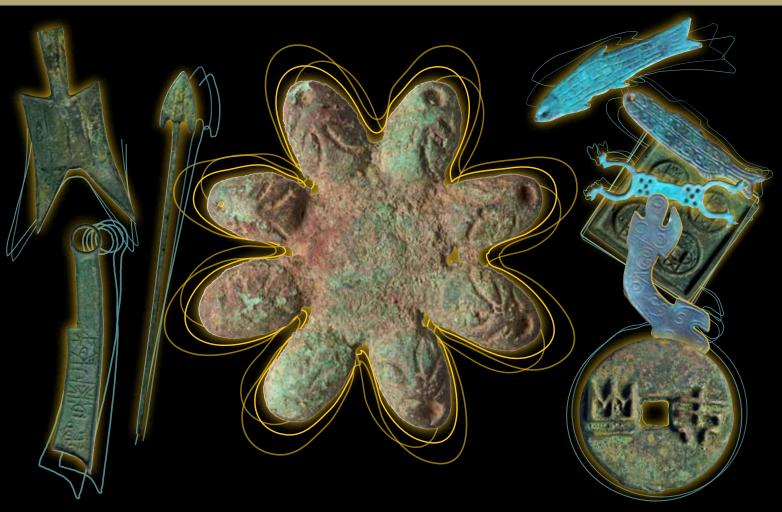
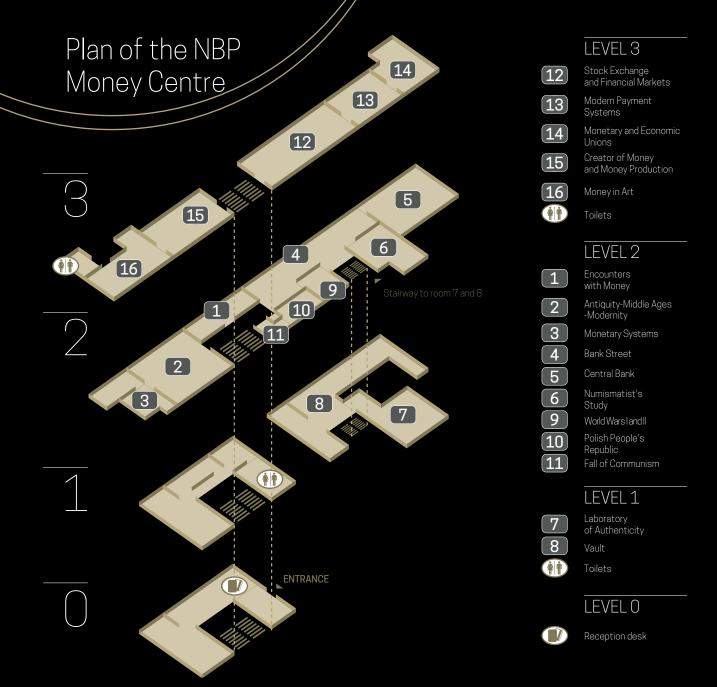
No 17 2019 Q1

# Bankoteka

HISTORY • ECONOMY • EDUCATION





#### Dear readers

In the first article of this issue of "Bankoteka" magazine, in the *Education* section, we describe the international conference devoted to the role and the development of central banks in the countries of Central and Eastern Europe, organized by the NBP Money Centre on the 100<sup>th</sup> anniversary of regaining independence by these countries. The representatives of the money museums of Latvia, the Czech Republic, Germany and Finland discussed the history of their central banks after 1918. The conference was also attended by guests from the national banks of Hungary and Ukraine.

The Polish path towards regaining independence was presented by Professor Jan Žaryn, Chairman of the NBP Money Centre Programme Board and Professor Wojciech Roszkowski, a member of that Board. Both speakers emphasized that the struggle for Poland's liberation – which also includes economic liberation – after nearly 150 years of subjugation by the neighbouring powers, was already taking place under the Partitions. These activities laid the foundations for the political and economic reconstruction of the country after Poland regained its independence.

The numismatic collection of Narodowy Bank Polski includes over 300,000 exhibits. Out of that, about 3,700 numismatic items are on display at the NBP Money Centre. In 2012 NBP added around 500 pieces of Chinese commodity money and coins to its collection. Some of them are presented in the "Antiquity-Middle Ages-Modernity" room. In the section Discovering multimedia... Let's open the showcases we describe the most interesting numismatic items from NBP's Chinese collection that have been made available to visitors. Old Chinese commodity money and coins are also presented on the cover of this issue of the magazine. They

recently came back from conservation, and our article in this section is devoted to the secrets behind the conservation of numismatic items and the results of such efforts. We also write about the history of paper money, which originated in China. The back cover of this issue of "Bankoteka" depicts a Chinese banknote from 1375, which is a part of the exhibition presented at the NBP Money Centre.

In December 2018 two rare exhibits were added to the collection of the NBP Money Centre of. The beer mug and the cup that are elaborately decorated with coins and medals, were purchased at an auction. They constitute an interesting example of the applied art of the past centuries and enable us to deepen our historical knowledge. Through the eyes of our imagination we can see such vessels being raised in a toast at the Polish royal court and at aristocratic courts in order to display the affluence of the host. A detailed description of these artifacts is presented in the *Exhibits* section.

With each passing year, the NBP Money Centre is visited by more and more guests. These include both individual visitors as well as groups, which mainly consist of school groups. This is confirmed by the statistics presented in this issue of the magazine (p. 26). Because the NBP Centre Money offers attractive educational programmes and tour paths adapted to the age of the young guests, the available time slots for school group visits are usually booked for several months in advance. Additionally, our diverse educational programmes are recognized and awarded in competitions organized by foundations involved in the provision of extracurricular education for children and people with disabilities (p. 10).

Enjoy your reading!

The editorial team of "Bankoteka"

# Education

Central banking after the First World War

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"Słoneczniki 2018" award for the NBP Money Centre pp. 10



### Central banking after the First World War

An international scientific conference with the participation of representatives of money museums operated by European central banks was held at the NBP Money Centre.

The conference entitled "The role and development of central banking institutions after World War I in Central and Eastern Europe" was held on 6–7 December 2018. It involved the participation of the representatives of the Eurosystem/ESCB Money Museum Informal Network and European central banks, the employees of the NBP Money Centre, and scientists studying economic history and the history of central banking. The subject matter of the conference corresponded with the celebrations of the  $100^{\rm th}$  anniversary of Poland regaining its independence, and its main theme was the reconstruction of the institution of the central bank in Poland and in the other countries of Central and Eastern Europe.

The guests and the speakers had the opportunity to visit the permanent exhibition of the NBP Money Centre, and the individual conference sessions were held in its central part – in the ""Bank Street" room, near the "Central Bank" exhibition. This part of the Centre presents the history of Polish central banking, whose institutional origins date back to 1828.

The Polish struggles to establis a sovereign state were presented by **Professor Wojciech Roszkowski**, a member of the NBP Money Centre Programme Board. In the lecture entitled "The origins of central banking after Polandregainedits independence (1918–1924)" he outlined the complex political and economic situation in the Polish territories at the end of the First World War, and presented the key events of that time as well as the most important figures whose social and political activity contributed to the economic reconstruction of the Polish Republic in



1918. Professor Roszkowski also explained the significance of the reforms carried out by the government of Władysław Grabski, and recalled the history of the introduction of the Polish złoty and the role of Bank



Headquarters of Bank Polski SA (the Bank of Poland) at 10 Bielańska Street in Warsaw, 1928. Photo: National Digital Archives

Polski SA (the Bank of Poland) in rebuilding Polish economic sovereignty.

Bank Polski SA launched its operations on the 28 April 1924 and was a joint-stock company. The share capital amounted to 100 million złoty and was divided into one million shares, each worth 100 złoty. The shares were bought by the representatives of the business community. The initial participation of the State Treasury in the Bank's share capital was only 1 per cent, which was supposed to ensure the central bank's independence from the government. The issue of the Polish złoty was backed by

The international nature of the conference encouraged the exchange of experiences among the countries that – like Poland – celebrated the  $100^{\rm th}$  anniversary of regaining or gaining independence in 2018. The foreign guests of the conference included the representatives of the central banks (as well as the money museums and money centres) from Finland, Latvia, the Czech Republic, Germany, Hungary, Romania and Ukraine. The presentations given by the representatives of the central banks provided an opportunity to discuss and compare the experiences associated with the reconstruction of statehood and the economic problems in the countries of Central and Eastern Europe after the First World War. The discussion was focused on the currency situation of that time, as well as the role of the central banks and the challenges accompanying the creation of the foundations of stable financial systems in that period.

gold reserves and foreign exchange reserves. One złoty had the same value as approximately 0.29 grams of pure gold – exactly the same as one Swiss franc minted in gold. The conversion rate of the previously used currency, the Polish mark, was set according to the following ratio: 1 złoty for 1.800.000 Polish marks.



**Jaakko Koskentola**, Director of the Bank of Finland Museum, discussed the situation of the Bank of Finland in the period of the Finnish civil war of 1918.

During the civil war (which lasted from January to May 1918) Finland was divided into two parts: Bolshevik-controlled "Red Finland" in the south and "White Finland" in the north, which was materially and militarily supported by Germany. The "Reds" initially captured the headquarters of the Bank of Finland and its 7 branches, as well as

the national mint. The internal situation and division of the country caused chaos in the monetary circulation and resulted in difficulties in the supply of cash. The civil war lasted only 108 days, but ended up being one of the bloodiest armed conflicts in the history of Finland.

In Finland, as in many other countries, the war and the subsequent reconstruction of the state initiated a period of high inflation culminating in the years 1918–1920. The authorities managed to stabilize the exchange rate of the Finnish markka by 1923, but at a much lower level than before the war. The value of the Finnish markka in relation to gold was equivalent



From the presentation given by Jaakko Koskentola



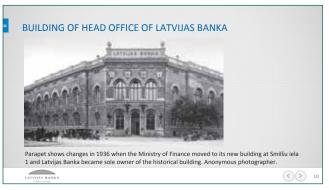
to only one eighth of its pre-war value. At the beginning of 1926, Finland joined the gold standard, maintaining the existing lowered exchange rate.

**Aina Raņķe**, Deputy Director of the Department of International Relations and Communications of Latvijas Banka (the Bank of Latvia), presented the role and development of Latvijas Banka in the years 1922–1940.

Latvijas Banka launched its operations on 1 November 1922. Its



From the presentation given by Jaakko Koskentola



From the presentation given by Aina Rank



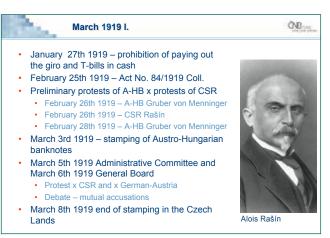
From the presentation given by Aina Ranke

headquarters were located in a building at 2A K. Valdemāra Street in Riga, a section of which was leased from the Ministry of Finance. A branch of the State Bank of Russia was previously located there. In 1936 the Ministry of Finance moved to new headquarters, and Latvijas Banka became the sole owner of the building. The central bank was granted the right to issue banknotes and coins in the new currency (lats subdivided into 100 santims). On 2 November 1922 the bank put into circulation a provisional 500-ruble banknote (the so-called Latvian ruble) with an overprint indicating the new value expressed in lats ("10 lats"".

The 50 lat banknote from 1934 was printed in the United Kingdom at the Thomas de la Rue & Co printing house in London. On the front side the banknote carries the image of President Kārlis Ulmanis – the leader of the Latvian state in 1918, who served several times as the prime minister of Latvia and was the country's president in the years 1936–1940.



Jakub Kunert - Head of the Czech National Bank Historical Archives - recalled the events and the people that played a key role in the development of the country's central bank in the lecture entitled "From the branches of the Austro-Hungarian Bank to the Banking Office of the Ministry of Finance. Relations between Czechoslovakia and the Austro-Hungarian Bank in the years 1918-1919".



Z prezentacii Jakuba Kunerta

Alois Rašín (1867–1923) – Czechoslovak economist and politician. He was a member of the Czechoslovak National Committee which proclaimed the establishment of independent Czechoslovakia on 28 October 1918. In the years 1918–1919 he served as the first Minister of Finance of the Czechoslovak Republic. He co-organized the new state's monetary policy system and prepared the plans for its economic and monetary independence. After three months of preparations, he oversaw the operation of stamping the Austro-Hungarian banknotes, which was carried out in just a few days in early March 1919.

The period between 28 October 1918 and 11 March 1919 was a time when the economic and monetary relations in the independent Czechoslovak state were being worked out. From the very beginning, two opposing tendencies were clashing in this area. On the one hand, the Austro-Hungarian Bank tried to maintain its previous right to issue money and the functions of the central bank for the new states formed after the collapse of the Habsburg Monarchy. On the other hand, the political leaders of the newly established state were systematically preparing to also take control over this area of administration. The process of stamping Austro-Hungarian banknotes (and their subsequent withdrawal from circulation) and the establishment of the Banking Office of the Ministry of Finance marked the definitive end of the monetary union that had lasted since the collapse of the Austro-Hungarian Empire. The aim of the Czechoslovak authorities was to separate the currencies and introduce their own monetary unit – the Czechoslovak crown.



**Ulrich Rosseaux**, Director of the Money Museum of the Deutsche Bundesbank, presented a lecture entitled "The road to independence and the activity of the Reichsbank in the years 1918–1924", in which he placed emphasis on the problem of the post-war hyperinflation of the German mark.

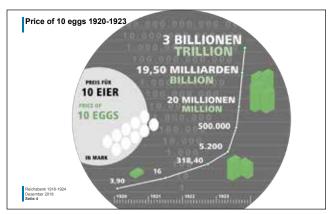
The photograph depicts the head office of the Reichsbank in Berlin. The management of the Reich's central bank and the supervision over its activities were formally carried out by the Board

of Directors, which was chaired by the Chancellor of the Reich. Just like in the times of the German Empire, the Reichsbank operating in the Weimar Republic did not have the status of an independent central bank and remained under the control of the Reich's government. After the end of the First World War, the central bank of the Weimar Republic was tasked with financing the state's expenses, much like during the times of the Empire, before the outbreak of the war.



From the presentation given by Ulrich Rosseaux

After the First World War, the budget of the Reich was burdened by the expenses associated with maintaining public order, the demobilization of the armed forces, the need to shift the economy to civilian production, and the payments towards the war veterans and the families of the fallen soldiers. The government's revenues were not high enough to cover the growing expenses. The uncertain



From the presentation given by Ulrich Rosseaux

political situation of the new republic, internal economic problems, and the burden of war reparations resulted in high levels of deficits in the Reich's finances. This deficit was mainly financed through the excessive printing of money, which led to an increase in inflation. The sharp decline in the value of the German mark was reflected in the rapid increase in the prices of basic food products. For example, at the beginning of 1920, ten eggs cost an average of 3.90 marks, over a year later their price increased to 16 marks, and in the autumn of 1922 they already cost nearly 319 marks (a more than 80-fold increase). At the peak of hyperinflation, in late 1923, customers had to pay an exorbitant price of about 3 trillion marks in order to buy ten eggs.

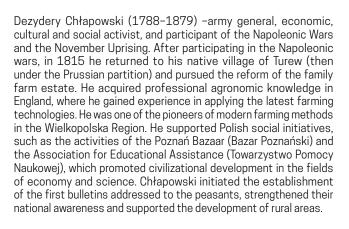


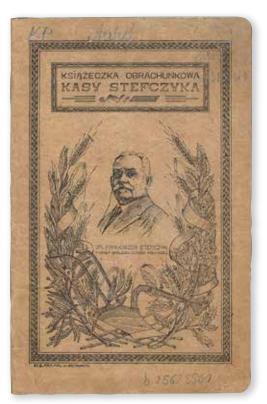
The conference was closed by Professor **Jan Żaryn**, Chairman of the NBP Money Centre Programme Board. In his lecture, he presented some of the pioneers of organic work and the visionaries implementing the ideas of economic patriotism in the Polish territories at the turn of the 19<sup>th</sup> and 20<sup>th</sup> centuries. Professor Żaryn pointed out that the organic work movement encompassed all three partitions and covered various areas of activity. It involved the efforts of outstanding, although often forgotten, social activists.

The purpose of their activity was to defend the Polish national interest and to work for the development of the Polish economy, culture, education and art. Here are two of the figures mentioned in the presentation:



Dezydery Chłapowski (1788–1879) National Library (www.polona.pl)





Franciszek Stefczyk (1861–1924) National Library (www.polona.pl)

Franciszek Stefczyk (1861–1924) – social activist, teacher and economist, initiator of the savings and loans cooperatives, later known as "Stefczyk's credit unions". In 1889 in Czernichów near Kraków (in the Austrian Partition) he founded the first rural savings and loan cooperative in the Polish territories, modelled on the system of agricultural credit cooperatives created by Friedrich Raiffeisen. Its objective was to promote the habits of cooperation, self-help, saving and social solidarity. The credit union provided cheap loans, enabling the Galician peasants to break their dependence on usury. Its activity in Czernichów resulted in the development of the cooperative movement also in other areas of life, throughout the region of Galicia. During the 20 years of activity, 1,400 credit unions were created which had a total of 145.000 members.

■ Anna Brzyska

# The "Słoneczniki 2018" award for the NBP Money Centre

The NBP Money Centre is an educational institution in which care about offering a high quality programme goes hand in hand with efforts to ensure that it is as widely accessible as possible. We are therefore very pleased that these efforts are recognized and appreciated.

In the past year, our summer holiday programme "Family Saturdays at the NBP Money Centre" was awarded in the "Logic" category of the "Słoneczniki 2018" competition for the most pro-developmental initiative dedicated to children aged 0-14. The competition, organized by the CzasDzieci.pl website, was held in Warsaw for the seventh time. The educational and cultural offer for children in the Polish capital is very broad. Because of that, it is even more remarkable that our facility has been noticed by parents, who have the decisive voice in the competition. It is the parents who submit the candidacies, issue comments, and then vote for what they believe are the best offers of cultural institutions directed to the voungest visitors. The attractiveness of the given initiative, the extent to which it is tailored to the child's developmental needs, and the general approach of the animators towards the young recipients are all taken into account in the assessment. For us, the distinction in the "Słoneczniki 2018" competition serves as a source of great inspiration to continue our efforts!

Another educational initiative of the NBP Money Centre in 2018 was directed towards blind and deaf people, who are a group that encounters difficulties in accessing culture and its resources. This initiative was associated with Centre's participation in the 6th Culture Without Barriers Festival in Warsaw, which lasted from 28 September to 7 October. The idea behind the festival is to tear down the barriers that prevent people with disabilities – above all sensory disabilities – from accessing cultural events, as well as places of culture and cultural texts. The motto of last year's edition of the festival

was a single sentence leaving no doubt as to the message conveyed: "You can do it!" For us—the organizers of the festival events at the NBP Money Centre—this was an additional source of motivation. We prepared a tour of the exhibition with a special audio description and a guided tour with translation into Polish Sign Language, inviting both non-disabled and disabled people to participate in these events. Our intention was to create an offer that does not exclude any of the viewers.

During the festival our facility established cooperation with its main organizer – the Culture Without Barriers Foundation. This collaboration



Award for the NBP Money Centre at the "Słoneczniki 2018" competition NBP collection

resulted in the Centre's participation in the project entitled "Reading Images" ("Czytanie obrazów"), which enables everyone, and particularly people with sensory disabilities, to learn about the works from the collections of Polish cultural institutions. The www.czytanieobrazów.pl website contains recordings with audio description and video clips with translation into Polish Sign Language, presenting the cultural institutions, works of art and artefacts. Through this website, the educational content included in the exhibition of the NBP Money Centre is popularized among a wide group of people with disabilities.

■ Katarzyna M. Rokosz



Participation of the NBP Money Centre in the "Culture without Barriers Festival".

NBP collection

# Discovering multimedia... Let's open the showcases

Chinese commodity money and coins in the collection of the NBP Money Centre pp. 12-16

Discover the secrets of the conservation of numismatic items pp. 20-22



## Knives, spades, discs... Chinese commodity money and coins in the collection of the NBP Centre Money

The NBP collection includes several hundred pieces of Chinese commodity money and coins, which enable us to examine the rich history of payment methods in that interesting region of the world. To learn more, please visit the "Antiquity-Middle Ages-Modernity" room.



Map of Asia from 1637. National Library

Cowrie shells are the shells of sea snails from the Cypraeidae family. They were used as means of exchange in many societies of Asia and Africa, also in the territory of present-day China. They have many common features with metallic money: limited supply, durability, homogeneity and divisibility understood as the ability to be combined into larger or smaller sets. They were also impossible to counterfeit (although people did produce their imitations). In the first millennium BC in China, cowrie shells were already losing their significance, but they were still used to express and compare value.

Imitations of cowrie shells dated to the period between the  $10^{th}$  and the  $6^{th}$  century BC NRP collection

Cowrie shells were very popular and widely recognized as a means of payment. They were also imitated at times, and commodity money from other materials was made in their image. The NBP collection includes both cowrie shells and their imitations made of bone, stone and mother of pearl.

#### The Zhou Dynasty (1122-256 BC)

From the 12th to the 3rd centuries BC, the rulers of the Zhou dynasty exercised nominal control over the territory of present-day China. However, during that time a system of fiefdom was developing, and many kingdoms, principalities or their subordinated citystates were gaining increasing independence. The main sources of wealth were the ownership of land, gifts from the king, craft production, and the exchange of gifts between members of the aristocracy. Wealth was mainly displayed through the use of prestigious items: cowrie shells. bronze artefacts. horse-drawn chariots. banners, weapons and armour, ritual objects (especially bronze bowls) and objects made of iade. At that time, the tax collection system and trade were not developed enough to necessitate the existence of uniform, universally accepted means of exchange.

#### **The Warring States Period**

The political situation changed in the 6<sup>th</sup> century BC. The numerous small principalities and city-states were replaced by several stronger, autocratic entities that were fighting with each other; the so-called Warring States Period began (480–221 BC). Out of the many states, seven survived until the 3<sup>rd</sup> century BC: Zhao, Wei, Han, Qi, Chu, Yan, Qin. During this era, the royal courts gained more power and large fortified cities were established. The necessity of collecting taxes and transferring resources within larger kingdoms, as well as between them, created the demand for unified means of payment.

Money resembling everyday objects appeared in China around 600 BC. The first money in the shape of spades and knives was issued in the name of the Zhou dynasty, but other rulers soon followed suit. Means of payment in the form of knives emerged in the kingdoms of Qi and Yan. Ring coins (with a hole in the middle, which was usually round) were also used, among others, in the kingdom of Wei.



Ant-nose coins from the 4<sup>th</sup> century BC NBP collection

The most diverse payment system existed in the kingdom of Chu, where gold and bronze means of payment were used: ant-nose coins and money in the shape of spades or shovels.

The earliest means of payment in China had various shapes. So-called ant-nose coins, cast from bronze, imitated the shape of an earlier popular means of payment, that is, the cowrie shells. Ring coins more closely resemble the coins that we are accustomed to today, but this form was not dominant at first.

The peculiar shape – of miniature knives, spades or hoes – is explained in various ways. Perhaps this is a reference to the fact that in the previous time periods real tools (e.g. stone or bronze axes)



Zhou dynasty ring coins, 4<sup>th</sup> century BC NBP collection



Knife coins dated to the 4<sup>th</sup> century BC NBP collection

were used as a means of exchange (barter), which is confirmed by archaeological sources from this region and other regions of the world. It may also indicate that the value of farming tools was growing, because agricultural production was becoming an increasingly important source of income. The development of means of payment made of bronze also coincided with



Spade coins from the 4<sup>th</sup> and 3<sup>rd</sup> century BC NBP collection

the widespread popularization of the technology of producing weapons and tools from iron, which allowed people to allocate large amounts of bronze for other purposes.

The ancient Chinese states typically used several types of means of payment at the same time. Some of them were only accepted locally (knives of the Qi kingdom, ring coins of the Qin kingdom). Others could be used as a universal means of exchange between the individual kingdoms (e.g. means of payment made from gold and the bronze spades of the Chu kingdom).

The introduction of official means of payment made of bronze did not result in the complete withdrawal of other methods of calculating due amounts or making payments. In the Qin kingdom, besides Ban Liang coins (which was the most important means of payment in trade), gold (after the conquest of the Chu principality, which had large gold deposits), hemp fabrics (primarily used to settle the obligations towards the state) and grains (the state paid the salaries to the public officials, soldiers and workers in this form) were also used as means of payment.

Chinese means of payment, both in the form of miniature objects and coins, were cast in special moulds (unlike in Europe, where coins were struck using previously prepared discs). They were made from bronze, which was a valued and precious metal, as well as a symbol of wealth and prestige. The Chinese coin production method allowed for the creation of several or even a dozen or more coins at once in a single mould. After they were taken out of the mould, the coins had to be separated. The NBP collection includes coins that have not been separated yet





The obverse and the reverse of a cash coin from the 12<sup>th</sup> century AD NBP collection

- eight ant-nose coins and a die used for the preparation of moulds.

#### The Qin Dynasty (221-207 BC)

The Warring States Period ended in 221 BC after the last of the kingdoms was conquered by the ruler of the Qin dynasty. In the 3<sup>rd</sup> century BC the casting of Ban Liang coins began in the Qin kingdom. These were round-shaped coins with a square hole. They carry a two-character inscription indicating the weight of the coin – ban liang – which means "half tael" (a unit of weight).

The Qin emperors initiated a long period of existence of the most characteristic means of payment in Chinese history – round coins with a square hole. These coins are known in the Western world as cash coins. This term

Cash coins from the turn of the 17<sup>th</sup> and 18<sup>th</sup> centuries

NBP collection

was borrowed from India, where "karsha" means a bronze coin.

The distinctive shape of Chinese coins introduced during the Qin dynasty had a symbolic meaning. In ancient China it was believed that the earth was square, and that heaven was round. The coin minted by the Emperor combined both these shapes and spheres, just as the Emperor served as an intermediary in communication between the gods and the inhabitants of Earth.

The hole in the coin also had a practical significance. Coins with a square hole were easier to finish after they were removed from the casting mould: they were put on a square-sectioned rod and ground in order to remove the surplus metal. The square shape of the hole prevented the coins from moving during the process. Additionally, especially in later periods, the coins were threaded on a string, thereby forming sets of higher value.



Wu Zhu coins from the 2<sup>nd</sup> and 1<sup>st</sup> century BC NBP collection

#### The Han dynasty 206 BC - 220 AD

The empire of the bellicose Qin dynasty only lasted until 207 BC. The main task of the subsequent Han dynasty was the reconstruction and unification of the wartorn country. The monetary system was reformed, and the new Wu Zhu coin was introduced. It retained the characteristic round shape with a square hole, but it had raised external and internal rims. The weight of the coins was also lowered. It is indicated by the two characters on the obverse side – Wu Zhu – which literally means "five grains". The Wu Zhu coins became the main means of payment throughout China for more than 700 years.



Tong Bao coins from the 8<sup>th</sup> century AD NBP collection



Cash coin from the 19<sup>th</sup> century NBP collection

#### The Tang dynasty (618-907 AD)

Coin designs changed in the 7th century AD, when China was united by an emperor of the Tang dynasty, following another period of fragmentation into smaller entities. The shape of the coins remained the same, but a new inscription was introduced – it now had four characters instead of two. The inscription "Kai Yuan Tong Bao" was read from top to bottom and from right to left. It can be translated as "the beginning of a new epoch, a circulating treasure". During that time, increasingly complex and sophisticated calligraphic styles were used in the execution of the inscriptions. Some of the inscriptions were designed by the emperors themselves.

However, even in that period, almost a thousand years after the introduction of coins, they were not the only means of payment used in China. The prices of rice and the values of loan

agreements were expressed in bales of silk. In the 8th century it was ordered that silk or other material should be used for the settlement of all major transactions, such as the purchase of a mansion or a horse. Taxes could also be paid with measures of grain or bales of material, and not only using coins. One of the reasons for that was the lack of sufficient quantity of coins. In the subsequent centuries the shortage of bronze coins led to the emergence of the world's first banknotes.

The cash coins changed their weight and inscriptions over the centuries, but they kept their characteristic shape and only went out of use in the 19th century, when China opened up to the influence of other countries, which caused major changes also in the sphere of means of payment and currency. Today the official currency of China is the renminbi, unofficially known as the yuan. Interestingly enough, in Chinese the word "yuan" simply means money. The Chinese character used to write the word "money" was probably meant to imitate the shape of a cowrie shell, i.e. one of the oldest means of payment used in the territory of China.

In China coins weren't only used as means of payment. It was believed, that some of them may bring good luck. That is why coins or objects imitating them were frequently given as gifts during New Year's celebrations, or on the occasion of a wedding or the birth of a child. Symbolic daggers were also made of coins. They were supposed to scare away evil spirits and diseases.

■ Marta Dulinicz

The most important sources:

Catherine Eagleton, Jonathan Williams, Money: A History.

Richard von Glahn, The Economic History of China. From Antiquity to the Nineteenth Century.

Niv Horesh, Chinese Money in Global Context. Historic Junctures Between 600 BCE and 2012

### From shells to banknotes made from silk

#### The history of Chinese paper money

In the beginning, before money was invented, people engaged in barter, or the exchange of goods for other goods. Back then, the medium of exchange, i.e. the thing that facilitated transactions, had value in itself. That object could be a cow or a sack of salt, but it could also be a piece of linen, and in China, silk. This wasn't the most convenient way to conduct trade. People often faced a problem that today could be summarized in the following question: "How to give change from a cow?". Such problems led to the invention of a more convenient medium of exchange.

質行通酬表

In the  $16^{\text{th}}$  century BC new objects emerged which did not have any inherent value, but served to facilitate trade exchange. These were mainly pieces of metal, and in the Chinese economycowrie shells. The cowrie shells are mentioned by the authors of "Yh-King", the oldest surviving Chinese book from the  $12^{\text{th}}$  century BC, and their widespread use has been confirmed by linguistic evidence. The Chinese characters for many words referring to money, such as "price" (价 价), "wealth" (财), "buying" (买), "selling" (卖), "thief" (贼), contain in their traditional form the Chinese ideogram meaning "shell" (贝).



Chinese banknote from 1375 (the "Antiquity-Middle Ages-Modernity" room)
NBP collection

The shells served as the first Chinese money. Over time, replicas of the shells emerged. They were made of bronze and bone. Between 400 and 200 BC the minting of copper coins began in China, resembling agricultural tools such as spades and hoes, which confirms the importance of agriculture in the lives of the Chinese people at that time. Over time, new money in the shape of knives started to emerge. Such items were 7 inches long (17.78 centimetres), and their value was engraved on the blade. The knives were ultimately replaced with coins resembling the ones that we use today. The first round coin in the world, with a hole in the middle, appeared around 200 BC. However, the Chinese became really famous for their paper banknotes.

One would expect that after the Chinese invented banknotes, they would continue using them from that point on. This was not the case, however. After a period of fascination with this invention – its light weight, portability – there were alternating periods when people lost confidence in paper money and when it returned to favour. The loss of confidence in paper money was most often caused by the abuse of power associated with the right to issue banknotes. This frequently resulted in the loss of value of the paper money.

The dissatisfaction of the Chinese people stemming from the possession of worthless "papers" sometimes turned into social unrest and even ended in rebellions. In turn, the authorities suppressed the revolts and banned the circulation of paper money. The economy then switched to coins. Paper money enjoyed greater popularity during times when there was a shortage of metallic ores.



The lack of copper coins forced people to use tin and iron products as currency in some areas. Meanwhile, at the beginning of the 8<sup>th</sup> century, the Chinese used silk or cloth, instead of metal, when purchasing a servant, a horse or a piece of land.

What was the origin of paper in China? It was first obtained as a residue from the process of washing silk fabrics. This activity was carried out on special mats. The silk fibre was soaked in water and whipped with sticks. After the silk was removed, a thin coating remained on the mats. It was possible to write on it after it was dried. Because silk was very expensive, the Chinese replaced it with vegetable fibres, such as mulberry bark and phloem as well as linen rags.

The invention of paper is attributed to Cai Lun, a scribe who resided at the Emperor's court around 107 AD. He came up with the idea to produce paper pulp from fabrics. They were crushed, and then thin sheets were pressed from the pulp. Later plant fibres and other raw materials (such as old fishing nets) were also added to the fabrics.

After silk was replaced with cheaper materials, paper not only became available to everyone, but its quality also improved. Due to these improvements, after some time it was inevitable that paper money simply had to be invented.

The new material spread very quickly thanks to the support of the emperor and also as a result of the growing popularity of calligraphy. The paper production techniques were also being improved along with the development of the art of beautiful writing. Around 250 AD, a new type of brush was invented. This was an important even for the development of Chinese calligraphy. From that point on, the Chinese used a bamboo stick with bristle made of camel hair, which made writing significantly easier. The demand for writing materials was constantly increasing. It is therefore not surprising, that educated Chinese people, who had access to "comfortable" brushes and ink, as well as increasingly durable

and easily produced paper, ultimately invented paper money, which was lighter than coins and made trade easier for the merchants who were traveling long distances.

During the Tang dynasty, in the years 608–907 AD, paper money was referred to as *feiqian*, or "flying money". Trade certificates, printed on yellow paper with the use of black ink and official red seals, guaranteed the authenticity of the banknotes.

Merchants, army officers and representatives of the government could deposit coins in a treasury in one city, usually in the capital of a given province. In return they were issued a certificate which gave them the right to receive a specified amount of money in the capital of another province. It was not necessary to carry large quantities of heavy coins to distant places, because the coins were "flying" there on their own (hence the name "flying money").

Paper money entered into general circulation in the Sichuan province during the rule of Emperor Zhenzong (998–1022 AD). The government authorized 16 distinguished merchants to print money. Papers banknotes in black and red depicted scenes of Chinese rural life. Unfortunately, the private printing of paper money resulted in the loss of their value, and in 1023 a ban was imposed on the merchants. The ruler established a state monopoly for the printing of money. As a result paper money gained credibility. Its value no longer exhibited large fluctuations and Chinese people could use them to buy all sorts of goods.

All the ancient Chinese dynasties used a very similar banknote format. These were large vertical banknotes, coloured in grey, with dimensions of 8x12 inches. At the top of the banknote, the name of the issuer and the type of money were indicated in a horizontal line. Below, the value of the banknote and its image representation were presented in a richly decorated frame. At the bottom of the banknote, there was an inscription in which the government

#### A Chinese banknote from the collection of the NBP Money Centre helped in the work of court experts

A banknote from the collection of the NBP Money Centre was used by court experts to analyse a counterfeiting case. The experts examined 12 pieces of counterfeit 14<sup>th</sup> century Chinese banknotes.

A unique Chinese banknote from the collection of the NBP Money Centre was used by court experts in the field of forensic document examination to carry out a comparative analysis of 12 pieces of counterfeit Chinese banknotes.

The comparative analysis covered the following areas:

- the fibre structure of the mulberry paper pulp,
- the graphic design,
- the official and imperial seals.
- the marks of the bamboo sieves on which the mulberry paper was produced.

The banknote used by the court experts is made of paper produced from a mulberry tree. It was issued in 1375 by the Hongwu Emperor, the first ruler of the Ming Dynasty. It is one of only a few numismatic items of this type that can be found in the collections of Polish museums. The banknote was purchased for the collection of the NBP Money Centre in 2013, together with a certificate of authenticity.

MK

informed how the banknote was supposed to be used in trade or in the payment of taxes. It also contained very important information: what



Certificate of authenticity of the Chinese banknote included in the exhibition of the NBP Money Centre

the penalties for counterfeiting money were and what reward would be given to a person reporting such a crime.

The counterfeiting of banknotes was a very common phenomenon and was a big problem for the government administration. It is therefore

while the remainder had to be paid in coins.

no wonder that the penalties for counterfeiting money were very harsh. It was most often punishable by death. This was indicated by the inscription on the banknotes. Those who were hiding the perpetrators were also to face the same fate. Meanwhile, informants were to receive a reward in silver. However, the practice of punishment for money counterfeiting differed during the reign of the various imperial dynasties. It ranged from the death penalty, most often by beheading, banishment, fines, all the way to amnesty for those who confessed.

In contrast to the Yuan dynasty, which conducted settlements in paper money, during the Ming and Ching dynasties the Chinese economy was already based on copper and silver coins (during the Ming dynasty, after 1374 banknotes were not exchangeable for coins). Paper money was often subjected to devastating redenominations. The value of paper money was rapidly falling, and it was quickly replaced with silver. Banknotes went out of use around 1455. They disappeared for several hundred years, only to reappear again in 1853. The Chinese introduced few changes in the format of banknotes until the beginning of the  $20^{\text{th}}$  century.

The Chinese guarded the secret of paper production for almost 700 years. Europe only learned about banknotes at the end of the 13<sup>th</sup> century, when the Venetian writer and traveller Marco Polo mentioned in his work "Description

The first Polish paper money came into existence in relatively unfavourable circumstances. Treasury notes were issued by the authorities of the Kościuszko Uprising in 1794. The paper banknotes went into circulation at the initiative of Hugo Kołłątaj, who established a government known as the Supreme National Council together with Ignacy Potocki. They had a compulsory exchange rate, so they could not be exchanged for metallic ore. There was also a guarantee of their redemption at the nominal value. Refusal to accept the Treasury notes was to be punished with a fine. However, there was no consistency in this regard – only half of the due tax amount could be paid using the Treasury notes,

of the World" that the Great Khan orders that. "[...] the fine bast between the bark and the tree is stripped off. Then it is crumbled and pounded and flattened out with the aid of glue into sheets like sheets of cotton paper, which are all black. When made, they are cut up into rectangles of various sizes [...]. The traders accept it willingly, because they can spend it afterwards on the various goods they buy throughout the Great Khan's dominions [...] The smallest money is worth half a small tornesel [...]. And all these papers are sealed with the seal of the Great Khan. [...] On each piece of money several specially appointed officials write their names [...]". Marco Polo was very impressed with paper money, but other inhabitants of the Old Continent did not share his admiration.

The history of paper money is also extremely interesting because it has unquestionably changed trade. Since its introduction, trade has been based on an object that has no inherent value in itself. At the turn of the Middle Ages and the Renaissance, paper also played a role in the development of credit in Europe. At the trade fairs the merchants discovered the usefulness of bills of exchange written down on paper - they were much lighter than gold coins, and therefore more convenient in transport. Specialized intermediaries rose to prominence along with the new credit instrument. In the 15th century paper money was on the verge of entering general circulation and becoming a fully-fledged means of payment in Europe. This did not happen, however, At the turn of the 15th and 16th centuries Europeans discovered the Americas and a wide stream of gold and silver from the New World started flowing to the Old Continent, which strengthened the domination of metallic money.

China experimented with paper money for thousands of years. During this time it learned about all of its features – both favourable and harmful to the development of the economy. It seems that the modern world relearns the same lesson every once in a while.

■ Magdalena Rakowska

# Discover the secrets of the conservation of numismatic items

Verification of authenticity and conservation of Chinese coins held in the collection of the NBP Money Centre

In 2012 nearly 500 pieces of Chinese commodity money and coins were added to the numismatic collection of the NBP Money Centre. This representative collection reflects all the periods in the history of coinage in that region. It also contains pre-monetary items.

In 2018, over 400 exhibits from the collection were subjected to physicochemical analysis, whose objective was to examine their authenticity. Conservation activities were also carried out in order to inhibit the harmful processes of degradation of exhibits.

The works (commissioned to an external entity) were divided into three parts: the performance of tests, the preparation of an expert evaluation, and the conservation of the exhibits. The aim of the expert opinion – supported by the results of laboratory tests – was to help in the dating of the exhibits and provide reliable supplementary information for the description of the techniques used in the production of the numismatic items acquired by the NBP Money Centre.

The examination was based on X-ray fluorescence (XRF) with the use of an X-ray



Fish coin, commodity money from the Chinese coastal areas, 6<sup>th</sup> century BC (condition before and after conservation)





Ban Liang coin, 3<sup>rd</sup> century BC (condition before and after conservation)





Edict of the Daoguang Emperor (condition before and after conservation)

#### Brief description of the composition of Chinese coins from various periods obtained as a result of scientific examination:

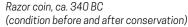
Coins from the turn of the 4th/3rd century BC are characterized by an average copper content of 75%, while the lead content is 10% and the zinc content is 3%. In some coins. the copper content is lower, while the content of lead or zinc is higher.

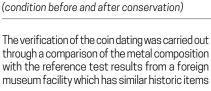
Coins from the 6th century BC are characterized by an average copper content of 78%. lead content of 10% and zinc content of 4%, and generally exhibit lowered lead content and an elevated zinc content.

The coins from the 7th, 8th/9th, 10th, 11th, 12th and 13th/14th centuries are for the most part characterized by an average copper content of 67%, lead content of 21%, tin content of 11% and iron content of less than 1%. Meanwhile, the contemporary copies from the 18th, 18th/19th, and 19th centuries are characterized by a higher zinc content. Some have a higher content of lead or copper at the expense of a lower zinc content.

spectrometer, which is a method currently used in the conservation of historical objects. The objective of the analysis was to investigate the elemental composition of these coins.







in its collection. It was necessary to take into account the technology used in the production of the coins, both in relation to the historical geographical area and the time period during



which the examined numismatic items were created. It was assumed that the elements quantified in the test would include copper, zinc, iron, tin, nickel, lead, aluminium and antimony, and that their content would be expressed as a percentage of weight, with normalization to 100% for each of the selected elements. One difficulty in analysing the elemental composition of the items was the fact that lead does not form solid solutions with copper, which leads to inhomogeneous distributions of the lead content and large errors in the quantitative analysis.

The conducted authenticity tests showed that only 7 out of the 426 examined objects do not meet this criterion (6 coins are contemporary copies, and the time of creation of one coin cannot be unambiguously determined due to the lack of available studies in this area).

#### **Conservation of Chinese coins**

In addition to restoring their aesthetic value and their fitness for being exhibited, the conservation of coins was intended to make their reliefs more legible, through the removal of the impurities and layers of corrosion. The conservation works were also meant to protect the numismatic items against the rapidly progressing degradation caused by physicochemical processes. Other documented losses in the structure of the coins were associated with mechanical damage caused by use (cracks and scratches), while remaining imperfections could be classified as manufacturing defects created during the casting process (holes and bubbles).

The conservation work included activities such as: baths, mechanical and chemical removal of surface contamination, stabilization of metals, sealing of cracks and the protection of coins against external conditions. The work was based on the principle that only secondary layers and coatings accelerating the degradation of metals would be removed. A layer of patina was left on the surface of most of the coins, after it was found that it is non-reactive and therefore has



Stone cowrie,  $10^{\text{th}}$ - $6^{\text{th}}$  centuries BC (condition before and after conservation)

no harmful effect on the exhibits. Other pieces of commodity money, such as the cowrie shells and a decree in the form of a scroll (made of fabric, paper and wood) were also subjected to appropriate conservation activities. The course of the work and the condition of the objects, both before and after the conservation process, were documented in writing and in photographs. In order to properly protect the objects from physical and chemical damage, each exhibit was placed in special packaging meeting the requirements of conservation. Such packaging should:

- be made of chemically safe materials with the appropriate pH (PVC content is not acceptable),
- protect the exhibit against contamination and scratches,
- cushion the exhibit during transportation,
- protect the exhibit against moisture and harmful substances from the air.

The reference material for the tests was a study published in 2005, which presented the full results of research on the collection of Chinese coins held by the British Museum. That study was co-authored by Joe Cribb – a retired long-time curator of the British Museum's numismatic gallery. In autumn 2018, during a tour of the permanent exhibition of the NBP Money Centre, he expressed great interest in our collection of Chinese numismatic items.

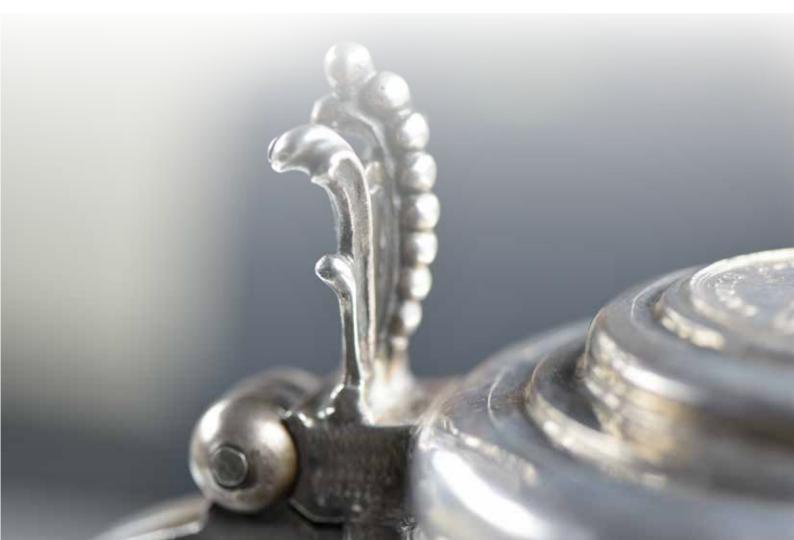
The research material produced during the conservation work may be used in the preparation of a scientific publication with global reach, especially considering the fact that both in Europe and in the United States there is still a shortage of widely available literature in this narrow field, and that there is no systematically accumulated, cross-sectional collection of this type in the Polish museum system.

Anna Sembiring

# Exhibits

#### A beer tankard and a cup decorated with coins

New exhibits at the NBP Centre Money pp. 24-25



## A beer tankard and a cup decorated with coins

Two rare exhibits were added to the collection of the NBP Money Centre.

Two chalices temporarily on loan from the National Museum in Warsaw are presented at the permanent exhibition of the NBP Centre Money in the "Antiquity-Middle Ages-Modernity" room.

The Collection Management Team of the NBP Centre Money has been looking for exhibits that could replace these items for a long time. It should be noted that such artefacts very rarely appear on the collector's market. One such opportunity arose in December 2018. On 15–17 December, the Michał Niemczyk Numismatic Antique Shop organized an auction of coins, banknotes, Polish and foreign medals, and exhibits related to numismatics.

The auctioned items included, among others, an  $18^{\text{th}}$ -century decorative beer tankard and a  $19^{\text{th}}$ -century cup decorated with coins. The Money Centre's participation in the auction was successful and both exhibits will be added to NBP's collection.

The tankard is decorated with five copies of medals minted on the occasion of the weddings of Polish kings from the Vasa dynasty, Władysław IV Vasa (2 pieces – described in the "Cabinet of Polish Medals" by Count Edward Raczyński under item 121) and John Casimir (3 pieces – item 131 in Raczyński's work) with Marie Louise Gonzaga. The medals were cast and chiselled, and then fitted in such a way that makes visible both the portraits of the two rulers, as well as that of Marie Louise Gonzaga, who was the queen of Poland twice (first she was the wife of Władysław IV, and after the king's death she married his brother John Casimir). Additionally, the body of the tankard contains twenty original Polish coins located above and below the medals:

- 6 Trojak (3 grosz) coins of King Sigismund the Elder, minted at the Gdańsk mint in the following years: 1536 (2 pcs.), 1537 (2 pcs.) and 1540 (2 pcs.),
- 10 Lithuanian Czworak (4 grosz) coins of King Sigismund Augustus from the years: 1566 (2 pcs.), 1568 (5 pcs.), 1569 (1 piece) and 2 pieces with an illegible date,



18<sup>th</sup>-century tankard decorated with medals and coins. The mug includes an ornamental thumb lift (shown on p. 23). Photo: NBP

- a Prussian Trojak (3 grosz) coin of Albrecht Hohenzollern from 1540,
- a Lithuanian Trojak (3 grosz) coin of King Stephen Bathory from 1585,
- Trojak (3 grosz) coin of King Sigismund III Vasa, minted at the Malbork mint in 1594,
- Trojak (3 grosz) coin of Friedrich Kettler of Courland from 1597.

All coins were embedded in the tankard in such a way that the obverse sides showing the images of the rulers are visible. Around the medals and coins there are engraved framings, and the area between them is also filled with engraved floral motifs.

The smooth, step-shaped taknard lid is topped with a medal casting executed by the famous medallist Sebastian Dadler, prepared on the occasion of the Theological Congress held in the city of Leipzig in 1629. The obverse side visible from the top carries the personification of Religion with a sword and a cross, standing by an altar with a burning heart. For unknown reasons, the casting was changed - the cross held by Religion in the original version was stripped of a transverse beam and topped with a rhombus. The thumb lift consists of three volutes (spirals), and the central one is decorated with a row of large beads. A thick S-shaped handle is affixed at the base and at the edge of the tankard. At the bottom of the handle, there is a smooth plate, resembling a decorative coat-of0arms

In turn, the bottom of the vessel is decorated with a soldered thaler (tollaro) from the city of Pisa from 1620. It depicts, on the obverse side, the figure of the Duke of Tuscany, Cosimo II de' Medici. Around it there is an engraved inscription: "Johan Weinnertt 1721". The smooth base of the tankard is also stepshaped just like the lid.

The height of the vessel is 22 cm, the diameter of the base is 17 cm and it weighs 952 grams.

The cup was made in a well-known Berlin-based goldsmiths workshop F. SCHADE, located at Rossstrasse 27, as indicated by the signature on the bottom of the vessel (it is only partially visible, but is still identifiable). According to an advertisement posted in the  $5^{\rm th}$  edition of the Official Catalogue of the Berlin trade exhibition, the company was founded in 1840 and was involved in the production and sale of gold and silver products. Under the signature of the workshop there are hallmarks – the so-called crown of Prussia and M 800, which means that the vessel was made from silver with a fineness of 0.800.

Three Prussian commemorative coins were fitted into the body of the cup. The youngest of



19th-century mug with Prussian thalers. Photo: NBP

them bears the date 1871, which means that the object was created in the indicated year or at a later date.

The height of the vessel is 13 cm, the diameter of the edge is 9.7 cm, and it weighs 301 grams. The cup's walls are straight, the bottom is slightly rounded and rests on three hollow spheres, while the edge is step-shaped. The coins were soldered into the cup in a straight line, halfway up the cup body's height. Each of them is surrounded by an ornamental engraved frame with floral motifs and volutes.

All the coins were minted in Berlin – the Berlin mint mark (the letter A) can be seen in the lower parts of the obverse side of the coins – and come from the times of the German Emperor William I (1861–1888). These coins include:

a thaler minted on the occasion of the coronation of the royal couple in 1861; the obverse side of the coin is visible, with a double portrait of William I and his wife Augusta,

- a thaler minted on the occasion of the victory over Austria in 1866; the obverse side of the coin is visible, depicting the king's head in the laurel wreath.
- a thaler minted on the occasion of the victory in the war with France in 1871; on the vessel we can see the reverse side of the coin with the personification of Prussia.

Vessels of this type are an example of a special group of representative (ceremonial) products. Decorating objects with the use of embedded numismatic items is an old technique and has a fairly rich tradition. It already appeared in the Renaissance, but such forms were also popular in the subsequent epochs, up to the  $19^{\rm th}$  century. Starting from the  $17^{\rm th}$  century, they were particularly frequently found in vessels and jewellery, and were less common in other objects, such as toiletries and book bindings. Over time, medals with complex iconography emerged alongside the coins.

The embedding of coins or medals into vessels was supposed to increase the owner's social standing and confirm their wealth and importance. These items were later presented during feasts and banquets, which were the best opportunity for the owners to show off their affluence and to emphasize their ingenuity and sophistication.

Sometimes, due to the lack of original numismatic items, the person executing the vessels decided to embed castings. It seems that this didn't make any difference to the clients or buyers at that time, as they were first and foremost concerned about the appearance.

After they undergo conservation work, the vessels purchased by the NBP Money Centre will find their place at the exhibition in the "Antiquity-Middle Ages-Modernity" room, serving as an example of the non-monetary use of money and the peculiar popularity of decorating various objects with numismatic items.

- Eliza Walczak
- Marcin Madejski

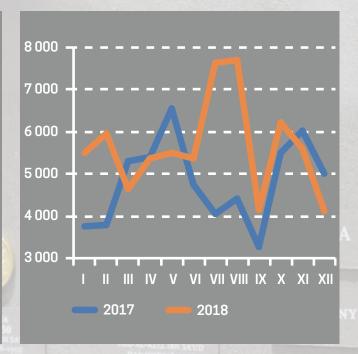
## Statistics of the NBP Money Centre

The NBP Money Centre is an educational attraction of the Polish capital. Our register of visitors confirms that the attendance has been systematically increasing since the facility was opened (April 2016). Meanwhile, the results of the surveys concerning the attractiveness of the exhibition indicate that the "Vault" room is invariably the most popular hall in the entire centre. The visitors emphasize that they are

choosing this room because they get a chance to see a bank vault, to touch a gold bar and to pick it up, and to see how much space 1 million złoty in 10 złoty banknotes takes up. In terms of popularity, the "Vault" room is followed by the "Laboratory of Authenticity" and the "Creator of Money and Money Production" rooms.

■ NBP Centre Money Education Team

	2017	2018
January	3 745	5 494
February	3 789	5 949
March	5 317	4 655
April	5 414	5 381
Мау	6 540	5 513
June	4 752	5 356
July	4 037	7 637
August	4 428	7 710
September	3 268	4 147
October	5 5 1 0	6 229
November	6 036	5 608
December	5 007	4 107
Toatal	57 843	67 786
	57 843	67 786



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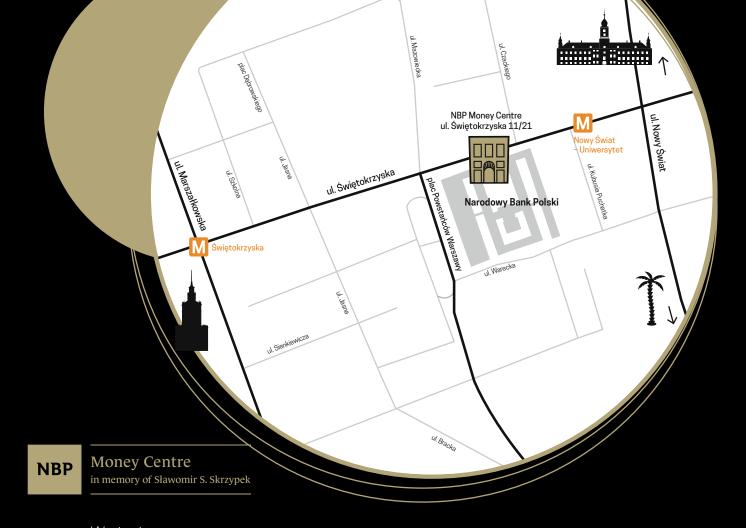
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Graphic design: Piotr Kotela



We invite you

Monday - Wednes

Monday - Wednesday 10 a.m. - 6 p.m.

Thursday 10 a.m. – 8 p.m.

Friday – Sunday 10 a.m. – 6 p.m.

Monday - closed

Booking for organised group visits: (22) 185 25 25 Individual visits do not require prior booking

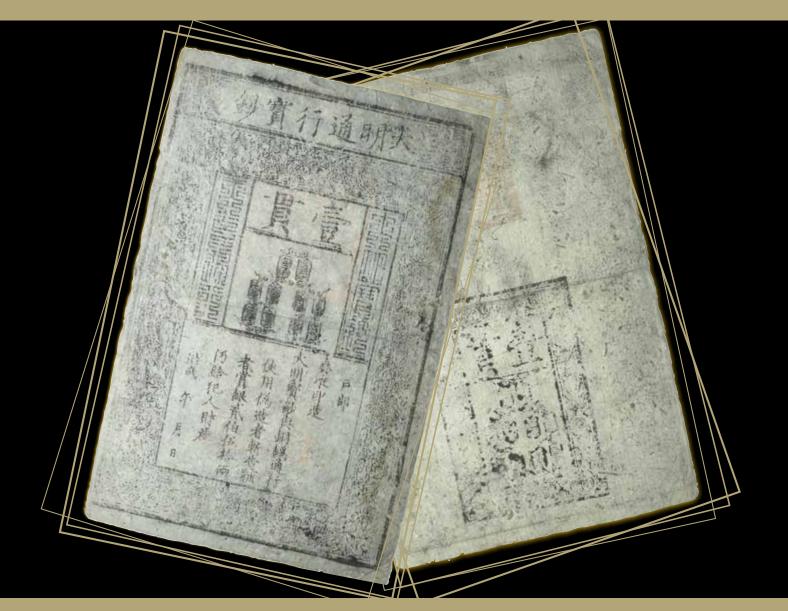
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