

INTERNATIONAL SOCIETY FOR PHOTOGRAMMETRY AND REMOTE SENSING

COMMISSION V

SOME CASES OF ARCHITECTURAL PHOTOGRAMMETRY

DONE IN CENTRAL AND SOUTH AMERICA

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The autor report the photogrammetric documentation carried out in five countries (Argentina, Paraguay, Guatemala, El Salvador and Costa Rica), in order to establish the "Photogrammetric Archives" according the Resolution N° 2, from the General Assembly of ICOMOS held at Washington, AND ALSO ABOUT THE INTENSIVES Courses done in order to prepare local human resources that could apply this technology, according CIPA's resolution of Siena and Granada

Close range photogrammetry has been in Argentina during this last seven years—concentrated in three main aspects of Architectural and Archeological Surveys; that means Training, Production and Teaching.

At the beginning of 1985, was founded in the City of La Plata, the Regional Center for Photogrammetry Icomos-CIPA (C.R.F), under the tutorial of ICOMOS International and the International Committee for Architectural Photogrammetry CIPA.

During the first two years, we gained experience from training courses given by M. Carbonell and others specialists. At that time we performed practical exercises with the Wild P 31 metric camera and also with the camera body of an old Wild P 30 phototeodolite, and slowly, has been delineated two operational lines: The field recording one, operated with Professionals and Students from our Faculty of Engineering and, the Data Reduction Unit, with the help of the technicians from the Ministry of Public Works of the Province of Buenos Aires, with its Photogrammetric Department.

The C.R.F have at its disposal, the Universal Metric Camera UMK10/1318 to be used with film cutted and plates; laboratory facilities for aerial and terrestrial surveys including a rectifier, an amplifier, two analogue instruments and a reproduction camera.

During 1987 the C.R.F. has been preparing many documentation of buildings in several places of the Province of Buenos Aires (City of La Plata; Lujan; Avellaneda; City of Buenos Aires) in order to get experience for the Field and Cabinet Groups. Many plottings and Photoelevations were made and in many cases we use combinations of methods to achieve the final result.

Immediately after to take notice of the Resolution N° 2 from the General Assembly of ICOMOS held in Washington (October 1987), it was performed during 1988, the "Photogrammetric Archives" of the Jesuitic Missions in the northeast part of Argentina; San Ignacio Mini, founded in 1631 and finished in 1744, that had been built with red and dark yellow grid stone and with an eruptive rock, like basalt, which is formed in the bed of the Parana River. The existing ruins speaks about the magnificence of this Temple.

After that we moved to the most spectacular Jesuitic Mission placed in the Republic of Paraguay, in order to made the "Photogrammetric Archives" of one of the most beautiful and best preserved reduction; the Trinidad Mission (1712). Also we recorded the Jesus Mission built in 1759. Afterwards we made the plottings of many details of San Ignacio and Trinidad.

In 1989 the Field Recording Unit was moved to the northwest part of Argentina: specifically to the Province of Jujuy, boundary with the Republic of Bolivia, and following the route by which the Spanish conquerors came from Peru 400 years ago, it was performed the Photogrammetric Archives of many small colonial churches of Yavi; Uquia; Huacalera; Tilcara; Purmamarca; Tumbaya; Santa Barbara and the Cathedral of San Salvador of Jujuy. Also, plottings and photoelevations were made of some churches.

During march 1990, the Recording Unit was traslated to the Republic of Guatemala, in particular to "Antigua Guatemala", that is 45 kms from Guatemala City. This site is the jewel of the colonial architecture and urban planning, and it was included during 1979 as "Heritage of Humanity" by UNESCO.

In this beautiful City, we performed the "Photogrammetric Archives" of 37 fassades that belong to old churches, hermitages, and schools, damaged by the earthquakes of 1689, 1717, 1751 and the last of 1773, taking more than 400 negatives. The work was done under contract with the "Consejo Nacional para la proteccion de Antigua Guatemala - CNPAG".

After finished the work at Antigua, the Group was moved at 542 kms to the North, the Department of Peten, near is Tikal, the largest and most important archeological center of the Maya Classic Period, discovered and studied to date. Tikal was declared in 1979 by UNESCO as "Monument of the World's Cultural and Natural Heritage", in such a place the Mayas lived 600 year A.C. Also in this place we took metrical photographs of the "Templo N° 2", of 38 mts height and built 700 years A.C, for archive purposes and for the Ministry of Culture and Sports, in the figure of Institute of Antropology and History IDAEH.

After Tikal, we started to work in the "Ceren Site" of the Republic of Salvador. This site was discovered accidentally in 1976 during bulldozing associated with the construction of grain storage silos. The builders encountered the remains of an adobe structure. In 1978 Dr. Payson Sheets (University of Colorado) excavated part of this structure. The house and its contents were remarkably preserved, due to the burial of the site by large quantities of "volcanic ash" from the 600 A.C eruption from the nearest Laguna Caldera Vulcano. There exists two more houses, one of them is the largest-measuring 5 x 8 meters, it has solid adobe walls and is divided in two rooms. The Ceren Site was culturally linked with inhabitants of San Andres Ceremonial Center (between 600 and 900 A.C). The Direccion General del Patrimonio Nacional, ask also for the photogrammetric archives of the Palacio Nacional, placed in the center of the City.

Also in 1990, the "National Theatre of Costa Rica" was surveyed photogrammetrically. The aim was to establish the necessary documentation needed for restauration and also to be nominated in the future as Humanity's Heritage. At the beginning of 1991 we took notice that an earthquake destroyed seriously the building, then the authorities ask for the plottings of the four fassades. This plotting was made in collaboration with the Spanish Government.

In 1991, all the activity was focussed in the most representatives buildings of the National University of La Plata (Museum of Natural Sciences; Main building of Rectorate; Faculty of Engineering; Faculty of Forestry and Agronomy; Astronomical Observatory; National College, Old Liceo for ladies; First Institute of Veterinary), also the building of the Highway Provincial State; the Police Headquarters and the local Children's Hospital. From all this subjects was made the plotting and final drawing.

At the beginning of 1992, we started to adapt a K-21 reconnaissance aerial camera, reducing the format to 11,5 x 11,5 cms, for low altitude flights, in order to supplement information about historical and archeological sites.

At this moment, the Photogrammetric Recording Unit of our University, started to apply the Simplified Photogrammetric Systems, using small format and no metric cameras, according the last proposals made during the last five CIPA's meeting, over many buildings of the City of La Plata.

Having in mind the various CIPA's Resolutions about the problem of formation and teaching the applications of Photogrammetry in the field of Architecture and Archeology, it was performed several intensive Courses for Professionals and Technicians that works in the Conservation and Restauration, like the normal 40 hours Course made in five continuous days, as given in Antigua Guatemala at the C.N.P.A.G. Another Courses were performed for post-graduate level at many Universities and National Societies of Architects in Argentina, Brasil, Costa Rica, Chile, Paraguay and Uruguay.

The Courses offers a solid theoretical basis of aerial and terrestrial photogrammetry, including the necessary knowledge of topography, with practical excersises done at home and in the field, in order to have all documents according the international doctrines for monuments and historical centres.

Permanently the people of our University has been performed conferences in several National and Technical Congress, making exhibitions and teaching in many places, in order to let know, the applications of Photogrammetry to Heritage's Conservation.