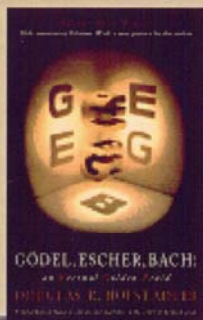


Unexpected Puns Lurking in the Heart of Mathematics



Pulitzer Prize-winning author
 Professor Douglas Hofstadter
 Indiana University



In 1931, the young Austrian logician Kurt Gödel, exploring the imaginary infinite book of all true statements about the properties of the natural numbers (0, 1, 2, 3,...), stumbled upon a most curious family of special statements that are like puns, in that they have both an ordinary meaning and a second, hidden meaning. He realized that there are vast numbers of such ambiguous statements, and that their hitherto unsuspected hidden meanings concern the book of statements itself. Thus the imaginary book of all number-theoretical truths turned out to be

peppered with puns, and these puns are jokes about the book itself. Gödel's favorite pun was a statement that made a wonderfully stinging statement about itself. How did Gödel discover these unsuspected jokes in the book of number theory? What kinds of things do the hidden meanings say? What, especially, does Gödel's favorite pun say about itself? Are the Gödelian puns of any interest to anyone but Gödel, or are they just trivialities? What did Gödel's discovery of puns pervading the book of number theory reveal about mathematics?

Dr. Hofstadter's research is driven by a long-standing interest in creativity and consciousness. He also studies and writes about cognitive phenomena in a number of other areas. Some of these are: the relationship between words and concepts; the mechanisms underlying human error-making, especially in language; the nature of sexist language and default imagery; the mechanisms underlying discovery and invention in mathematics, especially geometry; the process of creative literary translation, especially of poetry; and the philosophy of mind, consciousness, and the sense of self. In 1980 he won a Pulitzer Prize for his book *Gödel, Escher, Bach: an Eternal Golden Braid*. It has had considerable impact on people in many disciplines, ranging from philosophy to mathematics to artificial intelligence to music, and beyond. He has written several other books and many articles, and for a number of years wrote a column for "Scientific American". His most recent work is a translation of *Eugene Onegin*, Alexander Pushkin's luminous novel in verse.



Kurt Gödel



Kurt Gödel and Albert Einstein

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7 pm

Comstock
 Concert Hall

School of Music
 University of
 Louisville

For more information please contact:
 Professor Inessa Levi
 (inessa.levi@louisville.edu);
 Professor Richard Davitt
 (davitt@louisville.edu); or
 Professor Manav Das
 (manav@louisville.edu) at
 502-852-6826.

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