

*SCAG file*~~CONFIDENTIAL~~

5 March 1952

TO : 03  
Via 302  
03T

FROM: 34

Report of trip to Princeton University, Princeton, N. J.

On Monday, 3 March 1952, LCDr. Gleason and I visited Prof. von Neumann at Princeton, accompanied by Dr. H. T. Engstrom and A. E. Roberts, Jr. of ERA.

The principal subject of discussion was the computational method being tried by Roberts as an analytic way of recovering a substitution. It was agreed that his recent experiments are encouraging, and nothing should be allowed to interfere with pushing this method to a conclusion.

In the course of the discussion it appeared that Prof. von Neumann had been studying an alternative method. This method is to find a linear combination of all permutations, each weighted according to how well or how badly it fitted the given data. Although this sounds as though  $n!$  coefficients must be evaluated, von Neumann has an ingenious procedure which would cut the work to less than  $n^4$  computations. It is not yet clear that the method would work or that the computations are feasible, but the idea is novel and worth at least a preliminary investigation.

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H. H. CAMPAIGNE  
Chief, 34

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