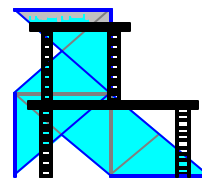


SCAFFOLD

Helping to support and maintain the world of origami



Science and snails abound

The models in this issue seem to all be science oriented (spaceships and geometrics) except the Snail. Geometrics also play a major role in this month's book review. Enjoy.

Back Issues

All back issues of Scaffold can be found online at <http://www.origami4you.com> (just follow the Scaffold link at the top of the page).

New Books

I found two new books to add to my collection this month. One is old while the other is new, but both are full of

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intriguing models.

HAVE FUN WITH ORIGAMI by Robert Harbin (English) (ISBN 0-900-727-26-8) 51 models by various young artists and readers of Look-In (junior TVTimes), Robert Harbin himself, and some traditional models. 1975 Independent Television Books Ltd.

A PLETHORA OF POLYHEDRA IN ORIGAMI by John Montroll (English) (ISBN 0-486-42271-2) 27 single-sheet geometric models. 2002 Dover (\$12.95 US).

Submissions

Scaffold tries to provide a place for origami designers to show off their designs to the world folding community. For that to work, folders have to send in their diagrams. Scaffold can accept most electronic formats, but DXF (generic CAD format) results in very small file sizes. All models and diagrams remain the property

of their designers and Scaffold will not change or edit diagrams (with the exception of clarifying scans) and will publish all designs submitted. Crease-fold diagrams are also accepted and allow for a greater number of models per issue (as well as offering a different style of challenge for the reader).

Diagrams can be submitted electronically by sending e-mail to scaffold1@aol.com. Paper diagrams can be sent to:
 Joshua Koppel
 PO Box 641374
 Chicago, IL 60664-1374
 USA

Submissions should be accompanied by a statement saying that you wish them to appear in Scaffold.

Book Review

A PLETHORA OF POLYHEDRA IN ORIGAMI is the latest offering from John Montroll. Unlike his previous books, this one contains

absolutely no animals whatsoever. As the title suggests, this volume is dedicated solely to various geometric solids.

The book is divided into six sections of models (Platonic Solids, Pyramids, Prisms, Based on the Octahedron, Sunken Platonic Solids, Dodecahedra) and a section of Crease Patterns that shows how the visible faces of the model translate onto the starting square.

The twenty-seven polyhedra in this book differ from most other origami polyhedra. These models are all made from a single square sheet of paper. While that does not seem impressive when talking about cubes and tetrahedra, the sunken icosahedron is another matter all together.

Those who are familiar with Mr. Montroll's Star from ANIMAL ORIGAMI FOR THE ENTHUSIAST will see a similarity in the way these models are constructed. Most of these models follow a pattern of performing a lot of precreasing and then collapsing and locking the model into its final form.

As we have come to expect from Mr. Montroll, the models are clearly diagramed with easy-to-follow steps. Polyhedral origami remains a sub-genre

of origami and may not be popular with all enthusiasts, but for those who like their geometry solid, I can think of no other book like this one.

A PLETHORA OF POLYHEDRA IN ORIGAMI is published in English by Dover (ISBN 0-486-42271-2) and sells for \$12.95 US. This book should be found in any good bookstore and many online sites.

The Models

Another varied selection this month. Animals, space craft, geometrics, and modulars round out this month's new models.

Snail

This is a new Snail by Jim Adams. This time Mr. Adams presents us with a simple, yet recognizable, snail. The final model offers has provided me with insights into some new models of my own.

\$-Starship

This is another fine vehicle by creator Jim Adams. This model, created from a dollar bill (3X7) is original while reminiscent of some famous craft used on television and in movies. More of Mr. Adams's creations can be found at <http://members.aol.com/jeada ms1>.

Skeleton of Octahedron 4

This model is the fourth octahedron skeleton unit that I created last month. This one is based on a 1X2 rectangle and has a secure mechanism for locking the unit closed.

Sonobe 4B

This is a variation of Variation 4 (Crater) which can be found in Vol. 1 Issue 10 at <http://www.origami4you.com/>. Like Crater, this unit also results in a hole at the vertex.

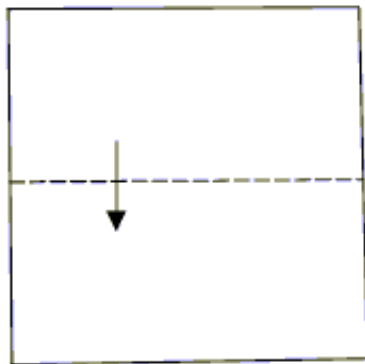
Sonobe 4C1

This is a variation of Variation 4 (Crater) which can be found in Vol. 1 Issue 10 at <http://www.origami4you.com/>. Like Crater, this unit also results in a hole at the vertex.

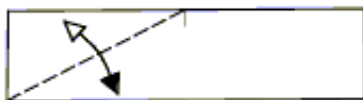
SNAIL

- Start with colored side up.
- A 6 inch square produces a 3 inch long model.

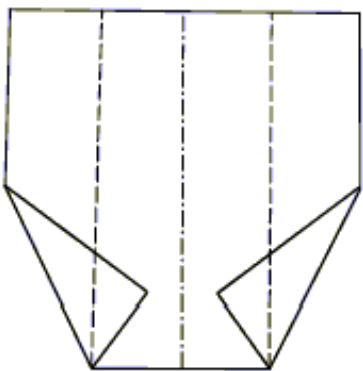
Jim Adams



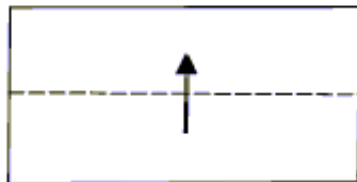
1. Start with colored side up.
Fold in half.



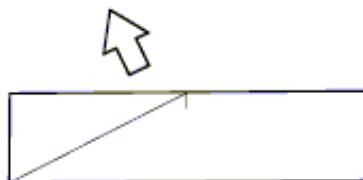
4. Crease all layers.



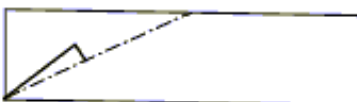
7. Pleat fold.



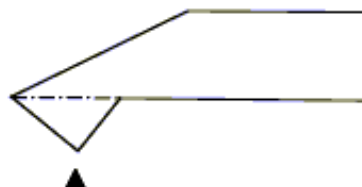
2. Fold in half. Repeat
behind.



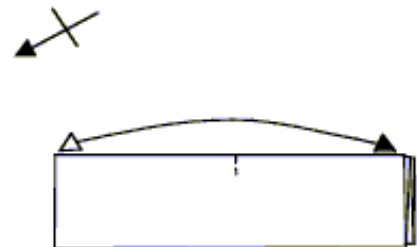
5. Unfold completely.



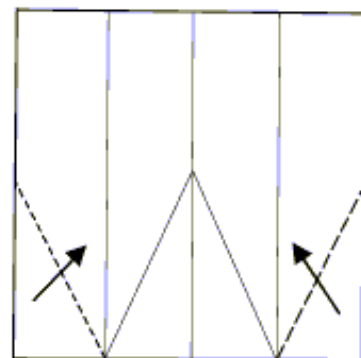
8. Inside reverse fold the
central flap.



10. Inside reverse fold.



3. Pinch in half.



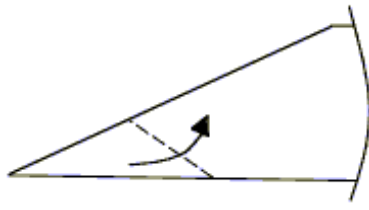
6. White side is up. Fold
on existing creases.



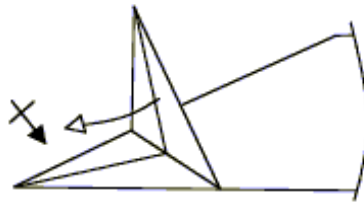
9. Fold little flaps into the
center of the model.



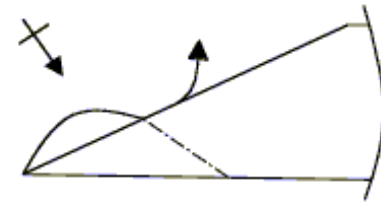
11. Inside reverse fold.



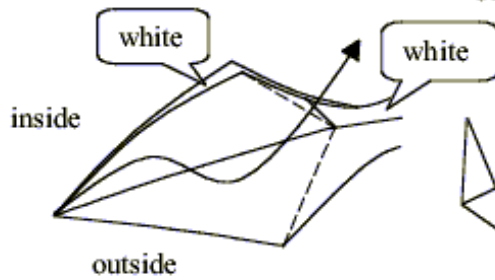
12. Fold up as far as possible.



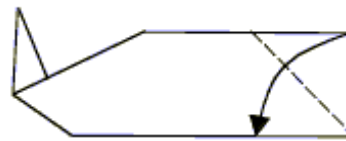
13. Return to step 12.
Repeat steps 12-13
on back flap.



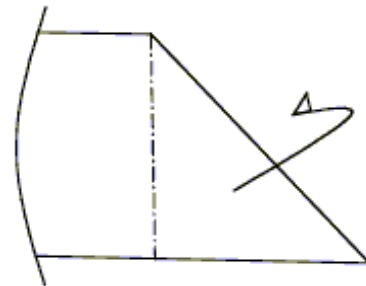
14. Inverse reverse
fold so that
antennas are
colored.



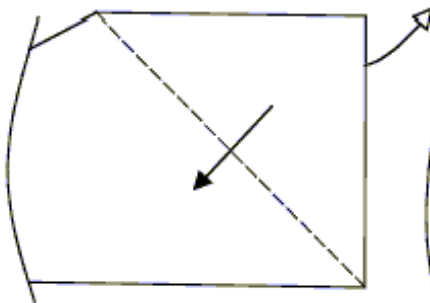
14A. Near side reverse fold in
progress. What is not marked
as white is colored.



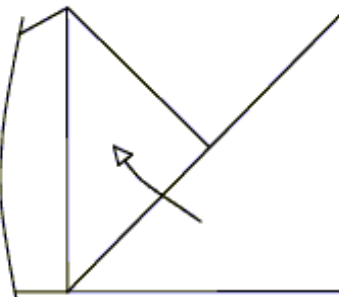
15. Fold all layers.



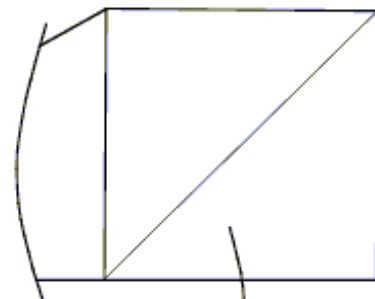
16.



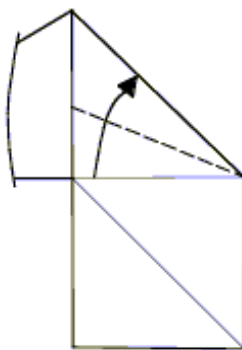
17. Allow back flap to flip
up.



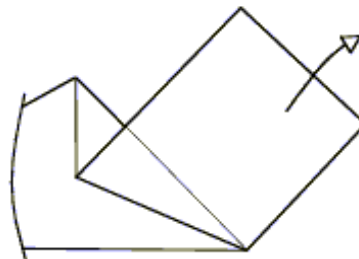
18. Unfold all layers.



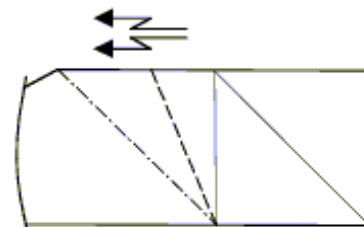
19. Unfold all layers.



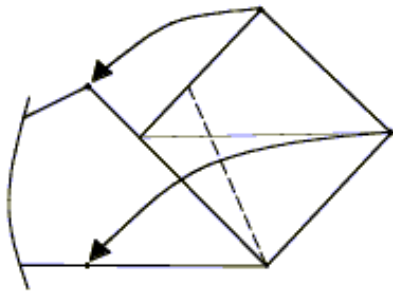
20. Fold entire flap.



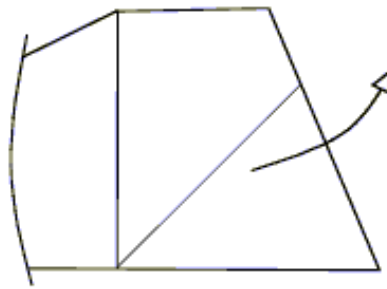
21. Unfold to step 15.



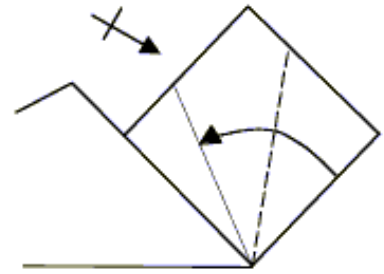
22. Crimp fold.



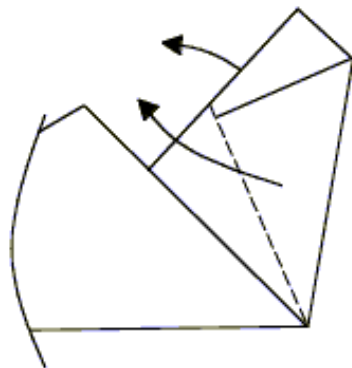
23. Fold entire flap.



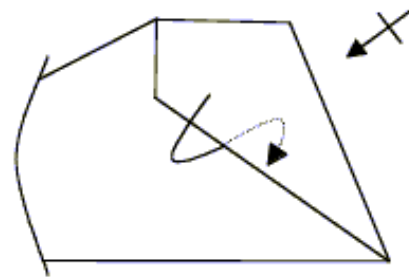
24. Unfold to step 23.



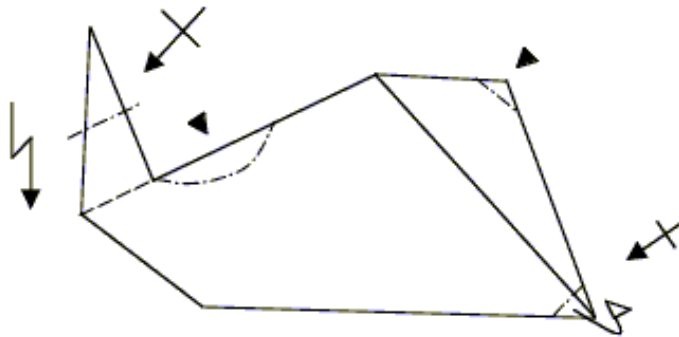
25.



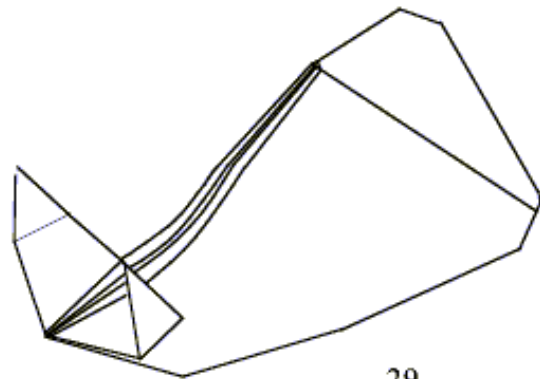
26. Outside reverse fold.



27. Tuck flap into pocket underneath.



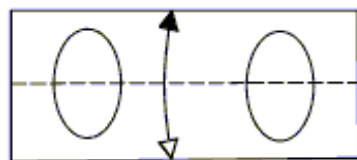
28. Pleat the antennas outwards and round the shell with mountain folds and a small sink fold.



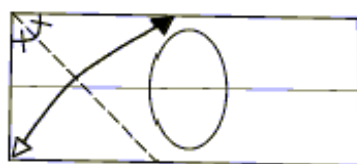
29.

- Start with green (colored) side up.
- A U.S. dollar bill makes a 3 inch long model.

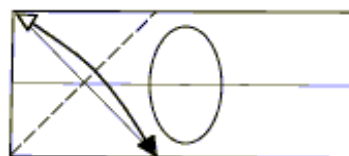
Jim Adams



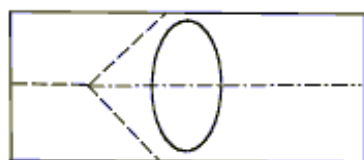
1. Start with green side up for a mostly green ship.



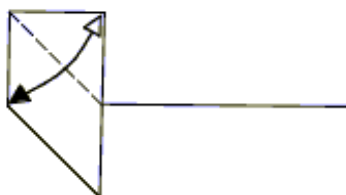
2.



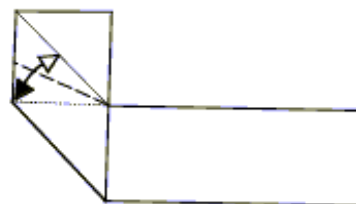
3.



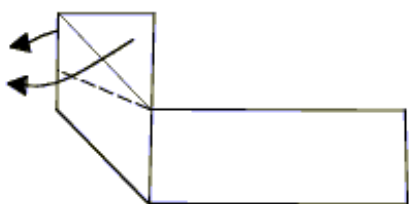
4. Reverse fold.



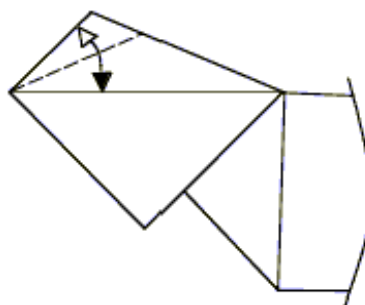
5. Crease all layers.



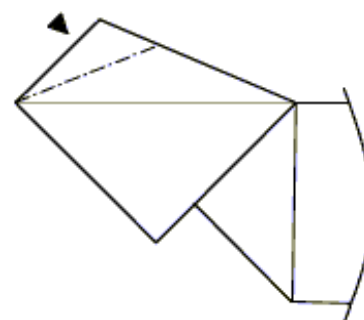
6. Crease all layers.



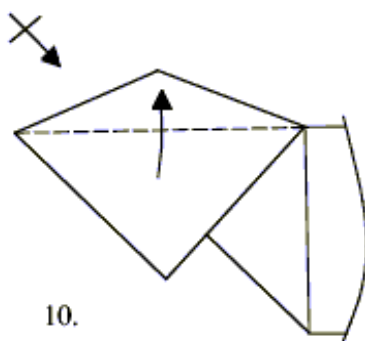
7. Outside reverse fold.



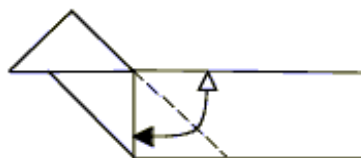
8.



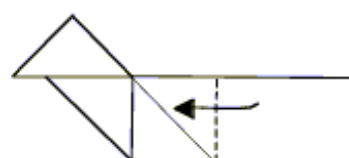
9. Spread-sink.



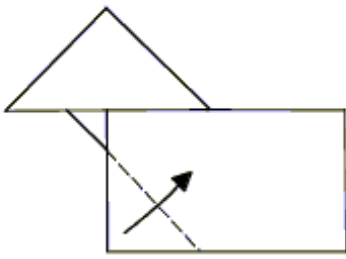
10.



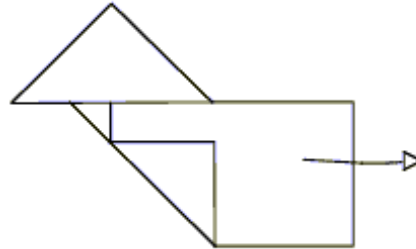
11. Crease all layers.



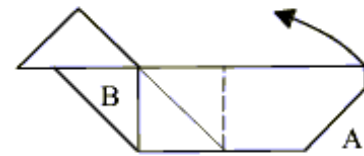
12. Fold all layers.



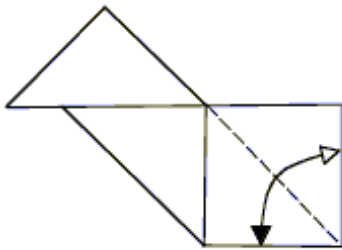
13. Fold all layers.



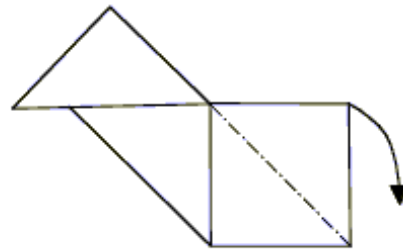
14. Unfold main flap to step 12.



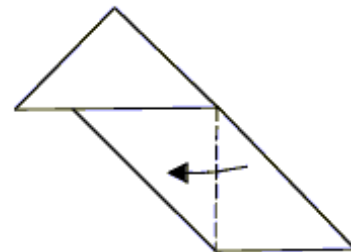
15. Outside reverse fold. Note layers at A will separate and tuck into pocket B on either side of the model.



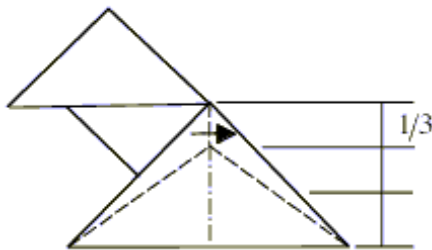
16. Crease all layers.



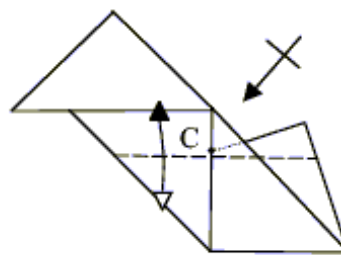
17. Inside reverse fold.



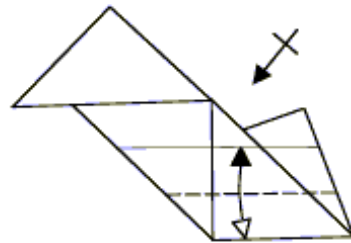
18. Swing top flap to left.



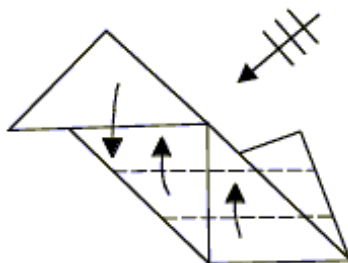
19. Swing left flap back to the right incorporating reverse fold.



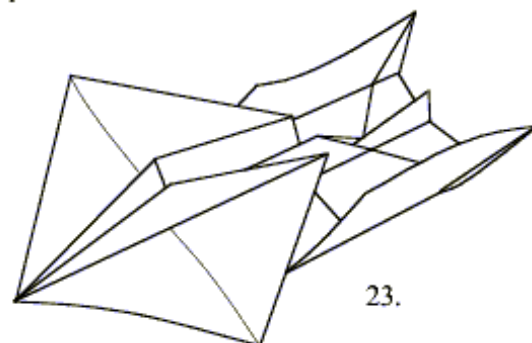
20. Crease flap with a crease that passes just below C. Repeat behind.



21.



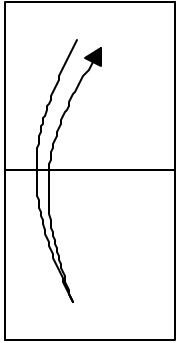
22. Fold into a 3-D shape.



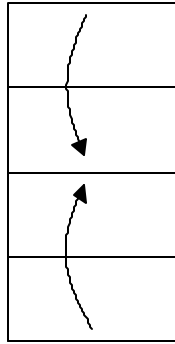
23.

Octahedron Skeleton 4 by Joshua Koppel

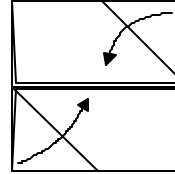
Begin with twelve (12) 1X2 rectangles.



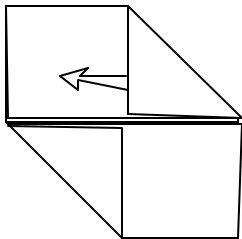
1. Fold and unfold.



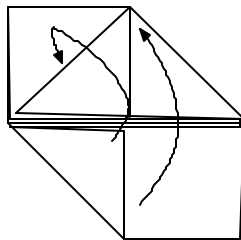
2. Fold short edges to center.



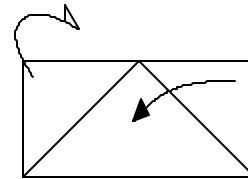
3. Fold opposite corners to center.



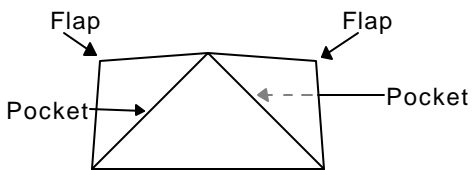
4. Pull out hidden point.



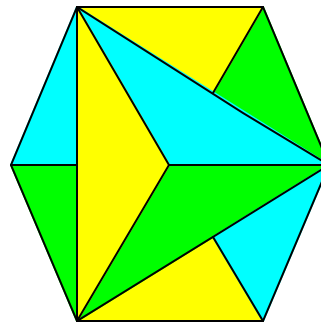
5. Fold in half and tuck flap behind point.



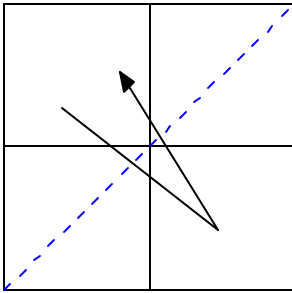
6. Bend corner flaps.



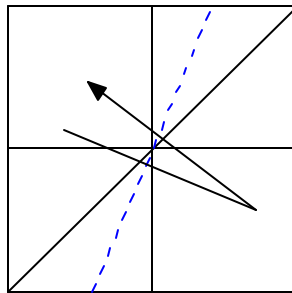
The finished unit.



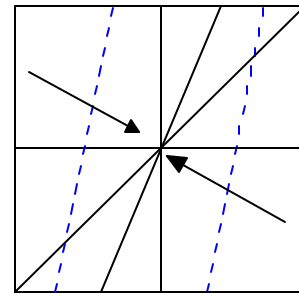
Sonobe Variation 4B by Joshua Koppel



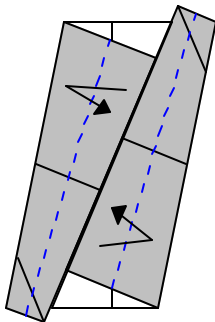
1. Fold and unfold.



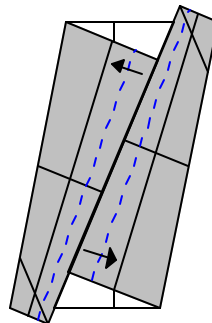
2. Bisect the angle.



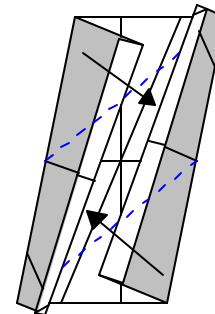
3. Fold edges to line.



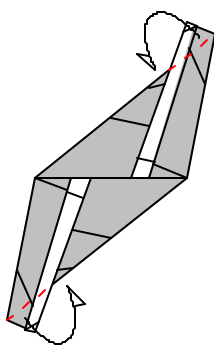
4. Fold and unfold.



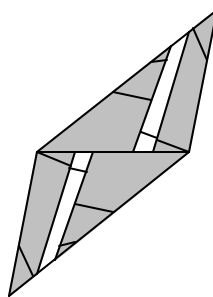
5. Fold edges to line.



6. Tuck corners under.

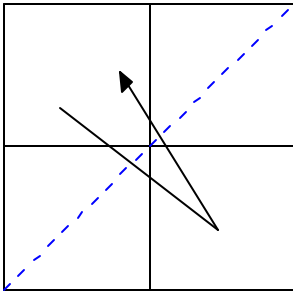


7. Fold flaps behind.

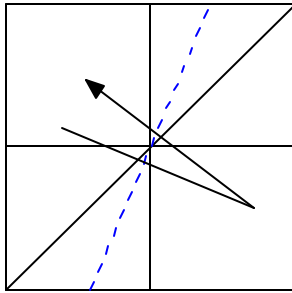


This unit results in a hole at the vertex. The angle created in step 2 is the easiest to duplicate, but far from the only one. To create other angles, you can use the Unit Template by Michael Naughton which can be found in Scaffold Vol.1 Issue 10.

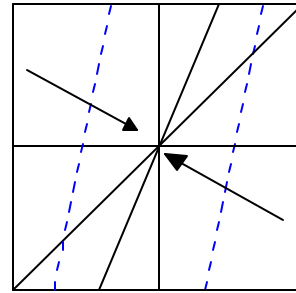
Sonobe Variation 4C1 by Joshua Koppel



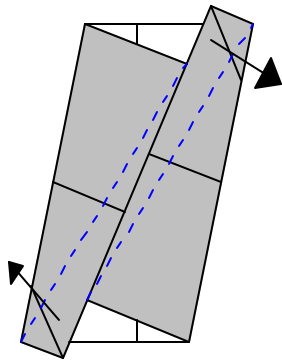
1. Fold and unfold.



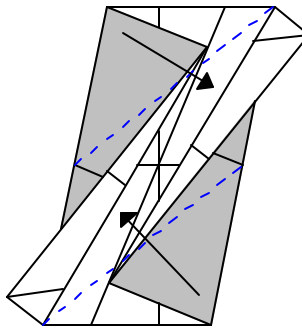
2. Bisect the angle.



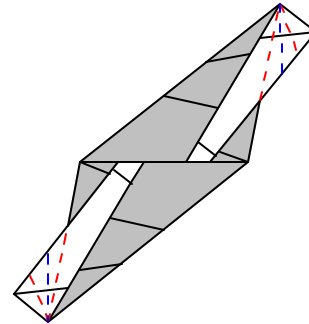
3. Fold edges to line.



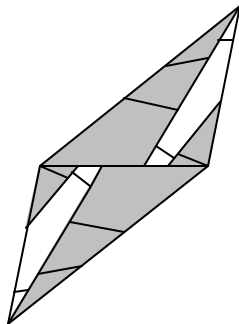
4. Fold edges out.



5. Tuck corners under.



6. Pleat flaps behind.



This unit results in a hole at the vertex. The angle created in step 2 is the easiest to duplicate, but far from the only one. To create other angles, you can use the Unit Template by Michael Naughton which can be found in Scaffold Vol.1 Issue 10.