Recommendations for the Establishment of a National Centre for Conservation Lima, Peru

November 1988
Elisabeth Cornu
Asesora UNESCO/PNUD
Fine Arts Museums of
San Francisco, California

RECOMMENDATIONS FOR THE ESTABLISHMENT OF A NATIONAL CENTRE FOR CONSERVATION, LIMA, PERU

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INDEX

NATIONAL CONSERVATION CENTRE FOR CULTURAL PROPERTY, PERU
SUMMARY SHEET

Prepared jointly by Elisabeth Cornu, Switzerland/USA, and Isabel Rigol, Cuba--Asesoras, UNESCO/PNUD, November 1988.

1) The above two advisors worked jointly on a project for the establishment of a National Conservation Centre for Cultural Propery in Lima, Peru, during the week of November 14-22, 1988. They also advised on the subject of establishment of a Training Centre in Conservation/Restoration in Peru. This study was undertaken under the auspices of UNESCO/PNUD and the National Institute for Culture (INC) in Peru, within the framework of the overall UNESCO/PNUD 1977 project.

2) It is recommended that a National Centre for the Conservation of Cultural Property be established in Peru to serve as a centre for the conservation/restoration of both movable and immovable cultural patrimony. This Centre should serve all museums, national monuments, historical sites and archaeological sites in Peru. Its main function is one of support, research, training and coordination of ongoing conservation/restoration activities in the country. It supplements already ongoing conservation work in laboratories and workshops in Lima as well as across the country.

3) This Centre should function as an independent entity under the Director of the Instituto Nacional de Cultura (INC), with joint staffing from the Departamento de Conservación del Patrimonio Cultural Monumental and the Departamento de Conservación de Museos.

4) The main functions of the Centre should be:
   a) scientific research into conservation problems of cultural property in Peru;
   b) coordination of a national conservation program;
   c) conservation support to existing treatment facilities in the country;
   d) the establishment of a conservation training program within a National School of Museography and Conservation;
   e) the establishment of an information network to disseminate information about conservation activities in Peru.

   The cataloguing and registering of cultural property are not currently seen as a function of the National Centre. These activities should continue to be carried out by the respective departments carrying them out now.

5) The development of a **National Centre for Conservation** of Cultural Property should take place over several phases:

PHASE I: The establishment of:
--a central scientific laboratory containing both a chemistry and biology laboratory as well as work space for trainees.
--a treatment workshop for a variety of materials (paintings/sculpture, architectural materials, archaeological materials and other cultural objects).
--a lecture room and library/study room for use by lecturers and students of the National School for Museography and Conservation.
--an information centre for the production of written conservation materials and the dissemination of information about conservation activities.

PHASE II: The establishment of:
--a scientific testing facility, and expansion of current instrumental laboratory according to the stipulations of the resident scientists.
--The expansion of the Information Centre to become a strong promoter of the National Centre, and of the class rooms and library to include the production of training materials and books for use in Latin America.
--The strengthening of outreach work to outlying conservation workshops and laboratories by increasing staff and areas of competence.

PHASE III: The continued enlarging of the areas of expertise by adding staff, equipment and working facilities especially in the areas of paper conservation, metals conservation and organic materials.

LIMA, PERU 21st November 1988

Isabel Rigol and Elisabeth Cornu

FOR MOVABLE OBJECTS:

DETAILED RECOMMENDATIONS FOR THE ESTABLISHMENT OF A NATIONAL CENTRE FOR CONSERVATION OF CULTURAL PROPERTY, LIMA, PERU.

by Elisabeth Cornu, Asesora, UNESCO/PNUD.

1. SUMMARY SHEET --see previous pages.
2. HISTORICAL PERSPECTIVES.

It is the understanding of this advisor that the Centro de Investigación y Restauración de Bienes Monumentales del Instituto Nacional de Cultura (CIRBM) functioned from the years 1973 to 1984 in overseeing the management and conservation of the country's national cultural heritage. The Departamento de Conservación del Patrimonio Cultural Mueble (DCPCM) took over these duties in 1984. Two distinct departments were formed within DCPCM:

-- Departamento del Patrimonio Cultural Monumental which oversees historical and archaeological monuments and sites.
-- Departamento de Museos which oversees the various museums in the country.

Each of the above departments has an Investigation Section and a Conservation Section. The conservation of immovable objects falls mostly into the Depto. del Patrimonio Cultural Monumental, whereas the conservation of movable objects falls into the Depto. de Museos. The conservation of archaeological objects is a shared responsibility, with PATRIMONIOS CULTURAL MONUMENTAL taking charge for excavations and processing of objects until they have found a way into museum storage--when they become the responsibility of the DEPTO. CONSERVACION DE MUSEOS.

UNESCO/PNUD assisted in 1975 with the formation of Regional Conservation Centre in Cusco, which has since become the Centro Interamericano Sub-Regional de Restauracion de Bienes Culturales Muebles (CIRBCM-CUSCO). While a variety of conservation activities have taken place out of this centre, it currently functions only for architectural conservation needs. However, this Centre does contain a fully operating scientific laboratory for analysis of materials--as outfitted by UNESCO/PNUD in 1975.

A number of conservation laboratories and workshops exist--mostly aided over the years by UNESCO/PNUD. We are not counting the laboratories established at private museums--these are separate and do not fall within the scope of the government. The main government laboratories and workshops can be summarized as follows:

--The Conservation Centre at the Instituto Nacional de Cultura currently houses a chemical laboratory and a paintings/sculpture treatment facility in the new building of the MUSEO DE LA NACIÓN, Lima.
--National Museum of Anthropology and Archaeology, Lima, has a well-established textile treatment facility and a more recent ceramics treatment facility.
--The Convent of San Francisco has a movable paintings and murals treatment facility.
--A number of smaller museums have restoration workshops attached to them, such as the museum in Ica, museums in Trujillo, Arequipa, and other cities.

The exact number of conservation staff at these laboratories has not been ascertained, but is estimated at approximately 2 dozen staff for the above three facilities.

A Metals Conservation Laboratory is currently being established at Lambeyeque (Museo Bruning) with assistance of German conservators (Rhein.-Germanisches Museum Mainz), due to the recent archaeological finds at Sipan.

Two conservation scientists (one from INC Lima, one from Cusco) are currently undergoing intensive conservation science training abroad. Two younger scientists are also being prepared for future work in a conservation science laboratory. A number of conservators have been trained over the years in textile conservation, murals and paintings conservation, sculpture restoration, architectural conservation, and ceramics conservation/restoration--at CIRBCM-Cusco, at INC Lima, and through UNESCO/PNUD-sponsored and Getty-sponsored training courses.

A recent development is the establishment of the MUSEO DE LA NACIÓN. This is a project which falls directly under the Ministry to the President of Peru and is headed by Dr. Cabiesas. During the visit of this advisor to Peru, a large nine-story building had been set aside for this project. Dr. Cabiesas hopes that this museum becomes the Museum of Culture of Peru, and that it will house the INC and the National Conservation Centre.

It is in the light of the above new museum facility, the recent transfer of the INC laboratories to the new building, and the need for better conservation facilities and training that plans for a National Conservation Centre are being drawn up and executed.

3. JUSTIFICATION FOR A NATIONAL CONSERVATION CENTRE.

A unified approach to the conservation of cultural patrimony, both of movable and immovable objects, does not yet exist in Peru. While the Cusco Centre (CIRBCM) is a functioning unit, at the moment mostly for architectural preservation, its reach is mostly regional. And while the conservation facilities at the National Museum of Anthropology and Archaeology in Lima are quite good for textile and ceramics conservation, as are the facilities for paintings/science at the INC lab in Lima, there is a clear need for a coordinating facility with a strong scientific presence. This need has been confirmed by the Instituto Nacional de Cultura, and has been seconded by both UNESCO/PNUD asesoras Elisabeth Cornu and Isabel Rigol.

There currently are several strong conservation treatment programs going on in Peru which should not be cut off, but rather coordinated and complemented:

- --textile conservation
- --ceramics conservation
- --architectural conservation
- --sculpture/paintings conservation
- --metals conservation.

A central conservation laboratory in Lima will serve as both a scientific centre and a coordinating facility. It will pioneer conservation treatments and set standards for other workshops and laboratories in the country.

4. GENERAL DEFINITION AND PURPOSE OF CENTRE.

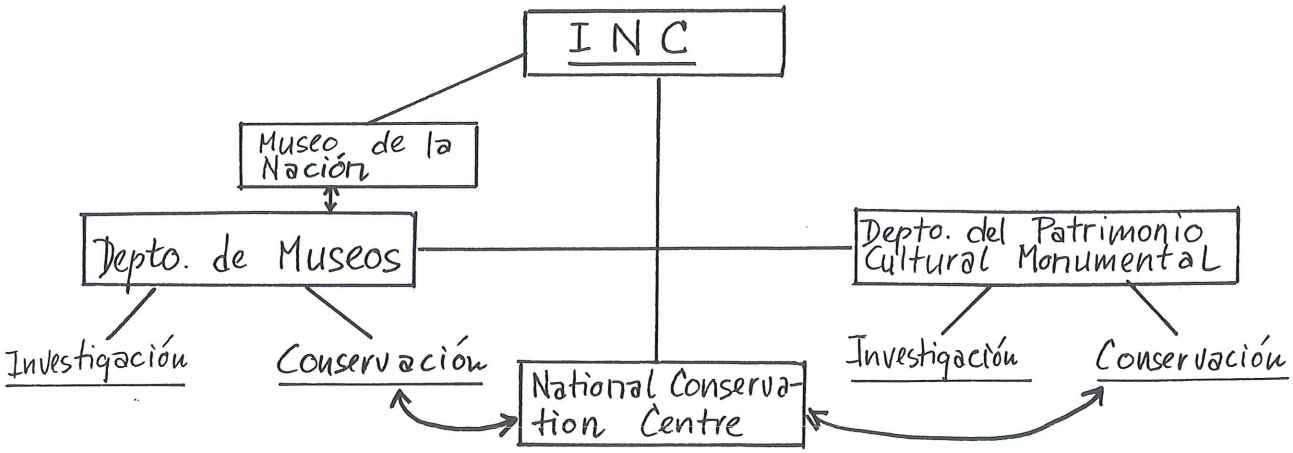
As listed in the summary points, this Centre should function as an independent entity under the Director of the Instituto Nacional de Cultura, with joint staffing from the Departamento de Conservación del Patrimonio Cultural Monumental and from the Departamento de Conservación de Museos. It should limit its functions to the scientific research of conservation problems and the coordination of conservation programs in the country. It should serve as a training facility for future conservators and as an information network to disseminate information about conservation of cultural property in Peru. It should not attempt to catalog and register cultural property--these functions should continue to be carried out by the conservation sections of the the two Departamentos listed above.

The main functions of the National Centre for Conservation should be:

- --scientific research into conservation problems of cultural property in Peru--movable and immovable objects.
- --the coordination of a national conservation program. This includes setting priorities, and coordinating the activities of other conservation laboratories across the country.
- --conservation support to existing treatment facilities across the country by sending conservation specialists to such outlying facilities, and by inviting restorers from these facilities to receive more practical training at the central National Centre.
- --the establishment of a conservation training program within a National School for Museography and Conservation.
- --the establishment of a strong information network to promote and disseminate information about ongoing conservation activities in Peru.

5. STRUCTURE WITHIN THE INSTITUTO NACIONAL DE CULTURA (INC)

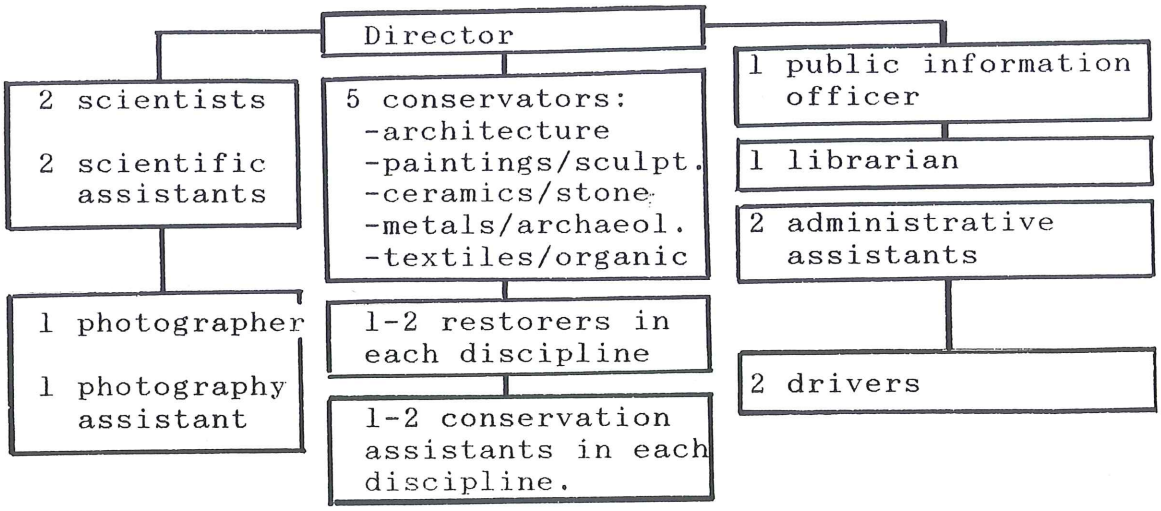
It is important that the National Conservation Centre function as a separate unit under the Director of the the INC. Because it needs to draw staff from both Departments of Conservación del Patrimonio Cultural Monumental (headed by Arq. Bertha Estela Benavides) and Conservación de Museos/ Museo Nacional (headed by Lic. Freddy Alponte Muchaypina), it cannot fall directly under one department. However, because the director of such a National Conservation Centre needs to be a strong promoter of conservation, and have a good understanding of both conservation of movable and immovable objects, it is recommended that such person report to the Director of the INC:



Although the establishment of a National Conservation Centre falls under the Project of the Museo de la Nación, it is important to separate the two administratively. They may share the same building, and to some extent overlap in facilities; yet the National Conservation Centre should have autonomy in decision-making from the Museo de la Nación. It should serve the needs of the Museo de la Nación in the same way as it serves the need of other museums and treatment facilities in the country.

6. INTERNAL STRUCTURE.

a. STAFFING AND ADMINISTRATION-- NATIONAL CENTRE FOR CONSERVATION:



Job Descriptions:

DIRECTOR:
This person is dynamic, well-informed about conservation in both the movable and immovable field of cultural property. A strong manager of conservation projects, he/she needs to have good working dialogues with not only the conservators/restorers and scientists in laboratories at INC and museums and historic sites in the country, but with other Latin American, European and North American countries. Sets conservation priorities for the country's cultural patrimony in conjunction with others key persons within the INC, museums and historic sites. Helps to establish conservations criteria and national norms. Supervises the activities and budget of the National Conservation Centre. Supports and assists the conservation/restoration activities carried out by the local responsible entities in the country. Also is a staff member of the National School for Museography and Conservation and in this capacity is very active in overseeing the training program of students in conservation. Travels to national and international conferences; encourages the presentation and publication of papers in the field; has an ongoing dialogue with international funds for the assistance with cultural projects, and with international conservation training programs. Active, dynamic, well-informed, and a stong promoter of conservation.

Requirements:
-University graduate, with knowledge of museology and archaeology, and some conservation.
-Must be experienced in administration, budgets, grant application processes, staffing situations in cultural institutions in Peru and other Latin American countries. Is bilingual so as to participate in foreign conferences and in conservation publications.

PUBLIC INFORMATION OFFICER:

Has a general understanding of conservation priorities and activities in Peru. As the right arm of the director, is given the freedom to promote conservation in Peru to in-country and out-of-country audiences: through publications, radio and television, coordination with other national conservation centres. Needs a good budget to help organize seminars and disseminate written information, and to invite foreign visiting specialists to spend a day or day to visit the centre when they are passing through Peru.

Requirements:
-Some knowledge of museology, archaeology and conservation; however, excellent knowledge of promotion of non-profit organizations is needed. Business degree of great help.
-Familiarity with newspapers, television, radio promotion.

LIBRARIAN:

Has an overview of the field of conservation by having been exposed to museum and archaeological literature. Is given a budget to build up a good library and to oversee its efficient operation. Subscribes to bulletins and conservation publications for this library; acquires books; and assists the staff and students of the National Centre for Conservation and the National School for Museography and Conservation with reading materials. The librarian may be a teaching staff member of the National School for Museography and Conservation.

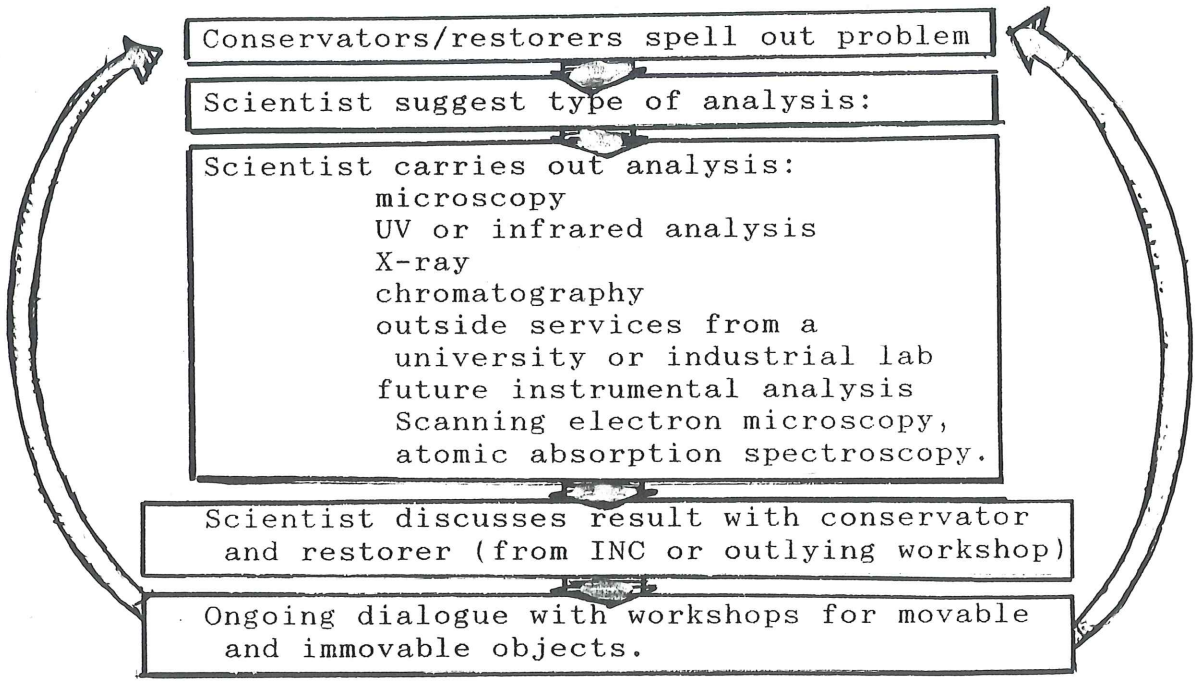
Requirements:
- Knowledge of library systems required. Knowledge of computer application is desirable.

2 SCIENTISTS: CHEMIST, BIOLOGIST.

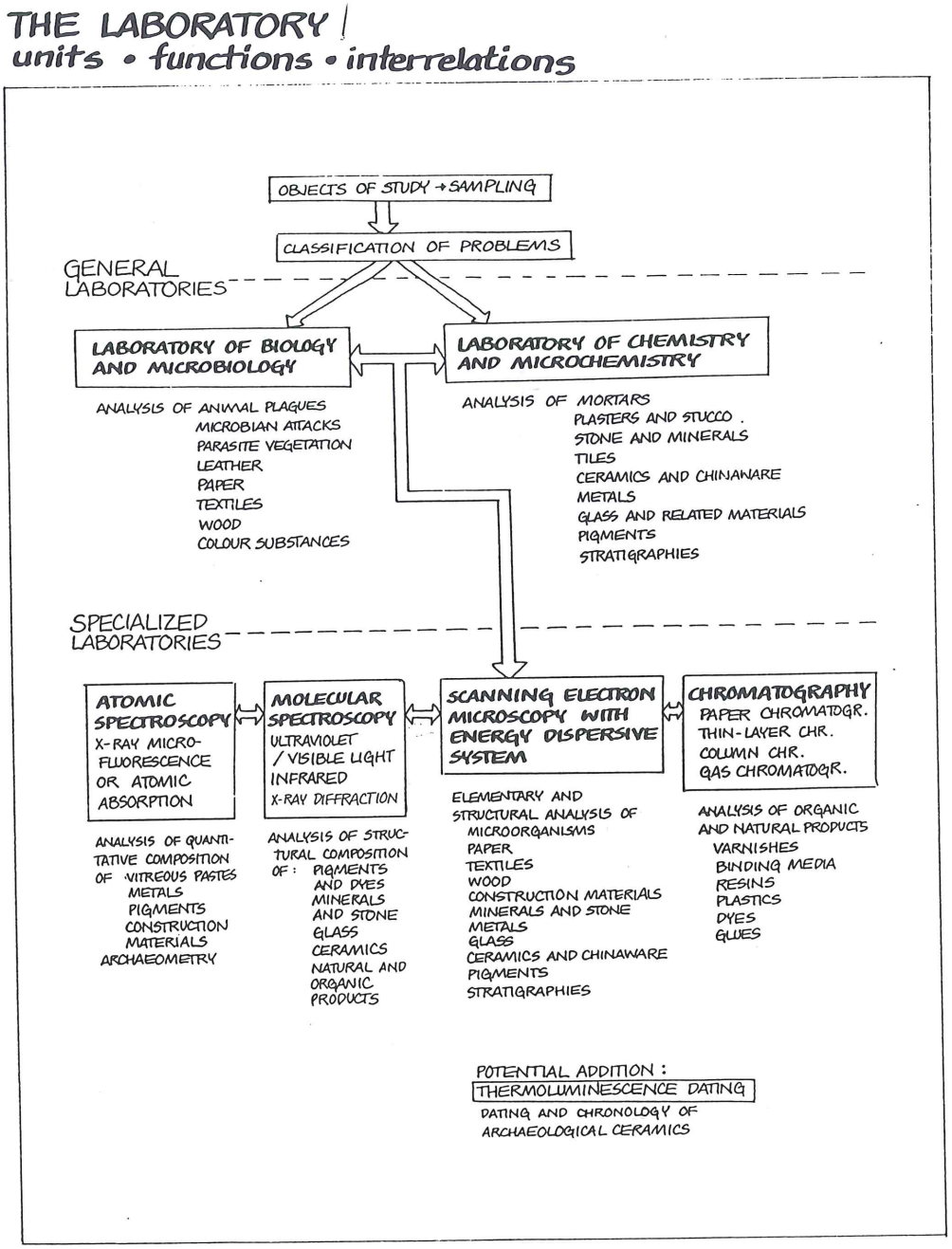
One scientist should be a chemist, the other a biologist. It is important that the chemist now in training at the National Conservation Centre (Patrimoine Artistique) in Bruxelles, Belgium be given encouragement to set up a good scientific laboratory with the existing equipment. The biologist may still have to be trained, and should receive some additional equipment for the laboratory as spelled out in section 6.b. A joint instrumental laboratory, initially equipped with microscopes, spectrophotometer, chromatography equipment can be used by both scientists and their assistants--in Phase II, this laboratory should be expanded.
Each scientist has one or two assistants who have completed university studies in chemistry or biology and are being trained in application of science to conservation problems at the National Centre. The scientists are active in the National School for Museography and Conservation as teachers.

Requirements:
-Both the chemist and the biologist should have a post-graduate degree in their field from University in chemistry or microchemistry, and in biology or micro--biology, respectively. Knowledge of general analytical instruments and systems as practiced in museums is essential.

The functioning of the scientific services is seen as follows:



At the Cuba National Conservation Centre, a very good collaboration exists between the staff scientist (Mr. Tagle) and conservators. This relationship is more carefully summarized in the following diagram (from CUBA/86/017 EVALUATION BY KATRIINA SIMILA, UNDP/UNESCO), and it is recommended that the administration of the National Centre of Conservation in Peru consult with the Cuban scientist in the establishment of a good laboratory:



CONSERVATORS: ARCHITECTURAL, ARCHAEOLOGICAL/METALS, CERAMICS/STONE, TEXTILE/ORGANIC, PAINTINGS/SCULPTURE. Later: PAPER, OTHER SPECIALISATIONS IN ARCHAEOLOGY.

Each conservator has completed a competent course of study through apprenticeship training and courses, and has had experience in his/her field of specialty for four years. The conservators are actually conservation managers who make recommendations about treatments, and recommend to the Director the priorities for treatment of the objects in their specialty areas. They travel to the sites where the cultural property is located and work with the on-site restorers and conservators in keeping the standards of treatment high--this will often require finding local solutions to conservation problems due to lack of foreign supplies and materials. At the National Centre, the conservators work with the restorers and assistants in their specialty areas in working on the objects in the laboratory; and they send restorers out to the sites where objects need to be treated. They write up treatment reports and direct the operations of the workshops in their specialty areas.

The conservators are overall advisors who possess a keen sense of priority and an overall view of their field. They keep up with the latest treatment techniques, work closely with the scientists at the Centre, participate in national and international conferences and contribute to conservation publications. They are teachers at the National School for Museography and Conservation where they help train young restorers and conservators. They participate in national and international conservation associations.

Requirements:
-University graduate with apprenticeship and courses in conservation, amounting to approximately two to three years of training.
-Additional practical conservation experience of three years in a museum or historic or archaeological site.
-Well-versed in preventive conservation skills: storage problems, exhibition techniques, moving and shipping, illumination, environment, pest control, fire prevention, material research with help from scientists, health hazards, documentation skills.
-Possess writing skills, administrative skills, overall teaching skills.

The necessary conservation training can be obtained from a number of sources:
Training at INC or the National Museum of Anthropology and Archaeology, or Cusco Centre; supplemented with participation in training courses throughout Latin America or at ICCROM or through independently-arranged internships at good museum laboratories in Europe or North America.

RESTORERS:

The restorers have only specialty training in their area of expertise. They may train directly at the National Centre or at a museum under the supervision of a conservators. The restorers generally attend up-date courses--such as the periodic course in ceramics conservation offered at the National Museum of Archaeology and Anthropology--each in his/her area of specialty. Under the direction of the conservator, the restorers will work at the National Centre and at sites across the country in the conservation treatments of objects: restoration treatments, monitoring of climate and light, storage work, insect control, some light documentation work. They work with the conservation assistants assigned to them and help train them.

Requirements:
-Some university study; but on-site training in restoration work can count as the equivalent. Two-three years of experience in their field of specialty.

CONSERVATION TECHNICIANS.

The Technicians have graduated from secondary school and may be enrolled in University courses if they plan to become restorers or conservators. They have different areas of specialty: storage technician;
scientific laboratory technician;
fumigation technician;
x-ray technician;
exhibition installation technician.

It is hoped, however, that they be rotated through each field so that they can acquire more training and eventually become restorers or conservators. They are each being trained by the restorer or conservator or scientist in charge of their section. They should participate in the periodic courses of training given to restorers so that they can become conservators or restorers.

b. PHYSICAL SPACES.

In 1983, this advisor executed a study for UNESCO/PNUD, Lima, Peru, for the establishment of a CONSERVATION CENTRE at the anticipated new National Museum of Anthropology and Archaeology. A portion of these plans--pertaining to a scientific facility with conservation laboratory-- have been incorporated in 1988 into the plans for the new building for the MUSEO DE LA NACION by the planners and architects. The current plans show for this scientific laboratory and conservation laboratory (the "National Centre for Conservation") to be located on the sixth floor of the new building. This appears to be a good solution; only this advisor would like to make the following recommendations for changes and improvements in the plans for physical facilities of the National Centre for Conservation:

The facilities on the sixth floor will contain:

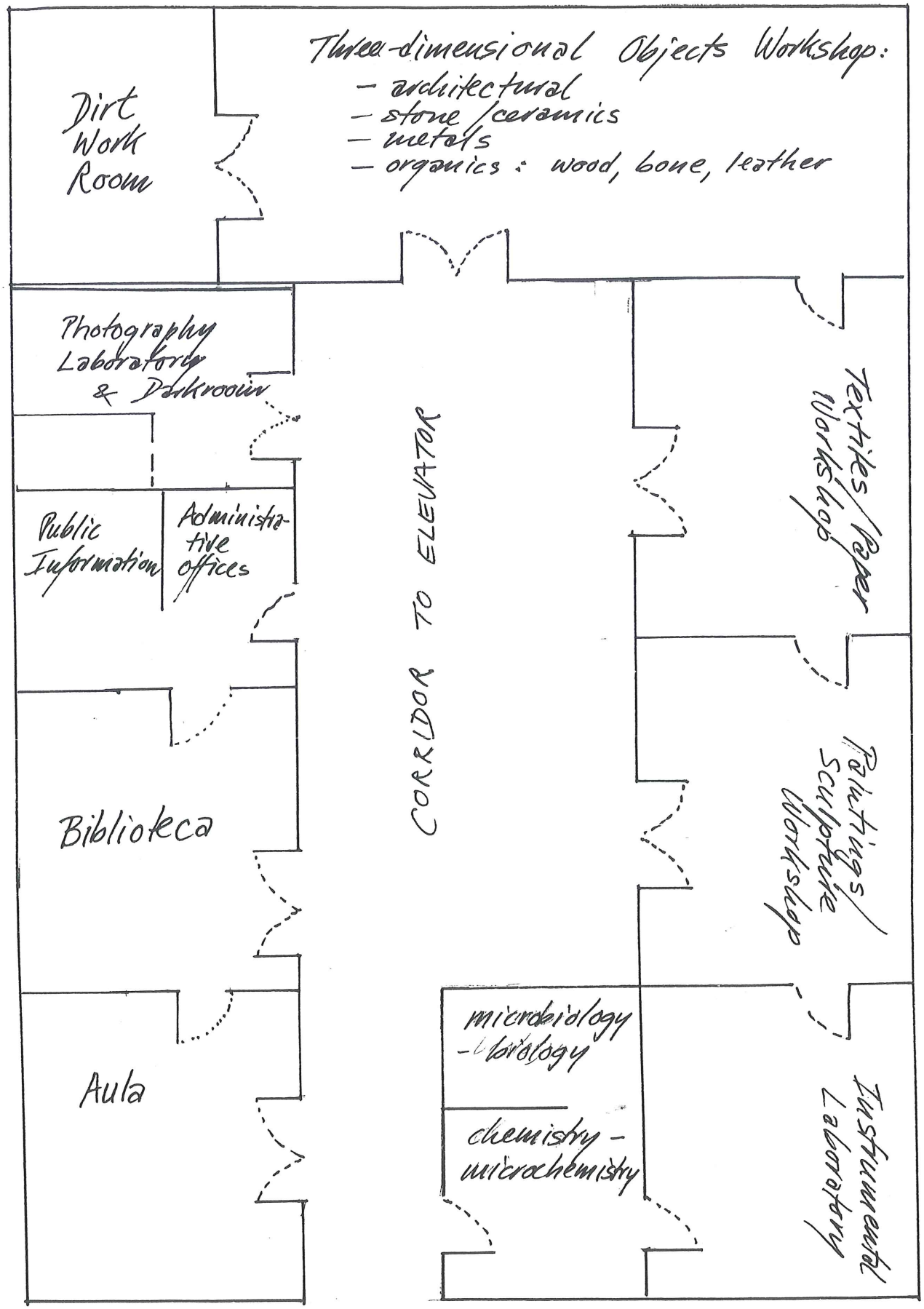
- --a general dirt room and workroom
- --a workshop for paintings/sculpture conservation work
- --a workshop for textile/paper conservation work
- --a workshop for archaeological, stone and architectural conservation work
- --a chemistry/microchemistry laboratory
- --a biology/microbiology laboratory
- --a general instrumentation laboratory which can be expanded greatly.
- --a photography laboratory with darkroom
- --a lecture room
- --a library with study room
- --director's office and administrative office

Facilities which should be located in the basement, and can be shared with the Museo de la Nacion, should be:

- --a fumigation or freeze-drying chamber for insect control/pest control (see appendix).
- --carpentry shop
- --X-ray chamber for use of existing X-ray equipment.
- --Dark room for developing x-rays and photographs-- this needs to be located near a window so that a simple fume exhaust can be installed.

For the equipment needed in all of the above laboratories and workshops, please refer to Section 8.

NATIONAL CENTRE FOR CONSERVATION--suggested layout:



c. RELATIONSHIP TO OTHER CONSERVATION LABORATORIES.

The key to a well-functioning National Conservation Centre is the effective decentralisation of some services and equipment. A few of the functions which should be centralised are the following:

--prioritising of conservation needs across the country.
--keeping a pool of well-trained conservators and restorers in a centralised location to set consistently high standards for conservation work in the country.
--providing centalised scientific support service to workshops and laboratories across the country.
--providing training in conservation/restoration.

As has been mentioned numerous times in the preceeding paragraphs, it is essential that the National Centre for Conservation act as a coordinating agency for already established laboratories and workshops. These include the Cusco Centre, the workshops at the National Museum of Anthropology and Archaeology, the metals conservation workshop to be established at Lambeyeque, the movable paintings and sculpture conservation workshops at Convento San Francisco, and others.

There are a number of reasons why decentralisation of other functions is important:

--already trained restorers and conservators are in place in a number of laboratories and workshops and should continue their work in these locations. Because of the size of the country, and the diversity of the collections, it is not good to have all "brain power" in conservation in one location.

--Equally, already built-up facilities should stay in the decentralised areas where they serve the special needs of the collections. In those regions where conservation and restoration facilities do not yet exist, efforts should be made to encourage the establishment of such facilities, and assistance should be given to outfit them properly.

--For reasons of their relationship to the people and cultural area, as well as for security, the collections of cultural and historic artefacts should stay in their respective regions where possible. They can be serviced from a centralised location (National Conservation Centre), but every effort should be made to bring conservators and restorers to them, rather than to bring them to the central location to be worked on.

7. FUTURE GOALS AND LIMITATIONS.

Short-term (3-5 year) goals are:

- --to set up a scientific support laboratory in the field of chemistry/michrochemistry, and biology/microbiology, with two staff scientists.
- --to survey, with the assistance of the directors of the Depto. del Patrimonio Cultural Monumental and the Depto. de Museos, the collections and to set conservation priorities for these collections and sites.
- --to spell out a national conservation plan.
- --to single out two or three areas in which conservation work can be undertaken and to begin a coordinated conservation program in these areas.
- --to search for and employ two or three conservators of excellence to carry out this conservation program.
- --to establish conservation treatments unique to Peru with materials and techniques from the region.
- --to establish a unified record system for conservation.
- --to start a training program in museography and conservation in conjunction with a university or technical school, with ten to twenty trainees.
- --to set a budget for an information office and employ a staff person to disseminate information about conservation activities in Peru.

Longer-term goals:

- --to expand the scientific laboratory to include more sophisticated testing and anlytical equipment and staff.
- --to expand the areas of expertise in conservation, and thus, the areas of activities in conservation in Peru.
- --to become leaders in some fields of conservation, such as precolumbian textiles, metals, adobe, and others.
- --to establish a wide information network, training and teaching facility, used by conservators from all South and Central American countries.

Limitations:

- --Due to budgetary problems, development will be slow. This may be an asset if the conservation program is developed thoughtfully and carefully.
- --Only a few areas of need will be covered in the first few years. Despite the overwhelming need for better conservation, only a few areas can be taken care of in the first few years of the program. It is better to do excellent work in a few areas, rather than attempt to set up a large but unmanageable conservation program.

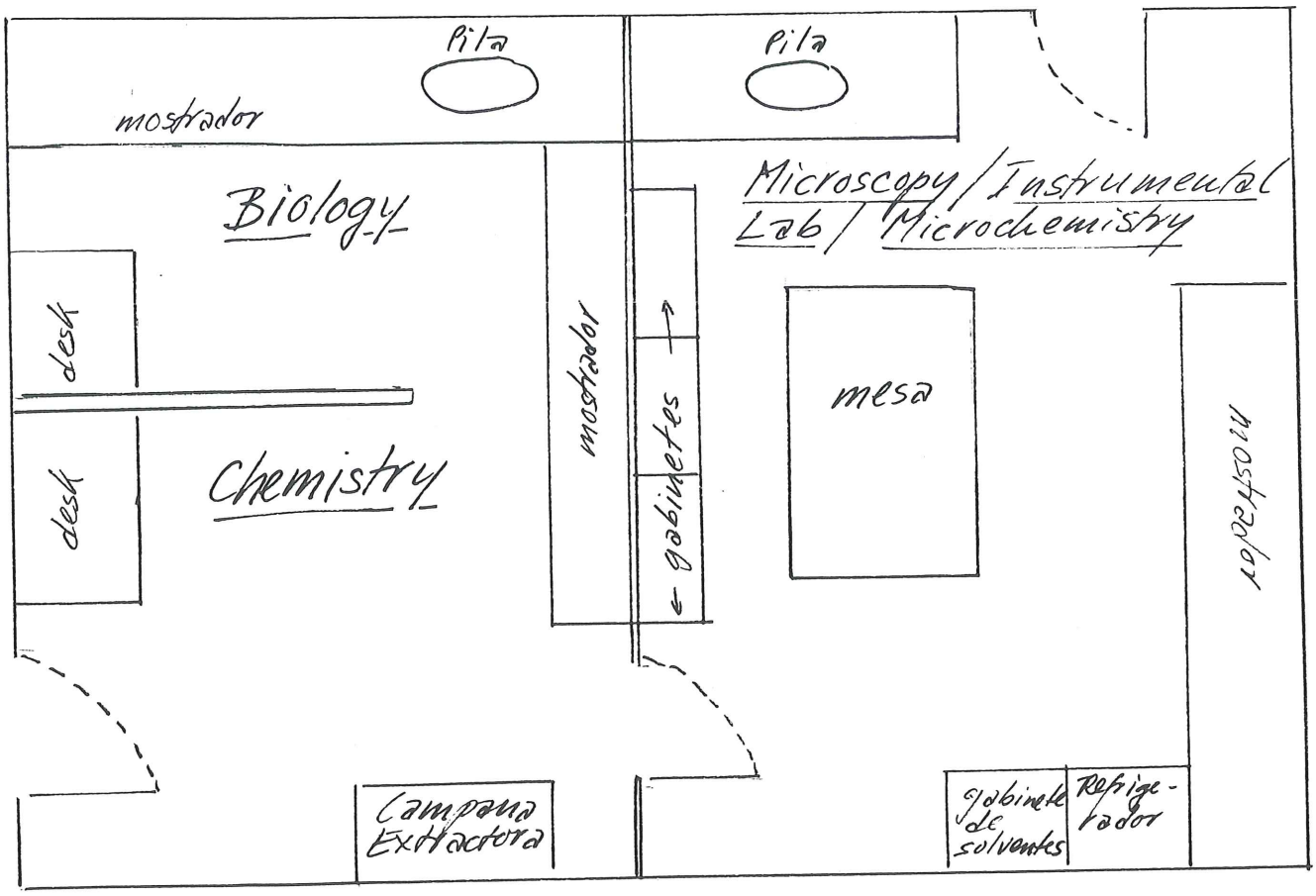
--The conservation training program will be small. Again, emphasis should be on excellence rather than on producing too many graduates who cannot find work.

--It will be difficult to keep the well-trained conservators on staff due to low pay and other budget restrictions: compensation can be made by allowing them to travel to other centres in South America, by assisting with equipment purchase and laboratory outfitting, and by helping to upgrade the profession in the eyes of the public through the information office.

8. SPACE LAYOUT AND EQUIPMENT NEEDS.

Of the facilities discussed under Section 6b), it is recommended that the general layout be followed, but it should be kept in mind that this arrangement can be changed to suit the physical spaces of the building. Also, the physical layout of the lecture room, administrative offices and library, as well as their equipment is only given in form of a general dollar amount for purposes of budgeting.

Layout and equipment, SCIENTIFIC LABORATORIES: CHEMISTRY LABORATORY, BIOLOGY LABORATORY, INSTRUMENTAL LABORATORY:



SCIENTIFIC LABORATORY:
Equipment:
(Names given in Spanish where possible)

MOSTRADOR Y MESAS, with formica or steel surfaces	$2,000
PILA DE AGUA, stainless steel sink	300
CAMPANA EXTRACTORA DE LABORATORIO (fume exhaust)	5,000
GAS JET Y BALONES DE GAS	850
SILLAS DE LABORATORIO, GABINETES METALICOS	800
GABINETE PARA SOLVENTES, explosion-proof cabinet	800
EQUIPO PARA MONITOR EL AMBIENTE: hygrothermograph, thermometers, psychrometer, light meters	2,000
REFRIGERADOR	300
EQUIPO PARA DESIONISACION DE AGUA	800
HORNILLA DE LABORATORIO	400
BALANCIA ANALITICA (analytical balance)	1,000
BALANZA MICROANALITICA (precision balance)	2,500
POTENCIOMETRO (pH meter), IONOMETRO	1,000
PIPETA AUTOMATICA MICRO (micropipette system)	200
RECIPIENTE DESSICADOR CON BOMBA DE VACIO	600
DESHUMIDIFICADOR	300
ESCOPETA DE AIRE (hot, cold air blower)	250
PLATINA DE CALENTAMIENTO (hotplate)	100
SIERRA, AFILADORA/PULIDORA DE LABORATORIO (specimen saw, specimen grinder/polisher)	2,500
MICROTOMO (microtome for fibre preparation)	800
1 MICROSCOPIO DE LUZ POLARIZADA (polarising light microscopes, with separate light source, UV illuminator, camera attachments	8,000
(1 MICROSCOPIO DE REFLEXION Y TRANSMISION, con accesorios (reflection & transmitting light microscope, with accessories)	(12,000)
(2 STEREO MICROSCOPIOS, CON LUZ SEPARADA stereo microscopes, with separate light source)	(8,000)
REGULADOR DE VOLTAJE 110-220	200
LAMPARA REPUESTO MICROSCOPIO	300
ACCESORIOS POR EQUIPO CROMATOGRAFO (on hand)	1,000
LIMPIADOR POR ULTRASONIDO	800
ACCESORIOS POR EQUIPO ESPECTROFOTOMETRO UV-VIS y IR PYE (for UV and IR spectrophotometer which is already on hand)	1,000
LABORATORY WARE, TOOLS, SOLVENTS, RESINS	10,000
TOTAL BUDGET COST	$43,800-63,800

This list does not include the cost for electricity, outlets, running water, sinks.

Scientific Laboratory....equipment....continued:

NOTE: A LIST EXISTS DESCRIBING ALL THE EQUIPMENT WHICH IS ALREADY ON HAND IN THE SCIENTIFIC LABORATORY--PURCHASED IN 1984 WITH ASSISTANCE OF UNESCO/UNDP-- (see Director of Conservation, National Museum of Anthropology & Archaeology, Lima)--THIS LIST CONTAINS:

- a number of microscopes
- UV/IR Spectrophotometers
- X-ray equipment (2 portable machines)
- Chromatography equipment
- Balances, hotplates
- Lights and lamps
- Laboratory ware, tools and solvents

The above equipment is given as suggested supplementary equipment needed for the National Conservation Centre. FOR FUTURE EXPANSION OF THE ABOVE EQUIPMENT LIST, REFERENCE IS MADE TO PROJECT CUB/86/017 UNESCO/PNUD WHICH SUMMARISES IN DETAIL ALL SUGGESTED SCIENTIFIC EQUIPMENT AND ACCESSORIES NEEDED FOR EXPANSION OF A SCIENTIFIC LABORATORY (see appendix). THESE LISTS SHOULD BE UTILISED BY THE STAFF SCIENTISTS WHEN EXPANDING THE LABORATORY.

Layout and Equipment Needs:
PAINTINGS AND SCULPTURE CONSERVATION WORKSHOP:

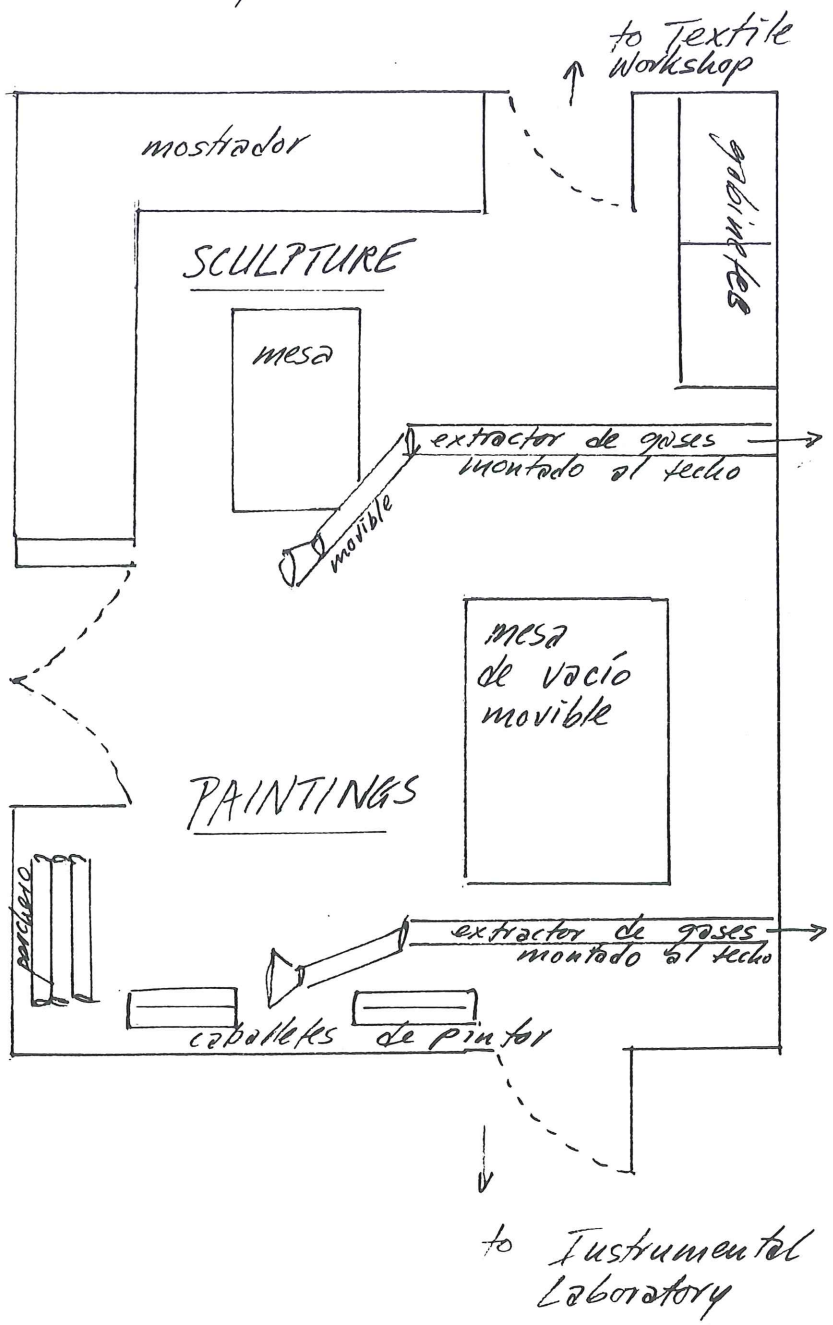
MOSTRADORES, MESAS DE TRABAJO, 4 SILLAS ...	$1,500
2 GABINETES DE METAL PARA SOLVENTES ...	500
EXTRACTOR DE GASES DE SOLVENTES..solvent exhaust hose, constructed in-house, with exhaust fan	500
MICROSCOPIO STEREO, con base movble, con oculares entre 5 y 15, y objetivos de 20x, 40x y 100x; con lampara y transformador, montaje de equipo fotomicrografico. ...	10,000
2 LAMPARAS DE LUZ ULTRAVIOLETA para examination	500
3 LAMPARAS PARA TRABAJO DE CONSERVACION ...	750
2 ASPIRADORES, 1 tipo industrial, 1 menaje ...	250
HORNILLA ELECTRICA CON AGITADOR ...	250
BALANCIA ANALITICA SIMPLE ...	300
ESPATULA DE CALEFACCION ELECTRICA ...	500
MESA DE VACIO Y DE CALOR PARA TRABAJOS DE PINTURA--VACUUM HOT TABLE--puede ser construido en casa ...	1,500
EQUIPO FOTOGRAFICO: CAMERA DE LENTE UNICA DE 35mm, con objetivos de 50mm y 105mm. TRIPOD, FOTOMETRO, PANTALLAS, FILTROS, 2 LAMPARAS ...	1,500
2 CABALLETES DE PINTOR ...	1,000
PERCHERO CON BARRAS PARA COLOCAR MELINEX,ETC....	250
COMPRESOR DE AIRE INDUSTRIAL, 1/2 hp, CON SPRAYGUN para applicar capas de resin ...	300
CARRETA DE TRASPORTE DE PINTURAS, construida en casa--padded transport cart for paintings..	200
BASUREROS PARA SOLVENTES ...	200
HERRAMIENTOS, SOLVENTES, RESINES, PIGMENTES ...	3,000

FOR USE OF OTHER EQUIPMENT, REFER TO LIST FOR OTHER CONSERVATION WORKSHOPS.

TOTAL PAINTINGS AND SCULPTURE WORKSHOP $23,000
This figure does not include electricity, electrical outlets, running water, sink.

LAYOUT: PAINTINGS AND SCULPTURE CONSERVATION WORKSHOP

NOTE: A larger workshop would be ideal.



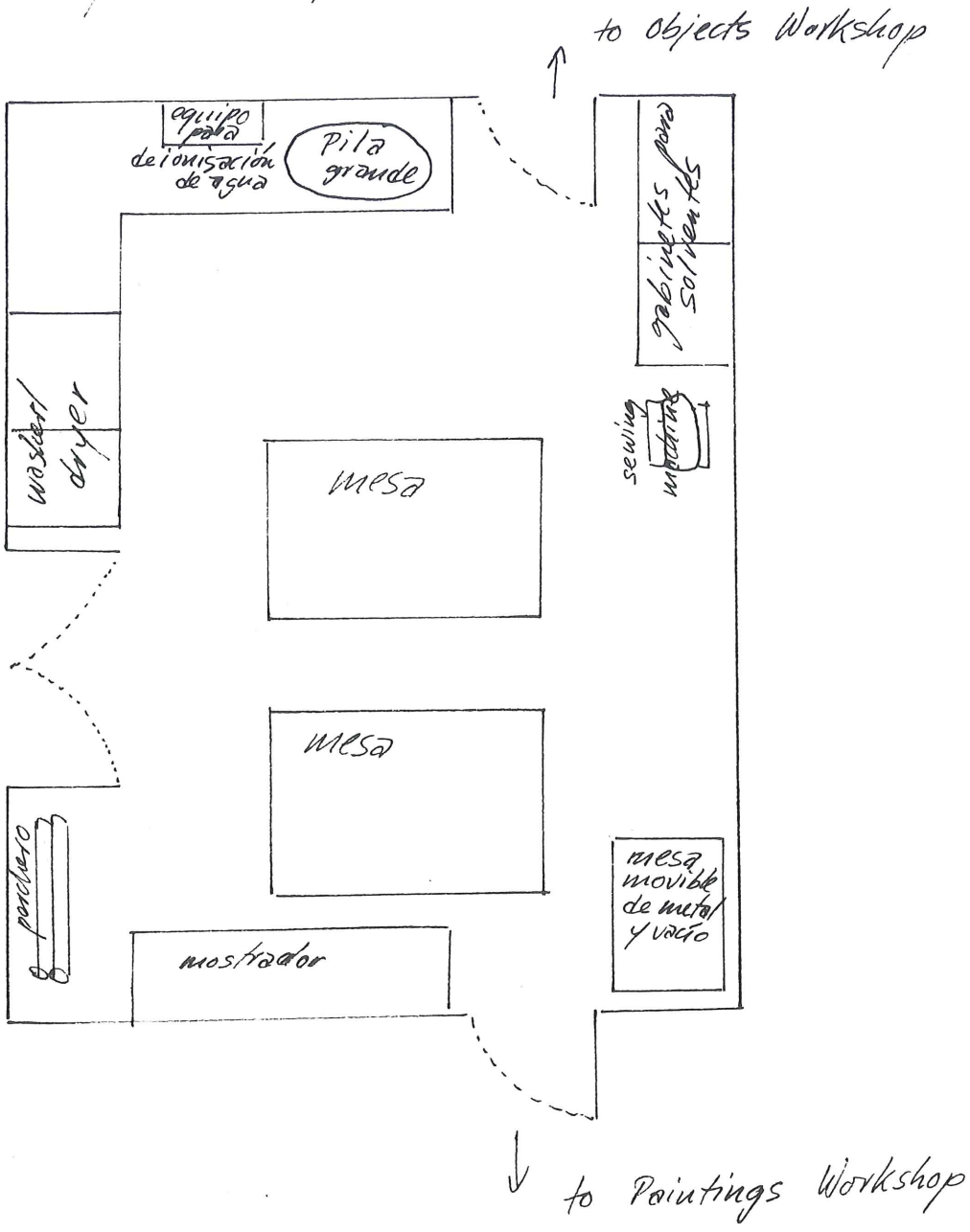
Layout and Equipment:
TEXTILE AND PAPER CONSERVATION WORKSHOP:

MOSTRADORES, MESAS DE TRABAJO, 6 SILLAS	...$	1,500
2 MESAS DE TRABAJO GRANDES	...	500
PERCHERO CON BARRAS PARA COLOCAR MELINEX, ETC.		250
EQUIPO PARA DEIONISACION DE AGUA, still or deionising equipment, with tanks	...	500
2 CABINETES DE METAL PARA SOLVENTES	...	500
MESA DE METAL PARA LAVAR TEXTILES--textile washing table	...	500
MESA DE VACIO PARA LAVAR TEXTILES Y PAPEL	...	500
WASHING/DRYING MACHINE--para lavar	...	1,000
SEWING MACHINE	...	500
VAPORISER/STEAMER	...	300
PLANCHA, IRONING BOARD	...	100
2 ASPIRADORES, TIPO INDUSTRIAL Y MENAJE	...	300
HORNILLA ELECTRICA CON AGITADOR	...	250
BALANCIA ANALITICA SIMPLE	...	300
ESCOPETA DE AIRE--hot/cold airgun	...	250
3 LAMPARAS PARA TRABAJO CONSERVACION	...	750
2 LAMPARAS CON MAGNIFICACION	...	600
MICROSCOPIO DE STEREO, CON BASE MOVIBLE	...	6,000
BOMBA DE VACIO--vacuum pump	...	300
BATEAS DE NALGENE--Nalgene soaking tubs	...	250
PLANCHA HIDROLICA PARA TRABAJOS DE PAPEL	...	300
GUILLOTINE MANUAL	...	250
EQUIPO FOTOGRAFICO--ver laboratorio de pinturas.		1,500
BASUREROS PARA SOLVENTES	...	200
2 CARRETAS DE TRASPORTE DE ARTE	...	400
ESCALERA DE ALUMINIO, aluminum step ladder	...	300
HERRAMIENTOS, SOLVENTES, MATERIALES	...	1,900
TOTAL TEXTILE AND PAPER WORKSHOP	...$	20,000

This figure does not include electricity, electrical outlets, running water, sinks.

LAYOUT: TEXTILE AND PAPER CONSERVATION WORKSHOP

NOTE: A larger workshop would be ideal.



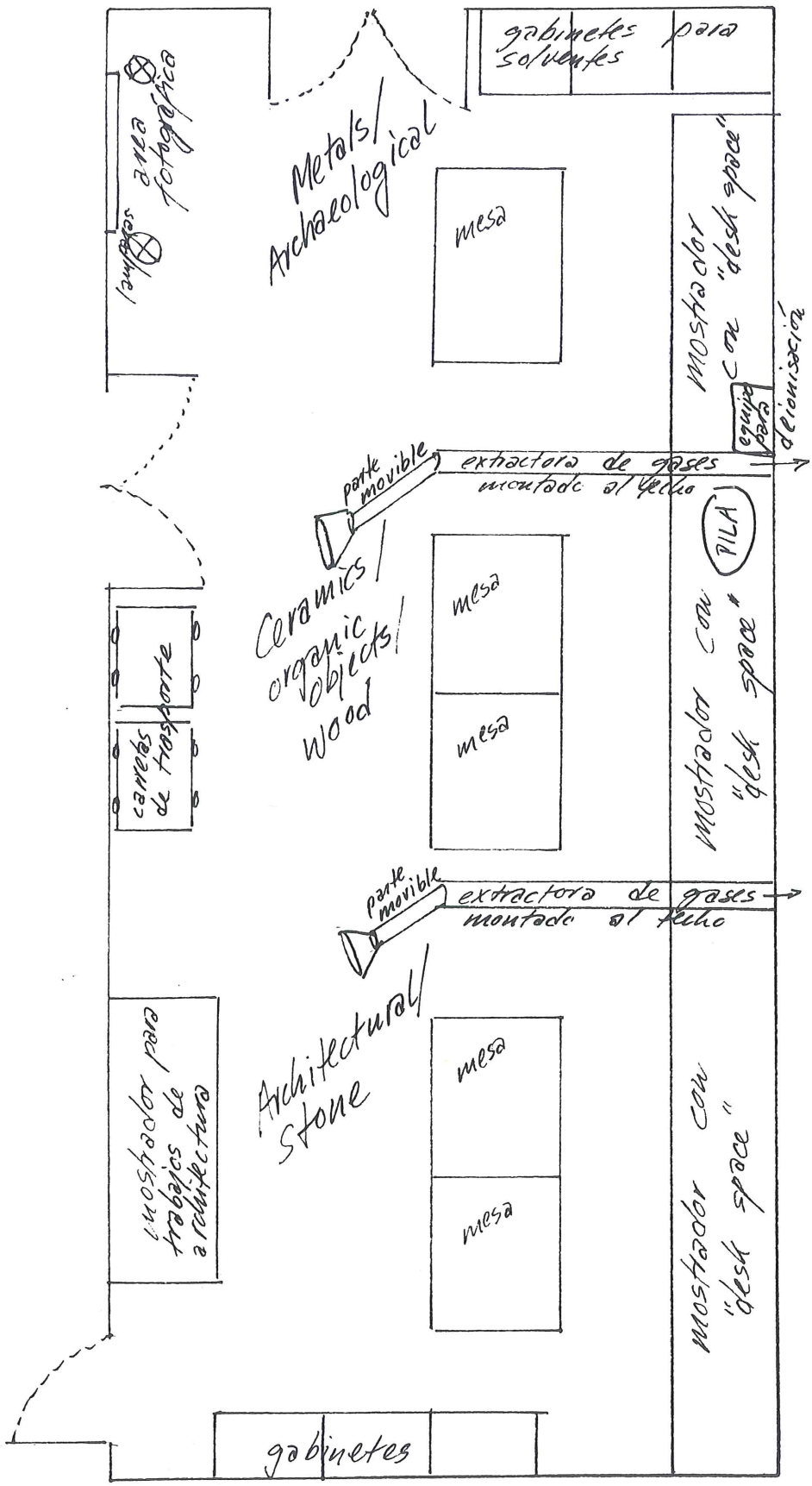
Layout and Equipment:
WORKSHOP FOR THREE-DIMENSIONAL OBJECTS: ARCHAEOLOGICAL, (METALS, CERAMIC, ORGANIC OBJECTS), STONE, ARCHITECTURAL.

MOSTRADORES, 6 MESAS DE TRABAJO, 10 SILLAS	...	$ 3,000
3 GABINETES DE METAL PARA SOLVENTES Y RESINES		750
2 EXTRACTORES DE GASES DE SOLVENTES, de metal galvanizado conresistencia contra corrosion, con motor y ventilador y interuptor		1,500
2 CARRETAS DE TRASPORTE PARA OJETOS DE ARTE		400
EQUIPO PARA DEIONISACION DEL AGUA--still or deionising unit with cartridges/tanks	...	500
BATEAS NALGENE--Nalgene soaking tubs	...	500
EQUIPO DE REDUCCION ELECTROLITICA PARA METALES, con bateria	...	600
2 ASPIRADORES, TIPO INDUSTRIAL Y MENAJE	...	300
3 LAMPARAS DE TRABAJO, CON BASES MOVIBLE	...	750
2 LAMPARAS DE TRABAJO CON MAGNIFICACION	...	600
1 LAMPARA DE EXAMINATION ULTRAVIOLETA	...	250
MAQUINA TALADRO "FOREDOM", con accesorios y afiladoras --dental drill	...	600
EQUIPO FOTOGRAFICO--see paintings workshop	...	2,000
RECIPIENTE DE VACIO, CON BOMBA DE VACIO	...	600
TECLE O DEMPSTER (gantry) PARA LLEVAR PIEDRAS	...	600
ESCOPETA DE AIRE (hot/cold airgun)	...	250
HORNILLA ELECTRICA CON AGITADOR (hotplate with stirrer)	...	400
POTENCIOMETRO, pH METER	...	700
BALANCIA ANALITICA SIMPLE	...	300
BALANCIA INDUSTRIAL PARA PIEDRAS	...	300
COMPRESOR DE AIRE INDUSTRIAL, 1 hp	...	600
2 BASUREROS ESPECIAL PARA SOLVENTES	...	300
ESCALERA DE ALUMINIO	...	250
HERRAMIENTOS, SOLVENTES, MATERIALES	...	4,000

Other equipment for architectural conservation will be recommended by Isabel Rigol, Cuba.

INTERIM TOTAL AMOUNT, THREE-DIMENSIONAL OBJECTS LABORATORY AND WORKSHOP	.....	$20,000

LAYOUT: WORKSHOP FOR THREE-DIMENSTONAL OBJECTS: ARCHAEOLOGICAL, STONE, ARCHITECTURAL



Equipment for DIRT ROOM/WORKROOM:

SIERRA DE MADERA--table saw for wood	...$	600
SIERRA DE METAL --saw for metal	...	500
TALADRO ELECTRICO--electrical drill press	...	400
ALISAR--electrical sander	...	300
AFILADORA/PULIDORA ELECTRICAL--sander/grinder	...	400
LIMPIADOR ABRASIVO DE AIRE, CON CAMARA Y FILTROS --airbrasive cleaning system, with chamber	...	1,000
COMPRESOR DE AIRE, CON FILTROS, 1 hp	...	600
3 MESAS, GABINETES	...	1,200
BURROS PARA MESAS, construidos en casa	...	200
ESCALERA DE ALUMINIO	...	300
HERRAMIENTOS PARA TRABAJOS DE CARPINTERIA Y DE METAL--woodworking and metalworking tools	..	1,000
TOTAL DIRT WORKROOM	... $	6,500

EQUIPMENT FOR LECTURE ROOM, LIBRARY, PHOTOGRAPHY LAB:

LIBRARY: BOOK-PURCHASING, PERIODICALS	.....$	20,000
ADMINISTRATIVE SUPPLIES	.....	4,000
LECTURE ROOM: SLIDE PROJECTOR, VIDEO PLAYER AND SCREENS, AUDIO EQUIPMENT	.....	5,000
PHOTOGRAPHY WORKSHOP: CAMERA EQUIPMENT, consisting of 35mm camera, with 50mm and 105mm objectives, filters, light meter, tripod, lamps;		2,000
DARKROOM WITH EQUIPMENT FOR DEVELOPING		5,000
BUDGET FOR FILM, NEGATIVES, MOUNTING MATERIALS		3,000
TOTAL PHOTOGRAPHY, LECTURE ROOM, LIBRARY		$39,000

Note: the photography darkroom may be located in the basement and can also be used to develop x-rays.

Equipment: FUMIGATION CHAMBER OR FREEZING CHAMBER:

This equipment may consist of either chamber. Recent experiments in Canadian, European and Hawaiian museums have shown that use of a Freezing Chamber is less dangerous than the use of a fumigation chamber. Tests are still being conducted at the Canadian Conservation Institute in Ottawa, Canada, and at other museums. The cost of a large freezing chamber is approx. $20,000; the cost of a "Vacudyne" 60-cycle 220 volt fumigation chamber is the same, but the gas is expensive and difficult to use.

APPROXIMATE COST $20,000

Equipment: Administrative equipment for conservation offices, consisting of desks, chairs, typewriters, xerox machine, computer terminal estimated at $10,000

ESTIMATED TOTAL COST FOR EQUIPMENT AND SUPPLIES, NATIONAL CENTRE FOR CONSERVATION, LIMA, PERU $230,000

9. NATIONAL SCHOOL FOR MUSEOGRAPHY AND CONSERVATION.

The National School for Museography and Conservation will train museum professionals for museums in all of Peru, and, eventually, for other Latin American countries.

It should be established over several phases, and it should be linked to a University (and/or Techncial School). It does not need to be under the National Institute for Conservation administratively; but the staff members from the National Institute for Conservation will be teachers in the school. It may be situated in the Museo de la Nacion building, and use the facilities of the conservation workshops and the carpentry, as well as the library of the National Institute for Conservation. It is recommended that it be located in a similar area such as the National Institute for Conservation in order to avoid duplication of teaching aids, classroom, and staff.

The general curriculum needs to be developed with much thought, but it should include the following:

--registration techniques
--storage management;
--exhibition design techniques
--hands-on exhibition techniques
--preventive conservation: light, climate, art handling; shipping; transport
--biological deterioration, pest control techniques
--natural disaster prevention
--art photography
--basic conservation: ceramics
- basic conservation: stone
--basic conservation: archaeological materials
--basic conservation: wood; organic objects
--basic conservation: textiles
--basic conservation: paintings and sculpture
--basic conservation: photographs, paper
--basic conservation: archaeological sites, monuments and buildings
--follow-up courses in all of the above disciplines.
--general cultural history: Peru, Latin America
--general art history: Peru, Latin America
--short-term and long-term internships in museums in Peru and other countries.

Upon recommendation of the teaching staff, the course subjects could be expanded. Staff should come from both within and outside of Peru. Horizontal exchange of teaching staff from other centres in South America should be encouraged; short-term internships in other centres should also become a reality, with some assistance in funding from outside sources such as UNESCO/PNUD and others.

There are numerous curricula available of similar classes taught in European and American countries which should be consulted for the construction of the courses: among them University of Leicester, England; COLCULTURA, Columbia; ICCROM, Italy; Canadian Conservation Institute; Smithsonian Institution; Centre for Museums Studies in San Francisco, California, and numerous small universities in a number of countries.

The course of study could be two or three years; with much of the study work being done on a paid practical level within one of the museums in Peru. At first, the number of students should be held to a small number (10-15), until their placement in museums and historic sites can be assured; then the number of graduates can be increased.

Future phases may include more of the short courses which are now offered throughout South American with assistance of UNESCO/PNUD.

10. RECOMMENDATIONS REGARDING THE MUSEO DE LA NACION.

The current plans for the Museo de la Nacion have the museum located in a large, eight-story building, with an open-roofed large lobby and the floors cantilevering off this space on either side. There are two sub-floors, one of which used to be a parking garage. The general focus of the Museo de la Nacion will be a cultural one: the culture of Peru through the ages and into the future. In this respect, the exhibition galleries have been planned to extend from the first floor on up to approximately the fourth floor.

The current plans call for the subfloors to be utilized as storage areas, registration areas and as workshops; also as a "museum for children", and an audiovisual centre.

The upper floors of the building have been foreseen for the National School for Museography (and Conservation), and the Centre for Conservation--on the sixth floor. Other floors become administrative offices.

This advisor would like to make the following recommendations:

1) Using the 6th floor for the National Centre for Conservation, and for the National School for Museography and Conservation appears to be a good idea. However, all laboratories and workshops must have lockable doors--the equipment and art stored there will be too valuable to leave unsecured. In addition, there will be the difficulty of transporting large works of art to the 6th floor--and in this case, arrangements would have to be made with one of the workshops located on a lower floor.

2) Using the sub-floors for all the other laboratories and workshops for conservation may not be entirely practical: Some workshops utilize daylight for their work, such as the paintings and sculpture workshop. It is essential that most conservation workshops (talleres) be located above the sub-floor; for example on the first floor. This is necessary for reasons of light, and also for staff morale: full-time staff members should have access to some form of daylight in their workshops.

3) Using the sub-floors for storage of artefacts may also be somewhat impractical due to the accumulation of moisture and absence of air circulation--this will create dangerous mold situations for storage of textiles, organic materials such as mummies, bones; and paintings, sculptures. It may be safe for stone objects and, if the space is ventilated and somewhat dehumidified, for ceramics. If a dry space can be created, it

may be safe to store metal objects in the sub-floor areas.

4) Other functions of conservation which could be accommodated on the sub-floors are:
   --x-ray room
   --photographic room with photo developing
   --freezing chamber or fumigation chamber
   --carpenter shop
   --storage for exhibition materials and cases

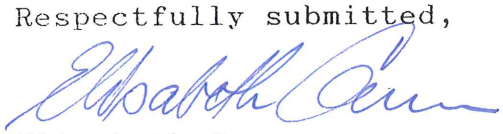
5) The overall light situation in the museum is uneven: near the large wall windows the light levels will be very high--too high for textiles and painted objects. Therefore, such objects should be exhibited away from the outside walls of the building.

6) The overall feeling is that the maintenance of this building will be costly. In case that another location for the National Centre for Conservation is sought, it is recommended that an old historic building be adjusted to house it. The plans given above can be changed to suit a new location.

I would like to sincerely thank the staff members of UNESCO/PNUD who have assisted me with the compilation of this report, and to the following persons in Peru who have so kindly given me their time and assistance:

--Dr. Cabiezas, Director of the Proyecto del Museo de la Nacion, Ministeria de la Presidencia
--Dr. German Peralta Rivera, Director of the Instituto National de Cultura
--Dr. Luis Repetto, Direccion de Museos: Director
--Arq. Bertha Estela Benaviedes, Directora de Conservacion del Patrimonio Cultural Monumental
--Lic. Freddy Alponte Muchaypina, Director de Conservacion del Museo Nacional
--M. Arq. Jorge Levano Pena, Director, Proyecto Restauracion de San Francisco de Lima y Museo de Arte Virreinal
--Dra. Elcira Rosas Moscoso, Abogada, Museo Nacional
--Dra. Vladimira Zupan de Saldias, Directora de Conservacion, Museo Nacional de Anthropologia y Archaeologia.

Respectfully submitted,



Elisabeth Cornu,
Objects Conservator
Fine Arts Museums of San Francisco
Golden Gate Park
San Francisco, California 94118
Tel. (415) 750-3649 USA

APPENDIX FROM:

CUB/86/017

Equipment List

Listado de Equipo

CENTRO NACIONAL DE CONSERVACION, RESTAURACION Y MUSEOLOGIA

	LABORATORIOS
ETAPA DE INVERSION	1987

EQUIPOS LABORATORIO: MICROSCOPIOS Y BALANZAS	UNIDADES	COSTO/UNIDAD	TOTAL
Microscopio de reflexión y transmisión con accesorios	1	12,000.00	12,000.00
Regulador de voltaje 110-220	1	150.00	150.00
Balanza de precisión hasta 1 kg.	1	1,500.00	1,500.00
Balanza analítica	3	2,000.00	6,000.00
Balanza microanalítica	1	7,000.00	7,000.00
Deshumidificador	2	300.00	600.00
Lámpara repuesto microscopio	1	200.00	200.00
		TOTAL:	27,450.00

CENTRO NACIONAL DE CONSERVACION, RESTAURACION Y MUSEOLOGIA

LABORATORIOS
ETAPA DE INVERSION: 1987

EQUIPOS LABORATORIOS: BIOLOGIA Y MICROBIOLOGIA	UNIDADES	COSTO/UNIDAD	TOTAL
Microtomo	1	800.00	800.00
Higrómetro portátil para madera y materiales de construcción	2	200.00	400.00
Platina de calentamiento	6	50.00	300.00
Deshumidificador	1	300.00	300.00
		TOTAL	1,800.00

CENTRO NACIONAL DE CONSERVACION, RESTAURACION Y MUSEOLOGIA

LABORATORIOS
ETAPA DE INVERSION: 1987

LABORATORIO QUIMICA Y CROMATOGRAFIA GASEOSA	UNIDADES	COSTO/UNIDAD	TOTAL
Electrodo de vidrio y calomel	6	60.00	360.00
Platina de calentamiento	8	50.00	400.00
Desionizador de agua	1	150.00	150.00
Regulador de voltaje	2	1,500.00	3,000.00
Rotovapor con baño de agua	1	1,000.00	1,000.00
Frasco para rotovapor	6	50.00	300.00
Pipeta automática micro	6	100.00	600.00
Repuestos para cromatógrafo	5	1,000.00	5,000.00
Punta plástica para pipeta (cajas)	10	50.00	500.00
Deshumidificador	1	300.00	300.00
Ionometro	1	4,000.00	4,000.00
		TOTAL:	15,610.00

CENTRO NACIONAL DE CONSERVACION, RESTAURACION Y MUSEOLOGIA

	LABORATORIOS
ETAPA DE INVERSION	1987

LABORATORIO DE MICROSCOPIA ELECTRONICA	UNIDADES	COSTO/UNIDAD	TOTAL
Pulidora de disco	2	2,000.00	4,000.00
Water tape	2	70.00	140.00
Papel abrasívo húmedo (paquetes)	50	4.50	225.00
Papel esmeril seco (paquetes)	50	2.50	125.00
Limpiador por ultrasonido	1	800.00	800.00
Resina transparente (kgs)	10	3.00	30.00
Regulador de voltaje de línea	1	450.00	450.00
Deshumidificadores	2	300.00	600.00
Repuestos para microscopio electrónico de barrido	5	500.00	2,500.00
Repuestos ION Sputtering Devise	5	1,000.00	5,000.00
Repuestos para sistema dispersivo de energía	5	500.00	2,500.00
		TOTAL:	16,370.00

CENTRO NACIONAL DE CONSERVACION, RESTAURACION Y MUSEOLOGIA

LABORATORIOS	
ETAPA DE INVERSION	1987

ACCESORIOS Y REACTIVOS PARA LABORATORIOS	UNIDADES	COSTO/UNIDAD	TOTAL
Varillas para abrir ampullas de vidrio (paquete)	1	12.00	12.00
Varillas para abrir ampullas de plástico (paquete)	1	12.00	12.00
Test de amonio (paquetes)	5	10.00	50.00
de hidrato	8	6.25	50.00
de nitrato	8	6.25	50.00
de sulfato	8	6.25	50.00
de sulfito	8	6.25	50.00
Set de análisis a la gota	4	5.00	20.00
Placa de poliamida para cromatografía de capa delgada (cajas)	10	30.00	300.00
		TOTAL:	594.00

CENTRO NACIONAL DE CONSERVACION, RESTAURACION Y MUSEOLOGIA

TALLERES
ETAPA DE INVERSION: 1987

TALLER DE FOTOGRAFIA	UNIDADES	COSTO/UNIDAD	TOTAL
Maquina de revelar DURST RCP 50,50x60 cm $^{2}2$	1	3,500.00	3,500.00
Secadora de negativos KINDERMAN Mod.100 Nº4471	1	800,00	800.00
Lámpara de seguridad Sanal (vapor de sodio) 15w/15v	2	180.00	360.00
Esmaltadora JAPO Automatic glazing dryer Mod. MR 30	1	600.00	600.00
Sistema de luces COMET CP-4800 Kit Power Pack	1	3,800.00	3,800.00
Reloj de laboratorio (timer) ISA-Lab 300	2	160.00	320.00
Reloj de laboratorio DESEBER B177	1	120.00	120.00
Tanques de revelado Nickel NIKOR (4 reels)	8	38.75	310.00
Marginador profesional OMEGA 11x14"	1	100.00	100.00
Reels NIKOR 35	10	9.00	90.00
120	8	10.00	80.00
Baterías Px- 2865 KODAK	6	5.30	31.80
AA 1.50	10	1.00	10.00
Película Fujichrome 100 D Profesional 35 mm	200	4.00	800.00
400 D Profesional 35 mm	50	6.00	300.00
64 T Profesional 35 mm	30	5.50	165.00
Duplicadores 8x10" (cajas)	5	50.00	250.00
Kits de proceso FUJI CR 56 (IKT)	30	12.00	300.00
Cámara fotográfica NIKON F-3	1	450.00	450.00
Lente F-3 200 mm NIKON 35-70-F.35	1	380.00	380.00

(...)

TALLER DE FOTOGRAFIA (2)	UNIDADES	COSTO/UNIDAD	TOTAL
Películas Fujichrome 100 Profesional 120 mm	40	3.75	150.00
400	20	4.50	90.00
64 T	20	4.50	90.00
Batería cámara NIKON F.3 Bat. D-76	4	4.00	16.00
Envases para archiuar tíras películas 35 mm (cajas)	5	10.00	50.00
120 mm	5	12.00	60.00
placas películas 4x5"	5	15.00	75.00
3x7"	5	15.00	75.00
Maquina montadora de slides KODAK	1	60.00	60.00
Montaduras adhesivas KODAK (cajas)	5	20.00	100.00
Lente NIKON para copia Slides 55 mm Macro F.2.8.1.1.	1	250.00	250.00
Películas Ektachrome 135-36 200 ASA	40	4.50	180.00
		TOTAL:	14,163.00

CENTRO NACIONAL DE CONSERVACION, RESTAURACION Y MUSEOLOGIA

DOCENCIA

ETAPA DE INVERSION 1987

EQUIPOS Y MATERIALES PARA DOCENCIA	UNIDADES	COSTO/UNIDAD	TOTAL
Cassette Video KCA-60	20	16.50	330.00
KCA-30	20	12.10	242.00
KCA-20	40	9.90	396.00
Proyector vista fija	2	450.00	900.00
Ray-Universal - Mod. para 60 diapositivas	4	7.00	28.00
Epidioscopio	1	300.00	300.00
Control programable de disolvencia (KODAK-EKTAGRAPHIC)	1	953.00	953.00
Visor proyector sincronizado EKTAGRAPHIC KODAK 495	1	200.00	500.00
Monitor de rayos ultravioletas	1	200.00	200.00
Monitor de rayos infrarrojas	1	200.00	200.00
Anemómetro de precisión	1	200.00	200.00
Termohidrógrafo	1	200.00	200.00
		TOTAL:	4,449.00

CENTRO NACIONAL DE CONSERVACION, RESTAURACION Y MUSEOLOGIA

	TALLERES
ETAPA DE INVERSION	1987

TALLERES DE RESTAURACION DE BIENES MUEBLES	UNIDADES	COSTO/UNIDAD	TOTAL
Pincel de pelo sintético Nº 2-4-6 (juegos)	24		480.00
Aquarela profesional SCHIMCKE (juegos)	20		360.00
Cinceles de hierro Nº 4-6-7-8 (juegos)	10		1,000.00
de bronce Nº 4-6-7	10		500.00
Pigmento mineral para retoques, 8 colores (kg c/u)	5		800.00
Raspillas de acero para restauración 1"-2"-4"-6"-8"(juegos)	20		200.00
Linterna microscopio manual PANASONIC CFF393-E	15		375.00
Baterias para linterna microscopio (cajas)	5		120.00
Cabo de cuchilla X-ACTO Nº 1-2-5-9 (juegos)	15		480.00
Cuchillas para X-ACTO Nº 1 (Tipo 10-11-12-91)(ptes)	1		55.00
Nº 2 (Tipo 10-11-12)	1		50.00
Nº 5 (Tipo 10-11-12)	1		35.00
Nº 9 RX	1		31.00
Cabo y juego cuchillas RICHARD	10		50.00
Tijeras para artistas Nº 409-8"	15		127.00
Cuentahilos COMPETE-FILMS 1/2" 05520	15		210.00
Lampara-lupa IM-10-33240 (luz fluorescente)	5		750.00
Lampara-lupa brazo flexible incandescente DOKE II	5		225.00
Caballete atelier 72" ajustable	5		2,600.00
Rodillo Nº 4129 (6"x4")	5		80.00
Nº 4117 (6"x9")	5		45.00

(...)

TALLERES DE RESTAURACION DE BIENES MUEBLES (2)	UNIDADES	COSTO/UNIDAD	TOTAL
Espátulas dobles Nº 2-3-27-28-30 (juegos)	5		125.00
Higrómetro eléctrico portátil y accesorios	2		400.00
Compas de proporción con escala Nº 114587	1		90.00
Trevalon (kg)	2		80.00
Tela de vidrió (rollo)	1		300.00
Paraloid B72SY y 17 (kg)	2		80.00
Gum DAMMAR WA-3 (kg)	5		50.00
Clidoramine T-SR1 (kg)	1		20.00
Cascina 44020-3H (kg)	1		10.00
2242	2		20.00
		TOTAL:	9,749.00