## TEOFILA OPOZDA

# POLISH COINS FROM THE SECOND HALF OF THE 17th CENTURY STATE OF INVESTIGATIONS AND PERSPECTIVES

For the correct evaluation of monetary issues from the second half of the 17<sup>th</sup> century, the half-century which in Polish history was an exceptionally difficult period, it is necessary to take into consideration political, economic and social reality of those times, which was forming that epoch and having a strong influence on the history of Polish money struck in those times.

The second half of the 17th century was a period of heavy struggles and political crises. The whole period of Jan Kazimierz's reign was filled with fights agains external enemies but also against internal opponents. Long years of war against Ukrainian Cossacks, Sweden, Brandenburg, Russia, Tartar, George Rakoczy and Turkey were comprised in the period of 1648 -1667 and were continued during a short reign of Michał Korybut and partially under the reign of Jan III. Those years were years of destruction and damages caused by war, famine and plague passing through Polish towns and villages. Several times the political situation threatened with a complete catastrophy of Polish statehood. That crisis was deepened by internal conflicts, rebellions of unpaid soldiers and struggles of political parties fanned by foreign states interfering in Polish affairs deeper and deeper. The discussed period was also the time of armistices, treaties and hard efforts of Polish diplomacy which was passing through ups and downs, depending on military force of the country at the given moment. External enemies were finally repulsed, though not without heavy losses and, what is more, with the definite weakening of the international position of Rzeczypospolita (the Polish state). More disastrous for future turned out to be the internal effects of the crisis: sudden drop of population, economic devastation, loss of the king's respect and disintegration of central administration of the state, sometimes coming up to anarchy.

War-devastated Polish economy and especially the decreasing production and disorganized export of corn and other agricultural products inhibited the import of precious metals from abroad. Simultaneously, international gold and silver trade, including good Polish money remaining in circulation, resulted in diminishing stocks of raw minting materials. To strike a good coin became unprofitable because of its constant pulling out of the monetary market which was filled with foreign less worthy currency. Out of stern necessity worse and worse coins were struck and finally very bad copper money was produced.

Having mounted the Polish throne Jan Kazimierz faced the following situation as regards the monetary conditions: minting regal privilege was supervised by the state i.e. profits from mints became a state property but coins in grossus system were not struck in the country for over 20 years. The society deprived of its own good money was forced to use poor foreign coins. In that situation the monetary reform was planned which was to bring a good coin but without profits comming from the mintage itself. In the document from the 16th of May 1650 minting committee proclaimed the rules of coin striking in grossus system according to equal mintfoot, however in practice opening of mints based on regulations from May 1650 was very much limited.

The planned monetary reform was not put into practice but instead it was attempted to reduce poor foreign currency and to pull it out of circulation, which caused much confusion. In those circumstances the Seym from 1654 had to admit that the State had not gained any profits from striking coins according to high silver fineness. Since, in fact, the aim was to get some profits from minting production, fiscal aspect was decisive in that minting problem. Seym resolution from 1654 reduced mint — foot of small silver coins. Initially, its application was limited, however with time (1656, 1658) it was used more commonly, deepening in this way the currency devaluation.

After Swedish invasion, fiscal factor dominated in the issue of money quality. Further worsening of financial situation as the result of political and economic crisis of the country was responsible for this. The resolution of Warsaw Seym from 1659 entitled On the Mint explicitly stated that the needs of the Treasury called for higher funds. At the same time, mints were appointed to produce copper solidi in great number.

Four mints localized in Cracow, Poznań, Lvov and Bydgoszcz were leased. Leaseholders were obliged to pay a large sum of money into State Treasury in due time. In a short time, the production of solidi constituted an enormous sum in zloty. Requests for bigger and bigger amounts of means of payment multiplied the striking of solidi.

In that period mints also struck a depreciated silver coin i.e. zloty (floren) which in 1663 – 1665 was produced in number of several million. Copper solidi and sub-valued zloty (floren) caused an avalanche of inflation. It should be stressed here that releasing of new monetary units absolutly did not mean attempts to repair monetary conditions; such was a casual financial necessity.

The consequence of inflation was a decision of Seym from 1667 to close mints producing solidi and florens and to return to striking a good coin ("gold and silver coin to pay debts [...] which could et extra regnum currere"). However, that production was not begun since General Condeferation of Warsaw closed all mints in the Crown and Lithuania till the next gathering of the Seym. Such was the situation for several years. Though the king Michał Korybut declared to open mints but as long as he lived he did not do so. Under the reign of Jan III minting production was limited and mints were working at intervals. In Jan's III times the monetary reform was several times postulated in form of establishing rules of producing a good coin according to mintfoot of neighbouring states but that problem did not seem to be very urgent since wars with Turkey were more important. Moreover, many seyms were broken off so the required resolution could not have been proclaimed. Economic and financial issues were freezed together with monetary problems. Monetary reform was introduced 100 years later under the reign of Stanisław August.

The generally presented picture of monetary situation in the second half of the 17th century is connected with many detailed problems which require to be studied and elaborated. Monetary crisis during Jan Kazimierz's reign was not the first phenomenon of this type appearing in Poland. It also occured in the period of Zygmunt III's ruling and was deepened by the fact of closing mints striking coins in grossus system in 1627. The crisis was inhibited for a short period of time by minting regulation from May 1650 which was already mentioned above. While the previous monetary crisis, deepened by the resolution from 1627, consisted in the lack of small local coins which were replaced by poor foreign coins, the crisis in Jan Kazimierz's times,

especially its second period which started in 1659, was evoked by a great surplus of solidi and zloty (florens) in circulation. Since the State was still in need of funds therefore mints were leased out, first of all, to those people who offered a higher income to the State i.e. they were sold by auction to those who offered more. In order to get as much profit as possible leaseholders of mints struck copper solidi and florens in amounts which outnumbered the limits. The inflation was growing. As a consequence of it there appeared minting swindles which disgusted the whole population.

The fragment of history of Polish coins presented here in short is full of difficulties not encouraging for studies, yet it is fascinating because of various interesting problems. Different researchers attempted to elaborate the history of that period. However, the studies were only fragmentary and the authors repeated sometimes the errors of their predecessors.

The genesis of interest in monetary and economic relations under Jan Kazimierz's reign dates back to the middle of the 19th century. However, as early as in the first half of the 18th century ephemeral notes about some coins struck in the period of king Jan Kazimierz appeared in German historical magazines. The 19th century initiated the period of interest in Polish mintage from the second half of the 17th century directed mostly towards the survey and publication of archival sources dealing with minting. At the same time, the attention was called to monetary finds as the next important source of historical knowledge. Let me name some meritorious researchers as: Ignacy Zagórski, 1 Seweryn Tymieniecki, 2 Wiktor Wittyg, 3 Walery Kostrzębski4 who, gathering assiduously and publishing archival material devoted mainly to other periods, added some interesting remarks on the mintage of Jan Kazimierz's times. It should be stressed that the studies mentioned above were led by Numismatic Society exclusively.

At the end of the 19<sup>th</sup> century, the researcher who decisively contributed to the progress of knowledge about Polish mintage from the second half of the 17<sup>th</sup> century was Max Kirmis. Studying the history of

<sup>&</sup>lt;sup>1</sup>I. Zagórski, Monety dawnej Polski jako też prowincyi i miast do niey niegdy należących z trzech ostatnich wieków, Warszawa 1845.

<sup>&</sup>lt;sup>2</sup>S. Tymieniecki, Przyczynek do historyi mennic we Wschowie, w Poznaniu i Bydgoszczy w XVI i XVII w., "Przegląd Bibliograficzno-Archeologiczny" 1881, pp. 338-343.

<sup>&</sup>lt;sup>3</sup>W. Wittyg, Przyczynek do historyi mennic za Jana Kazimierza, "Wiadomości Numizmatyczno-Archeologiczne" 1890, p. 16.

<sup>&</sup>lt;sup>4</sup>W. K o s t r z ę b s k i, Jan Thamm probierz pelniący obowiązki mincmistrza w mennicy krakowskiej od 1655 – 1658, "Wiadomości Numizmatyczno-Archeologiczne" 1896, pp. 41 – 47.

Polish mintage from the 10<sup>th</sup> century till 1795 the scientist devoted a very comprehensive chapter of his work entitled *Handbuch der polnischen Münzkunde*<sup>5</sup> to the characteristics of Polish minting in the second half of the 17<sup>th</sup> century, viewing critically the rich archival and numismatic material. He is the first author who prepared a short synthesis of general history of Polish coinage in the discussed epoch in historical context with special regard to mints situated in Great Poland.

The 20th century has its share in the development of science about the Polish coinage from the second half of the 17th century, presenting publications resulting from works of both historians and numismatists and connected thematically. That duplication of studies led by particular researchers from the point of view of two different though related scientific fields expanded the horizons of knowledge about the problems interesting for us. In that period, Adam Szelągowski considerably contributed to the subject of monetary economy including in his work entitled *Pieniądz i przewrót cen w X VI i X VII wieku*<sup>6</sup> a chapter dealing with the decline of currency under the reign of Jan Kazimierz.

Investigations led by Roman Rybarski had a significant share in the complex of economic-financial--monetary studies. Published in 1939 and dealing with the Treasury and the coinage in times of Jan Kazimierz, Michał Korybut and Jan Sobieski, 7 his monography is still the most comprehensive and penetrating analysis of that period though at the present state of investigations some of his statements ought to be corrected. The work presents the historical background of the second half of the 17th century the legal, financial and tax systems of Poland in those times, reveals the secrets of Treasury, State finance and money and presents the attempts at their reforms. It also contains comprehensive legal considerations devoted to minting regal privilege and minting production itself, its organization and controlling the volume of production, it also explains the legal status of mints working out of Seym control. It should be stressed that the coins themselves, copper solidus and silver zloty, are the subject of the author's investigations. These coins were an integral element and an expression of the economic history of that time. Presenting us his point of view from a certain historical distance, Roman Rybarski faced the solution of very significant problems of those times connected with economic role of currency. However, he did not deal with numismatic material as such.

The subject of monetary reforms in times of Jan Kazimierz was studied by Zbigniew Żabiński<sup>8</sup> as well. Describing the issue related to mark and mintfoot in the times of that monarch this author concludes that the economic decline of Rzeczypospolita in the second half of the 17<sup>th</sup> century was caused not by bad money but by long-lasting wars which had devastated the country.

Apart from basic works such as Kirmis', Szelagowski's and Rybarski's other studies were conducted, dealing on one hand with work of mints and their leaseholders and on the other with typology of coins and cataloguing of finds in this category.

Publications of Marian Gumowski are very valuable works devoted to Polish mintage including the second half of the 17<sup>th</sup> century. He prepared a hand-book for Polish numismatics<sup>9</sup> in which the studied problems were presented as a fragment of a more complex review. This work, besides Kirmis' elaboration mentioned before, has been the only school-bookish elaboration of this kind in the Polish numismatic literature for a long time. Further studies led by Gumowski brought some complex publications which showed generally the history of some mints, namely in Bydgoszcz, Toruń, Cracow and in Vilna.

The descriptions and stock-books of mints in Bydgoszcz and Ujazdów and also the research work devoted to minting technique prepared by Janina Waluszewska, <sup>10</sup> Ryszard Kabaciński, <sup>11</sup> Jerzy Gutkowski <sup>12</sup> and Stanisław Suchodolski <sup>13</sup> are noteworthy.

The results of my investigations, supported with possibly complete source documentation, are included in two treaties devoted to the organization of Opole mint working on the turn of 50-ties and 60-ties

<sup>&</sup>lt;sup>5</sup> M. Kirmis, *Handbuch der polnischen Münzkunde*, Poznań 1892, pp. 141–191.

<sup>&</sup>lt;sup>6</sup>A. S z e 1 ą g o w s k i, *Pieniądz i przewrót cen w XVI i XVII* wieku, – chapter: *U padek waluty za Jana Kazimierza*, Lwów 1902, pp. 242–271.

<sup>&</sup>lt;sup>7</sup>R. Rybarski, Skarb i pieniądz za Jana Kazimierza, Michala Korybuta i Jana III, Prace Towarzystwa Naukowego Warszawskiego. Dep. II, 25, Warszawa 1939.

<sup>&</sup>lt;sup>8</sup>Z. Żabiński, Reformy monetarne Jana Kazimierza, "Wiadomości Numizmatyczne" 1975, 19, 1, pp. 14-26.

<sup>&</sup>lt;sup>9</sup>M. G u m o w s k i, Podręcznik numizmatyki polskiej, Kraków 1914; idem, Mennica bydgoska, "Roczniki Towarzystwa Naukowego", Toruń 1955, 58, 2, i d e m, Dzieje mennicy toruńskiej, "Roczniki Towarzystwa Naukowego", Toruń 1960, 60, 1-2; i d e m, Dzieje mennicy krakowskiej, Poznań 1927, i d e m, Mennice krakowskie, "Wiadomości Numizmatyczno-Archeologiczne", Kraków 1940-1948, 21, pp. 11-28.

<sup>&</sup>lt;sup>10</sup>J. Waluszewska, Inwentarz mennicy bydgoskiej z 1702 r., Prace Komisji Historycznej, BTN 1966, 3, pp. 125-133.

<sup>&</sup>lt;sup>11</sup>R. K a b a c i ń s k i, Nieznany opis mennicy bydgoskiej z 1672 r., "Wiadomości Numizmatyczne" 1975, 19. 3. pp. 165-169.

<sup>&</sup>lt;sup>12</sup>J. G u t k o w s k i, *Inwentarz mennicy szelągowej ujazdowskiej z 1663 r.*, "Wiadomości Numizmatyczne" 1970, 14, 2, pp. 121–125.

<sup>&</sup>lt;sup>13</sup>S. Suchodolski, Technika mennicza mennicy ujazdowskiej, "Wiadomości Numizmatyczne" 1974, 18, 1, pp. 47-51.

of the 17<sup>th</sup> century and being a specific curiosity in the Polish mintage, and to Lvov mint from the period of 1656/1657. The latter produced only orts and 6 grossi from the Church silver. <sup>14</sup> Further stages of its production have not been comprehensively described similarly to another mint from the same period of time i.e. that of Ujazdów.

Apart from studies devoted to the production of particular mints, there appeared also articles dealing with their leaseholders. Titus Livius Boratini, a leaseholder and organizer of mints striking solidi 15 in the Crown and Lithuania was presented in well-known works of Antoni Hnilko. The person of this leaseholder is controversial even nowadays. 16 In 1979 an article by Andrzej Mikołajczyk was published in "Wiadomości Numizmatyczne". 17 Using Thordeman's rule for calculating the volume of production of copper solidi in mints supervised by Boratini, the author received results which could be treated as leading to establishing the real volume of production. These calculations were based on both minting records and monetary material from finds. In his article, Mikołajczyk shows that in the first period of his activity Boratini overproduced boratynki for over 1 1/2 million Polish zlotys in relation to the limit of 2 million Polish zlotys granted by the Seym. This possibility of applying Thordeman's rule in studies on copper solidi struck in great quantities may help to correct some deep-rooted opinions as regards the production of solidus.

Persons of other leaseholders of the Crown mints also aroused interest of researches but they were less popular in the literature of the subject than Boratini. For instance, the two brothers, Andrzej and Tomasz Tymf, of which the former is known as the author of the project and realization of production of zloty have been described by such researchers as Kirmis, Gu-

mowski, M. Günther. <sup>18</sup> Karolina Targosz <sup>19</sup> devoted her vork to another leaseholder, Hieronim Pinocci. In the light of the work published by her, Pinocci presented himself as the organizer of Lvov mint in the years 1656/1657, an author of monetary, economic magazines, an advocate of political-economic reforms in a difficult period for Rzeczypospolita and at the same time as a humanist, diplomat and a secretary of Jan Kazimierz and Michał Korybut.

Recently, in "Wiadomości Numizmatyczne" there has appeared an interesting article of a Lithuanian scientist, Stasyc Janušonis, devoted to the production of mints in Great Lithuanian Duchy and dealing with unknown bills from the years 1663 – 1667, related to the production of copper solidi. <sup>20</sup> These studies based on archival sources may constitute foundations for further detailed research and especially may help to use Thordeman's rule in calculations of variations in annual production of these coins.

Forged solidi of foreign origin came in great quantities onto the Polish market which is connected with the production of copper solidi. Mikołajczyk dealt with this problem studying the activity of the forged mint in Sucava. <sup>21</sup> Wojciech Niemirycz <sup>22</sup> contributed to the explanation of forged copper solidi produced in the last period of Jan Kazimierz's reign.

Polish coins from Jan Kazimierz's times were also studied by Henryk Wojtulewicz and, from among the previous authors, by Tadeusz Korzon. <sup>23</sup> The first attempt at synthetized research on copper coin itself, especially from the typological point of view, is Niemirycz's brochure entitled *Polska moneta miedziana z XVII w.* <sup>24</sup> (*Polish Copper Coin from the 17th Century*). Other types of coins, apart from Czapski's catalogue and general descriptions of Kirmis and Gumowski, have not been evaluated typologically.

<sup>&</sup>lt;sup>14</sup>T. O p o z d a, Mennica opolska w XVII wieku, "Wiadomości Numizmatyczne" 1978, 22, 3-4, pp. 133-146; i d e m, Mennica koronna we Lwowie w latach 1656-1657, "Wiadomości Numizmatyczne" 1980, 24, 3, pp. 129-196.

<sup>15</sup>A. H n iłko, Tytus L. Boratini, dworzanin króla Jana Kazimierza, mincerz i uczony, "Wiadomości Numizmatyczno-Archeologiczne", 1921, pp. 97–125 and 1922, pp. 1–36, 65–88; i d e m, Wiadomości o rodzie i herhie Boratinich, "Wiadomości Numizmatyczno-Archeologiczne" 1912, pp. 8–10; i d e m, Z literatury o Boratinich, "Wiadomości Numizmatyczno-Archeologiczne" 1909, pp. 178–179.

<sup>16</sup>T. Żebrowski, Tytus Liwiusz Burattini. Notatka hibliograficzno-archeologiczna, "Przegląd Bibliograficzno-Archeologiczny" 1881, 1, pp. 402–403; A. Birkenmajer, Burattini Tytus Liwiusz (1617–1681) m.in. dzierżawca mennic, [w:] Polski słownik hiograficzny, 1937, 3, pp. 133–136.

<sup>&</sup>lt;sup>17</sup>A. M i k o ł a j c z y k, *Trials of T. L. Boratini in 1661 and 1662 revised*, "Wiadomości Numizmatyczne" 1979, 23, 1, pp. 60 – 68, also in Polish "Biuletyn Numizmatyczny".

<sup>&</sup>lt;sup>18</sup>M. Günther, Tympf Thomas [in:] Alt preussiche Biographie, Bd 2, Marburg 1965, pp. 750-751.

<sup>&</sup>lt;sup>19</sup>K. Targosz, Hieronim Pinocci. Studia z dziejów kultury naukowej w Polsce XVII w., ZHN PAN 1967, Monografie z dziejów nauki i techniki, z. 41.

<sup>&</sup>lt;sup>20</sup>S. Janušonis, Nieznane rachunki z lat 1663-1667 dotyczące bicia miedzianych szelągów w mennicach W. Ks. Litewskiego, "Wiadomości Numizmatyczne" 1975, 19, 2, pp. 96-124.

<sup>&</sup>lt;sup>21</sup>A. Mikołajczyk, Falszerska mennica w Suczawie, "Wiadomości Numizmatyczne" 1980, 24, 4, pp. 197 – 221.

<sup>&</sup>lt;sup>22</sup>W. Niemirycz, Falszywe szelagi miedziane z ostatnich lat panowania Jana Kazimierza, "Biuletyn Numizmatyczny" 1970, 10, pp. 190–191.

<sup>&</sup>lt;sup>23</sup> T. K o r z o n, *Dola i niedola J ana Sobieskiego*, 1629 – 1647, 3, Kraków 1898, addition 3.

<sup>&</sup>lt;sup>24</sup>N. Niemirycz, *Polska moneta miedziana w XVII w.*, Białystok 1979, Wojewódzki Dom Kultury, Białystok, Museum Okręgowe; idem, *Skarh horatynek z Przasnysza*, "Wiadomości Numizmatyczne" 1973, 17, 2, pp. 87–112.

A significant help in such an elaboration may be expected from publications of coin finds from the second half of the 17<sup>th</sup> century.

On the basis of the research survey of Polish coins from the second half of the 17th century presented by us, it is seen that the researchers' interest was attracted, first of all, by the period of Jan Kazimierz reign and only Rybarski's work, to a very small extent, dealt with times of Korybut Wiśniowiecki and Jan III Sobieski. However, it should be stressed here that our knowledge even about coins from Jan Kazimierz's epoch is still unsatisfactory. There are still many issues either not examined so far or presented only marginally. Some of them are: monetary crisis, the magnitude of losses on foreign and local markets as a result of producing bad coin and a consequent pauperization of the Polish society, export of means of payment, the activity of mint in Lvov after 1657 etc. While solving these problems, so far not explained univocally, it may prove very much helpful to study the extended source basis which consists of the contemporary publications, legal texts, files of the Crown Register, files of Archives of the Crown Treasury, books of Town files, Silva Rerum and other archives and old prints together with stock-books of monetary finds. The conducting, of such a search for sources would undoubtedly enrich and consolidate our knowledge about this complicated epoch in the history of Rzeczypospolita. Perhaps, it would make possible getting rid of circulating stereotypes and introducing some changes into verdicts of history about the examined epoch. Thus, it seems necessary to prepare a publication of monographic character dealing with the whole Polish mintage in the second half of the 17th century, with critical use of various source materials and also of old literature of the subject dispersed at different publications. In a work, planned in such a way, it would be necessary for numismatists to co-operate with economists and historians.

In the studies on the coin itself as a produce of particular mints, it is necessary to take into consideration not only chronological aspects but also metrology and typology. The analysis of chemical composition of the given coins should not be neglected either. It seems that solidi and zloty (florens) should be treated with special care. A factor facilitating these investigations is the massive number of these coins in hoards which especially favours, among others, statistical analysis. If proposals of research, planned in such a way, are taken into consideration, we can be optimistic while waiting for the future results of studies.

Translated by Elżbieta Lubińska

# **DISCUSSION**

# Jerzy Piniński

I would like to address my first question to Mr. Henryk Wojtulewicz. Why didn't he mention a hundred-ducat while he was listing types of coins struck by Zygmunt III? In fact, it is a specific kind of a coin of medal type but was twenty-ducat a legal tender? Apart from this, you were speaking about coins struck in larger and smaller quantities. Small coins including 6-grossi were struck in the biggest amount. It is obvious because small change is always struck in large quantities since it is more useful in everyday life; however, I think that the fact that orts and also some emissions of talers were met quite often indicates that during the reign of Zygmunt III those types of coins were probably struck in large amount as well.

The question was raised here why there were so few hoards from the times of Władysław IV. In my opinion, this is only an apparent problem. The majority of hoards contains only small coins, which were not struck by Władysław IV, and that is why Zygmunt III's emissions are the latest in these hoards though coins themselves may have been buried in the thirties and the fourties of the 17th century.

I would like to present to you, ladies and gentelmen, one more problem mentioned already by Mrs. Teofila Opozda and connected with the epoch of Zygmunt III. She was speaking about monetary crisis after 1627. In my opinion, the crisis began earlier as it has been suggested by Mr. Wojtulewicz who has prescribed it to the earlier years of Zygmunt III's reign i.e. the beginnings of the 17th century when those coins were depreciated. On the other hand, the decision to stop to strike them after 1627 can be understood as an effort to overcome the crisis. These types of attempts have been undertaken several times in the Polish history of modern times. It was so during

the reign of Zygmunt the Old when half-grossi were stopped to be struck and it was so at the beginning of the Batorian epoch, too. The question arises whether these attempts were sucessful. The effort of overcoming the crisis should be connected with the withdrawal of bad money from circulation. Such an attempt was undertaken by Jan Kazimierz in 1649 by introducing a new minting proclamation. I think that neither the king nor the Polish State should be blamed for the crisis which had a very wide range. It is well-known that inflation from the twenties and thirties of the 17th century spread on vast territories of Europe. Wojtulewicz mentioned the prices of talers and ducats in other countries. We observe there a certain characteristic convergence among different European countries. In Poland a small coin ceased to be produced in 1627 and for instance in West Pomarania it was stopped to be struck in 1629. In Poland big coin was struck till 1649, to Jan Kazimierz's reform, whereas in West Pomerania it was produced till 1654 when small coin was struck again already during the Swedish reign. Dates are very much convergent, the difference of two or five years is very little so we may conclude that economic reasons comprising wide European territories may have caused that different states undertook similar economic operations.

# Edmund Kopicki

The subject of the present Conference is to discuss the state and perspectives of investigations of Polish modern coin. It seems correct that economic aspects. monetary systems, mints, mint lease-

-holders were mainly presented here but in my opinion one issue connected with the state of investigations of modern coin was omitted, namely, the problem of attachment of coins. I do not mean here the attachment to a given ruler or a country because in case of modern coins this problem does not rouse any doubts, with some exceptions of course. I mean here the attachment to particular mints. However, in case of some coins of Zygmunt III their attachment determined by the research works is doubtful and perhaps even wrong. It is obvious that during the reign of Zygmunt III there were mints in Urzędów and Warsaw. Can we prescribe any coins to these mints? No, we cannot. On the coins of Zygmunt III there are a lot of signs which cannot be identified by us either. There are ternari called abnormal by Walewski, not all of them are forged and in fact, we do not know what to do with them. At the beginning of the Conference Professor Kiersnowski rightly noticed the divergence between analitic studies of particular periods and the works of synthetic character. And what can such a synthesis look like without a profound analitic research? Some small fragments are well-known due to the latest studies of Professor Kiersnowski or Professor Suchodolski or Mr. Piniński, M.A. For the remaining part we only possess elaborations from the 19th century and, in fact, we have learnt about them from the presented reports.

#### Jarosław Dutkowski

Ladies and gentlemen, I would like to present you my two suggestions.

The first one is connected with finds. I think that findings coming from the 17th century are not properly used and very rarely studied. In various observations and analitic works led by me I have noticed a certain regularity. In the 17th century the coins dating back to the 16th century appeared again in the circulation which is rather odd since the 16th century coins, if we take into account the successive crises, did not have any right to circulate. For example the hoard of Poznań from 1650 – 1656 contains a solidus of Gdańsk or solidus of Elbląg struck by Kazimierz Jagiellończyk. This appearance of older coins is not accidental as it can be concluded that somewhere in stocks or in family treasuries or in trading-posts those old better coins were preserved and due to various circumstances they returned to circulation.

The second problem is connected with the circulation of hoards. In my opinion the period of depreciation should be considered and the monetary crises in Poland should be related to the monetary crises in Germany and Western Europe. It is not accidental that monetary crisis in Germany echoed later in Poland. If we observe, on the basis of the Polish coin, what was happening in 1618 – 1624, we will not be able to see any symptoms of the crisis which in those times spread in the whole Europe where the inflation was very violent. The comparisons of inflation in Silesia and in the Crown were prepared, among others in "Wiadomości Numizmatyczne". From these numbers it resulted that the inflation in Silesia often exceeded 1000% whereas the inflation in the Crown reached several dozen per cent. It should be considered how it happened that neighbouring states were able to overcome such a deep crisis while Polish country felt its consequences only after 1650. Although we remember about Swedish wars, yet we should examine these phenomena taking into account economic problems and we ought to explain what happened that this external crisis reached Poland with such a big delay. We observe quite strange activities of Polish kings in minting policy as well as the policy of towns striking coins in those times. Assistant Professor Andrzej Mikołajczyk tried to explain this problem. It turned out that at the beginnings of the 17th century Gdańsk became a town in which gold and silver were treated as normal goods in various periods; either there was a surplus of gold or a surplus of silver. In relation to this the problem of lack of coins of Władysław IV in monetary hoards raised by Mr. Wojtulewicz, should be

examined. If we examine European finds we will see that Władysław IV's coins appear in foreign hoards. I think these are the phenomena which require more profound studies but I must admit that having heard the present reports I have an impression that we still deal with local, regional problems not wanting to learn what was happening outside Poland, Prussia or Lithuania. Yet, what occured in Western Europe echoed in Poland with several years' delay.

# Aleksandra Krzyżanowska

In reports presented today I have not noticed anything about big pieces of gold, so called donatives, some multiplications of ducats etc. Do you, lecturers, consider those pieces to be medals and, as a consequence, omit them while presenting your reports? I know that there were some researchers who were interested in the subject. Still, I do not know whether any publications devoted to this subject appeared at all. Yet, the problem of big pieces of gold struck in the whole Europe in those times existed and it deserves to be examined thoroughly by our Polish numismatists.

#### Borys Paszkiewicz

I would like to refer to the fact which was stressed by colonel Kopicki. Indeed, the issue of attribution of mints in Zygmunt III's times is very urgent and it requires a total revision perhaps even more complete than suggested by colonel Kopicki. Namely, I would like to attract your attention, ladies and gentelmen, to two interesting gold portugaly (Portugueses), ten-ducats of Zygmunt III; one from 1591 and another from 1617 (from Helsinki) which bear the Rzeczypospolita coat of arms with the Eagle and the Knight, which in my opinion, cannot be prescribed to any other mint but to the municipal mint in Riga. It could prove that the scheme accepted by us to prescribe the Crown coins to the Crown mints and municipal coins to municipal mints does not have to be correct and should be treated with special care. And finally one small remark connected with Mr. Wojtulewicz's report; during Zygmunt III's reign 3 kreuzers and not kreuzer were struck.

#### Marta Meclewska

Can Jan Kazimierz's copper solidi be included into the normal process of violent depreciation of money in the times of this monarch? It seems to me this was a special emission meant beforehand as a credit emission. Then, it was probably not the process of ordinary money depreciation and it should be considered in another economic category.

# Henryk Wojtulewicz

It seems to me that hundred-ducat is at least the commemorative coin if not a medal, struck in a small quantity and not being in circulation in everyday use as the state money. As regards small coins, orts could have been emitted in large number but because of good silver they could have been recoined into other small coins therefore in finds there are more small coins of better value.

As regards hoards with Władysław IV's coins we possess little information apart from information concerning small coins. However, even if foreign coins, having been struck with the date of the king's reign in years 1632 – 1638 in neighbouring countries, came to Poland, the question arises why are there so few such coins in hoards? As compared to a great number of hoards containing Zygmunt III's coins, hoards with coins of Władysław IV are much less numerous.

As regards colonel Kopicki's statement, the issue of prescribing coins to particular mints is certainly very significant, yet, we still have the problem of threchalfscores to solve. Ladies and gentelmen, if we come across a sign of any mint supervisor or of any mint, there is no

problem in attributing a coin to a concrete mint. Such a problem arises when we find a minting sign of a mintmaster working for two or three mints at the same time. Such a situation took place in the 17th century. If together with a minting sign of a supervisor there is a letter of the town in which there was a mint then it is easy to find a proper mint in which the coin was struck but if we possess only the private sign of supervisor or only the Treasurer's coat of arms than we face the problem from which mint the given coin came. For instance, półkopki (threehalfscores) of Bydgoszcz have only the Treasurer's coat of arms and not a mintmaster's sign so in such a case it is hardly possible to attribute the given coin to a proper mint.

I possess some information from 1611 about a mint existing in Urzędów but so far it has not been settled what coins were struck there.

# Stanisław Suchodolski

Taking advantage of the privilege of being the Chairman of the Session I would like to join the discussion and to add a few words about identification of these mints. Mr. Wojtulewicz claimed that this was a difficult task. Of course, it is difficult but it does not change the fact that there remains the problem which should be solved sooner or later. Still, in early Middle Ages mints can be identified not only on the basis of minting sign, which seems to be a luxury. but also on the basis of the style of a die, or connections of dies or on the basis of localization of finds. Methods are different and some of them are undoubtedly ardous, still they fascilitate the identification of mints. And this must be done at last.

The proposal of comparing the situation abroad and in our country was put forward here. I take a risk to say that in other

countries the state of numismatic knowledge is much wider than in Poland. It is known not only where coins were struck but even when and by whom. Even these coins which do not bear a date are recognized. While in Poland, before the dates appeared such coins had been marked by means of date of the period of ruling monarch. In fact, it is an introductory stage and it proves that detailed recognition of coins is very poor in our country.

# Teofila Opozda

I am answering Mrs. Meclewska's question; in what way did the production of copper solidi start? Please, imagine, ladies and gentlemen, the confederation of Polish armies (Lithuanian and the Crown). In consequence the internal menace for the unity of the country was at that time enormous. So the agreement with T. L. Boratini, an intelligent man of initiative, was signed. It seemed that the agreement of the Senate with Boratini would allow the State to meet its obligations to the confederating army which caused a lot of damage. Soon, Andrzej Tymf appeared in minting circles. He reported at the Committee for Military Payments in Lvov and put forward a proposal of striking Polish zlotys. They were to be of 8th fineness of silver, fifty fifty together with copper. Tymf's project was accepted by the Committee. In this way, the volume of production of horatynki was decreased. Why? Since they were very uncomfortable in use. In order to pay soliders who, by the way, were not willing to accept them, they had to be transported in sacks. Zlotys were more convenient in settlements of accounts.

> Translated by Elżbieta Lubińska

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