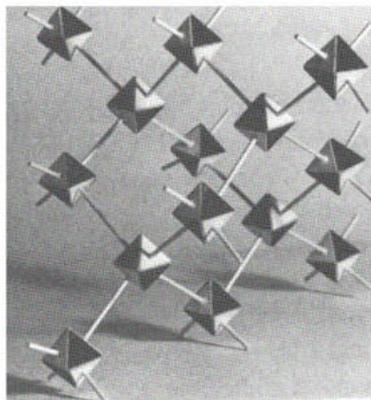


Preface. Space provides no three-dimensional blackboard. We learn about space only by living in it. A child climbing in his jungle-gym may learn more about it than he will ever learn again, for his books will be made of two-dimensional sheets of paper.

Plato gave stature to the visualization of space by honoring **stereometry** as one of the four primary branches of his mathematics, cognate with arithmetic, geometry, and astronomy. Men of learning in ancient Greece took especial concern for “the putting together of the cosmic figures,” their regular polyhedra, whose mathematical elegance and beauty inspire inevitable wonder. Today the heritage of that wonder comprises still more mathematical solids, discovered through centuries of thoughtful looking. They receive practical application by engineers and builders, idealized embodiment by chemists and crystallographers, imaginative extension by architects and sculptors.

The best way to learn about these objects is to make them, next best to handle them. Printed pictures are poor substitutes for moving pictures but better than words alone. This book can offer only pictures and a few words to connect them. It closes with its most important words, describing a way to make these beautiful shapes.

Alan Holden



shapes, space, and symmetry

