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Abstract of the doctoral thesis entitled:
Gnomonics in Poland from the 18th century to the end of the 20th century,
prepared under the supervision of Krzysztof Maślanka
in the L. & A. Birkenmajer Institute for the History of Science
of the Polish Academy of Sciences

In my doctoral dissertation, I take up the subject of didactics of gnomonics in Poland, the creators and so-called “silent craftsmen” of sundials operating in Poland – from the eighteenth century to the latest times.

While the topic of sundials itself has been the subject of many extensive studies, the issue of didactics of gnomonics in Poland, i.e. the non-trivial art of designing sundials, or, as it used to be said, “drawing compasses”, has not been addressed in the literature so far. And yet it used to be a very respectable field, the importance of which has faded over time, but the role it played for centuries cannot be overestimated.

In this work we will present a large group of talented craftsmen or university mechanics who made sundials in their workshops. These were often real masterpieces signed with the emblems of their creators, decorated with original poetic maxims.

The subject of the first chapter is to show that in the eighteenth century gnomonics was in the curricula of: Polish Jesuit schools, the Cracow Academy, departmental and sub-faculty schools during the KEN reforms, Toruń Gymnasium and Collegium Nobilium. I will show that learning to draw sundials was an individual decision of the teachers who taught it as part of mathematics, geometry or astronomy.

The aim of the second chapter is to present the Polish eighteenth-century manufacturers who were successfully producing sundials, and to show that they were in the sphere of interest of the last king of Poland, Stanisław August Poniatowski. We will also show that in the years 1694-1737, the first Polish workshop was established in Malbork by an outstanding constructor of sundials and scientific instruments – Salomon Krigner. He made his gnomonic products for the Polish market, but also exported them to the European market. Another manufacturer discussed here is Ignacy Manuvir from Lithuania, who designed and made several sundials for well-known Lithuanian and Polish noble families. In the following part, I present the personage of the last king of Poland, Stanisław August Poniatowski (1732-1798), who during his reign in the years 1764-1795 took care of creators, artists and scientists, and at the same time created his own royal collection of impressive scientific instruments. In particular, he commissioned many magnificent sundials that decorated his residences.

The third chapter consists of two subchapters entitled: Jagiellonian University and Warsaw University. The material presented in them concerns the didactics of gnomonics in the nineteenth century at both mentioned universities in the period in which once so

powerfull Polish state has been removed from the map of Europe. I list and discuss those scientific centers where gnomonics was taught: Jagiellonian University – Jan Śniadecki, Wincenty Karczewski, Franciszek Sapalski; University of Warsaw – Franciszek Armiński, Kajetan Garbiński, Jan Baranowski, Wojciech Jastrzębowski. In the further part of the chapter, I show that ambitious problems concerning gnomonics were also included in a competition organized in the 19th century by the department of philosophy at the University of Warsaw.

In the fourth chapter, I present the most important works on sundials published in the 19th century in Poland. Among them, there are publications by: Feliks Drzewiński, Daniel Wierzbicki and Tomasz Kowalski.

In the fifth chapter I discuss nineteenth-century remarkable designs of sundials by Jan Baranowski and the Polish compass by Wojciech Jastrzębowski. I mentioned the then manufacturers - craftsmen, Tomasz Taborski, August Sommer, Jakub Pik (honorary Optician of the City of Warsaw) and Izrael Abraham Sztefel.

In the sixth chapter, I show that, despite the removal of gnomonics from the curricula at the end of the 19th century, certain issues, i.e. determination of the local meridian and cardinal directions, as well as the measurement of true solar time, were discussed in geography and cosmography classes. In the further part of this chapter, I present the history of gnomonics after the end of World War II when a new teaching program was introduced..

Chapter seven contains a list of twentieth-century studies on: the history of sundials in Europe and Poland, time measurement; their maintenance, as well as how to design and make modern sundials.

Chapter eight introduces the publications and presents the realizations of sundials by Feliks Przykowski and his son Tadeusz as well as activity of Marek Szymocha (modern enthusiast of sundials). In this chapter I also briefly present history of the Przykowski Museum (Muzeum im. Przykowskich) in Jędrzejów containing the largest collection of gnomonic instruments and sundials in Poland, one of the largest in Europe.