THREE ADVENTURES: SYMBOLICALLY DISCOVERED IDENTITIES FOR $\zeta(4n + 3)$ AND LIKE MATTERS

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Abstract. I will describe three sets of results in which computer search and computer algebra played a large role in the discovery/and or proof of results - each ultimately relating to hypergeometric functions.

1. *Apéry*: A generating function for $\zeta(4n + 3)$.

2. *Ramanujan*: Integrals, means and transformations of the hypergeometric $_2F_1(1/3, 2/3, 1; 1 - x^3)$.

3. *Euler*: Multivalued ζ–function values and a product of hypergeometric $_2F_1$'s.

In each case, my emphasis is on the role of disciplined experimentation and computation.