

Reviews

The polyhedrists: art and geometry in the long sixteenth century by Noam Andrews, pp. 300, \$44.95, ISBN 978-0-26204-664-0, MIT Press (2022)

The blurb on the inside cover describes this as ‘a history of geometry in sixteenth-century Europe, told through detailed analysis of a rich panoply of ground-breaking work by Luca Pacioli, Albrecht Dürer, Wenzel Jamnitzer, Lorentz Stöer, and others’. To this end, the book begins by describing ‘the practical utility of the Platonic solids for learning perspectival measurement’, and ‘argues for the primacy of a geometric model as explicit artistic subject’. It is ‘not just an applied history of geometry, nor a particular geometric reading of art’, since ‘it opens a new vista into the hitherto unexplored wilds of art and science’.

It is, indeed, a handsomely produced paperback, with dozens of remarkable illustrations in both colour and monochrome. These include a splendid inlaid cabinet from Nuremberg which opens to reveal compartments decorated with polyhedra, the celebrated portrait of Luca Pacioli with a glass rhombicuboctahedron (half full of water) hanging in the chiaroscuro and, as an unexpected bonus, a fold-out polyhedral model of the universe inspired by Johannes Kepler. It is also a remarkable work of scholarship, with some fifty pages at the end devoted to footnotes, a meticulous bibliography and an index.

Clearly polyhedra (and not just the Euclidean and Archimedean solids, but many whimsical variations) are a central theme of the narrative, but don't expect to see very much mathematics here—not a whiff of a Schläfli symbol. There is, however, a chapter devoted to Dürer and his approach to polyhedral nets, which facilitated the construction of models and signalled a change in focus from three-dimensional solid object to the two-dimensional surface. Another focusses on the use of *Lehrbücher* to foster an artisanal understanding of polyhedra rather than the academic treatment favoured by universities which was based on Euclid.

The only trouble with this book is that it is, in places, virtually unreadable. This isn't just a matter of the author's penchant for offering Latin or German variants (such as *dryänglich corpus* for pyramid), since it is easy enough just to skip over these parentheses. But what are we meant to make of this description, on p. 171, of a marquetry panel?

Tracing the contours of this city, under porticos, up the stairs and in and out of the jet-black space beyond, gives the impression that the city is as tenuous as it is ever-expanding, floating in nothingness, a utopian purveyor in information—both a place devoid of imperfections (an *eutopos*) illustrating perspectival principles and an abstract site (an *outopos*) existing nowhere.

There is really quite a lot of this and I found myself having to read several passages many times before I could even master the syntax. This is all very well for late Henry James but I do not think that this affectation is the best way to convey insights. Modulo this (as mathematicians might say) there is plenty to enjoy in this account of an intriguing byway in the history of art and design.

10.1017/mag.2024.43 © The Authors, 2024

Published by Cambridge University Press

on behalf of The Mathematical Association

GERRY LEVERSHA

15 Maunder Road, Hanwell,

London W7 3PN

e-mail: g.leversha@btinternet.com