Book Review

Cornelie Leopold: *Geometrische Grundlagen der Architekturdarstellung. Mit 3D-Modellen und Animationen zur räumlichen Vorstellung.*
6. Auflage, Springer Vieweg, Wiesbaden 2019, 312 p., ISBN 978-3-658-26394-2, ISBN 978-3-658-26395-93 (eBook).

After 20 years, the 6th edition of this book has now been published. This already shows the success of this work, which has developed during these years into a classic in German-speaking countries. The author has many years of experience in teaching Descriptive Geometry and Perspective to students of the Faculty of Architecture at the Technical University of Kaiserslautern. In addition to the main target group, namely students of architecture, the book also addresses students of urban and spatial planning and civil engineers.

The author deals in twelve chapters with all important aspects of Descriptive Geometry, which belong to a well-founded geometric education of architects. These include the important standard projection methods, basic geometric constructions in three-space, the treatment of polyhedra and curved surfaces and solids, their intersection, the unrolling of developable surfaces, light and shadow constructions, and the topographic projection. The mentioned chapters are an important basis for the further investigation of advanced geometric topics.

Important and new in this edition of the book is the provision of interactive 3D models and computer animations of geometric concepts. Many of the examples presented in the book can be viewed as 3D models and moved interactively on the Sketchfab internet platform. The digital models can be viewed and used platform-independently in the computer browser, on smartphones, or tablets during the book study.

Experience shows that many first-year students without a geometric background have great difficulties with spatial concepts and spatial geometric tasks. The ability to rotate objects interactively and to view them from different angles, is ideal for helping students to understand spatial situations better and to work on spatial tasks.

Studying and understanding the contents of Leopold's book is part of a sound geometric education for every prospective architect. In addition, the book also provides a solid basis for editing and solving more complex geometric problems, which we face today in professional CAD programs.

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