A Tribute to Herb Wilf

Doron ZEILBERGER[1]

Herbert Wilf is one of the greatest combinatorialists of our time, but his influence far transcends the boundaries of any specific area. He was way ahead of his time when, as a fresh (28-year-old) PhD , he co-edited (with Anthony Ralston) the pioneering book "Mathematical Methods for Digital Computers", and three years later wrote the beautiful classic textbook "Mathematics for the Physical Sciences", and when algorithms just started to pop up everywhere pioneered (with Don Knuth) the Journal of Algorithms, and when the internet started, pioneered the Electronic Journal of Combinatorics. Herb also realized the great potential of the internet for the sharing of knowledge, and has several of his classic textbooks available for a free download!

Not to mention his great mathematical contributions!

Not to mention that he academically fathered 28 (a perfect number!) brilliant combinatorial children, including eight females (way back when there were very few female PhDs).

Many of these brilliant academic children became distinguished academic mathematicians, for example, Fan Chung, Joan Hutchinson, the late Rodica Simion, Felix Lazebnik, and many others. But some of them had brilliant careers elsewhere. These include:

• Richard Garfield, of *Magic the Gathering* fame, one-time teenage idol, and still a household name amongst gamesters ;

• The Most Rev. Dr. Anthony Mikovsky, Prime Bishop of the Polish National Catholic Church ;

• Alkes Price, an ex-prodigy, who made a bundle in finance, and wisely went back to academia, and is now a rising star in Statistical Genetics ;

• Michael Wertheimer, CTO of the National Security Agency from 2005 to 2010.

The first scientific contribution of Herb Wilf (b. June 13, 1931) was in *astronomy.* In the Oct. 1945 issue of *Sky and Telescope*, in an article that reported on readers' observations of a solar eclipse, one can find the following:

"**Herbert Wilf** *of New York City, sent in times of the first and last contacts agreeing closely with those predicted for his location. He used a stop watch of known rate set with radio time signals*"

After that Herb focused on mathematics, but his interests ranged far and wide, and went through several phases. In a short (probably auto-) biographical footnote for a 1982 *American Mathematical Monthly* article it says:

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"His principal research interests have been in analysis: numerical, mathematical, and in the past several years, combinatorical".

Herb's "religious" conversion to *combinatorics* was already cited by Fan Chung and Joan Hutchinson's lovely tribute on the occasion of his 65-th birthday:

In 1965, Gian-Carlo Rota came to the University of Pennsylvania to give a colloquium talk on his then-recent work on Mobius functions and their role in combinatorics. Herb recalled, "That talk was so brilliant and so beautiful that it lifted me right out of my chair and made me a combinatorialist on the spot".

But Herb returned the debt and made *me* convert to the religion of combinatorics.

The bio attached to one of my own articles reads:

Doron Zeilberger was born, as a person, on July 2, 1950. He was born, as a mathematician, in 1976, when he got his Ph.D. under the direction of Harry Dym (in analysis). He was born-again, as a combinatorialist, two years later, when he read a lovely proof of the so-called Hook-Length Formula (enumerating Standard Young Tableaux) by Curtis Greene, Albert Nijenhuis, and Herb Wilf. He lived happily ever after.

I still live happily, and all thanks to Herb (and Albert Nijenhuis and Curtis Greene, now Herb's beloved **son-in-law**).

Thanks Herb for the great inspiration that you bestowed on me and on so many other people whose lives-both mathematically and personally- you have touched. Keep up the good work!