

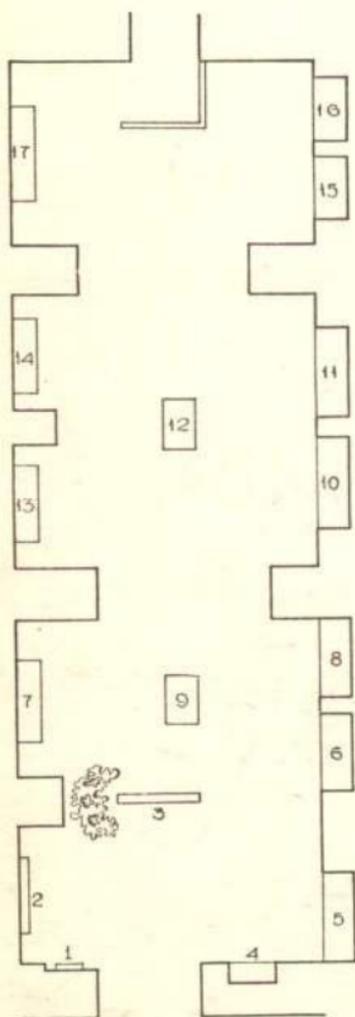
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MEXICAN
SILVERWORK

EXHIBITION: GROUND FLOOR

- 1.—General explanation.
- 2.—Gold and silver mining municipalities.



- 3.—Prehispanic metalworking techniques.
- 4-5.—Prehispanic metallurgy.
- 6.—Mining.
- 7.—Gold and silver workmanship of the sixteenth century.
- 8.—Gold and silver workmanship of the seventeenth century.
- 9.—Books and documents on gold and silver work.
- 10-14.—Religious objects of gold and silver of the eighteenth century.
- 11-13.—Secular gold and silver work of the eighteenth century.
- 12.—Silver workmanship in minor arts.
- 15.—Gilder copper work of the eighteenth century.
- 16.—Gold and silver workmanship of the nineteenth century.
- 17.—Popular silver and gold work in the nineteenth century.

AVE JUAREZ No.

Note: Plan of Second Floor Inside BACK Cover.

MEXICAN SILVERWORK

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MUSEO NACIONAL DE ARTES E INDUSTRIAS POPULARES

MEXICO, 1952



Mexican silversmith hammering silver.

INTRODUCTION

The Museum of Popular Arts and Industries presents this exhibition of Mexican Gold and Silver Craftsmanship not only for historical and aesthetic reasons but also to illustrate the important development of this craft. Aside from its artistic and folkloric aspects, metalwork in Mexico is displayed here to show its growth through the years. With increasing industrial importance, this craft is now recognized abroad as one of the outstanding popular arts of Mexico.

The purpose of this exhibit is to analyze and study the objects on display in hopes that these may serve as an example and stimulus to contemporary Mexican craftsmen. By no means do we wish to insist on the artistic style of these articles on exhibit, but simply through calling attention to their shapes, techniques and great aesthetic qualities, it is hoped that the feeling and inspiration of metalworkers of former years may be preserved and appreciated.

We also want to point out, that in spite of some obvious blunders in form, ornamentation and technique, that there are pieces of unusual merit which may be considered on a par with the extraordinary Precolumbian achievements.

The fact that Mexico is a mining country, is brought out in this exhibition, and the principal mining centers are identified and described, as well as the methods used in their exploitation.

The arrangement of the exhibit may be easily understood by the visitor and in general the floor plan is as follows:

The ground floor exhibits Precolumbian examples of metalwork; points out the gold and silver deposits of the country; displays forms and styles of metalwork during the Colonial Period of the Viceroy and exhibits significant documents and works by various authors, which deal with the development of this industry in Mexico.

Contemporaneous gold and silver work is displayed on the second floor, beginning with nineteenth century work and leading up to the finest workmanship of today pointing out different types of techniques and ornamentation.

This exhibition has been made possible through the efforts of the following group:

Organization and general planning: Daniel F. Rubín de la Borbolla. Preparation of the catalogue: Federico Hernández Serrano. Cover by Zita Canessi. Photographs by Juan Guzmán and photographs for the museum collection by Manuel Alvarez Bravo.

Preparation and setting up of the exhibit: Consultants: Jorge Enciso and Frederick W. Davis. Museum technicians: Isabel Marín and Eduardo Pareyón assisted by the personnel of the National Museum of Popular Arts and Industries.

ACKNOWLEDGEMENTS

The patrons of Popular Arts and Industries wish to make public their appreciation for the help received from the following institutions, industries and private individuals, whose invaluable aid have made possible this exhibit.

MUSEO NACIONAL DE HISTORIA.

MUSEO NACIONAL DE ANTROPOLOGÍA.

MUSEO DE ARTE RELIGIOSO.

MUSEO REGIONAL DE OAXACA.

MUSEO-TECNOLÓGICO INDUSTRIAL.

SECRETARÍA DE LA ECONOMÍA NACIONAL.

ESCUELA DE ARTES PLÁSTICAS.

INSTITUTO DE GEOLÓGICA DE LA UNIVERSIDAD.

CASA DE MONEDA.

UNIVERSIDAD NAL. AUTÓNOMA DE MÉXICO.

BANCO DE MÉXICO.

Platería Ortega, S. A., Casa Sanborns, Sr. Frederick W. Davis, Matilde Eugenia Poulat, Williams Spratling, Antonio Pineda, "Los Castillos", "Piedra y Plata" Martínez.

Sra. doña Doris Alvarez Bravo, Sr. Pedro Aspe, Sra. doña Zita Canessi, Sra. doña María L. de Caso, Sr. Frederick W. Davis, Sr. Artemio de Valle Arizpe, Sr. Victor Fosado, Sra. doña Rafaela García Pimentel de Ber-

nal, Sra. doña María Josefa de Martínez del Río, Dr. Pablo Martínez del Río, Sr. Franz Mayer, Sr. Carlos Novoa, Sr. Gonzalo Obregón, Sra. doña María M. de Orozco, Sra. doña María Josefa M. del R. de Redo, Sra. doña Frida Kalo de Rivera, Sra. doña Sol de Rubín de la Borbolla, Sra. doña María Luisa Toscano, Sr. Felipe Teixidor, Sr. José Suinaga Luján y Galerías Montecristo, S. A.

And we only regret that space did not permit us to exhibit all of the magnificent pieces that we were so generously offered.

POPULAR MEXICAN SILVER

GENERAL REMARKS

When the rich and vigorous talents of Precolumbian metalworkers were combined with European knowledge of the sixteenth century, a magnificent art sprang up founded on a great technical and plastic balance that gradually achieved new heights during the three centuries of the Spanish Viceroyalty. This caused Mexican workmanship to be included among the important crafts of the nineteenth century as well as during our times.

Silverwork is one of the most important popular crafts at present and has exercised considerable aesthetic influence abroad as a result of work during Precolumbian and Spanish Colonial Periods. The handling of the metal, its decoration and modeling as well as the type metal itself, has been of great importance, and of no mean significance has been the intensive and systematic exploitation over a period of time of the mineral deposits of Mexico.

Mexican craftsmanship has surprised the world since the sixteenth century. At the time of the Spanish Conquest the gifts of gold and silver sent to the Spaniards by the Mexica, together with later acquisitions gained through looting and plundering, served to impress the Old World with the tremendous wealth of American art.

The tradition and sophisticated development of Precolumbian metallurgy, together with the abundance of gold and silver deposits exploited by the Spaniards in the sixteenth century, and the spirit of display and ostentation of the Europeans, all contributed to the rapid

development of Mexican metalwork in the Period of the Viceroy.

From the second half of the nineteenth century on, the masses began to clamor for jewelry since the people could now obtain something attractive in a metal that was less expensive than gold, but which had the same plastic qualities, durability and possessed a lasting intrinsic value.

As a result of its past history, Mexico now leads the list of silver producing countries of the world, has increased the exploitation of its mineral deposits and has stimulated such a demand for work in silver and gold that it now exports its products on a large scale to Europe and the Near and Far East.

PRECOLUMBIAN BEGINNINGS

The exquisite work in gold, copper and silver of the American Indian makes us appreciate the indescribable aesthetic value of the Mexican Cultures, and the specimens that have been preserved prove that Precolumbian techniques reached tremendous heights after the ninth century. We have magnificent examples of Mixtecan, Tarascan and Zapotecan jewelry, which are only a few of the pieces that did not fall into European hands. These were all made in one great period—from the ninth century to the time of the Conquest.

The techniques used in manufacturing these specimens are those most commonly employed by American craftsmen: hammering and casting by the "lost wax" method. This technique requires a highly skilled knowledge of metallurgy and was used in producing the finest and most delicate pieces that we know. It was employed with real pride by the Italian metallurgists of the fifteenth century and it was commonly practiced in Mexico and

in other cultural centers of America, a fact borne out by the gold jewels found in Ecuador, Colombia, Peru and other countries on this continent.

Some true masterpieces of gold and silver work using a balance of design and composition show almost perfect workmanship. Silver, because of its richness and brilliance, was intimately connected with *Tezcatlipoca*, the God of Darkness, who carries as one of his principal characteristics a silver smoking mirror. Gold was considered as an attribute of nearly all of the Mexica Gods, who among their distinctive symbols carried a disk or broach of gold called *Teociutlachimalli*: the excrement of the gods, or *Tezcacuitlapilli*: the gold mirror of the prince. Jewelry was finished so beautifully and exquisitely that each piece is a true work of art of the *Teocuitlapizque*, or native craftsman, and according to the chroniclers of New Spain in the sixteenth century "the metalworkers of Seville were astounded" (by these objects).

In referring to these amazing Precolumbian achievements, Clavijero says, "the Mexican smelters made naturalistic images of gold and silver that were perfect. They cast all at one time a fish that had alternate scales of gold and silver. They strung precious stones on gold and silver and made very curious jewels of great value, which in spite of the Spanish thirst for gold, they appreciated the techniques more than the material." This appreciation was only momentary, however, since later they were all melted down in order to make use of the metal itself. "They also hammered metal as another technique, but were not as skilled in this as in casting." They worked copper well and the Spaniards were delighted with their shields and spears; the casters and the silverworkers of Mexico made up a considerable group. They paid special tribute to Xipe-Totec, their protector.

Gold, silver and copper were the metals most commonly used by the Indians for their jewels and ornaments.

These were made in various parts of the country as can be seen from the work itself. The most advanced cultures in this line were the Mixteca, Tarasca, Mexica and Zapotecs. Certain towns were outstanding for their specialties in metalwork such as Azcapotzalco, of which Bernal Diaz del Castillo says, "where gold and silver was worked for Moctezuma and we used to call it the silversmiths' town." Cholula is also mentioned in the letters that Cortés wrote to Charles V. And Humboldt considered it outstanding as he says, "Vessels of gold and silver are made in all the great cities of Anahuac, and silver is not considered as valuable among the Americans as among the towns of the Old World. The Spaniards, upon entering Tenoztitlan for the first time, could not stop admiring the skill of the Mexican silversmiths among whom the most notable were those of Atzacapotzalco and Cholula."

In referring to the objects of gold and silver that the Mexica king, Moctezuma Xocoyotzin, sent to Hernán Cortés, the latter writes in his second letter to Charles V, on October 30, 1520, "these objects, besides being of great value are such wonderful novelties and are so unusual that they have no price, nor could anyone believe that a prince in the world today would own something of such quality."

Unfortunately, especially for American art, nearly all the metal objects of Precolumbian times were melted down by the first conquerors and inhabitants of New Spain. Unfortunately, since the wonderful techniques displayed and the artistic qualities of the jewels which undoubtedly astonished them at first, were soon outweighed by greed. Gomara says, "the beauty of technique was sacrificed." For that reason very few examples of native craftsmanship of that period are preserved either in Mexico or abroad. Those that have come down to us for admiration and study, we owe to the recent ar-

chaeological excavations undertaken by contemporaneous investigators in the areas of Precolumbian Culture.

Included among the types of ancient metalwork described and analyzed in these notes are diadems, breast-plates, earplugs, lip-plugs, necklaces, rings, pendants, and all manner of gold and silver ornaments which were used to enrich and venerate their gods, or were used in rites and ceremonies to lend more dignity and stateliness to the priests, noblemen and warriors of the Mexica and other cultures.

Although not on a par with the gems obtained by the Conquistadores of the sixteenth century, but nevertheless truly extraordinary ancient pieces of special interest and merit are the following:

THE SHIELD OF YANHUITLAN, a gold Mixteca pendant, which is considered to be one of the masterpieces of metal workmanship of all times in the world at large, representing a very fine shield or native *chimalli*, cast in gold with an unusually lovely contrast in color and texture given by a Mexica stepped fret design of inlaid turquoise. C.—MNA.

THE XIUHTECUHTLI, a gold pendant cast by the "lost wax" method, represents the Lord of Fire, and was found in Papantla, Veracruz, but is probably of Mixteca origin. This is an excellent example of the perfection that was attained in the casting process of the American Indian. C.—MNA.

SILVER SQUASH, from Tomb 7 of Monte Alban. A magnificent piece which proves the skill of the Mixteca craftsmen in hammering, or repoussé and engraving on sheets of silver and gold, of almost incredible thinness and then very delicately worked with a small hammer or with stone instruments. C.—MRO.

MIXTECA PENDANT, from Tomb 7, Monte Alban representing *Tlahizcalpantecuhli* or *Mictlantecuhli*, the God of Death. This is in gold, made by the "lost wax" method, and emphasizes the dramatic native symbolism which is carefully and extraordinarily worked out with a balance of design and beauty. C.—MRO.

These examples from ancient Mexican cultures are so advanced and elaborate in technique and plasticity that there is no doubt of the enormous significance and far-reaching influence of Precolumbian metalwork in later times during the Viceroyalty Period and in the nineteenth century and even today.

MINING

The Mexican Indian evidently knew how to use other metals besides gold and silver and according to Humboldt were not merely content with the metals found on the surface of the ground, in the river banks or washed arroyos and ravines, but on a small scale they undertook the extraction of metal from underground veins. They knew how to open tunnels and terraces, pits with communication lines and ventilation and had special instruments for cutting rock.

"The inhabitants of Tzapoteca and Mixtecas", according to Clavijero, "two provinces that today are under the administration of Oaxaca, separated gold by washing it from the earth. . . ." "Even in Moctezuma's times, the Indians were using the Taxco veins (Tlacho) in Coahuila province, and those that run through the Tzumpango mountains."

Corroborating this, don Santiago Ramirez says, "the Aztecs made excavations such as those found by the Spaniards in Pachuquilla, which were not very deep, but

rather open trenches which were burned." The data tell us that Precolumbian mining consisted mainly in torrefaction, by using stone tools and perhaps also copper or bronze since the work was rough or crude. The gold placer deposits were exploited almost exclusively.

The Indian exploitation of the placer resources eventually led to the discovery of gold and silver veins by the Spaniards in the sixteenth century.

The first mines known to the Europeans in that century were those of the King of Socavon of the Hill of the Bell in "Old Taxco" — a few kilometers from the present town of that name. These had been exploited previously by the Indians and were known as the "Old Mines or Babylon" because they were worked carelessly, by caves or open trench, without making any attempt to reinforce walls or the roof. This resulted in numerous landslides.

Don Trinidad Garcia mentions that the Espiritu Santo Mine in Compostela, Nueva Galicia, which today is Jalisco, was the first mine to be worked in Mexico by the Spaniards. This was worked in 1543 or 1544.

Before the end of the first half of the sixteenth century the Spaniards discovered the mines of Zultepec and Temazcaltepec, and also those of Pachuca and Tlalpujahua, followed in 1548 by exploring those of Zacatecas, and a few years later, those of Guanajuato, which were worked by combining steel and gunpowder under the direction of some "practical" Europeans. At first the old deposits known to the Indians were worked and made deeper and then from the second half of the same century, they explored the greater part of the mines that are known today.

During the period of great mining activity between 1521 and 1556, extraordinary results were obtained in spite of the deficiencies in the mining methods, especial-

ly as regards drainage and the benefits to be derived from the casting method. It was necessary to undertake extremely laborious excavations, calling for a vast number of miners. The manpower problem was of little importance in those days since the administrators had numerous Indians under their "protection" and these were reduced to virtual slaves who were forced to work in the hard and exhausting labor of the mines.

Mexican mining was greatly accelerated by the results of a new beneficiary method which was revolutionary and efficient in its time, called "Sistema de Beneficio de Patio" or amalgamation of quicksilver or mercury, invented or at least put into practice for the first time in Mexico around 1556, by Bartolome de Medina, a Pachuca miner, who used it for extracting metals on the Hacienda de la Purisima in Pachuca.

The system of amalgamation, which because of the method involved, requires large patios for the mixtures and retorts, mills and foundries, led to a special type architecture: large edifices with many rooms. In the center was the patio for the mixing and remixing of quicksilver with metals. This was generally surrounded by a series of arches with galleries where the mills were installed, with foundries and testing places, storerooms, offices and living quarters, complex waterworks, etc. This composition resulted in a strange looking structure as is shown in old pictures and the ruins of Santa Maria, San Miguel Regla, Valenciana, Marfil, Veta Grande, Sombrerete and many others, whose architecture is unique in the world. In constructive and socio-economic respects, these somewhat resemble the large haciendas in the country of Mexico.

Because of the simplicity and effectiveness of the establishment of Bartolome de Medina, it was copied in all parts of Mexico, and contributed to the flourishing of mining and consequently the fabulous strikes in the Za-

catecas veins of San Alvaro, or San Bernabe, la Albarrada, Panuco, etc.

After the first booms, a series of successful explorations led to the following discoveries: Real de Minas de Sombrerete, undertaken by Juan de Tolosa. Those of Tajo de Anico, in Durango by Alfonso Pacheco, towards 1563. In Fresnillo, Zacatecas, in 1569, two workers from Sombrerete found the first vein of Cerro de Prano, where the Viceroy don Martin Enriquez had established a presidio in 1568. The Cerro de San Pedro which later became San Luis Potosi, was worked for the first time about the beginning of the last quarter of the sixteenth century. The finds in Guanajuato which were accidentally found by mule drivers from the Zacatecas mine, headed by the well-known Juan de Rayas, started off a whole series of mining explorations in San Juan de Rayas, Valenciana, Santa Ana, Cata and Mellado.

The successful mining booms in the beginning of the Viceroyalty Period, converted Mexico within a few years into one of the most important silver production centers in the entire world. This led to the revival of metalworking not only in New Spain, but also in Europe and other parts of the world, since the growing production in Mexico made possible exportation in large quantities to Spain of jewelry or metal coined or in bars. This created a renaissance of metal craftsmanship in Spain, Italy and France.

During the last third of the sixteenth century regular and permanent communications were established between Acapulco and Manila which led to an important commercial exchange between Mexico and the Philippines. This trade extended to India and China, a traffic carried out by the famous galleons which arrived at Acapulco from the Orient twice a year with their rich merchandise: silk, ivory, porcelain, spices, etc., and returned to Manila loaded with money to support the Philippine

colony. Gold and silver, coined or in bars, was much in demand and eagerly awaited in the Orient at that time, since Mexican money was widely circulated due to its magnificent legal standard of quality.

The search for mining deposits in the seventeenth century led to sporadic discoveries in Sonora and Chihuahua. In the province of New Galicia they began to work the minerals of Topia. Baltasar Dorante de Carranza, in the Sumaria Relacion de las Cosas de la Nueva Espana also mentions that during the first third of that century the following mines were in production: "Pachuca, Capula, Atotonilco, Zimapan, Osumatlan, Tlalpujahuá, San Luis, El Palmar de la Vega, Azulaques, Sichu, Zacoalpan, Zultepec, Temazcaltepec, Taxco, Guanajuato, Tlaucingo, Zumpango, Miahuatlan, Oaxaca, Tetela, Zacatecas, Panuco, San Martin, Abino, Santa Barbara, San Andres Fresnillo, Sombrerete, Guanacevi and others that I do not remember. All are inhabited areas which do nothing else but extract silver."

In the middle of the eighteenth century the largest booms occurred. Don Jose de la Borda took out of the mines of la Hujuela and San Ignacio de Taxco in 1748, more than 12 million pesos; from the Canada in the Real de Tlalpujahuá, 20 million pesos and another 20 million from the Great Vein near the City of Zacatecas. In one year the Valenciana yielded more than Potosi. In 1780 the famous mine of Sr. de Zavala or the Padre Flores in El Catorce, yielded a million six hundred thousand pesos net at a depth of 50 meters.

In 1804, when Baron de Humboldt visited New Spain, he found mining prospering and he was astonished at the tremendous wealth of the mining districts of Guanajuato, El Catorce and Zacatecas.

The enormous mining booms were principal factors in the production and artistic development of Mexican silverwork during the Period of the Viceroy.

Of equal importance to the amalgamation method of Bartolome de Medina, which was used in the exploitation of mines in the Colonial Period, and of great significance in the nineteenth century, is the new cyanide system which was started in Mexico towards the end of the last century as a result of the avid search for metals such as iron, copper, zinc and tin. This had lasting effects of great importance for Mexico as metalwork had suffered heavy depressions, especially after 1880.

THE ART OF METALWORK IN MEXICO

The economic development of New Spain, owing in a great part to mining, was surprising from the very beginning. An economic well-being was reflected, among other things, in the manufacture of great works of religious and secular art. The result of this artistic movement was magnificent as regards the accumulation of metallurgical pieces as well as for their plastic value. Evidence of this could be seen in the huge cathedrals, which were erected during the second half of the sixteenth century, in various cities as well as in the simple chapels far from the large towns. Extraordinary treasures of religious metalwork could be found which varied only in the amount of money spent, since the high quality of New Spain was uniform throughout, for which reason one may still find pieces of great value in out-of-the-way churches and humble sacristies.

Secular metalwork was also greatly stimulated since both well-to-do and modest families had silver services, plates, candlesticks, inkstands, small candlesticks and boxes, jewel boxes of tortoise shell with silver ornaments, lamps and chandeliers and even the least of services were made up of truly wonderful examples of silver-smithing. The ladies of the Viceroyalty displayed os-

tentatious adornments of gold, silver and precious stones, of exquisite workmanship and fabulous value.

MASTERPIECES

One of the masterpieces of Mexican metalwork of the sixteenth century is the magnificent reliquary candelabrum, done in plateresque style. This is kept in the Museum of Religious Art and Artistic Treasures of the Mexican Cathedral along with other reliquaries of San Pedro and San Pablo. It is one of the prototypes of metalwork of the first century of the Viceroyalty Period, done in repoussé technique with engraving; some parts are cast and gilded. It is believed that this reliquary was made-to-order for keeping relics, which are still preserved today, of the grandee don Alonso de Villaseca, a well-to-do Spaniard who made his fortune in Mexico in the second third of the sixteenth century. This is an extraordinary piece of work which he had made for the church of San Pedro y San Pablo, of which he was protector and to which he was very devoted. Later in the eighteenth century it went to the Sacramentarium of Mexico City.

A chalice dates from the same century. It is also of engraved silver with repoussé technique and is kept today at the Museum of Religious Art. It shows signs of having been gilded inside the receptacle. The silversmiths' trademark is visible as is a Franciscan insignia engraved with a chisel in the upper part or at the base of the crest. The general characteristics of this piece as well as its decoration, trademarks and the little historical data we have, lead us to believe that this is one of the very first of its kind to be engraved in Mexico.

In the Art Department of the National Historical Museum in Chapultepec Castle, the splendid "Yanhui-

tan Cross" is exhibited. This is also repoussé silver-work with engraving and some parts cast. It is done in plateresque style and very ornately decorated but undoubtedly the very finest element is the crest or top-piece. It looks as if the pedestal stand was added later, and that in the beginning the piece was meant for processional use. It shows traces of having been gilded.

THE GREAT BAROQUE PRODUCTS

Religious metal objects of the seventeenth century consist of a great number of pieces. Chalices, shrines, reliquaries, ciboriums, pedestal bases for images, crowns and shining headdresses of saints are found in infinite quantities in many churches of the Republic. They also continued to make table services, lamps, jewelry, buttons, rings set with precious stones, and all manner of items for daily use or for dress occasions as well as the flashiest and gaudiest objects. These pieces represent some of the most exaggerated, fanciest and overdone examples of the baroque style, yet manage to preserve something of the native plasticity. In this century, Mexican metalwork shows a new influence which came from China. This was introduced through filigree work and silver objects brought from the Orient by ship to Acapulco, and the technique was taught by Chinese metalurgists who visited New Spain.

The following pieces were made in the baroque style of the seventeenth century and show this Oriental influence: the image of Nuestra Senora de la Concepcion, made of hammered and cast silver, a gift of the silver-smiths to the cathedral, and four enormous church candlesticks with the coat of arms of the Archbishop Bonilla. Some altar hangings and ciboriums are proudly kept in the Santuario de Nuestra Señora de Ocotlán,

Tlaxcala. These show extraordinary workmanship and unusual Mexican designs.

A particularly outstanding example of the workmanship of metal and precious stones of the seventeenth century is the fabulous article which Viceroy Marquis de Cerralvo had made in 1625 to send as a gift to the King of Spain. This was a life-sized parrot of gold and silver, set with precious stones which resemble feathers. The work is so beautifully finished and so exquisitely done that it caused great admiration in the European courts and was valued at many thousand ducats.

The large silver basin which don Diego de Malpartida y Zenteno gave to the Cathedral of Mexico is also from the same century.

OBJECTS SHOWING MEXICAN BAROQUE STYLE

Numerous outside influences led to an increased production of Mexican baroque style objects in the eighteenth century, especially in the last half. The amount of articles turned out, as well as the quality of the work is simply indescribable. One only needs to see the accounts of the silver riches in the Mexican families and the lists of religious vessels and jewels belonging to some of the cathedrals and churches in order to have some idea of the tremendous wealth and the exquisiteness of taste reflected in metalwork and jewelry. In this period the churches acquired almost unbelievable quantities of silver goods and almost every one had at least a chalice, a ciborium, a cross and a shrine.

THE GOLDEN AGE OF METALWORK

The eighteenth century is considered to be the Golden Age of Mexican metalwork. At this time mining was

flourishing, New Spain was progressing economically, and the new techniques and European commerce led to the peak of metalwork in Mexico. Hammered and cast articles were lavishly made in gold and silver and these were enhanced by setting them with precious stones.

THE FRENCH INFLUENCE ON THE BAROQUE

Mexican baroque became more French in style during the second half of the eighteenth century. In that period the rococo motifs of Louis XV were introduced with great success in architectural decoration and household goods and they are also apparent in the decoration of hammered and cast silver.

The influence of this style coincides with the displacement in Europe of the Italian and Spanish influences which mark the peak of French domination of culture, philosophy and politics in the Western World in the second half of the eighteenth century. At the same time, the cultural and artistic trends in New Spain began to include a larger field, due to the impact of the native and mixed groups, together with the aesthetic, economic and social reforms imposed from Spain through the liberal and far-seeing Charles III.

At this time the French influence is seen in the richer and more elegant Mexican pieces of craftsmanship. These were the most ostentatious: the silver throne which was found inside the baroque cypress of the Cathedral of Mexico and the huge lamp of the same Cathedral, which was first used in the middle of the eighteenth century. The latter is a piece of enormous dimensions and of great artistic value, being the work of the famous silversmiths, Francisco Estrada and Francisco de la Cruz. Unfortunately these articles were destroyed in the nineteenth century.

The famous shrine of the Parroquia de Santa Prisca, Taxco, given by Borda, belongs to this same period. This was later acquired by the Cathedral in Mexico and the records say that the monstrance and the resplendant halo alone had 4,700 diamonds of all sizes on one side and 1,707 emeralds on the other. The stand for this shrine was made in Mexico at the request and expense of the Cathedral and at that time it was even more elaborate as it had 3,219 precious stones of diamonds, emeralds, rubies, sapphires, amethysts and strings of pearls.

FILIGREE

During the eighteenth century, at the peak and splendor of Mexican silverwork, the delicate art of filigree reached its height of perfection and delicateness. Saucers with holders for chocolate cups, crosses, jewelry and small objects were made which may be compared to the fine Chinese filigree work brought by ship to Acapulco. Filigree work took such strong hold in Mexico that even today it is still enthusiastically made in the Isthmus of Tehuantepec, Oaxaca, and Chiapas.

NEO-CLASSIC STYLE

At the end of the eighteenth century, the Neo-Classic style, made fashionable in the architecture of New Spain by the Valencian, don Manuel Tolsa, and don Francisco Eduardo Tres Guerras, a Mexican architect and native of Celaya, is clearly seen in the forms and decoration of silverwork. In this classic style, which in a rather artificial and forced manner was leading to an academic style, was built the *daïs* of the image of Nuestra Señora de San Juan de los Lagos, Jalisco. This measures more than 4.50 meters in height and is partially covered with sheets of silver of repoussé work with some sections cast

and gilded. This is a product of Épitacio Garavito, the Zacatecan silversmith.

The stand belongs to this same period as well as the shiny halo and crown of the image, Nuestra Señora de Guadalupe, known as the "Prelates" which is worshipped in the Sanctuary of Guadalupe in Zacatecas.

A great number of important smaller pieces were made by Mexican silversmiths at the end of the eighteenth century and towards the beginning of the nineteenth. Among the most noteworthy objects is a gold chalice exquisitely done in engraving and repoussé technique and which weighs slightly more than a kilogram; also a huge shrine in neo-classic style which is on exhibit in the Hall of Metallurgy in the Museum of Religious Art and Treasures of the Cathedral of Mexico.

* * *

At this time of development and with the characteristics and styles already mentioned, Mexican metalwork at the beginning of the nineteenth century was faced with military, political and economic crises which led to the movement for national independence. Metalwork, trying to preserve its past tradition and keep up with the present, managed to turn out some very noteworthy pieces. However because of the struggle with the new social organization and the lack of foreign markets for exports, the rhythm and quality of work cannot be compared with that of the Viceroyalty Period.

APPRECIATION OF EUROPEAN METALWORK IN THE NINETEENTH CENTURY

By sending Mexican silverwork to Spain, which was possible because of the mining booms of the seventeenth and eighteenth centuries, European metal centers began

to work silver according to their own tastes and needs. In this way there was a kind of renaissance of English, Dutch and French metalwork which created styles which were in accordance with their religious beliefs and customs. The French made jars and jugs for wine in the country and religious pieces of silver for the Catholic Faith. The English, of more sober customs, and being traditional tea drinkers, made silver services in their style. When these new forms were imported by Mexico on a large scale, the Mexicans of the nineteenth century were greatly impressed and, forgetting their own great tradition, they became suddenly Europeanized and tried to reproduce the French, Italian or English metalwork. This was done more for the commercial value of foreign trademarks and high profit than because of an admiration for the work itself. All of this, together with the ephemeral reign of Maximilian, could not help but result in a considerable craving for French style in Mexico.

POPULAR METALWORK

The popular arts, which stay alive regardless of current styles, kept the native metalwork away from the unfortunate European influence, and retained the artistic traditions of the people in the provinces which were somewhat removed from the foreign impact. Thus Mexican styles continued.

COPIES OF VICEROYALTY PERIOD METALWORK

Towards the end of the nineteenth century, a kind of renaissance took place in the Mexican metal markets, because of the more efficient ways of mining and due also to a chaotic period as regards form and style of that era. This produced a reaction towards the objects in the Viceroyalty Period style, which were well receiv-

ed not only in Mexico but by tourists, and of these, especially the American. To meet the increasing demand, craftsmen resorted to fraud and reproduced old pieces and sold them as authentic antiquities, even going to the extreme of counterfeiting the trademarks of the "Royal Fifth" and imaginary silversmiths.

This counterfeiting continued during the last years of the nineteenth century and beginning of the twentieth, along with a few other products imitating European styles.

* * *

New aesthetic concepts were produced as a result of the Mexican Revolution of 1910 which revived old styles in art. This was a direct result of popular crafts, especially as regards work in metals. The demand for silver increased, not only in Mexico but abroad. Besides exploiting the mines, especially those of silver, good results were obtained by using the method of cyaniding, which met all the large demands for silver-bearing ore which resulted from the industrial economic needs of the first World War.

Post-revolution metalwork in Mexico became well established and once more they began to make individual articles such as plates and platters, coffee and tea services, and although some of these may be judged rather vulgar and homely, this is understandable if one stops to realize that that is a universal trait and to maintain balance this is aesthetically necessary and the artist himself is not responsible. Glasses and goblets were made and later cocktail services, and complete table services in sets, which at times comprised more than 100 pieces. Finally they arrived at the most important and beautiful examples of contemporaneous Mexican craftsmanship, jewelry, of which magnificent pieces are made for personal adornment: bracelets, rings, pins, etc.

Together with the revival of interest in popular and artistic arts, a renaissance of costumes and native dress also took place.

The China Poblana and the Charro once more regained their former grandeur. These had faded into the background during the latter part of the nineteenth century. Once more the Charro prided himself on silver buttons on his trousers and jacket and added silver plates to his riding harness, tassels and braid on his hat which was already decorated with silver and gold thread. The saddle and harness were also handsomely decorated with damaskened and hammered silver ornaments.—

SILVERSMITHS OF THE VICEROYALTY PERIOD

The artistic development which made Mexican metalwork during the Viceroyalty universally famous, was primarily due to the craftsmen. The enthusiasm and strong roots of this industry among the inhabitants and the colonizers, in spite of being prohibited during the first years of Spanish domination, managed to overcome the ridiculous provisions, partly with the help of the Second Audiencia of New Spain which passed conciliatory measures making possible the establishment of foundries and testing places in the towns having silver mines in the vicinity. Although these laws did not completely nullify the provision prohibiting metalwork, at least it gave the craftsmen certain liberties. Don Luis de Velasco, who seemed understanding at times regarding affairs of New Spain, in this case, ordered that metalworking be stopped. The men that beat the metal and the gold-wire drawers protested to the government, pointing out the danger and harm which the country would feel with the prohibition or restrictions on their business and demanding at the same time that it restore the craft and allow the complete freedom of the "Noble Art of Metallurgy", agreeing to fulfill to the letter the demands and rules of the Crown. This was finally granted on October 30, 1563, with the warning that they must unflinchingly comply with the "Metallurgy Statutes" which were a code of law by which the trade was organized. These provided for apprenticeships, regulated production and attempted to improve the quality of the product. Above all, these statutes tried to establish legality, so that there would be no fraud in the weight of the metals and normalized the commercial transactions, especially the tax imposed by the Crown, called the "Royal Fifth."

Nevertheless, these decrees committed a great error by excluding from the directorates and important offices, the native craftsmen of Mexico, who in spite of the irreconcilable discrimination of the laws, had worked intensely on very important projects and had even instructed the Spanish in various techniques.

As a result of all these things: the Precolumbian antecedents, the abundance of gold and silver deposits, the new method of work brought by the Europeans, and those contributed by the Indians, especially as regards casting, an artistic development took place in the sixteenth and seventeenth centuries which caused praise to be showered on Mexico and made its products famous. The craftsmen who suddenly were faced with great demands, soon elevated themselves to occupy a distinguished position, especially during the second half of the last century of the Viceroyalty Period. At that time they were well established in guilds or brotherhoods, ruled by decrees and ordinances which contributed to the improvement of their product, which was the basis of their prestige and quality as workmen.

Due to the specialization of techniques and dexterity, the decrees set up the following groups: Hammerers or Gold-Wire Drawers, who were in charge of hammering out the gold and silver; Silversmiths or Relief-Workers who did repoussé work and engraving; and the Plain Silversmiths who besides doing repoussé and engraving, worked gold and mounted precious stones.

The workmanship of the Viceroyalty craftsmen was perfect and beautiful requiring a faultless technique and numerous precision tools, most of which were of iron and steel, usually made by hammering or malleted. These tools were of various forms and weights; there were hammers for engraving, for doing repoussé work, those called "*Peñas de bola*" or "*Peña recta*" and numerous awls and chisels for different uses, according to which

they were called "*cercadores*", a kind of blunt chisels, "*uñetas*", a stone cutter's chisel, "*organetes*", "*planetes*", etc. Even at that time they mixed rosin with brick and fodder dust for doing repoussé and chiseling; forges and bellows and also metal hearths, all made up the equipment of the Mexican metallurgist.

The most outstanding guild in New Spain from the beginning was that called "The Noble Art of Metalwork". Even in the sixteenth century it required that the shops be located at the end of the street of San Francisco, which led right into the Plaza Mayor, which at that time, even as today, was one of the most centrally located streets and one of prestige. It was given the name, "Street of the Silversmiths". In the seventeenth century the best metalworkers were gathered there and the Dominican, Thomas Gage, was so filled with admiration that he said, "in less than an hour you can see work that is worth millions in gold, silver, pearls and precious stones."

The payroll of the metalworkers of the Viceroyalty is one of the most complete and detailed lists that exists as regards arts and crafts. Some of the most outstanding names are: Hector Mendea, who worked in 1525 as "Fiel Contraste", in charge of seeing that gold pesos were legally made according to the ordinances. Alonso and Esteban Franco were stampers and assayers of gold and silver in 1531. Alonso gilded the ciborium which in 1543 was given by the Marquesa del Valle, the wife of Cortés, to the Temple of San Francisco in Cuernavaca. Juan Torres in 1587 finished the ciborium for Archbishop Pedro Maya de Contreras according to the sketch made by Diego de Pesquera. Felipe de las Casas was a silver apprentice in 1588 and years later was the Mexican proto-martyr, San Felipe de Jesús, chosen by the guild as Patron of Metalworkers in the seventeenth century. Cristobal Tercero made the elegant litter for the procession of the Virgen de los Remedios in 1618. Luis de Vargas was the author of the famous gold and enamel image of

the Asuncion for the Cathedral of Mexico. Juan Gutierrez, in the middle of the seventeenth century, worked actively in the same cathedral. Alonso de Aviles, craftsman of both gold and silver, made the numerous gifts that in 1701 were offered by the "Very Noble and Faithful City of Mexico" to the Illustrious Archbishop don Juan de Ortega y Montanez for having been named Viceroy of New Spain. Nicolas Pocero was a famous metalworker in 1703. Francisco de Estrada made the huge lamp of the main altar for the Cathedral of Mexico. This lamp was used for the first time on August 15, 1733. Juan Maria Ariza, a metalworker and craftsman in precious stones from Puebla, made a most outstanding shrine for the Cathedral of Angelopolitana, the richest of New Spain, made before that of Taxco and used for the first time on Corpus Thursday in 1727. Manuel Vallido was greatly admired in 1758 for his magnificent work in engraved and repoussé silver, and among many others who are very well known we should mention: Pedro Marquez, Alejandro Anas, Antonio Camano, and Jose Maria Rodallega who worked at the end of the eighteenth and first part of the nineteenth centuries.

Especially outstanding among the metalworkers of the Viceroyalty Period is Jose Luis Rodriguez Alconedo who was shot during the fight for National Independence. His work is considered to be some of the most important as a forerunner of modern metalwork. Among his most outstanding contributions are a bas-relief of engraved and repoussé silver in Neo-Classic style, allegory of Charles IV, signed and dated by the artist himself: "Jose Luis Rodriguez Alconedo, native of Los Angeles, June 1, 1795, aged 32 years." This is on exhibit in the Hall of Jewels in the National Museum of History in Chapultepec Castle. Another work of art is the center of a book cover for the Old Testament which is worked in hammered and engraved silver. This belongs to the same museum.

The silver used by the metalworkers for the Viceroyalty was of very fine quality in order to meet the ordinances and this law was rigidly enforced by the inspectors and the "Fiel Contraste". For that reason, all Colonial art pieces show not only a trademark of the craftsmen and testers, but also type molds of the city as well as a mark of the silver taken by an assayer for testing to determine the legal weight and the "Royal Fifth." Trademarks usually consist of a capital M with an O on top, the punch of a flying eagle and the initials or names of the silversmiths.

FORM AND DECORATION OF MEXICAN METALWORK

The indigenous theme runs like a thread through popular Mexican metalwork and as in all Mexican arts and crafts following the Conquest, the Indians knew how to leave their unmistakable stamp whether they were independent workers or worked under European leaders. Thus certain old styles continued for years, even in articles of mestizo manufacture.

We know something of the Precolumbian metalwork through the Kingsborough Codex and by descriptions left by the chroniclers and even Cortés himself. The latter sources mention especially the pretentious table services which were lavishly manufactured with no thought of conserving money or metal; also the famous gold and silver chains proudly displayed by the captains and soldiers of Conquest times. One of the most outstanding pieces is the legendary votive-offering representing a scorpion, regally worked in gold and set with precious stones. Cortés offered this scorpion to the Virgen de Guadalupe de Extremadura as a token of his gratitude for her having saved him from the fateful poison of that animal. Examples of work during the following transitional period do not exist today but they must have showed hybridization which took on variations in form and decoration with time and eventually became the exuberant baroque style when the Spaniards and Mexican mestizo worked together. This style was modified in turn even as the Indian elements were being incorporated, by gradual infiltration of European forms and techniques.

The absurd law that prohibited the Mexican Indian from working silver, seriously restrained the Precolumbian style, and as a result, this style along with certain techniques, so admired by the Spanish Conquistadores, was forgotten and magnificent pieces such as Dr. Alfonso Caso uncovered in Monte Alban were no longer made. Nevertheless, the "lost wax" method of casting of the American Indian was the technique preferred by the European for making the most delicate objects in the Viceroyalty Period.

On the other hand, numerous craftsmen who came to Mexico in the first century of the Viceroyalty, Spanish, Portuguese, Italians, etc., introduced European styles dominated by the renaissance traditions of the Benvenuto Cellini School. These objects were decorated with Near Eastern motifs, as was Arfe work, which exercised such a great influence on Spanish metalwork at that time. In spite of the current trend, European crafts in New Spain absorbed something of the Indian design, which together with baroque forms which began to prevail in the first part of the seventeenth century, resulted in an exuberance, perfection of technique and unusual design of the ultra-baroque style of the eighteenth century. The plasticity of these pieces is noteworthy and they show extreme skill of workmanship, enhanced by the chromatic richness of enamel and precious stones.

The most outstanding shapes used in metalwork during the Viceroyalty are the following: that of the squash, undoubtedly of Precolumbian inspiration as is borne out by one found in Tomb 7 in Monte Alban, which is later repeated in the Tabasco bowls called "Tachuelas." Another is the traditional religious European "shell" which gave rise to the gadrooning of plates and trays; the moldings and profiles of Chinese platters inspired by Oriental form and reminiscent of baroque clusters and interlocking designs which were used so much on holy vessels. Geometric entwining of Mohammedan style are

also found. All these forms, taken independently or combined, together with the stamp of Mexican tradition were used for decoration and ornamentation in metalwork during the Viceroyalty Period, which produced some unusual forms such as the saucer with the holder for a chocolate cup, a special type of filigree which can be considered mestizo. This began as an aboriginal technique which decorated jewels with gold wire soldered on later by welding or by threads of wax or waxed cotton, which were put on the mold as in the "lost wax" method. The European style of decorating jewelry using threads or cords of precious metals also played a part in the development of filigree technique. This art is so firmly rooted that it is still done today in certain parts of the Republic and is found in the traditional jewelry of Hue-tamo, in parts of the States of Mexico, Puebla and Veracruz. Some of this work constitutes most outstanding examples of popular art in metalwork and jewelry, which developed in the nineteenth century and modern times.

The "silver lump" sculptures, or "plata pella" are typical examples of popular Mexican metalwork of the middle of the nineteenth century. These are basically small figures modeled from a mixture of silver and mercury which can be worked as easily as clay. The modeled figure is fired in order to eliminate the mercury, and a solid consistency remains which looks porous and granular. This may be polished and painted. Aside from the merits of the technique of manufacture and plasticity of these small sculptures, their charm lies in the sentimentality and simplicity of theme. Most deal with popular Mexican life with its customs and picturesqueness. Popular art, responding to an eagerness to depict the typical Mexican taste, reaches truly noteworthy heights in sculpture, when making busts of popular heroes or artistic imaginary work and we must not forget to mention the small figures used in Nativity scenes.

There is no way of knowing just where the first figures

of this technique and type were made, but probably they come from the mining towns of Central Mexico where they had the advantage of using the mercury amalgamation method. It may have been Guanajuato, as some of the best "silver lump" figures signed by Cristiano Ramirez in 1893 come from there. These bear a marked resemblance to the clay figurines from Guadalajara.

There have been two outstanding decorative styles in contemporaneous Mexican metalwork, aside from the European imitations. The first of these is the floral motif which consists mainly of roses surrounded by leaves and distributed in zones, especially along the edges of plates and even on pitcher handles, thus almost completely ignoring the geometric and renaissance decoration and even the rococo, which was so popular during the latter part of the eighteenth century. On a few pieces moldings and ribbed motifs were combined with flowers and leaves.

The second style is Prehispanic in design and symbolism: Mexica, Maya, Tarascan, etc., at times committing disconcerting errors by mixing motifs in a confusing fashion. These mistakes are especially noticeable when dealing with a large Precolumbian form which is distorted out of proportion when drastically reduced in size for a decorative motif on silver. Certain Mexican motifs have been overworked such as the Aztec Calendar, or the Sun Stone. This has been completely mutilated and greatly simplified in an effort to save work and the trouble of ornamentation.

Some articles decorated in Precolumbian style are far cries from the original creations of the handsome ancient jewelry. However, one must recognize that some show admirable skill and with a little thought and study these could be made in good taste with an artistic refinement that would compensate for form and decoration.

POPULAR JEWELRY

True skill has been exercised in using Precolumbian motifs on jewelry; sometimes this is called Neo-Indian. In this field popular Mexican jewelry shows the impact of tradition and background and has achieved some outstanding creations. The old art of stone setting has also been revived and obsidian, "black onyx", malachite, and various jadeites are constantly in use. Mosaic work is also found today, using turquoise, lapis lazuli, mother-of-pearl and abalone shell. The craftsmen are quick to take advantage of the matrixes and veining of the stone. Taste and refinement is shown in chamfering of engraved and repoussé work in silver on necklaces, bracelets, earrings, pins and rings of Precolumbian, Colonial or modern form. Copper veined turquoise is used north of Zacatecas together with Queretaro opals, Guerrero amethysts and topazes from various parts of the country.

Popular jewelry has produced excellent silver and copper gilded filigree. Especially outstanding are the dangling disk-shaped earrings taken from Precolumbian models from Oaxaca and the State of Mexico. There is no doubt but what Mexican metalwork has preserved its tradition by continuing to make certain forms such as the silver *cascales* from the Southeast, the coconut with silver trimmings and the Tabascan squash-shaped bowl, as well as through the silver and gold votive offerings popularly known as "miracles" which are for recognition of religious gratitude for some blessing. These figures, measuring from 4 to 5 cms. in height, have been known since the sixteenth century and are Spanish in origin. The same pattern, however, was also known in Precolumbian Mexico, where offerings were placed near the gods. The "miracle" of the end of the last century achieved unusual plasticity, showing remarkable strength and freedom of execution. These are examples of free expression and are removed from all academic norms and conventionalization. They

are done in repoussé and engraving, coined or cast usually in very small size and may represent very strange figures of men and women kneeling, cured eyes, arms, breasts, or legs; large hearts of perhaps 50 cm. in size; canes and crutches, revived animals of all kinds, automobiles, houses, keys and actually nearly any object of man's material culture. One can see primitive influence in these sculptured pieces. Brancusi and Henry Moore would be pleasantly surprised by many of them.

POPULAR CONTEMPORANEOUS METALWORK

In general it can be said that modern metalwork is flourishing at the present time, taking advantage of its splendid past. Silver production of Mexico has had an enormous increase as is proven by the extraordinary booms and discovery of silver-bearing deposits in the States of Guerrero and Hidalgo, which have allowed Mexico to maintain its position as the number one silver producer. This is also due to the new and constantly improving methods of extracting ores which permits the deposits to meet the needs of foreign markets as well as the domestic supply. New interest has also been stimulated by the revival of an aesthetic appreciation of Mexican art, which has increased the demand abroad. All of these things have led to a rise in silver production to the height of 200/100 from 1940 to the present time.

The local enthusiasm and interest in metalwork has greatly contributed to this revival, especially that found among well-to-do families who have started to use silver table services again as well as tea and coffee sets, cocktail sets, candlesticks and candelabras. The families of more moderate means have been acquiring bracelets, large rings, pins and necklaces.

CONTEMPORARY JEWELERS

The Mexican jewelers of today are newly trained, that is to say, over the last 40 or 50 years and they are students of popular artists such as Guevara, and Mendoza, who had maintained the craft traditions. One of the most enthusiastic promoters of these new Mexican

craftsmen is William Spratling who has trained a whole generation of silversmiths in Taxco.

Nevertheless, on the whole silversmiths today have trained themselves and created their own inspirations, not as in days gone by under the organized guilds when the metalworker was obliged to turn out articles in accordance with a set standard, and this was then examined to establish its legality or his right to start his own shop.

Some of the handicrafts are taught today in special or private schools, but the silversmith must rely on his own resources to learn and practice his trade. If he wants to progress he tries to learn to draw. Or he may be content with the basic principles of the trade and search for artistic trends, trying to attain his desired profit. As the traditional Mexican silversmith he continues to be a talented and energetic jeweler in his trade. According to necessity he can cast or beat metal, do repoussé work or engraving with chisel, burin or weld.

In Mexico City, silversmithing is so firmly established that in spite of the social, political and economic changes the country has gone through, this craft is always latent and rides the greatest historical crises with spirit and strength often coming out ahead by receiving added stimulus. And just as during the Viceroyalty and the nineteenth century, there was a group of very important silversmiths in Mexico City, so today there is a whole generation of skilled craftsmen who are keeping alive the tradition of that "Very Noble Art."

In the beginning of this century, F. Davis, one of the most enthusiastic promoters of modern silverwork, just as Mendoza and Lorenzo Rafael, has organized production along the most beneficial lines and he is responsible for the revival of many Mexican forms and decorations in metalwork. He increased domestic and foreign sales and helped create a new generation of silversmiths. These

together with many others have helped stimulate an appreciation of silver crafts which is now being eyed with pride and good taste. This is as true of the most luxurious silver shops in Mexico City as of the more modest establishments on the outskirts of town.

Silver articles may be produced in the workshop itself by a maestro and one or two assistants or in the huge establishments which control the greatest output. These employ numerous silversmiths and jewelers and have the most modern efficient equipment at their disposal. Such important houses as Sanborns, La Princesa, Ortega, S. A., have enormous silver workshops and factories such as Argenta, Milton, Barrera, Conquistador, Vigueras producing unlimited quantities for the market. Large institutions have been formed such as the "National Industrial Union of Silver" and "Metalworkers Guild, S. A." which have workshops which are of great national significance as regards the Mexican silver market.

Similar phenomena have taken place in Puebla where the making of religious articles of silver has been continued. There, magnificent chalices, ciboriums and shrines are turned out.

In Oaxaca, aside from filigree products, they have continued to make jewelry and other objects showing influence of the archaeological pieces found at Monte Alban, Mitla. One of their best known craftsmen, Ortiz, makes very fine reproductions of the jewels found in Tomb 7, Monte Alban.

Perhaps the greatest enthusiasm for metalwork is found today in Iguala, where, as in ancient times, gold and silver articles are sold on market day, "the tianguis", and these metals are also used for the exchange of goods.

The silversmiths in Tuxtla Gutierrez and San Cristobal in the State of Chiapas turn out very delicate pieces which show a marked local flavor.

In Patzcuaro, there is a very special silver tradition inspired by the lake and its fauna. Necklaces are made of synthetic corals which are unusually decorative. The beginnings of this craft are to be found in the Tarascan tradition and in the teachings of Vasco de Quiroga.

TAXCO, TOWN OF THE SILVERSMITHS

Contemporaneous silver work has had an extraordinary boom, not only in large populous cities such as Mexico, Puebla and Guanajuato, but in the last few years, the quaint colonial village of Taxco has been turned into a town of silversmiths and jewelers. Here one finds a living example of the revival of the whole Mexican silver tradition, with exquisite techniques and symbolism of Precolumbian days, with its handsome mestizo ornamentations of the sixteenth century or exuberant baroque style of the Viceroyalty. The latest trends in techniques and decorations of European craftsmen which so impressed the Mexican artists in the nineteenth century can be found in Taxco. It has taken the best elements of these traditions and little by little has arrived at a genuine Mexican style which we can call a Taxco product. William Spratling and his students, the Castillos, Pineda and many others have created a style and a silver school of outstanding achievement which is typically Mexican.

In the Villa de Borda, small jewelry is made along with larger traditional pieces, which reflect a local flavor and special technique of manufacture.

The process of fusing metals has been revived in Taxco. This consists of soldering sheets of silver, copper and brass to form geometric or naturalistic designs using Precolombian hieroglyphs or symbols. In order to join these metals, the pieces have to be expertly cut and hollowed out and fitted together. The principal merit of this technique lies in the process of fusing metals with

different coefficients and this is achieved by bellows and the appropriate heating process. Finally to this new technique has been added an alloy of nickel, iron and silver which makes a new chromatic element. Pitchers, jars, plates, trays, cigarette boxes, pins and other jewelry are all produced in this manner.

Taxco jewelers have a decided knack for decorating their products and are distinguished for their originality and use of ancient designs. Evidence of this is the work on "black onyx" pins which are reproduced in silver even to the degree of showing the mold-marks of the Precolumbian examples in clay. They also know how to use designs and zoomorphic forms of Pre-Conquest times such as the plumed-serpent, tiger heads, and eagles. Mosaic work in turquoise, lapis lazuli, mother-of-pearl, malachite and abalone shell is beautifully mounted and the color of each has been used to its greatest advantage.

Stone work, an ancient craft which almost died out in the nineteenth century, has been revived in Taxco with the same strength and skill of former native craftsmen. This is stone-setting, using obsidian, onyx, diverse jadeites and malachites, beautifully worked and mounted. The beauty lies not only in the stone but in the cutting and polishing. Here too one can distinguish ancient forms and designs together with baroque styles of the Viceroyalty Period and modernistic trends.

Jewelry imitating wrought iron has also been well received, among these objects they have made necklaces, bracelets, rosaries with large crosses, votive offerings and religious articles which vaguely resemble Spanish-Indian work during the first years of the Viceroyalty Period.

Of late years, a Silversmiths' Fiesta has been celebrated in Taxco with great success. The aim is to improve production and stimulate the best styles. The high point of the celebration is the traditional silver contest with prizes given for the finest examples of craftsmanship.

The National Museum of Popular Arts and Industries also gives a special award for the best work in repoussé technique.

MECHANISM

There is a new and very significant element in modern silver production which is modern equipment. It has been shown that the techniques of manufacture have had an important bearing on the finished product from the beginning involving sheet metals, coining and milling machines, precision tools and new casting methods, all of which have added significantly to the technology and thus aided production.

MEXICAN METALWORK

In spite of the various historical phases through which Mexican metalwork has passed, if one makes a just aesthetic appraisal, he will admit that the history of silver and gold craftsmanship has been continuous, showing certain combinations of style, survivals and a logical development from ancient Precolumbian days up to modern times. Taxco, Puebla, Oaxaca and many others cities keep alive the silver tradition which has given to Mexico prestige and fame throughout the world.



Xiuhtecuhltli, gold pendant cast in the "lost wax" technique.
Mixteca Culture. Height: 10.5 cms. Width of base: 7.40 cms.
Col. Museo Nal. de Antropologia.



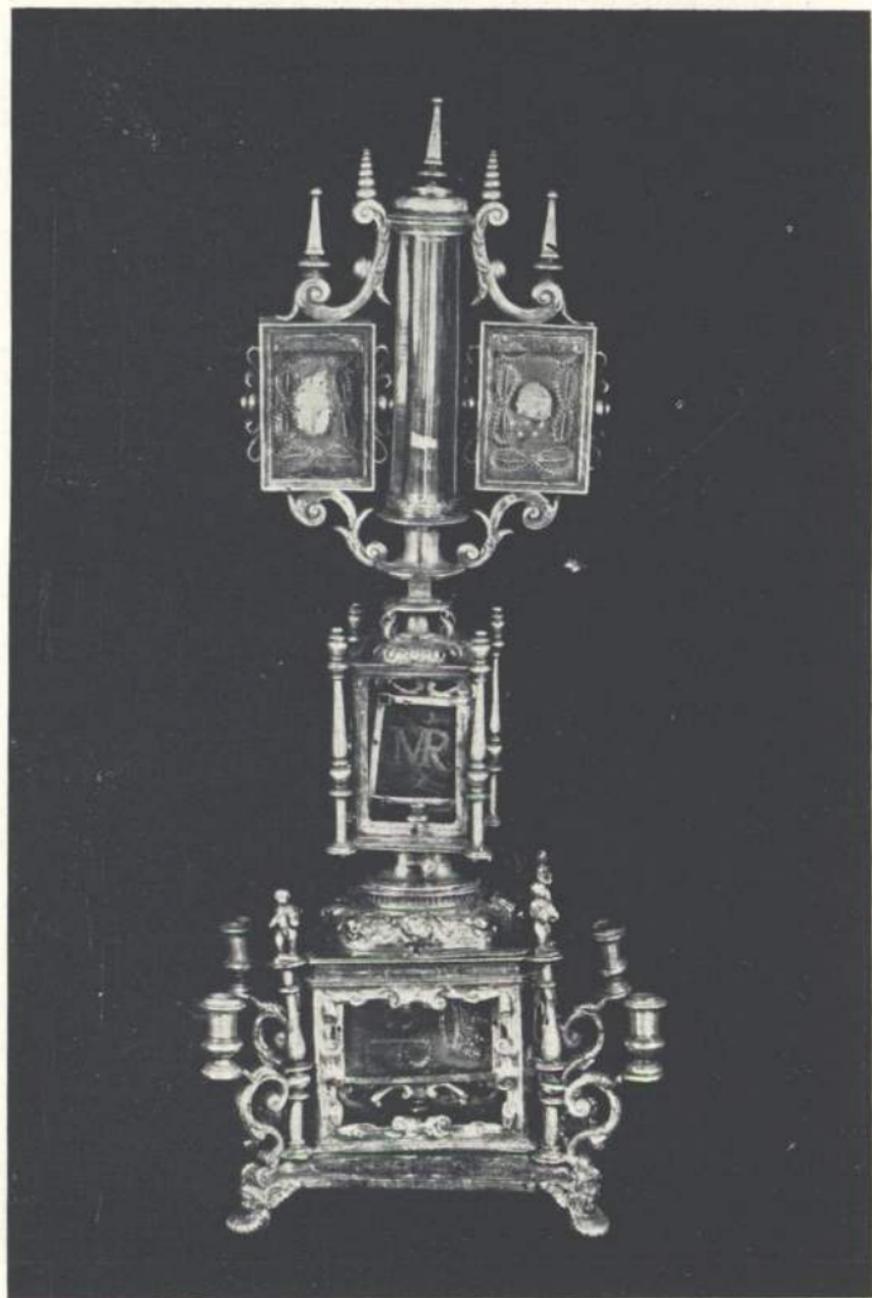
Fused gold and silver mask, cast in the "lost wax" technique.
Mixteca Culture. 4 × 4 cms. Museo Nal. de Antropologia.



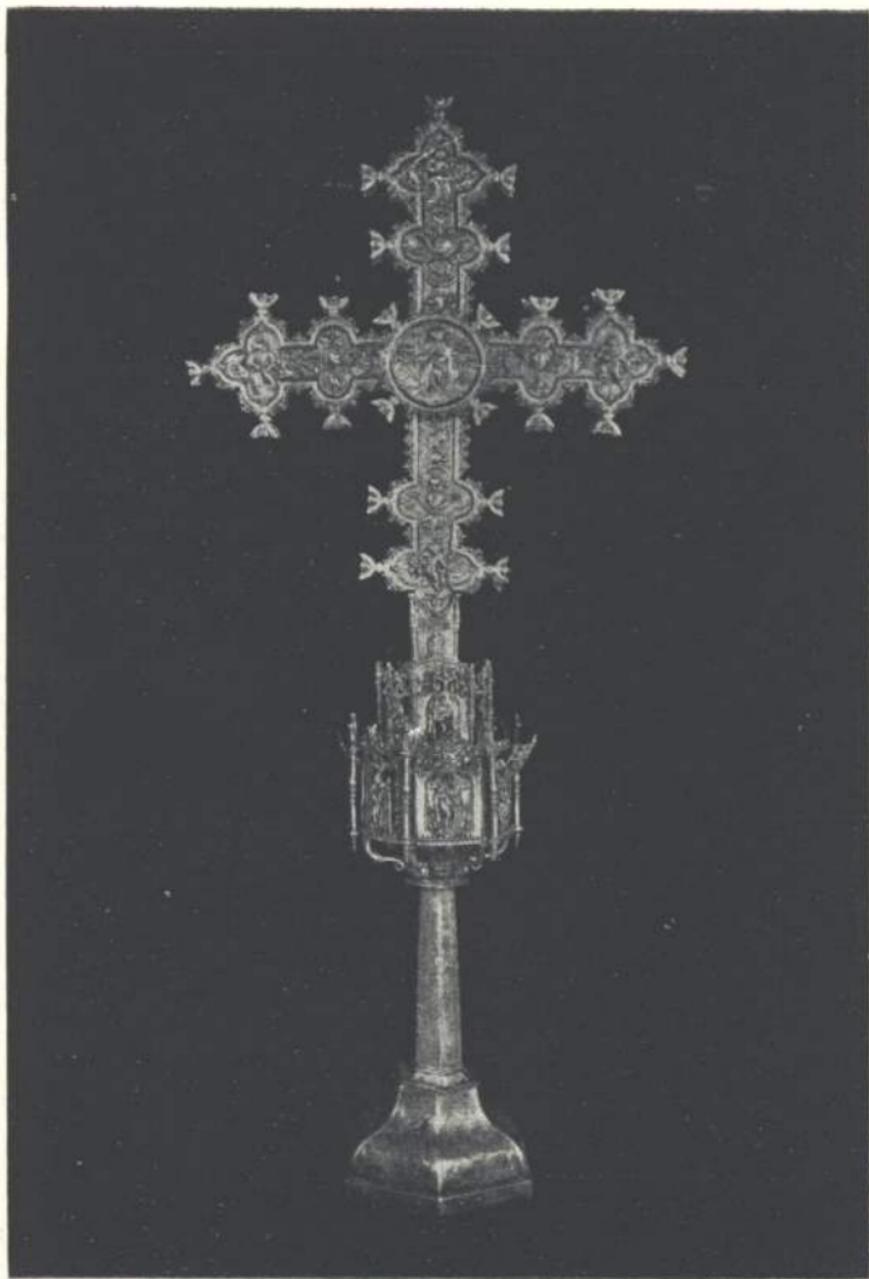
ive metalworker chiseling. Florentine Codex.

Night-stand lamp shade of repoussé silver work with engraved and chiseled designs. Plateresque style of sixteenth century. "Royal Fifth" stamp and trademarks. Height: 17.5 cms. Diameter at base: 12.5 cms. Col. Museo Nal. de Historia, Chapultepec.





Reliquary candelabra of engraved and repoussé silver; parts cast and gilded. Latter half of sixteenth century. Height: 48 cms. Col. Musco de Arte Religioso de Mexico.



Processional cross of repoussé work on silver with chiseled decoration. Parts are cast and gilded. Stamp of "Royal Fifth" and trademarks. Plateresque style. Sixteenth century. Height: 1.09 mts. Length of arms: 0.48 mts. Diameter of base: 0.18 mts. Col. Museo Nal. de Historia, Chapultepec.



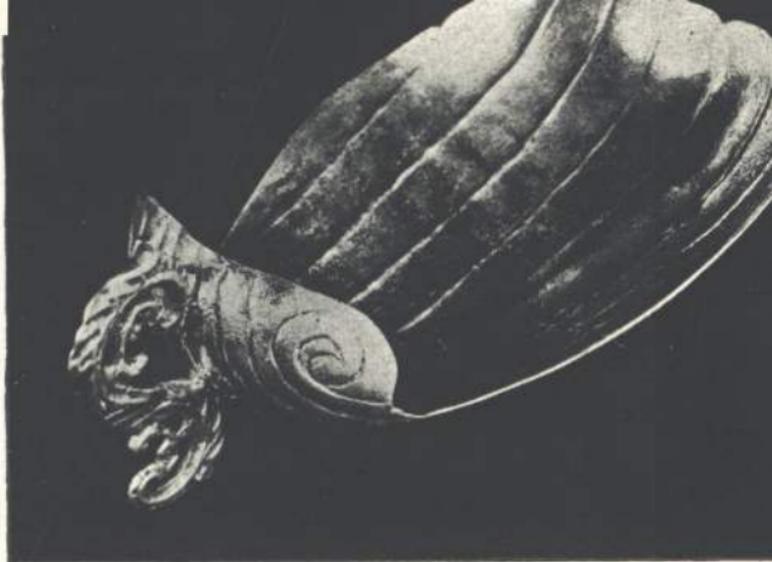
Detail of the processional cross.



Chisel decorated silver censer of baroque renaissance style. Seventeenth century. Height: 8.5 cms. Length: 15.5 cms. Diameter of the base 7.20 cms, Col. F. Mayer.



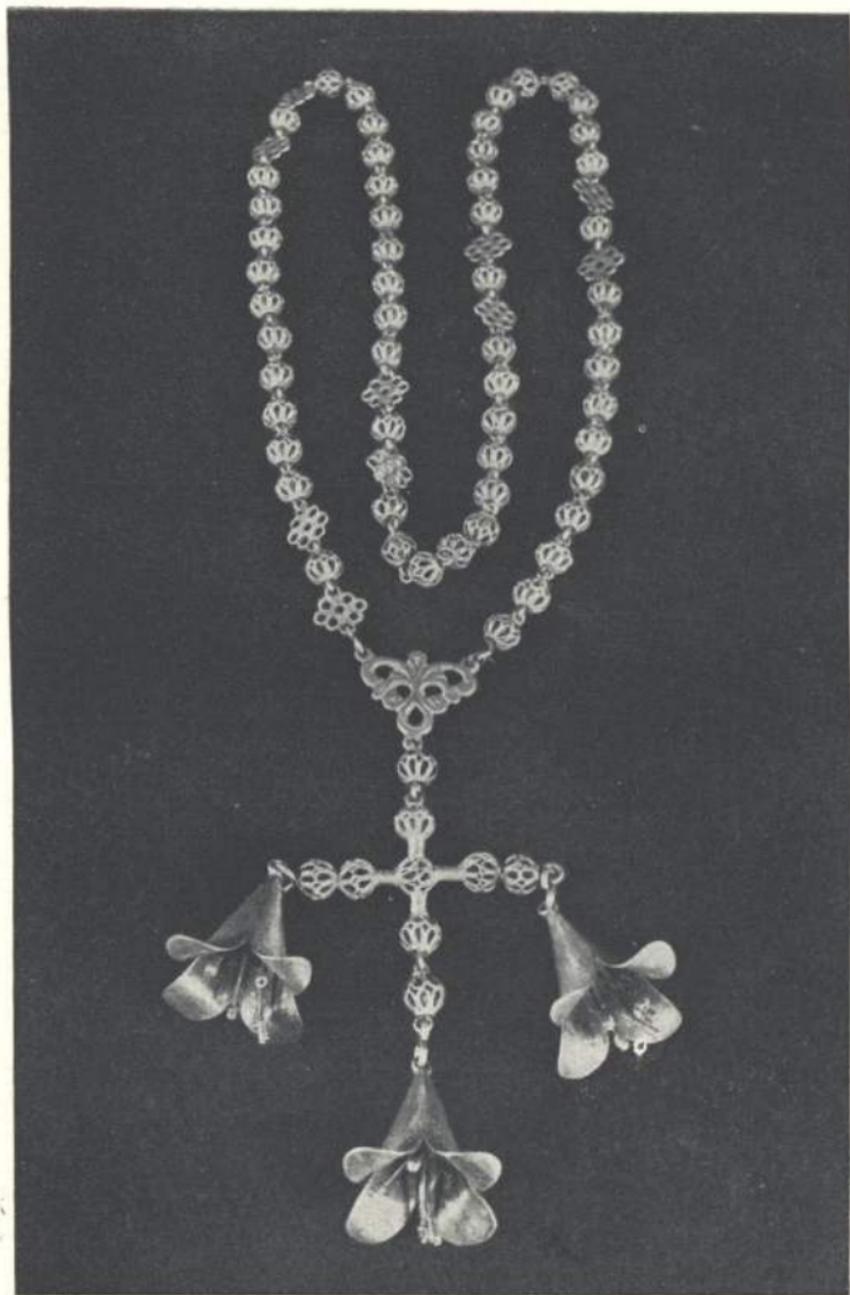
Scissors with hand-wrought iron blades and wrought silver lions decorated by chiseling, Spanish-Indian style, Seventeenth century. Length: 11.5 cms. Col. Museo Nal. de Historia, Chapultepec.



Baptismal shell of repoussé silver with cast and chiseled handle.
Baroque. Eighteenth century. Length: 22 cms. Col. Museo
Religioso.

Silver ostiary decorated in chiseled and repoussé technique, with
the inscription: TLAOLA A DE 1729. Diameter: 9.5 cms.

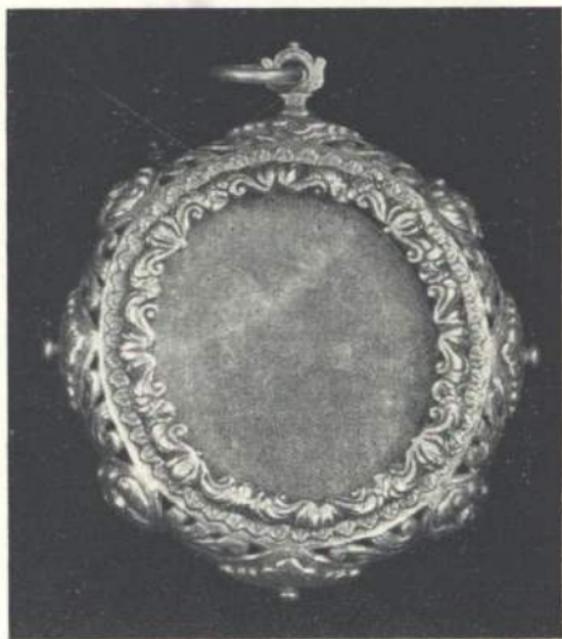




Rosary of hollow gilded beads. Popular jewelry of the eighteenth century. Length: 50 cms. Col. Museo Nal. de Historia, Chapultepec.



Collection plate of repoussé and chiseled silver with cast figures. "Royal Fifth" stamp. Eighteenth century. Diameter: 23.5 cms. Col. Dona Maria Josefa de Martinez del Rio de Redo.



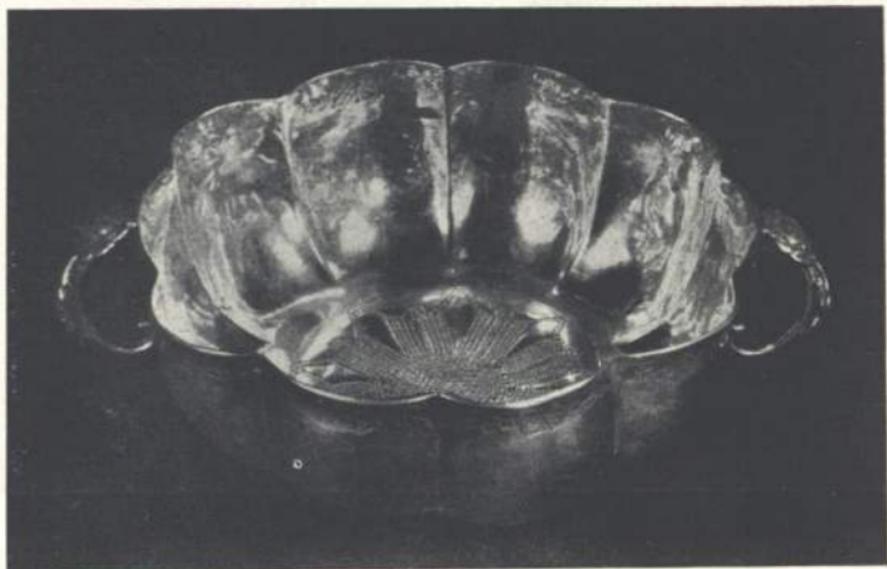
Gilded silver locket decorated in chiseled and repoussé technique. Baroque of the eighteenth century. Height: 8 cms. Width: 6.5 cms. Col. Artemio de Valle Arizpe.



Silver repoussé candlestick. Eighteenth century. Height: 39 cms.
Col. Museo de Arte Religioso de Mexico.



Silver collection plate decorated in repoussé technique with inscription and date: 1799. Diameter: 21 cms. Height: 16 cms.
Col. F. Mayer.



Silver bowl with chiseled and repoussé designs with initials: J.L.S. Diameter: 14.5 cms. Col. Dona Maria Josefa de Martinez del Rio de Redo.



Mirror with repoussé and chiseled silver frame with gilded cherubs. Last part of the eighteenth century. "Royal Fifth" stamp and trademarks. Height: 89 cms. Width: 58 cms. Col. F. Mayer.



Miter for a statue. Repoussé silver engraved and gilded. Baroque style with French influence. Eighteenth century. "Royal Fifth" stamp and trademarks. Height: 28 cms. Base; 15 cms. Col. F. Mayer.



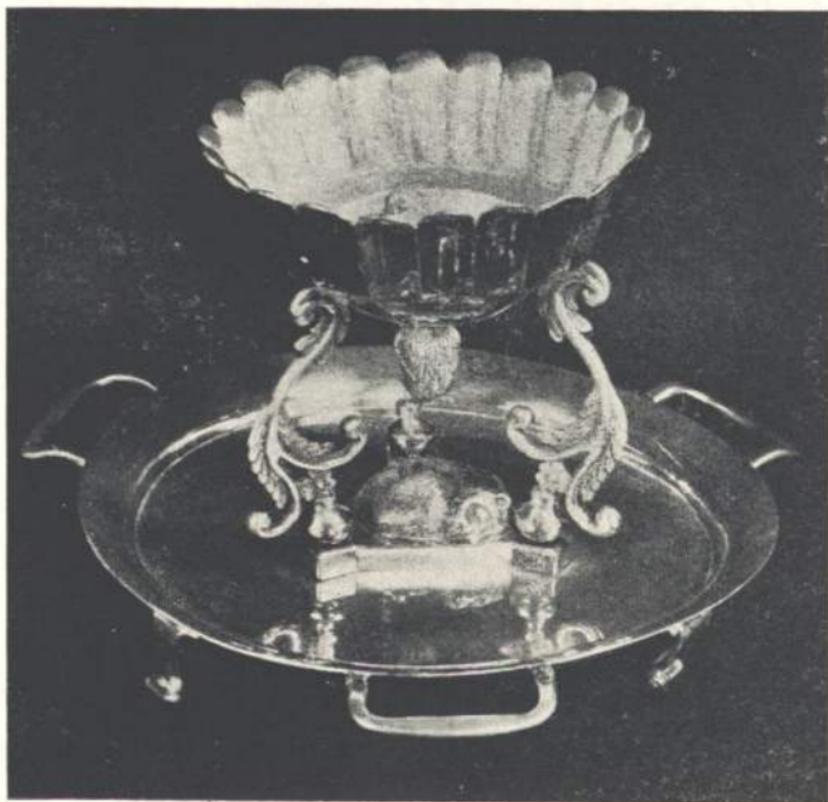
Holy water receptacle. Repoussé and chiseled silver, baroque style showing. French influence. Eighteenth century. Height 39 cms. Width: 24.5 cms. Col. F. Mayer.



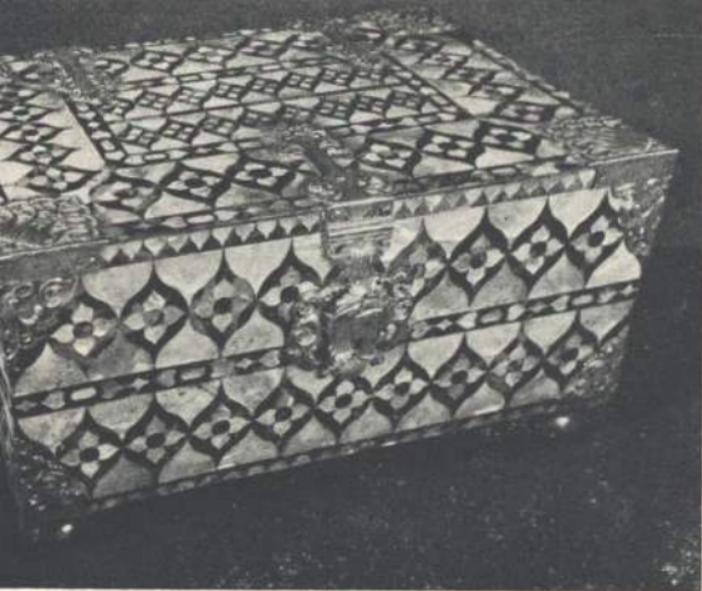
Repoussé and chiseled silver lectern decorated with two cherubs.
Eighteenth century. Height: 39 cms. Width: 29.5 cms. Col.
F. Mayer



Silver spray of flowers, repoussé work, trimmed and soldered. The receptacle is bronze gilded by heat. Eighteenth century. Height: 18 cms. Height of vessel: 11.5 cm. Col. Artemio de Valle Arizpe.



Brazier of cast and repoussé silver. "Royal Fifth" stamp and trademarks. Eighteenth century. Height: 15 cms. Diameter of base: 17.5 cms. Length of brazier: 11 cms. Col. Museo Nal. de Historia, Chapultepec.



Box incrustated with mother-of-pearl and tortoise shell; silver corners and hinges. Eighteenth century. Height: 28 cms. Length: 44 cms. Col. Museo Nal. de Historia, Chapultepec.

Tortoise shell box with silver trim. Nineteenth century. 6 × 10 cms. Col. Doña Rafaela Garcia Pimentel de Bernal.





Inkstand of repoussé silver. Neo-classic style of the beginning of the nineteenth century. "Royal Fifth" stamp and trademarks. Max. diam.: 21.3 cms. Min. diam. 11.5 cms. Height: 13 cms. Col. F. Mayer.



Silver case in the form of a fish with articulated head, scales and tail, alternating silver and gilded silver. Popular works of the nineteenth century imitation of Precolumbian pieces. Length: 12.6 cms. Col. Museo Nal. de Historia, Chapultepec.



Salt-shaker of repoussé silver with cast appendages, Neo-classic style of the beginning of the nineteenth century. Height: 16 cms.
Col. Dona Maria Josefa de Martinez del Rio.



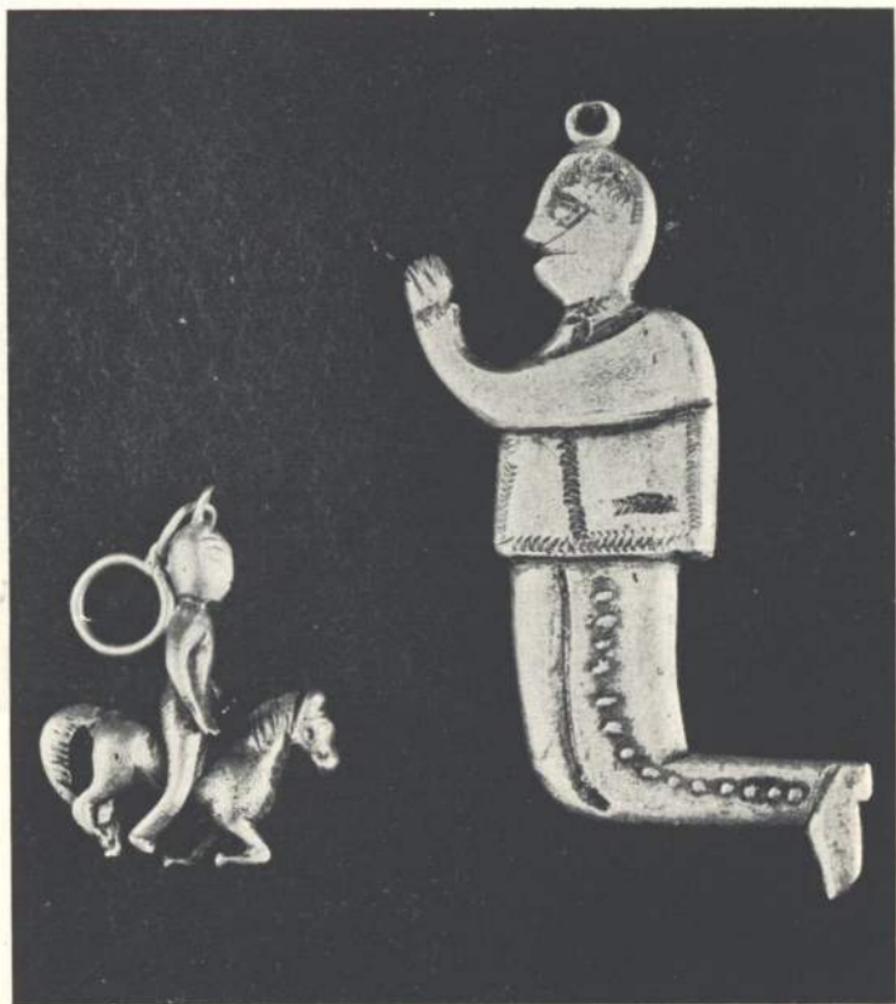
Silver candlestick with repoussé work and cast decorations. Neo-classic style of beginning of the nineteenth century. Counterfeit "Royal Fifth" stamp and trademarks. Height: 51 cms. Col. Dona Maria Josefa Martinez del Rio de Redo.



Silver rattle with wrought figures. Popular silver work of the nineteenth century. Height: 9 cms. Base of the figures: 4×5 cms. Col. Frederick W. Davis.



Hacienda de Beneficio de San Miguel Regla. Oil painting on canvas signed and dated "E. Landecio, made in Mexico, 1857".
63 × 46 cms. Col. Pedro Aspe.



Charros. "Miracles" or votive offerings in cast silver, hammered and cut. Height: 7 cms. Col. Museo Nal. de Artes e Industrias Populares



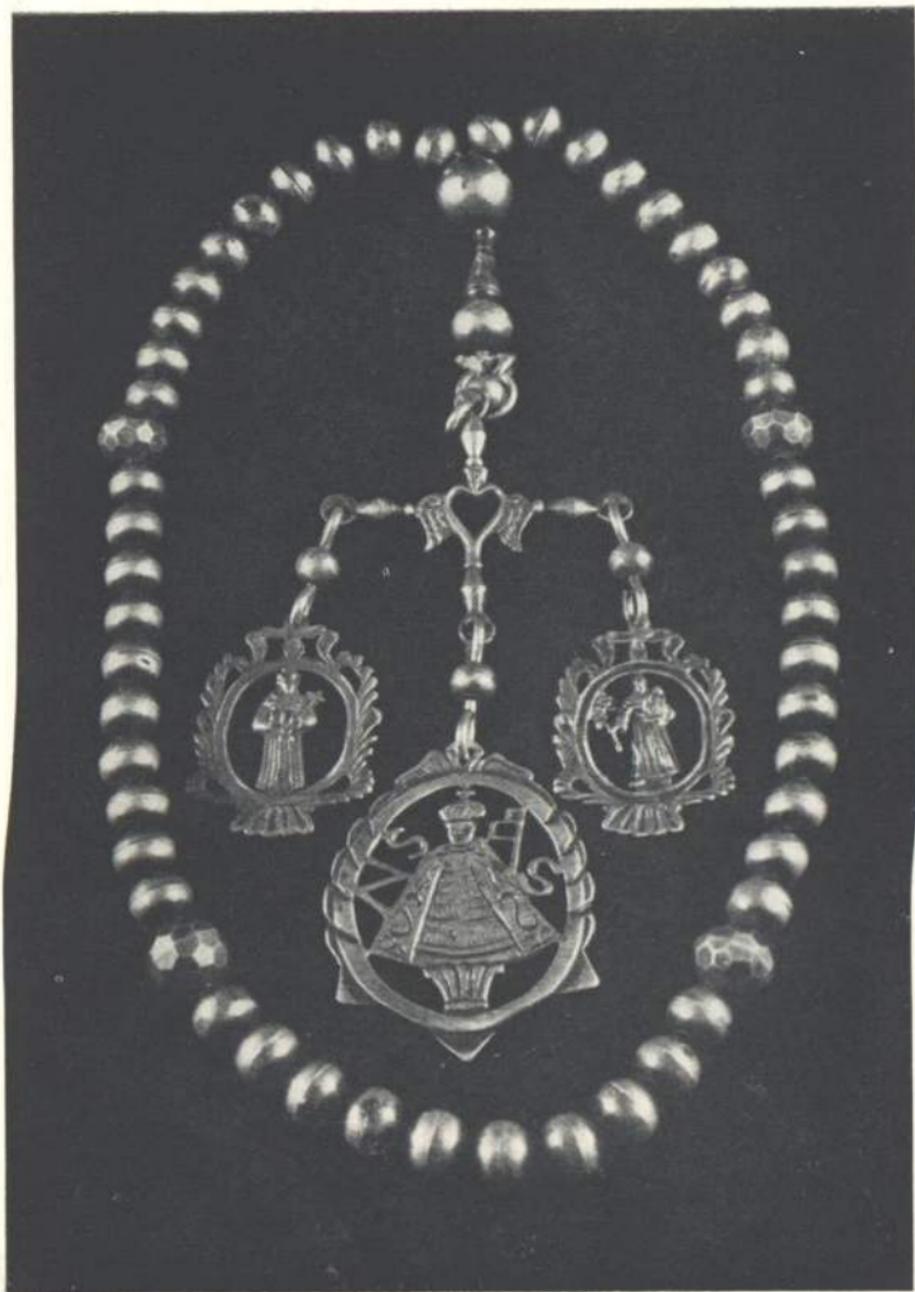
Silver pin gilded in various tones, Huetamo style. Popular jewelry.
Max. diam.: 5 cms, Min. diam.: 4.5 cms. Col. Museo Nal. de
Historia, Chapultepec,



Silver wire earring with superimposed figures. Popular jewelry from the State of Mexico. Diameter: 7 cms. Col. Frederick W. Davis.



Jarabe Tapatio. Silver lump figures. Work of Cristino Ramirez, awarded prize at the Chicago exposition in 1893. Height: 26 cms. Diameter of base: 29 cms. Col. Museo Nal. de Historia, Chapultepec.



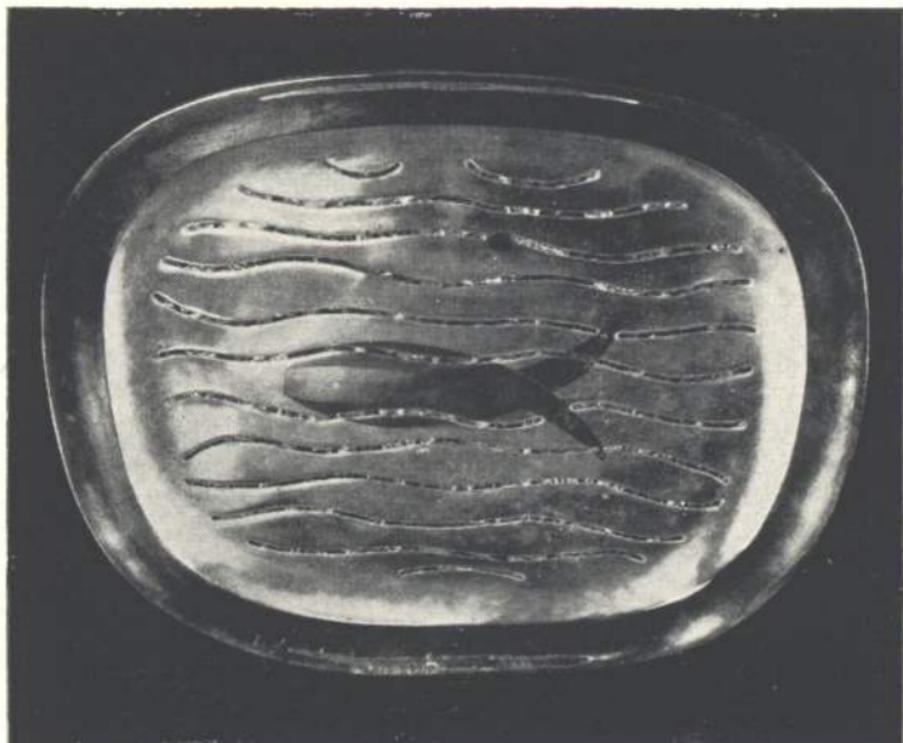
Silver beads with Yalalag style cross. Popular work of the beginning of the century. Length: 51 cms. Col. Frederick W. Davis.



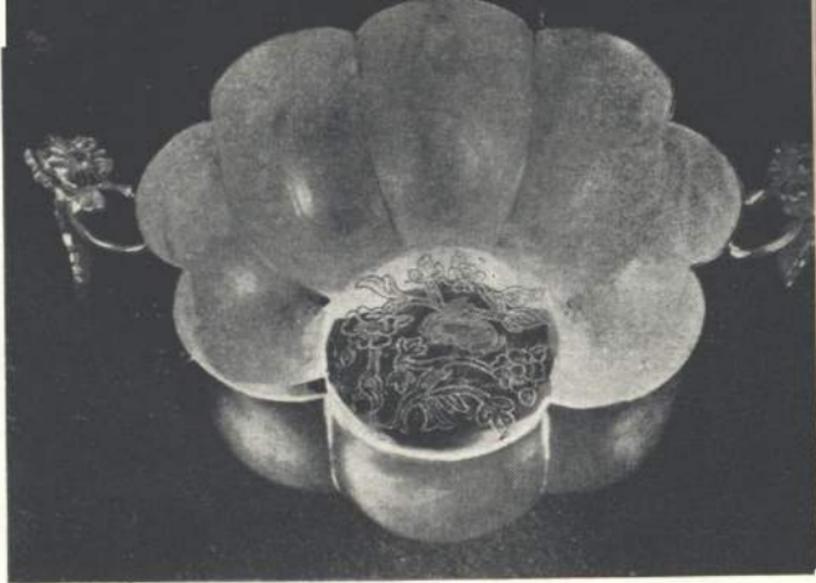
Silver fish necklace with imitation red corals. Modern jewelry of Patzcuaro, Mich. Length: 24.5 cms. Col. Museo Nal. de Artes e Industrias Populares.



Silver pin decorated with repoussé and chiseled techniques. Eagle design taken from a Precolumbian codex. Modern metalwork of Antonio Pineda workshop, Taxco, Gro. 6 × 8 cms. Col. A. Pineda.



Tray of fused silver and brass with abalone incrustations. Modern work of Antonio Castillo workshop. Taxco, Gro. Col. Antonio Castillo.



Bowl decorated with chiseled and repoussé techniques. Sanborn.
Height: 10.5 cms. Rim diameter: 18 cms. Col. Sanborns.

Silver tea service in repoussé and chiseled technique. Sanborns.
Length of tray: 61 cms. Height of teapot: 26 cm. Col. Sanborns.





Silver pitcher decorated in repoussé and chiseled technique.
Plateria Ortega, S. A. Height: 35 cms. Col. Plateria Ortega, S. A.

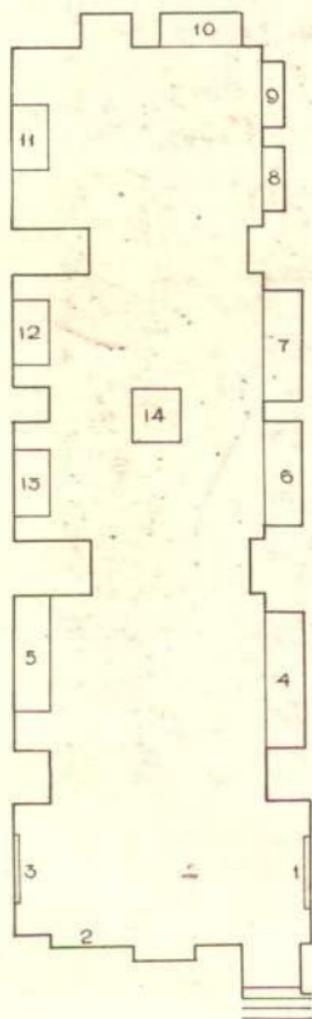


Silver cross decorated in repoussé and chiseled technique with incrustated amethysts and precious stones. Original of Matilde Lugenia Poulat. Height: 19.5 cms. Col. Museo Nal. de Artes e Industrias Populares.



Silver and lapis lazuli necklace. Modern jewelry by Piedra y Plata Martinez. Taxco, Gro. Length: 20 cms. Col. Piedra y Plata Martinez.

EXHIBITION: SECOND FLOOR



- 1.—Wall photograph:
Street of the
Silversmiths in the
nineteenth century.
- 2.—General explana-
tion.
- 3.—Votive offerings:
silver "miracles".
- 4.—Popular metal-
work.
- 5.—Metalwork and the
Mexican Charro.
- 6.—Spratling.
- 7.—Pineda.
- 8.—Frederick W. Davis
- 9.—Piedra y Plata
Martinez.
- 10.—Los Castillo.
- 11.—Sanborns.
- 12-13.—Ortega Silverwork,
S. A.
- 14.—Matilde Eugenia
Poulat.



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E INDUSTRIAS POPULARES