

Mujeres y vida cotidiana (Women and Everyday Life) by Teresita de Barbieri (Fondo de Cultura Economica)

The author seeks to capture the essence of the feminine condition through the analysis of women's everyday life. Ms. Barbieri studied lower, middle and upper class women in Mexico City and extracts a common denominator for all: domestic labor. In the final chapters she analyzes who it is that ultimately benefits from this labor.

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escribir con luz (Writing with Light), photographs by Hector Garcia with an introduction by Juan de la Cabada (Fondo de Cultura Economica)

This book reproduces some 50 photographs that illustrate the extraordinary work produced by Hector Garcia between 1940 and 1978. As much a documentary statement as an appropriation of the magical moments in life, Garcia's camera has captured the events and images that make up Mexico. This book is ample proof of Garcia's importance as a photographer.



Science and Nature

THE MEPSICRON, A MEXICAN BREAKTHROUGH IN ASTRONOMY AND TECHNOLOGY

The dividing line between basic science and technology is gradually blurred. Just as science can't do without the new tools provided by advanced technology, many modern technological developments would be unthinkable without the inspiring role of the basic sciences. Nevertheless, there are people in the developed countries who maintain that basic science is not a profitable means of generating technological advances. The story

of the "Mepsicron" serves to prove them wrong.

The "Mepsicron" project got underway in the late 70s to meet a specific need in the field of astronomy. Scientists wanted to observe external galaxies, quasars and faint objects in the sky through a medium-sized telescope with sophisticated light analyzers. Presently, in-depth astronomical observations are carried out with large telescopes through high collection of light and the use of highly sensitive detectors. While large telescopes are extremely expensive and are thus found only in the wealthiest countries, this is not the case with the detectors. High technology research offers the opportunity of developing relatively inexpensive detectors.

In the late 70s the Institute of Astronomy of the National Autonomous University of Mexico, UNAM, had a 2.1 meter diameter telescope at the Astronomical Observatory in Baja California. Its additional equipment consisted of one Echelle spectrograph, which permits very accurate light-color analysis. In order to use these instruments for extra-galactic research, a high sensitivity, low internal noise, good resolution and extended dynamical range detector was necessary, but none of the most recent television cameras fulfilled these requirements.

The project to actually build the new detector took off in 1981, and was named shortly afterwards "Mepsicron." The name is an acronym for Microchannel Electron Position Sensor I (and) CRON (time). The success was partially related to previous experiences in television technology, which at the time was one of the most advanced techniques for astronomical observations. A series of key experiments were carried out with the cooperation of the Space Science Laboratory at the University of California-Berkeley in order to demonstrate that a very high quality detector was possible. Later, the emphasis was on improving and optimizing the design. An electronic system able to process the enormous amount of information provided by the "Mepsicron" was also designed and built.

While still on an experimental basis, the "Mepsicron" became operational in 1983 in the Baja California Observatory. A group of technicians tried to guarantee optimum performance of the equipment and to observe its reactions through time and under special operating conditions.

A great amount of information has been gathered in the last three years, some of which will serve to correct critical design and technical aspects of the equipment. Thanks to the scientific results obtained, those difficult conditions of the first years will change for the better with a special laboratory currently under way. This will allow for new technological solutions and further advances.

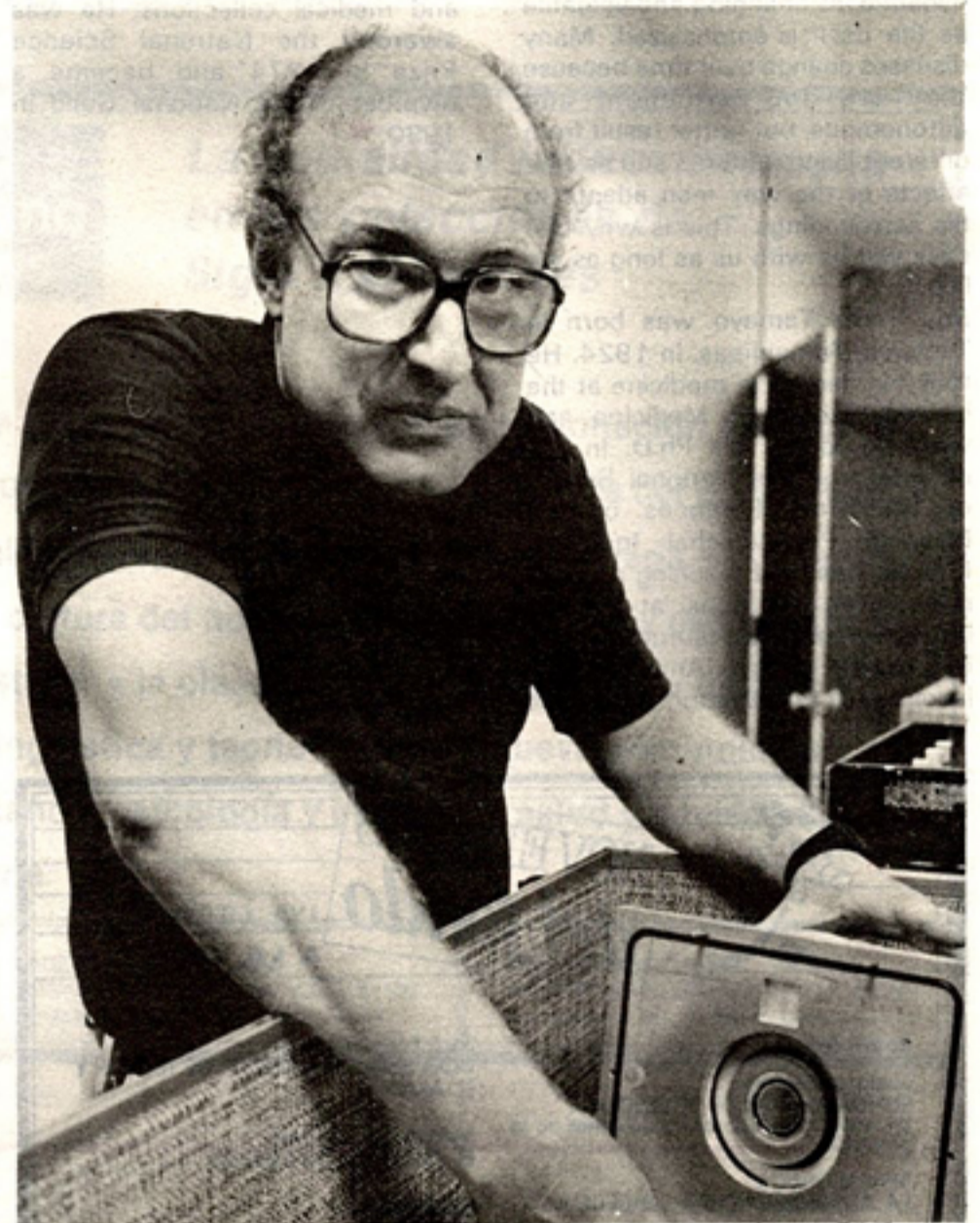
While the first detector had one of the highest resolutions ever achieved with electronic sensors,

today a new design is ready that is compatible with a resolution two times higher, and research is underway to achieve a resolution four times higher than the original device.

One of the problems that appeared during the experimental phase was the insufficient stability of the special light-sensitive film: the photocathode. Experiments are still under way in order to guarantee a more stable regime.

An additional pleasant surprise is that "Mepsicron" turns out to have applications in scientific and technological fields besides

astronomy. Because of its flexibility, it can easily be applied to an electronic microscope in order to supply high quality images of the micro-world. Experiments carried out in UNAM's Institute of Physics showed that Mepsicron is able to provide information that is beyond the scope of more conventional technologies. This is basically related to its wide dynamical range, i.e. the capacity to simultaneously detect faint and bright details of an image. Interesting experiments in biology and medicine are also ready to be carried out.



Dr. Firmani in his lab. Photo by Nadia Bindella.

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Last September the "Mepsicron" project was awarded first prize by UNAM in the field of technological research. This was a high point in the special attention the University has given this project.

Just as the project has been instrumental in overcoming the false conflict between basic science and technology, and the benefits in both directions are obvious, now UNAM is seeking to find applications for this technology in production. The uses of "scientific prototypes" will always be limited in comparison with a manufactured model. Yet the resources put into designing and building an industrial prototype are justifiable on the basis of great production volumes and marketing possibilities. On the other hand, the potential demand from fields in which "Mepsicron" technology may be applied can only be met with industrial production. The process and responsibility of carrying out this project is an important and illuminating experience. It began five years ago as a technological development in astronomy. Then it became a source of inspiration for other fields of science. And now it's possible the "Mepsicron" will even be industrially manufactured, a process from which surely new ideas and impetus will come. ★

Claudio Firmani

Exhibits

SEEING IS BELIEVING! THE CIRCUS IN MEXICO

For all of us, at one time or another, the circus opened up a route to the far reaches of our imagination. A tent of magic realism, a chalk ring in which what is, just can't be, and what you see, you can't believe. Incredible and unheard of things play with our desire for fantasy. A real show, we leave satisfied that we enjoyed great entertainment, more exciting than television, more eloquent than the movies.

But the circus is much more: there, reality is reborn on the stage; there, laughter, that great subverter of order and solemnity, is enthroned; there, the agility and grace of the human body are carried to their utmost. This, and much more, is what lies inside the circus.

On the outside, the circus is a mirror and prism of the reality which surrounds it. It captures the fantasy prohibited by repressive institutions. It embraces the wandering Gypsy life denied by concrete cities. It collects, sifts and recreates the people's cultures of every neighborhood, every town which it visits. It is an historic counterweight to the loss of collective emotion, of joyous rites, of people's identity.

This is why the National Museum of Popular Cultures has opened the exhibition, "SEEING IS BELIEVING, THE CIRCUS IN MEXICO," as part of the Ministry of Public Education's programs for promoting and stimulating culture in Mexico. On this occasion the exhibition focuses on a popular tradition which is little-known by the public at large: Mexican circuses.

Why has the National Museum of Popular Cultures spent nearly three years carrying out research for an exhibition on the circus? Because the circus is not only entertainment, a happy moment shared with friends and neighbors. Its freshness and appeal go beyond the painted faces; behind the make-up there is a long history, a purpose and a metaphor.

Its history, as with everything Mexican, dates from before the Conquest. By that time, acrobatics and other demonstrations of physical agility had already gained a place in public events and celebrations. In fact, the word *machincuepa*, which means somersault, comes from *nahuatl*, the language of the Aztecs, where it means "to know how to spin...how to turn over."

This proclivity of human beings to carry physical skill to its furthest limits is common to the vast majority of the world's peoples, especially those of Asia and the Middle East. The example set by Chinese acrobats, Indian

troubadors and Arab magicians, provided many of the ideas and routines which have been incorporated into today's circus.

Part of the National Museum of Popular Cultures exhibit recreates a colonial street bearing the edicts and prohibitions of the Inquisition against circus shows. The Inquisition outlawed laughter and punished fantasy. Its objective was to dominate and conquer consciences. Poor sinners were even burned because they dared to step into this world of imagination. In this way, by crushing the imagination, the powerful muzzled peoples' minds and condemned the colonized to reject their own creativity, to renounce the strength that comes from the imagination and from their own culture.

All imperial powers have applied this kind of pressure in an attempt to culturally sterilize the peoples they colonize. In this context the circus, by creating and disseminating the right to free the imagination and to cultivate human physical, emotional and spiritual capacities, becomes an exercise in liberation.

Mexican circuses have a long history of traveling the country's byways, going from town to town, developing trapeze artists, jugglers and clowns famous for their artistic excellence. And their fame has not been limited to Mexico. Many Mexican jugglers and trapeze artists, such as the Flying Gaonas, have been acclaimed in circuses around the world, including the famous Ringling Brothers, Barnum and Bailey Circus of the United States.

Today many, many circuses continue playing to audiences throughout the country, from the tents of small peasant circuses to the large modern businesses which cross the borders to present their shows in other countries. Why has

