ANSWERS AND SOLUTIONS

SOME CRYPTOGRAPHIC PUZZLES, Walter Penney

Puzzle 1: If we number the letters of \textit{GOLDEN BINARY} from 1 through 12, we see that the final arrangement is either 1 0 6 8 9 2 1 2 1 1 1 5 4 7 3 or 1 0 9 8 6 2 1 2 1 1 1 5 4 7 3, depending upon the positions of the two N's. The intermediate arrangement can be easily deduced with a little trial and error. For example, assume that the first number is 2; then the second number must be 10 in order to ensure that two successive operations convert 1 into 10. Eventually one discovers that the second permutation given above is the result of two applications of the permutation 3 5 10 11 9 7 12 4 2 8 6 1, which yields the message \textit{LEARN BY DOING}.

Puzzle 2: If we make all possible assumptions for 2 and 8 and form the fragment 2 2 8 2, eliminating all assumptions leading to three spaces in a row, five or more dots and dashes in a row with no space, or an impossible combination (dot dot dash dash, dot dash dot dash, dash dash dot dash, dash dash dash dash), we are left with a small number of possibilities. Extending these to the fragment 3 2 2 8 2 3 by making all admissible assumptions for 3, again eliminating the impossible sequences, and continuing with 9 and 1, we are soon able to eliminate everything except \textit{WELL BEGUN IS HALF DONE}.

Puzzle 3: From the data we see that B, K and U are in the first row of the square, and A, E and O in the first column. Likewise, T is in the fourth row and I in the fourth column. Also, C and S are in the same row as the column containing J and U. Proceeding in this way and using all the information about the rows and columns containing the other letters, we are able to construct a number of squares containing 15 letters which satisfy all the conditions. The sixteenth letter must be the missing W. However, only the two squares shown to the right permit a word to be constructed from TMOCRHR-BNSSE, namely, JOURNALIST.

Puzzle 4: The initial T is most likely to be followed by H. If we line up the H in position 13, we get good letter pairs until the end when we get successive W's likely, I H J... which we only consider. We then get BOOK TEE...

Puzzle 5: The message message message and so on. Let us assume the numbers are only connect.. . L I 1 ... N. Conclude the third word! A SILVER...

Puzzle 6: letzwerewolf is the only letters is...

Puzzle 7: A SILVER is the only letter which is...

WHAT'S THE...

1. a cup
4. corn
7. a glass
10. one
13. beef
14. ice cream
19. November

TELANJ...
when we come across WW. Although there are words with two consecutive W's (GLOWWORM, for example), this combination seems unlikely. It is more probable that we have passed a one-letter word which would throw off the spacing. Skipping a space for A (the only candidate) and continuing with the third column we get, with a little juggling because of short words, THERE IS NO FRIGATE LIKE A BOOK TO BEAR US WORLDS AWAY.

Puzzle 5: Note that B in the original alphabet translates to I in the message, I in the original alphabet translates to L in the message, and so on, forming a chain. The longest such chain is J R I L E N. Let us assume in turn J = A, B, ..., Z and trace through the letters so determined, until an inconsistency develops. We find the only consistent sequences are E . . . R Y . . . U D A A . . . V . . L I . . N. Continuing in this way we find the second letter is P, V or X, the third letter is E, etc. We soon learn that EVERY CLOUD HAS A SILVER LINING.

Puzzle 6: The original prices were $36.75, $49.50 and $81.25, representing a markup of 8 per cent. The system of letter equivalents is seen to be based on the words PENCIL MARK.


WHAT'S YOURS, FELLA? Leonard R. N. Ashley

A RECONSTRUCTABLE CROSSWORD PUZZLE, Darryl Francis

MOU AF I A
INTER NATION A L LY
N E T P AU U
U S O M A S I
THE ATRICAL TAT
E P E ON REES
GOOD CHICA
E A N HEN A LES
RA INING ET AM
E N C PENN
LAP SOCRATEAN
O ATTA LE
T U GA M AM OR A
R A M PA GES C COCT
Y LER ERATO

KICKSHAWS, David L. Silverman


Sandwich Fillings: 1. reading, 1 arithmetic 2. ready, able 3. faith, charity 4. high, handsome 5. lock, barrel 6. signed, delivered 7. Tom, Harry 8. wine, song (one week in solitary if you answered cigareets; wild, wild, whiskey!) 9. hook, sinker 10. bell, candle

Crash: There are only two: VENUS and PLUTO.

Heads 'n Tails Words: ESCAPES, MAHATMA.

Word Patterns: TRIANGLE, RELATING, INTEGRAL, ALTERING, ALERTING.