WORDPLAY BY COMPUTER: TWO EARLY VIEWS

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The computer plays an increasingly important role in recreational linguistics. It has already been used for

* rearrangement of the dictionary: grouping together words having the same set of letters (ESCORT, CORSET), words with the same letter pattern (EXCESS, BAMBOO) or words with the same letter in a specified position (hoNey, maNna, wiNds, ...)
* dictionary searches for words with certain properties, such as a specific trigram (camoUFLage, genUFLect) or a specific set of four letters (opHtHalmopHtHisis)
* construction of specialized word groups, such as double-six or single-seven word squares, pangram sets, or high-scoring Boggle grids.

These developments are deplored by some, and welcomed by others. An example of each attitude, culled from the pages of The Enigma, the offic- ial publication of the National Puzzlers' League, is reprinted below. The first article, by W. S. Kirk ('E. S. Crow'), appeared in March 1919, when the principal use of the computer was the mechanical sorting and tabulating of Federal census data; the second, by G. H. Ropes ('Ajax'), appeared in December 1948, shortly after the electronic computer was first applied to the solution of lengthy and complex mathematical prob- lems. Both authors recognized that computers could be fruitfully applied to word problems as well as numerical ones, even though widespread use for this purpose had to await the development of dictionary-sized memories that could be rapidly searched.

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SOLVING BY MACHINE   E. S. Crow

For some years the undersigned has been at work on a machine which will be of great value in solving seven-letter word squares. I busted a cog on EGG-GLUE, but such words can be overcome. At present, the action of the machine can better be imagined than shown by the machine itself. Take a decent word and a good square, for instance, No. 5 in the October, 1918, Enigma. The one disadvantage, not yet overcome, is that one has to think enough to get the first word. After that is found, all the rest is mechanical. Suppose that QUERIES is the first word thunk out. Write the word on a card. Drop the card in a slit at the Northeast end of the machine. Put your seven-list in a slot at the other end. Oil. Press lever 4-11-44 divided by 23A plus X over the position number, in this case, 7. Immediately the cogs operating on the cams by means of pre- hensile attachments throw into gear all words ending in Q. When this

operation is complete, which will be indicated by the bursting of a bomb, press the French button and the French words ending in Q will all drop out; if more than one card falls, press the French optician button and all the French opticians with a Q at the end will drop out; if more than one card falls, press the Born-1817 button and it is dollars to an amouli that DUBOSCQ will drop out; and there you are. The machine, when completed, can be manufactured for about seven hundred and sixty dollars; add, say, ten per cent. and send certified check to undersigned at once or before Easter. Orders will be filled according to dates of mailing at the Lima State Hospital for the Insane. Any amounts received by certified check and not expended by me within three days from the receipt thereof will be cheerfully refunded.

THE SOLVERS' DELIGHT   Ajax

'Twas near the end of the month. Teck Nishan fumed and fussed. He struggled and strove. Webster, Roget, E. B. availed him naught. One day to go, and one puzzle left to crack -- an 8-letter transpo by Ampersand.

"I'll eat up forms, crypts or any other flats," mused Teck, "but a transposal is a diabolical invention. Thousands of 8-letter words to work on and 40,320 ways to arrange the eight letters of any one word."

Late that night, Teck's groping brain veered close to the germ of an idea, rejected it, seized it, and presto -- an end to his troubles! A way to solve all transposals, to become in short the Transposal King of Puzzledom.

Nine o'clock the next morning found Teck Nishan with his 8-list at the nearest office of International Business Machines Corp., maker and operator of those mechanical marvels which punch, sort and tabulate cards to keep business knee-high in statistics. Patiently, Teck explained his idea.

He wanted an IBM card made showing each New Int word in his 8-list. He wanted each card to show, in addition to the word itself, the number of A's, B's, C's, D's, etc. it contained. Then let the machine sort all the cards to bring together those made up of the same combination of letters. Finally, could the machines separate out any 2 or more cards (i.e., words) having the same letter combination and supply a typewritten listing thereof?

The IBM representative reeled off a lot about manual coding, alphabetic key punches, high-speed sorters, collators, tabulators and mark-sensing, ending up with the question, "When would you like us to begin?"

Expense being no object, Teck Nishan ordered the work forthwith. Barely able to restrain his excitement, he was on hand a week later to watch the listing as it started to come off the last machine. There at the head of the list stood out that Hercules masterpiece:

    A B J O I N T S
    B A N J O I S T
    B O S T A N J I

His eyes ran on down the page and found his group all in neat alphabetical order.

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A S P I R E S T
P I A S T E R S
P I A S T R E S
P I R A T E S S
P R A I S E S T
R A S P I E S T
R A S P I T E S
S E P A R I S T
S E R A P I S T
S P A I R E S T
S P A R I E S T
S P I R A T E S
T A R S I P E S
T R A I P S E S
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Success beyond his expectations! Fourteen different transposals -- all dictionary -- of the same eight letters. Nothing like it before in the history of Thedom. That would put Ampersand and his cohorts in their places. And page after page to come with every possible 8-letter transposal in the language.

Repeat the process with his 7-list, then his 9-list, and there'd be transposals aplenty for Enigmas through 1980.

Eager to put his "solver's delight" to trial, Teck grabbed the new Enigma from the mailman, opened it and found another tough-looking 8-letter transposal by friend Ampersand. TWO described his heroine's face after a heartrending farewell to her true love when the latter sailed abroad to manipulate current regulations or ONES for a foreign power combine.

"Let's see," said Teck, "TWO could be a dozen different adjectives, but that word ONE ought to end in -STAT". Moments later, scanning through his list, he hit on RHEOSTAT, and right below it followed TEAR-SHOT. Eureka! From that day on, Teck's record was perfect. Completes went back to Arty with monotonous regularity. But all was not serene. Teck's interest flagged. All the puzzles had become too easy. The thrill of digging out the abstruse keyword was gone.

It was a hard decision to make, but finally Teck ended it all. He locked up the magic list in his strong-box, threw away the key, and returned to dictionary-thumbing like the rest of us.