OUT OF ORDER

Bet you can't flip and turn a book and have it end up in the same position as when you turn and flip it!

THE SETUP
Hold a book in your hands as if you are going to read the front cover. Flip it over from bottom to top. Then turn it ninety degrees in a counter clockwise direction. You will end up with the spine facing you and the back cover on top.

Now hold the book as if you are going to read it again. The same two operations are going to be performed, but in reverse order. Turn the book ninety degrees in a counter clockwise direction. Flip it over, bottom to top. The back cover will be on top, but the spine now faces away from you.

INSIDER INFORMATION
Sequence is the key word in understanding why this trick doesn't work. In a sequence involving two different kinds of operations (and flips and turns are two different kinds of operations), the sequence of the operations will affect the outcome. Wonder why we put this in the math chapter? It belongs here, all right, for direction of motion and position are mathematical properties.