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Mathematical Rebuses

Florentin Smarandache
Pima Community College

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tiful as it does music. Rothstein backs up this premise with quotes such as this from Hermann Weyl: "My work always tried to unite truth with the beautiful; but when I had to choose one or the other, I usually chose the beautiful." The Cantor set, formulae involving pi, and several pages on the Golden Ratio are included as examples of beauty in mathematics.

In Chapter 5, "Fugue: The Making of Truth," the aesthetic/religious natures of mathematics and music are described to show what the author considers the really important connections of these subjects. We are

"My work always tried to unite truth with the beautiful; but when I had to choose one or the other, I usually chose the beautiful."

reminded that both mathematics and music have been closely associated with religious ritual. How do mathematics and music seem so "other worldly" yet impact our lives daily? This question is not about the internal workings of the subjects but about how they "map into" the world - it is a question about meaning and truth. Rothstein describes mathematical proof as ritual and uses a quote from G. H. Hardy to support his contention: "If we were to push it to its extreme, we should be led to rather a paradoxical conclusion: that there is, strictly, no such thing as mathematical proof; that we can, in the last analysis, do nothing but point; that proofs are . . . gas, rhetorical flourishes designed to affect psychology."

We are finally prepared for the point: The mathematician, the musician, the poet, all imitate "Nature at work, reproducing in their creations the emblems that Nature had bodied forth in hers . . . A mathematician will spin out a new theory or a composer create a miniature sonic universe; a poet will turn an experience into metaphor, a scene into a source of illumination. And each creator will, 'mid circumstances awful and sublime,' be as astonished by the result as was Kepler or Bach."

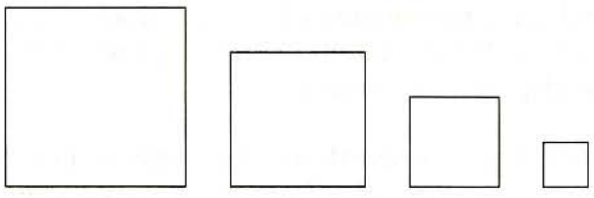
The book is really a wonderful work which glorifies two subjects of great importance to any civilization. It would be excellent as a required or ancillary reading in a Liberal Arts Mathematics course.

Mathematical Rebuses

Florentin Smarandache
Pima Community College
Tucson, AZ 85709

$$\begin{pmatrix} M & R & X \\ R & A & I \\ X & I & T \end{pmatrix}$$

= Symmetrical Matrix



= Method of the Littlest Squares

mathematical algorithm involving the Fibonacci sequence and the concept of modularity to compose a musical piece, we were rather unexpectedly led to a result in number theory.

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Pima Community College
Tucson, AZ 85709

A
R
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T
H
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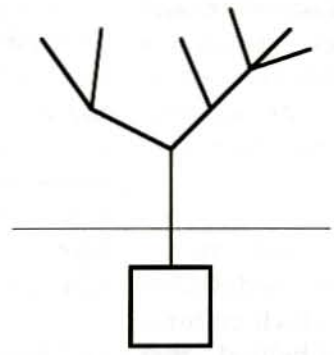
C

= Higher Arithmetic



= Square Root

S P A
C E

= Compact Space

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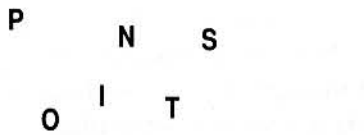
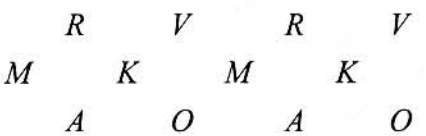


= Noncollinear Points



= Markov Chains