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Map of Mexico. 1. Chupicuaro, State of Guanajuato. 2. Tututepec, Papaloapan River Basin, State of Oaxaca. 3. Falcon Dam, State of Tamaulipas. 4. Amistad Dam, State of Coahuila. 5. Candelaria Cave, State of Coahuila. 6. Tepexpan—Totolzingo, State of Mexico. 7. La Venta, State of Tabasco. 8. Mexico City.

SALVAGE ARCHAEOLOGY is of particular importance in Mexico, for its richness in prehispanic ruins and Colonial monuments of artistic, historical and scientific interest is incalculable. An approximate count indicates that there are some ten thousand archaeological sites known at present in Mexico, matched by a similar number of Colonial monuments which deserve to be conserved and protected. At the same time, the economic progress of the country in recent years has been considerable, so that each day brings additional public works, both in rural and urban localities.

Day after day work on dams, highways, irrigation canals, new avenues and plazas is unearthing and, unfor-

tunately in many cases, destroying the scientific evidence of prehistoric and historical remains. As in other countries, any attempt to interfere with the economic development of the nation by impeding these works would be impractical and unpopular. The problem can be solved only by the formation of a cadre of archaeologists and historians who would specialize in the particular techniques and methods of salvage archaeology. Such a group of professionals should be able to recover a large amount of scientific data, working in full collaboration with government authorities in charge of public works.

Unfortunately such an official corps does not exist in Mexico today. The scarcity of professional archaeologists

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becomes constantly more critical, while the care of the rich cultural patrimony of the nation obliges the few available specialists to concentrate on administrative tasks, mainly unrelated to actual scientific research. For example, the few available field archaeologists must concentrate nearly all their efforts upon the restoration and conservation of some of the largest precolumbian ceremonial centers, such as Teotihuacán, Tula, Xochicalco, Uxmal and others. The exploration of new sites is limited, and archaeological salvage projects are undertaken only by chance and without the necessary coordination, as they are naturally and inevitably relegated to last place in the program of the National Institute of Anthropology and History (the federal branch office which centralizes all exploration activities in Mexico).

However, for a number of years there have been certain important salvage projects which have been carried out despite the fact that they were not connected with or coordinated by any official agency especially organized for that particular purpose.

THE FIRST OF THESE is archaeological salvage in dam construction projects. One of the most successful salvage projects ever realized in Mexico has undoubtedly been that undertaken at Chupícuaro, in the state of Guanajuato, during the years 1945 to 1947. Extensive explorations were carried out by a party of field archaeologists which included Elma Estrada Balmori, Román Piña Chán and Muriel Porter, working under the direction and on the initiative of Dr. Daniel F. Rubín de la Borbolla, then director of the *Museo Nacional de Antropología*. Chupícuaro has long been known for its wealth of remains of the Preclassic or Formative phase of western Mexico. The whole Chupícuaro area was to be flooded because of the completion of the Solís Dam, five miles above Acámbaro on the Lerma River.

The salvage project had most enthusiastic support from the *Comisión Nacional de Irrigación*, a federal dependency then in charge of such public works, and as a result of this the Chupícuaro excavations stand as a fine example of archaeological salvage, in which the interests of public welfare and those of scientific research were harmoniously and completely satisfied. The results were quite impressive. Nearly four hundred graves were excavated, yielding an incredible amount of burial offerings and a splendid collection of skeletal material. The pottery and artifacts from the site, counted by the thousands in the storerooms of the National Museum, at several provincial museums in Mexico and in exchange collections in museums abroad, have filled the most important chapter—up to the present—of the scarcely

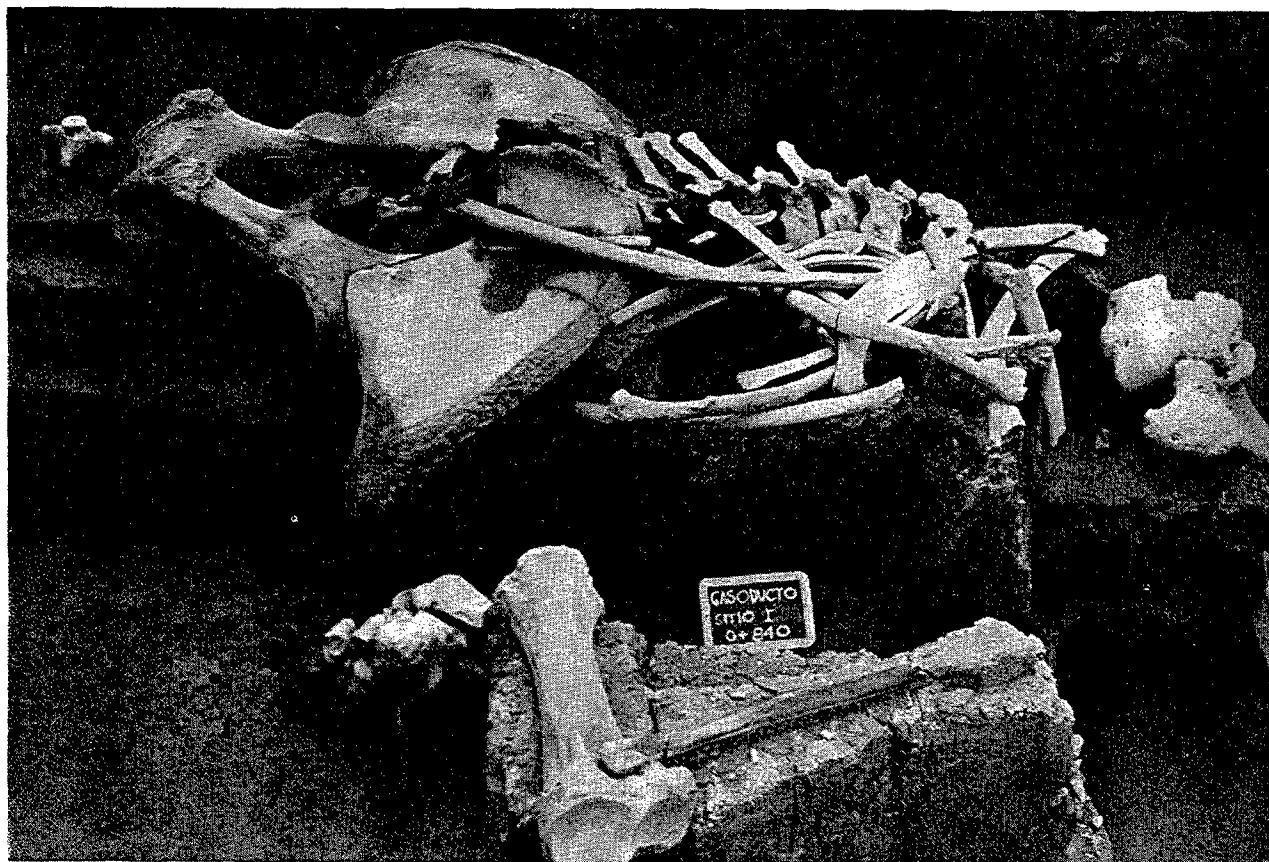


Pipeline ditch at Totolzingo with mammoth bones visible in the foreground. Photograph Francisco González Rul.

known Western Mexico Formative Horizon. Several publications have summarized and interpreted the results obtained.

During 1951 and 1952 reconnaissance and field work were undertaken, as a salvage project, in the state of Oaxaca near the villages of Tututepec and Paso Nacional. The area, rich in vestiges of Mixtec culture, was endangered by a number of hydraulic works belonging to the large Papaloapan River reservoir system. In charge of the work were Román Piña Chán and Ponciano Salazar, of the *Instituto Nacional de Antropología e Historia*. A number of important sites were mapped and recorded; surface sherds were collected and all possible scientific data were salvaged. Fortunately, in this case nearly all important sites are located on high ground above the maximum water level of the artificial lakes created by the dam.

In the International Falcón Dam area of Tamaulipas in Mexico, and Texas in the U.S.A., a number of archaeological reconnaissance efforts were organized from 1949 to 1951 in an extended zone which lay, on the Mexican side of the Rio Grande, between the towns of



Close-up view of the mammoth skeleton which was found during salvage operations in the Tepexpan-Totolzingo area. Photograph Francisco González Rul.

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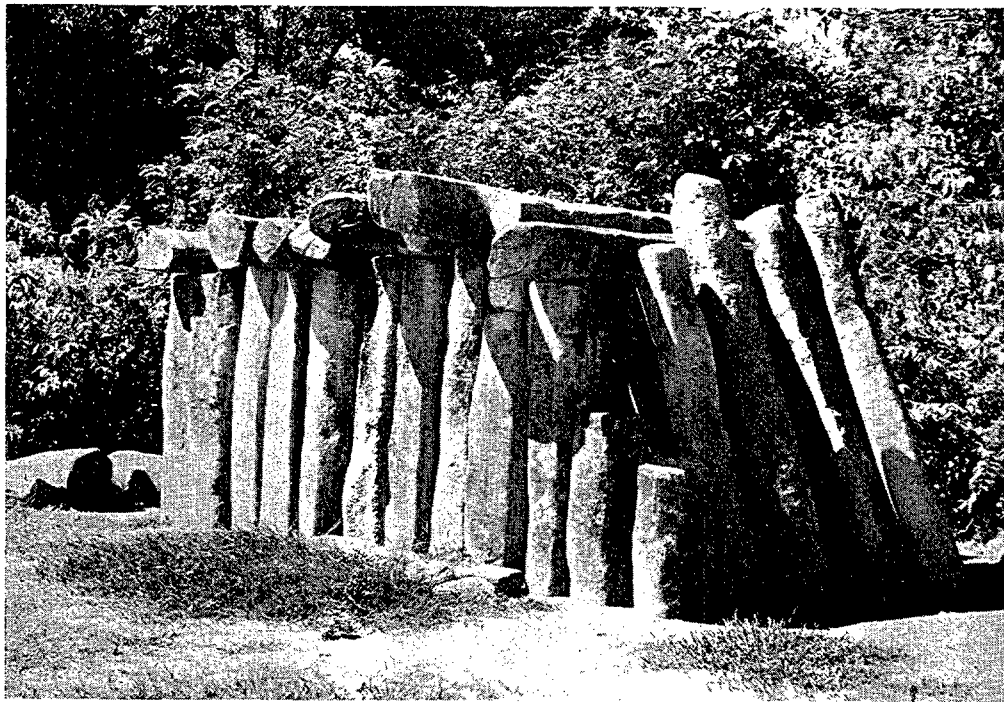
Ciudad Guerrero and Mier. These projects were under the auspices of the Mexican Government and were led by the author in close collaboration with Dr. Alex D. Krieger of the University of Texas, who had charge of the exploration on the U.S. side. The reservoir area proved to be extraordinarily rich in lithic materials on the surface, as well as in sites with deep stratigraphy pertaining to the so-called Falcón Focus, which was defined as a result of this work. On the Mexican side surface traces of occupation by Early Man afforded evidence for extensions of the Plainview hunters and possibly other Late Pleistocene or Early Recent cultural developments.

A similar project was carried out recently on the Mexican side of the Rio Grande, near Villa Acuña, Coahuila, in the area which soon will be covered by the waters of the great international Diablo Dam. A party from the National Park Service under the direction of Edward B. Jelks participated in these reconnaissance surveys in behalf of the United States; for Mexico the work was led by Walter W. Taylor and Francisco González Rul of the *Instituto Nacional de Antropología*.

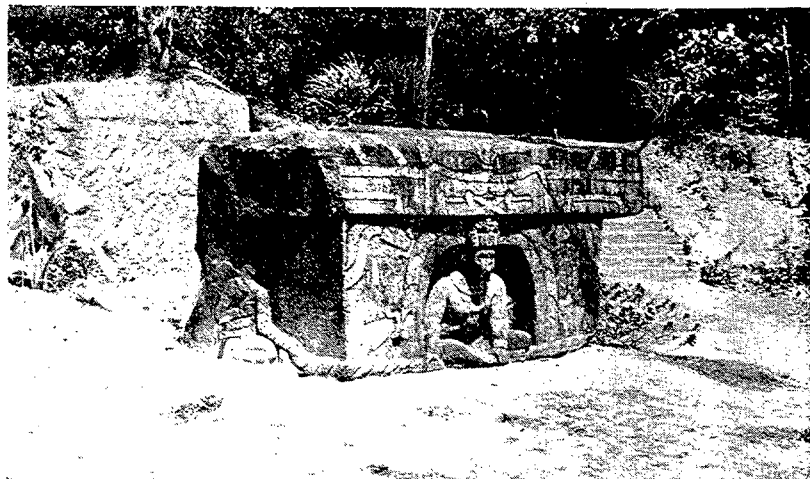
Numerous prehistoric sites were located which were related in certain respects to the "Basketmakers" of the Big Bend and Pecos areas of southern Texas. This work supplements the results obtained in the astonishing Candelaria Cave (in southern Coahuila) in which one of the largest and richest assemblages of artifacts in "Arid-america" was excavated in 1953 and 1954. In the Diablo Dam region were also found vestiges of the Paleo-Indian phase, in the form of a single atypical fluted point which probably belongs to the Clovis variety.

PIPELINE PROJECTS have also offered opportunities for archaeological salvage. Thanks to the initiative of Francisco González Rul, we can report some salvage work accomplished in coordination with *Petróleos Mexicanos*, the government enterprise which exploits all resources in oil and its derivatives. In recent years *Petróleos Mexicanos* has laid extensive pipelines for oil and gas in different parts of the country and in many instances across areas important for their archaeological interest. Many miles of deep ditches recently opened for various gas lines in the vicinity of Mexico City have permitted a

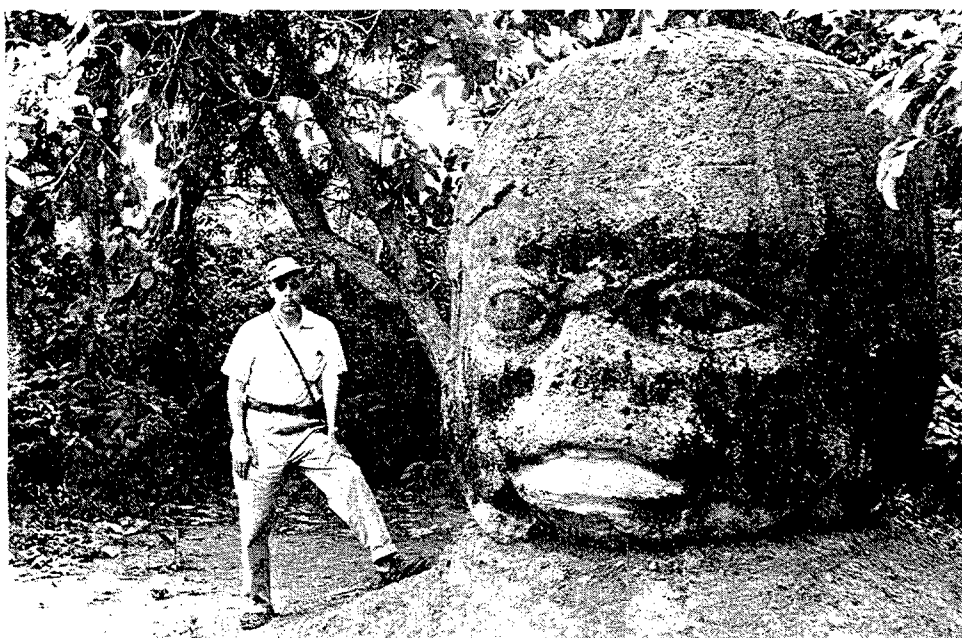
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Tomb built of monolithic columns, restored at the open-air park museum of La Venta, at Villahermosa, Tabasco. Photograph by the author.



One of the large Olmec monuments from La Venta, shown as installed at the open-air museum, Villahermosa. Photograph by the author.

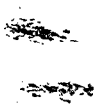


One of the colossal Olmec heads now at Villahermosa. Photograph by the author.

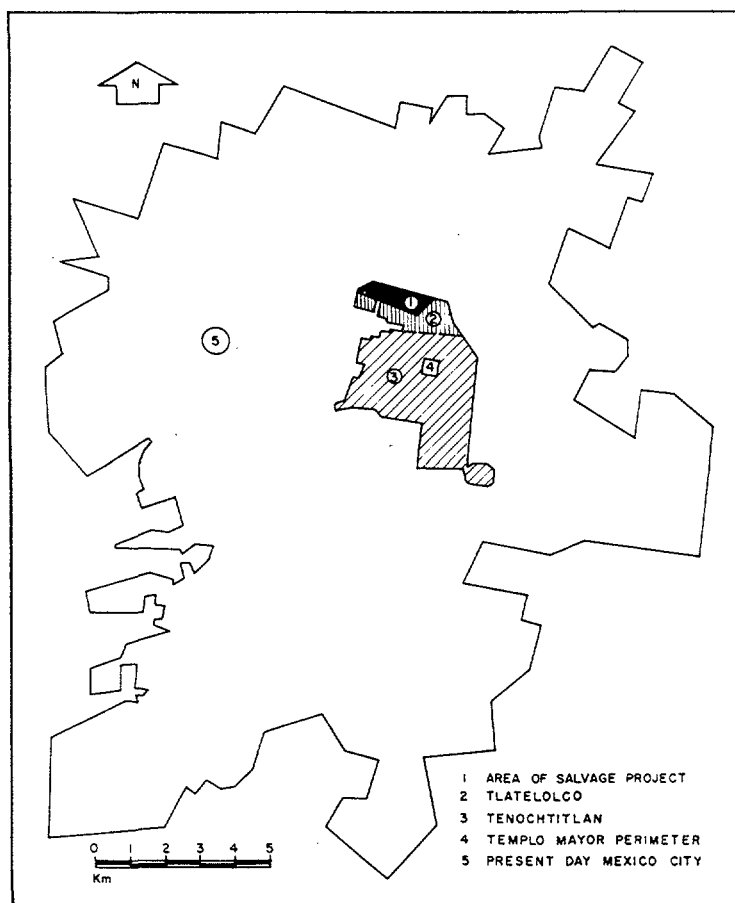


The most perfect Olmec head from La Venta, in its present setting at the park museum at Villahermosa. Photograph by the author.

Right: Another Olmec sculpture from La Venta, now transported to the park at Villahermosa. Photograph by the author.



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Plan showing area of the Nonoalco-Tlatelolco salvage project and its relation to ancient Tenochtitlan and present-day Mexico City.



Urban works in front of the Palace of Fine Arts, Mexico City, in which archaeological data were obtained. Photograph Francisco González Rul.

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widespread check of stratigraphic conditions in this most important area of the central Valley of Mexico. In this operation González Rul and the geologist Federico Mooser have succeeded in obtaining data of great value which in many ways alter previously held concepts about the geology of the region.

Near the villages of Tepexpan and Totolzingo, which are famous for their association with Early Man remains in Mexico, a gas line was laid in 1958. Here mammoth bones were excavated in a search for possible additional evidence of primitive man. A forthcoming publication will treat the data obtained in these stratigraphic studies.

Important archaeological salvage was accomplished by Carlos Pellicer, director of the Archaeological Museum of Villahermosa, state of Tabasco, in the well known area of La Venta, attributed to the Olmec civilization. In recent years this region, rich in oil as well as in ancient remains, was threatened with total destruction,

owing to extensive exploitation undertaken by *Petróleos Mexicanos*. Through Pellicer's initiative excavations at La Venta were intensified, producing much valuable information. Of particular importance was the transfer of all the great monoliths from La Venta to the open-air park museum in Villahermosa, where one can now find them exactly as they were in their original places and with their true atmosphere masterfully recreated. Here they are easily accessible to the visitor. This gigantic task was directed from beginning to end by Pellicer, who received full collaboration from all the governmental agencies concerned, mainly *Petróleos Mexicanos* and the *Secretaría de Recursos Hidráulicos* (Ministry of Hydraulic Resources).

ARCHAEOLOGICAL SALVAGE is especially important in the nation's capital. Among the large urban centers of the world the city of Mexico is, next to Rome, perhaps the most important with respect to vestiges of past civilization buried beneath it. The majority of the impressive



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stone sculptures and other Aztec cultural materials preserved in the National Museum came from excavations made during construction of buildings in the area covering the ancient city, known as Tenochtitlan.

In the last few years, especially, the program of urban works carried out in Mexico City has been intensive and most beneficial to the four million inhabitants of the metropolis. The city has been rapidly transformed by the construction of wide modern roads, subways, tunnels, drainage systems and large-scale public constructions. On some occasions these works, necessary as they are for the city, have unfortunately affected certain structures of the Colonial period. This has created a serious controversy which can only be resolved by applying a generous and realistic criterion—one which, while not interfering with the growth and modernization of the city, will provide proper responsibility for conserving monuments which are of *real architectural value* as well as representative of Spanish Colonial art and culture.

With reference to prehispanic vestiges, the authorities of Mexico City have collaborated efficiently on various salvage projects. Recently new Aztec monoliths, as well as various other remains, have been excavated in several places where public works are being undertaken. In widening and improving the new thoroughfare of Tlalpan, for example, an important find was recently made—a complete wooden canoe which is probably Aztec. Upon reports from engineers and workmen involved in public works in the center of the city, archaeologists are constantly exploring and recovering human burials, prehispanic pottery and various other remains.

THE FULL PARTICIPATION of archaeologists, historians and specialists in Colonial architecture is now urgently required in one of the largest projects of salvage archaeology yet attempted in North America. This, which has already been initiated, consists of the demolition of an extensive area including, beneath the surface, the remains of the important Aztec urban centers of Nonoalco and Tlatelolco. The total area to be demolished embraces several square kilometers which will be deeply excavated by heavy machinery for foundations of new buildings, drainage, etc., and without doubt archaeological data of incalculable richness and variety will be obtained here. The authorities of the city and the *Banco Hipotecario Urbano de Obras Públicas* have not only offered all kinds of collaboration but have gone even farther in encouraging research in the area. Salvage will be directed by Francisco González Rul, and the program includes recovering not only objects but also as much information as possible relating to such problems as the density of the prehispanic population in the ancient Aztec city districts, the encircling canals which delimited these urban zones

and the boundaries of at least ten of the *calpullis** existing in this area in Aztec times. Also sought will be architectural data concerning the ceremonial center of Tlatelolco, such as the remains of the buildings of the famous market place and the courtyards of the pyramid.

The project also includes the restoration of the sixteenth-century church of Santiago Tlatelolco and related monastic structures, where the first college for Indians in the New World was founded. Architects Pedro Ramírez Vázquez and Ricardo de Robina have been placed in charge of these aspects of the program, as well as of the construction and installation of a small museum at the site.

It is highly desirable that this important project be accomplished successfully and serve at the same time to bring about the much needed official creation of an organization for salvage archaeology in Mexico.

We must not forget that in countries with a patrimony as rich as Mexico's, salvage archaeology is not only a matter of the recovery of prehistoric or historical vestiges, more or less at random. Archaeological salvage is of great importance because it obliges research institutions and investigators to concentrate their efforts in areas which otherwise might be considered uninteresting and unattractive, on account of the lack of impressive ruins such as ceremonial centers. Salvage archaeology, considering the present limitations of anthropological research in Mexico, could be a very effective way of encouraging investigation of such really basic problems as settlement patterns of precolumbian communities, economic habits, distribution of population, environmental changes and influences and all those non-ceremonial features of everyday life which must be fully understood if we are to achieve, some day, a more solid and systematic knowledge of the precolumbian history of Mexico.

* Portions of a town defined by kinship, land ownership, mutual obligations and responsibilities to higher authorities.

BORN in Mexico City in 1926, the author studied at the *Escuela Nacional de Antropología e Historia* and at the University of Mexico, as well as in Europe, where he took courses at the University of Barcelona and participated in archaeological field work at several Palaeolithic sites. Professor Aveleyra has been Director of Prehistoric Research at the *Instituto Nacional de Antropología* and, subsequently, Director of the National Museum of Anthropology. At present he is Executive Secretary of the Council for Planning and Installation of the future *Museo Nacional de Antropología* in Mexico City, and Research Associate of the *Instituto de Historia*, University of Mexico. His investigations have been concerned chiefly with Early Man in Mexico; especially noteworthy were his excavations at Tepexpan-Iztapan, where butchered mammoth skeletons were found associated with implements. Professor Aveleyra has also excavated at other Mexican sites, notably at the rich Candelaria cave in the northern desert of Coahuila, and has many publications to his credit.