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**Działalność górnicza i geologiczna Józefa Cieszkowskiego w Okręgu Zachodnim
Królestwa Polskiego w pierwszej połowie XIX w.**

**The mining and geological activities of Józef Cieszkowski in the western
district of the Kingdom of Poland in the first half of the 19th century**

SUMMARY

Until the 19th century, there was – with a few exceptions little connection in geology between general concepts and knowledge stemming from the actual practice of mining. Irrespective of the development of various philosophical concepts, observation came to be used on a large scale as a research method. The method was predominantly applied by geologists who worked in mines, and thus were directly concerned with the exploration and identification of mineral deposits.

Among such mine geologists who were active in the 19th century in the Kingdom of Poland, the part of partitioned Poland under Russian sovereignty, was Józef Cieszkowski (1789-1867). After graduating from the Mining Academy in Kielce (where he studied in the years 1817-1820), Cieszkowski first got a job as an assistant engineer at the Olkusz-Siewierz Board of Mining, and then, from 1823, he worked in the calamine mine at Sławków. Later he was sent to gain practical knowledge abroad (1826-1827). The reports of his stay abroad, written in 1834 and 1836, contain descriptions of sites where coal deposits are found (coal basins), but their main focus is on description of mining procedures (the draining of mines, exploitation of deposits and underground transportation in mines).

As time went by, Cieszkowski advanced in the government-run mining industry, to become successively assistant mine superintendent, chief mine superintendent (1834) and head of the mine division of the Western District of the Kingdom of Poland (1841-1861).

Thanks to his practical interests, Cieszkowski played a crucial role in the introduction of new methods of exploiting coal deposits and transporting the output. Identification of the occurrence of particular coal beds made it possible to establish new mines, while the development of a new method of exploiting coal deposits – known, after the region where it originated, as the “Dąbrowa” or “Zagłębie” method – allowed miners to exploit thick coal beds by layers. The method, of which Cieszkowski himself was a precursor in 1848, made it possible to extract coal almost without any losses (no un-extracted parts of the bed were left, with the thickness of the beds reaching up to 25 metres). This led to a reduction in the number of fires, which had occurred in mines very frequently before.

In his dictionary of mining (*Słownik górniczy*), published in 1868, Hieronim Łabęcki presented a number of terms developed by Józef Cieszkowski, such as “overlay”, “inclined drift”, “countershaft”, as well as the term “[mineral] basin”, the definition of which included a description of a geological structure characterized by a synclinal arrangement of sedimentary rock strata. The introduction of the definition into mining terminology proceeded in a gradual way, starting from 1840. The term “basin” was first used in the title of a published map in the “Geognostic map of the coal basin of the Kingdom of Poland” drafted by Jan Marian Hempel (1856).

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