A Conservation plan for the Juan Mendez photographic collection

Fernando Osorio

Follow this and additional works at: http://scholarworks.rit.edu/theses

Recommended Citation
A Conservation Plan for The Juan Mendez Photographic Collection.

by

Fernando Osorio

Thesis Report

Submitted in partial fulfillment of degree requirements for the

Master of fine Arts in Imaging Arts and Sciences
Rochester Institute of Technology
School of Photographic Arts and Sciences
May 1996

James Reilly, Chairperson,
Director,
Image Permanence Institute,
School of Photographic Arts and Sciences.

Grant B. Romer,
Director,
Conservation and Museum Studies,
International Museum of Photography and Film
at George Eastman House.

Prof. Ken White,
Chairman,
Department Fine Art Photography, School of
Photographic Arts and Sciences.

Prof. Michael Hager
Director,
Museums Photograpgraphics.
Acknowledgments

I wish to thank my Thesis Board for all the advice, support and guidance I have been receiving from all of them through my graduate program. Specially I like to mention the help and patience received from Prof. James Reilly, Director of the Image Permanence Institute and my academic adviser, Prof. Grant B. Romer, Director of Conservation and Museum Studies at the George Eastman House, International Museum of Photography and Film, who has been a mentor in the arts of photography conservation. In particular I appreciate the support of Prof. Ken White, Chairman of Fine Art Photography Department and to Prof. Michael Hager for his generous donation of time and the enthusiastic encouraging.

My recognition and gratitude to the Fulbright Commission, to the US-Mexico Commission for the Educational and Cultural Exchange and to the Institute of International of Education, organizations that directly support my graduate experience in RIT. To the Secretaria de Educacion Publica and to the Secretaria de Cultura del Gobierno del Estado de Puebla for their complementary grants. I am grateful to Sandra Gluzgold and Haden Guest that kindly help with their language skills and to Mrs. Gloria Sanchez, for her investigations at the City of Puebla archives. My gratitude goes, also, to Saul Rodriguez, curator of the Mendez Collection and to his staff who significantly facilitate to carry out my research at that photographic archive.

Finally, I want to thank Guadalupe and Ivan for their love, understanding and support invested through these two years.

Rochester, NY May 21, 1996.
A Conservation Plan for the Juan Méndez Photographic Collection

Index

Acknowledgments

• Preface

1.- Juan Méndez, Artist or Documnetarian?
Méndez's biography.
Historic context.

2.- Story of the Juan Méndez Collection.
Provenance and Acquisition.
Scope of the Collection.
Facilities.

Survey Goals and Objectives.
Building Visual Inspection.
Tools Sampling and Data Recording.

4.- The Conservation Plan.
Storage Conditions Improvements.
Air Conditioning Monitoring.
Stabilization: Housing and Handling.
Housing Prototypes: envelopes, boxes, albums and mats.
Conservation Documentation, adopting monitoring tools for conservation:

5.- Appendix
• **Preface**

This thesis is put forth to document not only the outcome of two years worth of intensive investigation and preparation on the Juan Mendez Photographic Collection, but more importantly it offer viable conservation measures.

The first two chapters describe the context of the life and work of Juan Mendez, a Mexican photographer who was active in the City of Puebla, Mexico during the years of 1926 to 1962. The third and fourth chapters are a report of the conservation survey that took place through various visits to the collection of his works during the course of one year. With the results obtained through this survey, a plan of action is suggested to formulate an integral conservation strategy for the collection. Finally, the appendix contains charts, drawings and a bibliography.

This document functions as a tool that could be an integral model for preservation of the iconographic holdings of the Juan Mendez photographic archives.
Chapter One

- The Historical Context.

During the last decades of the 19 century Mexico was under the rule of General Porfirio Diaz. In 1880 Diaz started his second presidential administration and with it came the country's awakening to industrial modernization and capitalist growth. Just at the end of the 1800's Mexico found "order, peace and progress" under the Diaz dictatorship. However, the Diaz Government developed an urban capitalist social class and an official elite that was hermetically sealed at the top layers of social stratification.

Diaz's staff was largely made up by a group of technocratic intellectuals called the "scientists" because of their strong connection to the French Positivist School. From that group, the Minister of Education, Justo Sierra, became a promoter for uniform education and art.

Among other mayor enterprises, Sierra encouraged the construction of the Fine Arts Palace, the exploration of the Teotihuacan pyramids, the opening of the Archeological Museum, the founding of the National University. Special attention was laid upon the art and history of Mexico due to the interest to show the richness of the Mexican cultural heritage and to the trend to remark a nationalist feeling on the Mexicans.

Therefore, projects like A. Briquet's or Desire Charnay's traveling photograph, the enormous enterprise in charged to Pedro Guillermo Kalho to photograph the architecture and monumental archeological sites along the whole country and, finally, the enthusiastic embrace that the cinematographer received from the political elite all was welcome and supported. Most of the inventions, product of the second Industrial Revolution, were rapidly incorporated to the Mexican daily life. The country was immersed in the anxiety of modernity. This trend of events was spread to other Mexican cities like Puebla, Guadalajara, Guanajuato, Veracruz and Monterrey.
Juan Crisostomo Mendez Avalos was born in the City of Puebla [*] in May 12th, 1885 [1]. At that time, Puebla was an important industrial and commercial center whose proximity to Mexico City fostered an intense spirit of competition with the capital where textile factories and transit commerce became the main economical activities. Puebla competed with the national capital in several aspects, the most important were a rich religious and civil architectural heritage, a high educational institutions. This city had a prestigious background in art and art education as well as a very politically polarized social sector.

Juan C. Mendez spent at the school of Saint Bernardine, a catholic institution, his first years of education learning Spanish grammar, English language, music, bookkeeping, and typing. He entered the School of Arts and Crafts where he studied drawing, sketching and where he first developed a passion for architectural art.

In 1900, at the age of fifteen, Juan Mendez became an apprentice at the German hardware store "Soomer and Herman", renown for its extensive stock of electric appliances, optics, photographic material and industrial spare parts and materials.

In 1906, Mr. Claudio Goit, the manager of Soomer and Herman recommended Juan Mendez for a position as administrator of a wealthy Mexican businessman called Mr. Agustin Sánchez Antuñano. In 1914, he become Mr. Sánchez's attorney. For the next fifty years Juan Méndez got job until he die.

His professional carrier was fast and ran simultaneously with the explosion and process of the Mexican Revolution [1910-1927]. If he did not belong to a high social status of those last days of General Diaz's government, then Mendez was definitely close to wealthy and rather conservative circles at his natal city.


[*] Capital city of the State of Puebla, Located 120 Km East of Mexico City.
Therefore, the Revolutionary Movement did not overthrow Mendez's carrier. On the contrary, his early stable economical life provided him with the time and funds to dedicate his free time entirely to photography.

As an amateur photographer, Mendez used the services of the American Photo Supply, a Kodak dealer in town. Later on, in that place he met other photographers most of them studio photographers, located in downtown Puebla. A. Bustamante, Josaphat Martinez, Mariano Tagle, J. Bianchini, Robles, Carlos Rivero were some of the photographers he frequented the most. All of them became popular for more than fifty years. However, Mendez never established a commercial studio. It is possible that his education and skills in photography were obtained at the School of Arts and Crafts. Later he becomes a self educated photographer through professional literature. One can assume, that when he worked at Soomer & Herman he was acquainted with photographic material and equipment and it is not remote that Mendez himself acquired photo equipment through that imports dealer.

*The Mexican Art World in the 1920's and 1930's*

By 1922 the political situation in Mexico had stabilized. The post-revolutionary social programs were on the waves of an intensive nationalist fervor. Some of the most important artists and intellectuals of the 20 century started to sound. Among the most important ones were the muralist painters, Diego Rivera, Jose Clemente Orozco and David Alfaro Siqueiros. Poets like the _estridentista poets_, an avant-garde futurist group, headed by Maples Arce and German List Arzsubide. These _estridentistas_ described themselves as being 'a theory of images...controlled by means of spatial geometry'[2].

[2] Hook, Margaret, _Tina Modotti, Photographer and Revolutionary_ (Pandora: London 1993. p.82). (Estridentismo was a poetic and avant-garde movement active in Mexico during the early 1920's and strongly influenced by the European avantgardism.
Novelist like Martin Luis Guzman, Agustin Yanez, among others, generated the so called Novela de la Revolucion. The Minister of Education, in this case Jose Vasconcelos, was the key man behind the intellectual and art worlds.

At the beginning of the twenties Edward Weston and Tina Modotti came to Mexico. The art world in those years was strongly identified with left wing politics and most of the artist and intellectuals worked close to the activities of the Mexican Communist Party. After Weston and Tina, John Dos Passos visited Mexico. During the 1930’s Paul Strand, Serguei Einsestein and Eduard Tisse were attracted by the profile of a new country.

During the 20’s and 30’s important Mexican photographers and cinematographers started their carriers. These are the cases of Manuel Alvarez Bravo and Gabriel Figueroa strong influenced by the Weston, Tina and Tisse respectively. On those days photography in Mexico was published in several magazines and journals like El Machete, [The Chopper] published by the Communist Party with Tina’s Modotti photographs, Forma [Form] edited by the painter Gabriel Fernandez Ledezma and Mexican Folkways, [a bilingual magazine published in Mexico City] founded by Frances Toor in 1925 and the El Universal Ilustrado [a journal supplement] between the most relevant ones.

- **Juan Mendez first photography success.**

In 1931 Juan Mendez was 47 when he sent his images to a national photo contest promoted by Kodak. He won the second prize among one hundred forty thousand applicants. The local magazines Bohemia Poblana and Mignon reviewed his success. The Mendez portfolio was conformed by architecture images, portraits and still lives. Most of the portraits were of local professionals, scientist and artist. The most remarkable images Mendez presented belong to architectural themes. [3]

This successful experience gave Mendez a local reputation between patrons and artist's movements. He became a member of the group formed by the art patron, photographer and lawyer, Hugo Marin Hirsman and the botanist and historian, Hugo Leicht. With these local intellectuals and other personalities the National Geographic Institute in Puebla was founded. In the late 1930's Hugo Leitch published his book Las Calles de Puebla [The Streets of Puebla] illustrated with Mendez's architectural photographs. Las Calles de Puebla is an interesting compendium of the city street's names and history.

At the beginning of the 1940's a group of artist founded the artist's cartier close to the San Francisco River side, Puebla's east side downtown. El Barrio del Artista [the artists' district] is still a colonial building surrounding a square; it belong to the former market called El Parian. In that square Mendez met young and old bohemians and certainly was identified as one of them. He was involved in the organization of a photographic society which was founded in the late 40's, with the help of amateur photographers, businessmen and photo dealers.

The first photographic society in Puebla was called Club Fotografico de Puebla [The Photographic Society of Puebla]. The first meetings took place in the former American Photo Supply in the street of Reforma 125. In December 1952, Juan Mendez's magna exhibition was organized for the opening of the photographic society's new facilities One hundred images were shown of which a list and vintage prints still exist.[4]

In 1964, after fifty years of photographic work Juan Mendez died in the City of Puebla. where he was buried in the French Cemetery.

• **Juan Mendez Artist or Documentarian.**

The photographic equipment kept as part of the collection, denotes that he was a dedicated and extremely skillful photographer. He liked the large formats from postcard size to 5 x 7 inches. He had a special fascination for the Richard's stereoscopic Taxiphoto equipment, images of this kind constitute 47 % of the collection [positives slides on glass with its corespondent 4.5 x 10 cm negatives on nitrate cellulose base].

Three main topics appear in the collection:
1] Architectural Photography,
2] Portraiture [ mostly in stereoscopic slides].
3] Still lives [ these are few in the collection].

The architecture photography could be divided into subdivisions of civil, religious, landscape and street photography. It is in these categories that we find a documentarian trend. Mendez not only photographed beautiful buildings, he also was interested in making images of the deterioration and abuse of architectural monuments and historic constructions. Some of these images denote his rejection towards urban modernity that still today cannot fit easily in a baroque city.

Juan Mendez was an expert on the City of Puebla and its historic landmarks. Due to the fact that for a long time he worked as a rent keeper and attorney of landlords. Therefore, he had the time and opportunity to walk into every house of Puebla's historic district. This photographer took his camera to hidden patios, corridors, inaccessible roofs and corners of churches, monasteries, old residential houses and private palaces.
Missing Page
At the Mendez’s collection are more than fifty Taxiphotostereoscopic slides with this special topic.

Mendez’s still life photographs are simple and formal compositions. These images are mostly lighting studios of glass, flowers and textures.

Mendez attraction to photographs and to art— in general—led him to hand color his prints, toned or tinted stereoscopic slides. Hand colored prints are on double weight fiber base papers; they are printed light and with soft focus. The hand colored technique is based in the use of crayons, pastels and watercolors. On one hand, these techniques enhanced Mendez’s pictorialism but in the other hand they underlined his documentarian trend in recording the colors of the monumental patrimony. We find in the collection more than forty 8x10 inch prints which are hand colored and elegantly mounted. The pictorial images created by Juan Mendez have the characteristic of being a different point of view formed by two main plastic elements: photographic evidence and unusual and carefully explored perspectives.

The Mendez Collection reflects that the photographer was interested in a visual documentation of his urban and architectural context. His intention was the creation of a record performed with precise technical skills.
Chapter 2

- *The Story of the Juan Mendez Collection.*

The Mendez's Collection was originated through the photographic work of Juan Mendez Avalos. The collection was in hands of its author until 1964 when he died. Afterwards, Ana Mendez de la Torre, his daughter, received it as heritage. She and her husband took good care of the collection and sixteen years later, between 1979 -1980, they decided to sell the collection to the State Government of Puebla.

I first learned about Juan Mendez when I was asked by Prof. Enrique Martinez Marquez, the former Secretary of Education of Puebla to visit Mendez's daughter, in regards to her father's photographic collection. Since her fathers' death in 1964, Mrs. Mendez and her husband, Prof. Mariano Anaya had been acting as the caretakers of Juan Mendez's vast collection of photographs. I had been asked to prepare a report documenting the actual holdings to ascertaining their value for the Government of Puebla. Within seven afternoons I spent at the Anaya-Mendez home, I not only began to understand the great importance of the collection, but I also began to learn something about Juan Mendez himself.

It was at just this time that the collection went up for sale and that a formal offer was made by the State Government. I was asked to submit an appraisal of the collection to the Secretary of Education. In the late 1979 the collection was bought and relocated into the House of Culture in Puebla.

Each time I visited the Anaya-Mendez home I must have seen at least two hundred images. I particularly remember being impressed by certain stereoscopic Taxiphot slide and leather covered photo albums with elegant black and white 5x7 inch contact prints. Other treasures that immediately I notice were a set of one hundred 11 x 14 inch black and white prints and several hundred 8x10 inch proof prints, some of which were hand colored. I read and studied long list of titles of photographs arranged by topic and location. Without a doubt the material photographed by Juan Mendez was extremely rich and full of unique cultural and historical information.
Incredibly enough the vast size the collection had been maintained in an arranged and orderly fashion. This collection was, in fact, Juan Mendez's true heritage left to his daughter and it was with great difficulty that she was finally parting with it. These visual sessions gradually gave way to insightful discussions in which the elderly couple told me much of Mendez's story. This experience was more a session of oral history than anything else. Husband and wife alternatively, narrated to me their memories about the photographer. Because they were school teachers, they spoke a clear and well-structured Spanish. Their memories were sharp and full of rare information such as the old street nomenclature of the City of Puebla and the name and location of churches and other places photographed by Mendez. The information poured out of them in torrents, like a water fall. Each time I visited them I became more and more interested in the collection and in the mysterious life of Juan Mendez.

When the sale of the collection became an inevitability, the Anaya-Mendez family began to prepare an extensive inventory. Soon, with the assistance of Prof. Roberto Solari, I started to transport the collection to the House of Culture. For years, the collection remained carefully arranged in corrugated board boxes, each with a precise listing of its content. The elderly couple liked things well organized and was in no particular hurry. Overall, the move proceeded quite slowly. The separation of the collection for the Anaya-Mendezes was not easy. They insisted in the good care the collection demanded.

[*] Roberto Solari Canepa, active photographer in the City of Puebla, by the time he was acting as curator and instructor of photography at the House of Culture. He was a promoter of the second époque of the Club Fotografico de Puebla in the late 1970's.
• **Scope of the Collection.**

The total amount of photographic items is 9588.

From the 9440 items:
5440 items are identify as:

- Nitrate cellulose negatives 929 items [17%]
- Acetate cellulose negatives 1908 items [35%]
- Stereoscopic Slides on glass 2603 items [47%]

The rest 4000 items are an approximate figure of a recent finding and all are thin stereoscopic [Richard] nitrate negatives 10.7 x 4.4 cm. This figure transformed the collection's scope as following:

<table>
<thead>
<tr>
<th>Format</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrate negatives</td>
<td>52.2%</td>
</tr>
<tr>
<td>Acetate negatives</td>
<td>20.21%</td>
</tr>
<tr>
<td>Glass stereoscopic slides</td>
<td>27.57%</td>
</tr>
</tbody>
</table>

Formats:
- Stereo Taxiphoto slides negatives
  - 10.7 x 4.4 cm 4150
- Stereo Taxiphoto slides positives
  - on glass 10.7 x 4.4 cm 2603
- Postcard 3 3/8 x 5 3/8 inch 1229
- 5 x 7 inches 712
- Imperial Plate half 10.2 x 15.3 cm 556
- 4 x 5 inches 335
- Unknown 3

**Total** 9588
Almost all the fiber based prints are duplicates since Mendez kept most of his proofs, contact and enlarged prints. In the print collection there are postcards and samples of several attempts Mendez made to publish his photographs. In addition, there are three sets of vintage prints organized as exhibition portfolios. The first belongs to a Mendez exhibition from 1952, while the second is a set of hand colored prints and the third is made up of twelve individual albums. The Mendez collection is comprised of not only the master's photographs, but also all of his photographic equipment and darkroom accessories. Among the many pieces in the collection are two viewing cameras with complete optics and filters, a stereoscopic camera and accessories including a viewer, several light meter devices, retouching instruments and various darkroom items such as trays, tanks, thermometers and glassware.

Invaluable textual information pertaining to the actual photographic processes and methodology used by Mendez was found in several boxes, among which were Mendez's shooting journals, as well. The photographer kept specific and exact agendas in which he wrote down the name, format, place and negative number of each photograph. These listings are a useful tool for the identification and consequent cataloguing of the collection.

• The first steps taken to the stabilization of the collection.

In 1979 the collection was moved to the former Palafoxian College, a XVII Century construction, already devoted to house the Palafoxian Library and the House of Culture. The building’s numerous spaces were divided into art galleries, a contemporary library, an hemeroteque, sound archive, a film archive a cinema theater, a book shop and a cafeteria. As soon the boxes started to arrive, several tasks were taken care of. After a careful inventory, there was an overall inspection regarding the collection's state of conservation.
Furthermore, it was decided to provide an individual enclosure for each item of double density polyethylene bag. The Mexican manufacturer, PACKSA, provided fresh bags and rolls of this plastic material, advising us of their products particular water proof characteristics. The envelopes used were non-sealed and in several cases the envelopes were custom cut into an L shape, leaving two open edges to help ventilate the negatives. A piece of plastic was used as an interleaving paper for all the prints. All items were immediately placed in sturdy metal cabinets. Unfortunately no air conditioning system was installed. In July 1980, the Mendez Collection was advertised as a new photographic archive for public access and Mendez's 1952 exhibition was exhibited again in the main gallery. The photographic archive was baptized with the name of Fototeca Juan Crisostomo Mendez.

In 1982 the entire collection was moved to a clean storage room because its building was being restored to make way for new gallery spaces. In 1989 the collection went back to its original place, after a failed attempt to relocate the site of the state hemeroteque in downtown Puebla. Strangely enough, the collection came back from its brief sojourn across town without its metal cabinets and packed in cheap cardboard boxes. In 1991 the attendants of a national seminar in preservation visited the collection and found the staff in charge in the midst of rearranging the collection back to its original state. They also made a general and undocumented conservation survey of the collection. It was reported that about twenty-five nitrate sheet negatives were in a total state of deterioration with a strong smell of nitric acid present in some boxes. The nitrate deterioration was reported four or five years later by Roberto Solari, when he went to consult the collection at the so-called clean storage area, which in fact produced a high amount of humidity.

In November 1994, the cultural authorities restored an area of fifty square meters and devoted it to the Mendez collection. Today the collection is housed in a vault with a single air conditioning unit. The space is divided into a clean storage area for incoming archival material, a working area for conservation activities and a print room. The collection is under the honorary responsibility of Saul Rodriguez-Fuentes.
Two more staff members are devoted to the collection: Mario Rosas and Antonio Arguello. Mr. Rosas is in charge of the registration and inventory. Mr. Arguello is responsible for the maintenance of the air conditioning unit, temperature and relative humidity readings as well as various administrative tasks.

Since November 1994 the collection's inventory has been checked and new register listings have been generated. Until today those processes still are in progress. A third task is taking place and it is the negative's base support identification and separation by type; acetate and nitrate. As soon as the collection's items are checked, listed and identified, they are placed in expanded polyurethane boxes that act as second level housing. Four different stocks have been generated based on the material's bases: paper, glass, nitrate and acetate. After this, the boxes are placed inside the vault. It is important to notice that almost all the negatives still have their double density polyethylene envelopes or glassine enclosures. Enclosures are changed only if they show sign of deterioration. Enclosures of nitrate base negatives have been changed to four-flap paper envelopes.

On April 1995 I first contacted the staff at the Fototeca Mendez and learned that the tasks described above were taking place carefully and adequately.

I was informed, however, that the air conditioning unit was not characterized and furthermore that there was no hygrothermograph available. Some lack of information existed on the topic of the negative's identification and a general survey for the entire collection was a priority. It was reported that an additional twelve nitrate negatives were found to be in an advanced state of deterioration. Also alarming was the odor of vinegar syndrome in the locale of the acetate negatives. The former facts worried the curator who was happy to know that I was willing to devote my thesis to a conservation plan for the Mendez Collection. In late May 1995 I communicated the curator that in July I would be able to visit the collection and start my survey. The idea was welcomed and in July 11, 1995, the survey described in Chapter 3 began.
Chapter Three

*The Conservation Survey of the Juan C. Mendez Collection.*

A conservation survey was carried out consisting in the characterization of the vault's air conditioning unit and the behavior of the temperature and relative humidity in that storage space. Readings of those environmental variables were documented and analyzed using the Permanence Index [PI] and the Time Weighted Preservation Index [TWPI], new tools for conservation developed by the Image Permanence Institute [IPI]. An analysis of the facilities was carried out, as well. Samples of the acetate negative's stability were tested with A-D Strips™ and samples of nitrate negatives were visually inspected for determination of their state of conservation. Prints and photo albums were inspected in order to find common denominators of deterioration that could lead to general conclusions and further recommendations.

In July 11, 1996, a conservation survey started at the Juan Mendez Collection. The survey goals were defined as:

A] Collect as much information available concerning the collection's conservation state and the type of building the collection is storage in.

B] Determine the stability of the print collection, negatives, glass stereo and slides

C] Characterize the efficiency of the window air conditioning unit installed in the vault and research the environmental conditions in that storage space.
• **Preliminary arrangements**

I met with each one of the collection's staff members, so I could have a precise description of their duties and the work they had been doing. I received background information, comments and a better level of communication. A general landscape on achievements and weak points was obtained, as well. In order to accomplish the objectives established I set up a general working meeting with the staff. I explained the goals, how the survey function and what I was expecting as results. I trained two people in the use of the A-D Strips™ [acid detectors] and for three days experiments were run. At the same time, a digital hydrothermograph was placed inside the vault. The air conditioning unit was operated on the coolest setting and left working for 48 hours. After this period of time, temperature and relative humidity readings started to be recorded. Forms for data collecting were designed, so everybody could be familiar with the survey’s tools and duties.

• **Building Inspection.**

The Mendez Collection is housed in a section of the former Colleges of Saint Peter and Saint Paul. This construction dates of the 17 Th. century and this building have wide walls [one meter or more wide] and high ceilings [three to four meters high]. The buildings have two floors. The space devoted to the photo archive is located in the ground floor at the east corner of the main patio. The patio itself is surrounded by spacious corridors in each floor. The upper corridor is sustained by a set of arches and columns. The ground floor columnata functions as a porch for all the facility's main entrances. The main access for the archive yields directly to the prints room. Then in a lateral wall a double panel door immediately connects with the working area. One third of this area is occupied by the vault and by the clean storage area [nine square meters (thirty square ft.)]. [*]

[^*]An plan of the archive is provided in the Appendix.
The working area has two extra doors, one yield to a small back patio, and the second to a corridor between the main and the back patios. In the south wall there is a window from which the main source of natural lighting is provided. The south wall is the only wall that receives sunshine during the mornings. This is a space of twenty-eight square meters (ninty three square ft). The windows have adequate white shades. The prints room is a rectangle of twelve square meters [40 square ft.] and has two doors. One is a main access, the second is a glass stained panel door that yields to a square small patio. The window air conditioning unit is installed in that patio's south wall, an adjacent wall.

The vault is divided into two rooms with a connecting door. Access to the vault is provided from the clean storage area. The vault is an area of thirteen square meters [forty two square ft]. Originally this space had a door that yields to the small back patio. This door is cancelled and instead it is a prefabricated dry wall in its place. In this area the wall doe not have the same thickness and moisture could be filtered into the vault. Therefore, it is urgent to correctly insulate this area in order to guarantee a sealed vapor barrier. Both the panel division of the vault and clean storage area are made with dry walls and painted with water base latex paint. The exterior sides [the ones facing the working area] have a textured finish and painted on top. The rest of the walls and the ceilings are painted with water based latex paint.

The building's visual inspection showed that the vault wall [in which the air conditioning unit is installed] is receiving a great amount of humidity coming from rainfall running down. The wall gets wet most of all the raining season. This is an inconvenience due to the fact that moisture is going inside the wall. The kind of construction technique used for those thick walls make them porous. It is highly recommend to make that wall water insulated and to place a roof on the top of it and a second one at the level of the air conditioning unit [See drawing in the Appendix]. On the small patio, adjacent to the referred wall, were founded three big pots, ornamental plantas, cleaning accessories like brooms, rags, mops and water cubes.
The presence of these items increases the humidity in that small open area of six squares meters. It was observed that in one of the corners of the patio's walls there is a drain water pipe coming from a toilette service installed just above the vault. Evidently these facts are a potential risk that can be translated in a flooding and licking water disasters. The photographic archive is illuminated with tungsten lamps and the print room has a tungsten light low voltage system. The electrical illumination on the working area needs to be reinforced with white fluorescent light with adequate UV filtration. The electricity installation is well protected with several automatic switch controls. Fire and safety equipment are precarious and need to be reinforced at least with smoke and water alarms, hand held extinguishers, water sprinkler and first aids kit. There are no marked exit doors, or locks for windows, external access doors are strong but door's locks for the vault are weak and cheap. No alarm system is available for the entire facility.

- **The Negatives.**

Cellulose acetate base negatives were surveyed using A-D Strips™ and through visual examination. From the total collection of acetate negatives two samples were selected: one for 4 x 5 inch negatives and other of 5 x 7 inches negatives. The 4 x 5 inch negatives sample was formed by 296 items from a total of 333 acetate 4 x 5 inch negatives present in the collection. Therefore, a 88% of the collection was tested finding no presence of acidification. A re-sampling was executed with 89 items that reconfirmed the results. From the visual examination a set of deterioration is reported in the following chart:
Deterioration of 4 x 5 inch B/W Acetate Negatives

<table>
<thead>
<tr>
<th>Deterioration</th>
<th>Type of Deterioration</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mirroring out in edges</td>
<td>Chemical</td>
<td>34.3</td>
</tr>
<tr>
<td>Base Yellowing</td>
<td>Chemical</td>
<td>14.06</td>
</tr>
<tr>
<td>Faded</td>
<td>Chemical</td>
<td>5.4</td>
</tr>
<tr>
<td>Retouching Side Effects</td>
<td>Chemical</td>
<td>3.9</td>
</tr>
<tr>
<td>Stains</td>
<td>Chemical</td>
<td>3.12</td>
</tr>
<tr>
<td>Corners Bent</td>
<td>Mechanical</td>
<td>0.78</td>
</tr>
<tr>
<td>Scratch emulsion side</td>
<td>Mechanical</td>
<td>0.78</td>
</tr>
<tr>
<td>Abrasion Base side</td>
<td>Mechanical</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>62.88</td>
</tr>
</tbody>
</table>

Comparative Percentages

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Negatives without deterioration</td>
<td>37.12%</td>
</tr>
<tr>
<td>Negatives with some type of deterioration</td>
<td>62.88%</td>
</tr>
<tr>
<td>Total</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

• **Observations and Remarks.**
  1.- From the A-D Strips™ detectors is estimated that no acidification process is present yet.
  2.- A 62.88% of the items presented some kind of deterioration.
  3.- A 37% are in good state of conservation.
  4.- Deterioration came from poor handling and storage.
  5.- No hypo residual deterioration was found.
  6.- Plastic enclosures protected negatives in the overall surface except at the outer edges where the L openings were.
  7.- Base light yellowing is present in a 16% of the collection but not in a severe degree.
  8.- Faded negatives are no frequent and are related with retouching medium deterioration effects.
  9.- Stains are present in a ratio of 1:90 cases.
  10.- Almost all the items surveyed present a light curling [distortion], deviated approximately a 1/16 inch from the horizontal axis.
• **5 x 7 inch B/W acetate negatives.**

The sample of 5 x 7 inches black and white acetate negatives was of 312 items representing a 43% from the total collection of 712. The A-D Strips™ reported the following data after 96 hours of being in contact with the items in a sealed 'Zip lock' plastic bag:

**Deterioration of 5 X 7 inch B/W Acetate Negatives**

<table>
<thead>
<tr>
<th>A-D Strips Grade of Acidification</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>24.92</td>
</tr>
<tr>
<td>0.5</td>
<td>40.89</td>
</tr>
<tr>
<td>1</td>
<td>20.12</td>
</tr>
<tr>
<td>1.5</td>
<td>8.94</td>
</tr>
<tr>
<td>2</td>
<td>2.5</td>
</tr>
<tr>
<td>2.5</td>
<td>1.59</td>
</tr>
<tr>
<td>3</td>
<td>0.95</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>99.91%</strong></td>
</tr>
</tbody>
</table>

• **Observations and Remarks on the 5x7 inch B/W negatives sub-collection.**

1.- Less than 25% of collection present no sign of acidification.
2.- Almost a 70% of the collection is starting a acidic state.
3.- 5% needs immediate duplication.
4.- 5.8% present a light yellowing of the base.
5.- 2% of the films inspected report acetic odor.
6.- 2% reported stains on the emulsion side.
7.- 1.06 % manifested severe fading overall.
8.- 1.06 % presented hypo residual.
9.- Only 0.53% reported finger prints on the emulsion side.
10.- Almost in all the sample is reported silvering out in the outer edges where the enclosures did not cover the entire sheet of film.
11.- A distortion was present in all the entire sample inspected.
Nitrate Negatives.

Nitrate negatives are present in the collection in the format of Taxiphot stereoscopic negatives [4150 estimated] and 1486 negatives in other formats: Imperial plates, 4 x 5 inches, 5 x 7 inch, Postcard [5 5/8 x 3 5/8 inches] and 2 1/4 x 2 1/4 inches. The estimate total of negatives in nitrate cellulose is 5700 images.

Severe decomposed sheet film nitrate negatives in 5 x 7 and 4 x 5 inches were disposed off in two different occasions. The amount of these negatives was estimated of twenty. Twelve more nitrate sheets films are isolated and kept as study items. This nitrate decomposition was driven by the polyethylene bags in which they were housed and stored at high relative humidity. It is reported twice that several negatives were placed in single plastic bags and that those items were kept in the bottom drawers of the metal cabinets. It is possible to infer that the RH% near the floor level affected in first place. The rest of the nitrate negatives are stable and in good condition. From the sample inspected, two exceptions are remarkable to be mentioned:

• First, only four stereoscopic negatives presented an advance distortion and shrinkage and those belong to the last inspected boxes. Those negatives remained stored in a wooden custom made drawer cabinet. Almost all the sample inspected presented a distortion due to the fact that the negatives were tightly placed in paper envelopes. The envelopes were overfilled making a distorted package and pressed against the adjacent envelope. This mechanical deterioration is present in almost 4150 stereo negatives.

• Second, the postcard negatives were found arranged in a custom made large format album made from acid paper [Bristol, white drawing 2 ply board]. In each page, negatives were placed in rows and inserted between two leather straps that ran along and parallel to the album's spine. Each leaf could accommodate six sets of five negatives in each side. The negatives on top and bottom of each set or pile are faded and severely deteriorated. It is not the case for the images placed in between that presents a moderate deterioration and silvering out in the outer edges where air and pollutants came in. Once again, the deterioration vector came from poor housing and storage conditions.
• **Stereoscopic Slides on Glass**

   The stereoscopic collection is formed by 2603 Taxiphot slides most of them toned and in a pristine state of conservation. This sub-collection was stored in a shellac box. Today, each plate is in a plastic bag and vertically placed in a box of expanded polyethylene. No brakes or cracked slides had been reported. An isolated case presents an effect of biological deterioration. This is a termite channeling in the gelatin binder; possibly due to the wooden drawer cabinet in which the collection was stored before its acquisition.

• **Photo Albums and Prints**

   Seven albums from a total of ten were inspected. Formats varied from 5 x 7 inch, 8 x 10 inches and 11 x 14 inches. A total of 160 black and white images was examined. A 12.5 % of the images presented the deterioration listed in the table below:

   **Deterioration Found in Assorted Images in Seven Albums**

<table>
<thead>
<tr>
<th>Deterioration</th>
<th>Type of Deterioration</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silver Mirroring Out</td>
<td>Chemical</td>
<td>5.6</td>
</tr>
<tr>
<td>Density Lost</td>
<td>Chemical</td>
<td>2.5</td>
</tr>
<tr>
<td>Overall Yellowing</td>
<td>Chemical</td>
<td>2.5</td>
</tr>
<tr>
<td>Stain</td>
<td>Chemical</td>
<td>.65</td>
</tr>
<tr>
<td>Hypo residual</td>
<td>Chemical</td>
<td>.65</td>
</tr>
<tr>
<td>Insect Debris</td>
<td>Chemical/Biological</td>
<td>.62</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>12.52%</strong></td>
</tr>
</tbody>
</table>

   **Remarks and Observations.**

   1.- The first and last images in each item have severe silver mirroring out.
   2.- One album presented glassine interleaving tissue.
   3.- All images are mounted with black photo corners on black acid paper.
   4.- Three albums are leather bound, two more with cloth and two other with paper. No boxes or wrapping have been provided for the albums.
   5.- 87 % of the images contained in the albums present a pristine condition, meaning that the album worked successfully as a protective housing and as a collection arrangement tool.
   6.- Albums are kept in metal cabinets.
Photographic B/W Prints.

All the prints in the Mendez Collection are black and white fiber based photographic paper. A great part of those images is on double weight paper. At least one hundred 8 x10 inch prints are hand colored. A large percentage are contact and proof prints. Those hand colored prints are examples of trial and error and final colored prints. Meaning that for each negative there are set of prints in different printing quality (working contacts, enlarged prints, light and soft-focus prints for hand coloring, fine prints, prints in postcard photo paper, etc.). It seems that Mendez never threw away his prints, not even the bad ones. Therefore, the print sub-collection is rich in number and in quality as well. The conservation state of prints is an outstanding one. However, most of the loose prints suffer of mechanical distortion, due to their storage as stacks or piles, for a long time. Nevertheless, no sign of hypo residual, silver mirroring, foxing, mold, scratches, fading or lost of contrast and density was reported.

Mechanical Deterioration in un-mounted prints.

The distortion mentioned above is present in the un-mounted 8 x10 inch prints and it consists of a curling from the emulsion side, mostly as a typical deterioration of the gelatin dehydration. These images were found with a sheet of double density polyethylene interleaving and horizontal storage in the drawer of a metal cabinet.

State of Conservation of Mounted Prints

Medium format images are mounted on heavy weight fine art paper and reported a stable state of conservation. These images are 2 1/4 x 2 1/4 inch contact prints which are glued to a white piece of paper, the image is surrounded by an ink printed frame and at the bottom edge of the mat the author's name is printed.

No signs of glue stains or decoloration of the image due to adhesive effect were reported. Other mounted prints are a set of fifty hand colored images in 8 x 10 inches and mounted on laminated mat board. The images are glued to the mat board with fine starch. No sign of deterioration is reported due to the use of that adhesive.
However, the mat board became yellow and showed the effect of time. The board is becoming brittle and the edges are acquiring a yellow brownish color, but no sign of foxing or mold was reported. The mat board worked efficiently as a protecting second support for the images. The most remarkable set of mounted prints belongs to Mendez's 1952 exhibition. Those images are on 11 x 14 inches glossy B/W double weight paper and mounted in laminated mat board with broad margins. The images are fully identified and original listings of them still exist. This set was found in individual enclosures made from double density polyethylene that had been stored in a horizontal position since 1980. The outer edges of the mat board show certain decay: they are yellowing and some of them show the frame's marks. However, the mat is still functioning after forty years. The visual examination of mounted and un-mounted prints yield to the conclusion that the photographer was a skilled artist in chemistry and dark room techniques. Care and respect for the craft is showed in the print's production.

- **Environmental Condition**

  *The Weather in the City of Puebla.* - The outdoor environmental conditions are an important factor to be consider in order to characterize the indoor conditions of a space devoted to archival conservation of any type of historic material. In the photographic archives the changes in temperature and relative humidity are of relevant importance for the permanence of the collection. These variations between in and out door conditions are symbiotic and dependable. It is often the case, that air conditioning systems are unable to handle weather changes in a efficient and, or acceptable way. In the case of organic materials those changes are registered, in its lifetime, as equilibrium trends.
Today this organic behaviors are studied as isoperm values to be considered in long term storage. [7]

The City of Puebla is located in the middle of the so-called Valley of Puebla, surrounded by four high mountains and at 2500 meters over the sea level. The region has defined seasons and weather along the year. The rainy season usually starts in the middle May and ends in early October. The heavy rain is expected during the summer (July and August have daily rainfall). This weather schedule is sometimes disturbed by the North wind system developed in the Gulf of Mexico, the effect of it are cloudy days and frequent showers for two or five days. Cyclones and hurricanes could bring rainfall and clouds to the Altiplano region. Otherwise, strong sun light and blue skies are typical elements of Puebla's landscape. The chart below shows an schematic description of the city's weather.

<table>
<thead>
<tr>
<th>Season</th>
<th>Weather</th>
<th>Min./Max. Temp. Celsius</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winter</td>
<td>Cool and dry</td>
<td>4° C min. / 18° C max.</td>
</tr>
<tr>
<td>Spring</td>
<td>Warm and dry</td>
<td>10° C min. / 24° C max.</td>
</tr>
<tr>
<td>Summer</td>
<td>Warm and humid</td>
<td>15° C min. / 28° Cmax.</td>
</tr>
<tr>
<td>Fall</td>
<td>Fresh and humid</td>
<td>12° C min. / 22° Cmax.</td>
</tr>
</tbody>
</table>

- **The indoor environmental conditions**

The vault is equipped with a Carrier™ window air conditioning unit, domestic model 386N014, 14000 BTU, 250 lb./ square inch in high pressure and 150 lb./square inch in low pressure operation. This equipment build up a positive air pressure but no air changes or air re-cycling is provided. This fact is important because the acidic or, and nitric gases dispersion are going into other areas of the facility and eventually to the atmosphere.

This equipment was set up in high pressure and at the coolest operation for 48 hours previous to start recording the temperature and relative humidity readings inside the vault. The period reported had 296 days from July 11, 1995 to April 29, 1996. Three readings were taken during the working hours: 9:00, 12:00 and 16:00 hours. The information obtained came from a digital thermometer/ hygrometer placed at the middle of the room [8]. Notes on the outdoor weather were reported as well. The summer and part of the fall 1995 reported heavy rains, fact that is reflected in the environmental documentation. The former fact point out that the relative humidity inside the vault is close related with the outside humidity and that the air conditioning unit is not efficient to maintain lowest ranges of RH \( \leq 50\% \) RH in the vault when humidity is high during the rainy season. However, the equipment is efficient in the control of temperature. Chart no. 1 visually describes the information recorded and mentioned. Meanwhile, chart no. 2 shows the Permanence Index [PI] and Time Weighted Preservation Index [TWPI] of the Mendez Collection giving a figure of 68 years as a final TWPI. This figure is given for fresh film and the Mendez Collection age rate between 75 years, the oldest items, and 35 years the youngest images. This means that the collection is just starting to decline (this fact is clear from the A-D Strips results) and the deterioration could be accelerated with the presence of high RH as recent research on this topic had reported [9].

The environmental conditions reported for the winter and spring seasons are less aggressive than the ones mentioned for summer and fall. Nevertheless, it is important to remark that RH is still critical in the presence of any isolated afternoon shower.

[8] The thermometer/ hygrometer was checked several times against a psychrometer readings resulting in differences of \(+ - 0.7\) degrees Celsius and \(+ - 2\%RH\).  
However, this scenario calls for immediate attention. Relative Humidity must be controlled inside the vault, otherwise this will be a vector of the collection deterioration.

**Negative Duplication Pilot Test.**

Finally, several tests on negative duplication were performed in situ. These tests were done at the House of Culture photographic dark room. The goal was to know if such tasks could be done close to the collection's facilities and with satisfactory results in quality and permanence. For a two steps negative duplication process, negatives in severe state of deterioration were chose from the samples inspected. A 5 x 7 inch nitrate negative was selected. Then the process was done by two members of the collection's staff, so they became involved with the entire procedure. An analog transmission densitometer and a point light source were provided. The main tools used were an Ilford \textsuperscript{TM} Technical film [orthochromatic, 40 ISO] in 4 x 5 inches format, a Kodak \textsuperscript{TM} Gray Step Tablet no. 1 A of eleven steps. a clean piece of window glass (used as a contact printer device) and a timer.

After three complete journeys in the darkroom the results came out reporting the production of a facsimile with a Gamma = 1.2. A contact print from the duplicate negative was compare with its corresponding print from the [deteriorate] original negative. The visual evaluations of both prints yield to adjust exposure of the inter positive, in this case increasing it one fold, and using straight developer stock solution [KODAK D 76\textsuperscript{TM}]; instead of 1:1 dilution. It is estimated that these adjustments will allow to reconstruct density values. For more reference, a visual evaluation could be performed against an existent vintage print of the same image.

A fact has to be mentioned in relation to the quality of the tap water available. The tap water is kept in a contaminated and dirty water tank. The water has visible concentration of salts that precipitate in the developing deep tank and residual of ashes from the volcano recent eruptions were found. Further work in this direction demands the improvement of water systems and water treatment. During the experimentation it was found that several "safety" lights were not safe and that ventilation in that space is poor.
The former fact yields to recommend an efficient air recycling regarding the further use of polysulphides toners as archival permanence process demanded in negative's duplication management programs.

However, the arrangements sketched above are not a great deal to carried out. Then, duplication jobs could be done in situ. This is a potential advantage to be encouraged, because original negatives should spent the minimum time out of controlled environmental storage and always under the archivist's supervision.
Chapter Four

The Conservation Plan

The survey's most remarkable results are directly related with storage environmental conditions, improvement of the individual enclosures and with the design of a preservation management program capable to induce stabilization measures to the collection.

*Improvements in Storage Conditions.*

The temperature and RH% curves, the PI and TWPI Charts of the storage rooms [71 years for fresh film] shows how significant the changes and levels of relative humidity during the rainfall season are. It is an urgent demand to control the relative humidity. An economical suggestion is using a domestic de-humidifier installed inside the vault. A de-humidifier of 50 pints of water capacity will be able to bring down the humidity to an acceptable 40 to 45 RH%. This kind of equipment needs a draining water system or, and a water deposit that needs to be supervised in a routine basis. However, it is recommended to carry out several test for the study of the temperature's behavior and the interaction between the two apparatus. Several scenarios could be expected:

A] An isometric effect would happen when RH decreases due to the de-humidifier's job and the temperature increases.

B] At this point it is important to know:
   - how efficient the equipment is in maintaining temperatures of 14 degrees Celsius.
   - and how much time the equipment would work in order to reach adequate storage conditions.

C] Adjustments could be needed if a ventilation device is installed, so acidic and citric gases could be removed from the storage's areas.

D] It is not remote that a compromise has to be made. In other words, an increase of temperature in a rate of two or three degrees could be expected in order to obtain a 45% RH (+ -5). If this hypothesis is true then the environmental conditions inside the vault will be: 15 - 16 degrees Celsius instead 14 degrees Celsius. However, only real time tests will drive critical adjustments from the basic recorded data mentioned above.
E] The goal is to achieve at least 100 years in the TWPI, so any effort in dropping the RH% would help. Nevertheless, our film is not fresh, but it is assumed that such environmental parameters and less cyclical changes will stop further deterioration of the collection.

- **Improvements Recommended to the Building**

  First, an entire insulation of the vault's wall [exterior face] will reinforce the vapor barrier. Placing two eaves along the wall, [one on the top and the second at the level of the window air conditioning unit] will avoid the walls from getting damp during the rainy season or intercepting the water before it reaches the wall itself. [10] The small back patio has to be clean and free of plants or any other kind of objects. The vault's indoors could be improved by placing a counterwall made from dry-wall material. These dry-walls must be placed with at least 15 cm separation in between. The 15 cm gap could be filled in with insulation material, as a vapor barrier.

- **Separate photographic bases for storage.**

  The actual vault is formed of two rooms and separated by a door. In one room acetate negatives could be stored alone. In the next room glass plate slides and prints could share the space. However, the nitrate negatives need a separated space. Therefore, it is suggested that the actual clean storage area could be devoted to the nitrate storage room. That means, that a double dry-wall and a ceiling would have to be build. Air conditioning must be provided from a window unit installed next to the back entrance of the working area. A de-humidifier and a ventilation device have to be provided as well.

**Improvements for the conservation laboratory.**

The actual working area has to be devoted to two main tasks:

A] conservation activities  
B] cataloguing of the collection

Therefore, the general lighting needs to be improved with fluorescent light with adequate UV filtered. A set of slim lights surrounding the working area are proposed. The installation could be hanged from the ceiling. The laboratory tasks demand good lighting and often combined tungsten and white light. In this case, tungsten light could be supplied from desk lamps already available. At least two large working benches are necessary for conservation work. The small tables already furnished are useful for cataloguing, research and access activities. A counter could be installed along the sides of the room, thus, space would be saved and best used. Above the counter, cabinets for keeping materials, tools and equipment could be attached to the side walls. A sink is convenient to have. (Fig.1) The actual area devoted to exhibitions is small in size but it is a pleasant and well illuminated space. Thus, is suitable for a print room for research. Today this space is used as the main access to the facility. Therefore, if changed into a print room, then another entrance have to be designated as the facility's main access. The best choice is the door placed in the hall walk and yielding to the laboratory area. In this case, the print room will be on the back part of the whole facility and would offer a best control of public services. However, it would convert the laboratory in a main circulation area. (Fig. 2)
Figure 1

Plan of the Juan Mendez Photographic Archive

Figure 2

Propose Improvement (*)

Counter-Wall

Isulation

Central Patio

Exit Door

Main Entrance

corridor

Laboratory

Window

Back Patio

Patio

Print

Room

Vaults

Exit Door
• **Enclosure and Housing of the Collection.**

**Negatives and Stereo Slides.** - The plastic enclosures in which the collection was housed fifteen years ago worked well and no sign of enclosure deterioration is reported. However, plastic is highly electrostatic and is not adequate for film storage when high relative humidity is present, due to the risk of gelatin emulsion ferrotyping. Therefore, it is recommended to start a re-housing program using an intimate housing of four flap paper envelopes for all the negative collection. It is a general measure that pretends to uniform enclosures and to improve the first level housing against high relative humidity and its cycling. Furthermore, in the case of nitrate and acetate cellulose, paper enclosures have the advantage of providing gases and air exchange. A four-flap enveloped is a safe enclosure for historic negatives on glass or plastic. A total open envelope drives us to handle the artifact over a flat surface, laying down the thin package to be opened. This type of housing avoids scratches or friction between the artifact and the enclosure if it is compared with the sleeve seemed envelope (always designed and made as a tight pocket).[11]

The type of paper recommended for glass slides and acetate is an acid free interleaving and for nitrate a buffered acid free paper. The prototypes and master models are illustrated in the appendix. A facsimile envelope for Taxiphoto slides is proposed keeping a close shape to the original enclosures used by the photographer. It is suggested to acquire sheets of this paper and cut it with a metallic mold. These molds are made from stainless steel which has sharp edges. The cutting operation is made by hand, when the mold is centered in the piece of paper and firmly torn off a paper's corner [grain direction] until a molds edge is reached. The cutting operation goes following the mold's outer edges.

• **Prints.** - Prints are require to be matted in a research mat type. A research mat is made with three 4 ply acid free white matt boards (One board for the print's second support, a second board for the window mat and a third one for a hinged cover). An interleaving tissue might be placed between the cover and the window mat. This tissue must be a quarter of an inch smaller in width and height than the boards dimensions.

The hinge that joins the two boards is made with linen tape. The print hinges are made with Japanese paper and carboximetil cellulose [water based reversible adhesive]. All board corners have to be rounded to avoid sharp edges that could drive to accidental indentation on the print surface when handling.

* Hinges are placed on the second support

Figure 3.

- **Albums.**—The images on albums are mounted with photo corners. This enables one to detach the images and change the albums leafs for custom made acid free paper leafs [or high quality artist paper]. Albums' cover boards have to be replaced with 4 ply rag matt board and the saved cover panels mounted again into this new boards. This is a time consuming operation, however, the images contained in these albums are well worth such an enterprise. Finally, an interleaving tissue might be placed between leafs as a spacer. This tissue might be bound with the paper leafs. It is clear that the whole operation is focused in the production of a facsimile album.
The remaining material such as old boards and paper leaves must be kept for future study reference. A complete set of written and visual documentation might have to be done before, during and after this treatment.

- **Second Level Housing.** The collection is successfully housed in a second level using boxes made from expanded polyurethane. This kind of plastic is inert, it had passed the Photographic Activity Test and is low in price. Polyurethane reported two disadvantages: electrostatic charge that is a vector of dust attraction and resistance to accept water based neutral adhesives. Thus, the use of paper as a first level housing and plastic as a second one is a balanced combination to avoid electrostatic and dust from going inside the boxes. This plastic material could easily be scored to fold the outer edges (on the lid and base of the boxes) for turn-in flaps that could be attached by cutting insert flips, avoiding the use of adhesives. In the packaging market precut and scored boxes made from polyurethane are available in different sizes and shapes.

In the particular case of the glass stereo slides and due to the weight of glass, stronger and rigid boxes are desirable. *Richards*™ Taxiphot slides used to come in shellac containers in sets of twenty images. Therefore, following the design of a feasible facsimile, a prototype was made using book binding materials. A clamshell box was made with binding boards and covered with binding cotton cloth. The adhesive used was a paste made from PVA and cellulose 2:1. Four boxes, were made with the same kind of materials emulating the shellac containers, and for the inner linear a piece of one face corrugated white mat board was used. The corrugated board gave a rack for each plate and eighty plates could be stored in one clamshell box. The boxes were strong enough, however, none of these materials successfully passed the Photographic Activity Test. In other words, if the mentioned prototype was to be adopted, adjustments would have to be made, such as replacing the boards for 4 ply rag mat boards and using carboximeticellulose as an adhesive. The corrugated board could be buffered.
Polyurethane boxes are recommended for mounted prints and albums. In these particular cases, the boxes or four-flap wrappers must be custom made.

Fig. 4

Each album might have to be carefully wrapped with a piece of interleaving tissue before placing it in the plastic wrapper or box. The same operation is recommended for prints arranged in packages of ten prints (mounted in research mats or unmounted). Once again, the paper wrapping would improve the artifact stabilization.

- **Third Level Housing.** - The vault is furnished with adequate metal cabinets and tray rack shelving. It is desirable to change the metallic open shelves for closed cabinets. Therefore, safety controls would be improved and a third level housing would be uniform and efficient. An extra advantage of closed cabinets is the possibility to control micro-environments, specially in drawers or small compartments. At this point is very convenient to mention that closed shelving allows for the use of humidity absorbents in localized small spaces (like silica-gel, activated charcoal, micro seves). In a same manner, the monitoring of these devices is easiest in small closed areas.
• **Cleaning Treatments.** Of the visual inspection made of the collection is inferred that dust needed to be removed from prints, slides and negatives. At this point of the conservation plan no wet or humid cleaning treatment is recommended. This kind of treatment implicates the advice and guidance of a conservator that could train and supervise the staff to be appointed to that task. Therefore, a dry cleaning technique is recommended. Dust could be removed with a soft hair brush and with low pressure air blowing. Brushes and blowers have to be maintained clean and separate. It is recommended to use different brushes for each type of material and to separate brushes. Mats and second supports could be cleaned with eraser powder and a soft vinyl eraser, but this technique demands to dust-off all eraser bits from the paper fibers. If eraser is used, it has to be applied in small areas and constantly removed by dusting with a brush or removed with a low pressure vacuum cleaner.

• **Conservation Documentation.**

  The most difficult question in a conservation plan is that concerning the *where* to start and how to get the many tasks synchronized. It is suggested that adopting certain written tools could be of some help. A diagram of activities allows a general visualization of tasks to be carried out. Even a list of tasks written down in chronological order would help. In this particular case it is proposed to adopt certain written forms that could guide the daily job. The first of these forms is the **Condition and Examination Report** that has to be fulfilled in order to complete the registration policy (already in progress and established). In the Appendix is a model designed for this case. The form is simple and could be filled without spending too much time. Eventually, the archive will have access to a computer where information would be transferred to a data base, but for a short term policy the information would remain arranged in a three ring binder.
For example, the first items to be examined must be the 5 x 7 inch acetate negatives that are starting an acidic state. These negatives have to be duplicated as soon as possible as their recorded information will be useful to have. Afterwards, the original negatives have to be cleaned and re-housed preserving the number given in the registration book and placed in a box. The inter positives and duplicate negatives of the same image must have to be co-related with the same registration number but with an extra code. Then, these must be housed from the moment they leave the laboratory to the time they are stored in a separate box.

The identification and cataloguing process would start after the original negatives went back from the duplication process. This is the time to carry out a final procedure for the negatives base identification. Then the cataloguing process would started, it is an identification job related with the physical, thematic and authorship description for each image. Once the negatives become catalogued they can be sent to the vault. In a simultaneous way the same activities have to be applied to the rest of the collection. It is important to mention that the state of deterioration of the collection would place the priorities in order.

---

- **Diagram Model of the Plan for Conservation.**

- Registration and Inventory.
  - Examination -> Cleaning
    - Re-housing -> Duplication -> Cataloguing -> Storage
    - Housing -> Cataloguing -> Storage

Several models could be carried out simultaneously for stereo slides and negatives, prints and albums. Each model version implicates an increase of staff and, or the distribution of the models in programmed time schedules.
• **Monitoring Tools for Air Conditioning and Acidic Detection.**

The air conditioning system needs to be constantly monitored. It is suggested to continue recording the vault temperature and relative humidity data for at least one more year. The PI and TWPI values for the last ten months resulted in a TWPI of 71 years, then it would be useful to know the final TWPI for one complete year so further calculations could be added to the basic figure of 71 years of time weighted permanence index. This fact is important, overall, in the case improvements to the vault and air conditioning system are made. Finally, the same recommendation is mentioned to the use of A-D Strips™ in acetate cellulose negatives. This tool must be adopted as a permanent sampling device for the control of acidic detection and as a vector for the program of duplication negatives. Visual examination is recommended to the glass stereo slides, nitrate negatives and prints in a method of random sampling between a 10-25% of the collection.

• **Conclusion.**

The suggestions that have evolved from the close and specific study of this important collection are put forth in the hopes that its preservation will occur in a timely fashion as it is clear that deterioration will not stop. The time spent analyzing the Mendez collection points to not only its significance as a document but its need for conservation. It is time and investment well spent. This project is presented as a viable option which will lead to the preservation of what should be considered a national treasure that brings pride to the history of photography in Mexico.
• **APPENDIX**

• PLAN OF THE JUAN C. MENDEZ COLLECTION.
• PROPOSED IMPROVEMENTS TO THE ARCHIVES FACILITIES.
• PERMANENCE INDEX CHART.
• TIME WEIGHT PRESERVATION CHART.
• BIBLIOGRAPHY.
Fototeca Juan C. Mendez
Survey / Diagnostico
Building Improvements

Before

After
<table>
<thead>
<tr>
<th>Imagen</th>
<th>Segundo Soporte</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manchas 1</td>
<td>Foxing</td>
</tr>
<tr>
<td>Perdida de emulsión 2</td>
<td>Rayaduras</td>
</tr>
<tr>
<td>Deyecciones de insectos 3</td>
<td>Incisiones</td>
</tr>
<tr>
<td>Oxidación de bronce 4</td>
<td></td>
</tr>
<tr>
<td>Foxing 5</td>
<td></td>
</tr>
<tr>
<td>Residuos Adhesivos 6</td>
<td></td>
</tr>
<tr>
<td>Perdida de densidad 7</td>
<td></td>
</tr>
<tr>
<td>Amarrillamiento General</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Titulo</th>
<th>Autor</th>
<th>Ano</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retrato Juan C. Mendez</td>
<td>Martinez, Josaphat</td>
<td>c,1893</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dimensiones</th>
<th>Proceso</th>
<th>Soporte</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.5 x 9.7 cms</td>
<td>Albumina</td>
<td>papel</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Segundo soporte</th>
<th>Negativo No.</th>
<th>No.Folio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carton aglomerado</td>
<td>0578</td>
<td>002</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No.Topográfico</th>
<th>Estatus</th>
<th>Col. original</th>
</tr>
</thead>
<tbody>
<tr>
<td>5678</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fecha de Cod.</th>
</tr>
</thead>
<tbody>
<tr>
<td>18.05.95</td>
</tr>
<tr>
<td>Título</td>
</tr>
<tr>
<td>--------</td>
</tr>
<tr>
<td>Dimensiones</td>
</tr>
<tr>
<td>Segundo soporte</td>
</tr>
<tr>
<td>No.Topográfico</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Imagen</th>
<th>Segundo Soporte</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
• BIBLIOGRAPHY


Baciu, Stefan. Los Estridentistas en Jalapa. La Palabra y el Hombre, Mexico Octubre-Diciembre de 1981.


Osorio, Fernando. *Entrevistas entorno a la vida y obra de Juan C. Mendez con Fernando Ramirez Osorio, Saul Rodriguez, Marios Rosas, Gloria Elena Sanchez, Hernandez, Ana Mendez de la Torre y Gilberto Anaya Mendez* [UN-published magneto phonic recordings and notes]


Romer, Grant. B. *Problems and Issues of Photographic Negatives Collection in La Fragilita Minacciata. Internazionale degli Insitituto di Archeologia, Storia e Storia dell'Arte: Roma, 1991*


