

TECHNICAL NOTES AND SHORT PAPERS

Wolfram, Vega, and Thiele

In my article "New information concerning ISAAC WOLFRAM's life and calculations," *MTAC*, v. 4, 1950, p. 185-200, special consideration is given to his extraordinary table of $\ln x$ to 48 D, as published in J. C. SCHULZE, *Recueil de Table Logarithmiques*, v. 1, 1778, p. 190-258. In this table are 3457 arguments, not 3462 as stated on p. 193, line -7, and p. 197, line 8. This erroneous statement was caused by overlooking the fact that in the 69 pages of the table there were ten groups of figures on every page *except* 256, where there were only nine groups. Thus this page reduced the estimated number of arguments by 5. Hence certain changes must be made in the text.

Following the change indicated above on p. 193, *for* 2230, *read* 2225; *for* 928, *read* 904; *for* 533, *read* 552. In addition to the necessary change indicated on p. 197 are others. First of all 9579 was a *misprint* for 9599. The reduction of the number of arguments in WOLFRAM by 5 means that there should be 79 arguments in THIELE, not 74, which are not in WOLFRAM; the additional arguments to the 74 listed are: 6049, 7453, 9707, 9821, 9877. In the last seven lines of p. 196, *for* 3456, *read* 3457; *for* 2280, *read* 2225; *for* 74, *read* 79.

In referring to VEGA's 1794 reprint of WOLFRAM's table, p. 194-195, I failed to note that VEGA gave only 3451 arguments, that is, 6 less than WOLFRAM. This fact was brought to my attention in June 1954, by Dr. ALAN FLETCHER, of the University of Liverpool. I now find that the 6 WOLFRAM arguments omitted in VEGA are the composite numbers 2215, 2225, 2233, 2299, 2387, 2401. Since no one of these omissions is a prime, PETERS' and STEIN's Table 13, based on VEGA, is unchanged.

Next, I refer to two matters in a letter of April 6, 1953, from my friend Mr. C. R. COSENS of the University of Cambridge. On p. 197, I had written concerning THIELE's 1908 table, "Curiously enough WOLFRAM's error in no. 28 (7853) is corrected. This is indeed a major mystery; the only explanation which I can offer is that the typesetter substituted an 8 for a 7, by mistake which THIELE did not observe!" The correction of this error in WOLFRAM was published by BURCKHARDT in 1817. I agree with COSENS that a better explanation of THIELE's achievement in this regard may have been that BURCKHARDT's correction had been brought to his attention.

The second matter which Mr. COSENS discusses at some length in his letter, has reference to the *Caliberstabe*, p. 189, lines 2-5, and footnote 34. Mr. COSENS shows that such a *Caliper Rule*, with scales, was used in connection with artillery; that the weight of a round shot equals the cube of its diameter. The diameter (bore of the gun) would be the cube root of the weight.

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A Note on Approximating Polynomials for Trigonometric Functions

High speed automatic digital calculators have two means available for the evaluation of $\sin x$ and $\cos x$ when x is given. Either a table of values of the