VARIABLE-PRECISION ARITHMETIC CONSIDERED PERILOUS — A DETECTIVE STORY[*]

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In memory of Gene Golub

The scene of the crime. In 2002, I was interested in computations to very high precision, having been challenged by Nick Trefethen to compute a number he called τ to $10\,000$ digits. This number is the sum of ten other numbers, each of which was defined by a difficult computational problem. The story is told in [F. Bornemann, D. Laurie et al.: *The SIAM 100-Digit Challenge: A Study in High-Accuracy Numerical Computing*, SIAM, PA, 2004].

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