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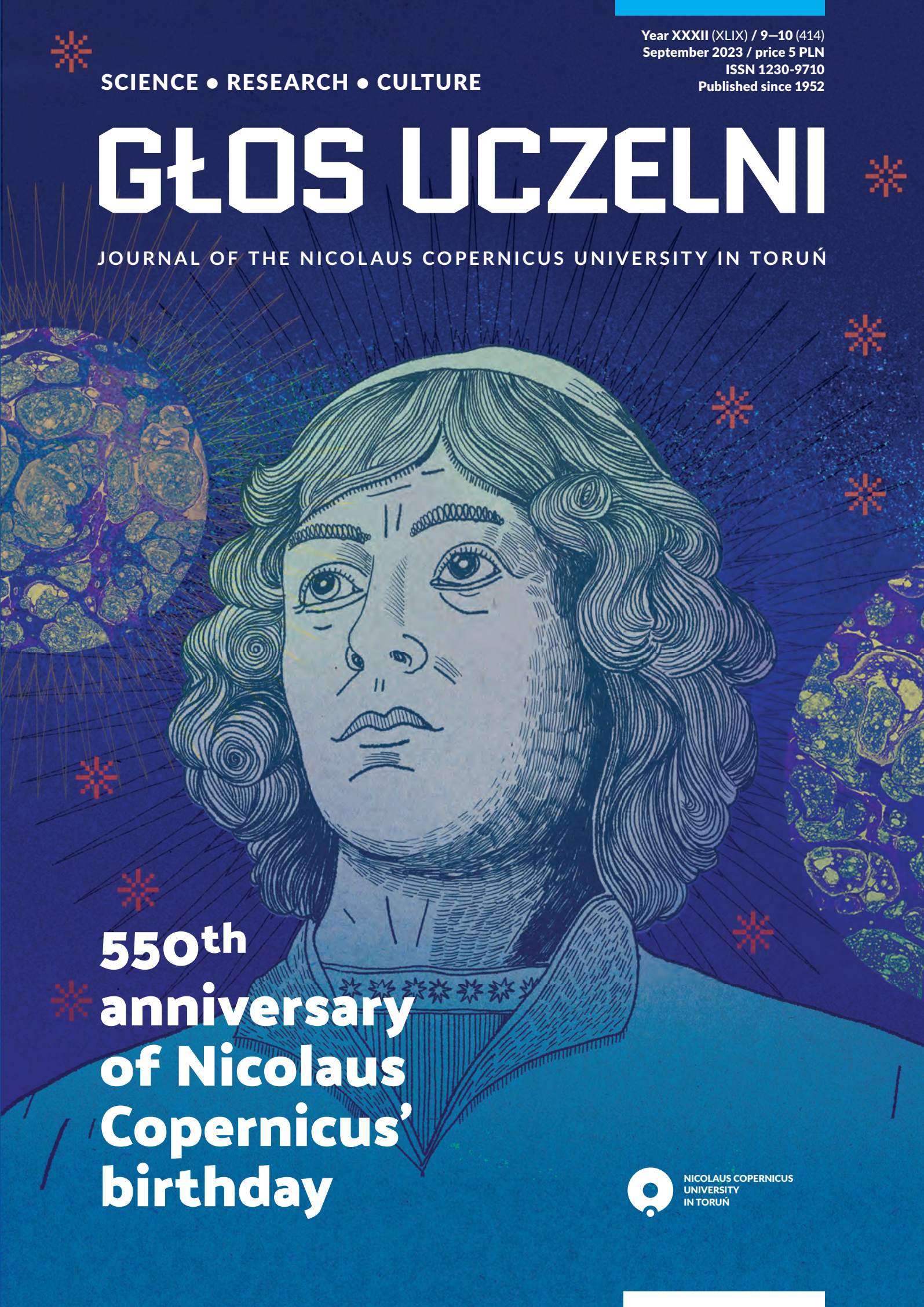
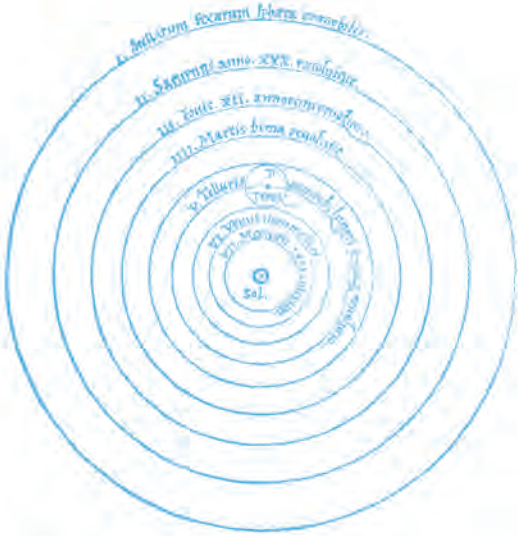


550th anniversary of Nicolaus Copernicus' birthday

NICOLAUS COPERNICUS UNIVERSITY IN TORUŃ

WORLD COPERNICAN CONGRESS



550th Anniversary of the Birth of Nicolaus Copernicus 1473—2023

Official opening, Toruń 19 February 2023
Kraków 24—26 May 2023
Olsztyn 21—24 June 2023
Toruń 12—16 September 2023
Closing ceremony, Toruń 15 September 2023

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2023 the Year of Nicolaus Copernicus

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APATOR
260
TZMO GRUPA

Voice on the side

Five centuries – it is both long and a short time. Compared to ancient civilizations this seems to be a short time, but these civilizations are more of an exotic curiosity to us than a real heritage with which we identify. Except maybe for Greece and Rome.

Five centuries ago, Nicolaus Copernicus wrote his works, solved the problems of the world he lived in, addressed scientific questions, but also he dealt with the mundane aspects of life. To what extent are people living in our times able to understand him? Of course, it is not a question of explaining his scientific deliberations, because, after all, science makes progress and this is its immanent feature. However, we are all children of our times. Copernicus was a child of his own times and we are children of our own. The world around us shapes us, inspires us (sometimes also irritates us), and makes us ask questions and look for answers. When looking at Copernicus' life and achievements in this way, do we understand him, is he close to us, or does he appear only as an admittedly outstanding, but still a "museum" figure?

All answers to this question are correct. I would be naive to think that Copernicus might be more interesting to many of us than Internet celebrities, music or movie stars, or even the likes of Elon Musk. This is because Copernicus is neither someone who was involved in a field that lots of people are passionate about, nor someone who has led an adventurous and notorious life.

On the other hand, however, when you look at his life, you can find it enough to be shared among many of our contemporary heroes. It is not only astronomers who can envy Copernicus' successes. The same could be said about economists, lawyers, physicians, and even.... military officers.

I also have the irresistible impression that Copernicus' greatness was due not only to his remarkable talents in various fields, but most importantly to his thinking, which was ahead of that of his contemporaries (and significantly so), and his approach to the problems he faced. Is Copernicus a man of the future? By all means! More than of his own time.

This is the reason why the whole world is celebrating the 550th anniversary of Copernicus' birthday. This is something that is not done even for monarch of his time. Copernicus can also be a positive hero of our times (and we badly need them) – with his unconventional approach to problems, out-of-the-box thinking, breaking taboos, and courage to speak the truth.

I was fortunate to witness the 500th anniversary of Copernicus' birthday, when half of Toruń's Old Town was renovated and NCU got a new campus in Bielany. I now have the opportunity to participate in the celebration of the 550th anniversary of the astronomer's birthday. Due to the laws of nature, I will most likely not live to see Copernicus' birthday celebrations after another 50 years. All I can do is try to stay in shape to live until the 500th anniversary of the NCU's patron's death. I hope it will work out! Let us all hope that we make it to that next anniversary in good health.

Winicjusz Schulz
Editor-in-Chief of "Głos Uczelni"

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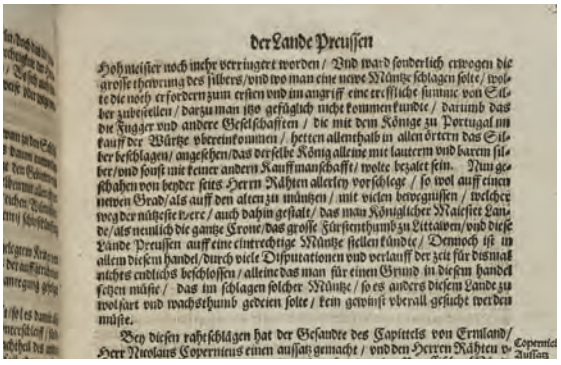
der Lande Preussen

Hohmeister noch nicht verringert worden / Vnd ward sonderlich erwogen die grosse theurung des silbers / vnd wo man eine newe Müntze schlagen solte / wolte die noch erfordern zum ersten vnd im angriff eine ercckliche summe von Silber zubestellen / darzu man itzo gefüglich nicht kommen kundte / darumb das die Fugger vnd andere Gesellschafften / die mit dem Könige zu Portugal im kauff der Würtze vbereinkommen / hetten allenthalb in allen örtern das Silber beschlagen / angesehen / das derselbe König alleine mit lauterm vnd barem silber / vnd sonst mit keiner andern Kauffmanschafft / wolte bezalet sein. Nun geschahen von beyder seits Herrn Räthen allerley vorschlege / so wol auff einen newen Grad / als auff den alten zu müntzen / mit vielen bewegnissen / welcher weg der nützeste were / auch dahin gestalt / das man Königlicher Maiestet Lande / als nemlich die gantze Crone / das grosse Fürstenthumb zu Littawen / vnd diese Lande Preussen auff eine eintrechtige Müntze stellen kündte / Dennoch ist in allem diesem handel / durch viele Disputationen vnd verlauff der zeit für dismal nichts endlichs beschlossen / alleine das man für einen Grund in diesem handel setzen müste / das im schlagen solcher Müntze / so es anders diesem Lande zu wolfart vnd wachsthumb gedeien solte / kein gewinst vberall gesucht werden müste.

Bey diesen rathschlägen hat der Gesandte des Capittels von Ermland / Herr Nicolaus Copernicus einen auffsatz gemacht / vnd den Herren Räthen v-

The author of the first economic treatises in Poland

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As early as several decades after Copernicus' death, there was little knowledge of his life. It only took two generations for almost all memory of his biography to disappear.

Copernicus still being discovered

An interview with Prof. Krzysztof Mikulski by Dr. Ewa Walusiak-Bednarek and Prof. Marcin Czyżniewski

Photo by Andrzej Romański

It would seem that we are well acquainted with the figure and achievements of Nicolaus Copernicus, and yet, when studying his biography, we still come across caveats ("probably," "perhaps") or outright questions to which we do not know the answers. Do we know or not know more about Copernicus?

Today we know much more about Nicolaus Copernicus than was known about him 50 years after his death and more than we knew just a few years ago. Copernicus himself did not leave behind many traces, and the biographies that were written after his death were very perfunctory and partly false. As early as several decades after his death, there was little knowledge of Copernicus' life. Even basic biographical data is controversial.

We are not sure of, for example, the dates of Copernicus' birth and death.

Theoretically, we know his date of birth with exceptional accuracy: to the hour and minute. How-

ever, this knowledge comes from an astrological divination, not from source documents. There has been a debate over whether Copernicus was born two years later, in 1475. In those days, young men left for university at the age of 16, while Copernicus left for Cracow in 1491, so he would have been 18. However, this difference can be explained in another way: Copernicus could not start his studies earlier, as that time was not very favorable due to the position of his uncle Łukasz Watzenrode. It seems to me that we have no reason to doubt the commonly accepted date of Copernicus' birth. The specific of Copernicus' death, which appears on his epitaph, is also debatable. Copernicus supposedly died on May 24, 1543, but his successor had already taken over the canonry after him on May 21 of that year. However, perhaps the entry regarding the takeover of the canonry was backdated. This is one of the numerous uncertain pieces of information about Copernicus, and perhaps further research into the reports of the Warmian chapter will help to solve it in the future.

Our knowledge about Copernicus' studies in Cracow is actually only based on the entry about (Nicolaus), a son of Nicolaus of Toruń, who paid his tuition in advance. We do not know if he completed his studies and where he got his diploma.

There are a few more notes in the margins and a fortunetelling about his mother's health from 1495, which I link directly to the departure of the two brothers, Nicolaus and Andrzej, from Cracow; I assume that the reason for the departure was the death of their mother and the assumption of full custody of her sons by the uncle. In Cracow, Copernicus most likely did not earn any degree, neither a bachelor's degree nor a master's degree in liberal arts, as that would have been recorded in the annals of the university, but let us remember that in those days one did not need to have a diploma to be considered an excellently educated man. Most of our knowledge of Copernicus' studies in Cracow is second-hand, so to speak, because we know quite a bit about the functioning of the university at that time. We can even guess what classes he attended and who his masters were. A very important book about Copernicus' studies by Prof. Marian Chachaj is about to be published, which will be a major advance in our knowledge of the astronomer's student days.

At the end of Copernicus' life, it was already known that he had made a significant discovery, yet none of his contemporaries took care to preserve the memory of him. Even Copernicus' first epitaph was written many years after his death, which makes us argue to this day about the place of his burial.

The first epitaph, which was later destroyed, states that his name was Jan! It also states that he was a "physician and astrologer," and the information that he was an astronomer was not included on the epitaph until the 18th century. So, there was not even an awareness of what he was actually doing. Copernicus was a loner; his fame was tied exclusively to the discovery he made, not to what he did in his life. It can be said that he had actually a boring, monotonous life, typical of a canon who spent most of his time at the canonry's premises, occasionally traveling to neighboring cities on official or administrative matters. If it was not for his interest in astronomy, we would only know about him that he was alive, lived in Frombork, and held some office.

He would thus share the fate of his brother Andrzej, about whom we know even less.

In the latter's case, we do not even know the dates of his birth and death. We know that he studied with Nicolaus in Cracow and Italy, and that he contracted an "embarrassing" disease. We also know him from several sources from the time when he appeared in Warmia to fight for his canonry. The story of Andrzej Copernicus, by the way, is the story of one of the basic errors in the biography of Nicolaus, which has been repeated over the years, and which I believe I was able to correct. The order in which the children of Mikołaj and Barbara Copernicus were born was determined by Leopold Prowe on the basis of only one source, a genealogical table from the early 17th century. They are listed there in the following order: Andrzej, Barbara, Katarzyna, and Nicolaus, with no birth dates, and Prowe concluded that Andrzej was Nicolaus' older brother. No one noticed that this is simply an alphabetical order, not chronological. From the documents in which the brothers appear together, it is clear that Nicolaus was older than Andrzej, as they are always listed in that order and it is not a random order. This simple mistake meant that prof. Karol Górski, for example, had to go to a lot of trouble to explain why Andrzej

graduated from a university Italy or became a Warmian canon later than Nicolaus.

Copernicus' first Polish biographer Jan Brożek became interested in this historical figure in the first half of the 17th century. It would seem that in those days the memory of Copernicus should still be alive, but he was forgotten even in his hometown.

Yes, it turned out that Nicolaus Copernicus, who was born in Toruń and who signed his work with the nickname "Toruń resident," was almost completely forgotten in that city as early at the end of the 16th century! It was not until Jan Brożek's visit to Toruń and his subsequent activities that the memory of their great compatriot was restored there; it was then that his epitaph was founded in the St. John's parish church, today the St. Johns' Cathedral. Another renaissance of interest in Copernicus, not only in Toruń, took place in the 18th century, when, on the initiative of Jakub Kazimierz Rubinkowski, the epitaph in St. John's church was restored and modified, and duke Józef Aleksander Jabłonowski funded the first statue of Copernicus, actually a bust, which was considered too modest to be placed in the town square. In the 18th century, Copernicus became very popular, as can be seen in the historical literature of the time. The aforementioned epitaph, by the way, is linked to a recent discovery about the time when Copernicus lived in Toruń. Today we know for sure that it was placed in the wrong chapel. The Watzenrode family held all religious ceremonies not in the chapel of St. Nicolaus, which was indeed a merchants' chapel, but in another chapel, the chapel of St. Elizabeth, today known as the chapel of St. Stanislaus Kostka. They had two altars there of which they were patrons. Most likely, this is where the baptism of Nicolaus Copernicus took place and where his baptismal font should be located. The baptismal font itself will probably remain in its current place, but on the occasion of the celebration of the 550th anniversary of Nicolaus Copernicus' birth, a commemorative plaque will be placed in the chapel of the Watzenrode family.

As late as the second half of the 20th century, sources related to Copernicus were found, including his letter to King Sigismund the Old. The last such source found about a dozen years ago was a letter to Copernicus with a request for legal advice. Is there still a chance for new similar discoveries?

In my opinion, only a small one. Copernicus' library has been dispersed. Recently, while studying 18th-century sources, prof. Stanisław Roszak discovered that some of Copernicus' correspondence and books supposedly went to Königsberg, but we do not know what happened to them later. If any discoveries are made in the future, they will be accidental, and will be made in collections that have not been inventoried or described to date. I also do not think that they will change our knowledge of Copernicus in any fundamental way.

You mentioned findings related to Copernicus' brother or the exact place of his baptism. Despite the lack of sources, it has been possible in recent years to expand our knowledge of this person and correct errors that have sometimes persisted for centuries.

It has been possible to determine Copernicus' lineage; on his mother's side we can identify ancestors up to the fourth or fifth generation, to the first half of the 14th century, in both lines. Copernicus' lineage on his father's side remains more mysterious; in my book, I argue that his family originated in Nysa and could be identified as the Koppersmed family from that town. After several unsuccessful attempts, it was possible to locate all four houses owned by the Copernicus family in Toruń and make plausible the thesis that Nicolaus Copernicus was born in a house in the Old Town Square, which does not exist today, where his parents very likely moved in after 1468. It should most likely be ruled out that Copernicus studied at the cathedral school in Włocławek; in my opinion, there is no basis for such a supposition. Although Łukasz Watzenrode was a canon of Włocławek, he may have appeared there only once, not more. The period of Copernicus' stay in Warmia is the best described and known, and much of this information comes from Copernicus himself, including from the surviving correspondence. I have doubts about the way Anna Schilling is described and interpreted. My research shows that she was not Copernicus' mistress, but a cousin who cared for him at the end of his life.

The most famous discoveries in recent years supposedly included the discovery of Copernicus' remains.

When they were put on display in Toruń's St. Johns' cathedral in 2010, one of the journalists asked me if I was sure that these were in fact the remains of Copernicus. I replied: This is a sacred place and here one should believe... There may be a chance to verify this discovery, as it is likely that the burial place of the so-called "great bishops" has been found in the Frombork cathedral. If the remains of Łukasz Watzenrode are preserved, if they can be identified, and finally if the DNA can be obtained from them, we will have irrefutable evidence for or against. However, we should bear in mind that the Frombork cathedral has been destroyed and plundered several times. Nevertheless, let u hope that this particular crypt has survived intact.

Regardless of what we do and don't know about Copernicus, his figure and discovery have been interpreted in all sorts of ways over the centuries and even used for various purposes, including ideological ones. They were used by Poles and Germans in their nationality disputes, and they were used during the period of the Polish People's Republic. Our university also cultivates a certain image of Copernicus to help build its reputation.

After his or her death, a person, especially an outstanding one, becomes a part of culture, its property, and does not exist as a person, but as a certain idea. This is especially true of figures living in those times, with so few of their direct material traces, especially sources, remaining. It only took two generations for people who lived in the place where Copernicus came from or were successors in the places where he conducted his activities to lose contact with Copernicus as a person and for almost all memory of his biography to disappear. The memory of Copernicus, especially in the cultural dimension, will be one of the most important themes of the World Copernican Congress. We want to reconstruct the way he has been perceived from the moment of his death until today, how he was remembered in 17th-century Italy, for example, and how he was remembered in 18th-century Poland, and whether for his contemporaries he was just a physician, a lawyer, or perhaps already a great scientist? Of course, we will not avoid a dispute over Copernicus' nationality, because he has played an important place in the culture of memory. We will discuss how this dispute developed and what purpose it served, as well as who was the first to conclude that Copernicus was German. As an aside, let me just remind you that when Toruń sought funding for the construction of a monument to Copernicus in the 19th century, the government in Berlin refused, arguing that Copernicus never lived in the German Reich. Copernicus' Germanness was heavily exploited by the Third Reich, and it was then that the search for his remains first began in earnest. Who knows if Hans Schmauch did not actually find them at the time; if so, they were destroyed in Königsberg, where he brought them.

Who, then, should Copernicus be for people today, especially for the community of the university that bears his name?

He was first and foremost the founder of the scientific method in the practice of science, and for me this is his greatest achievement, regardless of the importance of the discoveries he made. He was the first to try to support each of his hypotheses with mathematical proof. This shows that a man of science can be wrong in his views, but what matters is how he arrives at the truth. We know that his astronomical calculations were not entirely correct, but they were nevertheless based on mathematical proof. Copernicus is therefore of fundamental importance to science, and in this sense we are all his heirs, regardless the field we work in.

Thank you for the interview.

Prof. dr. hab. Krzysztof Mikulski — historian, specialist in the history of the Middle Ages and modern times, researcher of the history of cities and burghers, expert on the times and figure of Nicolaus Copernicus. Director of the Institute of History and Archival Science at the NCU, head of the Department of Modern History and Source Editing, director of the Copernican Research Center, president of the Polish Historical Society

NCU research team: Jolanta Czuczko, Karolina Komsta-Sławińska, and Mirosław Wachowiak

Photo by Madelyn R. Perez

Copernicus in the Philippines

In late February and early March 2023, Mirosław Wachowiak, PhD, a professor of the Nicolaus Copernicus University (NCU), Jolanta Czuczko, PhD, and Karolina Komsta-Sławińska, MA, from the Faculty of Fine Arts of the NCU, stayed in Manila, Philippines.

During the visit, a Letter of Intent for cooperation with the University of St. Thomas in Manila was signed on behalf of the rector's offices. The project inaugurating the cooperation between the Universities involves a study of the manufacturing technique and determination of the state of preservation of

the first edition of Nicolaus Copernicus's book De revolutionibus orbium coelestium.

The project was initiated by representatives of the Polish Embassy in Manila: chargé d'affaires Jarosław Szczepankiewicz and minister counselor Anna Krzak-Danel. The project is supported financially by the ORLEN Foundation.

Nearly 280 volumes of the first edition of Copernicus' work have been preserved worldwide. Each has different characteristics, such as binding and historical overlays, including marks indicating provenance. What makes the copy kept in Manila unique is the fact that it has been in the collection of the University of St. Thomas continuously for more than 400 years. It has been part of the collection of the University Library (Miguel de Benavides Library) almost since the university's inception. It is interesting to note that the print of the De revolutionibus was included in the book collection of the Catholic university (Pontifical and Royal University of St. Thomas) at a time when it was on the index of banned books in Europe. As the marginal annotations indicate, the book was treated as a useful source of information in maritime navigation. For this reason, Copernicus' work, despite its limitations, was used by Spanish sailors. More copies were originally brought to Manila via this route, but it is now the only example of a first edition of De revolutionibus in the Philippines and one of seven in Asia. The book has not been the subject of conservation examinations to date.

The project is also unique in that it will involve the observation of items of European heritage that have been stored in harsh tropical conditions for hundreds of years, which has a significant impact on their state of preservation. The analysis of the condition of the Manila copy of De revolutionibus will form the basis for the next stage of the project, namely conservation and restoration of the valuable print.

The project is being carried out jointly with staff from the Heritage Section of the Miguel de Benavides Library and the university's Research Center (Analytical Service Lab).

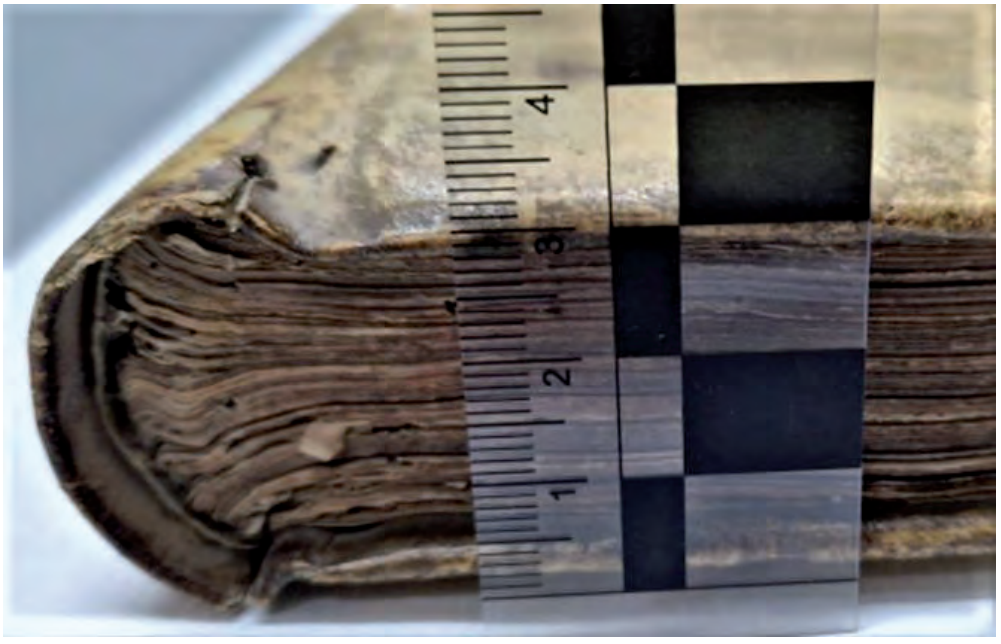

Photo by Jolanta Czuczko

We do not know much about Copernicus, but we can definitely say that he showed meticulousness and thoroughness in everything he did.

Not just looking at the stars

An interview with Prof. Janusz Małłek by Prof. Marcin Czyżniewski

Photo by Andrzej Romański

In your book titled *Mikołaj Kopernik. Szkice do portretu [Nicolaus Copernicus. Sketches for a portrait]*, you described Copernicus' origin as "a Toruń resident, a citizen of the Prussian district of the Kingdom of Poland." What was the significance for Copernicus' activities of the fact that he was born specifically in Royal Prussia and spent almost his entire life here?

Copernicus was born less than twenty years after the act of incorporation of Prussia into Poland and several years after the end of the Thirteen Years' War. On the one hand, this must have affected his attitude toward the Kingdom. As he was growing up, he certainly heard tales of how the burghers of Toruń captured the Teutonic castle, which must

have stimulated his youthful imagination, and his family's tradition preserved accounts of loans made by his father and grandfather on his mother's side to the Polish king to wage war against the Teutonic Order. On the other hand, it has affected his public responsibilities. He lived at a time when the system of government of Royal Prussia was taking shape, which was not an easy process. It can be said that Copernicus' entire life was spent in a dispute between Polish Prussia and the Crown over the nature of the political union. This was also the period of the dispute between the Crown and the Teutonic Order, which escalated into a war in 1519. The internal politics of Polish Prussia were largely in the hands of local elites, which Copernicus undoubtedly was a member of. For several years he was the closest associate of his uncle, Łukasz Watzenrode, a Bishop of Warmia, who was then the central figure of Polish Prussia, and ex officio the chairman of the Prussian Sejmik (regional assembly).

This must have indeed been a good school of public service, not only because of the high position of his uncle, but also because of his activity. One can even say that Łukasz Watzenrode pursued a rather adventurous policy...

Yes, we remember his dispute with King Casimir Jagiellon over the staffing of the bishopric of Warmia: the king saw his son Frederick in that position and Łukasz took vigorous action in his cause, like a politician. He was able to capitalize on the mood of the local elites, who would have been reluctant to see a bishop imposed by the Crown. Watzenrode was a very ambitious man who boldly pursued his goals and put everything on the line. Because of this, he was not particularly well-liked, but he was effective and looked after his interests and those of the bishopric. After Watzenrode's death, the position of the Warmian chapter in relation to the king changed to its disadvantage, which also shows how strong his position was.

After Copernicus left Lidzbark, he has held many important public positions himself.

Among other things, he was the administrator of the chapter's estates, which involved participation in the resolution of numerous disputes between the bishopric and its Teutonic neighbors; in later documents, he is also sometimes called a "commissioner" (*commissarius*) and a general administrator of Warmia. Sources record Copernicus' repeated presence at conventions and later at Prussian assemblies as a representative of the bishop or the chapter. For the participants of the assemblies, he was undoubtedly someone important, he was treated there as an expert, especially in monetary matters. The minutes of the assemblies show that Copernicus was very much involved in the affairs of his region.

However, he did not want to become the Bishop of Warmia.

This is what my master, Professor Karol Górski, pondered. He believed that Copernicus simply did not have that spiritual calling that was necessary for priestly functions. We need to bear in mind that he was unlikely to have a higher ordination...

... Jan Dantyszek did not have it either, and eventually became the bishop of Warmia.

However, Copernicus did not have such ambitions; I think it was mostly about the daily duties of the clergy at the time, which would have simply distracted Copernicus from the things that were important to him. Most canons did not have higher ordinations and did not have to celebrate daily masses; that was the job of the vicars. Copernicus could easily have become a bishop, especially with the support of his uncle, but, well, not every university professor wants to be a rector, some run away from additional functions to devote themselves to their passion for science. The position of a canon provided him with subsistence; even if at a modest level, it was a steady income that enabled him to conduct research. To put it in today's language, it was a long-term scientific scholarship, and Copernicus did not need anything else. We should also note that among the 39 books owned by Copernicus and located today in Uppsala, Sweden, there is not a single theological book; apparently this field interested him less than astronomy, mathematics, or medicine.

I will give another quote from your book: "The average person who met Copernicus did not realize that he or she was talking to one of the world's great scientists.

Few people knew that Copernicus was looking at the stars at all; those who knew it could have

been members of the group of his closest colleagues in the chapter, especially his friend Tiedemann Giese, later a bishop of Chełmno. This changed somewhat after the meeting with Rheticus, who was the first to realize the importance of the observations made by Copernicus, and of course after the publication of *De revolutionibus*, but by then Copernicus had already been dead. Today, walking down the street of any Western university town, we can also pass a Nobel Prize winner and not realize it at all.

Copernicus himself probably did not care much for scientific fame. He appreciated his solitude in Frombork, which he described in a letter to Pope Paul III as "a remote piece of land." However, he must have missed inspiring discussions and exchange of scientific views. Rheticus' visit must have been a nice change for Copernicus.

There is no doubt about it. A young man arrives from Wittenberg, from Luther, who is educated, knowledgeable in geometry, mathematics, and astronomy, who understands the work of Copernicus and recognizes his genius, with whom the astronomer can have discussions and confront his views. For Rheticus, this must have been a tremendous experience, too; by the way, he did not come to Frombork by accident – he came specifically to see Copernicus, already knowing the outline of his revolutionary theory.

You mentioned that Copernicus' contemporaries valued him primarily as an expert on monetary matters. His treatise on coins, prepared for the congress of the Prussian estates in Grudziądz, is still mentioned today together with *De revolutionibus*, and the first outline of the treatise is sometimes considered the beginning of Polish economics. This is not only a theory about bad and good money, but also some very specific demands for monetary policy in Prussia.

Copernicus had a very broad view of the monetary union, he believed that its participants should be not only Royal Prussia and the Crown, but also Ducal Prussia. The vision of a monetary reform proposed by Copernicus was too radical to be implemented, it violated the interests of cities profiting from minting their own coins, and it reduced the revenue of the royal treasury. Those times were not conducive to such radical economic reforms. After years of discussion, a draft law was accepted that was much more of a compromise, but also introduced a monetary union of the Crown, Royal Prussia, and Ducal Prussia, as Copernicus had advocated. He was interested in taxes, wages, and prices, and was, among other things, the author of the draft law on bread tax, which set the price of bread dependent on grain prices. We must keep in mind that Copernicus did not have a degree in economics and this was the result of his own experience in administering his chapter's estate.

He was also known to his contemporaries as a physician.

This is indicated by the prescriptions that have been preserved, as well as some notes in the margins of books and correspondence related to patient visits. Copernicus' services were used by Grand Master Albrecht Hohenzollern, who summoned him to Königsberg when one of his courtiers, Georg von Kunheim, fell ill. Copernicus went to Königsberg, spent almost a month there, but convinced the prince that a better doctor would be Jan Benedykt Solfa, whom Copernicus had consulted, perhaps out of innate modesty. In the Königsberg archives, I have found a record of Albrecht's expenses related to Copernicus' advice, his per diem, and his travel expenses. Copernicus was an internist and his entire medical activity consisted of prescribing some sort of potions and herbs. In those days, a doctor could not perform surgical procedures as that is what barbers-surgeons were for.

There is little evidence of his legal activities: a legal opinion drafted by Copernicus for his friend Tiedman Giese, discovered in 2006 by Professor Teresa Borawska.

Copernicus, of course, had a doctorate in canon law from the University of Ferrara, but we know that he was also well versed in Roman law. He must have been familiar with the principles of Chełmno law; otherwise, he could not have been an organizer of settlements in Warmia. There are almost no traces of Copernicus' activities as a lawyer, because these matters were handled by other canons, for example Feliks Reich, a secretary to the bishops of Warmia, public notary, and scribe of the chapter.

It seems that Copernicus focused in particular on the organization of settlements in Prussia. There are many traces of that activities in the sources, making it one of the best-known spheres of Copernicus' activity.

As a result of the two wars between Poland and the Teutonic Order: the Thirteen Years' War and the Prussian War, many estates were destroyed and their owners left or simply lost their lives. In this situation, new settlements were extremely important to the interests of the chapter, and Copernicus, as the administrator of the chapter's estate, had to take care of them. We know of at least 73 location documents that he drafted, and we also know that he was extremely meticulous in this activity.

Copernicus' location activity, by the way, is one of the indirect proofs that he knew the Polish language.

There are no letters written by Copernicus in Polish, but it is also true that he had no need to write them. He had contacts with the elite, and the language of correspondence in this case was Latin, or, if the addressee did not know it well, like Duke Albrecht Hohenzollern, German. Copernicus must have had contacts with the Polish language in his home as a child. Of course, the Toruń patriciate spoke German, since it was composed of families originating from Westphalia, but their business partners, servants, and Toruń residents from the lower strata, were bilingual, and Polish was spoken by Copernicus' uncle, Bishop Watzenrode, who appeared at the Crown Sejms. The location documents handwritten by Copernicus are indeed one of the proofs that he knew Polish. Most of the settlers brought to Warmia at that time came from Mazovia, they had Polish names, such as Wojtek, Stanisław, and Szczepan... Copernicus wrote them down as he heard them dictated to him without a problem. We also know that he rode with his servant, whose name was Wojciech Szebulski. They made more than 60 trips together, the servant drove him from village to village, and during those trips they had to talk in Polish, make arrangements, and communicate.

Copernicus' participation in the defense of Olsztyn Castle against the Teutonic Knights is most often cited as proof of his loyalty to the Kingdom of Poland. He used the year and a half spent within the castle's walls industriously and became known there as an archivist.

Naturally, while defending the castle in Olsztyn, Copernicus was also defending the interests of the Warmian chapter, since the loss of the castle would have been a great loss to the entire bishopric. However, his letter to King Sigismund the Old from 1520, which has survived, is not only a request for help, but clearly has the characteristics of a letter of allegiance. It can be seen that for Copernicus, his large homeland was the Crown. In the late 1960s, the Warmian auxiliary bishop Jan Obłąk showed that the 1520 inventory of Olsztyn castle's documents, which was included in the diocese's archives, was written by Copernicus. Previously, Copernicus' activities as an archivist were unknown. A sundial made by Copernicus, which he used for his observations, is also preserved at Olsztyn Castle.

Your study of Copernicus' public activities forms a picture of a man who performed his duties diligently, conscientiously, if not exemplarily.

Karol Górski, who was born in Odessa, used to tell me jokingly that people from the former Russian partition are brilliant, while Pomeranians seem a bit sluggish, but in the long run they are more likely to achieve their goals. We do not know much about Copernicus, but we can definitely say that he showed meticulousness and thoroughness in everything he did. This is in some part due to his place of birth and the environment in which he was active.

Thank you for the interview.

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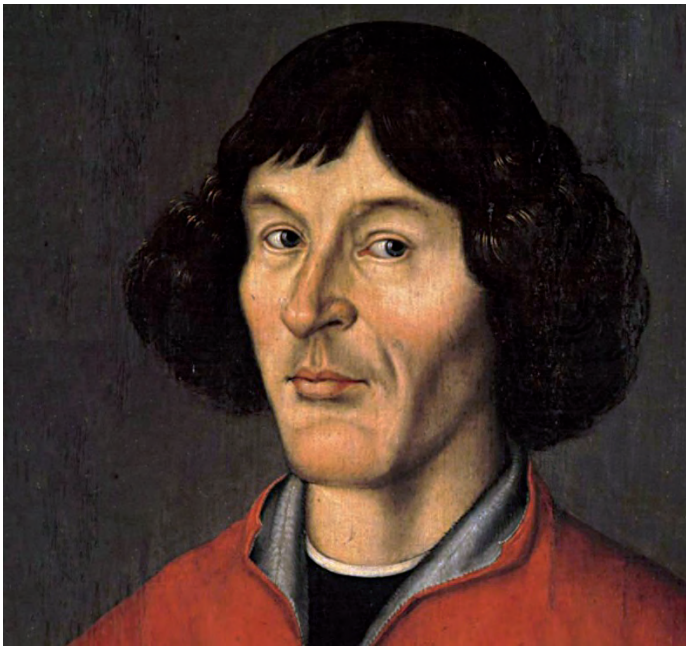
Janusz Małłek

The public activities of Nicolaus Copernicus

We see the figure of Nicolaus Copernicus, a Toruń resident, a citizen of the Prussian province of the Kingdom of Poland, and one of the geniuses of human thought, as the founder of the heliocentric theory in astronomy. The words engraved on the Toruń statue of Copernicus, "Terrae motor, solis caelique stator" ("He moved the Earth, stopped the Sun") and the words probably said by the astronomer himself, "Torunia me genuit, Cracovia me arte polivit" ("Toruń gave birth to me, Cracow shaped me") almost belong to the canon of sentences we utter when thinking about the Great Son of Pomerania and Kuyavia. Copernicus' public activities have been of relatively less interest to researchers. In the Polish literature, we have only one publication focusing on this topic. It is a booklet by the late professor Marian Biskup, an honorary citizen of Toruń, Inowrocław, and Elbląg, who died last year, with the same title as my article: "The public activities of Nicolaus Copernicus[1]." This work was first printed in 1971, two years before the great jubilee of the 500th anniversary of Nicolaus Copernicus' birth, as part of the "Copernicus' Library" series published at that time by the Scientific Society in Toruń. This publication has been reissued recently by the Nicolaus Copernicus University Press[2].

The 550th anniversary of the birth and 480th anniversary of the death of Nicolaus Copernicus prompt a fresh look at the life, work, and activity of the Frombork canon for the benefit of the society in which he lived. The past decades have brought discoveries of new sources and new studies focused on Copernicus. The three-volume *Bibliografia Kopernikańska* [Copernican bibliography] covering the years 1509-2001, compiled by the recently deceased Dr. Henryk Baranowski[3], the curator of the



University Library in Toruń, includes 8,246 items in almost all the languages of the world. It is impossible to discuss herein the literature that has been published during this period. I will only mention one book that appeared in print in 2007. The book is *Mikołaja Kopernika pisma pomniejsze* [*Nicolaus Copernicus' minor writings*][4] in volume III of *Dzieła wszystkie Mikołaja Kopernika* [Nicolaus Copernicus' Complete Works]. The volume contains both manuscripts and printed works of the scholar, published exceptionally during his lifetime (Love Letters of Theophylact Simocatta), and especially as late as the 20th century. It comprises: 1. *Small astronomical writings*, 2. *Economic and administrative writings*, 3. *Prescriptions*, 4. *Letters and translations*.

We must remember that Copernicus was in fact the author of only one book, *De revolutionibus* (I am not including a substantial section of this work on

[1] Marian Biskup, *Działalność publiczna Mikołaja Kopernika*, Toruń 1971.
[2] *Mikołaj Kopernik i jego czasy*, Toruń 2013, pp. 177-254.
[3] *Bibliografia Kopernikańska*, vol. I (1509-1950), vol. II (1956-1971), vol. III (19722001), Toruń 1958, 1973, 2003.
[4] *Mikołaj Kopernik*, *Dzieła pomniejsze*, preface and scientific edition by Andrzej Wyczański, [in:] *Mikołaj Kopernik*, *Dzieła wszystkie*, vol. III, Warsaw 2007.

geometry, published in Wittenberg in 1542 and titled *De lateribus et angulis triangulorum* [On the sides and angles of a triangle]. Contrary to the author's will, the book *De revolutionibus* was published under the title *De revolutionibus orbium coelestium* [On the revolutions of the heavenly spheres]. We do not even know whether the terminally ill astronomer received his printed work in time, and if so, whether the stroke-stricken astronomer could consciously enjoy it. We know for sure that during his lifetime he published the aforementioned *Theophylact Simocatta's customs, idyllic, and love letters*[5] translated from Greek into Latin in Jan Haller's printing house in Cracow in 1509.

In characterizing the public activities of Nicolaus Copernicus, some attention should also be focused on his personality. In this regard, unfortunately, the sources are laconic, but they provide some hints nonetheless. It could seem that Copernicus was a cabinet scholar, poring at night by candlelight over the plentiful mathematical calculations in his *De revolutionibus*, or, perhaps more than anything else, an observer staring at the sky, using the simple astronomical instruments available in that period (quadrant, triquetrum, and astrolabe), since the telescope was first used only by Galileo Galilei (1564-1642). After all, it was Copernicus who gave expression to his fascination with the world of stars in Chapter I of his immortal work and wrote: "Of the numerous and varied arts and sciences that arouse passion in us and are food for human minds, these, in my opinion, which revolve around things that are the most beautiful and worthy of knowledge, are the ones to be devoted to above all and the ones to be practiced with the greatest zeal. These are the sciences that deal with the miraculous revolutions in the universe and the courses of the stars, their sizes and distances, their rising and setting, and the causes of all other phenomena in the sky, and that finally explain the entire system of the world. **What is more beautiful than the sky, which, after all, embraces everything beautiful?** This is evidenced by the very names themselves, such as caelum and mundus (sky and Earth), of which one (the former) means purity and decoration and the other (the latter) means the work of a sculptor. Many philosophers have called it a visible deity just for this extraordinary beauty of the sky."[6]

Certainly, the most important thing for Copernicus was scientific work. This may have been the reason why he did not seek to become a bishop, clearly against the intentions of his protector and uncle, the bishop of Warmia Łukasz Watzenrode. Despite the ongoing Reformation, he remained faithful to the old Church. Most likely, he did not have higher ordination – since he did not feel a call to pastoral work, this would testify to his honest attitude to his priestly duties (this is how his biographer Karol Górski explains it[7]).

Despite his devotion to science, Copernicus stood firmly on the ground. After studying in Cracow in 1491-1495 and Italy in 1496-1503, where he earned a doctorate in canon law in Ferrara, he settled permanently in Warmia and lived here until his death in 1543, first in Lidzbark Warmiński in 1503-1510 at the side of Łukasz Watzenrode, and then in Frombork in 1510-1543, where holding the

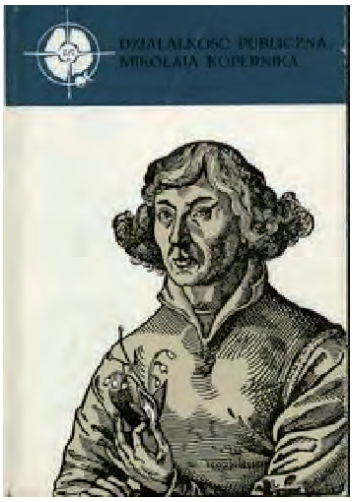
[5] *Theophilacti Scolastici Simocatti epistole morales, rurales et amatoriae Nicolao Copernico interpretatione latina*, Cracow 1509.

[6] Nicolaus Copernicus, *O obrotach*, [in:] *Mikołaj Kopernik, Dzieła wszystkie*, vol. II, Warsaw-Cracow 1976, p. 7.

[7] Karol Górski, *Czy Kopernik był kapłanem*?, [in:] *Mikołaj Kopernik: Studia i materiały Sesji Kopernikańskiej KUL*, Lublin 1973, pp. 201-204.

office of a canon provided him with decent and suitable standard of living. He had his own house (curia) and farm (alodium), where he kept three horses. The aforementioned property provided a fixed income in both farm produce and money[8]. As a Warmian canon, Copernicus had certain duties, which he fulfilled in an exemplary, conscientious, and diligent manner.

The major civic activity in which Copernicus was involved was his participation in the work of the assembly (sejmik) of Royal Prussia. Royal Prussia, or Polish Prussia, which comprised the Chełmno region, Pomerania (sometimes called Vistula Pomerania), and the Malbork region with the cities of Toruń, Gdańsk, and Elbląg, was incorporated into the Polish Kingdom as early as 1454. However, this fact was finally confirmed only by the Second Treaty of Toruń of 1466, signed after Poland's victorious war against the Teutonic Order. Copernicus was born in Toruń in 1473, which had been located within the borders of the Polish state for 21 years. The Prussian province was characterized by considerable autonomy. The limits of this article does not allow for its detailed description. It should suffice to mention that the internal politics of Royal Prussia largely rested in the hands of the local elites. The province was governed by a Prussian council (senate) and an assembly (sejmik). Their sessions were presided over by the Bishop of Warmia and, in his absence, the Bishop of Chełmno. In Copernicus' times, the upper house (senate) also included 3 voivods: of Chełmno, Pomerania, and Malbork, 3 castellans, 3 chamberlain, and 6-9 delegates of the large Prussian cities: Toruń, Gdańsk, and Elbląg; the lower house was composed of members of nobility and representatives of small towns. Copernicus took part in the sessions of the assembly not as a deputy by virtue of his office or election; he was delegated as a representative by the bishop of Warmia or the Warmian chapter. He appeared there as a respected expert, especially in the preparation of a monetary reform. His speech on improving the currency at the congress of the Prussian estates in Grudziądz in 1522 became famous. Copernicus' draft of a monetary reform proved too radical, as it infringed on the interests of the large cities of Prussia and limited the revenue to the royal treasury; therefore, a draft that was much more of a compromise, prepared by Decius, was eventually adopted in 1528, which



nevertheless introduced a monetary union of Royal Prussia, Ducal Prussia, and the Polish Crown.

In his writing on monetary policies, Copernicus formulated a law according to which bad money (i.e., one with coins containing less noble metal) drives out good money. The law is referred to after Gresham-Copernicus law. Another manifestation of Copernicus' practical economic interests was his draft of the so-called bread tax, most likely drawn up in 1531 in Olsztyn, when the astronomer acted as an inspector of the chapter estates. The bread tax fixed the price of bread according to the price of grain (wheat and rye)[9].

Sources indicate the scholar's participation in sejmik sessions repeatedly from 1504 until 1530, but later his presence at the conventions, probably due to his advanced age, almost ceased. Copernicus also became famous as an excellent organizer of the settlement process in Warmia. As a result of the Polish-Teutonic wars, especially the Thirteen Years' War (1454-1466), many villages and farms in southern Warmia were destroyed, and their owners either lost their lives or dispersed. In 1516-1519 and in 1521, as the administrator of the chapter estates of the Olsztyn and Pieniężno districts, Copernicus made 65 trips by carriage – accompanied by carter Hieronim and servant Wojciech Szebulski (Cybulski) – visiting 41 Warmian villages, some twice, where he settled Polish peasants, undoubtedly coming from Mazovia. In total, he prepared 73 village locations[10]. A book written in Latin by Copernicus, titled *Locationes mansorum desertorum* [Location of

[8] K. Górski, *Mikołaj Kopernik. Środowisko społeczne i samotność*, Wrocław 1973, p. 167.

[9] *Nicolaus Copernicus. Minor Writings...*, pp. 141–145.

[10] *Mikołaja Kopernika Lokacje łanów opuszczonych*, published by Marian Biskup, Olsztyn 1970, p. 19.

abandoned fields], has been preserved, in which the author reproduced phonetically the characteristic elements of Polish speech, since he wrote the names of settlers as they were pronounced in Polish: Bartosz, Wojtek, Szczepan, and Stanisław. Marian Biskup stated: "Some entries in the *Locationes* must be considered Polish texts written by Copernicus himself by hand."[11] As the administrator of the Warmian chapter's estates, during his stay in Olsztyn, he handwrote an inventory of the Warmian chapter's documents kept in the vault at the local castle[12].

Finally, mention should be made of Nicolaus Copernicus' patriotic attitude during the defense of Olsztyn castle against an attack by Teutonic forces in 1520. In a letter dated November 16, 1520, sent from Olsztyn on behalf of the Warmian canons, he pleaded with King Sigismund the Old for quick armed assistance against the Teutonic Knights, who were besieging the castle. He assured the king that the defendants of the besieged castle wished to act as the king's loyal subjects, even if they were to die[13].

As already mentioned, Copernicus completed his legal and medical studies in Italy. In Warmia, he was known primarily as a physician. This sphere of his medical activity is evidenced by prescriptions[14] and correspondence related to patients' visits[15]. However, there have been no sources to date that confirm his legal activities. Nevertheless, Teresa Borawska[16] recently found in the Königsberg archives (today kept in Berlin) a letter addressed to Copernicus – as an authority in this field as well – asking for legal advice.

The scholar, who was characterized by his versatility of interests, was a typical Renaissance man. Nowadays, that would be impossible. Copernicus holds the place he deserves among the geniuses of human thought. However, it would be a mistake to deprive him of the characteristics of a normal, ordinary person. This would be contrary to his intentions. When the astronomer was seriously ill in Frombork, his friend, the bishop of Chełmno Tiedemann Giese, wrote in a letter sent from Lubawa dated December 8, 1542: "I was saddened by the news of the illness of the venerable old man, our Copernicus. Since, being healthy, he enjoyed solitude, now in sickness he probably has few well-wishers who care about his health, although they are all indebted to him because of his impeccability and excellence of knowledge," and requested to take care of the ill man[17]. Copernicus was a loner and had few friends. He also had people who were unfriendly to him, as sometimes happens among people. He suffered a lot of grief because of reports of his alleged relationship with his housekeeper Anna Schilling, who, in light of recent research carried out by Krzysztof Mikulski, turned out to be not a stranger, but a close relative. Copernicus was able to demand the return of money borrowed from him[18], but in his will he also did not forget his relatives[19]. In fulfilling his duties as a member of the Warmian chapter, he was characterized by versatility in his functions, conscientiousness, but also selflessness. In his public activities, he proved loyal to Warmia, Royal Prussia, and the Kingdom of Poland.

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[11] *Ibid.* p. 25–26.
[12] *Mikołaj Kopernik*..., pp. 86–98.
[13] Marian Biskup, *Nowe materiały do działalności publicznej Mikołaja Kopernika z lat 1512–1537*, Warsaw 1971, pp. 39-40.
[14] *Mikołaj Kopernik. Pisma pomniejsze*..., pp. 155-174.
[15] *Ibid. p.* 200-201.
[16] Teresa Borawska, Henryk Rietz, *Ein rechtlicher Rat von Nicolaus Copernicus aus dem Jahre 1535*, Zeitschrift für Ostmitteleuropa Forschung, 55th yr. 2006, book 4, pp. 548-555.
[17] Jeremi Wasiutyński, *Kopernik. Twórca nowego nieba*, Toruń 2007, p. 469.
[18] Marian Biskup, *Regesta Copernicana*, Wrocław 1973, p. 135, no. 256.
[19] *Ibid.* p. 219, no. 501.

Janusz Małłek

Did Nicolaus Copernicus use the Polish language?

The issue of the affiliation of Nicolaus Copernicus, the author of the heliocentric theory, one of the geniuses of human thought, either to the Polish or to the German nation has aroused and continues to arouse controversy to this day among his biographers.

The dispute over the nationality of Copernicus is not unusual in European historiography. There have been and continue to be disputes over the nationality of Christopher Columbus and Erasmus of Rotterdam, if we limit our considerations only to the contemporaries of Copernicus. Polish and German scholars have fought over Copernicus. It suffices to cite two characteristic treatise titles: *Nikolaus Kopernikus – ein Deutscher* [Nicolaus Copernicus – a German] by Hans Schmauch and *Polskość Mikołaja Kopernika, z rodu Ślązaka* [The Polishness of Nicolaus Copernicus, of Silesian lineage] by Stanisław Rospond. Admittedly, the dispute has become less intensive recently, with more and more talk of Copernicus as a property of Europe, rather than of a single nation.

Church in the village of Koperniki

In this sketch I would like to briefly present the discussion that has taken place to date and the arguments of historians in favor of either the Polishness or Germanness of the Great Astronomer. First of all, I would like to focus on answering the question of whether Nicolaus Copernicus used the Polish language in his scientific work, public activities, and everyday life – in addition to Latin and German.

The Copernicus family originated in Silesia, specifically in the village of Koperniki, in the Otmuchów district. Polish historians claim that that area was inhabited by a predominantly Polish population, and the last name is thought to have been based on the name of the village. German researchers prove the opposite: that the population there was predominantly German, and the name is based on the name of the metal, "Kupfer" or copper. It seems that despite separate books (S. Rospond) on the subject, neither side has been able to settle this dispute on the basis of the existing naming sources.

The astronomer's father, whose first name was also Nicholas, came from a bourgeois family that resided in Poland's then capital city of Cracow probably since the late 14th century. One could conclude from this that it was a Polish family. One should bear in mind, however, that a certain portion of the burghers in Cracow were of German origin and could also speak German. Copernicus' father came to Toruń during the Thirteen Years' War (1454-1466) between Poland and the Teutonic Order.

Here he married Barbara Watzenrode, whose family also originated in Silesia. During that war, both Nicolaus' father and his mother's family took an active part in the fight against the Teutonic Knights on the Polish side. In 1454, the astronomer's grandfather was wounded at Łasin during a battle against the Teutonic Knights. Thus, the astronomer was born into a family with anti-Teutonic Order sentiments, which does not automatically mean that they were anti-German. These sentiments, however, may have formed the young Copernicus' nationalistic attitudes.

Copernicus was born on February 19, 1473 in Toruń, seven years after the treaty incorporating Royal Prussia into Poland and 19 years after the successful uprising of the Toruń burghers against the rule of the Teutonic Order. Thus, he was born already in Poland and was therefore a Polish citizen. In Toruń, much of the patriciate was of German origin. Both the suburbs of Toruń and the surrounding area were inhabited almost exclusively by Polish population. Knowledge of the two languages was undoubtedly necessary to conduct business. It is highly likely that already in his youth Nicolaus knew Polish as well as German. This always was and continues to be almost a rule among the population of borderlands.

Copernicus went to study not in Germany, but in Cracow. He probably had the support of relatives there; he is said to have emphasized his links to the two cities of Toruń and Cracow by saying: "Me genuit Thorunna, Cracovia me arte polivit" (Toruń gave birth to me, Cracow shaped me in art). Naturally, his knowledge of Latin was sufficient for his studies, but it is hard to imagine that, while staying in Cracow for four years (1491-1495), he did not fully learn Polish. German historians cited arguments that were supposed to prove that Copernicus belonged exclusively to the German nation. These arguments were the following:

1. Copernicus' enrollment as a member of the German nation at the University of Bologna;
2. Spelling his name with a double "p" – "Coppernicus";
3. The existence of Copernicus' letters only in Latin and German and the absence of such letters in Polish.

Polish historians responded to these arguments as follows:

1. Enrollment as a member of the German nation did not necessarily mean belonging to that nation in those days. After all, Copernicus enrolled as a member of the Polish nation in Padua;
2. Spelling names with a double "p" was a mannerism, and in the case of Copernicus, it faded away over time;
3. The most difficult issue for Polish researchers was the lack of Copernicus' letters in Polish. This issue has not been further addressed by anyone so far.

The Polish phrase "Bóg pomagaj" (God help) handwritten at the end of Copernicus' work is today attributed to Hildebrandt Ferber, not Copernicus. Very interesting are the following remarks of Professor Marian Biskup in the introduction to the edition of Nicolaus Copernicus' *Locationnes mansorurn desertorum*: "When writing down in *Locationnes* the first and last names of Polish peasants [...], Coperni-

cus most often accurately reproduced the phonetic markers of the Polish speech [...]. He knew the Polish language [...] and used it in his daily practice in the Warmian countryside. Some entries in *Locationnes* must thus be considered Polish texts handwritten by Copernicus himself.

Unable to unequivocally resolve the issue of Copernicus' knowledge of Polish, Polish historians have paid more attention to declarations attesting to his loyalty to Poland. During the Polish-Teutonic war (1519-1521), Nicolaus defended the castle in Olsztyn against the Teutonic Knights. At that time (November 16, 1520), he wrote a letter in Latin addressed to Sigismund I, the King of Poland: "To the Most Illustrious Ruler and Lord, Lord Sigismund by God's Grace the King of Poland, Grand Duke of Lithuania, Lord and Heir of Ruthenia and Prussia, etc. Our Most Gracious Lord," and further in the letter he wrote: "For we wish to do what befits people of nobility and integrity who are utterly devoted to Your Majesty, even if it were to lead to our death. Seeking the protection of the said Majesty, we submit and entrust our entire property and ourselves." Also quoted is a passage from Copernicus' draft of a monetary reform, where he wrote: "It would be desirable, therefore, to have one common mint in all of Prussia, in which all kinds of coins would be marked on one side with the images or signs of the Prussian lands, and so that it would have a dominant crown at the top, which would testify to the suzerainty of the Kingdom (of Poland)."

However, let us go back to the question posed by German researchers as to why there are no Copernicus' letters in Polish, and whether, in light of this fact, Copernicus used that language at all.

First of all, it should be stated that Copernicus wrote in Latin, because it was the language of scholars and the language used in the correspondence of the Warmian chapter. Naturally, he wrote *De revolutionibus* in Latin. He had no need to write in Polish, because his addressees knew Latin. In Poland, Latin was the language of the royal chancellery. For the thousands of known letters in Latin written in Poland during the lifetime of Nicolaus Copernicus, there are only 112 written in Polish. Even if one were to add the latest finds, it would not change the whole picture. All this clearly testifies to the beginnings of the use of Polish in epistolography in the first half of the 16th century.

Copernicus also wrote letters in German. His two letters to Duke Albrecht, whose knowledge of Latin was poor, are well known. An analysis of the German language in these letters has not yet been carried out by linguists. Teresa Borawska pointed out that, when writing in German, the astronomer expanded the main sentences, while it is characteristic of the German language to expand the side sentences. This other way of writing was used by Copernicus' close friend, the canon of Warmia and later a bishop Tiedemann Giese. Recently, Marian Biskup discovered a few more Copernicus' letters in the Königsberg archives, written in German on behalf of the Warmian chapter. However, the existence of some letters of the great scholar written in Polish cannot be completely ruled out. These would be letters to persons who did not know Latin or knew it poorly (e.g. Jan Działyński – the starosta of Brodnica, Feliks Srzeński – the voivode of Płock, and Stanisław Kostka – the starosta of Golub).

The legacy of Copernicus has been greatly dispersed and, most importantly, destroyed, and few of his letters have survived to our time; therefore, it is difficult to completely reject the possibility of the existence of his letters in Polish.

Finally, let us keep in mind that the year in which Copernicus' busy life ended, 1543, was the year when Mikołaj Rej's *Krótka rozprawa* [Short conversation] was published, and that time was only the beginnings of the printed Polish literary word. As late as in 1551, Stanisław Murzynowski, the author of *Ortografia polska* [Polish Orthography] and the first Polish translation of the *New Testament*, found it necessary to explain why he wrote in Polish rather than Latin. The bishop of Warmia, Cardinal Stanisław Hozjusz, admonished his correspondents to write in Latin rather than Polish, also in order to oppose the Reformation promoting national languages. As late as in 1565, Jan Kos, the king's secretary and at the same time a Warmian provost, apologized in a letter to Hozjusz that he had written his previous letters in Polish.

I mentioned all these facts in order to make the reader aware of the difficulties related to sources that are encountered by those researchers who try to answer the question posed in the introduction about the place of the Polish language in the life and work of Copernicus.

However, let us make an attempt to find at least a partial answer. There is circumstantial evidence that at the Prussian assembly (sejmik) held in the autumn of 1530 in Elbląg, Nicolaus Copernicus was a translator from Polish into German and vice versa. Information on this matter is found in the document on the matters to be addressed during the next as-

sembly (*reces*). This document from the assembly held on St. Simon and St. Jude's day, i.e. on October 28, 1530, notes that the following persons arrived at it from Royal Prussia: Jerzy Bażyński – the voivode of Malbork, Jan Baliński – the castellan of Gdańsk, Dr. **Nicolaus Copernicus** and Alexander Sculteti – canons of Warmia representing the bishop of Warmia Maurycy Ferber, followed by Jakub Alexwangen and Jan von Lohe – the mayors of Elbląg, and Edward Nidderhoff – the mayor of Gdańsk, and Piotr Behme – a councilor from that city. The delegation of Ducal Prussia consisted of: Jerzy Kunheim – the mayor of Tapiawa, Jerzy Rudolf – the duke's secretary, Bernt Buthner from the Old Town of Königsberg, and Bartłomiej Vogt – a councilor of Knipawa-Königsberg. The manager of the royal mint in Toruń, Jost Ludwik Decjusz, also attended the assembly, as did minters Jan Smuttermeyer of Gdańsk and Jakub of Elbląg. Representatives of the city of Toruń were absent.

On Sunday, October 30, immediately after the sermon, but still before lunch, the councilors of Royal Prussia themselves gathered for a separate meeting. There were certainly only eight of them, as the Danzig scribe did not record the arrival of any late Prussian councilors. These were: Bażyński, Baliński, Copernicus, and Sculteti, as well as Ferber, Alexwangen, Lohe, Nidderhoff, and Behme sitting on the council as envoys. Thus, neither the duke's deputies, nor Decjusz, nor the two minters, took part in that meeting. Of all the participants in that meeting, only one did not speak German. He was Jan Baliński – the castellan of Gdańsk and, at the same time, the treasurer of Prussia. Baliński came from Balin in the Rypin district of the Dobrzyń region. He was married to Barbara Pilewska (Pfeilsdorf), who was a resident of Royal Prussia. He was known first as the castellan of Rypin, from 1511 as the cellarer of Malbork, from 1517 as the treasurer of Prussia, and from 1519 as the castellan of Gdańsk. The Prussian estates did not want to recognize him as an indigene.

It is appropriate to ask what evidence we have that Baliński did not know German. Let us just list the most important ones: 1) at the assembly held on St. Martin's day (November 11) in 1529, Jan Baliński, then a royal envoy, expressed his willingness to participate in negotiations with the envoys of Duke Albrecht of Prussia, although he noted that the language of the meeting (German) was unknown to him; 2) at the assembly organized on St. Stanislaus day (May 8) in 1537, the estates of Royal Prussia prepared a petition with complaints to the king about the different interpretations of the word "indigene," and on that occasion wrote "After granting the castellany of Gdańsk to Jan Baliński and admitting him to the council of (Prussian) lands through his letter, His Majesty admits that this transfer was made in an improper manner, since he was not a Prussian, nor did he know the German language..."

Thus, if Jan Baliński spoke at the October 31, 1530 assembly in Elbląg, he could have spoken either in Polish or Latin. Baliński undoubtedly knew Latin, unlike, for example, his successor Stanisław Kostka, who at most could read Latin a little. Baliński was, after all, a scribe of the Dobrzyń region. In fact, several of Baliński's letters to the bishop of Warmia Maurycy Ferber, written in Latin in the years 1528-1530, primarily on monetary matters, have survived. However, we must bear in mind that it was not customary to hold discussions at the assembly of Royal Prussia in Latin; instead, German was spoken, and sometimes there were speeches in Polish. This was the case at least until the middle of the 16th century, and even longer. Latin was used only to read royal instructions and to give answers to the king's envoy. Based on a reading of the *reces* documents from 1525-1548, no instances can be indicated of any Prussian councilor speaking in Latin. The same was true of Baliński. He always spoke in Polish, and we can cite ample evidence of this.

Jan Baliński spoke in Polish at an assembly held in January 1527 in Malbork. The following year, a Gdańsk scribe noted that Baliński had spoken in Polish at the assembly held on St. Lucia's day (December 13) in 1528 in Malbork. He also used that language when fulfilling his role as a royal envoy. At the assembly held on St. Margaret's day (July 13) in 1527, Jan Baliński presented his instructions in Polish. At the assembly held on St. Stanislaus' day in 1529 in Malbork, when submitting a royal instruction to the Prussian estates, Baliński asked if he could do so in Polish, although the instruction itself was written in Latin.

Based on this juxtaposition alone, we can most likely safely assume that in Elbląg on October 31, 1530, Baliński also spoke in Polish. It should also be taken into account that Latin was not so widespread among Prussian councilors, while the Polish language was increasingly spoken not only during the meetings of the assembly, but also during the Prussian council itself, since on St. Margaret's day (July 13) in 1527 the large Prussian cities complained that Prussian coun-

cilors, although well versed in German, used Polish in their deliberations. Whom did the large Prussian cities have in mind? Naturally, it was not Baliński, as it was known that he did not speak German. This remark concerned other Prussian councilors.

In 1527, the Prussian council was composed of clergy and noblemen (these were permanent councilors, as opposed to non-permanent councilors who were elected by the large Prussian cities for each assembly separately): Maurycy Ferber – the bishop of Warmia, Jan Konopacki – the bishop of Chełmno, Jan Luzjański – the voivode of Chełmno, Jerzy Bażyński – the voivode of Malbork, Jerzy Konopacki – the voivode of Pomerania, Arnold Frącki – the castellan of Chełmno, Ludwik Mortęski – the castellan of Elbląg, Jan Baliński – the castellan of Gdańsk, Jan Targowski – the chamberlain of Chełmno, Achacy Gema – the chamberlain of Malbork, and Michał Zelisławski – the chamberlain of Pomerania. I believe that all of them knew Polish as well, although there is no absolutely certain evidence to confirm this claim. Already R. Fischer established that even Achacy Gema, whose ancestors came from Germany, spoke Polish quite fluently. It is hard to imagine that Bishop Ferber speaking in the Crown's Senate – as he himself writes about it – alternating with Rafał Leszczyński, when asked by the Speaker, would answer in a language other than Polish. It is unlikely that he spoke in Latin. Ferber also mentioned the fact that he spoke in the Senate in front of the king in a letter to Dantyszek on March 27, 1534. Polish was spoken by Jan Konopacki, the bishop of Chełmno, who was Copernicus' relative and his fellow student in Cracow. At the congress of Prussian estates held from November 30 to December 8, 1515 in Malbork, Jan Konopacki answered the royal envoy Andrzej Zakrzewski in Polish.

However, German and sometimes Polish researchers, inferring from the modest presence in the records of the Polish language, as opposed to German and Latin, sometimes drew erroneous conclusions about the scant knowledge of Polish among Prussian dignitaries. We think that the councilors of Royal Prussia knew both languages well, with a few exceptions (such as the aforementioned Jan Baliński), and some of them also knew Latin.

Let us devote some more space the knowledge of the Polish language among other more prominent figures in the political life of Royal Prussia at the end of the 15th century and in the first half of the 16th century. Karol von Felde Zakrzewski, the voivode of Chełmno, and Andrzej Boroszewski, the chamberlain of Malbork, knew Polish, since they sent their envoy in Cracow on July 24-27, 1489 in that language. On the other hand, Łukasz Watzenrode, a bishop of Warmia and Copernicus' uncle, certainly used Polish during his speeches in the Polish Crown's Senate. It is doubtful that he used Latin. If he did not know Polish, he would not have traveled so readily to the Crown's parliamentary assemblies (sejm). This has been mentioned by Piotr Tomicki, a bishop of Cracow, and by Maurycy Ferber, a bishop of Warmia, in letters to Jan Dantyszek, then a bishop of Chełmno. Tomicki wrote in 1534 that the Polish nobility was bitter because the Prussian lords were unwilling to attend the Crown's parliamentary assembly. He also recalled that Łukasz Watzenrode and Mikołaj Bażyński, the voivode of Malbork, always diligently attended the Polish sejms. Ferber mentioned to Dantyszek a year later that Watzenrode even traveled to the Crown's sejms uninvited.

During his youth, Watzenrode became the archdeacon and officialis of Kalisz in 1482, and later he performed judicial functions at the side of Zbigniew Oleśnicki, the archbishop of Gniezno. He was a judge in Skierniewice, Żnin, and Chełmno in matrimonial cases. Knowledge of the Polish language was certainly necessary for questioning the parties and witnesses. The above remarks about Watzenrode's knowledge of Polish can also be applied to the aforementioned Mikołaj Bażyński. On the other hand, Tiedemann Giese, a bishop of Chełmno and also a friend of Copernicus, was reluctant to visit the young King Sigismund Augustus in Vilnius in 1546, claiming, among other things, his lack of knowledge of the Polish language. That was in May 1546 at an assembly in Malbork, where he proposed that Dantyszek, "welche die Sprache kunte," take his place, and in November at an assembly held on St. Elisabeth's day in Orneta, he said that he would not be useful in that delegation because "die Sprache nicht kunte," and someone "der polnischen Zunge kundig" should go instead.

The knowledge of the Polish by envoys sent to the king was apparently taken into consideration, since Giese made that argument. It is difficult to suppose that these statements by Giese were a diplomatic ploy. Unwilling to go on a difficult mission, would he make excuses for his lack of language skills? This would have been pointed out to him by the participants in the assembly if he actually knew the language. He certainly had encountered Polish in his life, but he did not speak it. We must bear in mind that he

came from Gdańsk, where German was nurtured by the Gdańsk patriciate and, after all, he did his studies in Leipzig, Germany, not in Poland.

The Polish language was certainly known to Fabian Luzjański, Maurycy Ferber's predecessor as a bishop of Warmia. His mother, Elżbieta Kościelecka, came from the Polish Crown. We even know of a letter written in Polish addressed to him, and it was written in 1520, so the addressee probably could read in that language. The letter was sent to Luzjański from Reszel by Piotr Hynek, the chamberlain of Kamieniec and the royal "roth-magister." The letter is kept in the Czartoryski Library and was published by Witold Taszycki.

New, unknown letters in Polish, written by Polish and Czech mercenaries during the 1519-1521 war, were discovered and published in 1991 by Marian Biskup. There is no doubt about whether Jan Dantyszek, a bishop of Warmia, knew Polish. The Archdiocesan Archive in Olsztyn contains at least a dozen letters written to him in Polish. We know that he also sometimes wrote back in Polish, for example to Mikołaj Działyński, the starosta of Brodnica. He was described in writing as "pan Danthischek biskup," (Mr. Danthischek the bishop), so the form "Dantyszek" was already in use during his lifetime.

Even Duke Albrecht of Prussia knew the Polish language to some extent. For example, he held a conversation in Polish in Königsberg in 1541 with his agent in the Crown, Jan Policki, although he did not understand everything – of which he later informed Achacy Cema.

Jan Werden, the mayor of Danzig, who was associated with Copernicus, as demonstrated by B. Bockelmann, showed knowledge of Polish. On the other hand, among the Frombork canons, Wojciech Kijowski did not know German.

Let us go back to our question of whether and when Nicolaus Copernicus spoke Polish. The analysis so far shows that the Polish language was not unusual among the political and intellectual elite of Royal Prussia at the end of the 15th and in the first half of the 16th century. However, as we have already written, the language in use in the deliberations of the assembly of Royal Prussia was still German. This was not due to any national aspirations, but solely by particular objectives. The idea was to make the language a kind of barrier inhibiting the flow of people from the Polish Crown into the Prussian council, bypassing the rules concerning Prussian right of citizenship. The

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preservation of the German language in the deliberations of the Prussian council and assembly was particularly sought, as I have already mentioned, by the large Prussian cities, especially Gdańsk. Thus, the deliberations that are of interest to us, which were held on October 31, 1530 in Elbląg, were undoubtedly held in German; had it been otherwise, the Gdańsk scribe would have made a relevant note.

One must ask how Jan Baliński, who did not know German even in speech, communicated. There are two possibilities. If everyone present understood Polish to a sufficient extent, there was no need to translate his statements. Of the eight people present at that assembly, there are doubts about their knowledge of Polish in the case of Gdańsk residents (Edward Nidderhoff and Piotr Behme) and Elbląg residents (Jakub Alexwangen and Jan Lohe). The latter two sometimes were envoys to the Crown, so they probably knew Polish. Perhaps Baliński, too, although unable to speak German, understood it, as discussed previously. The other possibility is to simply use an interpreter to avoid possible misunderstanding. The question that should be asked is whether Jan Baliński's speech ever happened to be translated from Polish into German. We must answer this question in the affirmative. It happened at an assembly held in Malbork on May 12, 1529. The translator was Franciszek Hardt, a chancellor of Jan Konopacki, the bishop of Chełmno. Were interpreters used in other situations? We do not know.

So who could have been the translator on October 30, 1530? It probably could not have been

Franciszek Hardt, who after 1529 hardly appeared on the pages of the *reces's* of Royal Prussian estates, which should be linked to the death of his principal Jan Konopacki as early as April 23, 1530.

Before we try to answer this question, we must quote the contents of the minutes of the deliberations held on that day. The first person to speak was Jan Baliński, immediately followed by Nicolaus Copernicus, who stated that in order to properly determine the ratio of gold coins to silver coins, it was necessary to determine the ratio of pure silver, instead of sticking to minted coins in these calculations, since it is not known how much noble metal and how much additions they contain. To this Jan Lohe responded that these were subtle matters, but the most important thing was how to prevent the "escape" of hornguldens from Prussia. Edward Niderhoff, the mayor of Gdańsk, proposed settling the issue by the assembly to be held on St. Stanislaus' day (May 8) in 1531 in Malbork. However, Jerzy Bażyński, the voivode of Malbork, opposed this and proposed a tax on the horngulden in the amount of 13 groshes and 1 groat, so that 2 hornguldens would equal 2 grivnas. In the ensuing discussion, it was proposed to leave the old tax on the horngulden (i.e. 13 groshes) or to seek permission from the duke's envoys to increase their price. And then the Gdańsk scribe wrote in the *reces*: "Dorczu her Baliński und doctor Nicolaus Kopernick ire gutduncken gesagt, dass besser were, das men ihn in seyner forigen wirde lysse," which means that Mr. Baliński and Dr. Nicolaus Copernicus presented their opinion that it would be better if it (horngulden) was left at its former value.

Thus, these minutes state that Copernicus spoke twice after Baliński and expresses the same view on the price of the horngulden. As one can see, Copernicus understood Baliński's statements in Polish well, since he referred to them. He may have even presented Baliński's views to the Prussian council in German, acting as a translator. One should keep in mind that Baliński, as a treasurer of Prussia, was very interested in monetary matters (hence his correspondence on these matters with Ferber), while Copernicus consulted Ferber on these very issues. Therefore, one can assume that there were also some personal contacts between Baliński and Copernicus outside the assembly, and one would have to look for their confirmation in their correspondence. In the end, however, one must ask whether it was possible that the scribe did not make a note that Nicolaus Copernicus was a translator from Polish into German. We have to bear in mind that Baliński's name and his statements appear fairly often on the pages of the Prussian *reces's*, but information that his statement was translated was noted only once. Nor was it always recorded that he spoke in Polish, even though this should have been an undisputed matter based on the evidence presented above.

In conclusion, I would like to state that at the assembly held in October 1530, Copernicus could have translated the statements of Jan Baliński, the castellan of Gdańsk and the treasurer of Prussia, from Polish into German. This conclusion does not change the answer to the final questions: **Who did Copernicus feel he was? What country did he consider his homeland?** When answering this question, we must also keep in mind that the modern definition of national awareness cannot be unreservedly transferred to the 15th or 16th centuries. For Copernicus, the closest homeland was his home city of Toruń, then Royal Prussia together with the bishopric of Warmia, whose survival he diligently fought for, especially during the war of 1519-1521, but also the whole of Prussia, including Ducal Prussia. In the broad sense, his homeland was Poland. He certainly felt he was an indigene of Prussia, but also a citizen of the Polish state.

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Photo by Andrzej Romański

Joanna Kamper-Warejko

Did Copernicus speak Polish?

The question of whether the great astronomer was Polish has long been a subject of debates, especially among historians (cf. Małłek 2015: 133; Mikulski 2015: 253-257). A search for sources related to the place of residence and life of Nicolaus Copernicus' ancestors and an analysis of documents brings us closer to the truth. The astronomer's biography was also studied by linguists who focused on the linguistic facts, including those related to names.

One of those linguists was Stanisław Rospond, who devoted more than a dozen works, including two monographs (1972, 1973) to these problems. As an eminent expert on the Old Polish language and onomastics, he meticulously analyzed the naming material of the time to conclude that the Silesian topographic name *Koperniki* (historically without the ending *-i*) is a so-called ancillary name (formed based on the craft activities performed by the inhabitants)

and was used to form the last name Kopernik (Copernicus) (Rospond 1972). The scholar believed that the affiliation of Toruń, Copernicus' birthplace, with Poland could not be a sufficient argument in support of the astronomer's lineage. However, as historians have shown at a similar time, the Slavic origin of the Silesian Copernicus family cannot be proven, as Rospond wanted. The last name itself, variously interpreted – as a name based on a place or a vocation ("copper processor" or "copper worker") – could have originated in Lesser Poland and thus those who bore it would have had native, Polish roots (cf. Mikulski 2015: 256-257). The astronomer's ancestors' origins in Lesser Poland or Silesia still remain a mystery. In his arguments about the Polishness of the famous Toruń resident, Rospond also mentioned the orthography of the name analyzed in the astronomer's autographs. In his opinion, its various versions written in Latin (sometimes with the ending *-us*) and German retained Polish grammar and pronunciation (Rospond 1972: 70). Such indirect evidence of knowledge of the Polish language is also found in other records made by the well-known Toruń resident, as will be discussed below. Although until the 18th century the Polish ancestry of Copernicus was not disputed (the feeling of Polishness of the surname created with the native formant *Koper-nik*), the later Prussian attempts to etymologize names and explain history led to disputes that reverberate in science to this day (cf. Rospond 1972: 13-14; Sikorski 2015: 7-10).

At this point, it is worth mentioning the documents in which Copernicus himself expressed attachment and loyalty to the King of Poland (cf. Biskup 1973: 13; Małłek 2015: 136-137), which indicates a sense of belonging to the Kingdom of Poland. Undoubtedly, he was born in Poland (Royal Prussia was incorporated into Poland in 1466) and was a subject of the king and a Polish citizen. However, this does not mean that he spoke Polish.

The answer to the question given in the title, which has been posed by researchers multiple times, is not simple. In Poland's early history, the language of the chancellery and the Church, and therefore of educated people, was Latin. The situation was no different in the 16th century; however, national languages slowly came to the force at that time. In 15th-century Toruń, with its years of splendor behind it, Polish families lived alongside merchants and craftsmen of German origin, and mixed families were common as well (cf. Biskup 1992: 80-86, Mikulski 2015: 51-57). The burghers thus spoke German, but a sizable portion of the population was Polish-speaking. In Copernicus' times, the residents of Toruń, "according to the testimony of the contemporaries, were bilingual" (Mikulski 2015: 53), and the knowledge of both Polish and German was valued. This is actually typical of populations living in borderlands.

When reflecting on Copernicus' knowledge of Polish, it is important to remember that the overall surviving Polish-language legacy of that period comprises few texts (cf. Klemensiewicz 1985: 171) and is selective. Since there is no evidence proving that Copernicus wrote in Polish (at the school in Toruń, he learned to write and read in German and the basics of Latin, cf. Mikulski 2015: 330), we cannot clearly give an affirmative answer the question posed in the title. As a scholar – lawyer, astronomer, and clergyman – he wrote texts in Latin, as well as letters in German. It would be a surprise and a great discovery to find a permanent trace attesting to his knowledge of Polish. Some still hope to discover Copernicus' letters written in Polish (cf. Małłek 2015: 138[1]). However, writing is secondary to speaking. Therefore, it is not impossible that Copernicus, living in a Polish-speaking community, used Polish in unofficial situations (conversations in the city with other families, friends, etc.). During his four-year stay in Krakow at the end of the 15th century, he probably also had the opportunity to use it and expand his skills in this area.

A trace indirectly attesting to his knowledge of Polish is the location records handwritten by Copernicus himself (dated 1516-1521). As the administrator of the estates of the Warmia chapter, he recorded the transactions of the peasant population and the settlement of peasants on abandoned farms. It is worth noting after historians that the population was largely Polish (the ratio of Poles to Germans was 2:3, Biskup 1970: 26). According to Marian Biskup, in his records of orally reported first and last names of Polish peasants, Copernicus "most often accurately reproduced the phonetic markers of the Polish speech as they were then spelled in Poland, al-

[1] In this publication, Prof. Małłek also presents some indirect evidence that may prove that Copernicus knew Polish. He bases his inference on the knowledge of Polish and other languages (German and Latin) among well-known figures of the political life of Royal Prussia, with whom the astronomer had contacts and participated in important events (e.g., regional assemblies) (cf. Małłek 2015: 138-149).

though sometimes under the clear influence of Latin spelling" (Biskup 1970: 26). The cited material leads to similar conclusions, as it includes, among other things, records of such names as *Jan* (Jan), *Roman* (Roman), *Bartosch* (Bartosz), *Martzyn* (Marcin), *Pawel* (Paweł), *Gregorhs Czepan* (Grzegorz Szczepan), *Martzyn Voyteg* or *Voitec* (Marcin Wojtek), and *Stanislaus Czichotzinsky* (Stanisław Ciechociński). Although the spelling of these names clearly reflect the influence of Latin and German spelling (e.g., the following combinations: *-sch* for the sound [š], *-rhs* probably the phonetic [š], *-tz-* for [ć], *c* for the sound [k], *v* for [v], the ending *-us*), it is characteristic of the Old Polish period, which is when, in a rather casual way, the Latin alphabet was adapted to the needs of the Polish language. It was not uncommon for the spelling to be phonetic, which explains the simplified notation of the consonant group (*szcz >cz* in the spelling of the name *Czepan*[2]*). One character could stand for several sounds (e.g., n* for [n] or [ñ]; *i* for [i] and [j]), and the same sound in different places could be spelled using different letters (e.g. [v] with *w* or *v*; the variant notation of the name Wojtek, in which [j] is spelled as *y* or *i*; these characters may also have other functions; the notation of [i]/[y] and [j] is inconsistent at that period[3]). However, the range of functions of letters was limited, and the, for example, the sounds [*s*], [*z*], and their soft equivalents, had the largest number of graphic counterparts (cf. Klemensiewicz 1985: 93-94). Spelling of the so-called rustling [š, ž, ⍰] and soft sounds was a problem at that time, as illustrated by the examples written down by the famous astronomer. Some proposals regarding spelling rules, both theoretical and practical, and the associated changes in spelling, appear only in print (16th century), but they spread very slowly in manuscripts. The rather casual approach of some speech sounds is not surprising. On this basis – following the author of the publication on *Locationes* – we can conclude that Copernicus not only knew Polish "but even used it in his daily practice in the Warmian countryside" (Biskup 1970: 26).

At the threshold of the anniversary, a number of works are published that remind and supplement the biography of the Toruń astronomer. One of them is a book by Piotr Łopuszański (a philosopher, professor of Polish studies, and art historian), which, according to its author, "is different from previous works about him [Copernicus] (...)" (Łopuszański 2022: 11). From that book we learn, among other things, that Copernicus wrote in Polish. The author based this controversial and undocumented claim on a brief one-sentence note that appears in a book that was once included in the astronomer's book collection and was stolen from Frombork by the Swedes (and is now available in the library of the University of Uppsala). The book in question is Regiomontanus' book of astronomical tables (*Kalendarium magistra Joannis de Monte Regio*) and the note is a wish expressed in the form of the imperative sentence "bok pomagay." This note (dated October 1505) was already mentioned in his work by Ludwik Birkenmajer (1900), but he did not claim that its author was Copernicus; instead, he attributed the note to the original owner of the *Kalendarium* – Hildebrand Ferber ("Further handwritten notes by *H.* are as follows: (...)"; cf. Birkenmajer 1900: 520-521). It is not mentioned in *Regestra Copernicana*, which provide a timeline of the astronomer's life and activities, by Professor Marian Biskup (1970). This discovery, so important to the question posed in the title, is also not confirmed by other researchers studying the life and legacy of Copernicus[4]. Currently, this note is attributed to Ferber, but perhaps it was written by someone else (cf. Gadomski 1964: 57-58[5]; Małłek 2015: 136).

In light of the facts studied so far and the interesting analysis of circumstantial evidence, the question posed in the title can be answered in the affirmative with high probability. Unfortunately, we have no evidence that supports the supposition that

[2] It is also not impossible that – under the influence of other Slavic languages – this name may have functioned in two versions: *Szczepan* and *Czepan*.

[3] In that period, the sound [j] may have been spelled as *y*, *i*, *g*, and sometimes also *ÿ* and *j*, so it is not surprising to see *y* and *i* appearing in these names (cf. Klemensiewicz 1985: 93-94). The custom of spelling this sound as *y* at the end of a word (after a vowel), and as *i* before a vowel, survived long into the 18th century.

[4] A discussion on this topic swept through the literature as early as the 1960s. Tadeusz Milewski (a linguist) devoted a few words to the note in the astronomical monthly "Urania" (1964). However, he does not determine the authorship of the note and focuses on describing its 16th-century form, both grammatical and graphic, assuming that it was clearly typical of the Polish language of the time (Milewski 1964: 58-59).

[5] The author (an astronomer) of the short entry regarding the controversial note posted in the astronomical monthly also makes a very explicit statement about Copernicus' use of the Polish language. He does not dispute this fact at all (Gadomski 1964: 58).

Toruń's most famous resident spoke Polish. This page of history is still waiting to be discovered.

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Copernicus and Teutonic Knights

Nicolaus Copernicus' attitude toward the Teutonic Order has aroused the interest of both Polish and German historians for a long time. The prominent Polish Copernicologist Ludwik Antoni Birkenmajer[1] analyzed two complaints of the Warmian chapter against the Teutonic Order.

The first, dated July 22, 1516,[2] was addressed to the Polish king Sigismund I, and the second, dated around July 25, 1521,[3] was addressed to a mixed commission composed of councilors from Royal Prussia and Teutonic Prussia. According to Birkenmajer[4], both complaints were handwritten by Copernicus. In the first complaint, the Warmian chapter complained of robbery attacks in its territory ("in our land") and added: "from whose instigation these annoyances to us have so increased, this, we think, is already known to Your Majesty." It went on to write clearly: "Then we also see that from the side of the Grand Master (Albrecht) we are almost threatened by danger and violence, which we have no way to repel, because our occupation is to pray, not to fight, unless Your Majesty comes to our aid." The second document, titled "Querela capituli contra magistrum Albertum et eius Ordinem super iniuriis irrogatis 1521 sub induciis belli" (a complaint of the Warmia Chapter against Grand Master Albrecht and his Order for unlawful conduct during the 1521 Polish-Teutonic truce), compiled the material losses (seizure of estates and rents) that the chapter suffered as a result of the Order's unlawful greed. Based on the contents of these documents, Birkenmajer concluded that Copernicus' attitude towards the Teutonic Order was not only reluctant, but even justifiably hostile. A more detailed paleographic analysis by Hans Schmauch[5] has shown, however, that both documents were not written by Copernicus, but by his friend, also a canon and later a bishop of Warmia, Tiedemann Giese. Hans Schmauch concluded from this that Copernicus was at least indifferent towards the Teutonic Order. This reasoning was not entirely justified, because although the author of the documents of 1516 and 1521 was Tiedemann Giese, they represented the position of the entire Warmian chapter. Marian Biskup[6] rightly pointed out that it is difficult to assume that the letter of 1516 was written without Copernicus' knowledge, since he was present in Frombork at the time; this is even more true of the "Querela" – the chapter's complaint of 1521, written after his experiences while preparing

[1] Ludwik Antoni Birkenmajer, *Mikołaj Kopernik a Zakon Krzyżacki*, Lamus, vol. 2, 1910, book 1, pp. 69–94.

[2] Ludwik Antoni Birkenmajer, *Mikołaj Kopernik jako uczony, twórca i obywatel*, Cracow 1923, pp. 123-126; for a print of the letter in extenso in Latin and in Polish translation, see: Ludwik Antoni Birkenmajer, *Mikołaj Kopernik a Zakon Krzyżacki*..., a facsimile of the document before p. 69.

[3] Jerzy Sikorski, *Mikołaj Kopernik na Warmii*, Olsztyn 1968, pp. 64–65, no. 241, and Marian Biskup, *Nowe materiały do działalności publicznej Mikołaja Kopernika z lat 1512–1537*, Warsaw 1971, p. 15, after p. 16 a photo of the document.

[4] L. A. Birkenmajer, *Mikołaj Kopernik a Zakon Krzyżacki*..., pp. 69 and 92.

[5] Hans Schmauch, *Nikolaus Kopernikus und der Deutsche Ritterorden*, Kopernikus-Forschungen 1943, pp. 202-219.

[6] M. Biskup, *Nowe materiały*, pp. 14-15.

the defense of the Olsztyn Castle against the Teutonic Knights in 1520. However, the final resolution of this dispute came from new archival research conducted by Marian Biskup in the former Königsberg archives[7]. It turned out that Ludwig Antoni Birkenmajer was closer to the truth than Hans Schmauch. Indeed, Marian Biskup found a letter from Nicolaus Copernicus to king Sigismund I, dated November 16, 1520[8] and sent from Olsztyn, the authorship of which is not questioned by either Polish (Jerzy Drewnowski) or German researchers (Stefan Hartmann). Especially since the latter challenged some documents[9] that Marian Biskup believed were written by Copernicus, but his doubts were eliminated by a paleographic analysis of that letter[10] in terms of the authenticity of the astronomer's handwriting. What was the content of that letter written in Latin? Below we present almost its entire content (translated into English from the Polish translation by Jerzy Drewnowski)[11]. The letter was addressed to: "To the Most Illustrious Ruler and Lord Sigismund, by God's Grace the King of Poland, Grand Duke of Lithuania, Prussia, Heir of Ruthenia, etc., Our Most Gracious Lord." Its content is as follows: "Our Most Illustrious Ruler and Lord, our Most Gracious Lord. We wish to commend our services to Your Holy Majesty. Last night, the enemies of Your Royal Majesty seized Dobre Miasto, which, although not badly protected by walls, was insufficiently manned. For this reason, we are rightly concerned, for we ourselves are also not sufficiently protected against such an attack, and we fear that the enemies already so close will soon besiege us as well. With us is the noble-born Mr. Paweł Dołuski with only a hundred armed men. At our urging, he wrote a few days ago to Lidzbark to the noble Mr. James Sęcygniewski, the cavalry captain of Your Royal Majesty, to send us a larger crew. The residents of Dobre Miasto did the same, but we did not get anything. For he replied that he himself had too few people to send us more. We are aware that Lidzbark is also facing a danger, and so is the entire bishopric of Warmia. Therefore, we humbly implore Your Holy Majesty to come to our aid as quickly as possible and support us effectively. For we wish to do what befits people of nobility and integrity who are utterly devoted to Your Majesty, even if we were to suffer the worst. Seeking the protection of the said Majesty, we submit and entrust our entire property and ourselves. From Olsztyn, on November 16 of the year of our Lord 1520, Your Holy Majesty's most sincerely devoted servants, the canons and chapter of the Warmian church." Another question that arises is whether Copernicus' anti-Teutonic stance was caused solely by the course of Poland's war against the Teutonic Order in 1519-1521, during which the Warmian bishopric suffered great losses. Nicolaus Copernicus was a member of the clerical corporation and was a canon (although there is no evidence that he had a higher ordination), so naturally he should be close to a religious institution, even if it was a military order. However, this matter is not so obvious. The Teutonic Order in Prussia was an institution that was different from other orders, such as mendicant orders, Franciscans, and Dominicans. It had its own state and throughout its history was characterized in domestic politics by authoritarianism towards its own subjects, and in foreign policy by expansionism in relations with its neighbors. Copernicus was born in Toruń in 1473. He left that city when he went to study in Cracow in 1491. He was well acquainted with the topography of Toruń when, asked by the bishop of Warmia Jan Dantyszek for information about the life of Łukasz Watzenrode, Copernicus' uncle, the astronomer ended his letter with the following words: "With him /Łukasz Watzenrode/ the family, whose monuments are in Toruń, became extinct."[12] He must have been impressed and intrigued by the remains of a Teutonic Order's castle in his city, which was slowly falling into ruins after being captured by Toruń residents in 1454. The family tradition probably included information on loans given by Copernicus' grandfather Łukasz Watzenrode the Elder in 1460[13], as well as his father Nicolaus Copernicus (the Elder) in 1461 and 1462[14] to the Council of the Old Town of Toruń, which in turn was given to King Casimir Jagiellon to wage a war against the Teutonic Order. Earlier, in 1454 or 1455, Łukasz Watzenrode (the Elder) took part in the fight

[7] Ibidem, pp. 33-64.
[8] M. Biskup, *List kapituły warmińskiej do króla Zygmunta I napisany własnoręcznie przez Mikołaja Kopernika w Olsztynie w 1520 roku*, Komunikaty Mazursko-Warmińskie, 1970, no. 2, pp. 307-315; see M. Biskup, *Nowe materiały...*, pp. 39-40, no. 9 and a photograph of letter no. XVa.
[9] Stefan Hartmann, *Studien zur Schrift des Copernicus*, *Zeitschrift für Ostforschung*, vol. 22, 1973, pp. 12-16.
[10] Ibidem, p. 16.
[11] J. Drewnowski, op. cit., pp. 247-248.
[12] M. Biskup, *Regesta Copernicana*, Wrocław 1973, p. 183, no. 406.
[13] Ibidem, p. 48, no. 6.
[14] Ibidem, pp. 49-50, nos. 7, 10.

near Łasin, where he was wounded[15]. After studying in Cracow in 1491-1495, from the autumn of 1495 to the summer of 1496, Copernicus stayed in Lidzbark Warmiński with his uncle, the bishop of Warmia Łukasz Watzenrode, then from October 1496 to the spring of 1501 he stayed in Bologna, then a few months again in Warmia until early August 1501, and then from the autumn of 1501 to the summer of 1503 again in Italy: in Rome, Padua, and Ferrara. In 1503, Copernicus settled permanently in Warmia and lived there until his death in 1543. First, from the autumn of 1503 to the end of 1509, he resided at the court of his uncle Łukasz Watzenrode, then from 1510 to November 8, 1516, he stayed at the seat of the Warmian chapter in Frombork, then from November 8, 1516 to November 9, 1519, he stayed in Olsztyn, then from November 9, 1519 to January 23, 1520, he lived in Frombork, then again from January 23, 1520 to mid-October 1521 he stayed in Olsztyn, and finally from mid-October 1521 to his death on May 24, 1543 he lived in Frombork[16]. Copernicus had the opportunity to become more familiar with the problems associated with the fact that the Warmian bishopric neighbored with the state of the Teutonic Order in Prussia during his first stay in Lidzbark in 1495 and 1496[17]. The bishopric of Warmia neighbored the lands ruled by the Teutonic Order on three sides. The Grand Masters of the Teutonic Order were obliged by the Treaty of Toruń signed in 1466 to pay homage to the Polish king, which they did reluctantly. In the event of a military conflict between Poland and the Teutonic Order, the bishopric of Warmia, surrounded by Teutonic lands, would be directly exposed to hostile attack, which actually happened later. Not surprisingly, bishop Watzenrode, together with Philippus Callimachus, an advisor to King John Albert, came up with a project in 1495 to move the Order from Prussia to Podolia to fight the infidels, Tatars and Turks. As clerical estates, the Order's estates in Prussia could then, in their entirety or as a result of their secularization, be partially transferred to the bishopric of Warmia[18].

A dispute then ensued between Bishop Watzenrode and Grand Master John von Tiefen over the bishop's authority in clerical matters over the members of the Order. Both sides appealed to the Holy See to settle the dispute. The witnesses of the complaint by Bishop Watzenrode addressed to Rome, dated February 22, 1496 and sent from Lidzbark, were the "Chełmno cleric" Nicolaus Copernicus and layman Andrzej Wierzynowski of the diocese of Włocławek[19]. Copernicus had another contact with the Teutonic issue during his second stay in Lidzbark in 1503-1510. The new Teutonic Grand Master Frederick of Saxony (1498-1510) refused to pay homage to the Polish king. From June 22 to (22 July) 1510, a convention of representatives of the Polish King Sigismund I with deputies of the Grand Master Frederick took place in Poznań[20] to settle a dispute over the failure of the Teutonic Order to abide by the provisions of the Treaty of Toruń of 1466. Bishop Watzenrode and, most likely, Nicolaus Copernicus also attended the convention. Copernicus undoubtedly prepared a map of Poland and Prussia for that convention, which his fellow Warmian canon Fabian Luzjański wanted to steal from his house and give to the Teutonic Knights[21]. However, he did not find the maps. The convention ended in failure, as the Teutonic Order proved to be unyielding. They demanded a revision of the Treaty of Toruń and even the restitution of the Order's rule over Royal Prussia, including Warmia. A military settlement was becoming very real, although it had to take almost 10 years before it became a reality. After Copernicus moved in 1510 from the bishop's castle in Lidzbark, where decisions were made on the conduct of the Warmian bishopric towards its Teutonic neighbor, to a modest canonry in Frombork, he ceased for a short time to be an observer of big politics. However, as early as in November 1516, Copernicus became the administrator of the Warmian chapter's estates and moved to Olsztyn for a period of three years. His job was to manage the chapter's landed estates in the Olsztyn and

[15] Karol Górski, *Łukasz Watzenrode. Życie i działalność polityczna* (1447–1512), Wrocław 1973, p. 7.
[16] J. Sikorski, *Mikołaj Kopernik na Warmii. Kalendarium życia i działalności*, [in:] *Kopernik na Warmii. Życie i działalność publiczna. Działalność naukowa. Środowisko. Kalendarium*, Olsztyn 1973, pp. 428, 429, 430, 435, 445, 457, 458, 467.
[17] M. Biskup, *Lidzbark Warmiński w życiu Mikołaja Kopernika*, [in:] *Kopernik na Warmii…*, pp. 57-74.
[18] Karol Górski, *Łukasz Watzenrode…*, p. 52.
[19] M. Biskup, *Regesta Copernicana*, p. 55, no. 25.
[20] M. Biskup, *Polska a Zakon Krzyżacki w Prusach w początkach XVI wieku, U źródeł sekularyzacji Prus Krzyżackich*, Olsztyn 1983, pp. 273ff; *Akta stanów Prus Królewskich*, vol. V, part 2 (1508–1511), Marian Biskup, ed., Warsaw 1974, p. 291.
[21] Teresa Borawska, *Stroniccy krzyżaccy w otoczeniu Łukasza Watzenrodego*, Komunikaty Mazursko-Warmińskie, 1969, no. 3 (105), p. 434; and J. Sikorski, *Mikołaj Kopernik na Warmii*, pp. 25-26, nos. 47-51. M. Biskup, *Regesta Copernicana*, pp. 69-70, nos. 61, 62, 63.

Pieniężno (Melzak) districts. Almost immediately, he had to take a stand due to numerous clashes and disputes with the Teutonic Order. He was most troubled by claims concerning money and even threats of military action against the subjects of the Warmian chapter in the Pieniężno district made by Filip Greussing, a Teutonic administrator in Pasłęk. Greussing explained his demands by the lack of reaction of the Warmian chapter to the unfair treatment by Olsztyn officials of his subject, a miller from the village of Łęguty whose cart and wood were, in his opinion, seized unlawfully. The chapter explained that the miller was illegally cutting trees in a forest. Despite Copernicus' attempts at compromise and gestures of reconciliation, this incident, which at first seemed minor, fundamentally inflamed the mutual relations, especially as there were more and more incidents of subjects of the Teutonic Order attacking settlements near Olsztyn. Clouds were gathering over the defenseless Warmia. Poland, preoccupied during that decade primarily with wars against Moscow, could not force Grand Master Albrecht (1510-1525, then a duke in Prussia in 1525-1568) to pay the homage. For quite a long time, it was hoped that a solution would be reached through diplomacy. After the Vienna Agreement of July 22, 1515 between the Habsburgs and the Jagiellons, the provisions of which included an article stating that the Peace of Toruń of 1466 should be the basis for future relations between Poland and the Teutonic Order. Copernicus wrote from Pieniężno to the Warmian chapter on October 22, 1518 that he had received a message from the Warmian bishop Fabian Luzjański that the latter had "news of the conclusion of perpetual peace by (Vasili III) with the Polish king (Sigismund I), which made all hopes of the neighbors (Teutonic Knights) futile." That message was not true. At the time, negotiations for an alliance between the Teutonic Order and Muscovy against Lithuania and Poland were still underway in Moscow, although Muscovy showed great restraint in providing monetary subsidies for the recruitment of mercenaries by the Order[22]. Copernicus wanted to preserve the peace, and a possible alliance between the Teutonic Order and Muscovy could prompt the former to start a war. Despite these fundamental changes in the balance of power between Poland and the Teutonic Order, in 1519 the Order's leading elite made efforts in the Holy Roman Empire of the German Nation to assemble an army of mercenaries to settle the Polish-Teutonic dispute on the battlefield in favor of the Order. Poland was not indifferent to those efforts. In 1519-1521, the so-called "Prussian war" (on which Marian Biskup wrote a separate book) was fought; in German historiography, it is sometimes referred to as "Reiterkrieg" (equestrian war), due to the fact that, in that war, Polish and Teutonic cavalry units swept through Prussia and destroyed it. As was customary, the cavalry captains of the Polish and Bohemian mercenary units sent so-called declaration letters (declaring a war) to the Grand Master Albrecht and the Pomezanian Bishop Hiob von Dobeneck. Marian Biskup found a package of 50 such letters in the Königsberg archives (today in Berlin), mostly in the Czech language and a few in Polish, dated from December 1519 to May 1520. He published several of those letters in Polish in print[23]. Letters in Polish from that period are rare. At the time, Latin was used in Polish correspondence and chancelleries. The Polish mercenaries lacked education, as you can see, and hence they wrote the letters in Polish. Their spelling also leaves much to be desired. However, we must remember that the orthography of the Polish language was regulated only a few decades later. Mikołaj Skotnicki, a Sandomierz Master of the Pantry, in a declaration letter addressed to the Grand Master Albrecht, sent from Pakość and dated before December 29, 1519, wrote "expect visitors, we will visit Your Majesty, because this is happening due to your malice, and you do not do enough of your duty" (original spelling: ywsch sye nadzyeway gosczy, bądzem Boh da w Waschey Myloszczy, bosyeto dzeye przez wasche szlosczy, ysz nyenczynycze doszczy swey powymoszczy). I will return to the content of some of these letters, which are related in some way to Copernicus. The hostilities were started by the Polish army. During the last week of 1519 and the first days of 1520, the mercenary units, led by Hetman Nicholas Firlej, occupied all of Pomezania, with the exception of a few towns[24]. The Grand Master Albrecht launched a counterattack and seized the fortress town of Braniewo on January 1, 1520[25]. The war found Copernicus in Frombork, where he

[22] M. Biskup, *Polska a Zakon Krzyżacki…*, pp. 524-525.

[23] M. Biskup, *Polskie listy dowódców Zygmunta I z Prus z okresu wojny z Zakonem Krzyżackim (1519-1521)*, [in:] *Kultura średniowieczna i staropolska. Studia ofiarowane Aleksandrowi Gieysztorowi w pięćdziesięciolecie pracy naukowej*, Warsaw 1991, pp. 503-510.

[24] M. Biskup, *"Wojna pruska,"* pp. 90ff.

[25] Ibidem, pp. 98ff.

had been staying since early November 1519. As early as January 4, 1520, Bishop Luzjański sent him and Archdeacon John Sculteti to Grand Master Albrecht in Braniewo to urge the Teutonic Knights to leave the city and enter into peace negotiations with Sigismund I[26]. Albrecht responded by stating that he was the legal guardian of Warmia, which by law was subordinate to the pope and the Teutonic Order. Albrecht, however, issued to Copernicus a letter allowing his free passage through the lands of the Teutonic Order in case of further negotiations[27]. However, as early as on January 23, 1520, Teutonic troops attacked Frombork and burned the town and the outer canonical curias, as well as Copernicus' home. Copernicus managed to flee outside the walls of the stronghold of the Frombork cathedral defended by a Polish garrison sent from Elbląg[28]. In mid-February 1520, along with most of the Warmian canons, Copernicus sought refuge in the fortified Olsztyn castle. He served as the chancellor and, from November 8, 1520, as the administrator of the chapter's estates. Copernicus' most important duties included preparing the Olsztyn castle for an attack by the Teutonic Knights. As early as on November 16, 1520, Copernicus sent a letter to the king Sigismund I asking for help. Its contents were quoted at the beginning of the article. At the time, Copernicus had a garrison of 100 men at Olsztyn Castle under the command of Jan Dłuski. However, as early as on November 27, 1520, Hetman Świerczowski, concerned about the fate of Olsztyn, sent 100 foot soldiers there under the command of cavalry captain Henryk Peryk of Janowice, who had previously resided in Frombork[29]. This caused the garrison in Olsztyn to double. The cooperation between Copernicus and Peryk "eques aureatus et capitaneus in Allenstein" (cavalry commander and starosta in Olsztyn) must have been going well, since Copernicus handwrote the latter's letter to the Warmian bishop Luzjański, which was sent from Olsztyn and dated January 14, 1521[30]. The letter was in Latin, which Peryk probably did not know, just as he did not know German. Peryk definitely reported to Copernicus the contents of that letter in Polish, or perhaps Czech, and asked him to write it in Latin. The authenticity of Copernicus' handwriting in that letter was established by Hans Schmauch[31]. Below is an excerpt from that letter, as translated from Latin by Jerzy Drewnowski[32]: "Tonight commander Zbigniew Słupecki, who arrived yesterday (in Olsztyn) with his troops, having set out from here in the direction of Dobre Miasto for military exercises, encountered near Kabikiejmy the master (Albrecht) with his army, and having killed an number of Livonian soldiers near the outposts, brought five prisoners here. From them we learned that the master's army numbered 5,000; a certain amount of the (Teutonic) army is still to arrive from Orneta with projectiles and siege machinery the next night; where the master will go afterwards, that is unknown. Mr. Słupecki, who intends to depart again the following night, is preparing to ambush his troops as they the march. Your Reverence, meanwhile, should make efforts to secure your walls (the castle in Lidzbark)." Copernicus also held conversations with other cavalry captains, Jan Dłuski and Słupecki, in Polish, as it is hard to believe that they knew German or Latin to such an extent. The fact that Polish mercenaries basically spoke only this language is also evidenced by a letter from another mercenary, Piotr Hynek, the chamberlain of Kamieniec, also addressed to Bishop Luzjański. Hynek, or a scribe on his behalf, also wrote that letter in Polish to Bishop Luzjański. Bishop Luzjański probably knew Polish already from his home, as his mother was Elżbieta

[26] Erich Joachim, Walther Hubatsch, *Regesta Historico-Diplomatica Ordinis S. Mariae Theutonicorum, Pars I Regesten zum Ordensarchiv*, vol. 3, 1511–1525, Göttingen 1973, p. 210, no. 23002; see also: Erich Joachim, Die Politik des letzten Hochmeisters in Preussen Albrecht von Brandenburg, vol. II, Leipzig 1894, pp. 282-283, no. 106.

[27] M. Biskup, *Regesta Copernicana*, p. 113, no. 201.

[28] M. Biskup, *Stosunek Kopernika do Zakonu…*, p. 58.

[29] M. Biskup, *"Wojna pruska,"* pp. 366-367.

[30] The date was determined by M. Biskup, *"Wojna pruska,"* p. 383, note 80.

[31] H. Schmauch, Neue Funde zum Lebenslauf des Coppernicus, Zeitschrift Ermlands, vol. 28, 1943, p. 89, no. 16.

[32] J. Drewnowski, op. cit., pp. 248-249, no. 24.

Kościelecka[33]. Hynek's letter was dated August 31, 1520 and was sent from Reszel[34]. Hynek wrote: „Wyelebnosczy vaszey proszą, racz vyelyenoscz vasza vukazacz panu starosczyye zywnoscz yaką kv pozyvvenye mnye y stovarzysmy moymy… bo teszly myą vasza vyelebnoscz vumorzysz na ząmku naszym, thedy vyelyebnoscz vaszey grzech velgy bądzye, to mszysz thwa vyelyebnoscz do Rzymy yechacz…" (Your Reverence, I ask that you show to the starosta the food that is to feed me and my companions... For if you, Your Reverence, stay in our castle, then you will commit a great sin, you must go to Rome") – let us add: to obtain absolution. Going back to the situation in Olsztyn, in a letter dated January 16, 1520, the Grand Master demanded the surrender of the castle and the city of Olsztyn. Copernicus and the Polish commanders rejected that demand[35]. Nonetheless, a detachment of Teutonic Knights attempted to capture the city of Olsztyn on January 26, 1521. They managed to break out one of the gates in the walls, but the lack of ladders prevented them from continuing their attack. That fact was reported to Grand Master Albrecht by the commander of these mercenaries, Teutonic Knight Wilhelm von Schaumburg, in a letter sent from Dobre Miasto, dated January 27, 1521[36]. Albrecht had already realized that the capture of the city and castle of Olsztyn, which were well defended by Copernicus and a Polish garrison consisting of, according to the Teutonic intelligence assessment, 400 foot soldiers (according to Marian Biskup[37], this number was smaller) might be too difficult, and he headed toward the Chełmno Region to capture Nowe Miasto Lubawskie as early as January 21, 1521. Copernicus remained vigilant, as evidenced by his correspondence with the Warmian canon John Sculteti residing in Elbląg. We are familiar with Sculteti's responses to Copernicus' letters. In late February 1521, Sculeti wrote that he was happy that the arquebuses had been brought to Olsztyn. His words sound strange: "De alio capitaneo cogitandum est nobis, in qua re nauabo operam. Nullum Polonum assumendum censeo neque intromittendum in arcem.nec Ullom linum reponendum in arcem"[38](It is necessary to think of another commander (for the castle in Olsztyn), but no Pole can be accepted or allowed into the castle, because then no flax will be deposited there (for fear of confiscation)[39]. Hans Schmauch[40] drew the conclusion that Sculeti could not have written in this way to a person (Copernicus) who would have been a friend and supporter of Poland. This opinion was convincingly refuted by Jerzy Sikorski[41]. Sculteti, presumably if the Polish, possibly also Bohemian, mercenaries had left the castle, suggested to Copernicus the idea of recruiting a garrison at the expense of the chapter, which would be directly subordinate to it, which could not be surprising. Garrisons composed of mercenaries were generally undisciplined, hence the concern about confiscation of flax. A further passage in Sculteti's letter contains a question of to whom Copernicus wanted to sell the flax and at what price. Sikorski supports his thesis by citing the letter from Sigismund I to the commander of the Olsztyn Castle dated March 27, 1521[42]. The king wrote that the mercenaries "from the Olsztyn castle of the Venerable Chapter of Warmia should not confiscate or demand the surrender of any grain and foodstuffs. For it is necessary that this castle be well supplied."[43] Sculteti's reaction is therefore hardly surprising, although it was not a nice way to thank for the defense so far. To justify Sculteti's attitude, we can add concern for the valuables of the Warmian chapter deposited at the Olsztyn castle. Sculteti's recommendation was not implemented since in a letter[44] to Bishop Luzjański, sent from Olsztyn on February 8, 1522, the canons of Warmia also mentioned a commander (capitaneum Allensteinnensem d. Joannem Vidzwintzki), whom I would identify with Jan

[33] Janusz Małłek, *W kwestii posługiwania się Mikołaja Kopernika językiem polskim*, [in:] *Nad Bałtykiem, Pregołą i Łyną XVI-XX wiek. Księga Pamiątkowa poświęcona Jubileuszowi 50-lecia pracy naukowej Profesora Janusza Jasińskiego, Redakcja Zenona Rondomańska*, Olsztyn 2006, p. 104.

[34] Print of the letter: Witold Taszycki, *Wybór tekstów staropolskich XVI-XVIII wieku*, Warsaw 1969, p. 1.

[35] M. Biskup, "Wojna pruska," pp. 385.

[36] M. Biskup, *Regesta Copernicana*, p. 120, no. 220. Print of the letter in extenso: M. Biskup, *W sprawie zagrożenia Olsztyna przez wojska krzyżackie w początkach 1521 r.*, [in:] *Kopernik na Warmii…*, pp. 179-180.

[37] M. Biskup, "Wojna pruska," p. 385.

[38] Print of the letter in extenso, see: J. Drewnowski, op. cit., pp. 259-262, this excerpt on p. 261.

[39] For a Polish translation of this excerpts, see: M. Biskup, *Regesta Copernicana*, pp. 121-122, no. 223.

[40] H. Schmauch, *Nikolaus Kopernikus und der Deutsche Ritterorden…*, p. 217.

[41] J. Sikorski, *Mikołaj Kopernik w Olsztynie*, [in:] *Kopernik na Warmii…*, pp. 143-144.

[42] *Spicilegium Copernicanae*, Von Franz Hipler, ed., Braunsberg 1873, p. 276, note 2.

[43] For a Polish translation of the expert of the letter, see: J. Sikorski, *Mikołaj Kopernik w Olsztynie*, p. 144.

[44] L. A. Birkenmajer, *Stromata Copernicana*, Cracow 1924, p. 265; and Paweł Czaplewski, *Senatorowie świeccy, podskarbiowie i starostowie Prus Królewskich 1454–1772*, Toruń 1921, p. 60.

Wieczwiński, from 1522 the starosta of Bratian and later the castellan of Płock. The war was slowly dying out. On April 17, 1521, a truce was signed in Toruń, on April 8, 1525, a peace treaty was signed between Poland and the Teutonic Knights, and on April 10, 1525, in the market square of Cracow, Grand Master Albrecht paid tribute to Polish King Sigismund I. Copernicus certainly fully approved of those facts.

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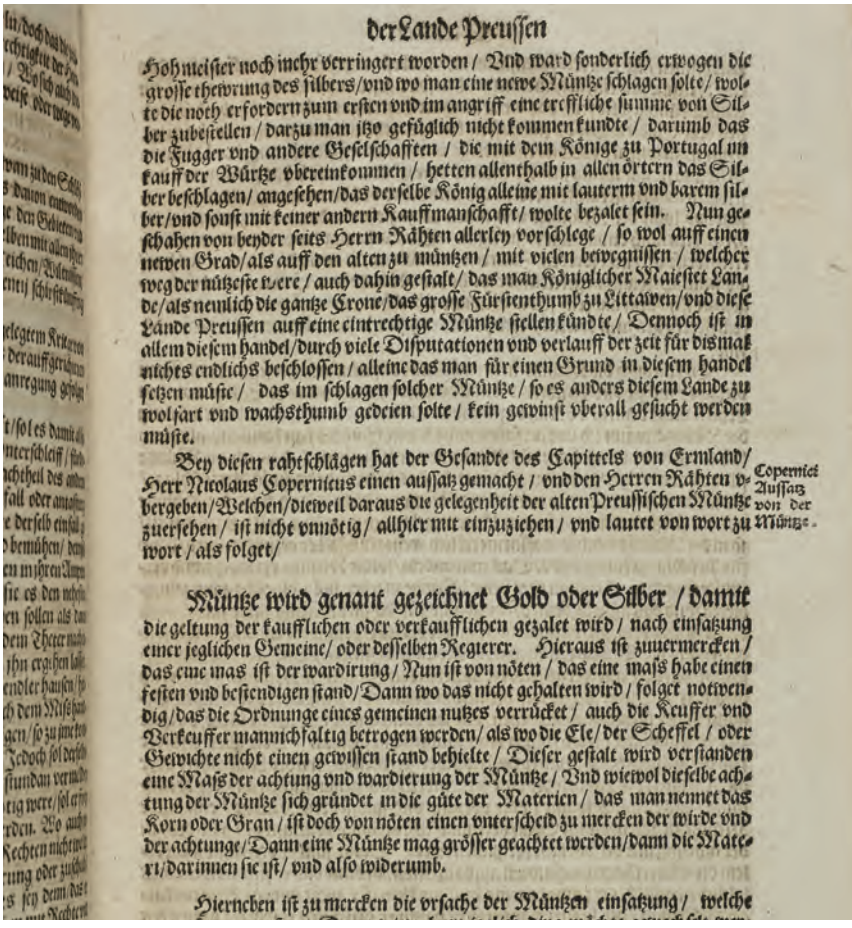
Mirosław Bochenek

Nicolaus Copernicus – the author of the first economic treatises in Poland

Nicolaus Copernicus was not only an astronomer, a mathematician, a designer, a lawyer, a physician, a translator of classical literature, a clergyman, and a cartographer, but also an economist and an economic activist.

Although he wrote the first theoretical economic treatises in which he presented original concepts and a program of monetary reform, his achievements in this area have been attributed to other authors and are little known not only to the public, but also to economists. It seems justified to present the main thoughts contained in the economic writings of the great astronomer, especially since numerous errors and ambiguities have appeared in the literature for many years.

As early as during his studies at the University of Jurists in Bologna, he received a lower priestly ordination and assumed the Warmian canonry. After returning from Italy in 1503, he became the bishop's secretary in Lidzbark, and a few years later was entrusted with a number of administrative and economic functions in the Warmian chapter. As administrator of the estates of the Warmian chapter in Olsztyn, he managed the manors in the Olsztyn and Melzak (Pieniężno) districts, colonized abandoned villages, prepared the defense of Olsztyn against the Teutonic army, and managed the reconstruction of the region after the destruction of the war – hence the term "commissioner of Warmia." Also in Frombork, he performed administrative and



der Lande Preussen

Hohmeister noch mehr verringert worden / Vnd ward sonderlich erwogen die grosse theurung des silbers/vnd wo man eine newe Müntze schlagen solte/ wolte die noth erfordern zum ersten vnd im angriff eine ercffliche summe von Silber zubestellen / darzu man itzo gefüglich nicht kommen kundte / darumb das die Fugger vnd andere Gesellschafften / die mit dem Könige zu Portugal im kauff der Würtze vbereinkommen / hetten allenthalb in allen örtern das Silber beschlagen/ angesehen/das derselbe König alleine mit lauterm vnd barem silber/vnd sonst mit keiner andern Kauffmanschafft/ wolte bezalet sein. Nun geschahen von beyder seits Herrn Rähten allerley vorschlege / so wol auff einen newen Grad/als auff den alten zu müntzen / mit vielen bewegnissen / welcher weg der nützeste were / auch dahin gestalt/ das man Königlicher Maiestet Lande/als nemlich die gantze Crone/das grosse Fürstenthumb zu Littawen/vnd diese Lande Preussen auff eine eintrechtige Müntze stellen kündte/ Dennoch ist in allem diesem handel/durch viele Disputationen vnd verlauff der zeit für dismal nichts endlichs beschlossen / alleine das man für einen Grund in diesem handel setzen müste / das im schlagen solcher Müntze / so es anders diesem Lande zu wolfart vnd wachsthumb gedeien solte / kein gewinst vberall gesucht werden müste.

Bey diesen rahtschlägen hat der Gesandte des Capittels von Ermland/ Herr Nicolaus Copernicus einen aussatz gemacht / vnd den Herren Rähten vbergeben/Welchen/dieweil daraus die gelegenheit der alten Preussischen Müntze zuersehen / ist nicht vnnötig / allhier mit einzuziehen / vnd lautet von wort zu wort / als folget/ Copernici Aufsatz von der Müntze.

Müntze wird genant gezeichnet Gold oder Silber / damit die geltung der kauflichen oder verkauflichen gezalet wird / nach einsatzung einer jeglichen Gemeine/ oder desselben Regierer. Hieraus ist zumercken / das eine mas ist der wardirung / Nun ist von nöten / das eine mass habe einen festen vnd bestendigen stand/Dann wo das nicht gehalten wird / folget notwendig/das die Ordnunge eines gemeinen nutzes verrücket / auch die Keuffer vnd Verkeuffer mannichfaltig betrogen werden/ als wo die Ele/der Scheffel / oder Gewichte nicht einen gewissen stand behielte / Dieser gestalt wird verstanden eine Mass der achtung vnd wardierung der Müntze / Vnd wiewol dieselbe achtung der Müntze sich gründet in die güte der Materien / das man nennet das Korn oder Gran / ist doch von nöten einen vnterscheid zu mercken der wirde vnd der achtunge/Dann eine Müntze mag grösser geachtet werden/dann die Materi/darinnen sie ist/ vnd also widerumb.

Hierneben ist zu mercken die vrsache der Müntzen einsatzung / welche

The beginning of the treatise *Modus cudendi monetam* included in Casper Schütz's Prussian chronicle, titled *Historia rerum Prussicarum* (1592), bearing the chapter title Copernici Aufsatz von der Münze. See: C. Schützen, *Historia rerum Prussicarum*, Durch Bonauentur Schmid, Zerbst 1592, [pp. 517r–519r], [sections: h5—i]. In the digitized copy in the Kuyavia-Pomerania Digital Library, these are slides number 1077-1081.

economic duties as a chapter inspector, chancellor, and general administrator of the Diocese of Warmia. While holding administrative positions in the Warmian chapter, Copernicus was interested in ensuring a stable monetary system in Royal and Ducal Prussia, and in the Crown. However, Prussia's monetary system at the time was showing a state of decay. What largely contributed to this situation was the neighboring countries, Prussian cities having the right to mint coins, and the Grand Master of the Teutonic Order – Albrecht von Hohenzollern-Ansbach, who constantly reduced the value of his coins. Moreover, Prussian coins were debased several times a year, leading to frequent changes in prices, rents, etc.[1] In addition, Copernicus participated – as a delegate of the chapter – in assemblies of the Prussian estates convened to discuss the need for monetary reform, which primarily included the unification of the monetary system throughout the country and the establishment of a good coin[2]. Monetary issues, therefore, were of interest to the "commissioner of Warmia" from the beginning of his service as the chapter's administrator, i.e. from 1516, until the last time he participated in the work of the monetary committee of the Prussian assembly in 1526[3].

M. Copernicus addressed the causes and consequences of coin debasement and monetary reform in four economic works, which he wrote in the following order: *N. C. Meditata* (*Reflections*, 1517), *Modus cudendi monetam* (*Principles of coin minting*, 1519 and 1522), *Monete cudende ratio* (*Methods of coin minting*, 1526), and *Felici Reich. De moneta* (*To Felix Reich. On coins*, 1526). Nicolaus Copernicus' collection of monetary treatises also includes *Tractatus de monetis* (*Treatise on coins*, late 16th century), compiled by an unknown Toruń writer.

The *Meditata* was the first scientific monetary treatise of the brilliant astronomer. It is a theoretical and empirical, but it also discusses matters of application. It is the only treatise whose title was given by Copernicus himself. His further works were titled later. Copernicus wrote this very short treatise in Latin, probably in Frombork and Olsztyn, inspired by the bishop of Warmia Fabian Luzjański. Being at the same time the chairman of the Estates of Royal Prussia, bishop F. Luzjański understood the importance of stable money for the lands he oversaw. Accordingly, he took steps to convince the Albrecht von Hohenzollern-Ansbach, the grand master of the Teutonic Order, to stop the policy of debasing the coins in Teutonic Prussia. In addition, he banned the acceptance of money minted in Königsberg. A similar position was represented by the Council of Gdańsk, which sought bishop F. Luzjański's support and wanted him to enter into negotiations with the Teutonic grand master on monetary matters. In July 1517, an assembly of the estates in Malbork debated the possibility of issuing new coins in Royal Prussia and the non-acceptance of coins from Teutonic Prussia when paying dues for the use of the chapter's land. After the assembly, bishop F. Luzjański persuaded Nicolaus Copernicus to prepare theoretical arguments for a monetary reform in Royal Prussia, which was the small homeland of these two persons. The memorial was probably finally drafted on August 15, 1517. The *Deliberations* was the first step in the program of monetary reform and constituted the first draft of treatises on coins, intended for the bishop and the Warmian chapter attending the assemblies of the Estates of Royal Prussia[4].

On the basis of observed socio-economic phenomena, the author of *Meditata* formulated a number of theoretical theses. He recognized that the value of money depends solely on the content of precious metal, i.e. gold or silver, in coins. He thus

[1] See: M. Grażyński, *Memorjał Mikołaja Kopernika o zasadach bicia monety*, "Przegląd Współczesny" 1923, no. 14, pp. 339, 341, 347; M. Grażyński, *Przyczynki do historji myśli ekonomicznej w Polsce w w. XVI*, "Wiadomości Numizmatyczno-Archeologiczne" 1923, no. 1–12, pp. 40, 44; and A.W. Zawadzki, *Teoria pieniądza w średniowieczu*, "Ekonomista" 1933, vol. 3, p. 107.

[2] See: S. Cackowski, *Mikołaj Kopernik jako ekonomista*, "Biblioteczka Kopernikańska" no. 4, Scientific Society in Toruń, Toruń 1970, pp. 26-28; and S. Arnold, *Podłoże gospodarczo-społeczne polskiego Odrodzenia*, Państwowy Instytut Wydawniczy, Warsaw 1953, p. 26.

[3] See: J. Dmochowski, *Kopernik jako działacz gospodarczy*, w: *Mikołaja Kopernika rozprawy o monecie i inne pisma ekonomiczne oraz J. L. Decjusza traktat o biciu monety*, J. Dmochowski, ed., Nakład Gebethnera i Wolffa, Warsaw [1923], pp. CXXXXI–CXXXXV; M. Gumowski, *Poglądy Mikołaja Kopernika w sprawach monetarnych*, in: *Kopernik na Warmii. Życie i działalność publiczna – Działalność naukowa – Środowisko – Kalendarium*, Scientific Station of the Polish Historical Society (Mazury Institute) – W. Kętrzyński Research Center, Olsztyn 1973, p. 250; and *Protokoły Sejmiku Generalnego Prus Królewskich*, vol. II (November 1528 – October 1530), M. Biskup, B. Dybaś, J. Tandecki, eds., Scientific Society in Toruń (fontes 95) – NCU in Toruń, Toruń 2005, pp. 258-260.

[4] See: J. Sikorski, *Mikołaj Kopernik na Warmii. Kalendarium życia i działalności*, [in:] *Kopernik na Warmii...*, op. cit., pp. 450; M. Gumowski, *Poglądy Mikołaja...*, op. cit., p. 250; and M. Biskup, L. Zygner, *Pisma ekonomiczne i administracyjne*, [in:] M. Kopernik, *Dzieła wszystkie*, vol. 3 – *Pisma pomniejsze*, PAN–Wydawnictwo Sejmowe, Warsaw 2007, pp. 49, 99-101.

joined the proponents of the theory of metallism. No less important achievement of Nicolaus Copernicus was the distinction between the estimation of a coin and the value of a coin. Estimation of a coin (*estimatio*) (estimate value or valuation), is the face or nominal value of a coin as determined by the issuer, i.e., the mint of the ruler or a mint owned by a city having the right to mint coins. It indicates the number of monetary units that have the power to release from obligations. Coin value (*valor*), on the other hand, is the determination of a coin's material value based on its content of a precious metal. Thus, the coin value determines the purchasing power of money. He went on to illustrate the condition of the monetary circulation in Prussia, as well as the main assumptions of the proposed monetary reform. With this came the idea that better and worse coins cannot function side by side in circulation.

In the introduction to his treatise, the genius astronomer explained what a coin is and how its value is determined. These are general theoretical considerations. According to the author of *Meditata*, a coin is a minted mark made of gold or silver, which is used to determine the price of exchangeable goods in accordance with a country's laws. A coin is thus a measure of value. Because of this function, the coin should constantly maintain a fixed value. If its value changes, then the order of the country is disrupted and buyers and sellers are robbed. Copernicus believed that a distinction should be made between the estimation of a coin and its value. This means that the estimation of a coin is different from its value. An estimation is a measure of a coin. It is based on the quality of the metal contained in the coin. An estimation of a coin can be higher or lower than the value of the metal from which the coin was minted. These quantities should be equal and strictly defined by law. The money used in exchanges can take many forms. It can be gold or silver in the form of bullion weighed by merchants, because these metals are, by social contract, i.e. common consent, used to set prices. However, weighing bullion for each transaction is a significant inconvenience. Therefore, in order to guarantee the reliability of gold and silver, a certain practice emerged that involves minting coins with a public seal that confirms the proper proportion of gold or silver contained in the coin, i.e. the quality of the bullion, also referred to as the rate of mintage. Copernicus claimed that this estimation of a coin becomes fair and accurate when its valuation is equal to the value of the gold or silver along with the cost of minting it, i.e. the cost of the minters, since the seal adds dignity to the minted bullion[5].

The author of *Meditata* claimed that there were three reasons for the decline in a coin's value. The first involves adding more copper to silver, while keeping the weight of the coin the same. The second is to reduce the weight while maintaining the same rate of mintage. The third involves a simultaneous reduction of the weight and adding more copper to silver. Moreover, the coin loses value when an excessive amount of money is issued and then the coins are worth less than the weight of the silver used. Then people covet silver itself more than money. This leads to a decline in the importance of coins. These coins are worth less and less bullion can be bought for them. The only solution is to stop issuing coins. Another reason for the loss of value of coins is their wear and tear, i.e. destruction or as a result of abrasion by prolonged use. Damaged coins should be refurbished. If new coins need to be minted, the old ones should be banned. An old coin left in circulation lowers the importance of the newly issued ones. However, an even greater harm is done when a ruler of a country mints coins for profit, i.e. introduces a new inferior coin, that is, with an inferior alloy or lower weight, although its estimation is equal to that of the old one. At the same time, the good old coins remain in circulation. As a result of these actions, the ruler deceives not only his subjects, but also himself. The profit gained in this way is temporary and modest. The debased coins will return to the ruler anyway. Remedying this condition will not be easy and will further burden the ruler's subjects. The consequences of counterfeiting coins were seen by Nicolaus Copernicus in Prussia, the Brandenburg Margraviate, and Western Pomerania. Shillings, groshes, and denars were in circulation in these provinces. After obtaining the right to mint coins, cities in these regions began to take advantage of the privilege and quickly increased the issuance of coins, thus increasing the number of coins in circulation. But the cities did not care about their quality; they increased the amount of copper in the coins and decreased that of silver. Although their value was falsified, the residents were misled, as they were given an untrue face value identical to

[5] See: M. Kopernik, *Rozmyślania o reformie monetarnej Prus Królewskich* (*Meditata*), translated by E. J. Głębicka, [in:] M. Kopernik, *Dzieła wszystkie*, vol. 3..., op. cit., p. 105.

that of the older, better coins. The new coins had estimations equal to the old coins. The new coins looked identical as the old ones, but their value was much lower. This resulted in confusion between the coins' estimation and value. In fact, the value of the coins fell every day, and yet new coins were constantly being minted that increasing worse than the previous ones. After subsequent issues even worse coins appeared. The old better coins were removed and even worse coins were minted. As a result of this practice, Prussian coins suffered, and this negatively affected the entire land. Only goldsmiths who knew the value of bullion and individual coins benefited from this tampering with money. They selected the more valuable ones, which they melted down for bullion and minted more inferior ones[6].

Faced with the threat of further decay of the monetary system and the region's economy, Copernicus proposed a corrective program that would involve the implementation of a monetary reform. The main element of that program was depriving cities of the right to mint coins. According to the author of *Meditata*, it was necessary to designate only one place to mint coins, i.e. to create one mint to issue coin with the mark of the entire country. Previously, each city had minted coins with its own mark. The issuance of new coins was to be decided by representatives of all lands of the kingdom. The new constant minting alloy was to include three pounds of copper and one pound of pure silver for the shillings. With the issuance of new coins, the use of old coins should be banned. The author of the reform predicted that this operation would involve some losses, but the more important effect would be long-term benefit and much good. Copernicus also argued that worn and damaged coins should be renewed every 25 years[7].

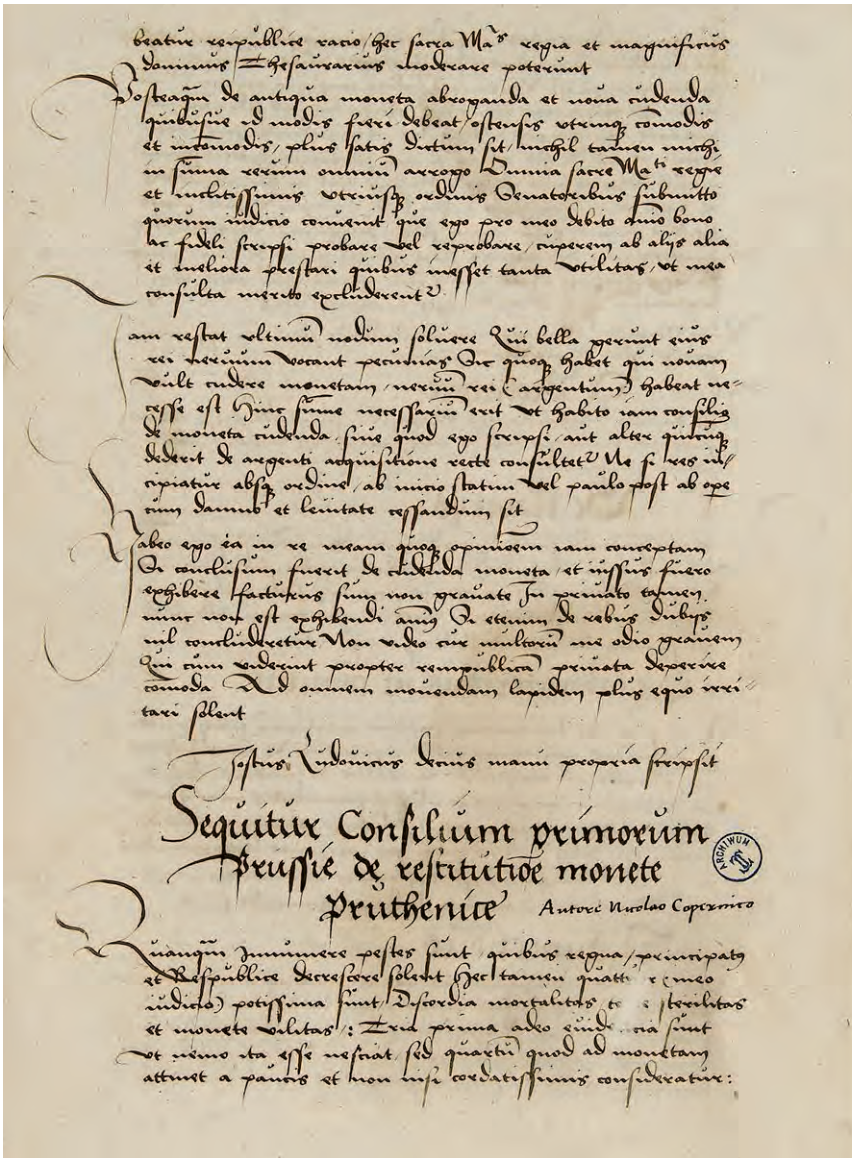
The genius astronomer's second monetary treatise is *Modus cudendi monetam* (Principles of coin minting), which is a German translation of his first treatise *Meditata*. The title *Modus cudendi monetam* was given to that treatise in the 16th century. The German version was prepared at the request of Royal Prussia's councilors to clarify monetary issues and the need for an appropriate reform. The memorial was prepared in German due to the poor knowledge of Latin by most of the delegates to the assembly of the Prussian Estates who conducted their deliberations in German. Nicolaus Copernicus therefore prepared a treaty for the assembly of the Estates of Royal Prussia with King Sigismund I in Toruń, but due to the outbreak of a war against the Teutonic Order, the matter of monetary reform was postponed. Unfortunately, the exact date of the German version of the treatise is not known. It is assumed that the translation was prepared in either 1519 or 1522. It is unlikely that the translation was done by the author of the treatise himself. Most researchers favor the view that the translation into German was done by a scribe from Gdańsk. This is evidenced by numerous simplifications and inaccuracies. It is even believed that the translation is too casual and contains unnecessary additions and comments. This treatise was presented by Copernicus in person on March 21, 1522 in Grudziądz during the assembly of the Estates of Royal Prussia and envoys of King Sigismund I. The bishop of Włocławek, Maciej Drzewicki, who participated in the assembly as the king's envoy, proposed the introduction in Prussia of a coin used in the Crown of the Kingdom of Poland. This proposition was accepted by the great astronomer, who added it to his treatise. This is because Copernicus understood the need for and benefits of the use of the same coins throughout the Kingdom. Nevertheless, Royal Prussia was to retain the right to have a separate coin[8].

Unfortunately, many misunderstandings have arisen around the titles of these first two versions of the treaty due to poor knowledge of their content and history. *Meditata* was first published in print in Latin, in 1855 in Poznań in the collection titled *Acta Tomiciana*. This series is a monumental collection of documents of the royal chancellery from the time of the last Jagiellons, collected by secretary Stanisław Górski, during the term of office of vice-chancellor Piotr Tomicki, after whom the collection is named. The publisher of the collection was the Kórnik Library, owned by Tytus Działyński, who prepared the materials for printing. The publishers of the Poznań series published M. Copernicus' treatise anonymously. The author of that text was

[6] See: Ibidem, pp. 105-107.
[7] See: Ibidem, p. 107.

[8] See: *Akta stanów Prus Królewskich*, vol. 8: (*1520–1526*), M. Biskup, I. Janosz-Biskupowa, eds., Scientific Society in Toruń (fontes 95) – Institute of the History of Science, Education, and Technology of the PAS, Warsaw-Toruń 1993, p. 212; J. Sikorski, *Mikołaj Kopernik...*, op. cit., p. 469; M. Gumowski, *Moneta złota w Polsce średniowiecznej*, "Rozprawy Akademii Umiejętności w Krakowie" 1912, vol. 55, p. 209; and M. Biskup, L. Zygner, *Pisma ekonomiczne...*, op. cit., pp. 58, 108–109.

determined only in 1902 by Adam Szelągowski[9]. Although the editors of that publication incorrectly believed that they published a 1520 version of the treatise, namely *Modus cudendi monetam*, they published the shortest Latin version of 1517, based on the Latin copy made by F. Reich, and additionally they titled it *De estimatione monete*[10]. One can only regret that for the next almost one hundred and fifty years the authors of works on the economic achievements of the great astronomer mistakenly gave the title *De estimatione monete* (On the estimation of coins), thus causing confusion over the identification of Copernicus' monetary treatises[11]. This means that the author of this confusion may have been T. Działyński. Moreover, many authors of later publications erroneously indicated that the treaty of 1519 is the first monetary treaty written by Nicolaus Copernicus[12]. In 1978, that first version of the great astronomer's monetary treatise was published again by Erich Sommerfeld in the book *Die Geldlehre des Nicolaus Copernicus*. Its author maintained that from the very beginning that version has been called after M. Copernicus, i.e. *N. C. Meditata XV Augusti anno domini NDXVII*, which he translated into German as *Überlegung des Nicolaus Copernicus vom 15. August 1517*. E. Sommerfeld also pointed out that the Polish publisher of the text of that treatise did not indicate its author and gave the misleading title


Sequitur Consilium primorum Prussie de restitutione monete Pruthenice

The beginning of the manuscript copy of *Monete cudende ratio*. A manuscript from the collection of the Czartoryski Dukes Library in Cracow — National Museum in Cracow (manuscript 259).

De estimatione monete, which means "Über die Bewertung des Geldes."[13]

The most comprehensive and important treatise, *Monete cudende ratio* (Methods of coin minting), compiled before April 1526, is the last modified, most developed, and mature version, in comparison with the previous versions, of the treatise on a monetary reform in Prussia. In the four years since Copernicus spoke in Grudziądz, the political and economic situation in Prussia had changed. In 1525, Ducal Prussia became a secular fief of the Polish

[9] See: A. Szelągowski, *Pieniądz i przewrót cen w XVI i XVII wieku w Polsce*, Nakładem Towarzystwa Wydawniczego, Lviv 1902, p. 8.

[10] See: *Acta Tomiciana. Tomus Quintus Epistolarum, legationum, responsorium, actionum et rerum gestarum Serenissimi Principis Sigismundi Primi, Regis Polonie et Magni Ducis Lithuanie, A. D. 1519–1521*, per Stanislaum Górski, Sumpt. Bibliothecae Kornicensis, Posnaniae [1855], pp. 167–169.

[11] See: A. Szelągowski, *Pieniądz i przewrót...*, op. cit., p. 8. S. Głąbiński, *Ekonomika społeczna*, vol. 1 – *Ogólne zasady i historya ekonomiki społecznej*, Z Drukarni Pillera i Ski, Lviv 1905, p. 192; S.L. Pernaczyński, *Mikołaj Kopernik ekonomista*, "Ruch Chrześcijańsko-Społeczny. Miesięcznik poświęcony sprawom społecznym i gospodarczym" 1910, no. 5 (February), year 8, p. 243; J. Dmochowski, *Kopernik jako teoretyk monetarny*, [in:] *Mikołaja Kopernika rozprawy o monecie...*, op. cit., pp. XXXXVI, LIII; J. Dmochowski, *Kopernik jako działacz...*, op. cit., pp. CX, CXXXVII, CLIII, CLXII; W. K. Szalkiewicz, *Kopernik i pieniądze. Ziemię ruszył, a i pieniądzem efektywnie obracał*, Agencja Usług Medialnych, Olsztyn 2012, pp. 51-58; and G. Leśniewska, *Grudziądz z Kopernikiem w tle*, City Hall in Grudziądz, Grudziądz 2022, pp. 11ff.

[12] See: J. Dmochowski, *Kopernik jako teoretyk...*, op. cit., pp. XXXXVI, LIII; J. Dmochowski, *Kopernik jako działacz...*, op. cit., pp. CX, CXXXVII, CLIII, CLXII; and L. Prowe, *Nicolaus Coppernicus*, 2. Band: *Urkunden*, Weidmannsche Buchhandlung, Berlin 1884, pp. 21-28.

[13] See: *Die Geldlehre des Nicolaus Copernicus. Texte, Übersetzungen, kommentare*, E. Sommerfeld, ed., Akademie-Verlag, Berlin 1978, pp. 21-31.

Crown, under the full suzerainty of the Polish king. This meant that the entire Prussian territory became an integral part of the Polish state. The debate on monetary reform, which was advanced at the time, had to take into account the political unity with the Crown not only of Royal Prussia, but also of Ducal Prussia. In addition, Nicolaus Copernicus managed to reach previously unknown source materials on Teutonic coins from the 14th and 15th centuries, as well as scientific studies on monetary issues[14]. The knowledge gained was reflected in a new treatise, *Monete cudende ratio*, the framework of which was the content of *Meditata*, supplemented with information on the essence and role of coins in economic life, the history of Teutonic coins, the causes of the depreciation of the Prussian money, as well as the consequences of coin debasement for the economy of the region and its population. Copernicus described in detail the negative effects of coin debasement, which are manifested in general impoverishment, high prices, the collapse of crafts and foreign trade, the flight of money from the country, and the collapse of the state. According to the author of *Monete cudende ratio*, the only way to fix the economy of both parts of Prussia was radical monetary reform. The assumptions of the monetary reform he outlined included establishment of one or two mints, stabilization and revaluation of the new coin, and revaluation of revenues. It is clear from these propositions that Copernicus was in favor of strong and stable money, since good money, in his opinion, is a prerequisite for the development of trade, crafts, and agriculture, and even science and fine arts, and consequently the development of the whole country. A developed country was his economic ideal, as it guaranteed meeting the needs of all social strata, i.e. achievement of the "common good." His other noteworthy achievements is the clarification of the law on bad money driving out good money from circulation.

In the treatise *Monete cudende ratio*, Nicolaus Copernicus warned of the plagues that can bring a country down, whether it is a monarchy or a republic. These plagues include discord, mortality, infertility of the soil, and debased money. The consequences of the first three are well known. In contrast, the fourth plague, related to money, is understood only by a few, most reasonable individuals. The reason for this non-obviousness is the unique characteristics of the phenomenon, since debasement, or counterfeiting, of money, leads to the collapse of a country in a gradual and secretive manner, not as a result of a sudden, one-time blow[15].

According to the great astronomer, in order for a coin to retain lasting value and respect, the quality of the bullion from which it is minted must be regulated by law. The value of a coin is determined by the weight of gold or silver it contains. Bullion is widely accepted as a means of exchange. Silver coins are not minted from pure silver, but from silver with an admixture of copper. Copper is added to silver for several reasons. The first is the greed of people who would hoard and melt coins if they were minted from pure bullion. The second reason is that more coins can be minted from a mixed silver-copper mint alloy than from silver alone. The third reason is that this prevents excessive abrasion and rapid damage. Mixing silver with copper, as the author of *Monete cudende ratio* emphasized, makes these coins more durable[16].

The value of bullion money was the central subject of the genius astronomer's economic considerations. Although the treatise mentioned gold currency, it dealt mainly with silver currency. The decline in the value of coins occurs most often, he believes, due to the issue of an excessive number of them. Then people covet silver more than money. There is an excess of coins of lesser value in circulation. The value of the coins is reduced by various actions. One way to lower their value is to deteriorate the quality of the minting material, or rate of mintage. While maintaining the existing weight of the coin, the copper content of the alloy is increased, contrary to previous norms, and the silver content is reduced. Another way is to reduce the weight of the coin at the existing rate. The worst way is to simultaneously deteriorate the quality and reduce the weight of the coin[17].

To illustrate the above remarks, M. Copernicus described the state of the Prussian monetary system and the quality of the ducal coins in the region. The author of *Monete cudende ratio* lamented that the Prussian coin had suffered a huge loss in value

[14] See: M. Biskup, L. Zygner, *Pisma ekonomiczne...*, op. cit., pp. 119-121.

[15] See: M. Kopernik, *Traktat o reformie monetarnej Prus Królewskich i Książęcych – Zasady bicia monety*, translated by E. J. Głębicka, [in:] M. Kopernik, *Dzieła wszystkie*, vol. 3..., op. cit., p. 131.

[16] See: ibidem.

[17] See: Ibidem, pp. 131-132.

and importance. During the reign of Konrad von Jungingen in the state of the Teutonic Order, Prussian coins had a fixed value. The rate of mintage was 3/4ths of pure silver and 1/4th of copper. From one grivna, or half a pound, 112 shillings were minted. After the Battle of Grunwald the state of the Teutonic Order suffered a decline, which was reflected in the condition of the Prussian coin. Successive grand masters introduced new coins. First, the proportion of silver in the rate of mintage was reduced to 3/5ths, and then to 1/4ths. The weight of the coins remained the same; 112 shillings were minted from half a pound, but they should be called copper, not silver coin[18]. Unfortunately, all these coins circulated at the same time, thus magnifying the cardinal error, which was described by Copernicus as follows: "When it is altogether inappropriate to introduce a new and good coin, when the old inferior one is still in circulation – how much more wrong was done when to the old, better coin, left in circulation, a new inferior one was introduced, which not only infected the old one, but, so to speak, drove it out of circulation."[19] In this sentence, the author of *Monete cudende ratio* contained one of the most important thoughts that became the formulation of the economic law on the circulation of money.

To fix the monetary circulation, according to Copernicus, it was necessary to remedy the earlier mistakes. The grand masters of the state of the Teutonic Order, Michael Küchmeister and Paul von Rusdorf, decided to fix the coins by issuing better ones. At the same time, it was erroneously thought that withdrawing the old inferior coins would cause a loss, so the old inferior, or lighter, coins and the newly minted superior ones were in circulation at the same time. The rate of mintage was half silver and half copper. But after the country's situation changed, cities were given the right to mint coins. Then there was a flood of bad money, composed of 1/5th of silver and 4/5ths of copper. With successive issues, increasingly inferior coins appeared in circulation. Under the influence of an excess of money in circulation, their estimations were lowered, which turned out to be wrong and misguided anyway. As the minting of coins continued, there was a simultaneous decline in the value of money and its estimations. Unfortunately, the coins introduced later were always inferior to the earlier ones. Although there were no plans of renewing the coins, they still had to contain some residual value. Thus, the process was characterized by the freedom to counterfeit and debase the coins, resulting in a continuous reduction in their value. This led to an unimaginable debasement of coins. Nicolaus Copernicus predicted that this could lead to a condition in which coins would contain neither gold nor silver, but only copper. As a result of long-term coin counterfeiting, trade with foreign merchants and all business would disappear. No foreign merchant would exchange his goods for copper coins. The debased Prussian coin would eventually lead the entire country to collapse. Better coins disappeared from circulation, and only inferior ones remained. Almost all people felt the effects of this calamity on a daily basis, which manifested itself in widespread high prices. The prices of almost all goods, gold, silver, bread, handicrafts, as well as servants' wages, were rising. Unfortunately, the majority of the public did not understand that the widespread high prices were the result of the debasement of the money[20]. M. Copernicus wrote: "Everything becomes more expensive or cheaper according to the state of the money: especially gold and silver, whose value we measure not in brass or copper, but in gold and silver. This is because we define gold and silver as the basis of money, on which its estimation depends."[21]

According to Copernicus, the claim that an inferior coin is more convenient for poor people is unjustified. An inferior coin does not make bread cheaper and does not make it easier for people to access the things they need to live. It is not true that good money makes goods more expensive and annual rents higher. Merchants and craftsmen always adjust the prices of their products according to the value of gold. If the coin is worth less, they demand more. No one can deny that a high-value coin is more beneficial to the whole country and people of all social strata, while a low-value coin

[18] See: Ibidem, p. 132.

[19] M. Kopernik, *Sposób bicia monety*, w: *Mikołaja Kopernika rozprawy o monecie…*, op. cit., p. 59. As the footnote shows, this quote comes from the 1923 edition of Nicolaus Copernicus' treatises, as it better captures the sense of the formulation of the theorem. In contrast, in a more recent version, the passage reads as follows: "When it is by no means right to introduce new, good money and at the same time keep the old, inferior one, how much more wrong it was to introduce a new inferior one, which not only tainted the old one, but, so to speak, drove it away." M. Kopernik, *Traktat o reformie…*, op. cit., p. 132.

[20] See: Ibidem, pp. 132-134.

[21] Ibidem, p. 134.

harms everyone. The experience of many countries confirms that a good coin leads to prosperity, while an inferior coin is the cause of decline and decay. Prussia also saw a boom when it had a valuable coin. But when the coin began to lose value overnight, the country was led to its doom. If the coin is good there is a flourishing of arts and crafts, and there is an abundance of goods on the market. When a debased coin is in circulation, laziness, indolence, idleness, disappearance of art and talent, and lack of abundance become common phenomena. In Prussia, cheap grain and bread were observed when there was a good coin. In contrast, once the coin was debased, the prices of everything from food to other necessities of life increased. Debased money thus supports poverty and idleness. With a more valuable coin, rent payers will be burdened with more expenses, and at the same time they will receive a higher price for their crops of land and other goods, the exchange between those who pay and those who receive liabilities takes place according to a fair measure, which is the value of the coin – the author of *Monete cudende ratio* concluded[22].

In the opinion of Nicolaus Copernicus, many measures had to be taken in order to repair the Prussian coin. First, the confusion created by the existence of various mints that minted different coins had to be eliminated. When there are many mints, it is impossible to both introduce uniform money and ensure their obedience. Such possibility can only be provided by a single mint. Therefore, a single common mint had to be established for the Kingdom and Prussia under the authority of the Duke of Prussia. If the duke opposed this idea and wanted to keep his own mint, at most two mints had to be established. One was to be located in the Kingdom of Poland and the other in Prussia. The mints would issue coins subject to royal authority, according to royal law, making them acceptable in the entire Kingdom of Poland. The solution would reconcile all minds and facilitate commerce activities. But the most important goal is to establish a uniform alloy, value, and estimation of the two coins, and to keep these parameters under the supervision of the authorities of the Kingdom. However, the King of Poland and the Duke of Prussia must give up their desire to profit from minting coins. For the reform to be effective, along with the introduction of the new good coin, the old debased coin should be completely withdrawn from circulation by replacing it with the new coin at the mints. Thus, the old coin and the new one must not be in circulation at the same time, as confusion will reappear and all the efforts to repair the monetary system will prove futile. It would also be detrimental to introduce new coins with an appropriate estimation, as too many different, damaged coins would be in circulation and it would be difficult to distinguish between them. The best solution, therefore, would be to introduce new coins and make the withdrawal of the old ones completely mandatory. The fixing of the monetary system, according to Nicolaus Copernicus, would result in the development of the whole country, and the population would achieve a more lasting benefit. Particularly urgent was the need to fix Prussia's debased coinage, which had been minted in excessive quantities and had almost completely lost its value and respect. The proposals for repairing gold coins were identical to those for silver coins. Their rate of mintage was to be permanent and controlled. The above considerations on a monetary reform in Royal and Ducal Prussia were put by Nicolaus Copernicus in the following 6 guidelines: 1) The provincial council of elders should maintain a stable monetary system, which may be changed upon unanimous resolution of the council. 2) Following the model of the stable Polish coin, the Prussian coin was to be minted at only one mint, which would guarantee the effectiveness of the reform and the coin's constant value. 3) The use of the old coin was to be completely banned and it was to be phased it out with the introduction of the new one. 4) The Prussian rate of mintage was to be identical to the Polish rate of mintage, i.e. the rates should remain fixed and appropriate. 5) The quantity of the money was to be supervised to prevent excessive issuance. 6) All types of coins, i.e. groshes, shillings, and denars, were to be minted and put into circulation simultaneously. Decisions on the rate of mintage were to be made by the entities concerned in such a way as to guarantee its stability. Nicolaus Copernicus' considerations also covered all obligations and contracts. The author of *Monete cudende ratio* believed that in the course of implementation of the monetary reform, all parties to contracts should be protected. No party should be overburdened or should benefit at the expense of others[23].

[22] See: Ibidem.

[23] See: Ibidem, pp. 134-137.

The fourth writing of the genius astronomer on the program of monetary reform in Royal and Ducal Prussia was a letter to Felix Reich (*Felici Reich. De moneta*). That letter was sent by M. Copernicus on April 8, 1526 from Frombork. F. Reich was a Warmian canon in Lidzbark and a chancellor of the Warmian chapter. Together with the bishop of Warmia Maurycy Faber, he participated as a delegate in the assemblies of the States of Royal Prussia, held in March and July 1526 in Gdańsk. In order to understand the intricate monetary problems of Prussia at the time, he asked Copernicus to clarify the incomprehensible issues, which the astronomer included in the treatise *Monete cudende ratio*. This allowed him to join the debate on monetary reform. He was also a member of the team that authored a letter from Prussian senators to Justus Ludwik Decjusz in July 1526[24]. In the letter, Nicolaus Copernicus pointed out that an intricate issue for many people is the rate of mintage, which determines the value and estimation of a coin. When 112 solids were minted from half a pound of pure silver and an admixture of copper, the Prussian coin was considered good. But the coin was spoiled by increasing the copper content of the alloy and 149 solids were minted from half a pound of silver. The author of the letter lamented that the process of spoiling of the money had not been stopped and bad coins were still being minted. The minters reaped the profits from the minting of inferior coins, but the king lost, as he received increasingly inferior coins as taxes. They resemble chaff, not grain. Therefore, Copernicus insisted that the repair of the Prussian coin should not be delayed, as the king should receive better coins[25]. The content of the letter clearly shows once again the concern for the welfare of the Kingdom of Poland, which the great Pole faithfully served.

At the end of the 16th century, an unknown Toruń writer prepared a Latin abridgment of the treatise *Modus cudendi monetam* (Principles of coin minting) written in 1519-1522. The abridgment is titled *Tractatus de monetis* (Treatise on coins). It corresponds closely with the summary of the assembly of the Estates of Royal Prussia held in March 1522 in Grudziądz. The author of the abridgment also used the Latin records that were included in the Toruń *reces* documents from the assemblies of the Estates of Prussia. Due to the faithful rendering of the sense of Nicolaus Copernicus' treatises, this treatise is considered as one of the works of the brilliant astronomer on monetary matters. In 1922, the *Treatise on Coins* was discovered in the National Archives in Toruń and mistakenly considered by Ludwik Antoni Birkenmajer to be Nicolaus Copernicus' first monetary treatise. This view was quickly corrected by Copernicus experts, who showed that it was merely an abridgment of a 1519 treatise prepared in German for the assembly of the Estates of Prussia. But the Toruń writer drafted a Latin abridgment of a treatise on the monetary reform of Royal Prussia. Using some discretion, this writer found that the general theoretical considerations could be presented in a concise form, but described Prussia's monetary system and the assumptions of the reform of the monetary system of that part of the Kingdom of Poland more extensively[26]. The Toruń writer also noted that special attention should be paid to the thought of the "Commissioner of Warmia" who emphasized in his treatise that a new good coin introduced into circulation, without withdrawing the old and bad coin, would become infected, that is, spoiled, so the old coin should be withdrawn and melted[27].

Copernicus experts agree that the manuscripts of memorials found after many centuries are not the original manuscripts written by the astronomer, which are probably lost irretrievably. Also, most of the titles (with the exception of *Meditata*) were not given by their author. They were added by those preparing the individual copies. Only Latin and German copies made by copyists have survived to our time[28].

Nicolaus Copernicus' monetary treatises remained in manuscripts for a long time and were not known to the wider scientific community. The credit due to Copernicus was attributed to other thinkers, mainly the French scholar and bishop Nicole Oresme and the English royal agent Thomas Gresham. Also, due to their radical nature, the proposals to change the monetary system of the Crown made

[24] See: M. Biskup, L. Zygner, *Pisma ekonomiczne...*, op. cit., pp. 54, 62-63, 138.
[25] See: M. Kopernik, *Do Feliksa Reicha. O monecie*, [in:] *Mikołaja Kopernika rozprawy o monecie...*, op. cit., pp. 89-91.
[26] See: M. Biskup, L. Zygner, *Pisma ekonomiczne...*, op. cit., pp. 49, 52.
[27] See: M. Kopernik, *Traktat o monetach*, [in:] *Mikołaja Kopernika rozprawy o monecie...*, op. cit., p. CLXXI.
[28] See: J. Dmochowski, *Słowo wstępne*, [in:] *Mikołaja Kopernika rozprawy o monecie...*, op. cit., pp. IV–VI; S. Hoszowski, *Wkład Kopernika w postępową myśl ekonomiczną*, "Życie Szkoły Wyższej" 1953, no. 10, p. 109; and M. Biskup, L. Zygner, *Pisma ekonomiczne...*, op. cit., p. 61.

by the brilliant astronomer were not included in the reform carried out by King Sigismund I.

All the versions of Copernicus' monetary treatise cited above are considered some of the greatest works of Polish economics. They are fully independent and original economic works of the great astronomer. Successively discovered and published, they aroused the interest of successive generations of economists, numismatists, historians, and representatives of other disciplines. Nicolaus Copernicus' thoughts constantly inspired multifaceted research and deliberation. Their qualities and enduring ideas were recalled. Several hundred researchers from Poland and abroad have participated in a debate that has continued for nearly 200 years. The debate on Copernicus' monetary treatises is the longest debate in the history of Polish economics that no other author of a Polish economic treatise has experienced.

The monetary treatise *Meditata* was written on August 15, 1517. The date of completion of that treatise is the day of the first Polish economic work, and thus the day of the birth of Polish economic thought. *Meditata* was the first version of a treatise on monetary matters. In subsequent versions of the treatise, Copernicus modified, clarified, and developed the thoughts contained therein. The brilliant astronomer-economist conducted a thorough analysis of the role of money in the economy and demonstrated the negative effects of coin debasement, and accurately described the phenomenon of better money driven away from circulation by inferior money. This description was the basis for the later formulation of the law of inferior money, unjustifiably referred to as "Gresham's law."

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Photo by Andrzej Romański

Marek Jurgowiak

Nicolaus Copernicus as a physician

Copernicus did not make any breakthrough discoveries in medicine, and although he practiced medicine for more than 40 years, few people are aware of this fact. At the time he was, just as interestingly, the only physician in Warmia. At the end of the Middle Ages, which was the period of Copernicus' lifetime, astronomy, astrology, and medicine were very closely linked. There was still a widespread belief that the heavenly bodies, especially the position and movements of stars and planets, have a direct effect on human health.

When we think of Copernicus as a physician, questions certainly come to mind about his medical studies, the scope and level of his medical practice, as well as the effectiveness of the therapies carried out by the scientist. The worldwide publications devoted to Copernicus as a physician are quite abundant, but all sources available to researchers of this subject focus a few basic areas, such as the medical books in Copernicus' collection (he owned both books by ancient medical authorities and contemporary textbooks on internal medicine, surgery, and anatomy), the prescriptions he wrote, letters with information on Copernicus' medical practice, and a number of documents such as those from the meetings of the Warmian chapter, in which one can find references to Copernicus' medical studies in Padua.

Lidzbark Warmiński — the town where Copernicus practiced medicine for years Photo by Semu

A special place in Copernicus' book collection was occupied by books on practical medicine, which seems understandable to us today, given his medical activities for the bishop of Warmia in Lidzbark, as well as at the Warmian chapter in Frombork. In 1501, the Warmian chapter offered Nicolaus Copernicus to pay for his medical studies in Italy. There was no physician in Warmia at the time, and the church authorities of the time also wanted to have a trained medic on their staff. Padua was chosen as the place of the study and as early as in the same year, 1501, Copernicus began studying medicine at the university there. The University of Padua was renowned as one of the leading universities at the time, and medicine was taught there at the highest level. Anatomy was taught there by Marco Antonio della Torre, whose works were illustrated by the famous Leonardo da Vinci. According to the documents, Nicholas completed his medical education and obtained a bachelor's degree (veniam practicandi). However, there is no information available about Copernicus earning a doctorate in medicine (although he did earn a doctorate in canon law). Nevertheless, having obtained a bachelor's degree, he was able to fully engage in the practice of medicine, which he undertook shortly after his return to Poland in 1504.

The fact that Copernicus took his medical duties very seriously is confirmed by the note he made in the margin of one of his medical works: "Remember this, doctor! True is this saying of Avicenna that ignorance leads to murder, and therefore his saying

should be in the memory of every careful physician." When he returned from his studies, he also immediately started practicing medicine. He became the physician of the Warmian chapter and a personal medic of his uncle, the bishop of Warmia Łukasz Watzenrode. He first worked in Lidzbark Warmiński, where he developed an extensive medical practice. In 1512, he moved to Frombork, where he remained until his death. In Frombork, his patients included successive bishops of Warmia, but he also provided medical assistance to all his fellow clergymen in the chapter. Copernicus was also summoned to attend numerous medical case consultations in Gdańsk, Olsztyn, Elbląg, and Königsberg. As is known, the scientist also held correspondence medical consultations with Benedict Solfa, the physician of King Sigismund the Old.

The doctor's duties at the time included not only writing prescriptions, but also preparing the medicine with his own hands and delivering it to the patient. As Copernicus' prescriptions that have been preserved indicate, he used the remedies available at the time, but fortunately, as sources indicate, he did not use the magical poisonous substances produced by amphibians and reptiles, or urine. Copernicus' set of remedies included herbs and ingredients recommended by folk medicine as well as by Avicenna and other medical authorities. Some of the medications even contained more than 20 different ingredients. However, he generally adhered to the principle that short prescriptions are the best. This principle is best documented by one of the prescriptions issued by the scientist: "Take two quarts of sublimated wine, add four drachmas of dried figs and five drachmas of cinnamon, cloves, and saffron each. Use at your convenience and without limits. If God wants to, he will help." Such a medication was prescribed for abdominal problems. Sometimes Copernicus wrote warningly: "Make sure the dose is not too large." One of his prescriptions, written in a blank surface in Euclid's book *Elementa geometriae*, is famous for its length. However, researchers studying Copernicus' medical activities agree that the prescriptions he issued were no different from those of other physicians in Western Europe.

According to some sources, Nicolaus Copernicus also offered his medical knowledge to the poor, not only to the privileged and wealthy people of the time. He reportedly prepared medicines for the poor people of Warmia, especially those who arrived at the Holy Spirit hospital in Frombork, even though

Marco Antonio della Torre — De Agostini via Getty Images/DEA/Biblioteca Ambrosiana

hospitals at that time resembled nursing homes more than medical facilities as we know them today. Copernicus also had achievements in epidemiology and preventive health care. For example, in 1519, during an infectious disease epidemic on the Baltic Coast, he ordered the construction of an innovative water supply system to provide healthy water to the rural population.

Avicenna

Copernicus was therefore an excellent practitioner of medicine, but there are no sources that indicate his involvement in scientific research in this area. Perhaps this is due to the fact that the scholar's entire output in the form of letters or notes was lost during the Swedish invasion. At the same time, one should bear in mind that in addition to medicine, Copernicus was scientifically engaged in astronomy, mathematics, cartography, economics, administration..., and even poetry. Also, at that time medicine was still rooted in the Middle Ages, while other scientific fields were developing in line with the currents of the Renaissance. Portraits of Copernicus with a lily in hand – a symbol of the art of medicine – testify that to his contemporaries he was first and foremost a canon and a physician, although to us today he is primarily a brilliant astronomer.

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Ingredients used to make medicines in the times of Copernicus

Herbs, fruits, spices: cinnamon, cloves, saffron, mint, rue, sage, lemon peel, verbena, pepper, tamarisk, fig, oak bark, dill, red hyacinth, chamomile, rose, and others.

Powdered stones and metals: gold, silver, pearls, red corals, sapphires, and emeralds.

Liquids and brews: water, wine, absinthe, vinegar, and fruit juices.

Other, sometimes strange, ingredients: sugar, honey, unicorn horn (!), deer heart bone (!), elephant tooth, beaver fat, and Armenian clay.

Bartosz Rakoczy

Copernicus as a lawyer

The patron of our University, Nicolaus Copernicus, perfectly matches the spirit of the period in which he lived and worked. This is because the Renaissance man was a person of versatile interests and various talents and skills. When extolling his skills before the ruler of Milan, one of the most famous Renaissance men, Leonardo da Vinci, mentioned "I can also paint" as one of his last skills.

Without a doubt, the modest and humble Canon of the Frombork Chapter was a man of many talents. His genius flourished primarily in the fields of astronomy and philosophy. He is also known as the author of interesting reflections in the field of economics. He was no stranger to belles lettres when he translated poetry from Greek. He also demonstrated numerous military talents, as well as the ability to manage and administer the chapter's property.

I have the honor to introduce to the esteemed readers of "Głos Uczelni" the figure of Nicolaus Copernicus as a lawyer. The patron of our University is not known as a lawyer, because he became famous primarily for his achievements in astronomy and economics. However, this does not mean that Nicolaus Copernicus is of no importance from the point of view of the history of law.

I will begin my reflection on the figure of Copernicus as a lawyer specifically with matters of management and administration of his chapter's property. According to Copernicus' biographers, the function of administrator was entrusted to him several times. They emphasize that as an administrator, Copernicus was, most importantly, very thorough and meticulous, consistent, but also full of kindness and warmth. There is no doubt that the proper performance of an administrator's duties required Copernicus to be proficient in law. This not only concerned account keeping, but, as Copernicus' biographers point out, it also involved the escape and movement of serf peasants.

The fact that Copernicus was entrusted several times with the duties of an administrator of the chapter's property testifies to his competence also in terms of knowledge of the law of the time. Copernicus' biographers also emphasize that he officially represented the chapter on many occasions in matters that required a good knowledge of law. He was also involved in drafting documents for the chapter.

However, when looking at Copernicus' genius from the point of view of his legal skills and competence, one should remember first and foremost that Copernicus earned a doctorate of decrees (doctor of canon law) from the University of Ferrara. It should be emphasized, therefore, that Copernicus, despite being known primarily as an astronomer and philosopher, as well as an economist, received his academic training in the field of law (it is debatable whether he earned a doctorate in medicine and philosophy). It is interesting to note that Copernicus' scientific legacy includes works in astronomy and economics, but does not include any significant legal works, despite the fact that Copernicus earned a doctorate of decrees (doctor of canon law).

One can conclude that law was not a subject of his particular scientific interest. Most likely, it was pragmatic considerations that determined the choice of the field in which Copernicus earned his doctorate, rather than his personal academic passions. This does not mean, however, that as a doctor of decrees (doctor of canon law) he did not acquire the relevant competencies in this area as well.

There is no doubt that Nicolaus Copernicus' legal credentials translated more into practice than just theory. One should bear in mind that the period of Renaissance resulted not only in references to ancient art and culture, but also in the flourishing of Roman Law, which, by the way, is still today an inexhaustible source of legal culture primarily in Continental Europe. Somewhat earlier, Roman Law was discovered for Europe by such distinguished legal scholars as Bartolus de Saxoferrato and Baldus de Ubaldis. The rediscovery of Roman Law took place already in modern times.

There is no doubt that knowledge of Canon Law was very useful for the operation of the Frombork Chapter. After all, Copernicus himself was a canon of the chapter, and the chapter as such was an ecclesiastical entity. Knowledge of Canon Law was therefore essential to ensure the proper functioning of the chapter itself.

Particularly important was the knowledge of canon law in the chapter's relations with the Bishop of Warmia in the context of the bishop's jurisdiction over the chapter. It can also be assumed with a high degree of probability that Copernicus provided advice to the bishops of Warmia, including on Canon Law. In conclusion, it should be noted that it is fully legitimate to say that Copernicus was also a jurist, albeit one who became famous in the field of other sciences. In his case, however, the probably very good knowledge of Canon Law had a practical rather than theoretical dimension. Most likely, his scientific heart did not love law as much as astronomy and philosophy. Therefore, Copernicus approached his knowledge of law as a practitioner, not as a theorist. We can only regret that this is what happened. This is because we can only guess what this brilliant mind could have accomplished for the law of the 15th and 16th centuries.

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Natalia Stawarz

Did Nicolaus Copernicus' experiment save the residents of Olsztyn?

Nicolaus Copernicus gained immortal fame thanks to his heliocentric theory, although in his times he was not regarded as just an astronomer. He was a man of many talents. His interests included law, theology, mathematics, physics, economics, as well as medicine. What kind of physician was Nicolaus Copernicus?

The Renaissance was an era of dirt and fear of water. At the time, many theories arose about the harm caused by bathing, which supposedly extracted life-threatening miasmas from the body and generally weakened a person's physicality and spirit. Dirt and stench were present in particular in places with high concentrations of people, and the high density of buildings in towns and cities did not allow for proper cleanliness and health, especially since temples with cemeteries surrounding their walls were at the center of social life. Over time, such a close presence of the dead began to overwhelm the residents. The unbearable stench of human bodies was interpreted as the nature's sign to stay away from human remains, following the example of the ancients. Cemeteries in Europe were first moved outside cities in the second half of the 18th century. It was also at that time that people slowly began to learn the habits of keeping clean. At the beginning of the next century, hygiene became an integral part of medical practice. Doctors began to see a link between lack of personal hygiene and the spread of epidemics. Nicolaus Copernicus found this relationship as early as in the 16th century.

His great scientific passions – astronomy and astrology – went hand in hand with medicine. It was believed that the movement of the stars and planets directly affected the fate of the patient and the properties of medicinal herbs. At the behest of the Warmia chapter, in which he served as a canon, Copernicus began studying medicine in 1501. His choice for a place of studies was Padua, which had a university with an excellent reputation and outstanding academic staff. For two years he learned ancient and modern medical knowledge, and during a third year he did an internship under the supervision of a prominent physician. This entitled him to receive a bachelor's degree. From then on, he was able to start practicing medicine. He returned to Warmia, where a physician was needed to care of the health of the aging chapter members. In addition, he became the personal physician of his uncle, Łukasz Watzenrode, until the latter's death in 1512. He also looked after the successive bishops of Warmia: Fabian Luzjański, Maurycy Ferber, and Jan Dantyszek. Moreover, he saved the life of the malaria-stricken Bishop of Chełmno, Tiedemann Giese. He also fulfilled the request of Duke Albrecht of Prussia and treated his advisor Georg von Kunheim. He also cared for his brother Andrew, who contracted leprosy or syphilis. Nicolaus Copernicus was a respected physician in the community who focused on the practical side of his profession. Did he conduct any medical scientific research?

The Olsztyn Castle Photo by Mintaka 0108

In 1520, the Teutonic Knights surrounded the castle in Olsztyn, whose defense was led by Nicolaus Copernicus. In the final months before the siege ended, a mysterious epidemic broke out among the defenders of the Olsztyn fortress. Its main symptom was diarrhea and the associated dehydration. A panic broke out in the besieged city as the unknown disease affected more and more people. Copernicus initially stuck to the usual medical procedure, but noticed that despite all efforts,

the number of sick people was increasing and those who managed to recover were again showing symptoms of the plague.

Proper treatment required determining the cause of the disease. Copernicus conducted experimental research. His intuition told him that the cause of the problem had to do with the food the Olsztyn residents were eating. So, he conducted a simple experiment. He divided the healthy residents into groups and assigned separate menus to each. Only those who had bread eliminated from their diet did not get sick.. The conclusion was simple: it was bread that was the source of the problem. Unfortunately, bread was the staple food in the besieged city, so it was impossible to find an equally filling and inexpensive substitute for it. What steps did Nicolaus Copernicus take? The famous scientist noted that bread was often placed on the ground. The dark, whole-grain loaves did not arouse suspicion, as both their color and texture did not show dirt. Supposedly, to draw attention to the problem, Copernicus ordered spreading butter on bread loaves. Dirt could be easily seen on the layer of greasy and light-colored butter. This method got rid of both the contaminated bread and the epidemic.

News of Copernicus' research and fight against the epidemic reached as far as Leipzig, where Adolph Buttenadt, who was said to be Copernicus' acquaintance during his studies in Padua, was staying. The physician, intrigued by the simple yet effective method, used it in 1545 preventively, when another war broke out in Germany. Bread and butter thus became common on tables throughout Europe.

Was this story true? It is difficult to tell, as there are no sources that would unequivocally confirm its authenticity. According to Professor Janusz Małłek, stopping an epidemic with a "layer of butter" raises serious questions, especially since scholars who study Copernicus' biography have found no mention of Adolph Buttenadt.

This does not change the fact that Nicolaus Copernicus was an excellent practitioner, and the issue of personal hygiene was an important aspect of his recommendations to patients. Because of his brother Andrew's advanced illness, he couldn't help him much, so all he could do was order the dressing of his festering wounds and general hygiene. In 1519, Copernicus learned of a progressing epidemic that took the lives of two sisters of Canon Tiedmann Giese. Perhaps it was for this reason that he studied the work of Michele Savonarola and wrote remarks in the chapter on "ways and means of cleaning rooms and objects in times of a plague." At the time, he ensured that the people of Warmia and Pomerania had access to clean water. At his behest, a water pipeline was built to bring it to the areas affected by the epidemic. The issue of personal hygiene drew the attention of Nicolaus Copernicus, which was not an everyday practice at a time when so many medics were using coprotherapy, for example.

A bench with Nicolaus Copernicus — the statue of N. Copernicus at the entrance to the Olsztyn Castle Photo by Nol Aders

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Janusz Małłek

Copernicus' colleagues during his studies at the University of Cracow

There is only one, albeit priceless, source reference about Nicolaus Copernicus' studies at the Jagiellonian University in Cracow; it is his entry into the University's enrollment book. Its content is the following: "Nicolaus Nicolai de Thorunia s/olvi/t t/o/t/um/ (Copernicus)"[1] – "Nicolaus /the son of/ Nicolaus has paid everything."

This took place in the winter semester of the academic year 1491/1492 during the seventh rectorship of Mikołaj of Kobylin (d. 1492, a professor of theology, probably in the second half of October. The entry in the enrollment book of both Nicholas (32nd position) and his older brother Andrzej (49th) Copernicus was made by the rector Mikołaj of Kobylin himself[2]. The dean of the Faculty of Artium (Liberal Arts), where Copernicus began his studies at the time, was Jan of Oświęcim, known as Sakran[3] (d. 1527), the rector of the University in 1493/94. In contrast to the enrollment books of German universities, the typical feature of the enrollment book of the University of Cracow is the omission of students' names and giving the names of their fathers (patronymics) instead. This was due to the relatively limited adoption of last names among burghers and peasants in Poland. The last names of members of the nobility, on the other hand, were recorded at the time using place-based attributes, e.g. Jan of Tęczyn (that is, from the ancestral nest), and not Tęczyński. The model for such a way of keeping the enrollment book was the customs of church chancelleries (including the papal chancellery)[4], since many of the University's rectors and deans were priests. No exact date is given in Copernicus' entry in the enrollment book, as well as in none of the entries of his colleagues matriculated in 1491. However, in the case of the previous rector, Jan of Pilica, the exact dates are given, and the last entry was made on October 17, 1471, meaning that Copernicus must have been matriculated after that date.

[1] Album Studiosorum Universitatis Cracoviensis (hereinafter referred to as ASUC), tomus II, editionem curavit Adam Chmiel, Cracoviae 1892, p. 12, and the Enrollment Book of the University of Cracow (hereinafter referred to as EBUC) from 1400–1508. Jagiellonian Library manuscript 258, edited by Antoni Gąsiorowski, Tomasz Jurek, and Izabela Skierska in collaboration with Ryszard Grzesik, volume I, Text. Societatis Vistulana Scientific Association, Cracow 2004, p. 498; the word „Copernicus" was annotated by the publishers after a comparison with the manuscript of the enrollment book with the note "by a probably modern hand."

[2] Marian Zwiercian, Die Krakauer Lehrmeister von Nicolaus Copernicus, [in:] Das 500 jährige Jubiläum der Krakauer Studienzeit von Nicolaus Copernicus, Cracow 1993, p. 73, and Jerzy Zathey, Maciej z Kobylina, Polski Słownik Biograficzny (hereinafter referred to as PBD), vol. 19, Wrocław 1974, pp. 19-20.

[3] Henryk Barycz, Jan z Oświęcimia, PSB, vol. 10, Wrocław 1962-1964, pp. 467-468.

[4] ASUC, vol. I, p. XXXVI.

It could not have been in 1492, because at that time the rector was a different person, Jan of Latoszyn. The answer to the question of who started studying in Cracow together with Copernicus is quite interesting. Sixty-nine students were matriculated in the winter semester of the academic year 1491/1492[5]. The residents of **Toruń** other than Nicolaus Copernicus were: Maciej the son of Jakub ("Mathias Jacobi de Thorun solvit totum"), Andrzej the son of Mikołaj, Copernicus' older brother ("Andreas Nicolai de Thorun solvit 4 gr."), Henryk the son of Henryk ("Henricus Henrici de Thorun solvit 4 gr."), and Jakub the son of Jerzy ("Jacobus Georgii de Thorun solvit totum"). Of these colleagues of Nicolaus and Andrzej Copernicus, we know more only about Henryk, the son of Henryk. Hist last name was Snellenberg (d. 1539)[6]. All three became canons of Warmia in the future: Nicolaus Copernicus[7] in 1497, Andrzej Copernicus[8] in 1499, and Henryk Snellenberg in 1499. Also, all three took over these prebends in 1501. It is interesting to note that in 1491 among those matriculated at the University of Cracow there were as many as five young men from Toruń, one from **Elbląg** – Tomasz the son of Maciej ("Thomas Matthie de Elburg/Elblag?/solvit totum"), one from **Gdańsk** – Stanisław son of Jan ("Stanislaus Johannis de Gdano solvit totum"), and two from **Reszel**: Piotr the son of Jan ("Petrus Johannis de Reszel solvit totum") and Marcin syn Jana ("Martinus Johannis de Reszel solvit totum"). In total, of the 69 newly matriculated students, 9 were from Royal Prussia. Where did the other colleagues with whom Nicolaus Copernicus began his studies come from? This issue interested the well-known Copernicologist Rev. Ignacy Polkowski as early as in the 19th century[9]. With only a copy of the enrollment book of the University of Cracow, made by Józef Muczkowski, in hand, he attempted to identify the names of the places from which these students came. In the case of Royal Prussia, this was relatively easy; it was much more difficult to decipher the names of the other places that the students came from. Some of those places were identified incorrectly. The publication in print in 1892 of the enrollment book of the University of Cracow, compiled by Adam Chmiel, did not help much, as his editing was limited to the publication of the text itself. In 1974, the *Personal Index of the Students of the University of Cracow*, edited by Jerzy Zathey and Jerzy Reichan, was published[10]. Changes in the reading of some names were met with criticism[11]. Most importantly, the geographic index, which is of particular interest to us, was not completed or published. A fundamental breakthrough in the research on the identification of the places from which the students of the University of Cracow came for the years 1400-1508 (a total of 20,000 entries from 6,500 places)[12], and not only for the period of Copernicus' studies, was the publication in 2004 of volume II[13] of the aforementioned new edition of the University's enrollment book. Thanks to the painstaking work of the editors of this enrollment book (Antoni Gąsiorowski, Tomasz Jurek, Izabela Skierska, and Ryszard Grzesik), the preparation of the indexes of the places and the names of the matriculated persons makes this task easier for the year 1491, which is of interest to us, albeit not completely. In view of the enormity of the material to be identified and deciphered, the publishers did not include this information in footnotes next to each name, but in collective indexes. Nevertheless, this greatly facilitated further work. The results of the identification of the places and countries that the colleagues matriculated with Copernicus in 1491 at the University of Cracow came from are as follows: there were 26 students from the Polish Crown, with the largest number of students from Lesser Poland, a few each from Greater Poland, Mazovia, and the Dobrzyń Region, as well as Ruthenia. Of the 13 students from the cities of the Polish Crown, there were 4 from **Cracow** (Piotr the son of Wawrzyniec, Jakub the son of Jan, Stanisław the son of Hanusz Szolc, and Jan the son of Piotr), 1from **Sieradz** (Andrzej the son of Marcin), 1 from **Olsztyn** in the Cracow Voivodship (Piotr the son of Pawel Olsztyński), 1 from **Wieliczka** (Stanisław the son of

[5] All entries of Copernicus' colleagues in the enrollment book of the University of Cracow are given on the basis of a more recent edition; see EBUC, vol. I, pp. 497-499.
[6] Słownik biograficzny Kapituły Warmińskiej, Olsztyn 1996, pp. 226-227 (the author of the biogram is Teresa Borawska).
[7] Ibidem, pp. 123-124 (the author of the biogram is Teresa Borawska).
[8] Ibidem, p. 122 (the author of the biogram is Teresa Borawska).
[9] Rev. Ignacy Polkowski, Żywot Mikołaja Kopernika, Gniezno 1873, pp. 108-111.
[10] Jerzy Zathey, Jerzy Reichan, eds., Indeks studentów Uniwersytetu Krakowskiego w latach 1400–1500, Wrocław 1974.
[11] Antoni Gąsiorowski, Nad najstarszą Metryką najstarszego polskiego uniwersytetu. Album studiosorum Universitatis Cracoviensis 1400-1508, Roczniki Historyczne 66, 2000, pp. 135-156.
[12] EBUC, vol. I. Text, p. XXXIX.
[13] EBUC, vol. II. Indexes, pp. 767.

Aleksander), 1 from **Czersk** (Jan the son of Stanisław), 1 from **Sambor** (Jan the son of Stanisław), 1 from **Kazimierz** (Mikołaj the son of Stanisław), 1 from **Poniec** in the Poznań Voivodship (Andrzej the son of Jan), 1 from **Gostyń** in the Poznań Voivodship (Mikołaj the son of Michał), 1 from **Pniewy** in the Poznań Voivodship or the Mazowsze Voivodship (Szymon the son of Jan). On the other hand, from landed estates, and therefore undoubtedly from the villages and estates of the nobility (students from peasant families were usually the exception), a total of 13 students came from: 1 from **Dąbrowa** in the Kingdom of Poland (Jerzy the son of Stanisław), 1 from **Słopnia** in the Cracow Voivodship or from Slopné in Moravia (Jan the son of Leonard), 1 from **Zawałów** in the Ruthenian Voivodship (Michał the son of Krystian), 1 from **Magnuszew** in Mazovia (Maciej the son of Jan), 1 from **Stępów** in Mazovia or the Dobrzyń Region (Józef the son of Jan), 1 from **Sobolów**, most likely in the Cracow Voivodship (Andrzej the son of Jan), 1 from **Dobrzyce** in the Kalisz Voivodship or in Mazovia (Jan the son of Jan), 1 from **Grabowa** in the Poznań Voivodship (Jan the son of Jan), 1 from **Sułków** in the Kalisz Voivodship (Stanisław the son of Jan), 1 from **Swarocin** most likely in Mazovia (Wojciech the son of Maciej), 1 from **Wrocimowice** in the Cracow Voivodship (Andrzej the son of Marcin), 1 from **Buki** in the Poznań Voivodship or the Cracow Voivodship, or from Slovakia (Tomasz the son of Wawrzyniec), 1 from **Podczachy** in Mazovia or the Łęczyca Voivodship. Another large group consisted of 22 students from the Kingdom of Hungary and Bohemia, which at the time was ruled by the Jagiellonian dynasty, since 1471 the king of Bohemia and since 1490 the king of Hungary was Ladislaus II (1456-1516), the son of Casimir Jagiellon. At the time, the Kingdom of Bohemia included Moravia and Lower Silesia in addition to Bohemia proper, and the Kingdom of Hungary included Slovakia and Transylvania. In 1491, the largest number of foreign students (6) matriculated at the University of Cracow came from Slovakia. **Košice** sent 1 student (Jan the son of Jan), **Ploské** sent 1 student (Jerzy the son of Mikołaj), **Banská Štiavnica** sent 2 students (Andrzej the son of Idzi and Jerzy the son of Idzi Muner), **Podmanin** sent 1 student (Stefan the son of Władysław), and **Ba□ka** sent 1 student (Tomasz the son of Tomasz). As for matriculated students from Transylvania, there were four: (Antoni Cheusher the son of Michał) from **Kölesor,** (Michał the son of Jan) from **Transylvania**, (Maciej the son of Mikołaj) from **Brasso,** and (Barnabas son of Peter) from **Lippa**. A sizable group, consisting of as many as 9 newly matriculated students, came from Lower Silesia. They were: (Krzysztof the son of Mikołaj) from **Żagań**, (Jan the son of Jan) from **Bystrzyca**, (Piotr the son of Wincenty, Jan the son of Jerzy, and Adam the son of Piotr), all three from **Strzelin**, (Dominik the son of Jan) from **Wrocław**, (Wincenty the son of Ulryk) from **Gryfów**, (Jan the son of Jan) from **Żary**, and (Maciej the son of Jerzy) from **Świdnica**. There was only 1 matriculated student from Moravia, from the town of **Bilovec** (Krystian the son of Mikołaj). There were 3 matriculated students from Hungary. They were: (Piotr the son of Piotr) from **Somogyvár**, (Ignacy the son of Jerzy) from **Balok**, and (Jan the son of Maciej) from **Bentsch**. There were 7 students from the German Reich: (Nicolaus from **Melsungen** (?)) in Hesse, (Johan the son of Johan) from **Linz** in Austria, (Paul the son of Simon) from **Wolperstshausen** in Württemberg, (Konrad the son of Johan) from **Hof** in Bavaria, (Stefan the son of Johan) from **Regensburg**, (Wojciech the son of Konrad) from **Bernek** in Bavaria, and (Bernhard the son of Herhald) from **Nagolt** in Württemberg. On the other hand, there were 2 matriculated students from Switzerland: (Rudolf the son of Rudolf) from **Glarus** and (Peter the son of John) from **Basel**. It is difficult to determine the place of origin of 2 students: (Baltazar the son of Jan) "de Nova Domo," probably coming from Bohemia, and (Jan the son of Jan), "albi sartoris." Naturally, in these identifications, it is possible to make a mistake in one case or another, but this should not change the overall picture. Thus, the mother tongue of the vast majority of these students was Polish or another Slavic language (Slovak, Czech), or they used two languages, German and Polish (Prussians, Silesians). This answers the question about what language Copernicus may have used in everyday life in his conversations with most of these colleagues. It should be mentioned that Nicolaus Copernicus' entry in the enrollment book of the University of Cracow precedes the entry of his colleague Andrzej the son of Jan of Sobolewo from the Cracow Voivodship ("Andreas Joannis de Sobolewo solvit totum"), and the Toruń resident's entry is followed by the entry of another of his colleagues, Jan the son of Stanisław of Czersk in Mazovia ("Joannes Stanislai de Cyrzszko solvit 4 gr."). Naturally, the language of instruction at the University was Latin. The lives of Copernicus' colleagues who were matriculated with him are not known. We do not know whether and with which of them he was

friends. After graduation, they returned to their homes or went on to further studies. Did they not meet Copernicus later in their studies in Italy? So far, we have no traces of correspondence between this group of Copernicus' colleagues and the astronomer. Naturally, Nicolaus Copernicus had the opportunity during his 4-year studies in Cracow in 1491-1495 to make acquaintances and friends also with the colleagues who were matriculated before him several years earlier or later. This was undoubtedly the case with Bernard Wapowski (1470-1535), later known as an outstanding chronicler and creator of Polish cartography, who was matriculated at the University of Cracow in the summer semester of 1493[14], i.e. two years later than the astronomer. Both later went on to study in the same years in Bologna, which undoubtedly allowed for their further contacts. They shared an interests in astronomy and cartography. Copernicus most likely assisted Wapowski in the preparation of the first map of the Kingdom of Poland and the Grand Duchy of Lithuania, working out its parts relating to Prussia. A letter from Copernicus to Wapowski, sent from Frombork and dated June 3, 1524, can attest to their familiarity and even friendship[15]. The letter is actually a critical review of Nuremberg astronomer Johann Werner's treatise on the motion of the eighth sphere, which Wapowski sent to Copernicus for evaluation. In the autumn of 1535, Wapowski visited Copernicus in Frombork. He took from Copernicus an almanac manuscript containing a compilation of tables for the "De revolutionibus." He sent this almanac to the Austrian diplomat Sigismund Herberstein in Vienna to see to its printing. Wapowski's letter to Herberstein dated November 15, 1535[16] contains many praises for Nicolaus Copernicus, the author of the almanac. However, the manuscript was not published and was lost. Copernicus' correspondence with the Cracow astronomers Marcin Biem of Olkusz (ca. 1470-1540)[17] and Mikołaj of Szadek (1489-1564)[18] has not survived, although such letters were in the possession of

a professor of the University of Cracow, Jan Brożek (1585-1652), who, according to Szymon Starowolski, took them from Frombork[19]. Starowolski wrote that in those letters Copernicus "discussed eclipses and their observations[20]." Undoubtedly, the authors of the letters exchanged information about their astronomical observations, also in parallel (including on solar and lunar eclipses) in Cracow and Frombork. Martin Biem was matriculated at the University of Cracow in the winter semester of 1486/87, and earned a master's degree as early as in 1491, when Copernicus began his studies here. Copernicus most likely attended his lectures on Johannes Regiomontanus' "Calendar" in the winter semester of 1493/1494. At that time, or perhaps earlier, they were bound together by their common interests in astronomy as colleagues, and they were, after all, almost contemporaries, which might have facilitated such contacts. Naturally, a separate text should be devoted to Copernicus' studies in Cracow and his professors. On the other hand, the correspondence with the astronomer Mikołaj of Szadek, who was much younger than Copernicus (was matriculated at that university in the winter semester of 1504/1505), undoubtedly started as early as 1509[21], but no later than 1530[22]. Going back to the colleagues whom Copernicus may have met during his studies in Cracow,

[14] EBUC, vol. I, p. 515; "Bernardus Stanislai de Radochonycze dioc. Cracoviensis s/olvi/t 4 gr."
[15] Jerzy Drewnowski, Mikołaj Kopernik w świetle swej korespondencji, Wrocław 1978, pp. 217-226.
[16] Print of the letter: Eugen Brachvogel, Zur Kopperniksforschung, Zeitschrift Ermlands, vol. 25, 1935, pp. 238-239. See also Jerzy Drewnowski, op. cit., p. 168.
[17] Mieczysław Markowski, Marcin Biem z Olkusza, [in:] Krakowski krąg Mikołaja Kopernika, Cracow 1973, pp. 7-23.
[18] Henryk Barycz, Mikołaj z Szadka, Polski Słownik Biograficzny, vol. 21, Cracow 1976, pp. 138-140.
[19] Simionis Starovolsci, Scriptorum Polonicorum Hecatonas… Venetiis 1627, p. 161, and J. Drewnowski, op. cit., pp. 55.
[20] S. Starowolski, op. cit., p. 161.
[21] J. Drewnowski, op. cit., p. 213.
[22] Ibidem, p. 57.

one must mention the relatives[23] of the Watzenrode family: Jan (ca. 1470–530)[24] and Jerzy Konopacki (ca. 1480-1543)[25]. Both owed much to Copernicus' uncle, the bishop of Warmia Łukasz Watzenrode. Jan received the bishop's support in his efforts to become the bishop of Chełmno, which he did in 1508, and Jerzy received support as a candidate for the post of a secular starosta, to which he was successfully appointed in 1507[26]. Jan Konopacki was matriculated at the University of Cracow in 1489. Next to his name and those of two other students, Jakub the son of Jerzy from Krosno in Lower Silesia and Wawrzyniec the son of Andrzej from Szywałd near Lidzbark Warmiński, there is a note in the bracket "they paid with three polonics (?).[27]" Jerzy Konopacki, on the other hand, was matriculated on October 16, 1494.[28] The prominent Polish Copernicologist Ludwik Birkenmajer[29] lists more than ten names of students who studied in Cracow at the same time as Copernicus and who became well-known later both in Poland and in other countries. Let us focus on two names: Piotr Tomicki (1464-1535), later a bishop of Cracow and a vice-chancellor of the Crown, and Jan of Krosno (ca. 1474-1517), a poet. The former was matriculated at the University of Cracow 2 years before Nicolaus Copernicus[30], while the latter was matriculated on October 2, 1491[31], which was probably only a few weeks before the astronomer. Copernicus left Cracow after four years of study probably in the autumn of 1495, without earning a degree there. "Liber promotionum"[32] does not mention his name among those promoted. Copernicologists[33] explain this fact by Copernicus' intention to continue his studies, this time in Italy. Having a degree could, in a way, make it difficult for the Warmian chapter to accept the need for his further studies. Admittedly, Copernicus' efforts to become a canon in Warmia were not successfully finalized until 1497, when he was already studying in Bologna, but this could have been important at the time when his uncle, the bishop of Warmia Łukasz Watzenrode, started these endeavors. The further fate of those colleagues who were matriculated with Copernicus in 1491 or studied with him between 1491 and 1495 would require further research. The new edition of the enrollment books of the University of Cracow facilitates such work.

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[23] Krzysztof Mikulski, Peckau, Toruński Słownik Biograficzny (in print).
[24] Jan J. Małecki, Konopacki Jan, Polski Słownik Biograficzny, vol. XIII, Wrocław 1967-1968, pp. 544-545.
[25] Jan J. Małecki, Konopacki Jerzy, Polski Słownik Biograficzny, vol. XIII, Wrocław 1967-1968, pp. 547-548.
[26] Paweł Czaplewski, Senatorowie świeccy, podskarbiowie i starostowie Prus Królewskich 1454–1772, Toruń 1921, p. 188.
[27] EBUC, vol. I, Text, p. 478; "Jacobus Georszii sculteti de Croszen, Joannes Mathie de Konopat de Swecz, Laurentius Andrae Szynvalt de Hyszlberk. 3 Polonicales s/olverunt/."
[28] EBUC, vol. I, Text, p. 524; "Georgius Mathei de Konopat solvit 4gr."
[29] Ludwik Antoni Birkenmajer, Mikołaj Kopernik jako uczony, twórca i obywatel, Cracow 1923, pp. 24-25.
[30] EBUC, vol. I, Text, p. 478; "Petrys Nicolai de Tomycze s/olvi/t totum."
[31] EBUC, vol. I, Text, p. 496; "Paulus Joannis de Crosna dioc. Premislensis d/edi/t 5 gr., 2 Octobris."
[32] Statuta nec non liber promotionum… edidit Josephus Muczkowski, Cracoviae 1849, pp. 109-121.
[33] Karol Górski, Mikołaj Kopernik. Środowisko i samotność, Wrocław 1973, p. 72.

Józef Gawłowicz

A reportedly timid canon

In 1965, during a stopover of my ship in London, as a gift from Juliusz Mieroszewski, I received Arthur Koestler's book *The Sleepwalkers*, which contains a very controversial, nearly 100-page chapter depicting Copernicus in an extremely negative light, including his *De revolutionibus*, which supposedly no one had read and which was the worst-selling famous book in history. Mieroszewski asked me to express my opinion on the matter, because he sensed Koestler's duplicity, but, not being familiar with astronomy, was afraid of making a mistake in a dispute.

Arthur Koestler Photo: Eric Koch for Anefo

Although in communist Poland works about Copernicus were eagerly published, I did not manage to publish a response to Koestler until 1973, because neither good nor bad things were allowed to be written about this anti-communist writer – he was subject to a total printing ban.

At the same time as the vigilant Mieroszewski, Koestler's book was thoroughly read by the American astrophysicist Owen Gingerich of Harvard University, and he too suspected a great hoax specifically in that chapter on Copernicus (the entire work dealt with scientists from the period of 1500 to 1800).

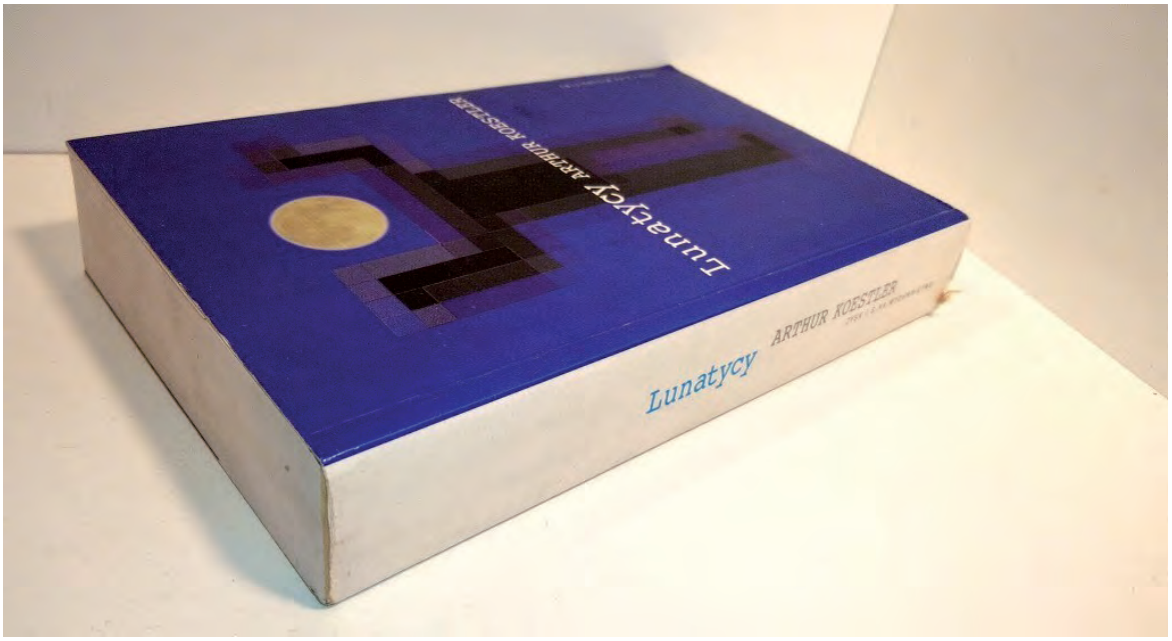
In 2002, a Polish translation of Koestler's *The Sleepwalkers* was published (Zysk i S-ka), while a year later, the same publishing house published Owen Gingerich's book having the perverse title *The Book Nobody Read*. At the outset, we learn that a young cowboy sailed to Poland in the summer of 1946 on the American ship "Mallory" as one of 32 rookies taking care during the voyage of UNRRA's living gift to our country – 847 horses:

I was the second youngest cowboy aboard that ship, just past my sixteenth birthday and hence by a narrow margin qualified for a merchant marine seaman's card. The passage of time has blurred my impressions of that ocean journey, but the desolation of Poland, with its concomitant black marketeering and prostitution, burned searing images into my memory. Two decades later I was a newly minted Ph.D. in astrophysics with a nascent attraction toward the history of astronomy. At an international astronomy conference, I met Jerzy Dobrzycki, an astronomer from Poland with similar interests.[1]

This acquaintance not only resulted in the American's fascination with Copernicus, but also in his frequent visits to Poland, especially because of the approaching year of 1973, in which the now famous former cowboy and now Professor Gingerich would probably want to give some "anniversary" lectures.

But following centuries of Copernican scholarship, what remained to be discovered? What fresh insights could I possibly offer during the forthcoming anniversary celebrations? And what if Koestler were really right, that *De revolutionibus* was so technical and dull that nobody read it? The epiphany dawned when I least expected it, in the Royal Observatory, Edinburgh, where I was exploring a huge safe full

[1] O. Gingerich, *Książka, której nikt nie przeczytał*, Amber, Warsaw 2004, p. 8.



of rare astronomy books in November 1970. Among the rows of volumes, I found a first edition of Copernicus' book. Here, surprisingly, was a copy richly annotated from beginning to end[2].

So quite the opposite of what Koestler authoritatively wrote: Copernicus' work was thoroughly studied. The copy in question belonged to Erasmus Reinhold, an astronomy lecturer who was well known in the 1540s.

His book became the catalyst that inaugurated my obsession to survey every surviving copy of Copernicus' book. That quest led me hundreds of thousands of miles, from Aarhus to Beijing to Coimbra to Dublin, from Melbourne to Moscow, from St. Gallen to San Diego. And even Edinburgh had only just begun to reveal its surprises. Koestler was, I am happy to report, quite wrong in declaring that *De revolutionibus* was the book nobody read, though it took the better part of a decade to be sure and thirty years to carefully document the book's impact[3].

Gingerich's research work (which no scientist would undertake today because of the gigantic cost) is proof of how wrong Koestler was. It so happened that while giving me George Orwell's essays at a subsequent meeting, Jan Mieroszewski, a leading publicist of the Paris "Culture," suggested reason for the famous Koestler's antic. I do not want to discourage the Reader from the works of that famous writer today, I am only questioning this specific unjustified prank of his.

The Sleepwalkers contain a solid dose of informative material given in a sensational form. However, the careless writing of that book at least had the effect that a serious astrophysicist devoted 30 of the most creative years of his life to refute the contrived allegations about Copernicus. During his research, Gingerich made numerous visits to Poland and, of course, Cracow, where Eugeniusz Rybka was a professor of astronomy. In the former capital of Poland, in addition to Wawel Castle and museums, he visited the small Mecca of astronomy enthusiasts:

The visit gave us an opportunity to see the old Colegium Maius where Copernicus had been an undergraduate in the 1490s. Its splendid medieval-looking classroom, with its wooden benches and frescoed geometric diagrams, conveyed the spirit of the place where Copernicus might have studied the quadrivium. The frescoes came from a later period; but despite that, I was moved by the lingering ethos of that space. And upstairs the Collegium Maius boasts a splendid collection of early brass instruments from Copernicus' lifetime, though they arrived there a few years after Copernicus had left for his graduate studies in Italy. The jewel of the collection is a brass terrestrial globe, the earliest to show America – an elegant reminder that Columbus and Vespucci were contemporaries of the young Copernicus. Of all the Copernicana preserved in Cracow,

[2] Ibidem, p. 9.
[3] Ibidem, pp. 9.

the most precious and the most significant is the actual manuscript of *De revolutionibus.*[4].

In the 15th and 16th centuries, most of the professors of the Jagiellonian University were members of the clergy, so when they died childless, they donated their – priceless today – instruments to the university. One of the astrolabes was made in Muslim Spain less than 30 years after the coronation of Bolesław Chrobry! Every summer, a long line of astronomy enthusiasts queues up on the second floor of the Collegium Maius every hour, guided (in Polish and foreign languages) through the succession of rooms, the last of which, a portrait room, has the maxim *Reason is more important than strength* engraved in Latin above the door. Foreigners stopped for a while under this maxim during the years of the so-called martial law.

Gingerich is both an attentive reader and a meticulous researcher. He wrote that it was not Copernicus, but Kepler, the man who gave Copernicus' system its final form, who is the protagonist of Arthur Koestler's *The Sleepwalkers*. According to some (myself included), Koestler's book should be titled *The Sleepwalker*, because he found only one good example of a scientist wandering in the dark and it was indeed Kepler, who in his lifetime could not justify the laws of planetary motion he developed.

The book by Gingerich contains a whole lot of interesting details (such as the attempted arrest of Jerzy Dobrzycki and Paweł Czartoryski during the martial law in Poland), and some of them delight with unique humor. Gingerich's account of the fights during auctions of *De revolutionibus* is very interesting:

The bidding on various lots moved sequentially and swiftly, by standard increments, $25 for the lowest range, for example, or $500 when the bids got over $5,000. (...) The auction had been under way barely half an hour when lot number 34 (*De revolutionibus)* flashed on the screen I set my stopwatch. Did the bidding start at $100,000 or $200,000? I was too excited to remember, but the auctioneers say it was $150,000. I was later sorry that I hadn't registered for one of the numbered bidding paddles so that I could have made the first offer, even though I would have had to mortgage the house to back it up. (...) I could overhear a Sotheby's representative say:

Owen Gingerich Photo by Andrzej Romański

"It's now at $600,000. Do you want to raise?[5].

This auction ended at $675,000, but together with the auction fee the book cost almost $750,000, and the show lasted 2 minutes and 16 seconds. The course of the auction prompted the author to use the previously mentioned superscription on the cover, and Gingerich expressed the opinion that there are at least a few collectors waiting for the opportunity to spend $1,000,000 for the first edition of Copernicus' work (after 2008, at another auction, the price exceeded $2,000,000!). In the last sentence before the epilogue, Gingerich wrote:

Clearly, when Arthur Koestler wrote that *De revolutionibus* was "the book that nobody read" and "an all-time worst seller," he couldn't have been more mistaken. He was wrong. Dead wrong[6].

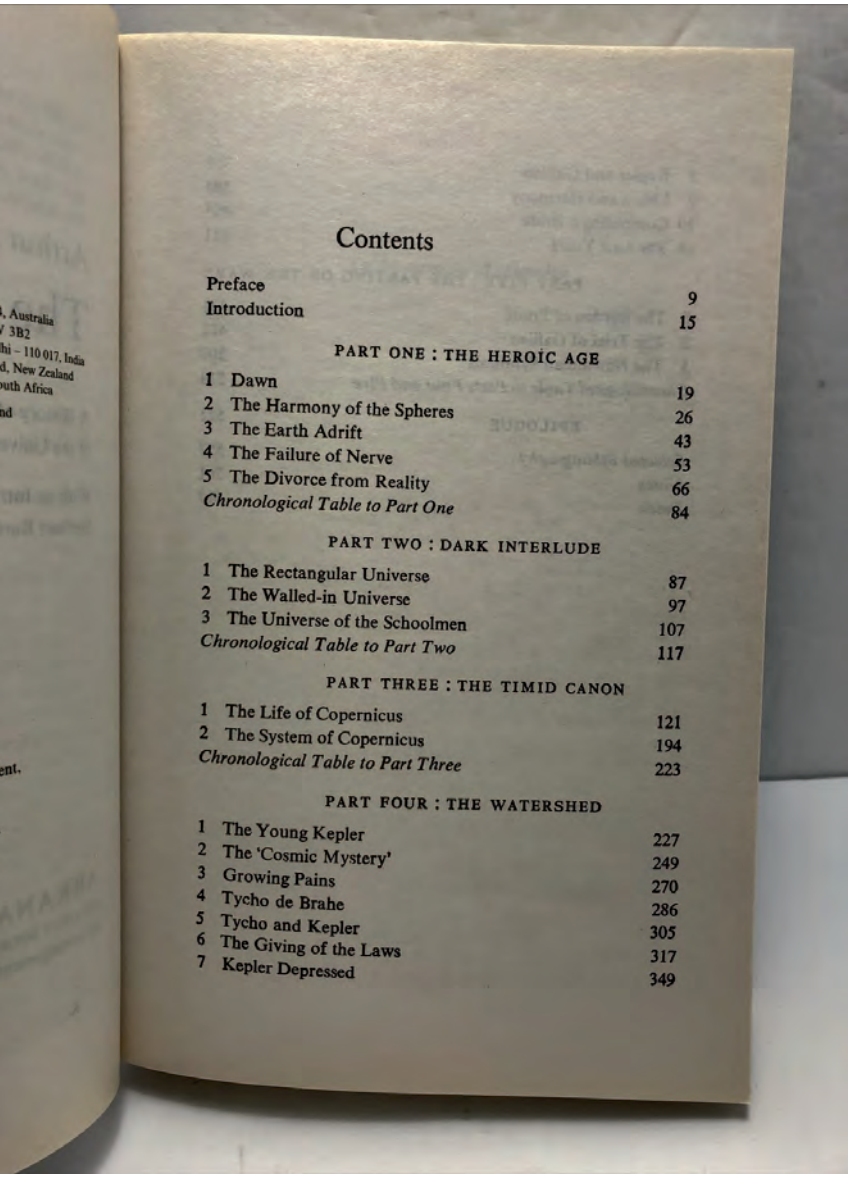
Following the success of this book, Gingerich (along with his Canadian colleague James MacLachlan), owing to the efforts of the Pułtusk Academy of Humanities, published another book in Poland titled *When the Earth became a planet*. The book is similarly engaging, but more popular, and is intended for readers who are less familiar with the ins and outs of astronomy.

Another significant work by Gingerich is *God's Universe*, published owing to the efforts of the Uni-

[4] Ibidem, p. 46.

[5] Ibidem, p. 209.

[6] Ibidem, p. 242.



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versity of Warsaw. It is highly recommended for both believers and those who seek to find God.

This profound, provocative, and brilliant book is a testament to the fact that an individual can be both a creative scientist and a believer in divine design[7] – wrote the publisher. The inclusion herein of the extensive discussion of this scholar's most important work and the quotes from that book are due to the fact that his titanic work made him an uncompromising ally in the fight for the good name of the genius from Frombork. Of note is the fact that the false notes sounding in Koestler's book were noticed independently of each other as early as in 1959 by the aforementioned eminent astrophysicist Gingerich and the most prominent Polish émigré publicist Juliusz Mieroszewski. It is very good that Koestler's lampoon was responded to by an astrophysicist, i.e., a person with a scientific mind. The humanist Mieroszewski was aware of the lies and superficial opinions of the author of *Darkness at Noon*, but was unable to challenge them because of his modest knowledge of astronomy.

Contrasting Kepler and his achievements to the Frombork canon, Koestler wrote:

Had Kepler not succeeded in getting hold of Tycho's treasure, he could never have discovered his planetary laws. Now Newton was born only twelve years after Kepler's death, and without the planetary laws he could not have arrived at his synthesis[8].

Only the first sentence of this quote is true – however, Tycho was an unlucky man, as well as incapable of denying himself carnal pleasures: he ate a roast lamb at a party at a certain baron's house and drank so much beer (and etiquette did not allow him to use the toilet) that his bladder burst. Some sources mention that he may have been poisoned on the orders of the Danish King Christian IV. The banal death of the great scientist meant that his achievements, his super-accurate research results, were inherited by Kepler. Tycho was an unlucky man even after his death – the passenger ferry named after him, christened by the Danish queen on the unlucky Friday, November 4, 1991, and intended to run between Denmark and Sweden (from the so-called Hamlet Castle to the opposite shore), suffered machinery failure during its maiden voyage, failed to make a reverse maneuver and hit the wharf injuring 55 people.

Using Tycho's measurements, after many attempts, Kepler concluded that the orbit of Mars was an ellipse, and created three laws of planetary motion (that he did not understand until his death), which were only justified mathematically by the versatile genius of Newton.

Gingerich's research is worthy of the highest admiration and needs no commentary: his books precisely illuminate any doubts Koestler's readers may have and are literarily very entertaining.

I would like to conclude with an analysis of why Koestler was not only wrong, but deliberately invented Copernicus as a lazy old nag and a villain. Why he also "smeared" Galileo Galilei, an important defender of the heliocentric system. I think that, as a typical macho man, Koestler blamed him for decid-

[7] O. Gingerich, *God's Universe*, University of Warsaw Press, Warsaw 2008, p. 4 of the cover.

[8] A. Koestler, *Lunatycy*..., p. 180.

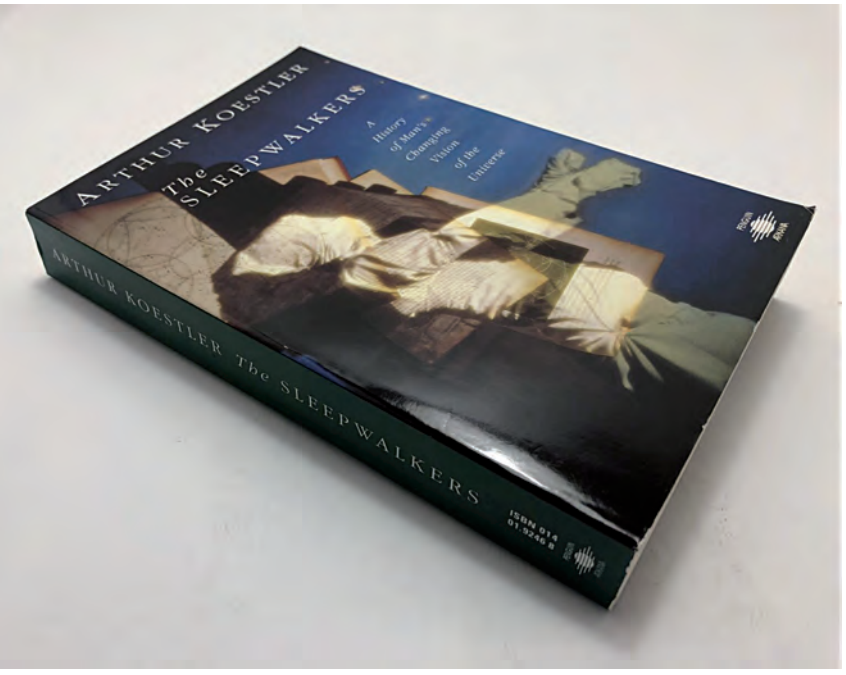
ing to live for the truth, while Giordano Bruno died for the truth. The only problem is that this is a misunderstanding: Galileo was a scientist and Bruno was a philosopher who, as a prisoner of the Inquisition, initially intended to disavow the Copernican "heresy," but later remodeled his mental attitude in the opposite direction, so he was burned at the stake. In contrast, with regard to Copernicus, Koestler made accusations that were much more serious and mostly untrue, so many readers were extremely surprised by this kind of manipulation. Jonathan Swift wrote that *when a true genius appears, you can know him by this sign: that all the dunces are in a confederacy against him*. However, Koestler was a smart, educated man with a lot of experience, and when he wrote *The Sleepwalkers*, he was already famous. I think the reader will find the reason for the manipulation by carefully comparing – following Mieroszewski's lead – the biographies and creative paths of Orwell and Koestler. Both of them had significant Spanish episodes in their lives that influenced their work. At the beginning of the Spanish Civil War, Koestler was a correspondent for the "News Chronicle" in Spain and was taken prisoner after the fascists occupied Malaga. He spent several months in a cell where he expected to be shot.

The book that Koestler wrote about this, Spanish Testament, has remarkable passages, but apart from the scrappiness that is usual in a book of reportage, it is definitely false in places[9].

– Orwell wrote. Koestler was freed after the British government intervened, but before that happened, he had to be scared to death and do a kind of examination of conscience. Fyodor Dostoevsky recalled that when standing in front of the firing squad, he too saw the "film" of his life so far and made an examination of conscience, and when a courier at the last moment before the execution brought a pardon from the tsar, he became in his further work an outstanding expert on the mysteries of the human soul. The Spanish episode also left its mark on Orwell's life – he fought with arms on the side of the republic in the units of the communist but anti-Stalinist party later accused of treason in favor of Franco and physically eliminated by its supposed allies in the "fight against fascism." A disorder allowed him to escape across the border to France, thus saving his life. A blow from an ally is physically more painful (but also more creative) than a blow from an enemy. Koestler must have been asking himself why Orwell later became a better writer after his Spanish adventure. Orwell, on the other hand, believed that the first thing we require from an author is to write no lies and say what he or she really thinks and feels, and Koestler perhaps envied Orwell's stunning worldwide fame arising from his masterpiece *1984* – an engaging and deeply true psychological work. Translated into almost all the languages of the civilized world, the literary vision and a warning of what totalitarianism can lead to, overshadowed Koestler's *Darkness at Noon*. Also, the political relevance of Koestler's work has faded with time, while Orwell's masterpiece is still the most accurate diagnosis and warning of the cancer (corrupting the very root of existence) that the 20th century has produced. The cruelty of *1984* is not a caricature, but a feature of totalitarianism, and the links between sadism, masochism, cult of career and power, and nationalism were a huge, almost untouched topic before Orwell. The relevance of this work is confirmed by successive dictatorships – after Stalin and Hitler in Europe, Kim Ir Sen and Pol Pot in Asia, and Bokassa and Amin in Africa, as well as a number of minor ones that keep appearing. So envy and the desire to attack a genius, typical for bloated egos (I think that Orwell's essay on Tolstoy attacking Shakespeare gave him the idea) were the driving force behind writing *The Sleepwalkers* in the form presented to readers. Since September 1985, when a translation of a selection of Orwell's essays was published, Polish readers have been able to evaluate the hypothesis put forward above. The selection is an abridgment of the aforementioned four volumes published in English, with an insightful foreword by Maciej Broński (the pseudonym of the Orientalist Ernest Skalmowski), the same person who provided an analytical introduction to the third Polish edition of *1984* in the Paris "Kultura" and wrote a review of *Niestrudzony Artur Koestler* [The tireless Arthur Koestler] in the November 1981 issue of the Paris magazine (where, among other things, he reported that a play based on Koestler's *Darkness at Noon* had been shown on Broadway for a year and a half).

Orwell's volume contains not only political essays, but many tidbits for readers who like English humor (in describing his job as a bookseller, the author mentioned the behavior of a charming old lady who once read a nice book and now wondered how

[9] G. Orwell, *Essays*, Pulse Publication, London 1985, p. 103.



to get it. Unfortunately, she recalled neither the title, nor the author, nor what the book was about, she only remembered that it had a red cover).

Very important for our considerations is the extensive essay titled *Lear, Tolstoy and the fool*. Orwell reports to his readers that right at the beginning of his pamphlet, Tolstoy states that Shakespeare has always aroused in him "an irresistible repulsion and tedium."

Conscious that the opinion of the civilized world is against him, he has made one attempt after another on Shakespeare's works, reading and re-reading them in Russian, English and German; but "I invariably underwent the same feelings; repulsion, weariness and bewilderment." Now, at the age of seventy-five, he has once again re-read the entire works of Shakespeare, and[10] (here he quotes Tolstoy himself):

I have felt with an even greater force, the same feelings — this time, however, not of bewilderment, but of firm, indubitable conviction that the unquestionable glory of a great genius which Shakespeare enjoys, and which compels writers of our time to imitate him and readers and spectators to discover in him non-existent merits — thereby distorting their aesthetic and ethical understanding — is a great evil, as is every untruth[11].

To demonstrate that Shakespeare is not merely no genius, but is not even an average author, Tolstoy uses the example of *King Lear*, a play that is widely praised and considered one of his best works.

Tolstoy then makes a sort of exposition of the plot of *King Lear*, finding it at every step to be stupid, verbose, unnatural, unintelligible, bombastic, vulgar, tedious and full of incredible events, "wild ravings," "mirthless jokes," anachronisms, irrelevancies, obscenities, worn-out stage conventions and other faults both moral and aesthetic[12].

In addition, according to Tolstoy, *King Lear* was a plagiarism of a much better play (by an unknown author), which Shakespeare stole and obviously wasted. Tolstoy's pamphlet against Shakespeare is, in large part, very similar to Koestler's pamphlet against Copernicus. In his essay, Orwell poses the following question:

If Shakespeare is all that Tolstoy has shown him to be, how did he ever come to be so generally admired?[13]

Let us make a simple substitution: if Copernicus is all that Koestler has shown him to be, how did he ever come to be so generally admired? Koestler tries to perform a mass hypnosis or suggestion epidemic like the one that sparked the Crusades or the search for the philosopher's stone, but none stands the test of time. Another conclusion:

It follows that "the false glorification of Shakespeare" is an important evil which Tolstoy feels it his duty to combat[14].

If we make a similar substitution to the previous one, we can see that Koestler felt obliged to combat similar "evil." Tolstoy – according to Orwell – had a bossy and selfish character.

Tolstoy was capable of abjuring physical violence and of seeing what this implies, but he was not capable of tolerance or humility, and even if one knew nothing of his other writings, one could deduce his tendency towards spiritual bullying from this single pamphlet. (...) Tolstoy was not a saint, but he tried very hard to make himself into a saint, and the standards he applied to literature were otherworldly ones[15].

There are also further similarities that a close reading of this essay confirms:

[10] Ibidem, p. 230.
[11] Ibidem, p. 230.
[12] Ibidem, p. 230.
[13] Ibidem, p. 231.
[14] Ibidem, p. 233.
[15] Ibidem, pp. 236, 239.

He was not a vulgar hypocrite, as some people declared him to be, and he would probably have imposed even greater sacrifices on himself than he did, if he had not been interfered with at every step by the people surrounding him, especially his wife[16].

This is followed by further symptomatic parallels and a symptomatic conclusion by the insightful essayist and, at the same time, an honest reader:

The more pleasure people took in Shakespeare, the less they would listen to Tolstoy. Therefore nobody must be a l l o w e d to enjoy Shakespeare, just as nobody must be allowed to drink alcohol or smoke tobacco. True, Tolstoy would not prevent them by force. He is not demanding that the police shall impound every copy of Shakespeare's works. But he will do dirt on Shakespeare, if he can.[17].

The chapter titled *The timid canon*, which is a substantial and important part of *The Sleepwalkers*, as well as many references in other chapters and biased footnotes, are a constant attempt to throw mud at Copernicus. Even in the epilogue, when discussing the conditions under which discoveries are made, he wrote:

Each new departure, each reintegration of what has become separated, involves the breaking down of the rigid, ossified patterns of behaviour and thought. Copernicus failed to do so; he tried to mate the heliocentric tradition with orthodox Aristotelian doctrine, and failed.

Even those readers who are not fans of Copernicus will easily see that the opposite was true: Copernicus overturned Ptolemy's system.

Orwell ends his essay with a cool conclusion:

Tolstoy was perhaps the most admired literary man of his age, and he was certainly not its least able pamphleteer. He turned all his powers of denunciation against Shakespeare, like all the guns of a battleship roaring simultaneously. And with what result? Forty years later Shakespeare is still there completely unaffected, and of the attempt to demolish him nothing remains except the yellowing pages of a pamphlet which hardly anyone has read, and which would be forgotten altogether if Tolstoy had not also been the author of *War and Peace* and *Anna Karenina.*[18].

Finally, let me provide some additional information about Arthur Koestler. The future great writer was born in Budapest in 1905, and his tumultuous biography includes studies at the Vienna University of Technology, a stay on a kibbutz, and eventually a career as a journalist and writer in several countries (in total, he wrote some three thousand pages). In the early 1930s, he joined the Communist Party of Germany and spent a year in the USSR. Koestler's long career as a journalist gave him the impulse to shock the reader with surprising hypotheses while making superficial judgments. He denied this when he focused on the history of science (writing in his biography that he had grown tired of the abundance of colorful but unstructured impressions and the superficiality of the journalism he had hitherto practiced), but he expressed only his wishful thinking. What is important for us is that he knew Orwell and met with him many times. Therefore, it is almost certain that Koestler read Orwell's essays printed in various periodicals and that he was familiar the latter's crushing criticism of Tolstoy's mistaken opinion about Shakespeare. Gingerich, on the other hand, proved the falsity of his attack on Copernicus, and Mieroszewski pointed out the Orwellian clue as to why this Koestler's antic occurred. Let us make a substitution again:

Koestler was perhaps the most admired literary man of his age, and he was certainly not its least able pamphleteer. He turned all his powers of denunciation against Copernicus, like all the guns of a battleship roaring simultaneously. And with what result? Half a century later Copernicus is still there completely unaffected, and of the attempt to demolish him nothing remains except the yellowing pages of a pamphlet which hardly anyone has read, and which would be forgotten altogether if Tolstoy had not also been the author of *Darkness at Noon*.

The above text was published in an abbreviated form in "Zeszyty Literackie" (no. 125, 2014), and was translated into Lithuanian and printed in the journal "Siaures Atenai."

Master Mariner Józef Gawłowicz – a lecturer at the Maritime University of Szczecin, a writer, from 1963 to 1989 a secret courier of the Paris "Kultura" to Poland; a publicist of "Kultura," writing articles for that magazine under pseudonyms

[16] Ibidem, pp. 241.
[17] Ibidem, pp. 242.
[18] Ibidem, pp. 242–243.

Krzysztof Mikulski

Mysterious Anna Schilling

What do we know about Anna Schilling from sources that have survived to this day? First, she was related to Copernicus. Second, Schilling was her husband's last name.

During her stay in Frombork, she must have already been a widow, although it is not impossible that she was abandoned by her husband. Third, she was from Gdańsk, or at least had close ties to that city. Fourth, after leaving Copernicus' curia, she bought a house in Frombork, which she sold only after the astronomer's death. Fifth, and this may be an indirect conclusion, she must have been a wealthy person who could afford to buy a house and travel to the fairs in Königsberg, and who had a chest of her belongings sent back to Gdańsk. Thus, she was not a simple cook or servant, as she was often described by unfriendly canons and Bishop Dantyszek.

Jeremi Wasiutyński, the author of the lengthiest biography of Copernicus, had no trouble identifying Anna's origins. He recognized her as the daughter of Maciej Schilling, a goldsmith and associate of Jost Ludwik Decjusz. From 1526 to 1535, Schilling managed the Toruń mint and then stayed in Gdańsk until 1540. Wasiutyński found Anna/s earlier relationship to Copernicus. In his opinion, they may have met in Cracow when the astronomer was younger, but at the latest around 1528 in his hometown of Toruń. The distinguished biographer also found a relationship between Anna and the astronomer. According to his findings, which are not entirely correct, the mother of Copernicus' uncle Tylman von Allen was the great-grandmother of Maciej Schilling. However, there was a serious error in his inquiries: Anna was not born into the Schilling family. The opposite is true of her husband.

Jerzy Sikorski, the author of the popular biography entitled *Prywatne życie Mikołaja Kopernika* [The private life of Nicolaus Copernicus], was aware of this error and suggested that Anna could at most have been the wife of a son or one of Maciej Schilling's nephews. However, Sikorski concluded that such an inference was invalid, and looked for another Anna Schilling. His attention was attracted by the Schilling family who lived in Gdańsk and, moreover, were related to Copernicus. Three of the astrono-

The image of Nicolaus Copernicus: a reconstruction by Chief Commissioner Dariusz Zajdel, MSc. (Central Forensic Laboratory of the National Police Headquarters in Warsaw)

mer's close female relatives married residents of Gdańsk: his cousin Kordula von Allen (her husband was Reinhold Feldstedt, a Gdańsk councilor and merchant), the daughter of another of his cousins Krystyna von Beutel (who married Jan Schachman around 1517), and the daughter of yet another cousin, Anna Krüger (born in 1490), who in 1515 married Arendt Schilling (actually von den Schellings), a native of Pasłęk. Copernicus had very close links to his Gdańsk relatives. Reinhold Feldstedt lent him 100 grivnas during the war against the Teutonic Order. After Reinhold's death in 1529, Nicolaus Copernicus, Arendt Schilling, and Michał Loitsch were appointed as the guardians of his widow and her children. As late as 1536, he and the co-guardians established an attorney for inheritance matters in Gdansk. He appointed Jan Loitz, the son of one of Feldstedt's daughters Kordula, as his coadjutor for the Warmian canonry. All these facts indicate that Copernicus maintained very close contacts with his relatives in Gdańsk.

Jerzy Sikorski concluded that the Anna in question could not have been Copernicus' cousin Anna, née Krüger. Indeed, according to family tradition, the latter died in 1538 and orphaned several minor children. We will come back to this issue later. Sikorski therefore concluded that "our" Anna Schilling was most likely the sister-in-law of Arendt Schilling, whom Nicolaus may have met in 1529 at the latest, at Reinhold Feldstedt's funeral. The biographer linked this fact to the information that in 1530 Copernicus dismissed his previous cook, thus freeing up room for Anna Schilling, the new mistress of his kitchen and his heart, who, according to Sikorski, was to appear in Frombork exactly around 1530. Sikorski determined that at the time of their meeting, Copernicus was 56 years old and his chosen one was about 32. He just stated: Belated love came along with her. "A soul that loves must blind, and the passions of lovers are invincible..." – he added a quote from the *Letters* of Theophylact Simocatta, once translated by Copernicus.

However, it is hard to resist the impression that Sikorski's conjecture, perhaps to a lesser extent than Wasiutyński's, is also not based on real facts. We do not know any of Arnold Schilling's brothers, nor do we know anything about his wife. Finally, the attendance of Schilling's sister-in-law at the funeral of Feldstedt, who was a stranger to her, is highly questionable. Finally, it is difficult to agree with the identification of the beginning of Anna's stay in

Frame from the movie "Copernicus"

Frombork as approximately the year 1530. It would have to be assumed that Paweł Płotowski, who was unfriendly towards Copernicus, and Feliks Reich, aged and hardened in the observance of the vows of chastity, first tolerated for eight years the canon's reprehensible conduct and reported it to their superior, the bishop of Warmia, only under the influence of belated or senile remorse. Instead, it is easier to believe that Reich had no reason for concern about his friend before 1538.

We must therefore assume that Anna Schilling came to Frombork shortly before the autumn of 1538, when her stay became the cause of a scandal. The simplest solution to the problem would be to identify the astronomer's friend with his existing relative Anna Schilling. The two were closely related, and Anna came from Gdansk and was a wealthy person. It should also be added that according to the same traditional genealogy, her husband Arendt Schilling died in 1537 and Anna became a widow. The year of her death, 1538, placed in the Danzig family genealogies, stands in the way of recognizing her as "our" Anna. However, this source is not reliable. The genealogical tables were made on the basis of family tradition and information passed on by family members, and were created much later than the events of interest took place. There is some way to verify this data. For the St. Mary's parish in Gdańsk, perhaps the oldest funeral book in Poland has been preserved. It contains entries on funerals of Gdańsk residents living in the parish since 1537. However, the source lacks any confirmation of the

funerals of Arendt and Anna Schilling. The Schilling family was a member of the highest stratum of the Gdańsk patriciate, was superbly intermarried, and it is difficult to imagine a funeral for a person from this group in any other parish than the one in which they lived.

From Warmian sources, we know that Anna Schilling was still alive in 1543 and visited Frombork at the time. The most likely hypothesis that can be derived from the sources is to consider that our Anna was Arendt Schilling's wife. This is supported by all the premises discussed earlier: she was Nicolaus Copernicus' cousin and she came from Gdańsk; however, there are also new premises: at the time of her arrival in Frombork, she was a wealthy person and she could decide quite freely about her conduct. In 1537 or 1538, she was 47 or 48 years old, so she was 15 years younger than the astronomer. She had more than ten children with Arendt, including eight daughters. Anna may have been a pretty woman who freely disposed of her property, which was probably the cause of the envy of the canons and Bishop Dantyszek, who were hostile to Copernicus. Copernicus was 65 years old at the time and was already a rather ailing man. Could the relationship between the two involve carnal love? Or was it a long-standing friendship, tested during Copernicus' frequent visits to Gdańsk? In any case, one should not look for erotic motives among those that guided Anna to come to Frombork. Widowed or abandoned by her husband, the Gdańsk patrician may have been a person extravagant enough to decide to go to her cousin, from whom she expected support and knew she could count on it. During her possible stay in Frombork, two of her daughters, Anna and Barbara, were married off. The former married Wawrzyniec Schultz (possibly a relative of Aleksander Sculteti) in 1537, while the latter married Tiedemann Giese, a close relative of the Bishop of Chełmno and a friend of Copernicus, in 1539. There is no doubt that Copernicus could have played a significant role in matching at least the latter married couple. There is also one more piece of evidence that Anna was still alive at least in early 1538. The summary of the Crown Register, under the date February 21, 1538, contains an entry with information about a dispute between Łukasz Krüger, a Toruń councilor, his sister Anna Schilling, a burgher woman from Gdańsk, on the one hand, and Barbara Beutel, a burgher woman from Toruń, on the other, over the inheritance of Łukasz von Allen, deceased without an heir, a starosta of Rogozin and a sibling brother of the same Barbara Beutel and uncle of the Krüger siblings. Anna was therefore active and asserted her rights to her uncle's inheritance. She was able to turn to another of her relatives, Nicolaus Copernicus, a Warmian canon from Frombork, for help in this matter.

It is possible that the astronomer was just a victim of another conflict that the bishop had at the time with Alexander Sculteti, a friend of the aged canon. Copernicus and Sculteti shared an interest in cartography: Sculteti was compiling a map of Livonia and consulted his work with his older colleague in the chapter. While in Livonia (he was a Dorpat canon there), he succumbed to the influence of Lutheran preachers. However, he did not abandon his functions in the chapter, but started a permanent relationship with Miss Suchten, who also came from Gdańsk (also from a wealthy patrician family) and whom he brought to Frombork. The bishop was perhaps offended not so much by Sculteti's carnal relations with the woman, but by his official residence with her in the curia in Frombork. The conflict ricocheted and also struck Copernicus. Sculteti ultimately did not succumb to the bishop's pressure, converted to Lutheranism, and married his lifelong companion.

It must be assumed, therefore, that in the life of Nicolaus Copernicus there was only one Anna Schilling, his cousin, the daughter of the mayor of Toruń, Henryk Krüger and the wife of the Gdańsk merchant Arendt von der Schellings (=Schilling). All these facts, however, in no way answer the question of whether Anna Schilling and Nicolaus Copernicus shared only a deep friendship or also other, more intimate feelings.

Prof. dr. hab. Krzysztof Mikulski — Faculty of Historical Sciences, NCU

Jarosław Dumanowski

Cuisine in Copernicus' times

I have written about the cuisine of the time in which the patron of our university lived several times. We can learn about the cuisine of Copernicus' times by reading recipes in the so-called Teutonic cookbook dating back to the second half of the 15th century, looking for information in Renaissance herbariums and medical handbooks from Cracow, and reaching for recipes from the oldest printed cookbook published in Rome and related to the figure of Callimachus, a friend of the Copernicus family. A taste of Prussia and Pomerania, food from the capital city of Cracow, and delicacies of the then fashionable Italian cuisine tell us about the life and world of our patron.

Recipes from 15th century Prussia are still medieval in their style, but also worldly due to their breadth and exoticism. The taste was thoroughly gingerbread (gingerbread sauce, gingerbread coating and "sausages"). Recipes from Cracow herbariums, on the other hand, are the result of a fascination with ancient dietetics, and the cookbook of Platina, a friend of Callimachus who settled in Cracow and occasionally visited Toruń, is a true manifesto of Renaissance that describes the eating habits of the ancient people.

Today to these three stories we can add another one: about dishes from the lost oldest Polish cookbook from Cracow. It was probably published

around 1540, and until now we only knew it from mentions in old book catalogs and from three slightly damaged, partially preserved sheets of paper, which we could only assume were remnants of that mysterious book. When Magdalena Spychaj prepared a dissertation on the origins of Czech and Polish culinary literature at our Culinary Heritage Center a few years ago, we were not even quite sure if such a book ever existed. The small fragments that survived hinted at its possible connection to Bohemian patterns, but it is difficult to make a story about cuisine on this basis.

Today, after finding an 18th-century manuscript copy of *Cookery*, we can not only imagine, but even taste Polish cuisine from the time when Copernicus was completing the work of his life. We will publish the text later this year in the next volume of the series *Monumenta Poloniae Culinaria*.For now, let us listen to the real poetry, telling the story of how "Birds [...] are sometimes seasoned in onions." The recipe, like the entire content of *Cookery*, i written in a captivating language. In addition to the intriguing title, what draws attention is the fact that the dish is to be "saffroned." This distinctive term indicates the popularity and importance of this practice, of which our contemporary peppering and salting is only a bleak relic. The dish also had to be "sweetened" (multiple times) and "rooted" (seasoned). The dish eventually took the shape of a *kolach* (Medieval Polish pizza?) with the meat of (presumably wild) fowl ground in a mortar. As a cook from the times of Copernicus assured, with wine, sugar, and lots of exotic spices, everything "will taste good." This is exactly the kind of food that the astronomer from Toruń liked: hot and distinctive in taste, and sweet at the same time, with an altered appearance and texture. This was the essence of Renaissance cuisine in its Central European, Bohemian or Polish version.

More information about the mysterious *Cookery* is to be published soon...

"Birds that are sometimes seasoned in onions, and in dough so are to be baked"

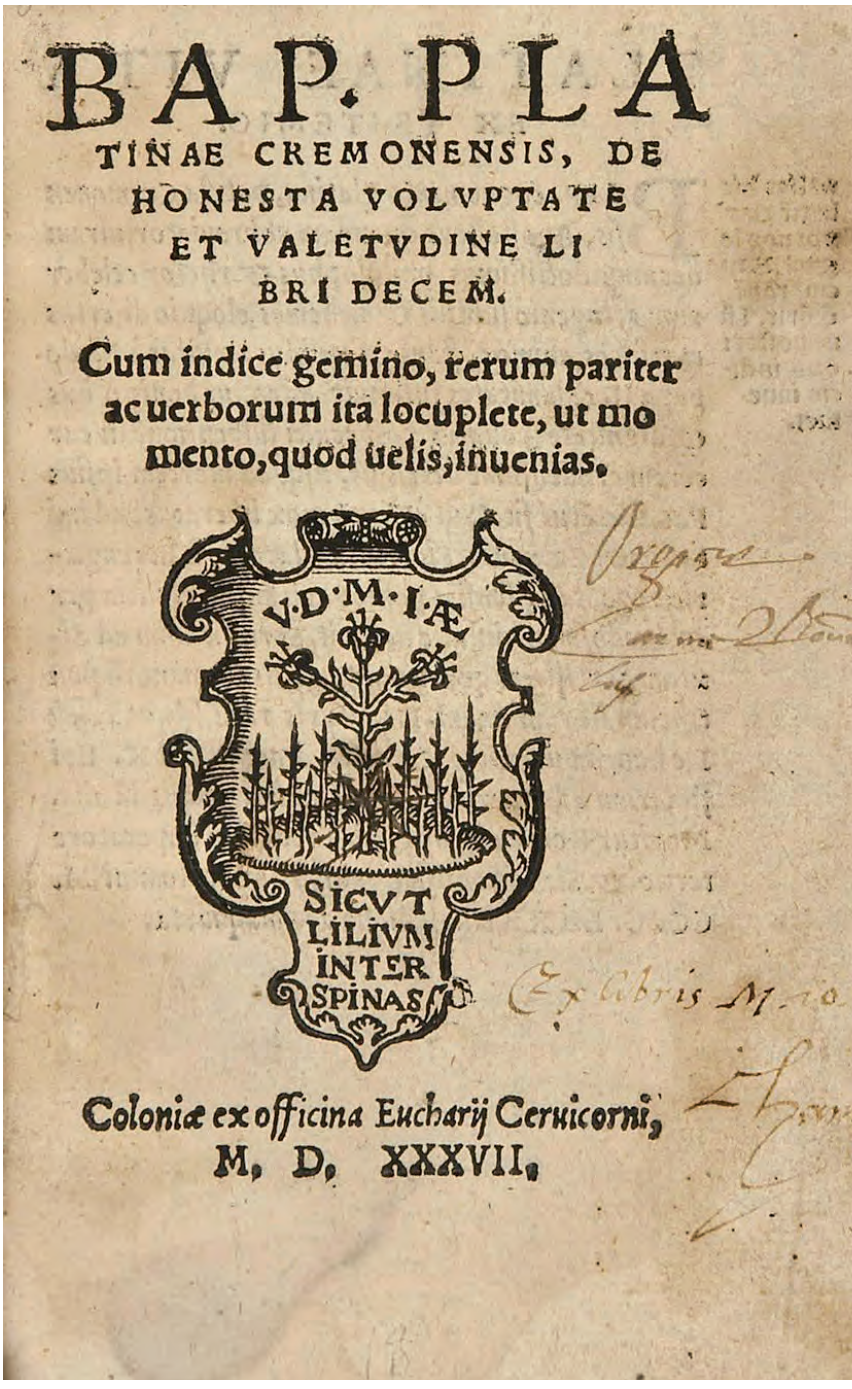
Fry the onions well, take pure flour and wine, cream and eggs, and make a thick dough, knead it with these eggs dissolved, and when you have kneaded it well, saffron it, and take a mortar, put these birds in it, and root them. Add also onions to them, and red wine, and cut almonds, and put sugar on these birds, and mix them, and put them well on a charcoal fire, and bake them slowly, and when they are good, take them off, and it will be like a *kolach*. Then take clean onions, brewed in a pot, ream them in a pan as porridge, and take good wine, dissolve it with this, and strain it through a handkerchief. Then set it to boil, and so root it well with all the roots except for cloves, sweeten it with sugar and pour it around the *kolach*, put it in a bowl, and it can be eaten on an empty stomach and it will taste good."

Prof. Jarosław Dumanowski — head of the Center for Culinary Heritage at the Faculty of Historical Sciences at the NCU

Jarosław Dumanowski

From Italy to Poland. First printed cookbook, Callimachus and Copernicus

After a childhood spent in Toruń and studies in Cracow, Nicolaus Copernicus went to Italy for further studies. He stayed in Padua and Bologna, received his diploma in Ferrara, and also visited Rome. Without too much risk, we can conclude that he certainly ate some food during his travel in Italy.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During Renaissance, Italy was a great center of science and culture radiating throughout Europe. Humanism, with its appreciation of various aspects of human life, including the most mundane and practical ones, with the rehabilitation of individual happiness and pleasure, brought, among other things, the development of advisory literature, including culinary and especially dietary books.

In 1470, the well-known Italian humanist and poet Filippo Buonaccorsi, known as Callimachus, arrived at the court of Grzegorz of Sanok, the archbishop of Lviv, in Dunajów (near Przemyśl in today's Ukraine). He later left Dunajów and went to Cracow, to the court of king Casimir Jagiellon. The Italian humanist became a teacher of the king's sons, a Polish diplomat, and a politician. In his public activity and numerous literary works, he helped popularize the ideas of Renaissance and humanism in this part of Europe. In the same year, 1470, a remarkable book was published in Rome: the first printed collection of recipes. The Roman edition of that year has not survived, but the book is known for its vast number of editions, alterations, and translations, and has become a model cookbook.

In the extraordinary life of Callimachus and his possible influence on the residents of Dunajów, and then Cracow and finally Toruń, the culinary theme deserves attention. Buonaccorsi was a friend and collaborator of Bartolomeo Sacchi called Platina. Of the numerous works of Platina, a renowned Italian

Epitaph of Filippo Buonaccorsi "Callimachus" in the Holy Trinity Church in Cracow

politician, scholar, and humanist, the one that gave him the greatest fame was his first printed cookbook, published in 1470, at the time of Callimachus' arrival in Dunajów. Platina's book even features Callimachus himself...

I became interested in the figure of Callimachus as a friend and collaborator of the author of the oldest printed cookbook, and even as the protagonist of that text because of Nicolaus Copernicus. Callimachus, having achieved many dignities at the court of king Casimir Jagiellon, played an even greater role in Polish politics during the reign of his pupil John Albert. He visited Toruń many times, became a close associate of the bishop of Warmia Łukasz Watzenrode (who was Copernicus' uncle and guardian), and purchased two houses in the city. Although his friend Platina's book, which also described Callimachus' food preferences and cooking skills, appeared in print when Callimachus was already in exile, the Italian had to talk repeatedly about the culinary customs of his homeland, the feasts of the members of the Roman Academy, and Platina's work on the text of the cookbook. After all, Callimachus not only was the protagonist of the first printed cookbook, but also in some way participated in its creation, or at least was able to observe that process. The Roman Academy, which was a club or association of Italian humanists, of which both Callimachus and Platina were members, operated in an informal manner. Meetings of its members were often held as culinary and social events, and if later accusations are to be believed, their participants committed all kinds of transgressions in addition to the sins of gluttony and drunkenness.

For these humanistic gourmets, eating (and drinking) was much more than – depending on one's point of view – a temptation and a sin or, inversely, a pleasure and entertainment. Platina's work primarily shows a great desire and passion to learn about the eating habits of the ancients and to explore the ancient cuisine, in addition to recalling ancient literary works, as well as classical philosophy and science. To eat like Socrates, Plato, and Aristotle, or at least like Cicero, Galen and Mark Antony, Pliny, and Cato... To simply be like the ancients – a versatile ideal and personal model of Renaissance.

Callimachus, a promoter of the idea of humanism in Poland, probably also had the opportunity to talk about the Renaissance cuisine of which Platina's book was a true manifesto. Perhaps the activities of the Sodalitas Litteraria Vistulana, of which our protagonist was also a member, were in part humanistic and culinary in nature, like the meetings of the Roman Academy.

Callimachus and Platina

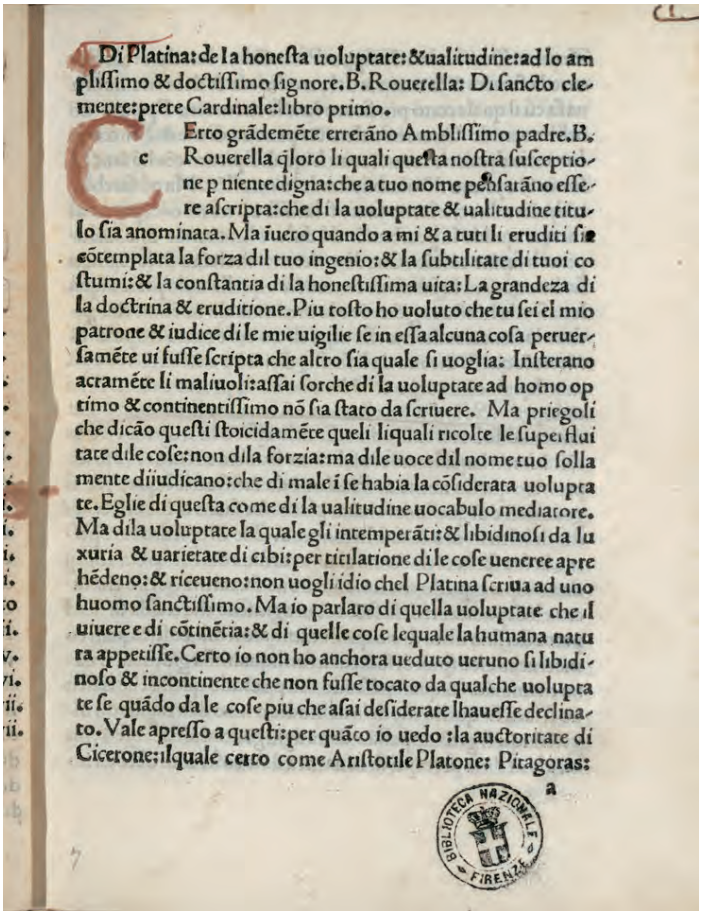
Filippo Buonaccorsi was one of the characters in a cookbook written by his friend Platina. As a result, we can learn what foods he liked, what products were harmful to him, and even what he knew how to cook himself. The Italian probably passed on some of this knowledge and preferences to his hosts and friends in Poland. The author of the first cookbook printed in 1470 was Bartholomeo Sacchi called Platina, the prefect of the Vatican library and a high dignitary of the Church State. Platina was not a chef, although he achieved great fame specifically as the author of the world's first printed cookbook. His contemporaries may have appreciated other works more, notably *The Lives of the Popes*, a work

on *The Famous History of the City of Mantua*, and the Vatican Library's extensive catalog.

Of Platina's extensive output, only one work has been translated into many different languages and was published numerous times in various countries and reissued over several centuries. He became famous thanks to the work titled *De honesta voluptate et bona valetudine* ("On right pleasure and good health"), written in Latin and first published around 1470[1]. As a soldier, teacher, politician, librarian, and historian, he did not feel he was a culinary professional. The recipes in his book come from an Italian manuscript collection of recipes by the famous chef Martino da Como, written around 1465. Platina, who did not hesitate to copy the chef's recipes, gave them a unique form and transformed the dry, technical instructions into a work that was a great bestseller for several centuries. He transformed the text of a largely still medieval cookbook into an informative but light-hearted treatise on food in Antiquity. Reaching back to ancient works and abundantly quoting authors writing about natural history and agriculture, the learned humanist created an erudite story about the food habits of the ancients, with many references, quotations, and footnotes about the food of the ancient Greeks and Romans.

This unusual combination of a cookbook and a description of ancient knowledge of food contributed to the extraordinary popularity of the work, which had as many as 24 Latin, 23 French, 8 Italian, and 2 German editions by the end of the 17th century[2]. Although Platina's book, which was based on the recipes of the master Martino da Como, actually described Italian cuisine, the book's attractive form, the humanistic treatment of the subject, and the transcription of the text in Latin resulted in its perception as a European and timeless work.

Such a relaxed approach to the subject, which perfectly matched the readers' expectations, was due to Platina's personality, interests, and knowledge of the intellectual trends of the Renaissance. The author was a cabinet scholar or librarian locked in his study among stacks of books. His temperament as a soldier, courtier, and politician pushed him to interact with people, and his extraordinary


Di Platina: de la honesta uoluptate: & ualitudine: ad lo amplissimo & doctissimo signore. B. Rouerella: Di sancto clemente: prete Cardinale: libro primo.

Certo grādemēte erreraño Amblissimo padre. B. Rouerella q̄loro li quali questa nostra susceptione p̄ niente digna: che a tuo nome pēsarāno esse re ascripta: che di la uoluptate & ualitudine titulo sia anominata. Ma uero quando a mi & a tuti li eruditi sia cōtemplata la forza di tuo ingenio: & la subtilitate di tuoi costumi: & la constantia di la honestissima uita: La grandeza di la doctrina & eruditione. Piu tosto ho uoluto che tu sei el mio patrone & iudice di le mie uigilie se in essa alcuna cosa peruersamēte ui fusse scripta che altro sia quale si uoglia: Insterano acramēte li maliuoli: assai sorche di la uoluptate ad homo optimo & continentissimo nō sia stato da scriuere. Ma priegoli che dicāo questi stoicidamēte queli liquali ricolte le superfluitate dile cose: non dila forzia: ma dile uoce dil nome tuo solla mente diiudicano: che di male i se habia la cōsiderata uoluptate. Eglie di questa come di la ualitudine uocabulo mediatore. Ma dila uoluptate la quale gli intemperāti: & libidinosi da luxuria & uarietate di cibi: per titilatione di le cose uenere apre hēdeno: & riceueno: non uogli idio chel Platina scriua ad uno huomo sanctissimo. Ma io parlaro di quella uoluptate che il uiuere e di cōtinētia: & di quelle cose lequale la humana natura appetisse. Certo io non ho anchora ueduto ueruno si libidinoso & incontinente che non fusse tocato da qualche uoluptate se quādo da le cose piu che assai desiderate lhauesse declinato. Vale apresso a questi: per quāto io uedo: la auctoritate di Cicerone: ilquale certo come Aristotile Platone: Pitagoras:

a

abilities and his fairly good, albeit unsystematic, education enabled him to make use of his pen in the process.

Platina's intellectual interests were developed, among others, at the Roman Academy, founded by his friend Pomponius Letus, which brought together humanist scholars and lovers of ancient culture, who resented the dependence of thinkers on powerful patrons – in Rome, mainly cardinals. Besides Pomponius and Platina himself, Filippo Buonnacorsi (Callimachus) also played an important role in this group.

It was the meetings, conversations, and rituals performed by the friends at the Roman Academy that caused Callimachus' flight from Italy. A fascination with the culture of ancient Rome and the thoughts of Epicurus in particular led in 1468 to accusations that the admirers of the ancient wisdom had relapsed into paganism, extolled republicanism, and organized a plot on the life of Pope Paul II. Pomponius fled to Venice, which later turned him over to the Pope, but the scholar disavowed his views and was soon freed. The least fortunate was Platina himself, who was imprisoned and tortured. The ter-

[1] Platina, *On Right Pleasure and Good Health. A Critical Edition and Translation of De Honesta Voluptate et Valetudine*, by M. E. Milham, Tempe 1997.

[2] Henry Notaker, *Printed Cookbooks in Europe, 1470–1700. A Bibliography of Early Modern Culinary Literature*, Houten 2010.

Łukasz Watzenrode – uncle and protector of Nicolaus Copernicus

rified Callimachus then fled all the way to Poland. Initially, he stayed at the court of the archbishop of Lviv Grzegorz of Sanok, and later he moved to Cracow. King Casimir Jagiellon soon appreciated the knowledge and talents of the famous Italian humanist, who became his secretary and advisor, and later the tutor to the king's sons.

Callimachus visited Toruń several times, first in 1474 during the visit of king Casimir Jagiellon. The scholar visited Copernicus' hometown three more times, meeting in particular with Łukasz Watzenrode, the bishop of Warmia, the brother of Copernicus' mother, and the guardian of Nicolaus himself. The uncle of the famous astronomer became an associate of both the king's advisor Callimachus and king Casimir Jagiellon himself.

The Italian man apparently liked Toruń, as his stays in the city became longer and longer, and his cooperation with bishop Watzenrode, who came from a well-known Toruń family, became closer and closer. In 1496 Callimachus even bought two houses in Toruń (at the Old Town Square and near the Sailor's Gate – not far from Copernicus' house). There is also an unproven hypothesis that the young Nicolaus Copernicus was in the service of Callimachus, but it is based on only one piece of unclear circumstantial evidence.

Callimachus knew Łukasz Watzenrode, Copernicus' uncle and guardian, well and probably met with the bishop's family as well, and Copernicus, even if he never met the Italian scholar, must have heard a lot about him, if not in Toruń, then probably in Cracow and later during his studies in Italy.

The first printed cookbook

Since in the purely culinary sphere Platina (a humanist and scholar, but an amateur in culinary matters) modeled his work on the manuscript recipes of the famous chef Martino da Como, his work is largely a duplication of the famous master chef's culinary style. Due to this inspiration, Platina was still influenced by the medieval aesthetic that involved combining multiple contrasting and complex flavors. The burning taste of hot, exotic spices was associated with the hot, strengthening "humors" described by the famous ancient physicians Hippocrates and Galen, whose writings were read by Renaissance scholars. Expensive spices, imported from the Far East, were at once a symbol of being a member of the elite, a sophisticated fashion statement, and a very effective way of distinguishing oneself from lower social strata. Compositions of pepper, ginger, saffron, and cinnamon, combined with sugar, juices, raisins, jams, and vinegar, lemon, and sour wine, were the quintessence of medieval aesthetic principles. Aside from references to antiquity and a total reliance on Mediterranean products, Platina's work is therefore very similar to manuscript cookbooks of the Middle Ages.

However, to Platina and his contemporaries, the pleasure derived from eating was, unlike in the Middle Ages, no longer a terrible sin of gluttony, and fasting and mortification were not associated

by the author with any special virtue. However, in the author's opinion, savoring food and enjoying the pleasures of the table have their limits defined by diet and health. The title of his work not coincidentally juxtaposes "right pleasure" and "good health." The escape from fasting and its replacement with dieting is typical of the humanistic interest in human affairs, which are naturally practical and life-related. It continued in the period of the Reformation, when both Luther and Calvin recognized that Catholic fasting and the prohibition to eat meat on selected days had no basis in the Scripture and the teachings of Christ. In Zurich, the Reformation began in 1522 when the famous printer Christoph Froschauer provocatively ate sausages during Lent in a public place. The imprisoned sausage lover was defended by Ulrich Zwingli, which started the Reformation in Switzerland[3].

Unlike medieval cookbooks, Platina's work is therefore not divided into chapters on fasting and meat dishes. It consists of ten books, with the first five containing general information and commentary on nutritional products and their health-related properties, and the others mainly containing culinary recipes. The first part was based mainly on the writings of ancient authors, especially Marcus Porcius Cato, Marcus Terentius Varron, Lucius Junius Columella, and Pliny the Elder. The second part of the work contains recipes based on the 15th century recipes of the famous chef Martin da Como. Consequently, both parts of Platina's book contain some inconsistencies: the author presents a recipe, but later criticizes the dish as unhealthy or tasteless (for example, a recipe for apples fried in risen wholemeal flour dough).

Platina's comments indicate that Callimachus was most fond of paste or, to put it in Old Polish, "gąszcz" (thicket), made from almonds, nuts, bread, and garlic. The recipe for the so-called "thicket," also popular in Old Polish cuisine (a similar one can be found, for example, in the book on the cuisine in the court of the Radziwiłł aristocratic family titled *Moda bardzo dobra smażenia różnych konfektów* [A very good way of frying various confections] from about 1686[4], published by us) is given below. According to Platina, on the other hand, the weak-sighted Callimachus would be harmed by roasted goat meat with garlic, which was thought to impair vision. We even know that Callimachus took to preparing food himself during the meetings of the members of the Roman Academy, although Platina and other scholars found the way the future tutor of Polish kings prepared fried eggs rather funny. An enigmatic remark by the author of the oldest printed cookbook also suggests that Callimachus did not really like the then highly prized peacocks, which were considered one of the greatest delicacies during both the Middle Ages and the Renaissance.

Syxtus IV appoints Platina as the prefect of the Vatican Library

Let us read for ourselves the recipes from the oldest printed cookbook, which probably could have been known to the residents of the archbishop's court in Dunajów, the courtiers of Wawel, and the

[3] K. Albala, *The Ideology of Fasting in The Reformation Era*, [in:] K. Abala, T. Elen, eds., *Food and Faith in Christian Culture*, New York 2011, p. 41.

[4] J. Dumanowski, R. Jankowski, eds., *Moda bardzo dobra smażenia różnych konfektów i innych słodkości, a także przyrządzania wszelkich potraw, pieczenia chleba, i inne sekreta gospodarskie i kuchenne*, Warsaw 2011, p. 140.

rich burghers of Toruń. Poles may have heard about the book during their then fashionable trips to Italy, or possibly encountered its German translation. To the favorite sauce of one of the protagonists of the first printed cookbook and also the tutor of the sons of king Casimir Jagiellon, we have added a recipe for roast chicken.

When reading old, forgotten recipes from nearly 550 years ago, we perform a specific historical analysis of source texts that tell the story of ancient culinary art, taste preferences, and original diets. At the same time, these sources are specific, as we may be tempted not only to read and understand them, but also to try to recreate them and taste history, to get a taste of the past and eat like Nicolaus Copernicus. Together with Toruń cooks, with whom we have created the group "Copernicus Cooks" (secret for the time being – I am writing this in the greatest secrecy), we are using Polish, German, and Italian recipes from the 15th and 16th centuries, which are related in some way with Nicolaus Copernicus' environment.

Recipes

Platina, *De honesta voluptate et bona valetudine* ("On Right Pleasure and Good Health").

Garlic sauce with nuts and almonds

Add as much as you like of the cleaned garlic to the half-crushed almonds or nuts and immediately mash it well, as should be done properly, sprinkling it constantly with water so that no oil is formed from it. Add bread crumb soaked in meat or fish stock to the mashed ingredients and mash it once again. If it is too thick, it can easily be diluted with the same stock. You can store it easily as long as we wrote for mustard.

My friend Callimachus is very gluttonous when it comes to this dish, although it is not very nutritious, it lingers in the stomach for a long time, and warms the liver.

Roasted chicken

Roast the chicken after it has been thoroughly plucked, gutted, and rinsed, and when the roasted chicken is already put on a platter, before it cools down, pour lemon juice or wine vinegar and rose water over it, sprinkle it with sugar and well-crushed cinnamon, and serve it to your guests. This will probably please Bucinus[5], who is so hungry for sweet and sour tastes at the same time, in order to temper the bile that so afflicts him and in order to gain more flesh.

Blancmange

You can prepare blancmange (white food), preferably called leucophagum (a dish of white meat), for twelve guests in the following manner. Thoroughly grind in a mortar 2 pounds of almonds, peeled and soaked in water through the night, pouring a little water over them so that they do not give off oil. Then smash the capon breast in the same mortar and add a bread crust soaked in verjus (juice of unripe grapes) or light sauce. In addition, add an ounce of ginger and half a pound of sugar. Mix it all together, and once it has combined well, strain it through a sieve into a clean saucepan. Then cook it over low heat and stir it often to prevent it from sticking to the pot. When it is cooked, pour 3 ounces of rose water and place it on the table either in bowls with meat or separately, on small plates. If you prefer, put it on capons, and to make it more beautiful, sprinkle pomegranate seeds on top. If you want, divide it into two dishes, tint a part of it with a yolk with saffron, dissolved in some verjus, which I call a broom due to its color (meaning the yellow flower of the common broom shrub).

Prof. Jarosław Dumanowski — head of the Center for Culinary Heritage at the Faculty of Historical Sciences at the NCU

[5] One of Platina and Callimachus' friends.

Marcin Lutomierski

Literary portraits of Nicolaus Copernicus for the young

The Year of Nicolaus Copernicus provides an excellent opportunity to reach out not only to contemporary, but also to slightly older and forgotten works intended for young readers that introduce the figure of the famous astronomer. Reading these works is an interesting form of journey through Copernicus' biography, Polish and European history, and history of literature.

Gazing at the sky and books

The uniqueness of Nicolaus Copernicus as a man and a scientist is emphasized by poetry (not only poetry for children). Evidence of this can be found in an interesting poem by Edward Szymański titled *Mikołaj Kopernik* [Nicolaus Copernicus] (written during the interbellum period), which portrays the astronomer in a very evocative way. Copernicus is shown at night in Frombork, "leaning towards the stars, / he looks up, up, up, unceasingly. / Beside him telescopes, compasses, / books, maps, circles, and dashes – / only strange, unusual things, / like the unusual man who does not sleep." The astronomer was and is dedicated to his passion: "And for so many days, and for so many nights, / staring at the sky and the books, / did not take his eyes off for a moment / from the universe of mysterious power." Thanks to this, he discovered the truth, which "[...] will remain for centuries, / will move from the foundations of our immense globe – / and the whole world will be like a great / monument to the Polish scientist."

A future great explorer

In Jan Parandowski's short story titled *Mały Kopernik* [Little Copernicus] (graphic design by Zygfryd Gardzielewski, Toruń, Joachim Lelewel Bibliophile Society, 1968), we see a boy hungry for knowledge, whose "eyes welled up with tears from listening." Following a comment made by his uncle, Łukasz Watzenrode (spelled by the author as Waczen-

Photo by Marcin Lutomierski

Photo: polona.pl

rode), on the solar eclipse that had just occurred, the future astronomer confesses: "- Thank you, Sir. One thing I find so strange is that the Sun, so big, so bright and so... I can't say it... but when it was missing a while ago, everyone was talking about the end of the world and it was cold right away... that this Sun is running around our small and round Earth like a docile servant." To this his brother Andy (named here as the elder; in light of Prof. Krzysztof Mikulski's research, however, he was younger than Nicolaus) responds with leniency: "- Don't worry, Nicky, you can't change it." That ends the story...

In love with books

The results of the 500th anniversary of the birth of Nicolaus Copernicus included a novel by Mira Jaworczakowa, a well-known author of books for children and young people, titled *Gdy odbijamy od portu* [When we depart from a port] (Warsaw, Instytut Wydawniczy "Nasza Księgarnia," 1975). The work shows selected parts of the astronomer's life – from his studies in Cracow, Bologna, and Rome, through the period when he was the administrator of the estates of the chapter, to the last days of his life in Frombork.

Photo: polona.pl

At first, Nicolaus Copernicus appears as a modest, quiet, timid, sickly, and science-focused young man. Unlike his brother Andrzej, he avoids noisy places and rarely goes into taverns. Unlike his friends, he cannot "rejoice in such a carefree, unrestrained manner," and sometimes he even "feels sorry that he has never ran around with boys along the city walls or on the banks of the Vistula River." As a student, Copernicus was, in a sense, a romantic: thinking about the cosmos, reminiscing dreamily about his hometown of Toruń. Jaworczakowa describes him as a capable and hard-working introvert who would rather stay in Cracow and study and hold discussions about planets than go to Bologna to study law. Copernicus is also very conscientious and thorough: "he would not get up from the table until he put a period after the last sentence and carefully put away the sheets filled with text written in small letters."

He was primarily in love with books, although the golden-haired Italian woman Beatrice also captivated him with her beauty. In contrast, he mentioned Anna Schilling in a cursory manner, saying that she was the daughter of his relative who was his housekeeper for some time and "always made sure that the food was deliciously seasoned with various herbs, and even that field flowers in a pitcher were put on a table covered with a tablecloth."

However, both as an adolescent and an adult, Copernicus did not always behave in an exemplary manner, for example when he "stood in front of his uncle with his eyes wide open, with a face perhaps not even frightened, but not very wise, and with one and only one desire in his heart: to be let go as soon as possible." Before the eyes of the reader, Nicolas matures mentally, becoming more and more resolute and impatient at the same time: he was irritated by administrative chores, because they prevented him from writing the book about the Earth and the Sun that he always dreamed of writing. At the time, he would sometimes "alienate kind-hearted people with coldness or harsh words." Age also strengthened in Copernicus the desire, hidden from an early age, to decide on his own destiny (which was first hindered by his father and later by his uncle).

A kid, a student, a doctor with a distress

Cezary Leżeński's novel *Bartek, Zuzanna i Kopernik* [Bartek, Zuzanna, and Kopernik] (illustrated by Lech T. Karczewski, Toruń, Wydawnictwo "Graffiti BC", 1999) looks at the figure of the famous astronomer from a completely different perspective. The book is a continuation of the adventures of Bartek, a student at one of Warsaw's late 20th century schools, who, urged by his friend Zuza, traveled to the time of Copernicus and tried to find him. First he found himself in 15th-century Toruń, where he learned surprising facts about the younger son of Mr. and Mrs. Copernicus from their housekeeper: "He stole lots of gingerbread from the Reverend's table. Seemingly quiet and calm, he broke the precious glass of the Vicar's bedroom (!) with a stone." Nicky – as his colleagues called him – was a slim boy with sharp facial features, dark hair, an unruly forelock, and playful yet kind eyes. In Bartek's eyes at the time, little Nicolaus was an inconspicuous "kid" who did not look like an intellectual and a great explorer who would be famous for centuries to come. Even though he liked Nicky, the main character concluded that the Copernicus – junior was a regular rascal and hooligan who shot at pigeons from a slingshot and broke windows in a townhouse. To top it all off, he even wanted to drop out of school and become a soldier, but Bartek, concerned about the future fate of the boy and the humanity, successfully persuaded him not to follow that idea.

The second meeting with Copernicus introduces readers to Nicolaus as a student, who still could not speak Polish well and even had to take private classes to learn it. Although he had an excellent memory, he could be a bit distracted at times. In addition – to the great surprise of the boy from the future – Copernicus took an active part in student feasts, shouting, singing, and drinking alcohol on a par with his friends. However, the apogee of Copernicus' decadent lifestyle took place only at Bartek's "hazing ritual," after which Nicky confessed: "I have never been so drunk."

The next part of the book shows Copernicus as a physician at the castle in Heilsberg (Lidzbark Warmiński) who knows cures for all the world's ailments, except for one called "unhappy love." A servant of Copernicus depicts the doctor's well-being this way: "He is in great distress [...]. His status of a priest stands in the way."

In Frombork, Copernicus was already a serious and almost accomplished scholar. He had a study – observatory in the tower, which he often did not leave for several days, "and his housekeeper Anna, a good soul, cooked food and did not leave him for a moment." Unlike Mira Jaworczakowa, Cezary Leżeński paid a little more attention to Anna Schilling. In his hovel, Anna appears several times. It is known, for example, that she was "very beautiful and with a great figure," "of medium height, with a shapely figure and chestnut hair," moved "with a rare grace and charm that made her proportional figure apparent," and that his face radiated whenever he saw her. Despite the fact that he parted with Anna, a smile appeared on Nicolaus' face one more time when he received the book of his life from Zuzanna (Bartek's girlfriend).

Photo: polona.pl

A boy who reached for the stars

The book *Mikołaj Kopernik: chłopak, który sięgną do gwiazd* [Nicolaus Copernicus: a boy who reached for the stars] by Marcin Przewoźniak, an acclaimed author of children's books, with modern illustrations by Dorota Szoblik (Kraków, Wydawnictwo Zielona Sowa, 2010), shows the famous astronomer in a similar manner. The book has both literary and educational qualities.

Thanks to the varied poetics of the text, the appropriate typography, and the attractive layout, this book can be read "casually," in portions, as there is

Photo polona.pl

no uniform narrative. Small, witty, and humorous statements present a broad historical background (especially that related to customs) and, according to the contemporary state of knowledge, bring answers (attempts to answer) a number of questions probably asked both young and older readers. Here is a handful of examples: What was Copernicus' name? What if he had been born into a poor family? What did little Nicolaus' school timetable look like? Did Copernicus spit under the table? Did Copernicus kiss? Did Copernicus like luxury? What if he had worked faster and published his work 10 years earlier? What did Copernicus use to explore the sky?

An ordinary/extraordinary man

The 20th- and 21st-century literary works about Copernicus for young readers include a biographical novel by Jerzy Broszkiewicz titled *Samotny podróżny* [A lone traveler] (Warsaw, Iskry, 1973), a stage play by Marta Reszczyńska-Stypińska *Mikołaj z Torunia* [Nicolaus of Toruń] (London, Polish Educational Society Abroad, 1973), a stage play by Tadeusz Rostański *Sceny z życia Mikołaja Kopernika* [Scenes from the life of Nicolaus Copernicus] (Toruń, Esperanto Society – FLAMO, 2003), an adventure novel by Sebastian Miernicki *Pan Samochodzik i... listy Mikołaja Kopernika* [Mr. Samochodzik and... letters of Nicolaus Copernicus] *(Olsztyn, Oficyna Wydawnicza "Warmia," 2006), and a book by Katarzyna and Paweł Ziemnicki Droga do gwiazd. Opowieść o Mikołaju Koperniku* [Road to the stars. The story of Nicolaus Copernicus] (illustrated by Ewa Beniak-Haremska, Łódź, Wydawnictwo Literatura, 2019). The latter publication is a collection of short stories that show Copernicus at various points in his life – from his childhood to his death. Thanks to a properly guided narrative, the reader can imagine the day of the birth of the future explorer, for example. "On February nineteenth, 1473, it was cold and windy. Nevertheless, the Old Town Market in Toruń was bustling with activity." Moments later, the narrator describes us one of the townhouses, where "there are excited servants running up and down the stairs, while the fat cook Adela quietly mumbles some kind of prayer and glances apprehensively at the bedroom door of her mistress, Barbara. Finally, when the only hand on the large oblong clock visibly moved, a loud cry of a baby could be heard. It was later recorded in a special chronicle that on that day, at 4:48 in the afternoon, Nicolaus Copernicus was born." Later, we get to know Nicholas in various situations and learn, among other things, that he did not like to waste time, was taciturn, loved Italy, preferred wearing a shirt, a jacket and pants to wearing a cassock, was often thoughtful and stuck his head high, as a physician he was particularly surprised that "no one washes their hands, even though they are the dirtiest." The story ends with a dream from which the astronomer never woke up: "[...] he was invited into his chariot, pulled by shiny-eyed peacocks, by Zeus' beautiful wife, Hera. "I have heard," she said in a deep, sweet voice, "that you are very interested in the Milky Way. How would you like taking a trip with me and taking a closer look at it?"

Fairy tales? Legends? Facts?

Contrary to appearances, literature for young audiences presents various portrayals of the life and work of Nicolaus Copernicus. This is because these works not only present facts from the famous astronomer's biography, but also enrich them with more or less plausible fiction, which stimulates the imagination and inspires the reader to do his or h er own research related to Copernicus.

Dr. Marcin Lutomierski — NCU Press, Children and Youth Culture and Literature Research Unit at the Faculty of Humanities of the NCU

Tomasz Dobrzański

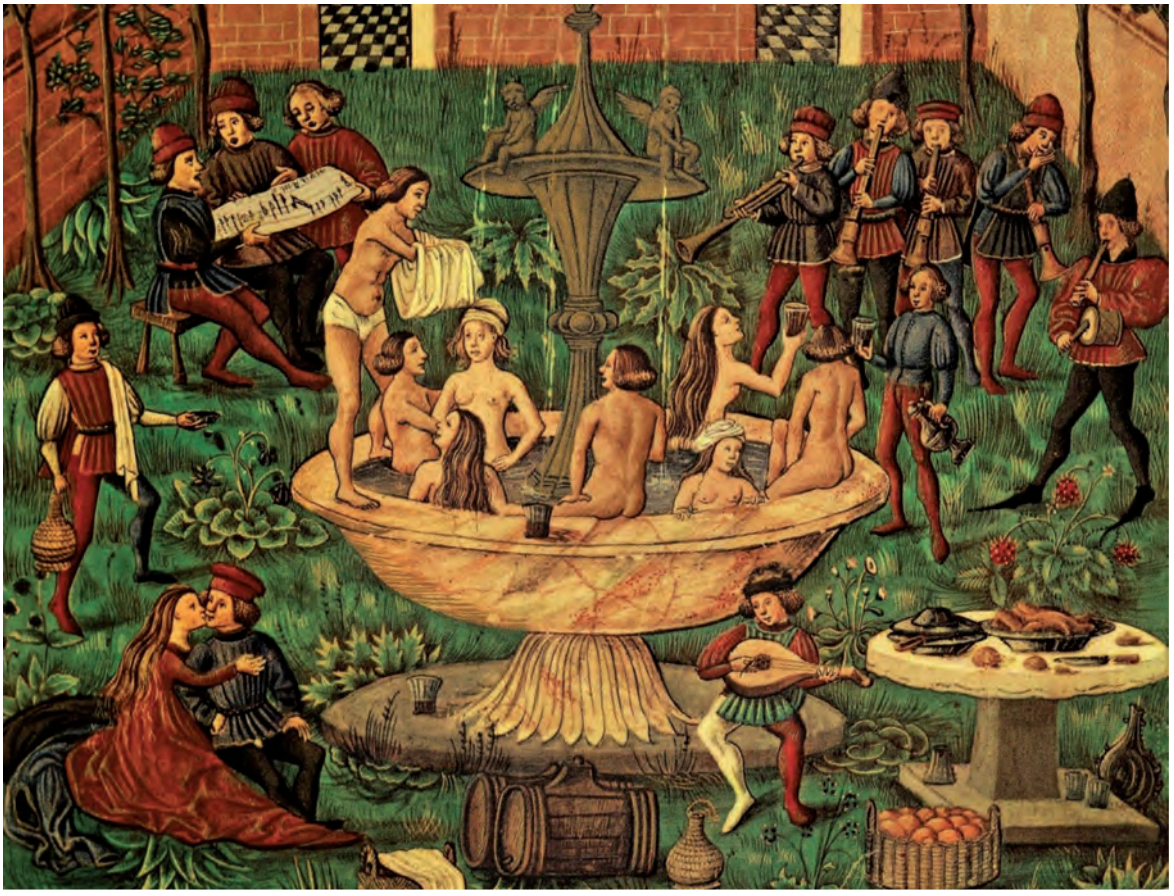
Music in Nicolaus Copernicus' life

The years of Nicolaus Copernicus' life are an extremely interesting period in the history of music. It includes the times of the musical Renaissance, which today we tend to associate mainly with its mature form, which it achieved in the polyphonic music of the 16th century.

However, this was a period of evolution and competition of various musical styles derived from the medieval polyphony. In the course of these transformations, classical harmony began to take shape, the voices of polyphonic works acquired the roles we know today, and the so-called white mensural notation, which, after many simplifications, is still used today, was finally formed. Similarly, significant transformations took place in musical practice, which was facilitated by the development of music printing in Italy.

These changes had consequences in the field of construction of musical instruments. The 16th century needed to expand the families of already existing instruments so that their scales would reach higher, and especially much lower. The wind instruments, which are most suitable to imitate the human voice, were particularly worked on. New instruments were also invented, for example *kummhorn*, called *storta* in Italy. For European musical culture, this was a key period of development.

When tracing the course of Nicolaus Copernicus' life, we can assume that he had the opportunity to hear a wide variety of music, even though his times were far from the musical pluralism of our



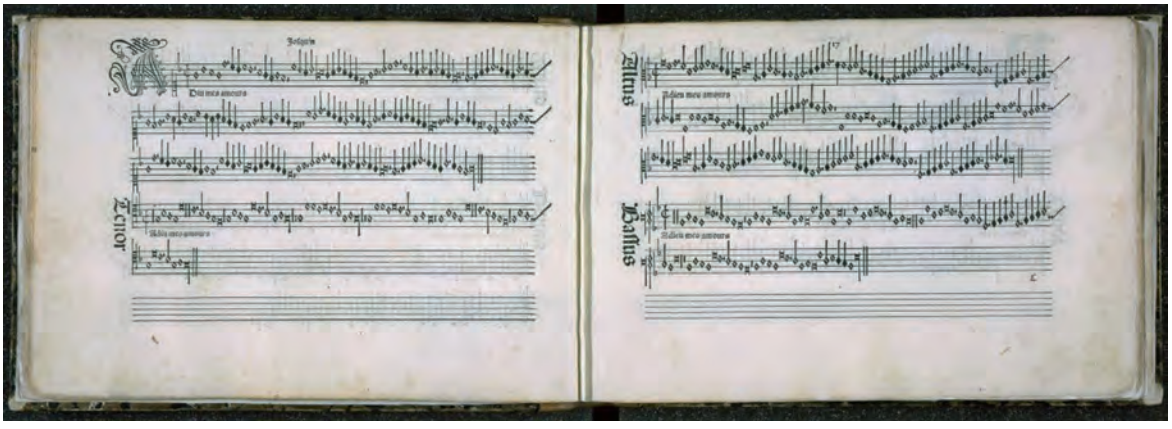
Fragments of a miniature from the *De Sphaera estense* codex from Biblioteca Estense in Modena. An astronomical and astrological compendium, 15th century

time. We must realize that at that time the only musical works that were sung were those composed recently and needed at the time; old music that was no longer fashionable was not played, exoticism and new sounds were not sought in music in order to, as is the case today, attract listeners when there is a need to do so.

This is because in the old times music had a somewhat different role in people's lives than today. Traditional music, still alive in our time and beautiful in its own way and not for every listener, is similar to it. It is not beauty that is its main attribute, but a strong emotional effect and, most importantly, a strong connection to the life of the community that plays it. Centuries ago, music was needed at courts, in churches, and in cities, where it accompanied certain situations. It is a difficult task to perform it nowadays during concerts. It was not entirely designed for such a purpose and its natural place is certain events in the lives of people: various ceremonies, services, communal music playing, or dancing. Therefore, the music that was played on such occasions was most often applied art, and its creators were only occasionally great, admired artists. They created music whose function was primarily to be a medium for a text, be it an important liturgical text or a standard court love poetry. It was the text that was most important, not the accompanying musical sounds. Despite this secondary role, it was a very diverse art in the absence of today's standardization; in each country and in each city it had a special and unique sound. Preference was given to one instrument or another, it was played sometimes in higher and sometimes in lower tones, depending on local tastes and customs. Thus, while residing in Poland and traveling to Italy via Silesia and Bohemia, Copernicus had the opportunity to learn not only about different musical genres and styles, but also about the many musical shades of sound and ways of singing influenced by the traditional musical culture of different places and regions. It existed only in oral tradition and eventually disappeared, and today we know nothing about it.

Although still in the 16th century musical culture was based only on handwritten notes for a very long time, the repertoire spread rapidly throughout Europe. This is evidenced by the numerous versions of the same works found in manuscripts preserved in its various regions of the continent. This is especially true of the repertoire of the Franco-Flemish polyphony, which set the main development direction for European music. Although these best-known works appeared everywhere, certain regions with different musical practices and their own repertoires can be distinguished. Music practiced in Italy and music in Central and Eastern Europe were very different. The former, although it drew a lot from the repertoire of the Dutch avant-garde, was beginning to play the leading role in the European culture, the most important Flemish composers went there and there their works had the richest setting during their performance, while Italian music printing had no competition anywhere.

Central and Eastern Europe, on the other hand, which comprised the territories of Poland, Bohemia, Germany, and Austria, had a different musical climate characterized by great diversity. Different genres and styles of different eras coexisted there,



Cards from Harmonice Musices Odhecaton, Ottaviano Petrucci, Venice 1501, Josquin des Prés — chanson "Adieu mes amours." Typical arrangement of voices of a polyphonic composition on adjacent cards. The skills of the singers included completing the text of the song missing under the notes from memory

as well as numerous echoes of the Middle Ages and new progressive trends. As late as in the 16th century, medieval organ polyphony could still be heard in churches, but sources testify that the works of leading European composers were known and performed. There are few musical sources relevant to Polish musical culture from these areas. However, very extensive 15th-century manuscripts containing modern music – the Wrocław Code and the Głogów Songbook – testify that the level of music-making in these areas was quite high.

A few more words about the musical sources available to us: In addition to iconography and various written sources, these are mainly manuscripts containing sheet music. Perishable paper was used to record polyphonic music, which quickly deteriorated. Usually, the writing was done hastily and not very carefully, because the record was used only for current performances. After some time, the recorded works were no longer paid attention to and were replaced by new ones. Old, damaged manuscripts were cut up and used as scrap paper to glue the covers of new books. Therefore, few complete manuscripts of polyphonic music have survived to our time, and many important sources are only in the form of excerpts extracted from the covers of later books, so our knowledge is fragmentary. This situation was dramatically changed by the spread of music printing.

Musical life in 15th-century Cracow

The first important musical center that Nicolaus Copernicus visited and where he stayed for an extended period of time was Cracow, from where the only extensive Polish sources of 15th century music known to us come. These sources include two manuscripts: III 8054 of the National Library (known as Kras 52) and II Lat I 378, lost during World War and partially preserved as a microfilm copy. These manuscripts contain elaborate compositions, which attest to the high level of domestic musical composition and performance.

The recorded works include, in particular, parts intended for the mass, works in the form of ballads, and songs. Of note is the great stylistic diversity, undoubtedly characteristic of the 15th-century Central Europe. It is dominated by the three-voice Burgundian polyphony and *ars subtilior*, represented by its most prominent representatives: Johannes Ciconia, Nicola Zacharias, and other world-famous Italian and French composers. What is important for

Alta cappella — an ensemble of loud wind instruments, the typical composition of a 3-voice ensemble is supplemented by a fourth substitute musician. A one-hand pipe and a drum

the history of Polish music is the repertoire signed with the names of Polish composers: Mikołaj of Radom and Mikołaj of Ostroróg. Unfortunately, we lack more precise information about them.

Both manuscripts are associated with the musical life of Wawel Cathedral, the royal court and chapel of the period around the middle of the 15th century. These traditions of high musical culture certainly continued in the last decade of the 15th century, when Nicolaus Copernicus studied in Cracow, although the repertoire contained in these monumental manuscripts had already gone out of fashion by then.

Music in university and clerical communities

The period of Nicolaus Copernicus' studies undoubtedly abounded in various community contacts related to social life, which did not lack musical entertainment. The university and clerical communities had their own particular repertoire. It was the music-making of educated people who spoke Latin on a daily basis. The emblematic creator of that musical entertainment is Piotr of Grudziądz, also a student at the University of Cracow, the author of a repertoire that is pious, while not shying away from intellectual fun. The composer's numerous travels and contacts with various communities have made him an international artist. Its works are preserved in scattered, sometimes very fragmentary sources, but their number testifies to his great popularity, lasting even into the early 17th century. Piotr of Grudziądz

Social music-making using a musical scroll called a rotulus

was also, or perhaps primarily, a poet. He signed his works with the distinctive acrostic Petrvs. With an excellent knowledge of Latin, he created multi-text motets in the medieval style, which often feature playful wordplays, although their content is almost invariably pious. Piotr of Grudziądz modeled his works on the conservative musical style practiced in Central and Eastern Europe. Its characteristic forms are *cantiones* – simple stanza songs and *rotula* – circular canons. The latter could be sung over a glass of good wine essentially indefinitely, accompanied by quiet instruments, such as a lute, a harp, or a gittern – a stringed instrument derived from the Slavic bagpipe, as well as a small portative organ, which was played with one hand while the other operated the bellows. Although the composer was unfamiliar with the style of progressive polyphonic works based on the *fauxbourdon*, it was this strong conservatism and simplicity that brought him extraordinary popularity.

Music in the church

Participation in the life of the Church undoubtedly means constant contact with the liturgy and participation in the singing of the choral repertoire. This is certainly true also of Nicolaus Copernicus, who as a young seminarian was required to do it. Music played in church on a daily basis was monophonic, sung from large liturgical books, in a larger group of singers, also often from memory. However, on particularly important occasions, polyphonic music appeared in the liturgy, and then singers with professional skills were needed. They used music codes, which were laid on the panel so that several people could see the notes, and the proper arrangement of the voices of the composition on the sheets made it possible to perform the piece without turning the sheets over. Singing was generally unaccompanied by instruments, but as early as in the 15th century, organs were commonly used in church, although in a slightly different way than today. Playing the organ involved playing a liturgical choral melody with the left hand and improvising a decoration made up of small, fast notes with the right hand. Manuals of this way of playing, called *fundamenta organisandi*, have been preserved. The arrangements of secular songs found in them prove that such songs could also be played illegally by an organist. During the liturgy, the so-called *alternatim* was used – the singers would perform one verse of the song, while the organ would perform another, and they would alternate in that manner. In the 16th century, musical practice gradually introduced wind instruments into church music, which could lead individual voices of a composition similarly to human voices, replace missing singers, or amplify poorly cast voices. This role was played brilliantly by trombones and *cornetti*, instruments that have finger holes while the mouthpiece is similar to a trumpet. Copernicus must have encountered the practice of supporting the church band with instruments during his stays in Italy, for example at the Basilica of San Petronio in Bologna, which was famous for its great musical traditions.

For the music of the 15th and early 16th centuries, the fundamental principle of classification of musical instruments was the division into loud and quiet. This resulted from a practical approach to music. Loud instruments – trumpets, shawms, and drums – were used in the open air or possibly in ballrooms. Quiet instruments, on the other hand – all string instruments and flutes, some quiet reed instruments, and the aforementioned portative organs were intended to be played in chambers and to work with the human voice. In these chambers, the lute reigned supreme as an inseparable companion during evenings with wine in front of a fireplace. Like the piano in the 19th century, at that time the flute was present in every home. It was eagerly used to accompany singing, but it was primarily an instrument that, right after the organ, received its own solo repertoire before other instruments.

Musical sounds of the city

In the final period of the Middle Ages, cities became an increasingly strong competitor of the Church and aristocratic courts, as reflected in the growing quantity and quality of urban music. The wealthy burghers desired similar splendor as the aristocrats and commissioned great works and hired musicians for important events. The trend was so strong that in many cities in Europe, laws were adopted to prevent luxury and, for example, limit the length of wedding ceremonies and the number of musicians allowed to be hired. Cities had professional musicians grouped together in guilds, similar to other craftsmen. These musicians played all kinds of instruments, but especially loud wind instruments. In the 15th century, the common composition of a wind instrument ensemble took shape. It consisted of 3 instruments: 2 shawms (the ancestor of today's oboe) and a brass instrument that appeared in varied forms: a very loud slide trumpet, which was an early form of the trombone. Today's musicologists call such a composition *alta cappella*, which is derived from the word *altus* meaning high or loud. In iconographic representations, we can sometimes see four musicians, but in such a case one of them is not playing. He is ready to take the place of a tired colleague, because playing loudly requires a lot of physical effort.

The loud music played by *alta cappella* ensembles was inextricably linked to ceremonies, and thus to shows, including theatrical ones. In the 15th and 16th centuries, processions were eagerly organized in cities, with members of all social strata participating. In the numerous depictions of processions contained in miniature manuscripts, we see very different instruments selected according to their symbolic connotations. A privileged place was, of course, given to loud music that emphasized the splendor of the event and was most suitable for playing outdoors, often to the sound of bells.

The arrival of the king in a city involved celebrations that were full of splendor and included festive liturgy and general festivities. The splendor of the festivities required an expensive decoration of the city and a musical setting with an obvious preference for loud music. A similar setting was required for feasts, which were a kind of synthesis of the arts. Various traveling actors, poets, and acrobats performed during feasts. However, musicians were usually specialized servants – they played for dancing and performed vocal and instrumental music. Feasts had their own proper ritual, in which the place of music was also strictly defined. Naturally, the noise of a feast led to a preference for ensembles playing loud music, in which trumpeters playing fanfares heralding the ceremonial processions with dishes played an important role. Besides trumpeters, this role was often played by a wind instruments ensemble, which later also played for dancing. There are a lot of surviving depictions of feasts that inevitably involve the participation of *alta cappella* musicians who often placed on elevated platforms.

The life of the street, the marketplace, and in Italy the square in front of the signoria was impossible without buskers, whose skills included not only playing music, but also acrobatics, magic, and perhaps the distribution of various kinds of "dietary supplements" of the time. In the absence of any musical records, we cannot determine today what these buskers played, and perhaps some of their melodies made their way into the realm of written culture and became the basis for the creation of "scholarly" musical works. Arguably, street music resembled the casual background music, which today's popular music is. In order to break through the street noise, the instrument used by the buskers had to produce sound of adequate volume. Bagpipes, an instrument that combines melody and accompaniment, were excellent for this purpose. Certainly, the more common choice was a one-hand pipe and a drum – a set operated by a single musician. By the way, for economic and organizational reasons, it was a very popular instrument at the time, including at courts. Commonly present in old European musical culture and in some traditional cultures today, the combination of a one-hand pipe with a percussion instrument operated with the other hand requires mastery of the difficult art of playing. Such a one-man orchestra was naturally once an extremely practical solution, providing both rhythm and melody when one wanted to dance. Today it is difficult to hear such a player – the problem is the combination in the person of one musician of such different concepts of instrumental playing: a percussion and a melodic wind instrument.

Italy – the turn of the century

Villanelle, frottole, barzellette. These musical genres, based on rather simple forms, had their origins in traditional musical culture and the way they were sung must have made a big impression on the newcomer from the north. Among the well-known composers of these works in that period were Bar-

tolomeo Tromboncino and Marchetto Cara. To reach higher, Italian music of the early 16th century readily assimilated the patterns of Franco-Flemish polyphony, whose monumental source is the Harmonice Musices Odhecaton, a comprehensive anthology published in 1501 by Ottavian Petrucci in Venice, long considered the first-ever musical print. It exhibits extraordinary beauty and is made with the utmost care, unseen in later periods. By assimilating this artful music of the Flemish and the French, the Italians would soon create the madrigal and, on its basis, as well as on the basis of other musical genres, they would become the leading nation in Europe in the domain of music. Italy, however, had other musical specialties of its own, which Nicolaus Copernicus certainly encountered during his studies in Bologna, Padua, or perhaps while in Rome.

One was singer-storytellers accompanying themselves on the *da braccio* lyre, a string instrument held on the shoulder. In addition to strings shortened with fingers on which a melody could be played, these instruments had strings running next to the neck making the same sound all the time, constituting a drone accompaniment. Like the one-hand pipe and the drum, this instrument was used for one-man performances. The singer-storytellers often gathered around them a large audience, which listened to the performance much like at today's concerts.

The sphere of popular musical culture included, very widespread in Italy during the Renaissance, meetings of prayer confraternities, whose members were called *laudesi* from the word *lauda*, generally meaning a religious song, a musical genre that could have various forms, the most common of which was a stanza song with a chorus suitable for communal singing. The repertoire of the confraternities was initially monophonic and by the early 16th century it was already definitely polyphonic, but the songs were always simple, so that the members of the confraternity could easily master them by memory. *Laudesi* confraternities had a very effective organization and funds in Italy. They hired instrumentalists to accompany the singing and even published their songs in print. The music of *laudesi* also influenced the European musical repertoire, as lauda works are also found in manuscripts in Poland. *Laudesi* confraternities also contributed to the development of the theater, since in addition to singing *laude* during their gatherings, they organized performances called *laude drammatiche* or *sacre rappresentazioni* with extensive participation of singing and musical instruments. The themes of these performances were stories from the lives of the saints, and the Passions were played each year everywhere, as they still are today.

While in Italy, Nicolaus Copernicus may also have listened to and seen other musical and theatrical events, which were both secular and religious theatrical performances organized in various communities, where music was customarily present. The most associated with music were the *intermedia* court performances organized by the ruling dukes or their signorias in Italian cities (particularly famous are the Florentine intermedia), and their origins date back to the late 15th century. Extensive and detailed accounts of many of these events have often survived, including what voices sang and what instruments were played. The choice of these are sometimes surprising to us today, as they were probably guided by the availability of personnel and instruments; after all, at that time, composers did not define these for their works and left the decisions to be made by the performers.

Nicolaus Copernicus' travels were certainly very rich in musical experiences, especially due to the great regional diversity in music. A great role in music-making was played by local possibilities and a custom that was not recorded and could not be recorded in writing. One piece of music, and there were some that were known everywhere, could sound completely different in different cities. Compared to our time, the experience and perception of music was different because it had a deep connection to life. They were not so shallowed by the repeated repetition of the same, often identical recordings, similar performances always with the same instruments, always tuned in the same way, and in similar concert hall conditions, which is typical of modern music.

Tomasz Dobrzański — artistic director of the early music ensemble Ars Cantus from Wroclaw

The author reveals some new findings concerning the initial period of Nicolaus Copernicus's life in Toruń

KRZYSZTOF MIKULSKI

Nicolaus Copernicus

Social milieu, background, and youth

CZYTAJ WIĘCEJ

HISTORIA NOWOŻYTNA

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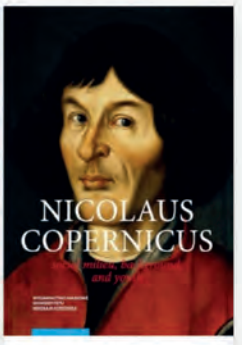
MARIAN CHACHAJ

Mikołaj Kopernik. Czasy studenckie. Kraków, Bolonia, Rzym, Padwa i Ferrara (1491–1503). Miejsca – ludzie – książki



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