Addendum to 'Nīlakaṇṭha, Euler and π '

(*Resonance*, May 1997)

A letter has been received from M D Srinivas of the Centre for Policy Studies, Chennai. He points out that it is incorrect to attribute the result that $\pi/4 = 1 - 1/3 + 1/5 - 1/7 + \dots$ to Nīlakaṇṭha Somayāji as was done in the article, and that it would be more appropriate to call it the *Mādhava-Gregory series*. He writes: "... [proofs] are to be found in the commentaries on the *Tantrasangraha* and *Līlāvati* by Saṅkara Variyar (1500–1560), a student of Nīlakaṇṭha, Saṅkara clearly attributes these series to Mādhava (1350–1410) and the proofs are presumably due to him. In any case there is no mention of Nīlakaṇṭha as having been the first to have proved them.... Some scholars (notably R C Gupta and G C Joseph) have preferred to call it the Mādhava-Gregory series ...". He adds that Nīlakaṇṭha's works display the in-depth knowledge that he had of the work of Mādhava (for instance, he cites the result of Mādhava giving the value of π correct to 11 decimal places, and also explains that π cannot be exactly expressed as a ratio of two integers) and that his more important contributions lie in the field of astronomy rather than in mathematical analysis. Srinivas writes: "Nīlakaṇṭha's main contribution is that he carried out a major revision of the traditional Indian planetary model, which he presented first in his *Tantrasangraha* (written in 1500 AD)". Readers who are interested in learning more about this are referred to the article in *CURRENT SCIENCE*, Volume 66, page 784 (1994), by K Ramasubramanian, M D Srinivas and M S Sriram. They could also write directly to M D Srinivas (Centre for Policy Studies, 27 Rajasekaran Street, Mylapore, Chennai 600 004).

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