggest that the Harappans maintained some cultural and economic contact with Sumer and Babylon by means of coastal seafaring activities. Balakot may have been one of three seaport sites in this traffic. This project seeks evidence of the extent of contacts between East and South Asia, information on the nature of a provincial Harappan town in contrast to the stereotyped image of Harappan civilization derived from findings at the large city of Moenjodaro, and written records. The hope is that such records may also provide clues to identification of the Harappan language.

26. Excavations at the Harappan Site of Allahdino in the Malir Area, Karachi District, Pakistan
W. A. Fairservis
American Museum of Natural History
New York, NY

FR4-60112	FY 73	28,000
	74	44,340

Harappan civilization was undoubtedly an influential predecessor of Indian civilization. This study proposes to throw light on the Harappan civilization by producing as clear and detailed a picture as possible of one agricultural village site, Allahdino. The first season's work suggests, for instance, that the original settlers were essentially plebeian, and motivated not by trade but by farming, but its conclusions have to await further investigation.

27. Deleted

POLAND

28. Archaeology of the Neolithic and Early Bronze Age in Southeastern Poland
R.S. Milisauskas
SUNY at Buffalo
Buffalo, NY

FR4-60106 & Amend. 1	FY 74	302,575

This project is aimed at investigating the pre-historic environment, settlement system and lifeways of Funnel Beaker culture communities. Hopefully it will contribute toward understanding the origin of the kin-organized societies. This work is being carried out in close collaboration with the Institute of the History of Material Culture, Polish Academy of Sciences.

29. Participation by 3 Polish specialists in IX Int. Cong. of Anthropological and Ethnological Sciences (held in Chicago)
R.S. Milisauskas
SUNY at Buffalo
Buffalo, NY

TA74-49, 50,51	FY 74	5,075

The SFCP supported international travel (only) of the Director of Poland's Institute of Material Culture, and two other prominent archeologists to attend the above Congress in order to make known and enhance the work of the project described immediately above.

30. Participation by 4 Polish specialists in Int'l Numismatic Congress (held in NY & DC)
G. Miles
American Numismatic Society — TA73-242 thru 245 — FY 74 — 4,100
New York - Washington 1973

At the request of the International Numismatic Commission and the American Numismatic Society, the SFCP supported the international travel (only) of four distinguished Polish scholars to attend the above Congress sponsored by the American Numismatic Society and the Smithsonian Institution.

TUNISIA

31. Modernization in Rural Tunisia
N.S. Hopkins
New York University
New York, N.Y.
Amend.1 to SFC2-9043 — FY 74 — 12,125

This was a joint effort by New York State University and the Center for Economic and Social Studies and Investigations (CERES) in Tunis to examine the social and cultural changes taking place in two agricultural centers. The field work has been completed and publication is being prepared.

32. A Corpus of the Ancient Mosiacs of Tunisia
M. Alexander
Dumbarton Oaks Center for Byzantine Studies
Washington, D.C. and University of Iowa
Iowa City, IA

	FY 69	29,000
	FY 70	59,000
	FY 71	58,000
	FY 72	84,000
	FY 73	80,000
FR4-60105	FY 74	81,491

The Tunisian mosaics are among the most distinctive of the mosaics which the ancient Romans left. Some unique ones of the Christian period remain. These priceless treasures are being exposed to destruction because of rapid urban development, and unless taken up, transported to safety in a museum, or preserved in some other fashion, they will be lost to humanity. The "corpus" of Tunisian mosaics being prepared by this project includes a complete, detailed description of each mosaic unearthed; all this data will henceforth be available generally in university and museum libraries.

YUGOSLAVIA

U.S. Share of Support for Archeological Projects Funded by the U.S.-Yugoslav Joint Board on Scientific and Technological Cooperation	FR4-60104	FY 73	280,000
		74	85,908

On May 13, 1973, the United States and Yugoslavia entered into an agreement to establish a Joint Fund to which each would contribute equal amounts of Yugoslav dinars in order to maintain the collaboration in science and technology previously supported entirely with U.S.-owned Yugoslav dinars generated primarily from the sale of surplus U.S. agricultural commodities to Yugoslavia. The Joint Fund, governed by a U.S.-Yugoslav Joint Board, makes grants to collaborative projects upon which the U.S. funding agency and a Yugoslav funding organization agree in advance. Shown (in parenthesis) for archeology projects Nos. 33 and 34 and for biological project Nos. 66-69 are the amounts authorized by the Joint Board for CY 1974. The U.S. share of support was funded largely by SFCP grants in FY 1973. The SFCP's obligation for FY 1974 will be used chiefly to fund the U.S. share of the terminal years of several of these projects.

33.	Excavations at the Palace of the Roman Emperor Diocletian at Split, Yugoslavia S. McNally University of Minnesota Minneapolis, MN	FY 68 FY 69 FY 70 FY 71 FY 72 FY 73 FY 74	33,000 78,000 60,000 13,000 78,000 46,000 (121,931)*

An unusual example of archeological urban exploration is now in its final year at Split, Yugoslavia where the Town Planning Institute of Dalmatia invited a team of American archeologists to work along side urban renewal planners and engineers in the preservation of the palace of Diocletian, Emperor of Rome from 284 to 305 A.D. The huge palace was abandoned following the barbarian invasions of the Roman Empire. Subsequently an entire medieval city was built inside the walls. Both the palace and the medieval town were deemed well worth preserving although elements of both were in dangerous disrepair. The American archeologists working step-by-step with the demolition crews, and with the architects and construction crews studied every accessible element of the palace and the medieval town as renewal work progressed. The result has been to provide the knowledge with which to preserve structures of great historic interest side-by-side with buildings in current use.

34.	Archeological Excavations at Stobi J. R. Wiseman Boston University Boston, MA	FY 70 72 73 74	40,000 76,000 69,000 (99,293)*

In Greek and Roman antiquity there was constant intercourse with the inland peoples to the north and east in what is now the Balkans. Little is known about these peoples and how they influenced the great civilizations from which our own emerged. Macedonia, the home of Alexander the Great, has been identified by archeologists as an area where the cultures of the inland peoples and those of Greece and later of Rome interacted. The Smithsonian has supported a prehistoric excavation (UCLA, M. Gimbutas, FY 69-70 and 72) as well as the current one of the Greek and Roman city site of Stobi, which together have already published substantial information throwing new light on the history of this cultural melting pot.

*Included in grant to U.S.-Yugoslav Joint Board (see explanation preceding item 33).

EGYPT

35. Publication of Two Memoirs by Societe Entomologique d'Egypte
K. V. Krombein
National Museum of Natural History, Smithsonian

	FY 73	10,000
Amend. 1 & 2 to	FY 74	700
SF3-00104	FY 74	120

The first memoir was written by A. Alfieri, the "father" of Egyptian entomology. It provides a systematic list of Egypt's 3,000-odd species of beetles, with notes on their distribution, seasonal occurrence, taxonomy and ecology. The second is by H. C. Efflatoun Bey who for many years was head of the Department of Entomology at Cairo University and inspired many students to specialize in that discipline. Publication will require careful editing and updating and will benefit entomologists not only in Egypt but also in the United States and around the world.

36. Systematic Studies of the Molluscan Genus Bulinus in Africa and Adjacent Regions
J. B. Burch
U. of Michigan, Ann Arbor, MI

FY 73		31,000
Amend. 2 to		
SF3-00110	74	8,333
FR4-60114	74	86,687

This project is a systematic study of one genus of snail distributed throughout Africa and common in Egypt. It presents research difficulties because of factors such as variations in shell structure in different locations, and genetic complexity. It is hoped that the final result will be a model for modern systematic and zoogeographic studies on mollusks. Snails are animals whose biology is very important to understand because of the capacity of some snails as carriers of disease affecting man and animals. Collections have been made in other countries in Africa. The laboratory work is being carried out in cooperation with Ain Shams University in Cairo.

37. Recovery of Rare and Important Vertebrate Fossils from the Gebel El Muluk Pliocene Locality at Wadi Natrun
R. H. Slaughter
Southern Methodist U., Dallas, TX

FR4-60090	FY 74	6,640

Earlier research by SMU's Shuler Museum of Paleontology at Gebel el Muluk produced several fossils of African freshwater fish and a few fossils of a previously unknown rodent. It is hoped that the recovery of substantially more remains will lead to greater knowledge of vertebrate species that evolved in this area and spread into the northern Mediterranean and, possibly, into the Indo-Malayan region.

Research Development, Research Coordination,	FY 67	25,770
Symposia and Training fostering the United	68	10,301
States contribution to the International	69	1,800
Biological Program	70	50,000
U.S. National Committee for the International	71	30,000
Biological Program (US-IBP)	72	4,375
National Academy of Sciences	73	14,540
Washington, D C.	74	(49,338)

The International Biological Program (IBP) was established under the auspices of the International Council of Scientific Unions (ICSU) and the International Union of Biological Sciences (IUBS) and was sponsored in the United States by the National Academy of Sciences (NAS). Its operational phase started in 1964 and lasted until June 30, 1974. The U.S. Congress by Joint Resolution in 1967 urged the support of federal and private institutions for the IBP. The SFCP contributed to the United States IBP through awards for scientists whose work involved research or collaboration in excess foreign currency countries. Grants in this period were made in accordance with SFCP procedures on recommendations of US-IBP. Most of the grants in the final year of IBP, FY 1974, were in support of collaborative efforts to synthesize and publish the results of previous scientific research. Above figure is total of IBP obligation for FY 1974. Actual obligations for specific projects follow (Nos. 38, 39, 43, 48, 50, 51, 52, 53, 54, and 55).

38.	US-IBP	TA74-248 thru 254	FY 74	10,525

Seven American scientists participated in the Joint Egyptian American Symposium on Arid Lands Ecosystems in Cairo, Egypt.

39.	US-IBP	TA73-302	FY 74	1,340

The coordinator of Egyptian Desert Biome studies under the IBP visited Utah State University, Logan, Utah to coordinate research programs in Egypt with those in the United States.

INDIA

40.	Habitat Relationships, Numbers and Distribution of Wild Ungulates in the Gir Forest, India P.A. Jordan Yale U., New Haven, CT		FY 70	35,000
			71	26,000
			72	30,000
			73	8,000
		Amend. 4 to SFG 0-1894	74	341
		Amend. 5 to SFG 1-3738	74	213

This project has produced a survey of wildlife and its relation to man in the area that has been embodied in a paper entitled "Conservation of a Natural Ecosystem in the Gir Forest, India" and is to be published. This basic work should be of great value in the management of the forest.

			FY 69	21,770
41.	A Flora of the Hassan District,		70	22,223
	Mysore State, India		71	26,000
	D. H. Nicolson		72	11,500
	Smithsonian Institution	Amend. 4 to	74	3,240
	Washington, DC	SFG2-5028		

Underlying all environmental studies on land must be thorough studies to identify accurately each form of plant life and the place of each form in the community of living things, the ecosystem, of which it is a part. This study in India is one such carefully controlled study of a limited area with a wide range of plant life. It has benefited from the participation of highly competent Indian scientists and may constitute a model of modern research technique in India. The project has contributed a large number of new specimens to the reference collections of the U. S. National Herbarium and to the Beal-Darlington Herbarium at Michigan State University.

42.	Indian Migratory Bird		FY 69	3,000
	Project		FY 70	18,000
	S. D. Ripley		FY 71	35,000
	Smithsonian Institution		FY 72	25,000
	Washington, DC		FY 73	10,000
		TA74-89 & 90	FY 74	21,810

This project aims to continue the study of the patterns of migration of birds of South Asia as well as their possible role in the spread of diseases harmful to animals, crops and man (a continuation of World Health Organization studies) and to employ the information obtained in the preparation of a Handbook of Indian Birds. The handbook and the studies of migration and of possible disease transfer are essential elements in understanding the basic ecology of India where man and a wide variety of animals live in close interrelation. The Bombay Natural History Society and many Indian scientists have been active in this work.

43.	US-IBP	TA74-150 thru 155	FY 74	12,284

Six American scientists participated in the symposium in India to synthesize IBP Tropical Grasslands research results obtained in a number of national programs. See the description of the IBP preceding No. 38 above.

44. Paleoanthropology, Paleontology and Stratigraphy of Neogene Localities in Pakistan
D. Pilbeam — FR4-60117 — FY 74 — 103,950
Yale University
New Haven, CT

Geological strata formed some 10 to 30 million years ago are exposed in the Siwalik hills in South Asia, in the Faiyum region in Egypt and in the Rift Valley in East Africa. Studies in each area are producing fossil mammals from the time of man's earliest development and, in some cases, fossils of man's primate ancestors. Earlier finds in the Siwalik range consisted mainly of larger specimens because techniques were restricted to surface collecting. Recently, however, another Yale expedition in India succeeded in recovering fossils of small mammals by employing intensive quarrying, washing and screening techniques. The proposed project seeks to recover similar fossils of large and small animals in Pakistan in the search for a better understanding of man's evolution. Yale University and the Geological Survey of Pakistan will collaborate in geological and paleontological exploration and analysis of four areas (Potwar Plateau, Trans-Indus Salt Range, Sulaiman Range, and Kirthar Range) over a period of three years.

45. Cenozoic Mammal Fossils of Pakistan
S.T. Hussain
Howard University — FR4-60118 — FY 74 — 85,439
Washington, DC

Pakistan lies athwart the great geological fold belts that culminate in the Himalayan uplifts. Sediments in this area, known as the Siwalik deposits, appear in widely spaced outcrops and are extraordinarily rich in mammal fossils of which little is yet known. This is Howard University's first project in Pakistan and its objectives are similar to those of Yale University's project (No. 44). The two projects will coordinate their work but remain separate for greater administrative efficiency and for the convenience of the Geological Survey. Howard will work in different areas, focus on an earlier geological period, and give more emphasis to non-human fossils and early primates.

46. Search for an Excavation of Vertebrate and Hominid Fossils in the Siwaliks, Pakistan
D. Pilbeam
Yale University
New Haven, CT

TA74-85, 86, 117 FY 74 4,866

The grant for a field research trip supported exploratory excavation and research that established the value of the larger effort described in No. 44.

POLAND

47. Comparative Study and Geography of Selected Devonian and Permian Corals in Poland and U.S.A.
W.A. Oliver
National Museum of Natural History
Smithsonian, Washington, DC

FR4-60100 FY 74 25,672

New and existing data on the geographic distribution of Devonian and Permian corals will be used to test current hypotheses of the positions of the continents in those periods. Specific objectives include the completion of a systematic study and evaluation of the Permian rugose corals in the Glass Mountains, Texas, study and collection in Poland (which has the most easterly Devonian coral fauna outside of the USSR), and direct comparison of Polish and North American corals.

48. US-IBP

TA73-287, 303, 307, 322 FY 74 5,753

Four American scientists participated in the symposium in Poland to synthesize IBP Grazing Lands research results obtained in a number of national programs. See the description of the IBP preceeding No. 38 above.

49. A Biochemical Investigation of *Rana esculenta*, a Bisexual frog of possible hybrid origin
T. Uzzell
The Academy of Natural Sciences
Philadelphia, PA

TA74-1, 2 & 295, 296 FY 74 8,584

The reproduction of this species of frog is normal in some respects and in others gives rise to abnormalities in the distribution of chromosomes and to hybridization. Questions of how and why this occurs pose basic problems in genetics. Dr. Uzzell's work has now attracted funding from another source.

50. U.S. National Committee for the International Biological Program (US-IBP)
National Academy of Sciences
Washington, D.C. TA74-43 thru 45 FY 74 4,028

Three American scientists participated in the symposium in Poland to synthesize IBP Graniverous Birds research results obtained in a number of national programs. See the description of the IBP preceeding item 38 above.

51. US-IBP TA74-54, 72 FY 74 2,419

Two American scientists participated in an IBP Workshop in Poland on Systems analysis and modelling of ecosystems.

52. US-IBP TA74-68 FY 74 912

One American scientist participated in an IBP workshop in Poland on Woodlands, attended the International Soil Biology Colloquium and met with ecologists at the Polish Academy of Sciences.

53. US-IBP TA74-70 FY 74 705

The US-IBP invited one Polish mammalogist from the Institute of Ecology of the Polish Academy of Sciences to consult on IBP research in the United States and to attend the meetings of the American Association of Mammalogy.

54. US-IBP TA74-104 thru 114 FY 74 10,434

Eleven American scientists participated in an IBP symposium in Poland to synthesize small mammal research results obtained in a number of national programs.

55. US-IBP TA74-198 FY 74 938

One American scientist participated in the IBP symposium in Poland devoted to research on the Tundra Biome.

TUNISIA

56. International Biological Program (US-IBP)
Technical Planning Conference in Tunis

L. M. Talbot		FY 67	25,000
Office of Environmental Sciences	Amend. 4 to	74	4,900
Smithsonian, Washington, D.C.	SFC7-0065		

This amendment has been made to the original grant to permit publication of the proceedings of the highly important International Biological Program Conference that was held in Tunis in March, 1968.

57. Systems Analysis of the
Pre-Saharan Ecosystems in
Southern Tunisia

		FY 71	4,000
		72	98,000
F. H. Wagner	Amend. 4 & 5	74	48,207
Utah State University	to SFG2-3493		
Logan, UT	FR4-60099	74	81,750

This project is coordinated with the U.S. Desert Biome Program of the United States National Committee for the International Biological Program. It seeks on the edge of the Sahara Desert what the US-IBP studies are seeking in our own western deserts, namely, information as to whether the desert is advancing or contracting, whether its ecology is dynamic or stable, and similar questions. In answering these questions, the most sophisticated of modern tools are employed, including computer analyses of statistical models of desert ecosystems. The Tunisian Department of Agriculture is cooperating with this study as a part of its program for management and reclamation of desert lands. (See No. 21, FY 1975.)

58. Marine Decapod Crustaceans of
North Africa

		FY 72	50,000
		FY 73	25,000
R. B. Manning	Amend. 3&4	FY 74	41,490
Smithsonian Institution	to SFG2-5955		
Washington, DC			

The marine decapod crustaceans include shrimps, crabs, and lobsters and comprise more than 8,000 species. They are commercially important. This study is producing comprehensive information on coastal fauna. It has verified damage being done to marine life by pollution, and has discovered a large population of a commercially useful species of shrimp.

59.	Support for the Mediterranean Marine Sorting Center, a facility for processing marine organisms R. P. Higgins Smithsonian Institution Washington, DC	Amend. 1 & 2 to SF3-00098 FR4-60115	FY 67 FY 69 FY 70 FY 72 FY 73 FY 74 74	150,000 216,000 477,000 199,000 241,000 215,800 67,000

The Center has been operated since 1966 in cooperation between the Smithsonian Oceanographic Sorting Center and the Tunisian Institute of Oceanography and Fisheries. It has accomplished its objectives by sorting about 10.8 million specimens, by distributing specimens by species to specialists around the world for study, by adding greatly to reference collections of Mediterranean marine life, and by providing scientific experience and training to 30 Tunisians and technicians from other North African countries. The project will be terminated on June 30, 1975.

60.	Paleontological Research in Tunisia and Western Mediterranean P. Robinson University of Colorado, Boulder, CO	Amend. 2 to SF3-00113	FY 73 74	37,000 1,000

Much of what is known about the evolution and development of plants and animals has come from the study of fossils. Past research carried out in Tunisia by the University of Colorado has identified the fossil remains of large numbers of mammals and other vertebrates. The purpose of this study, in cooperation with Tunisian scientists, is to determine the age and chronological appearance of mammal species, based upon the known age of the rocks in which the fossils are located. Present evidence suggests that the age and diversity of Tunisian rock formations are such as to provide the key to understanding the evolution of mammals for all of North America.

61. Population Biology and Cytogenetics of Desert Mammals

E. L. Cockrum		FY 72	56,000
University of Arizona		73	
Tucson, AZ	FR4-60091	74	62,165

The purpose of this study is to compare the cytogenetics of natural populations of Tunisian and Sonoran small desert mammals. A better understanding of the role they play in a desert ecosystem could lead to information useful in land management. Considerable progress has been made in identifying and analysing sets of somatic chromosomes, and some Tunisian students have been trained in this specialized work.

62. Effect of the Messinian "Salinity Crisis" on Miocene Tethys-Mediterranean Microfauna--VI African Micropaleontological Congress

R. H. Benson			
National Museum of Natural History	FR4-60096	FY 74	12,305
Smithsonian, Washington, D.C.	& Amend. 1		

Evidence produced by deep-sea drilling indicates that some six million years ago, a very large geologic event took place in the Mediterranean area. One theory is that the Sea may at that time have almost become a desert. The purpose of this project was to support a meeting of leading micropaleontologists of different nations, on the occasion of the Sixth African Paleontological Colloquium, to discuss this geologic event, termed the "Messinian salinity crisis," in terms of their individual research and views, and to permit some field research in Tunis. The exchange of views was most useful in clarifying opinions on the various theories, and results are being published. Such study of fossil remains by micropaleontologists provides a test of geologic evidence and has proved a valuable guide in petroleum exploration.

63. Collection of mollusks in Tunisia for the project: Systematic Studies of the Molluscan Genus Bulinus in Africa and Adjacent Regions

T. LoVerde			
University of Michigan	TA74-97	FY 74	363
Ann Arbor, MI			

This project supports the collection of specimens of snails in Tunis for analysis in Egypt under the research project of the same name. (No. 36)

64. Exploitation of habitats by chemically differentiated races of morphologically uniform lichen-forming fungi
W. Culberson & C. Culberson
Duke University TA74-210,211 FY 74 3,370
Durham, NC

The differential exploitation of the habitat by chemical races with different physiological potentials is a newly discovered facet of the biology of morphologically uniform lichen-forming fungi. Study of these races in the scrub vegetation of Tunisia should produce a broader base for generalizations regarding the evolutionary significance of chemical differentiation in these fungi. Research of this type could lead to an increase in man's knowledge of the adaptation of plants to pathogens and stress conditions and possibly have agricultural significance.

65. Study on Pollen Flow in Lythrum junceum, and location of macchia communities for subsequent collections of seeds
R. Ornduff
U. of California
Berkeley, CA TA74-212 FY 74 1,956

This project supports the study of a myrtle-like plant under field conditions in Tunisia to determine the plant's pollination strategies. An increase of knowledge on this general subject could be useful in enhancing reproduction mechanisms in plants of economic interest.

YUGOSLAVIA

U.S. Share of Support for Biological Projects Funded by the U.S.-Yugoslav Joint Board on Scientific and Technological Cooperation FR4-60104 FY 74 400,905

For background explanation see item preceding No. 33

66. Cooperative Studies on the Cytotaxonomy of Yugoslav Flora
F. Vasek
University of California
Riverside, CA

FY 71	51,000
FY 72	58,000
FY 74	(--)

The plants of Yugoslavia are varied because of the combination of tropical, alpine, and plains varieties which have taken root in its varied terrain. They are partially identified by means of the classic descriptive method, but little studied from the point of view of modern chromosome and chemical analysis. Such studies will not only contribute to the management of the plant life of Yugoslavia, but they will provide insights into the process of development of new strains of plants.

67. Studies of the Ecology of Lake Ohrid and Its Drainage Basin

R. P. Higgins and H. Allen	FY 72	335,000
Office of Environmental Sciences	73	108,000
Smithsonian, Washington, D.C.	74	(191,928)*

This study is examining the complex relationships among the activities of man and of the animals and plants of the drainage basin of Lake Ohrid in southern Yugoslavia. The lake has already been the site of basic descriptive studies of the fish and their evolution by the father of Yugoslav ecology, Professor S. Stankovic, which have provided a firm base for the current work. The project has produced eleven major publications on, for example, the nutrient requirements and limitations of the plankton and fish populations of the lake. Information has been developed on the effect of effluents on the lake and its nutrient budget, as a basis for preparing a management strategy relevant to tourism and commercial fishing. A computer model on the thermal stratification is near completion.

68. A Cooperative Program in Environmental Management at Lake Skadar

R. P. Higgins	FY 72	326,000
Smithsonian, Washington, D.C.	73	124,000
	74	(210,831)*

An aluminum plant is under construction in the drainage basin of Lake Skadar. A drainage tunnel is proposed to carry drinking water from the lake to the Adriatic Sea. Tourism is expanding ar sport fishing is taking ever larger numbers of fish from the lake. Basic studies are underway on the current biological status of the lake as well as studies to monitor the impact of these man-made "disturbances" on the health of the area. The project has produced a limnological chart of the lake and made progress toward understanding its nutrient dynamics. It appears, for instance, that the preservation of aquatic plants may be important because they supply about 50 percent of the lake's nutrients.

69. Mammals of the Adriatic Islands and Adjacent Mainland of Yugoslavia

D. Carter		
Texas Tech U		
Lubbock, TX	FY 74	(12,313)*

This project would survey the mammals of the Adriatic Islands off the Yugoslav coast along the western slope of the Dinaric Alps in Yugoslavia. The survey will determine the kinds of mammals present and their current geographic and ecological distribution. It will describe the animals and study the genes as an aid to their classification.

*Included in grant to U.S.-Yugoslav Joint Board (see explanation preceding item 33).

EGYPT

NONE

INDIA

70. Studies in Geodesy, Geophysics, and Celestial Mechanics at the Naini Tal, India, Observing Station
C. G. Weiffenbach
Smithsonian Astrophysical Observatory
Cambridge, MA

	71	2,000
	72	---
	73	3,000
Amend. 2 to SFG1-3684	74	7,840
FR4-60116	74	16,675

This project is intended to continue, using foreign currencies, a program of cooperation between the Smithsonian Astrophysical Observatory and the Naini Tal Observing Station in India that has gone on since 1958. Naini Tal has served as one of SAO's global network of stations tracking satellites for NASA. They provide a mathematical description of this planet's deviations from a perfect sphere as well as much of what is known of atmospheric densities above 200 km.

71. Investigation of the Lonar Meteorite Craters in Central India
K. Fredriksson
National Museum of Natural History
Smithsonian, Washington, D.C.

	FY 73	5,000
TA74-84, 166, 167, 168	74	8,718

Deep core-drillings of the Lonar craters in central India have demonstrated that they were caused by the impact of a major meteor and that they are very much like impact craters on the moon. Field studies have produced remarkable new samples of impact-generated rocks, like materials brought back from the moon, and have revealed new problems related to their origin and impact cratering in general. This research is being supported by the Geological Survey of India, and the SFCP is providing travel support for American project participants.

PAKISTAN

NONE

72. Color Magnitude Diagrams for Young Star Clusters in the Magellanic Clouds
P. Flower
University of Washington
Seattle, Washington — FR4-60102 — FY 74 — 32,741

This project is a cooperative study involving the University of Washington and the Institute of Astronomy of the Polish Academy of Sciences (PAN), and is based upon theoretical work done by Professor Paczynski of PAN on the stages of evolution of stars. The present research involves an analysis of certain groups of stars to compare their conformity to predictions drawn from theoretical modeling.

73. Study on the History of Astronomy Using Rare Historical Documents in Polish Libraries, Particularly the Original and Annotated Writings of Copernicus
O. Gingerich
Smithsonian Astrophysical Observatory
Cambridge, MA — TA74-20 & 313 — FY 74 — 3,659

During the 16th Century, the "Age of Discovery", a number of major centers for science, particularly astronomy, developed in what is present-day Poland. This is a study of manuscripts and books in Wroclaw and Poznan, and is an enlargement on cooperative work already begun on Copernicus, particularly the translation of the Birkenmajer Copernican Studies, the translation of which was funded several years ago by the SFCP.

74. Heavy Element Synthesis by the r-process, a Possible Mechanism for the Origin of Superheavy Elements in Stars
D. N. Schramm
University of Texas
Austin, TX — TA74-41 — FY 74 — 1,234

Astrophysicists have predicted the existence of many elements not yet discovered. The r-process is the one which produces undiscovered superheavy elements exist in stars. Whether the r-process is responsible for the creation of these theortical superheavy elements is the subject of this study, in cooperation with the University of Warsaw.

TUNISIA

75. Studies in Lake of Tunis (Stratigraphy, Chemistry, Formation and History of the Sediments, Water Budget, and Circulation).
O. H. Pilkey
Duke University, Durham, NC — FR4-60108 FY 74 — 16,250

This project examines the processes at work in the development of the highly polluted Lake of Tunis. The increase in organic and mineral nutrients through sewage dumping results in eutrophication, or stimulation of plant growth, to the detriment of animal life which suffers for lack of oxygen. Interference with natural water currents by the lake's ship canal, and the high summer temperatures of the shallow lake compound the problem. These conditions not only give the Lake of Tunis its characteristic noxious odor, but contribute to large seasonal fish kills which add to the odor problem as well as diminishing food resources. Scientists sponsored by the Environmental Protection Agency (EPA) and the Geological Survey of Tunisia are collaborating in this research. Current plans are for this project to continue through the 1975 field season without additional funds.

MUSEUM PROGRAMS

EGYPT

76. Study and Exhibition of the Wissa-Wassif Tapestries from Egypt
D. A. Gould
Smithsonian Institution Traveling Exhibition Service, Washington, D.C. — FR4-60103 FY 74 — 26,780

Under the direction of the late Egyptian artist, Ramses Wissa-Wassif, the Egyptians began a revival of the art of tapestry making in the village of Harrania. This project, begun shortly before Wissa-Wassif's death in 1974, studied the traditional processes used in Harrania and assembled a collection of the tapestries which form a touring exhibition now being circulated throughout the United States under the auspices of the Smithsonian Institution Traveling Exhibition Service. Weavers from Harrania are scheduled to visit the United States during 1975 to give demonstrations of their art and technique in conjunction with the exhibition. A grant from the EXXON Corporation is providing the necessary hard currency support amounting to $38,996.

77. Studies of Arabic Manuscripts on Medieval Islamic Medicine and Pharmacy in Egypt
S. K. Hamarneh

National Museum of History and		FY 73	3,045
Technology, Smithsonian	FR4-60107	74	1,750
Washington, D.C.	TA74-206	74	3,045

Modern Western medicine owes a large debt to medieval Islamic medicine. this project is a continuation of field work done in 1967 and 1971 on a comprehensive history of medieval Islamic contributions to the development of medical science. Ancient manuscripts are being studied across the entire area covered by medieval Islamic culture. Manuscripts in the unique collections in Alexandria and Cairo are being studied as a part of this larger undertaking. Field work during 1974 included presentation of lectures upon this research before the Arab Pharmacists Union and the Arab UNESCO headquarters, as well as further research in the collections of the National Library in Cairo and other Egyptian scholarly institutions.

78. Selection and planning for Egyptian folk artists and craftsmen to participate in the Bicentennial presentation of the Smithsonian's Festival of American Folklife
R. Rinzler

Smithsonian Division of Performing Arts, Washington, D. C.	TA74-178	FY 74	1,220

The Smithsonian's Division of Performing Arts presents annually the Festival of American Folklife on the Mall, in Washington. As a special Bicentennial program of the Festival, the Smithsonian is bringing foreign folk artists and craftsmen from countries which have been sources of immigration to the New World or which have been associated with this immigration in important ways and is presenting these groups along side of American folk artists and craftsmen who share the same cultural heritage. This program, called "Cultural Cognates and Living Museology," provides a living dimension which is normally absent from the presentation of cultural history in museums which are usually limited to the interpretation of objects as the key to understanding living societies. Research and selection of foreign performing artists are carried out in cooperation with appropriate foreign institutions and concerned governmental bodies. See also items 85 and 89.

79. Visit of M. R. Tulku, Director of the Paro Museu, Bhutan, to the Smithsonian
E. Knez
National Museum of Natural History, Washington, D.C.

TA74-77	FY 74	1,782

Mr. M. R. Tulku, Director of the Royal Museum at Paro, Bhutan, visited the United States in 1974 to advise the Smithsonian on the curation and installation of a special exhibition on Bhutan. In addition, Mr. Tulku studied modern exhibits and conservation techniques in the museum. This visit was supported under the Smithsonian's continuing program of training for museum curators and technicians in collaboration with museums abroad through two-way exchanges of personnel. Dr. Knez, of the National Museum of Natural History, had previously visited the Paro Museum facilities and received guidance regarding the collection of Bhutanese ethnological artifacts.

80. Studies on Medieval Islamic Medicine and Pharmacy at Libraries and Museums in India
S. K. Hamarneh
National Museum of History and Technology, Smithsonian
Washington, D.C.

	FY 73	2,000
TA74-116	74	2,088

The debt of modern western medicine to the spectacular advances made by physicians under medieval Islamic rulers is increasingly clear as a result of recent studies of ancient Arabic language manuscripts. This study extends into Indian studies of the contributions to medicine made by medieval Islamic physicians, drawing upon certain Arabic language manuscripts held in Indian collections. This phase of the study will later be expanded to include a general history of medicine in the Indian area. Research thus far has been carried out in cooperation with the All-India Institute of Medical Sciences and the Institute of the History of Medicine and has included Dr. Hamarneh's giving lectures on his research at the All-India Institute of Medical Sciences, at the Hamdard College of Pharmacy and at the Ghālib Academy.

PAKISTAN

81. Studies on Medieval Islamic Medicine and Pharmacy at Libraries and Museums in Pakistan
S. K. Hamarneh
National Museum of History and Technology, Smithsonian
Washington, D.C. TA74-115 FY 74 950

The debt of modern western medicine to the advances made by practitioners under medieval Islamic rulers is increasingly clear as a result of recent studies of ancient Arabic language manuscripts. This research project extends to Pakistan a multi-faceted investigation of medieval Islamic contributions to medical science. It is primarily concerned with contributions of Abulcasis al-Zahrawi, a tenth century Muslim scholar; and a catalogue and study of various Arabic medical manuscripts in Pakistani collections. Field research in 1974 included a study of material from the libraries of the Hamdard National Foundation in Karachi, the University at Peshawar, the University at Islamabad, and Punjab University at Lahore; as well as lectures on this research at Karachi University.

POLAND

82. Partial support for two Polish scholars, recipients of Smithsonian post-doctoral fellowships to perform research in collaboration with Smithsonian paleo-biologists
E. S. Davidson
Office of Academic Programs TA74-4 FY 74 1,100
Smithsonian, Washington, D.C. TA74-22 74 550

The Smithsonian provides research fellowships for scholars capable of contributing to Smithsonian research programs. The Foreign Currency Program supports the travel of these fellows both as a means of supporting the research involved and as a dollar-savings measure.

83. Attendance by K. Pietkiewicz, State Museum of Ethnography, Warsaw, at the ICOM International Ethnography Committee meeting in Milwaukee and consultation with American ethnographers
P. Perrot
Office of Museum Programs
Smithsonian, Washington, D.C. TA74-69 FY 74 850

In fulfilling its role as United States National Museum, the Smithsonian supports the participation of experts in the deliberations of the International Council of Museums (ICOM) and other UNESCO related organizations. In this instance, the Polish expert was able to provide consultation for American institutions having special interests in the ethnography of central Europe.

84. To consult with Polish Academy of Sciences on the international celebration of the 500th anniversary of the birth of Copernicus
W. Dillon
Office of Seminars, Smithsonian FY 73 7,000
Washington, D.C. TA74-103 74 985

In cooperation with the Copernicus Society of America and the U.S. National Commission for UNESCO, the Smithsonian Institution and the National Academy of Sciences presented in April, 1973, a symposium in observance of the 500th anniversary of the birth of Nicolaus Copernicus. The symposium provided a forum for distinguished scholars from America and abroad to discuss the significance of Copernicus and the Age of Discovery, and to project future paths of scientific discovery. The Smithsonian Foreign Currency Program contributed to the participation of Polish scholars in the symposium. During 1974, travel was supported for editorial consultation on publication of the symposium proceedings, and other post-symposium matters.

85. Selection and planning for Poland folk artists and craftsmen to participate in the Bicentennial presentation of the Smithsonian's Festival of American Folklife
R. Rinzler
Smithsonian Division of Performing FY 73 1,000
Arts, Washington, D. C. TA74-180, 181 74 1,970

See Project #78 above.

86. Survey of Polish Textiles, Past and Present
R. Adrosko
National Museum of History and Technology, Smithsonian
Washington, D.C. TA74-205 FY 74 2,395

Poland has a long tradition in the manufacture of textiles and is today a center of innovation in textile design. This research had two foci: It was an historical study of textiles produced before and after the introduction of the Jacquard loom, to gather material on this subject with a view to the preparation of an exhibition at the Smithsonian on the effect of the Jacquard loom; and it was an examination of the present state of textile arts in Poland with a view to organizing a traveling exhibition on the subject to tour the United States during the Bicentennial period. Negotiation is continuing for participation in the project by the Government of Poland and the Ethnographic Museum at Warsaw.

87. Deleted

TUNISIA

88. Publication of the Cultural Property Handbook of the International Council of Museums
P.Perrot
Office of Museum Programs FR4-60097 FY 74 35,000
Smithsonian, Washington, DC

The Smithsonian, the Brooklyn Museum, the International Council of Museums (ICOM), and the Tunisian National Committee for ICOM have joined to support compilation of a compendium of the cultural property laws of the nations of the world. The publication and worldwide distribution of this compendium will contribute to the control of illegal international trade in cultural objects and the development of similar national laws for this purpose. This publication will enable cultural property importing countries of the world to determine whether such property comes to them through legal channels. Cultural property exporting nations will have a basic reference for the promulgation of amendment of laws regulating international traffic in cultural property. Publication of the Handbook has now been completed, and it is being distributed to agencies concerned with trade in cultural objects.

89.	Selection and planning for Tunisian folk artists and craftsmen to participate in the Bicentennial presentation of the Smithsonian's Festival of American Folklife R. Rinzler Smithsonian Division of Performing Arts, Washington, D. C.	TA74-182, 183 & 202	FY 74		5,343

See Project 78 above.

90.	To Defray Costs of Grant Administration	FY 66	1,907
	Payable in Foreign Currencies	FY 67	5,560
	Smithsonian Foreign Currency Program	FY 68	10,150
	Smithsonian, Washington, DC	FY 69	18,620
		FY 70	15,331
		FY 71	10,122
		FY 72	23,627
		FY 73	32,143
		FY 74	100,356

Excess currency costs of administration are required to support (a) inspections of research sites abroad by Smithsonian and Advisory Council scientists, (b) site audits, (c) liaison with foreign governments to improve and up-date administrative procedures, (d) transfers to the Department of State for Shared Administrative Expenses worldwide. Obligations for FY 74 by country are listed below. The amount for India includes costs of maintaining an SFCP representative at the U.S. Embassy in India ($62,000) to provide assistance to projects in India, Pakistan and Ceylon. This office was headed by a GS-12. This position is being abolished, and ongoing functions are to be reduced and handled by one local employee. Administrative costs in Tunisia were augmented by travel related to administration and termination of the Mediterranean Marine Sorting Center (MMSC).

Country	*Amt-$ Eqv*
Egypt	1,976
India	92,497
Pakistan	685
Poland	670
Tunisia	4,528

91. Transfer to NSF for Science Information Program

R. Shank		FY 71	35,000
Smithsonian Institution Libraries	SF-1151	74	140,000
Washington, D.C.	No. 74-03		

Executive Order 10900 of January, 1961, places Government-wide responsibility with the National Science Foundation for coordinating and administering science information activities conducted abroad under section 104(b)(3) of PL 480. Thus, NSF uses its own excess currency appropriation on behalf of major U.S. Government departments and agencies, including the Smithsonian, to conduct a translation and publication program for foreign scientific data, such as books, journals, bibliographies and symposia proceedings. As do other agencies, the Smithsonian transfers additional excess foreign currency funds to NSF to augment its pro rata share in order to meet special demands for the translation and publication services.

Country	*Amt -$ Eqv.*
India	70,000
Pakistan	70,000

SMITHSONIAN INSTITUTION
MUSEUM PROGRAMS AND RELATED RESEARCH
(SPECIAL FOREIGN CURRENCY PROGRAM) - SFCP

Fiscal Year 1975

List of Grants

ARCHEOLOGY AND RELATED DISCIPLINES

EGYPT

1. U.S. Contribution to UNESCO's Nubian Monuments Campaign--The Temples of Philae
Director General Maheu
United Nations Educational, Scientific and Cultural Organization
Paris, France — FR5-46225 — FY 74 1,000,000; 75 1,000,000

See item 20 in the project listing for FY 1974

INDIA

2. Documentation of Ritual Art Forms as Communication Systems of Traditional Culture
C. R. Jones
American Institute of Indian Studies
Chicago, IL — Amend. 3 to SF3-11638 — FY 73 33,304; 74 27,100; 75 3,758

See item 23 in the project listing for FY 1974

PAKISTAN

3. Archeological Excavations at the Harappan Seaport of Balakot, Pakistan
G. Dales
University of California
Berkeley, CA — Amend. 1 to FR4-60111 — FY 74 33,445; 75 950

See item 25 in the project listing for FY 1974

POLAND

NONE

TUNISIA

NONE

EGYPT

4. Systematic Studies of the Molluskan Genus Bulinus in Africa and Adjacent Region
J. Burch
University of Michigan
Ann Arbor, MI
Amend. 1 to FR4-60114 FY 75 2,000

See item 36 in the project listing for FY 1974

5. Recovery and Study of Vertebrate Fossils from the Egyptian Western Desert
R. Slaughter
Southern Methodist University
Dallas, TX
FR5-46226 FY 75 9,665

Microscopic fossil plants and animals can, with modern techniques, be isolated in sediments laid down hundreds of millions of years ago. Moreover, they can be identified as belonging to specific periods of geologic time and can thus assist geologists in describing the sequences of life on Earth and in describing changes in the Earth's crust. Such information is of particular value in the search for petroleum and other minerals useful to man. Southern Methodist University scientists are expert in employing the fossils of fish as well as of plants for this purpose. This project will study the Upper Cretaceous period of the Earth's development more than 63,000,000 years ago to describe life in that time. It will also seek to compare findings in Egypt with findings in the Mississippi region and in Europe and thus trace the changes in the Earth's crust on the three continents.

Research Development, Research Coordination, Symposia and Training fostering the United States contribution to the International Biological Program
U.S. National Committee for the International Biological Program (US-IBP)
National Academy of Sciences
Washington, D.C.
FY 75 (8,744)

See US-IBP in paragraph preceeding item 38 for FY 1974. Grants supporting IBP in the first half of FY 1975 continued as a transitional measure to be issued primarily on the recommendation of organizations, such as The Institute of Ecology, Madison, Wisconsin, and henceforth will be handled solely on individual merits like all other projects. Actual obligations in the first half of FY 1975 are covered in items 6, 11, 13, 16, 17.

6. U.S. National Committee for the International Biological Program (US-IBP)
National Academy of Sciences
Washington, D.C.

Amend. 1 to TA74-251 FY 75 500

See item 38 in the project list for FY 1974 above. This amendment covers miscellaneous expenses and internal travel costs associated with the IBP Symposium on Arid Lands Ecosystems held in Cairo May 11 through 19, 1974.

INDIA

7. Study of Biological Productivity in Some Tropical Lakes of South India
R. Higgins and G. Saunders
Office of Environmental Sciences
Smithsonian, Washington, D.C.

FY 73 51,000
Amend. 2 to 75 22,929
SF3-00090

It is proposed in this project to compare the biological productivity of neighboring ponds, some of which are subject to human use, while the others are not. It is hoped this work will provide a basis for a more complete ecosystem analysis in the future. Preliminary studies have been made of bacterial and bottom-dwelling organisms, and of the process of photosynthesis. Evidence points to the suggestion that there is little difference between the biological processes occurring in tropical lakes as compared with North American lakes. The information that could result from this project is important in determining the best management of these and similar inland bodies of water. Scientists and students from the University of Pittsburgh, Kansas State University and Madurai University (India) are participating.

8. To present papers at the XXVI International Congress of Physiologists (in New Delhi)
J. Graham
Smithsonian Tropical Research Institute
Balboa, Canal Zone

TA75-115 FY 75 560

This grant supported local expenses only of a scientist of the Smithsonian Tropical Research Institute to enable him to present invited papers on sea snakes and air-breathing marine fishes. The latter are viewed as a potential source of food.

9. To participate by invitation in the Int'l Symposium on the Taxonomy of Algae
K. Mattox
Miami University — TA75-137 — FY 75 — 1,494
Oxford, OH

This grant supported the international travel of a leading American botanist to enable him to present an invited paper on the Taxonomy of Algae at an high-level international symposium hosted by the University of Madras.

PAKISTAN

10. Research on the Biology and Control of the Wild Boar in Pakistan
R. Taber
University of Washington — FY 71 — 38,000
Seattle, WA — FR5-46223 — 75 — 69,779

The purpose of the research is to provide basic biological information about the wild boar, a pest that causes great crop damage and is at least partially immune from regular hunting because it is regarded as unclean. In studying the ecology of the wild boar, it is hoped also to develop information on the hog deer, which is an endangered species. The information is to provide a basis for wildlife management and could contribute to Pakistan's economic self-sufficiency. The University of Washington will work in cooperation with the Wildlife Management Board of Sind Province.

POLAND

11. U.S. National Committee for the International Biological Program (US-IBP)
National Academy of Sciences — TA75-10, 96 and 97 — FY 75 — 3,750
Washington, D.C.

Three American scientists participated in the final symposium in Poland where the synthesis volume, "Granivorous Birds, Their Role and Control in Various Ecosystems" was prepared. See item 50 in the project list for FY 1974 above.

12. Collaborative Research with Polish scientists on The Ecology of Freshwater Lakes
M. Moynihan
Smithsonian Tropical Research Institute
Panama Canal Zone — TA75-12 FY 75 861

A prominent scientist in the Department of Hydrobiology, Zoological Institute, University of Warsaw, received travel support to enable him to work with scientists of the Smithsonian Tropical Research Institute, at Barro Colorado Island, in the Panama Canal Zone.

13. U.S. National Committee for the International Biological Program (US-IBP)
National Academy of Sciences
Washington, D.C. — TA75-18 FY 75 908

The international coordinator of IBP Deciduous Forest Biome research, an American scientist, reviewed with Polish scientists ecological computer modelling and plans for an IBP synthesis volume on this Biome. See the description of the IBP preceeding item 38 on the project list for FY 1974 above.

14. To continue a collaborative study of the Dentition of Cretaceous Mammals from Mongolia (from specimens housed in Warsaw)
A. Crompton — TA75-24 FY 75 930
Harvard University

A long range goal of much paleontological research is to understand the factors governing the origin of mammals from reptiles. In this study an understanding of Cretaceous mammals is essential. This grant supported travel by a leading American zoologist to enable him to conduct research at the Palaeozoological Institute in Warsaw, together with a prominent Polish colleague, on Polish fossil specimens.

15. Comparative Study and Geography of Devonian and Permian Corals in Poland and the U.S.A.
W. Oliver
Natural Museum of Natural History
Smithsonian, Washington, D.C. — TA75-40 FY 75 2,454

This grant supported travel to initiate research in the project described in item 47 in the project list for FY 1974 which had encountered bureaucratic problems in the host country. The amount of this grant was subtracted from the budget for the larger project.

16. U.S. National Committee for the International Biological Program (US-IBP)
National Academy of Sciences
Washington, D.C. — TA75-45 — FY 75 — 1,148

One American scientist exchanged research results in the field of invertebrate ecology within the IBP Grassland Biome with Polish scientists who have a different research orientation in such studies. The meetings are expected to clarify problems of synthesizing international Grassland Biome research results and of publication of these results. See the description of the IBP preceeding item 38 on the project list for FY 1974 above.

17. U.S. National Committee for the International Biological Program (US-IBP)
National Academy of Sciences
Washington, D.C. — TA75-46 and 48 — FY 75 — 2,438

Two American scientists compared US-IBP research in computer modelling of lake systems with that of Polish scholars at several Polish aquatic research institutes. See the description of the IBP preceeding item 38 in the project list for FY 1974 above.

18. Cooperative Study of Late Cretaceous Mongolian and North American Mammals
W. Clemens
University of California
Berkeley, CA — TA75-122 — FY 75 — 1,030

As in Project No. 14 above, this research takes advantage of the unique Polish fossil collections in order to study an aspect of Cretaceous mammals - in this case to test hypotheses relevant to the evolution of marsupials. The grant supports travel from London and local expenses for a highly qualified American vertebrate paleontologist.

TUNISIA

19. Paleontological Research in Tunisia and Western Mediterranean
P. Robinson
University of Colorado
Boulder, CO — Amend. 3 to SF3-00113

FY	
73	37,000
74	1,000
75	2,070

Additional transportation was required for a special trip to Tunisia to complete work and preservation of specimens obtained in project described in item 60 for FY 1974 above.

			FY 71	4,000
20.	Systems Analysis of the Pre-Saharan		72	97,249
	Ecosystem in Southern Tunisia		73	---
	F. H. Wagner		74	129,957
	Utah State, Logan, UT	FR5-46222	75	103,022

Many arid ecosystems are being perturbed beyond the point of no return in a process now referred to as "desertification," which is the subject of this study. (See No. 57, FY 1974). Observations made to date point to several suggestions, such as (a) that a crust that forms in some areas of this site could be of fungal origin, which might be a key to a process to provide initial stabilizing influence on the soil surface; (b) that on this site primary production appears lower and secondary production, at least in lizards and small reptiles, appears equal to or higher than in American deserts. Next research objectives will include, for example, continued measurements of primary production of vegetation, elucidation of the role of insects, and the institution of range management studies on livestock bioenergetics and soil responses.

ASTROPHYSICS AND EARTH SCIENCES

EGYPT

21.	To participate in Research Exchange with D.M. Al-far, Geological Museum, Cairo			
	R. Clarke			
	National Museum of Natural History	TA75-92	FY 75	1,400
	Smithsonian, Washington, DC			

The Director of the Geologic Museum of Cairo visited the National Museum of Natural History to bring with him and to study collaboratively a new and significant meteorite and other meteorological material from Egypt.

INDIA

NONE

PAKISTAN

NONE

POLAND

22. Participation by 7 American scientists in a working semester on global analysis and infinite dimensional topology at the S. Banach International Mathematical Center in Warsaw
R.D. Anderson
Louisiana State University
Baton Rouge, Louisiana — TA75-56, 73, 116, 121, 133, 134 & 142 — FY 75 — 10,212

Global analysis is a mathematical subject concerned in large part with modern applications of differential equations to problems arising in physics. Many of those who are leaders in the field are widely respected by mathematical physicists for their contributions to the interface of mathematics with physics. For example, three of the global analysts who, with Smithsonian support, participated in the semester in Warsaw were invited to talk in physics seminars in Warsaw.

TUNISIA NONE

MUSEUM PROGRAMS

EGYPT

23. Study of Arabic Manuscripts on Medicine and Pharmacy in Egypt (Cairo and Alexandria)
S. Hamarneh
National Museum of Natural History
Smithsonian, Washington, DC — Amend. 1 & 2 to FR4-60107

FY 73	3,045
FY 74	4,795
FY 75	11,120

Please refer to item 77 in the project listing for FY - 1974.

INDIA NONE

PAKISTAN NONE

24. To support Polish-American Seminar on Organization Systems and Methodology for Preserving Cultural Property
P. Perrot
Office of Museum Programs
Smithsonian, Washington, D. C. FR-5-64224 FY 75 53,349

Poland has become a world leader in the restoration and preservation of buildings of historic importance by virtue of its experience in the rebuilding of Polish cities devastated by World War II. To make it possible for Americans concerned with historic preservation to meet and exchange ideas with their Polish colleagues, the United States Committee for the International Centre for the Study of the Preservation and Restoration of Cultural Property (known as the Rome Center), in collaboration with the Smithsonian Institution organized a bi-national seminar which convened in October, 1974. The seminar brought together experts in museum conservation, building conservation experts, urban planners, urban administrators, architects, architectural historians, preservation lawyers, and others concerned with the historic preservation field, both within and without government. Polish cooperation was arranged by the Ministry of Culture and the National Museum in Warsaw.

25. To support round trip to U.S. for Polish recipient of Smithsonian fellowship (W.Pulawski)
E. Davidson
Office of Academic Programs TA75-44 FY 75 1,900
Smithsonian, Washington, DC

The Smithsonian Institution provides research fellowships for scholars capable of contributing to Smithsonian research programs. The SFCP supports this program by defraying some travel costs from excess foreign currency, both as a means of supporting the research involved and as a dollar-saving measure. In this instance, Dr. Wojciech Pulawski of the Zoological Institute in Wroclaw, Poland, was invited to the Smithsonian to do research in the Department of Entomology on the North American Tachysphex, a variety of wasp.

26. To participate in the International Conference on the Adaptation of Historical Monuments for Museum Purposes
W. Alderson
American Association for State and Local History
Nashville, TE — TA75-47 FY 75 760

The SFCP supported the participation of William T. Alderson, Director of the American Association for State and Local History, in an international conference on the Adaptation of Historical Monuments for Museum Purposes. This conference, which discussed among other things taking historic houses and converting them into museums depicting the life and times when the house was important, was held in Warsaw in September, 1974, under the sponsorship of the Polish national committees for ICOM (International Council of Museums) and ICOMOS (International Committee of Monuments and Sites), both organizations founded under UNESCO auspices.

27. To participate in an International Seminar on Problems of Adapting Contemporary Architecture to Surrounding Historic Structures.
D. Myer
The Commission of Fine Arts — TA75-72 FY 75 1,260
Washington, DC

In October of 1974, an international seminar was held in Kazimierz, Poland, on the problems of adapting contemporary architecture to surrounding historic structures. The seminar was organized under the joint sponsorship of the International Council of Monuments and Sites (ICOMAS) and the International Union of Architects (IUA). The Foreign Currency Program provided travel support for the participation in the seminar by the Assistant Secretary of The Commission of Fine Arts.

28. To support roundtrip travel to the United States for K. Wolfke, Polish recipient of a Senior Fellowship from the Woodrow Wilson International Center for Scholars
J. Billington
Woodrow Wilson International Center for Scholars
Washington, DC
TA75-76 FY-75 800

The Foreign Currency Program supported the international travel for Karol Wolfke, Professor of International Law at the University of Wroclaw, Poland, to take up a senior fellowship at the Woodrow Wilson International Center for Scholars to do research on the international law aspects of making the protection of the human environment on a world scale effective.

29. To support preparation of the National Portrait Gallery Bicentennial exhibit catalogue
M. Pachter
National Portrait Gallery
Smithsonian, Washington, DC
TA75-118 FY 75 1,637

In conjunction with their special American Revolution Bicentennial exhibitions, the National Portrait Gallery is preparing a catalogue which will include essays by foreign scholars on the subject of the impressions of the United States from foreign visitors during the period between the Revolutionary War and the First World War. The Foreign Currency Program supported the necessary travel of a Museum representative to arrange for these scholarly contributions.

TUNISIA NONE

GRANT ADMINISTRATION

INDIA

30. To Defray Costs of Grant Administration Payable in Foreign Currencies
Smithsonian Foreign Currency Program
Smithsonian Institution
Washington, D.C.
Amend. 5 to SFG2-0434 FY 75 48,000

See above "Grants Administration" section for FY 1974. This item covered costs of the SFCP office at Embassy New Delhi that is being sharply reduced in the last half of FY 1975.