Maverick Modules, A Marriage of Opposites and Motley Designs

Maverick modules come in right and left handed versions and one of each will go together to form a simple coaster that I call A Marriage of Opposites. When I first played with them, in 1990, that seemed to be all that could be achieved. It was quickly obvious, for instance, that they will not go together to form cubes or silverhedra in the way that Sonobe modules will. On revisiting the idea 25 years later in 2015, however, I discovered that I had been wrong to write their potential off so quickly and that Maverick modules can be used to form cubes and silverhedra if they are used in combination with types of other parallelogram modules.

I call designs made by combining more than one type of parallelogram module Motley designs. It is possible to construct Motley 6-part Cubes, 6-part 8-point Stubby Stars, 12-part 8-point Stubby Stars and 30-part 20-point Stubby Stars using Maverick modules. It is not possible to construct a 3-part Silverhexahedron. A 12-part Cube can be constructed but it is both untidy and unstable. Cubes and silverhedra that use larger numbers of modules should also be possible.
The diagrams below show you how to make Figaro modules and A Marriage of Opposites from 2x1 rectangles and directly from a square.

Looking for antecedents I found that Tomoko Fuse published a similar module, and coaster, although the modules are folded using a different method, back in the 1980s. As far as I am aware she has not gone on to develop the Motley designs.

Folding Maverick Modules

Method 1 - from squares
If you are using irogami begin white side up.

1. Fold in half sideways, then unfold.

2. Fold both outside edges into the centre.

3. To make the right handed module fold the top edge onto the left edge and the bottom edge onto the right edge.

4. The basic form of the right handed Maverick module is finished.
5. To make the left handed module fold the top edge onto the right edge and the bottom edge onto the left edge.

6. The basic form of the left handed Maverick module is finished.

Method 2- from 2x1 rectangles

This method shows you how to fold the modules required for A Marriage of Opposites from a single square of irogami. Begin with your square arranged white side up.

7. Fold in half sideways, then unfold.

8. Cut into halves along the vertical crease.

9. Use the first half as it is. To make the right handed module fold the top edge onto the left edge and the bottom edge onto the right edge.

10. The basic form of the right handed Maverick module is finished.
11. Turn the second half over sideways. To make the left handed module fold the top edge onto the right edge and the bottom edge onto the left edge.

12. The basic form of the left handed Maverick module is finished.

**A Marriage of Opposites**

You will need a pair of mirror-image basic Maverick modules.

13. Turn the right handed module over sideways.

14. Fold the top and bottom points inwards as shown, then unfold.

15. The right handed module is finished.

16. Arrange the left handed module like this then turn over sideways.
17. Fold the left and right points inwards as shown, then unfold.

18. The left handed module is finished. Turn over sideways again and lay on top of the right handed module ...

19. ... in the way shown here. Fold the flaps of the right handed module inwards using the existing creases and tuck them into the central pocket of the left handed module.

20. This is the result. Turn over sideways.

21. Fold the flaps of the left handed module inwards using the existing creases and tuck them into the central pocket of the right handed module.

22. A Marriage of Opposites is finished.
23. If, alternatively, you used modules made from two different colours the resulting coaster would look like this.