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Recovering the activity in a
Sixteenth-century Mint***

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The Segovia Mint Project: Recovering the activity in a Sixteenth-century Mint

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INTRODUCTION

The message of this paper, we hope, will be of particular interest to the participants of the International Congress on Money Museology. Our goal is the conversion of what is probably the world's oldest, still standing, industrial manufacturing plant – the Segovia Mint – into a world showcase for numismatics and historic minting technologies. Of prime concern is the recovery of the historic activity of the plant, which in the future will produce artisan medallic issues, accompanied by certificates of origin, stamped on handmade paper, all produced while visitors watch, in the authentically recreated sixteenth century workshops, and sold in the Museum Gift Shop generating financial resources to cover operational costs. The challenge of creating such a museum from scratch means we will need the expertise and backing of ICOMON members. We invite comments, suggestions and letters of support.

BRIEF HISTORY OF MINTING IN SEGOVIA

The coining industry in Segovia has a long and fascinating history which goes back to the times of Roman occupation when a bronze as was struck between 30 and 20 B.C. which bore the name Segovia. Today, these coins constitute the oldest known testimony of the name of the city.

During the times of the Reconquest in 1136 A.D., Emperor Alfonso VII made a donation of one quarter of all the coins struck in Segovia for the construction of the city's first Cathedral. This donation provided jobs and prosperity and promoted Christian settlement in the city as the Moors continued to be pushed southwards. The document of this donation is the oldest known written testimony of the coining industry which later became so important to Segovia.

In 1455, King Henry the IV, also known as the Segovian King since he resided here and was quite fond of the city, constructed a new mint whose coins were the first to use the city's aqueduct as the mintmark. This symbol became known around the world since it appeared on every coin struck in Segovia for more than 400 years. This mint, known as the «*Old Segovia Mint*», was located in the upper walled portion of the city and continued to produce coins until 1681, always using the crude hammer-struck method. It was officially decommissioned in 1730.

The new mint in Segovia – the REAL INGENIO DE LA MONEDA, or Royal Mill Mint – whose planned restoration today is the subject of this paper,

was founded in 1583 by King Philip II. It was built at a different location within the city – on the banks of the Eresma River – and characterized by an entirely different method of industrial production which employed huge waterwheels to power state of the art machinery designed to produce a more perfect coin. What's more, the Real Ingenio was owned and operated by the Royal House, the same institution which managed the royal sites and palaces, while all the other mints¹ were under the jurisdiction of the Council of the Treasury. For 147 years (1583-1730), Segovia had two totally different mints.

NEW TECHNOLOGY BROUGHT TO SEGOVIA

The origins of the Royal Mill Mint can be traced back to around the mid 1500's, when German technology began to replace the ancient hammer-struck method of coining in use since the dawn of coinage around 700 B.C. This new method employed rolling machines which were driven by giant waterwheels for the purpose of flattening the strips of metal to a uniform thickness as well as for rolling the coin design onto the strips. The reasoning behind the new technology was to produce a more perfect coin which would thwart the clipping of bits of metal from the irregular edges of hammer-struck issues as practiced by unscrupulous individuals who would then return the underweight pieces to circulation. The new invention was oriented more towards security issues than aesthetic or speed of production matters as many authors have proposed.

This new process arrived quickly in Spain as a result of the Hapsburg royal family ties. Towards the end of the year 1580, Spanish King Philip II negotiated several agreements on troop manoeuvres and artillery production with his cousin, Archduke Ferdinand of Tirol, who, pleased with the outcome, gave several of these new coining machines to Philip II for use in Spain to help process gold and silver brought from the New World. Much of this gold and silver wound up being sent as coinage to Tirol and other allied regions as payment on Spanish debt, thus the quality of Spanish coinage was as vital an issue outside Spain as it was within it. The machines for Philip II were built in the Hall Mint, near Innsbruck, Austria, and in February of 1582 special technicians were sent to Spain to prepare for their transfer and installation.

At first, it was thought the machines should be installed in Seville where the galleons unloaded their ingots and the metal could be immediately struck into coinage. Several other sites were also considered, such as Lisbon (then under Spanish rule), Toledo and Madrid. But in May of 1583, an old paper mill on the Eresma River in Segovia was chosen specifically by King Philip II as the site for his new mint. In a letter to officials in Seville, the King explained his reasoning for having chosen Segovia as the site for the new mint, reminding them that

« through the use of coinage contracts are created, for which taxes and other fees are levied... and by concentrating all the coinage in Seville its extraction by foreigners would be facilitated due to the proximity of the port and other circumstances, depriving the citizens of its usage, which can be avoided by minting in the interior of the peninsula, where the coinage would be spent and distributed for the benefit of all. »ⁱⁱ

Work on the new building began on November 7, 1583, using plans drawn by Juan de Herrera, the most famous Spanish architect of all time, who had met with the King and the German technicians at the old mill site to jointly decide procedures. On June 1, 1585, the new machinery arrived in Segovia in what is now considered to have been the largest and most important expedition for the transfer of industrial technology ever undertaken up until then. The first trial pieces rolled off the machines within four weeks of their arrival and by March of 1586 the Mint had begun regular production of coins.

The novel German technology as applied in Segovia was capable of producing very large and nearly flawless coins. This was in part due to the enormous pressure applied to the metallic strips, but even more so because this pressure was applied not all at once, but progressively along a narrow band only where the roller-dies came in contact with the strip as it passed between them. This enabled a perfectly uniform image of the entire coin surface to be rolled onto strips of exactly uniform thickness. To the contrary, the old hammer-struck method utilized blanks of random thickness, and the entire coin image rarely, if ever, appeared on each piece, depending on variables such as the flatness and roundness of the blank, the angle of the hammer's blow, the force which each coiner was able to wield etc. The best example of the maximum effectiveness of this new technology are the giant cincuentines (50-reals, silver) and centenes (100-escudos, gold) 76mm in diameter, only capable of being produced at the Segovia Mill Mint.ⁱⁱⁱ

Coins from the Segovia Mill stood out in commerce and were readily accepted for their face value, unlike the crude hammer-struck pieces produced at the other mints which were always being clipped and filed, forcing merchants to weigh each coin in order to calculate its true value. This is particularly important when one considers that the Spanish real 8 was the standard of those times for world commerce. The unmistakable quality of its regular issues, as well as the prestige gained by its giant 50-real and 100-escudo pieces made the Segovia Mill Mint a world famous landmark, a notoriety still recognized today in numismatic circles.

The Royal Segovia Mill was the most technologically advanced mint in Spain up until 1700 when modern screw presses were installed at the mints in Seville and Madrid. Beginning in 1730, only copper issues were

produced in Segovia, while Madrid and Seville struck only silver and gold. This mandate was part of King Philip V's centralization plan which at the same time permanently closed all the other Castilian mints, though many of these had already ceased production. The Segovia Mill Mint produced coins over a 282 year period, from 1586 until 1868, finally being closed in February of 1869 due to the inauguration in 1861 of a large, centralized, steam-powered minting facility in Madrid.^{iv}

HISTORY OF THE MINT AS A FLOUR MILL

In 1869 the Segovia Mint was finally closed, stripped of all its machinery and the building put up for auction with an appraised value of 353,087 pesetas. No bids were offered. After several more unsuccessful auctions over the following years, the building was finally awarded to a sole bidder of yet another auction in 1878 for 191,000 pesetas. The new owner converted the historic Mint into a flour mill which opened in 1879 and functioned until his death in 1890, passing later to several heirs who eventually lost the property in seizure due to other unrelated outstanding debts (fig.1).

In 1902 the property was put up for auction, this time with an appraised value of 108,541 pesetas. No bids were received on this or the second auction, but on the third attempt a sole bidder offered 35,000 pesetas and in 1903 was awarded the title. This owner also operated a flour mill in the Mint, which he inaugurated in 1907. After his death, the heirs sold the property for 112,500 pesetas in 1932^v to another individual who continued the flour milling business until 1972, when the building was once again put up for sale, apparently receiving little interest, at first, from prospective buyers.

EARLY EFFORTS TO RESTORE THE MINT

The first proposal to restore the Mint for cultural purposes was made in 1955 by Rafael Duran, technical engineer of the Madrid Mint, who proposed the building be *«restored respecting the minutest details, just as it was originally conceived, and converted into a museum where coining technologies could be demonstrated as well as offering an exposition on the importance of our coinage during the Spanish Empire»*.^{vi} But Duran's good idea would have to wait nearly 20 years before government officials would begin to take note.

In 1974 the Director General of Fine Arts announced that several administrations had begun contemplating the acquisition of the Mint – then up for sale – in order to create the *«National Museum of Numismatics»*.^{vii} Unfortunately, however, this news sparked the interest of a private individual who on July 3, 1976, purchased the building, much to the surprise of government officials. After numerous unsuccessful attempts

over a period of 13 years to negotiate with the individual for the acquisition of the property, Segovia City Hall finally expropriated it in 1989. The owner subsequently submitted an appraised value equivalent to 11 million Euros in 1990 against City Hall's appraisal of less than 1 million Euros at the time of expropriation. These drastically divergent figures have until this very day – along with a continuous stream of recourses filed on part of the private owner against the legality of the procedure – effectively prevented any restoration from taking place. Today, the property technically belongs to City Hall, but the final acquisition price has not yet been decided by the Tribunal.

Over the past twenty-something years, different mayors of Segovia have attempted to promote the restoration of the building. While most of these plans have in one way or another respected Rafael Duran's original idea for a numismatic museum, none really contemplated the unique idea to restore the Mint to a functioning workshop for the production of pieces which could be sold to help finance the museum's operation. It goes without saying that the general concept of a numismatic museum is that of one which houses display cases filled with coins. This is why the many different attempts to create a viable project inevitably called for the installation of other unrelated activities as well as coin displays in the building.

In 1986 plans called for turning over practically the entire building to the International University of Menendez Pelayo for the installation of classrooms, administration offices and student dormitories. The expropriation file drawn up in 1989 also called for the installation in the Mint building of the much sought after future Public University of Segovia. In 1997, the mayor announced he was contemplating turning the historic Mint into a hotel and restaurant management school, and indeed proclaimed he would allow any possible usage to be applied to the building if it proved to be the key to accomplish its restoration.^{viii} Regional Government officials also confirmed in 1997 that the definite usage for the building had yet to be decided and that the University option seemed to be the best alternative. Even today, certain forces in Segovia are trying to reserve the historic Mint building for a residence hall for the S.E.K. University^{ix} and to house the future Public University of Segovia.

In regards to all of these plans, it goes without saying that classrooms or dormitories could easily be located in any of the other numerous abandoned historic structures in the city, or even in a newly constructed building, while the bona fide reconstruction of a sixteenth century mint can only be recreated in its original building. Numismatists and museum experts alike should take note, before uninformed city officials and special interest groups dedicate the building to usages which have nothing to do with its historic function, depriving mankind of one of the most important monuments of the World's Industrial Heritage, which also just happens to

be a mint. The importance of the site as a unique historic monument should be the overriding factor in all considerations as to its future usage.

OLDEST EXISTING MONUMENT OF THE WORLD'S INDUSTRIAL HERITAGE

Part of the problem creating confusion among local and regional politicians regarding the future usage of the Mint stems from the fact that the monument is of the non-traditional type; in other words, it is not a cathedral, palace, castle, monastery, etc., but a historic industrial manufacturing plant. Only very recently has international restoration criteria defined the importance of the recovery of industrial monuments in accordance with the original usage of the site. This aspect is of utmost consequence when we consider the historic value of the Segovia Mint and its present condition of being virtually intact as it was hundreds of years ago. Add to this fact, the lack of knowledge regarding numismatics, minting and coinage among the general public, and the traditional tendency for numismatists to focus their attention on coins while often ignoring the factories in which they were produced, and we have the makings for a disaster of irreparable consequences: the loss of the educative qualities of one of mankind's most important monuments.

The Royal Mill Mint of Segovia was one of the first examples of a truly complex, mechanized industrial manufacturing plant in the history of mankind. Today, the building is considered to be the oldest original example in the world, still standing complete and intact, of a structure specifically designed as a mechanized and departmentalized industrial manufacturing plant. It goes without saying, that its ability to educate present and future generations as to the technological advancements of civilization is enormous. In these respects, we should consider the value of the Mint building, and minting in general, as a showcase for portraying one of the earliest phases in the industrialization of our planet.

To develop this idea in a museological and chronological sense, we should ask: just what exactly is an industry? The experts assure us that the first industry developed by civilization was agriculture, and as a logical extension, the grinding and preparation of agricultural products. Obviously, this activity did not require specially designed and constructed buildings for production purposes.

Much later, civilization developed artisan industries or handicrafts: the production by hand or with simple tools, of textiles, paper, glass, metals, and even coinage, which was invented around the year 700 BC and first produced by the hammer-struck method. Coins are considered the first industrial product mass produced in series according to exact specifications which were regulated by governments. But these early, non-mechanized,

industrial activities remained basically artisan crafts and none required specially designed manufacturing plants.

Given the importance of a product with such rigorous controls as the production of coinage, its industrial process rapidly developed into what is considered to be the first «*complex*» or «*composite*» industry: one requiring a highly specialized and differentiated labour force composed of expert technicians for each aspect of production; among the most skilled being: smelters, refiners and assayers to prepare the metal, engravers to prepare the punches and dies, weighmen to operate the balance scales for weighing brute metals and coins before and after striking, and blanchers to give the final product a brilliant lustre. But there were also many other officials, some named directly by the king, such as the treasurer, and others that ranged in importance from accountants, guards, constables (many mints had their own jails and independent justice systems) overseers, scribes, and gatekeepers, to coiners and common labourers. Other early industries, basically artisan crafts, could be performed from start to finish by one person working alone, and thus are termed as being «*simple*» industries.

The famous Pragmatic of Medina del Campo (June 13, 1497) can be considered the most complete and detailed ordinance ever legislated until then which regulated a «*complex*» industrial product and its manufacture in Spain. This document regulates not only the highly skilled and diversified labour force of all Spanish mints as well as exact product specifications – coin weight, fineness, design, legends, etc. – but also creates the first guarantees which are to appear on each individual piece manufactured: the assayer symbol which guaranteed the coins fineness, the mint mark indicating the specific industrial plant where the product was made, the denomination number representing the weight that each piece was to have, and even the king's bust, name, and country of origin, all of which were guarantees of the product's backing. This ordinance, given over 500 years ago, represents a major milestone in industrial development and the advancement of civilization, as applied to the manufacture of the first, truly «*complex*» industrial product: coinage.

Taking all the above into account, it shouldn't surprise us that when mechanical methods are first introduced in the manufacture of complex industrial products, that one of their first and most important applications would be to improve the quality of the most carefully regulated and controlled item produced in those times: coinage. In these regards, we should remember that the very ancient practice of mechanically grinding agricultural grains was an activity which never went beyond a «*simple*» industrial process even if the grindstone was powered by a horse or a waterwheel. This is witnessed by the fact that neighbours of a millhouse usually took turns, one at a time, grinding their own grains. In grain milling and other artisan type activities, there was no need for a

differentiated and specialized labour force, nor for a departmentalized plant or factory building.

In Segovia, the building in which the new minting equipment would be installed was designed and built by Spain's most prestigious architect of all time, Juan de Herrera, who counted on the continuous assessment of German technicians who had come in 1582 specifically to assist in the selection of the most ideal site and the construction of what would be the most modern and important mint in the entire world, logically, for the most powerful ruler of those times who also had the largest quantity of gold and silver to be struck into coinage. A second team of German technicians rolled the first trial pieces off the mills in Segovia in July of 1585, and thus debuted the most sophisticated mechanized industrial manufacturing plant ever built.

While the other European mints which had similar machinery (around a half-dozen or so) were old and simple structures which were reformed and adapted for the installation of these mechanized systems, the structure in Segovia was designed and built from the start as a truly modern, departmentalized, factory. The original design of the building took into account the specialized machinery used for each step of the production line. Giant bellows driven by waterwheels blasted air into the smelting furnaces; rolling-mills – also driven by waterwheels – processed the metal strips with smooth rollers until the desired thickness was attained. Other mills with engraved dies, rolled the coin design onto the metal strips. There were lathes, also driven by waterwheels, which were used to form the steel rollers and dies for the mills; levered cutting machines which punched the coins from the strips after they had been rolled with the coin impressions; the most intricate balance scales ever designed to weigh ingots and coins; and an endless list of other tools and implements which were already being used in the traditional mints.

The Segovia plant was carefully designed in order to distribute each phase of the production in departments which permitted a logical progression of the work in the same way that modern factories are designed around the production line. In an identical way to modern factories, the Segovia plant manufactured – mechanically – millions of identical pieces in series.

If we consider the specialized field of each factory technician; the detailed nature of the ordinances that regulated the work force, manufacturing process and product quality; the appearance for the first time in history of a product guarantee on each individual item produced; the sophisticated nature of the machinery that was brought to Segovia from thousands of miles away and enabled the manufacture of products which were unalterable by a particular fraud which had plagued the traditional product ever since it was first invented; and that all this was installed in a building specially designed from the beginning in departments that qualified as a

true production line in which millions of identical pieces were manufactured in series – all in the year 1586 (hundreds of years before the beginning of what is considered the «*industrial revolution*») – it leaves us no doubt that that we are dealing with one of the first, truly modern, industrial manufacturing plants in the history of mankind, and as such one of the most important milestones in the technological development of civilization. But perhaps the most remarkable thing about the Segovia Mint, is that the physical structure remains standing today, virtually intact, just as it was designed more than 400 years ago. Various factors have coincided in the survival of the Segovia plant, while many other historic industrial buildings in the rest of Europe, among them other mints, have disappeared or suffered major alterations. Very few industrial plants – new or old – survived the bombing suffered by Germany and surrounding countries during the wars of this century. Urban development in Europe has also done away with many old industrial plants which, unfortunately, have never received the respect given to other historic buildings such as palaces, castles, cathedrals, etc. In fact, it has only been in the past 20 years that man has come to recognize historic industrial buildings as an integral part of his Historic Heritage and an indispensable testimony to the development of civilization!

Contrary to the cases mentioned above, Segovia has never suffered major destruction in any war, and its population is barely over twice what it was 400 years ago. The scant urbanization that has taken place in Segovia has all been in the southern districts of the city, while the northern side has remained virtually as it was centuries ago, thanks to the steep valley of the Eresma River which has acted as a shield in the protection of the Mint. As we mentioned previously, coin production lasted in the Mint until 1868 and shortly thereafter the building found a new use as a flour mill, an activity which did not require major alterations of the building for its implantation. In fact, the building has been meticulously cared for up until the closure of the flour business in 1972. Its total abandonment since then has been its greatest enemy in all of its existence, a problem exacerbated, as we mentioned above, by a general disdain towards industrial monuments in favour of the more traditional types, which are more than abundant in Segovia.

If we consider that coin manufacturing was the most highly developed industry in the sixteenth century, that there were only a half-dozen or so factories similar to the Segovia plant of prior construction, none having been as technically designed or surviving intact and unaltered until today, we arrive at the conclusion that the Segovia Mint is quite probably the oldest industrial manufacturing plant still standing in the world. As such, it constitutes a truly unique monument in the category of the world's Industrial Heritage, and thus fully deserving of a restoration carried out with the utmost scientific considerations taken into account, with the end

result aimed at being a tool for educating present and future generations as to the history of the technological development of mankind.

RESTORATION AS PROPOSED BY FRIENDS OF THE SEGOVIA MINT

The Friends of the Segovia Mint Association, founded in 1993, continues to promote the restoration of the historic Mint building as an artisan medallic production facility, a «*living*» or dynamic museum, where medals and commemorative issues would be produced by the hammer-struck, rolling-mill and screw-press methods. Visitors would watch the entire process from an elevated walkway in the workshop, and the pieces would be sold in the Museum Gift Shop and through distributors. Of primary concern is the attempt to re-establish the historic purpose and function of the monument with an adaptive reuse which not only demonstrates and teaches the specialized area of production, but which also results in an end product capable of being sold to help finance operational expenses.

This concept, in perfect compliance with the most up to date strategies recommended by conservation experts for the preservation and promotion of the world's Industrial Heritage, is based on the idea that Rafael Duran suggested in 1955. In 1988, Ron Landis, founder of the Gallery Mint Museum in Arkansas, USA, assisted the author of this paper to further develop the Segovia Mint workshop idea. The result, titled «*Project Segovia '92*», included a detailed plan for the reconstruction of the Mint for production purposes. From 1991 to 1996, the Fundación Casa de la Moneda (cultural foundation of the Madrid Mint) financed the research of historic Mint documents^x necessary for the complete knowledge and correct interpretation of the Segovia Mint in order to enable a proper and scientific reconstruction of the building and its contents.

In 1997, after the mayor of Segovia announced he would allow any usage, including student dormitories, to be applied to the Mint if it were the key to its immediate restoration, the Friends of the Mint Association resubmitted the minting workshop proposal to City Hall, this time including the idea that the restoration be geared towards the possible presentation of the new euro coin at a ceremonial inauguration of the Mint in January of 2002. The restored Mint would provide a perfect showcase for the general public's understanding of the history of coinage, and the distinction and notoriety gained by the Mint among the general public for its participation in the euro-related events would be the best possible publicity for the new Museum.

In spite of all the numismatically oriented proposals, when the Ministry of Development finally bid out the Basic Architectural Project for the reconstruction of the building in July of 1998, the only guideline given to the architectural teams was a one sentence description that specified that the monument would be used for «*numismatic and other cultural*

activities». As a result, the team that won the bid had included the following statement as the first paragraph of its proposal:

«The guidelines for proposals on the bidding, lacked the normally specified program for the future usage of the building, which is logically needed in order for the architect to develop and justify his proposal. This important aspect was left out, presumably for a deliberate reason, thus leaving the future usage up to the imagination of the architectural team. The numerous inquiries made to the responsible administrations (Segovia City Hall, regional Government of Castile and Leon, and the Ministry of Development), were of no help in defining the program of future usage for the building».^{xi}

In order to correct this unfortunate situation, originating from a lack of coordination on the part of Segovia City Hall when confronted with the restoration of a building of profound scientific importance, as opposed to other buildings typically restored in the region, the Friends of the Mint Association has proposed the creation of a «*Scientific Committee*», composed of various experts, which would design the future minting workshops and other activities to be installed in the building, oversee their installation and coordinate the start-up of production. The new mayor and city council members elected in June of 1999, have accepted this idea with great enthusiasm and are currently setting the groundwork for the establishment of such a committee.

Aside from the Scientific Committee, a general governing body would be needed for the operation of the future Museum. This could be a Foundation, Consortium or another type of legal entity which could carry out fund raising, administer product sales, lease the proposed restaurant to a local operator, etc.

PROPOSED USAGES FOR THE MINT BUILDINGS (fig.2)

BUILDING 1

This entire building (parts a & b) would receive a temporary interior configuration, specially designed for a large exposition on the PAST, PRESENT AND FUTURE OF COINAGE IN EUROPE which would be on display during the entire year 2002, in coordination with the launching of the EURO and the transition period from the old currencies to the new one. Early in 2003, the interior of this building would be redesigned to reflect the permanent activities of the Mint Museum, as follows:

- The high, brick-domed ceilings in the room where the old foundry ovens were located would make this area particularly attractive as an display hall for travelling or temporary exhibits.
- This area historically contained the treasury, weighing room, storage area, offices, and living quarters for the mint employees. Plans call for

a specialized library and research centre, conference hall, and multi-use lecture rooms to be located here.

BUILDING 2

This building was the old paper mill that King Philip II bought in 1583 as the location for his new Mint. Since a specially designed structure was built to house the coining equipment, the King decided to lease this building out to private individuals who continued milling paper there during the first several years of the new Mint's operations.

Proposed plans call for this building to be converted into a restaurant with an outdoor terrace, which would be leased to a private concern for its operation. The restaurant would have views of the river from its windows, and the tables on the terrace would provide a captivating view of the Mint's huge waterwheels as they slowly turn in the shadow of the City's castle which looms overhead. The decor of the restaurant and the terrace would have as its theme «*HISTORIC WATERWHEEL TECHNOLOGY*» and be in and of itself a «*free*» technological exposition. The restaurant concession is designed to inspire frequent visits by the local population and thus effectively incorporate the Mint into the life and routine of the city. This would in turn, guarantee a stable flow of visitors in the patio area of the complex enabling it to remain open, free of charge^{xii} in accordance with the hours that the restaurant is in operation.

BUILDING 3 (fig.3)

This structure, designed and built by Juan de Herrera, is where the coining machinery was located in the past. The requirements of the reconstructed water-powered machinery dictate that all the production oriented workshops be located in this building, alongside the canal which feeds the waterwheels. A visitors' ramp on the upper level would allow a safe and comfortable view of the workshops as production is taking place below. Planned workshops include: hammer-struck coining, waterwheel-driven coin rolling, screw-press coining, a blacksmiths and foundry workshop, a handmade paper workshop and engraving and stamping workshops. Most of these workshops will be able to be rebuilt in nearly the exact position shown on historic mint plans.

In regards to the proposed workshops, we should mention that the roller-die coining method was used at the Mint from 1586 to 1770, and the screw-press method from 1772 to 1868. The hammer-struck method was used at the «*Old Segovia Mint*» from 1455 to 1730, but never at the Royal Mill Mint. We have added it simply to round out the offering. The Mint always had a blacksmith shop where tools, replacement parts for the machines, dies, etc. were made. Prior to the founding of the Mint in 1583, there was a paper mill on the site, which continued to function, by express order of King Philip II, until 1590, a full four years after coin production had begun. And during the reign of Charles III an engraving school with a

printing shop was established in Segovia; its director was the engraver of the Mint.

BUILDING 4

This building, which originally contained the superintendent's office and guard post, is of special importance due to its strategic location at the entry and exit point to the Mint complex. For this reason, the proposal calls for the Museum Gift Shop to be located on the ground floor level, while the upper level would house the Museum administration offices and the School of Engraving Arts which would be closely linked to the engraving and stamping workshops of the dynamic or living Museum.

BUILDING 5

The old stables adjacent to the Mint's private garden provide an ideal area, detached from the rest of the complex, in which a small residence, with a dozen or so rooms, could provide accommodations for guest lecturers, visiting artists, craftsmen and other professionals invited to collaborate on a temporary basis with the operation of the workshops and other programs the Mint would offer. The building would have a common area where simple meals – such as breakfasts – could be prepared with basic kitchen equipment, and fireside chats shared by the guests. This feature would be a great cost-saving device for the Museum, enabling it to avoid the expense of hotel costs for invited guests and professionals.

ZONE 6

This outdoor area still maintains intact the canals where the giant wooden waterwheels were located, so that their drive shafts could supply the power for the coining machinery in the adjacent building number 3.

The restoration proposal calls for this area to remain basically as it was centuries ago, with four reconstructed and fully functioning waterwheels forming an outdoor exhibit tied in with the theme of the restaurant and its tables on the terrace: HISTORIC WATERWHEEL TECHNOLOGY.

ZONE 7

This outdoor area is formed by the Mint's private garden and the split-level central courtyard patio as well as the vast area surrounding the Mint complex itself.

The private garden could serve as an auxiliary function to the residence centre for invited guests, located adjacent to its entry. It could also serve as a prestigious outdoor setting for special Mint functions and gatherings, and could be rented for private parties and gatherings.

The central patio area would remain open to the public, free of charge, during the hours of operation of the restaurant and terrace. Permanent access to this interesting patio area means that the inhabitants of Segovia

would be able to incorporate a «*visit*» to the Mint in their traditional daily stroll, already very popular in the surrounding greenbelt park area, perhaps having a coffee, snack or lunch at the restaurant. Keeping the patio open as a function of the restaurant hours would also mean that the tourist who happened to come on a day that the coining workshops may not be in operation, would not find the Mint totally «*closed*». The area surrounding the Mint complex would be incorporated into the greenbelt public park area which runs up and down the river from the Mint itself, and is the city's largest and most popular park.

ARTISAN PRODUCTS TO BE MANUFACTURED AT THE SEGOVIA MINT (fig.4)

MEDALS

- Copper, silver and gold.
- Hammer-struck, roller-die, and screw-press methods.
- Commemorative issues, special series such as the castles and monuments of Segovia, etc.
- Specially designed and produced issues by contract for any purpose, such as: congresses, special events, awards, weddings, etc.

HANDMADE PAPER

- Cards for certificates of authenticity and origin which would accompany medals.
- All types and sizes of paper needed to supply the engraving and stamping workshop at the Mint.^{xiii}
- All types and sizes of blank paper for sale as individual sheets or in bulk.

METAL AND BLACKSMITH ITEMS

- All basic tools for use in the Mint's workshops.
- Any and all types of marketable metal items which could be produced in the blacksmiths workshop.

ENGRAVING AND STAMPING PRODUCTS

- Engraving of punches and dies used in the coining workshops.
- Engraving of plates for stamping certificates on handmade paper, which would accompany the medals as guarantees of authenticity and origin.
- Engraving and stamping of any type of item by contract, on handmade paper from the Mint: wedding announcements, all types of invitations, customized cards, etc.
- Production of all types of artistic engravings, mainly resulting from the work of students of the Mint's Engraving School, which could be sold in the Museum gift Shop.

SOURCES OF INCOME FOR THE MUSEUM

- Sale of items manufactured in the workshops.
- In the Gift Shop of the Museum.
- By catalogue, mail order, internet, etc.
- By distributors or other agents.
- Sale of other goods in the Museum Gift Shop.
- Lease of the restaurant concession.
- Entrance fees to visit the workshops or dynamic museum.
- Rental fees for use of conference centre, private garden, lecture rooms and temporary exhibition space.
- Courses, lectures, seminars and training in the artisan crafts performed at the mint (coining, blacksmiths, papermaking, engraving, etc).

OTHER ACTIVITIES AND PROGRAMS

- School of Engraving Arts.
- Library and research centre for all specialized topics related to the Mint, such as: numismatics, history of minting, economic and monetary policy, historic waterwheel-driven industries, and all of the artisan crafts performed in the Mint's workshops (engraving, papermaking, etc.).
- Courses, lectures, seminars and training in the artisan crafts performed at the mint.

PRESENT PROJECT STATUS

In April of 1998, a three-way agreement to restore the mint was signed between the regional government of Castile and Leon, the Spanish Ministry of Development, and Segovia City Hall. The first two administrations pledged to finance the complete restoration of the Mint buildings and grounds,^{xiv} while City Hall pledged to acquire the title to the property.^{xv}

The Basic Architectural Plan was bid out this past summer and was presented just a few weeks ago. The general ideas presented by the architectural team coincide perfectly with those promoted by the Friends of the Segovia Mint Association over the past decade. However, as we have mentioned, they lack the definitive museology and artisan workshop layout which can only be decided by a committee of scientific experts, which is presently being formed. Once this layout is decided, the definitive Architectural Project can be drawn up and the restoration contract bid out. Ministerial sources estimate the restoration itself will take from one and a half to two years to complete, not including the equipping of the buildings or the reconstruction of the production workshops.

The agreements signed thus far will leave us with an acquired and restored, but empty building, financed entirely by the public sector. The Association has proposed that the equipping of the buildings and the

artisan workshops be funded by big business sponsors from the private sector which would be sought as participants in conjunction with the ceremonial presentation of the euro at the Segovia Mint and the proposed exposition on the PAST, PRESENT AND FUTURE OF COINAGE IN EUROPE.

The future Segovia Mint Foundation or Consortium would be in charge of raising the funds needed for equipping the Mint Museum including the selling of shares or stocks in the future operation and management of the entire complex, ranging from the leasing of the restaurant concession to the marketing of manufactured goods. Traditional museum-type holdings such as collections of coins and related items displayed in viewing cases are not thought of as a primary concern. On the contrary, emphasis will be placed on the true-to-life recreation of the sixteenth century workshops, including waterwheels, and all the other necessary fully-functioning machinery, put to use for production purposes and for generating financial resources.

The challenge of creating such a museum from scratch means we will need the expertise and backing of ICOMON members. Once again, we invite comments and suggestions. Your letters of support would be most valuable in helping create a dossier which can be presented to businesses of the private sector as we seek funding for the equipping of the buildings and the start-up of the museum and workshop operations.



Fig.1 Casa de Moneda de Segovia en 1870

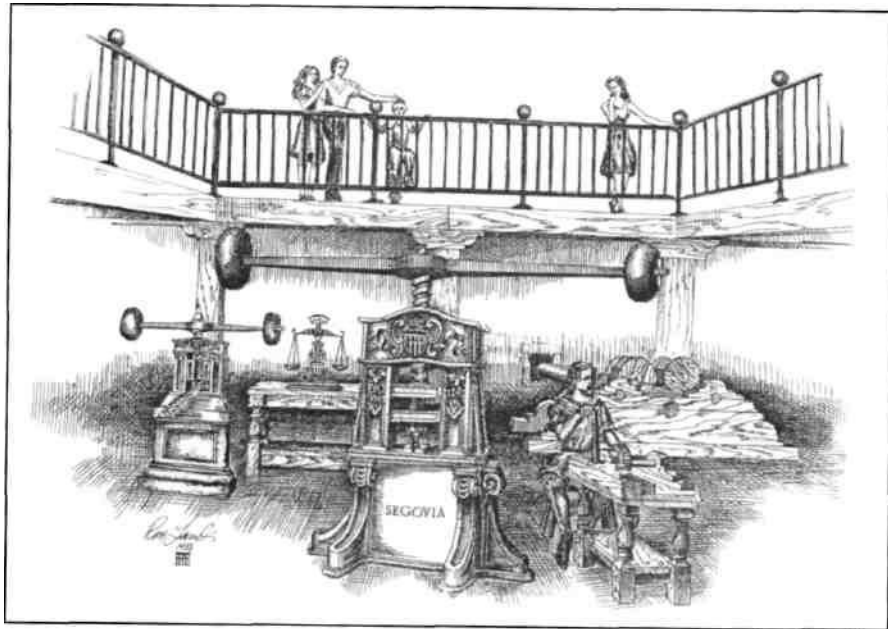


Fig.2 Proyecto de «Pasarela de visitantes»

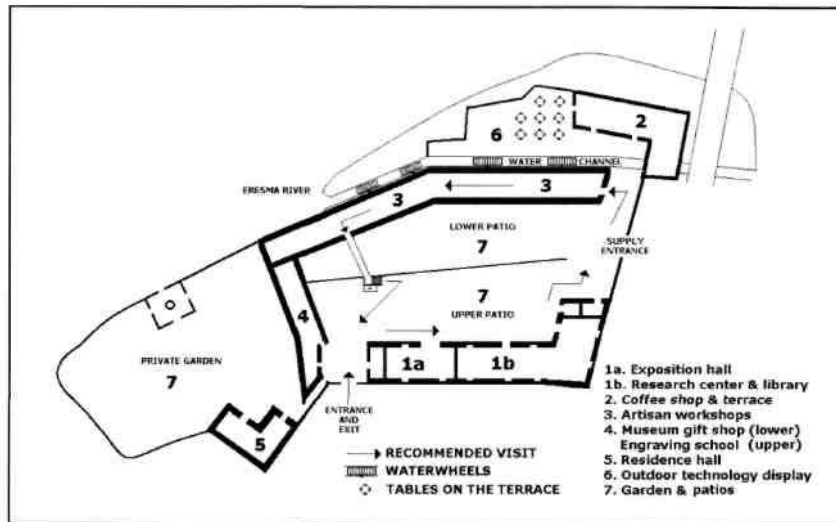


Fig.3 Propuesta de aprovechamiento de los diferentes edificios

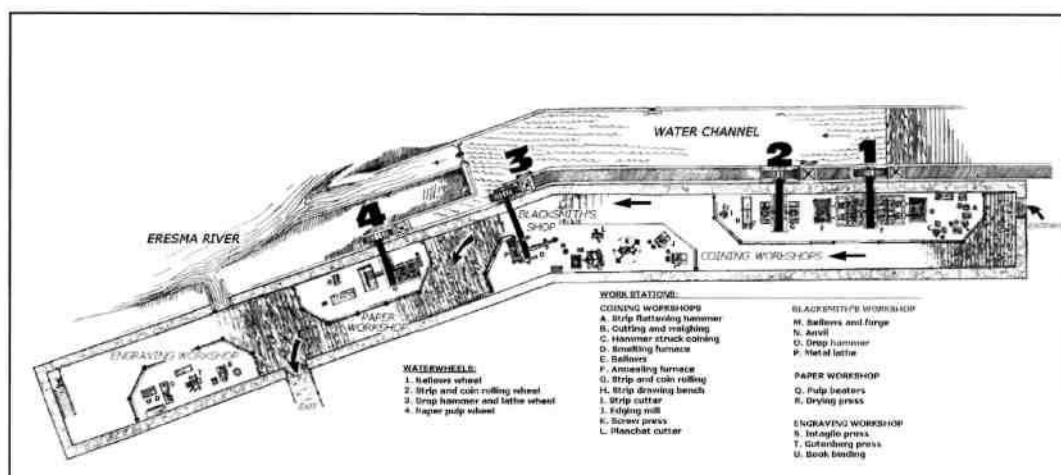


Fig.4 Talleres

ENDNOTES

* Since the presentation of this paper in 1999, the Segovia Mint has been completely restored according to the ideas here proposed by Glenn Murray. Presently, (2011) work is under way to design and install the future Museum of Coining Technology, which is the other half of the project that Murray started in 1988. For more information and photos of the restored building, please visit: www.segoviamint.org. Email info@segoviamint.org.

ⁱ In 1583 there were seven mints in operation: Seville, Granada, Toledo, Valladolid, La Coruña, Cuenca, Burgos and Old Segovia Mint. The mint in Madrid was not established until 1614.

ⁱⁱ Archivo General de Simancas, Guerra Antigua, leg. 154, fol. 83

ⁱⁱⁱ Known dates of cincuentines range from 1609 to 1682, though documents attest to die production until 1686.

^{iv} The so-called Colon Mint, on the Plaza de Colon, demolished in 1970 to create today's Jardines del Descubrimiento (Gardens of the Discovery).

^v Registro de la Propiedad número uno, Segovia, finca 2146

^{vi} Rafael Durán: «La Acuñación en el Molino de la Ceca de Segovia» in *NUMISMA* n° 14. January-March, 1955, p. 119

^{vii} «E1 Adelantado de Segovia», August 28, 1974

^{viii} «E1 Adelantado de Segovia», March 19, 1997

^{ix} Installed in the nearby Monastery of Santa Cruz la Real and inaugurated in 1997.

^x By way of a grant to the author of this paper.

^{xi} Eduardo de la Torre: 'Memoria y Planos - Concurso para la redaction de un proyecto básico para la rehabilitation de la Casa de la Moneda de Segovia' (Septiembre, 1999)

^{xii} The only admission charged would be to visit the coining workshops.

^{xiii} This product is in accordance with the historic function of the site – a paper mill – before King Philip II founded the Mint in 1583.

^{xiv} Estimated at approx. 4 million Euros (or 2 million Euros each)

^{xv} Estimated at approx. 2 million Euros, though City Hall is currently negotiating a much lower price in exchange for the reclassification of other property belonging to the Mint owner, from agricultural to urban, which would preclude the still unsettled expropriation process begun in 1989.