A puzzle for your thoughts?

The puzzle strip to the left you are about to assemble is called a trihexaflexagon—a hexagon with three faces. A type of folded puzzle, it reveals different faces or designs once assembled. Similar to a Möbius strip, the movement from design to design folds fluidly.

Renowned scientific skeptic and mathematical author Martin Gardner popularized this puzzle type in a 1956 issue of *Scientific American*. Originally discovered in 1939 by mathematician Arthur H. Stone, this design continues to awe and delight puzzle enthusiasts, mathematicians and the mildly curious alike. The trihexaflexagon makes up just one of Lilly Library’s expansive collection of unique puzzles, which can be viewed by the general public in the Slocum Puzzle Room during open hours.

Unable to visit in person? Selections from the Lilly Library’s Jerry Slocum Mechanical Puzzle Collection are accessible online at go.iu.edu/2924
Assembling your Trihexaflexagon:
To start, you will need scissors to remove the attached puzzle strip at the dotted cut lines. After you have removed your puzzle strip, fold each triangular panel along the white lines to make your puzzle more flexible. You will need tape to secure the final fold.

Step 1
- Fold here.

Step 2
- 1 2 3
- Then fold behind, keeping 3 faces facing front.

Step 3
- 1 2 3
- Fold here.

Step 4
- Fold behind, while allowing the folded portion to come forward and overlap the third face.

Step 5
- 1 2
- Fold here.

Step 6
- Fold along the line so the two blank triangles face each other, and tape them together.

Congratulations, you are done!

To move between faces, tip any two triangles in towards you. While tipping, hold triangles A and B, pulling them out and back as shown.

Final Faces
- Front panel △
- Back panel ▲