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**FROM THE HISTORY OF SCIENCE IN ANCIENT GDANSK**

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**SCIENTISTS IN OLD GDANSK:  
PREHISTORY AND 16<sup>th</sup> CENTURY**

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### 1. Prehistory

It is difficult today to decide upon the initial date in the history of Gdansk science. In 1227 in the court of Świętopełk Wielki (the Great) we meet masters Gervinus, Evrardus, and Johannes, yet they are schoolteachers. Master Johannes was additionally called a physicist, which meant a doctor in those times. There were also other learned people at the court of the prince: notaries, court experts, clerks and scribes, mostly from among clergymen. Also in the 14<sup>th</sup> century information in this field is scarce. In 1357 the first student from Gdansk is mentioned, and in the years 1454–1525 in Cracow alone there were 189 students from Gdansk. Gdansk itself did not have a university, although the Gymnasium, which worked here since 1580, was of a semi-academic character. Great role in propagating knowledge played printing houses, which worked continually since 1538, and libraries, together with the City Council Library founded in 1596.

Conrad Bitschin, the city scribe in Gdansk and Chełmno (around 1422–1430) can be considered the first outstanding person (before 1400 and after 1464) in the science of old Gdansk. An early humanist, an outstanding lawyer, probably educated in Paris, in his *Labyrinth of Married Life* (1432) he tried to present the general picture of knowledge in those times. The most precious part in it is the unit on pedagogic, containing quite modern views.

Gdansk was also the birthplace of another well-known humanist – Johannes Dantiscus (1485–1548), the secretary of king Sigismund the Old, a distinguished diplomat, poet, philosopher and traveler, the parish-priest of St. Mary's church, and since 1537 the bishop of the Varmia region. In his poem dedicated to Nicholas Copernicus he encouraged the youth longing for knowledge to educate in these sciences that teach the measurements and the secrets of the sky. He was not, however, a scientist in the present meaning of this word.

It is also worth to mention the bishop of Varmia and Chełmno – Tiedemann Giese (1480–1550), also coming from Gdansk, the correspondent of Erasmus of Rotterdam





Figure 3. Clüver's inscription for Jerzy Dousa

the advocate of Reformation. His treaties comprise over 500 pages of print. Among other important texts there is the first in the world history of chemistry. Equally valuable is the dissertation *About the Secrets of Antimony* (1570). This scientist was also a poet. One of his poems was devoted to the legendary princess Vanda.

The harbor character of Gdansk and the great number of ships from other countries were the conducive factors in the wider and earlier than on other territories interest in geography. Its representative was Philip Clüver (1580–1622), the son of a merchant from Chlebnicka Street. Already as a boy he studied languages, learnt good manners at the king's court in Cracow, and at the emperor's court in Prague. In 1600 he began studies at the Academic Gymnasium, and continued them in Leyden. After his trip round Europe he returned to Leyden, where in 1615 he became a professor and published his works. Among others there are the first in the world historical geography treaties: *Ancient Germania* (1616), *Ancient Sicily* (1619) and *Ancient Italy*, which was published after his death, and the 6-volume *Introduction to General Geography* (1624). For over 100 years they were used as the basic coursebooks at schools and European universities.

In spite of his residing in the Netherlands, Clüver felt strong ties with his fatherland, whose exact description is included in his last work. Another proof of his devotion may be the Polish inscription in the 1574 copy of *House Postilia*, preserved at the Leida University Library: *To the noble and learned Sir Jerzy Dousa from Noortwik, Philip Kliwer.*

Another versatile scientist Bartholomens Keckermann (1572–1609) enjoyed fame equal to that of Clüver. After his studies in Wittenberg, Leipzig, and Heidelberg he received the titles MA of philosophy and the BA of theology. The subject of his treaties was logic. In 1602 he rejected the offer to become the professor at Heidelberg and returned to Gdansk. In 1603, as a professor of the Academic Gymnasium, he helped create the departments of law and history. His lectures in philosophy gathered listeners from all over the country and from abroad. One of his students – Andrzej Rej – wrote that he would congratulate



**Figure 4.** Bartholomens Keckermann's epitaph at St. Trinity Church

himself till the end of his life on studying under Keckermann. At that time the most important works of the scientist were written: *A Short Commentary on Navigation* (the first one in Poland), the successive systems of logic, mathematics, geometry, optics, astronomy, geography, ethics, politics, economy, philosophy, metaphysics, and rhetoric, together with the *Physics Compendium*, which was published after his death. If we add to all this *The System of Theology* published earlier, and the later *Introduction to Reading of Cicerone*, we will come to the conclusion that Keckermann was one of the most versatile scientists in Europe. Looking at the epitaph at St. Trinity church one could read: he was helpful to his country, the gymnasium and the people by his surprising genius, his sharp judgement, his learning, writing, his life and habits.

One of the most eminent professors of the gymnasium was Peter Krüger (1580–1639) from Königsberg. In 1600, when in Prague, he met Tycho de Brahe and Johannes Kepler. As a preceptor of two young noblemen, he came with them to Gdansk to study under Keckermann. He received his MA at Wittenberg. Since 1607 he was a professor of mathematics and poetry at the Academic Gymnasium. He was also the city surveyor and mathematics books' proofreader. He also received from the king the right to print calendars. From among over 20 scientific works by Krüger the most valuable ones are: *The Trigonometry Outline* (1612), in which he formulated the cosines theorem, and *The Logarithmic Trigonometry Practice* with exceptionally exact logarithm tables set for the first time separately for trigonometric functions and for numbers. Among his other work we should mention: *Spherical Trigonometry Handbook* (1635) and *A Booklet for Calculation* (*Rechen-Büchlein*), which was reprinted 4 times in 17 years. This handbook aimed at the



Figure 5. The title page of Peter Krüger's arithmetic handbook

merchants is a proof of his great didactic talent. Of importance are the lists of measurements and weighs used in those times, and the definitions of the basic trade concepts.

Krüger was also interested in Earth magnetism, to which his dissertation *About the Movement of Magnets* was devoted. Thanks to measuring the magnetic declination he became a co-creator of the oldest in the world curve of its secular changes, which was started in Gdansk in 1539 by Joachim Rheticus. In the field of astronomy he was distinguished in observing comets and constructing precious instruments, among others a unique sextant described by Charles Ogier. The synthesis of his views upon astronomy is included in his calendars published in the years 1608–1639. As the surveyor he made numerous maps and plans, some of which have been preserved till our times. As poetry professor he wrote occasional poems, not deprived of talent and good-natured humor.

*Translation: Anna Kucharska-Raczunas*

