A 5-DIMENSIONAL MAGIC DIE

DAVID S. DILLON
Jolietsville, Indiana

JEREMIAH FARRELL
Indianapolis, Indiana

This extends the 3-dimensional HOT-PAD and the 4-dimensional SALT-MINE dice described in "Magic Word Dice", May, 2007 to a fifth dimension (see also J. Puder's remarks in the August 2007 Colloquy). A schematic (2-dimensional!) drawing of the 5-cube follows. It is based on the word pair POLAR-MINES and every node word uses exactly one each of the five pairs 1 = P-M, 2 = O-I, 3 = L-N, 4 = A-E and 5 = R-S. On the back cover is the double torus representation that will be easiest to use for the magic.

The 32 nodes. All words in N12 unless noted

1 POLAR
2 MOLAR
3 POLAS (Beans, Sp)
4 MOLAS
5 POLES
6 MOLES
7 POLER
8 MOLER
9 PILES
10 MILES
11 PILAS (Butteries, Sp)
12 MILAS
13 PILAR
14 MILAR
15 PINAS
16 MINAS
17 PINES
18 MINES
19 PINER
20 MINER
21 PONES
22 MONES
23 PONES (Lith. Slave owner)
24 MONES (Nicole, novelist)
25 PONAS (Lith. Slave owner)
26 MONAS (Polish help group)
27 PONER (To put, Sp)
28 MONER
29 PINAR
30 MINAR
31 PINAR
32 MINAR
The magic trick is performed as follows. The subject starts on a word-node of his choice and moves in 5-dimensions as often as he pleases, calling out the number (dimension) of the edge he travels as he does so. When he is finished, he gives the magician either the start or end node word and the magician immediately gives the missing word.

The Method. The magician simply keeps track of the five dimension numbers noting that $x + x = 0$ for all $x$. For example, suppose the subject calls out 4, 3, 2, 4, 1, 5, 2 and stops. The 4s and 2s cancel leaving only 3, 5, and 1. This means that the two terminal words differ in the 1st, 3rd and 5th places. So if one word was POLAR the other word would have to be MONAS.