

*Carl Christian Bruhns – Ein bedeutender Naturwissenschaftler in der zweiten Hälfte des 19. Jahrhunderts.*

*Christian Hänsel (Ed.), with contributions by G. Münzel, H.-J. Ilgauds and M. Börngen*

*Abhandlungen der Sächsischen Akademie der Wissenschaften zu Leipzig, Mathematisch-Naturwissenschaftliche Klasse, Band 64, Heft 2.*

*Verlag der Sächsischen Akademie der Wissenschaften zu Leipzig, in Kommission bei S. Hirzel, Stuttgart-Leipzig, Main, 99 p., 51 b&w figures, 2006, ISBN 3-7776-1446-7. 44.00 EUR (D)*

The biography of the former member of the Saxonian Academy of Sciences, Carl Christian Bruhns, and appropriately published in their Transactions, originated from a series of lectures given some years ago. Gisela Münzel and Hans-Joachim Ilgauds, who have already written an authoritative history of Leipzig observatories, joined geophysicist Michael Börngen to describe various aspects of Bruhns' life and activities in different scientific fields.

For the astronomical reader, Gisela Münzel's contribution is certainly the most rewarding one, and it covers almost the complete first half of the book. She not only describes Bruhns' astronomical career, but also supplies many details of his life. Having passed something equivalent to a junior high school, his father urged him to become apprentice in his own field, that of a locksmith.

C.C. Bruhns became a mechanic in several companies in Berlin, and started also part-time work as a computer at Berlin Observatory in 1851. He soon was "discovered" by its director Johann Franz Encke, and became second assistant in mid-1852, first assistant in 1854 and observer in 1855. In mid-1856 he received his PhD on the topic of minor planets. A prize assignment on astronomical refraction developed into his habilitation thesis of 1859.

When in 1857 the observer Heinrich d'Arrest left Leipzig Observatory, there were plans to replace him by an astronomer who would later also take over the post of the aging August Ferdinand Möbius. There were already plans to move the old Observatory on the tower of Pleissenburg castle to another location, when Bruhns was appointed observer and professor in April 1860. In Summer, construction of the new Observatory at Johannistal started, and it was inaugurated in late 1861.

Münzel faithfully traces his work, his assistants and colleagues – Engelmann, Weinek, Zöllner, and many more –, his activities in the founding of the Astronomische Gesellschaft, his work as a commissar of the "Mitteleuropäische Gradmessung" (now the International Association of Geodesy), a member of the committee of the International Meteorological Congress, his participation in the planning of the German expeditions to observe the solar eclipse of 1868, and the

Venus transits of 1874 and 1882. Besides his teaching at Leipzig University, he served in various functions of the university administration, and was an active member of many organisations in Leipzig, like the association of geography, the african society, the supervisory board of the museum of ethnology, and, last not least, several learned societies. When he died from a heart disease at the early age of 51, certainly also caused by overwork, he left behind a wife and six children, aged between 17 and 3 years.

Besides describing Bruhns' scientific life, Münzel has studied parish registers, and has contacted descendants to find out details about his family life and the fate of his children.

Ilgauds focuses on Bruhns as a mathematician and historian of science. Bruhns could not cope with the fame of his predecessor Möbius as a mathematician, but he was undoubtedly a practitioner. He edited a logarithmic table with 7 decimal places, which first appeared in 1870, and went through 17 editions in Germany; the last (18th) English edition appeared in 1951, the last Italian one in 1841 – and, we might add, a Chinese edition appeared in Shanghai in 1956. Ilgauds then briefly outlines Bruhns' historical studies: the book on the life of his Berlin teacher Encke (1869), and the three-volume biography of Alexander von Humboldt (1872), with contributions by 10 other scientists (Bruhns himself wrote about Humboldt's studies in mathematics, astronomy and geography). An edition of the Gauss-Humboldt correspondence (1877), planned as part of a major project, did not even meet the standards of his time. In addition, Bruhns wrote about 60 articles for the *Allgemeine Deutsche Biographie* (1875–1912), a 56-volume project to collect biographies of famous persons of public life in German-speaking countries.

The final contribution by Michael Börngen, on Bruhns' promotion of meteorology, describes his activities in the organisation of meteorological stations in Saxony, and also the production of the first attempts at weather forecasts. The author puts these details in a wider context, and describes the internationalisation of meteorology (and its importance for navigation as well as agriculture), and lists the conferences that were held in various places during Bruhns' lifetime. It is seen that also in many of these, Bruhns not only participated, but often accepted important responsibilities.

The book is well produced, contains 51 photos and graphs, and a chronology and index of persons. It does not contain a bibliography of Bruhns' writings, but only a list of references to consult. Due to Bruhns' writing activities in many fields for scientific and popular journals and newspapers, such a bibliographic work can only be done in the framework of a dedicated thesis work. Nevertheless, the authors have succeeded in illuminating the life of an active scientist in the early days of internationalisation of science, in astronomy, geography, geodesy and meteorology. The book is warmly recommended to libraries and serious students in the history of astronomy and related sciences.

Hilmar W. Duerbeck

Astronomy Group, Vrije Universiteit Brussel, Pleinlaan 2, B-1050 Brussel

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