

Physics Recreations: A Message to Extraterrestrials

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1 Introduction

In the August 1965 issue of his popular *Mathematical Games* column in *Scientific American*, Martin Gardner discussed the problems involved in communicating with intelligent life on other planets. In his column, Gardner describes a hypothetical interplanetary message devised by Ivan Bell, an Englishman teaching English in Tokyo at the time. Bell developed the message to amuse his friends, and it was later published in the January 22, 1960 edition of *The Japan Times*. Bell's interplanetary message is reproduced on the next page.

The message consists of 24 symbols, arranged into 14 paragraphs as shown. (The numbers on the paragraphs and the punctuation marks are not part of the message; they indicate pauses of various lengths.) In theory, a message like this could be transmitted into space, and extraterrestrials would be able to understand it without understanding our language. In his column, Martin Gardner noted, "To minds in any solar system the message should be crystal clear except for the last paragraph, which is somewhat ambiguous; even if properly deciphered, it could be understood fully only by inhabitants of one of our solar system's planets."

See if you can decode the message yourself.¹ Martin Gardner noted that the message "is much easier to decipher than it looks" and urged his readers to try it.

If you are able to decipher the entire message, see if you can use the same code to convey the message, "I am from Jupiter."

(References: "Mathematical Games" column of the August 1965 issue of *Scientific American*; reproduced in *Martin Gardner's Sixth Book of Mathematical Diversions from Scientific American*, University of Chicago Press, 1984.)

¹You could probably find the solution on the Internet somewhere, but where's the fun in that? The fun of something like this is to see if you can figure it out for yourself, with no outside help. Looking up the solution takes away all the fun, and misses the whole point of the puzzle.

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1. A. B. C. D. E. F. G. H. I. J. K. L. M. N. P. Q. R. S. T. U. V. W. Y. Z.

 2. AA, B; AAA, C; AAAA, D; AAAAA, E; AAAAAA, F; AAAAAAA, G;
AAAAA, H; AAAAAA, I; AAAAAA, J.

 3. AKALB; AKAKALC; AKAKAKALD. AKALB; BKALC; CKALD;
DKALE. BKELG; GLEKB. FKDLJ; JLFKD.

 4. CMALB; DMALC; IMGLB.

 5. CKNLC; HKNLH. DMDLN; EMELN.

 6. JL AN; JK ALAA; JK BLAB; AA K ALAB. JK JLBN; JK JK JL CN.
FN K GL FG.

 7. BPCLF; EPBLJ; FPJL FN.

 8. FQBLC; JQBLE; FNQFLJ.

 9. CRBLI; BRELCB.

 10. JPJLJRBLSLANN; JPJPJLJRCLTLANN. JP SLT; JPTLJRD.

 11. AQJLU; UQJLAQSLV.

 12. ULWA; UPBLWB; AWDMA L WDL DPU. VLWNA; VPCLWNC.
VQJLWNA; VQSLWNNNA. JP EWFGH L EFWGH; SP EWFGH L EFGWH.

 13. GIWIHYHN; TKCYT. ZYCWADAF.

 14. DPZPWNNIBRCQC.

Figure 1: Ivan Bell's interplanetary message.