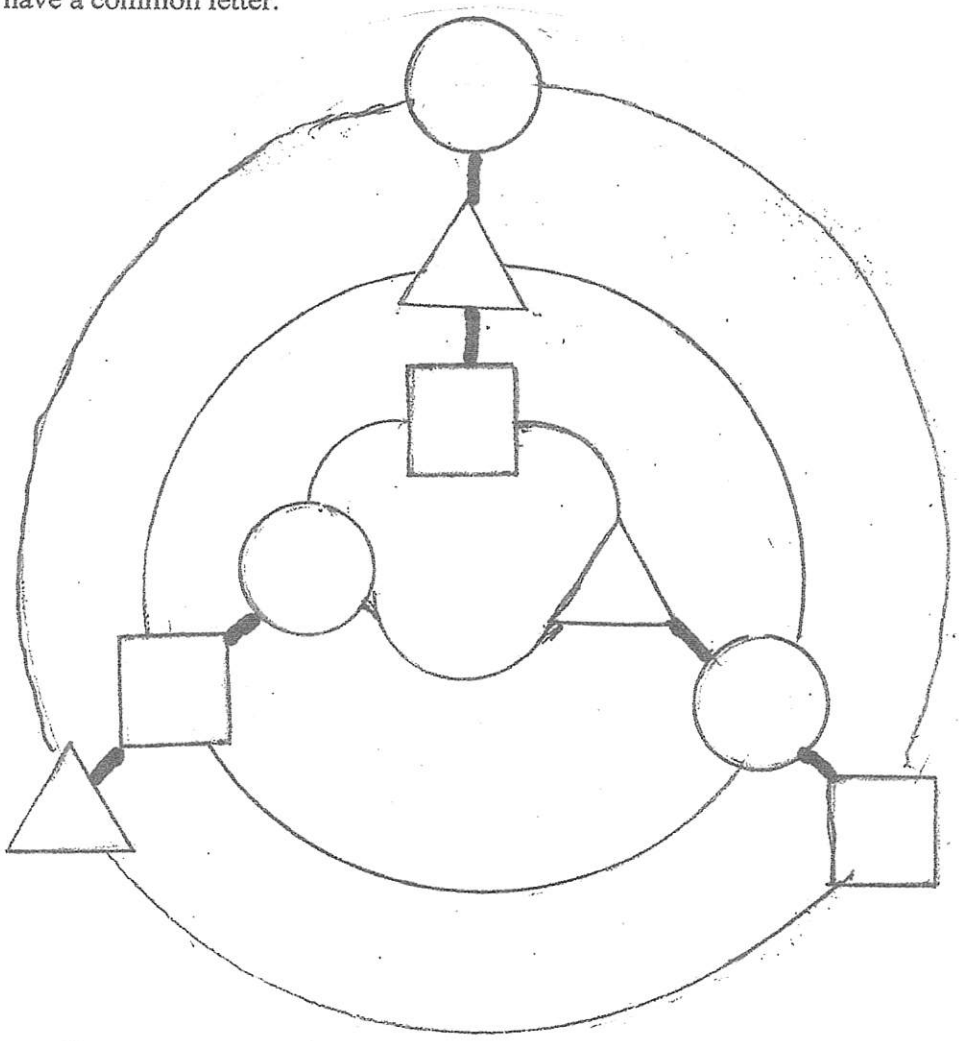
WORD WAYS ENDS!

by Jeremiah Farrell

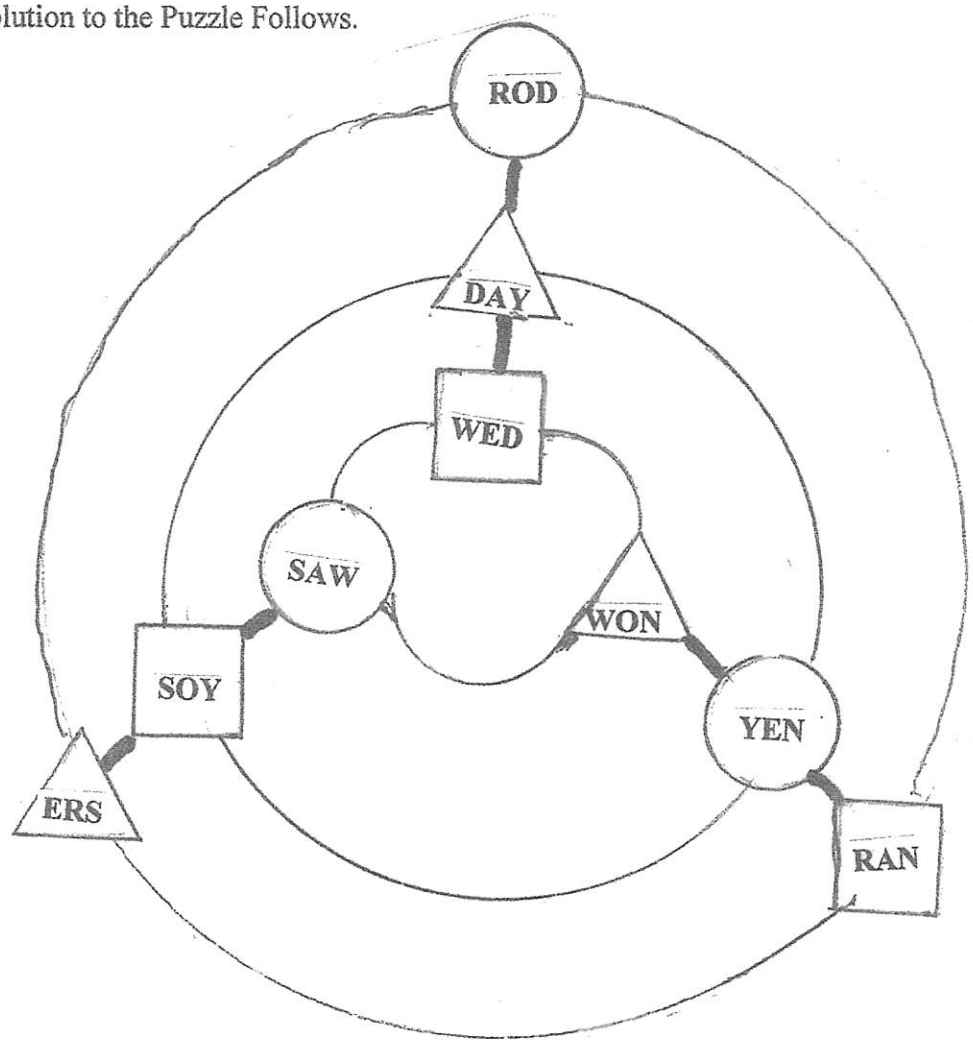
The November 2020 issue of *Word Ways* will be the last issue. *Word Ways* was started in 1968 at the suggestion of the late Martin Gardner. Due to the generosity of Butler University all 53 years of articles will be archived free of charge at https://digitalcommons.butler.edu/wordways/.

A Puzzle. Each of the nine different letters of our title is used three times each in the following nine words: DAY, ERS, RAN, ROD, SAW, SOY, WED, WON, YEN. As a puzzle place the nine on the nodes of this diagram so that the three straight lines and the three concentric circular regions have a common letter.



A Game. Two players alternately chose a word and try to win by getting three with a common letter. To be totally fair each player has only four choices and if First does not win in four moves the win is given to Second.

One Solution to the Puzzle Follows.



First can always win the game with careful play. Notice that each set of three nodes, circles, triangles or squares has no letters in common. (This will be the case no matter what the answer to the puzzle is.) First starts by choosing any word. If Second chooses a word from the same shaped node, First takes the third from that node. Second's next choice forces First to block and will always be a double threat which First will win.

If Second's initial choice is in another shaped node than First's, First wins by forcing Second to waste a play by forcing Second to play in Second's same shaped node. For Example:

First	Second
DAY	SOY
ROD	WED (forced)
RAN (double threat)	

Notice that First's RAN is the third entry in Second's square nodes.

Another Game. Two players alternately choose one of the nine letters A, D, E, N, O, R, S, W, Y. Trying to be the first to spell one of the nine words. Use the following diagram to show how First can win this game in four moves. Details are similar to the earlier game and are left to the reader.

These results are examples of (9,3) word configurations. Complete details can be found in the following:

"Configuration Games" by Jeremiah Farrell, Martin Gardner, and Thomas Rodgers. *Tribute to a Mathemagician*, ed. By Barry Cipra, Erik D. Demaine, Martin L. Demaine, and Tom Rodgers, 2005, AK Peters, Ltd.