

**Eva Novotná, *Jan Felkl & syn: továrna na glóby / Jan Felkl & son: a globe-making factory***

Lucie Lukavská (transl.). Univerzita Karlova, Přírodovědecká fakulta, Geografická sekce/Charles University, Faculty of Science, Geographical Section, Prague, 2017. 183 pp. ISBN 9788074440533 (pb), €12.00.

Eva Novotná's monograph, *A Globe making factory*, celebrates the history of Jan Felkl & Son (1854 to 1952), the Czech manufacturer of terrestrial and celestial globes and other geographical teaching aids.

Jan Felkl, its founder, was born in 1817 into a family of farmers in Banín, Bohemia. In 2017, to commemorate his birth, 200 years earlier, and honour the historical significance of the company, the Faculty of Science at Charles University commissioned this monograph and, along with the Central Bohemian Museum, in Roztoky, held an exhibition of Jan Felkl & Son products in Prague.

Like so many other private enterprises in Czechoslovakia, Jan Felkl & Son wound down its operations in the early 1950s after the repressive Stalinist regime came to power in 1948. Today, a carpark occupies the place of the Roztoky globe-making factory that was demolished in 1970. Before embarking on his globe-making enterprise in 1854, Felkl served in the Austro-Hungarian army as an artilleryman. It is assumed he was first introduced to the craft of globe-making while stationed in Mainz, Austria. There, Felkl worked under an army officer whose pastime was making globes. The craft itself had obviously made some impression on Felkl. Whatever his interests in globes then, took an unexpected turn when he relocated to Prague and found employment as a clerk in a newspaper distribution company. Working as a clerk, he befriended Vaclav Merklas, who happened to be a renowned copper printer and cartographer, conversant with the craft of globe making. In 1848, 100 years before Stalin took control of Czechoslovakia, Merklas created the first Czech terrestrial globe and began manufacturing it along with his other educational products. Felkl was instrumental in financially supporting Merklas' business venture, though it's not clear what other role if any he played at this stage. Nevertheless, Merklas closed the workshop a few years later because the business was not making a profit. Instead, he took up a more secure position as a secondary school teacher in 1851 and, as reimbursement for Felkl's support, left him his workshop equipment and the rights to his globe designs.

Thanks to his business flair and acumen, Felkl became the largest globe making manufacturer in the Austro-Hungarian empire. In its time, the company had two extraordinary periods of growth, first under Jan Felkl, who died in 1887, and later under his eldest son, Ferdinand Felkl, who managed the company from 1894 to his death in 1925. Its success can be attributed to Jan's and Ferdinand's willingness to experiment with product design. The monograph documents in detail

the course these experiments took over the history of the company, considering such things as the changes in sizes of their terrestrial globe range over the years – the largest being 47 cm in diameter and smallest just 4 cm – to the different designs, ranging from basic models with simple stands, to more luxurious ones that came with brass meridians, hour dials, or compasses on pedestals. The globes themselves were made from gypsum, the traditional material. Felkl had originally started out manufacturing Czech and German-language globes. When the company expanded in the 1860's, he was turning out globes in 7 different languages. By the time Felkl died in 1887, the company was manufacturing globes in 17 languages. Always looking to innovate, in the late 1850s Felkl had also begun to diversify his product range from terrestrial globes to celestial globes and other teaching aids or devices. This monograph offers a comprehensive timeline of all the company's products, with details about Jan's Felkl's black slate induction globes, orrery and tellurian devices, as well as Ferdinand's sololunarium devices and unique globe designs that could be unfolded and hung from classroom blackboards. Notably, when Jan Felkl moved the workshop in 1870, 13 km north from Prague to the Roztoky nad Vltavou municipality, the business was given a significant boost, cementing its spot in the education market, when the Ministry of Education of Austria-Hungary recommended Felkl's products as essential teaching aids. In the 1870s, Felkl had around 20 employees, producing up to 15,000 globes a year. Much of Jan Felkl & Son's success was also owing to its collaboration with geographers, astronomers, and linguists across Europe, leading to many awards at industrial and cultural exhibitions, even as far away as Melbourne, Australia. Aside from a complete bibliography of the products made by Jan Felkl & Son, the monograph provides detailed information about all the people who were involved in the translation and design of its products.

In one respect, this monograph is also homage to the tireless work of Ludvik Mucha, a Czech geographer, who had devoted much time, since the 1950s, to researching the globes and teaching aids of Jan Felkl & Son. Thanks to recently acquired sources from archives and collections in the Czech Republic and abroad, the monograph has been able to update and enhance his research, clarifying such things as timelines and historic records regarding languages or other ambiguous matters relating to Felkl's globes.

The monograph is a substantial overview of the history of Jan Felkl & Son, yet it does not try to be academic, making it accessible to a larger audience. It is A4 in size, 184 pages long, and bilingual in Czech and English. I ought to note, there are some minor problems with the monograph's presentation, such that the contents page is placed at the end of the book rather than at the beginning, and there are couple of sentences missing in the English introduction on pages 5-6. While not all sections of the monograph will meet everyone's taste, for instance, where it is caught up in details, it offers the reader a visual feast. It has over 150 coloured pictures of products manufactured by Jan Felkl & Son as well as numerous photographs of the historic period the company was in existence. There are also images throughout of other important artefacts including instruments that were used for globe manufacturing, manuals for teaching aids, diplomas from exhibitions and various company correspondences.

The monograph is structured in three parts. The first section consists of an introduction and 18 short chapters which detail accounts about the Felkl family, the factory, its collaborators,

exhibitions, and collections. The middle section offers an in-depth overview of Felkl's products. It discusses more than 30 devices manufactured between 1855-1947 which were selected from the Map Collection of the Faculty of Science of Charles University in Prague and from other international collections. For Australian and New Zealander readers, the globes in this middle section show the progressive discovery of our southern neighbour, Antarctica. Australasians will also find it interesting that their settler histories under European colonialism are covered by the period Felkl made terrestrial globes. The third section of the monograph presents five up-to-date spreadsheet databases of preserved collections of Felkl's globes held in the Czech Republic, Austria, Poland, Hungary and Germany – listing all the authors/translators of the globes, globe dimensions, the years of publication and the different languages, collection locations, and inventory numbers. This will be a handy and indispensable resource for anyone interested in researching Felkl's globes or the history of globes generally.

*A Globe making factory* does a great job in introducing this once well-known manufacturer. One finds in its historical account of the company implicit themes of modernisation, discovery, globalisation, empire and European colonialism, which arise naturally from the subject itself. It might be especially welcomed by geographers and historians of science as well by globe collectors and globe enthusiasts. While the monograph does not provide a broader context of globe-making beyond Jan Felkl & Son, it is an essential resource for anyone interested in the history of one of Czechoslovakia's once flourishing industries.

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