A PARADOXICAL MATHEMATICIAN: HIS FUNCTION, PARADOXIST GEOMETRY, AND CLASS OF PARADOXES

by Michael R. Mudge

Described by Charles T. Le, Bulletin of Number Theory, vol.3, No.1, March 1995, as "The most paradoxist mathematician of the world" FLORENTIN SMARANDACHE was born on December 10th, 1954, in Balcesti (a large village), Valcea, Romania of peasant stock. A very hard and socially deprived childhood led to a period of eccentric teenage behaviour, he was close to being expelled from his high school in Craiova for disciplinary reasons. Eventually, however, a period of university studies, 1974-79, resulted in the recognition of mathematical brilliance by the professor of algebra, Alexandru Dinca. Florentin generalised Euler's Theorem from:

If $(a,m) = 1$, then $a^{\phi(m)} \equiv 1 \pmod m$ to,

If $(a,m) = d_s$, then $a^{\phi(m_s) + s} \equiv a^s \pmod m$ where m_s divides m and s is the number of steps to get m_s.

An industrial appointment from 1979 to 1981 was disastrous, ending in dismissal for disciplinary reasons. In 1986 an apparently successful teaching appointment was terminated by the Ceausescu dictatorship and two years of unemployment followed. In 1988 an illegal escape from Romania through Bulgaria resulted in two years in a Turkish refugee camp, where much time was spent as a drunken vagrant.

Many mathematicians and writers lobbied the United Nations Commision for Refugees, based in Rome, and exile to the United States followed in 1990. As a member of the American Mathematical Society since 1992 and of the Romanian Scientists Association (Bucharest) since 1993 and a reviewer for the Number Theory to Zentralblatt für Mathematik scores of publications and four books bear the name of Smarandache, publishing in English, French and his native Romanian.

The Smarandache Function, S(n), is defined for positive integer argument only as the smallest integer such that S(n)! is divisible by n: (the extension to other real/complex argument has not, yet, been investigated).

The Smarandache Quotient, Q(n), is defined to be S(n)!/n.

Limited tabulation of both functions appears in The Encyclopedia of Integer Sequences by N.J.A.Sloane & Simon Plouffe, Academic Press, 1995. M1669 & M0453.

There exists an extensive literature dealing with properties of these functions; "An Infinity of Unsolved Problems Concerning a Function in Number Theory", Smarandache Function Journal, vol.1., No.1, December 1990, pp12 - 55, ISSN 1053-4792, Number Theory Publishing Company, P.O. Box 42561, Phoenix, Arizona 85080, USA providing an ideal starting point for interested readers.

A recent paper by Charles Ashbacher, Mathematical Spectrum, 1995/96, vol.28., No.1, pp20-21 addresses the question of when the Smarandache Function satisfies a Fibonacci recurrence relation, i.e. S(n) = S(n-1) + S(n-2). Empirical evidence is for 'few' occasions the largest known being n = 415664. Are there infitely many?

A Paradoxist Geometry. In 1969, at the age of 15, fascinated by geometry, Florentin Smarandache constructed a partially Euclidean and partially non-Euclidean geometry in the same space by a strange replacement of the Euclid's fifth postulate (the axiom of paralells) with the following five-statement proposition:

a)there are at least a straight line and an exterior point to it in this space for which only one line passes through the point and does not intersect the initial line;

b)there are at least a straight line and an exterior point to it in this space for which only a finite number of lines, say $k \geq 2$, pass through the point and do not intersect the initial line;

c)there are at least a straight line and an exterior point to it in this space for which any line that passes through the point intersects the initial line;

d)there are at least a straight line and an exterior point to it in this space for which an infinite number of lines that pass through the point (but not all of them) do not intersect the initial line;

e)there are at least a straight line and an exterior point to it in this space for which any line that passess through the point does not intersect the initial line.

Does there exist a model for this PARADOXIST GEOMETRY? If not can a contradiction be found using the above set of propositions together with Euclid's remaining Axioms?

Smarandache Classes of Paradoxes. Contributed by Dr.Charles T.Le, Erhus University, Box 10163, Glendale, ARIZONA 85318. USA.

Let @ be an attribute and non-@ its negation.

Thus if @ means 'possible' then non-@ means 'impossible'.

The original set of Smarandache Paradoxes are:

ALL is "@", THE "NON-@" TOO.

ALL IS "NON-@", THE "@" TOO.

NOTHING IS "@", NOT EVEN "@".

These three kinds of paradox are mutually equivalent and reduce to:

PARADOX: ALL (verb) "@", THE "NON-@" TOO.

See Florentin Smarandache, "Mathematical Fancies & Paradoxes", paper presented at the Eugene Strens Memorial on Intuitive and Recreational Mathematics and its History, University of Calgary, Alberta, Canada, July 27 - August 2, 1986.

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Further Reading:

Only Problems, Not Solutions!, Florentin Smarandache, Xiquan Publishing House, 1993 (fourth edition), ISBN- 1-879585-00-6.

Some Notions and Questions in Number Theory, C.Dumitrescu & V.Seleacu, Ehrus University Press, Glendale,1994, ISBN 1-879585-48-0.