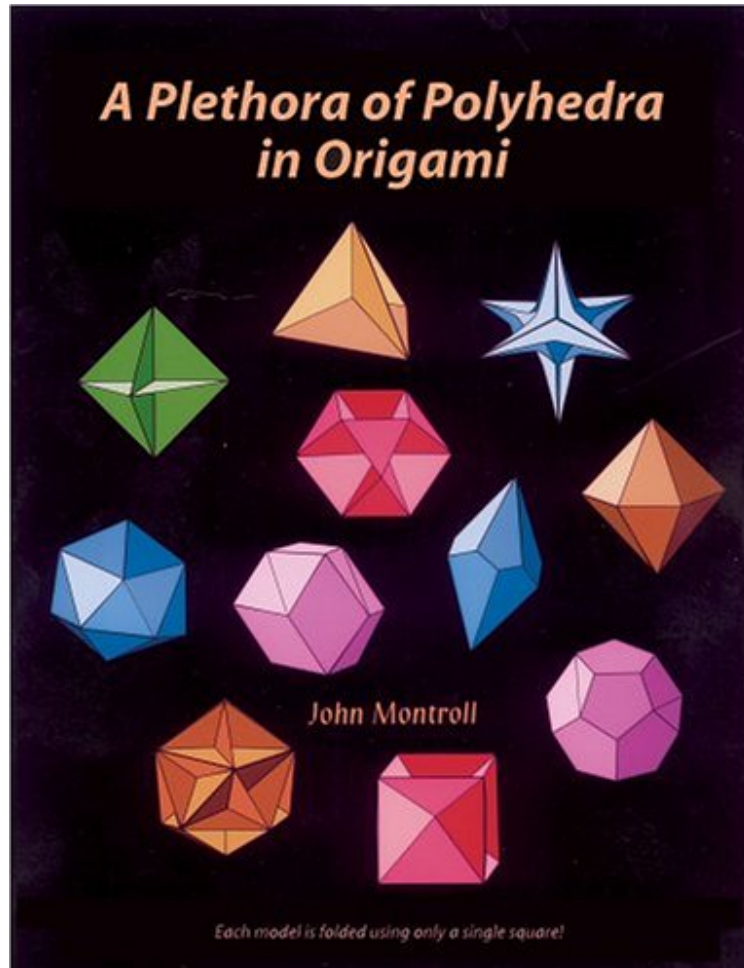


(Free read ebook) A Plethora of Polyhedra in Origami

A Plethora of Polyhedra in Origami

John Montroll

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John Montroll : A Plethora of Polyhedra in Origami before purchasing it in order to gauge whether or not it would be worth my time, and all praised A Plethora of Polyhedra in Origami:

15 of 16 people found the following review helpful. SuccinctBy Sen Peng EuFor a long time the folding of polyhedras and other variations is dominated by modular origami, a category of paperfolding that models are assembled by many units of the same form. Such technic has been developed into a wildly splended state, for example, see books of Lewis Simon or Tokomo Fuse. However, in this book Montroll still insists on his long-time philosophy-- one single square paper, two hands, nothing else. The best part of this book, in my opinion, is the 5 Plato polyhedras plus the 5 sunken Plato polyhedras, all folded by a single square paper. This is a succinct approach, although not new. And the intrinsic beauty of these models explains everything. Other parts of this book are fair enough, for example, prisms and other models are relatively new compared to other polyhedra origami books. Since every model is folded by one square, it seems that we can not hope to have some super-complex models. After all, the special symmetry structures of

polyhedras do hinder the design of the folding-- in order to keep symmetry it will waste too much paper. So it is a pity for those super-hard-model-addicts. BTW, I am happy that after so many years Montroll finally comes to Mathematics! 13 of 15 people found the following review helpful. Fold polyhedra using a square By HS Lim Although folding polyhedra is not my favourite, nevertheless I do indulge in it. Most of the polyhedra are folded as modulars. John Montroll folds them using a single square. Quite a challenge since most of the models are not simple to fold. Models in this book include tetrahedron, cube, octahedron, icosahedron, decahedron, double diamond hexhedron, triangular dipyramid, pentagonal dipyramid, hexagonal dipyramid, heptagonal dipyramid, triangular prism, pentagonal prism, hexagonal prism, sunken platonic solids and many others. I prefer folding polyhedra using modular techniques since they end up much more colourful. In this book polyhedra are folded using a square and hence only in one colour. At the end of the book, Montroll gives suggestions on how to expand on the techniques he uses in this book to create your own one piece polyhedra. Yes, I recommend this book for polyhedra enthusiast. 20 of 20 people found the following review helpful. A Plethora of Precreasing - Single-sheet shapes! By Joshua Koppel Fans of John Montroll's other books will know that he tends to follow a fixed set of ideas. These are that the paper should be square and that only one sheet should be used. Outside of a few basic shapes (cubes and pyramids mostly), the use of a single sheet in creating polyhedra is not very widespread. Montroll uses this book to show up that it needs not be the case. Montroll shows how a single sheet of paper can be folded into more complex polyhedra including skeletal forms. These models all follow a basic pattern of precreasing the paper to isolate the polyhedron's sides, and then collapsing the paper into the 3D model. Very interesting techniques, and Montroll seems to get the largest possible solid from the paper, but the single-sheet design does lose something in solidity. Many multi-piece models are very strong, but that is not the case here. However, if you like geometrics but could not bring yourself to fold 30 to 180 pieces of paper for a single model, you will love this book.

Step-by-step instructions and 970 clear diagrams show beginning and experienced paperfolders how to create 27 amazing polyhedra from one sheet of paper. Graded according to difficulty, the projects range from a simple cube, tetrahedron and octahedron to a challenging rhombic dodecahedron, sunken icosahedron, and an antidiagonal with pentagonal base.

About the Author Internationally renowned author John Montroll has significantly increased the origami repertoire with his original designs. Best known as the inspiration behind the single-square, no-cuts, no-glue approach, the American origami master presents meticulously developed folding sequences that result in better models with fewer steps.