FLORENTIN SMARANDACHE
The Function that you Bear its Name!

THE FUNCTION THAT YOU BEAR ITS NAME !

This quatation is from a Letter of September 24, 1993, by Constantin M. Popa, an essayist of the Paradoxist Literary Movement [a movement stating that <the sense has a non-sense and, reciprocally, the non-sense has a sense too>], referring to the <Smarandache> Function!   .

It's a comic sentence, somehow opposite to the Swiss-French mathematician Jacques Sturm (1803-55)'s lectures at l'Ecole Polytechnique, where, teaching students about the <Sturm> Theorem, Jacques said:

"Le théorème dont j'ai l'honneur de porter le nom" (the theorem that I am honored of to bear my name), i.e.:

let $p(x)$ be a real polynomial, $p_1 = p'$, and each $pi = -ri$, where ri are the succesive remainders computed by Euclidean Algorithm for the highest common factor of p and p' (this is called the Sturm Sequence);

if p is non-zero at the end points od an interval, then the number of roots in that interval, counting multiplicity, is the difference between the number of sign changes of the Sturm Sequence at the two end points.

Maybe it was accidentally that just this of my 40 math papers focused the attention of numbertheorists, a paper written when I was a high school student in 1970s, "A function in the number theory" :

$S(n)$ is defined as the smallest integer such that $S(n)!$ is divisible by n.

Some open problems and conjectures are related to it. For examples:

1. The equation $S(n) = S(n + 1)$ has no solution.

2. The function verifies the Fibonacci relationship

$$S(n) + S(n + 1) = S(n + 2)$$

for infinitely many positive integers n.

{Some progress has been got, verifying by computer programs these previous assertions for n up to $100,000$; but it's seems to be still hard to find an analytic method for proving them.}

I attached some reference works published by various journals about "the function that I bear its name", and I'll be glad to here from you.

[For Professor Puaul Hartung and his students, the Number Theory Class, Department of Mathematics ans Computer Science, Bloomsburg University, PA; November 13th, 1995, time: 4:00-5:00 p.m.]