Some comments about Issai Schur (1875–1941) and the early history of Schur complements

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: Issai Schur, *c.* 1917

Abstract: After some biographical remarks about Issai Schur (1875–1941), we note that he attended the Nicolai Gymnasium in Libau (Kurland) from 1888–1894 and suggest that the adjectival noun Nicolai is used here in honour of Saint Nicholas of Bari, Bishop of Myra (*fl.* 4th cent.), who is widely associated with Christmas and after whom Santa Claus is named. We also comment on the fact that Issai Schur published under I. Schur and under J. Schur and suggest an explanation for this. The term *Schur complement* was introduced in 1968 by Emilie Virginia Haynsworth (1916–1985) in view of a lemma (Hilfssatz) in a 1917 paper by Issai Schur. We continue with some useful early results involving Schur complements by Alexander Craig Aitken (1895–1967), Tadeusz Banachiewicz (1882–1954), and William Jolly Duncan (1894–1960), along with some biographical remarks. The talk ends with proofs of the Cauchy–Schwarz Inequality and the Frisch–Waugh–Lovell and Gauß–Markov Theorems using Schur complements. Several pictures illustrate this talk. [Joint research with Simo Puntanen, University of Tampere, Tampere, Finland.]