

## Underground Mathematics

Thomas Morel tells the story of subterranean geometry, a forgotten discipline that developed in the silver mines of the Holy Roman Empire. Mining and metallurgy were of great significance to the rulers of early modern Europe, required for the silver bullion that fuelled warfare and numerous other uses. Through seven lively case studies, he illustrates how geometry was used in metal mines by practitioners using esoteric manuscripts. He describes how an original culture of accuracy and measurement paved the way for technical and scientific innovations, and fruitfully brought together the world of artisans, scholars, and courts. Based on a variety of original manuscripts, maps and archive material, Morel recounts how knowledge was crafted and circulated among practitioners in the Holy Roman Empire and beyond. Specific chapters deal with the material culture of surveying, map-making, expertise, and the political uses of quantification. By carefully reconstructing the religious, economic, and cultural context of mining cities, *Underground Mathematics* contextualizes the rise of numbered information, practical mathematics, and quantification in the early modern period.

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# Underground Mathematics

*Craft Culture and Knowledge Production  
in Early Modern Europe*

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Thomas Morel

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*For my parents*

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