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REPORT OF THE CHAPEL HILL MEETING OF THE INSTITUTE

The forty-second meeting of the Institute of Mathematical Statistics was held jointly with the Biometric Society (Eastern North American Region) at the Chapel Hill campus of the University of North Carolina on Friday, March 17, and Saturday, March 18, 1950. One hundred twenty-one persons registered, including the following members of the Institute:

R. L. Anderson, T. W. Anderson, Geoffrey Beall, C. A. Bennett, Mrs. C. A. Bennett, Nils Blomqvist, R. C. Bose, R. A. Bradley, Irwin Bross, Glen Burrows, L. D. Calvin, Uttam Chand, W. G. Cochran, A. C. Cohen, Jr., W. S. Connor, Jr., P. P. Crump, E. E. Cureton, R. C. Davis, W. L. Deemer, T. G. Donnelly, Churchill Eisenhart, J. W. Fertig, S. G. Ghurye, Leon Gilford, B. G. Greenberg, F. E. Grubbs, Max Halperin, J. F. Hannan, Boyd Harshbarger, C. R. Henderson, Wassily Hoeffding, Harold Hotelling, A. S. Householder,

W. G. Howard, S. L. Isaacson, A. W. Kimball, Jr., B. F. Kimball, Marguerite Lehr, Guido Liserre, Eugene Lukacs, C. L. Marks, H. A. Meyer, Paul Minton, D. J. Morrow, Jack Moshman, C. M. Motley, M. L. Norden, H. W. Norton, Ingram Olkin, Paul Peach, J. A. Rafferty, Wyman Richardson, Jr., Herbert Robbins, S. N. Roy, S. A. Schmitt, R. E. Serfling, D. H. Shepard, P. N. Sommerville, E. W. Stacy, J. W. Tukey, D. F. Votaw, Jr., F. M. Wadley, M. A. Woodbury, Marvin Zelen.

Professor R. L. Anderson presided at the opening session for contributed papers on Friday morning. The following papers were presented:

1. *A Method of Estimating the Parameters of an Autoregressive Time Series*. Mr. S. G. Ghurye, University of North Carolina.
2. *Most Powerful Rank Order Tests*. Professor Wassily Hoeffding, University of North Carolina.
3. *The Comparison of Percentages in Matched Samples*. Professor W. G. Cochran, Johns Hopkins University.
4. *A Method of Estimating Components of Variance in Disproportionate Numbers*. Professor H. L. Lucas, North Carolina State College.
5. *On the Theory of Unbiased Tests of Simple Statistical Hypotheses Specifying the Values of Two Parameters*. Mr. S. L. Isaacson, Columbia University.
6. *A Note on Orthogonal Arrays*. Professor R. C. Bose, University of North Carolina.
7. *Transformations Related to the Angular and the Square Root*. Mr. M. F. Freeman and Professor J. W. Tukey, Princeton University.
8. *Standard Inverse Matrices for Fitting Polynomials*. Mr. F. J. Verlinden, North Carolina State College.

On Friday afternoon Dr. James A. Rafferty, School of Aviation Medicine, Randolph Field, Texas, gave an invited address on *Mathematical Models in Biology*. Professor Gertrude M. Cox then presided at a session for contributed papers, at which the following papers were presented:

1. *Small Sample Performance of Biological Statistics*. Mr. Irwin Bross, Johns Hopkins University.
2. *Methodology in the Study of Physical Measurements of School Children*. Professor B. G. Greenberg and Professor A. H. Bryan, University of North Carolina.
3. *Tetrad Analysis in Yeast*. Dr. A. S. Householder, Oak Ridge National Laboratory.
4. *Contribution to the Probabilistic Theory of Neural Nets. I. Randomization of Refractory Periods and of Stimulus Intervals*. Professor Anatol Rapoport, University of Chicago.
5. *Theoretical and Experimental Aspects in the Removal of Airborne Matter by the Human Respiratory Tract*. Professor H. D. Landahl, University of Chicago. (Read by Professor Rapoport.)
6. *An Application of Biometrics to Zoological Classifications*. Dr. F. M. Wadley, Navy Department, Washington, D. C.
7. *The Analysis of Hemotological Effects of Chronic Low-level Radiation*. Mr. Jack Moshman, United States Atomic Energy Commission, Oak Ridge, Tennessee.

A joint dinner of the two sponsoring organizations was held at the Carolina Inn on Friday evening, with an attendance of sixty-two. Professor W. G. Cochran as toastmaster introduced Chancellor R. B. House of the University of North Carolina who welcomed the gathering with words and music. Professor Gertrude M. Cox responded for the Biometric Society and Professor D. F. Votaw for the Institute.

Professor Harold Hotelling presided at a Saturday morning symposium on

multivariate analysis. Professor E. E. Cureton of the University of Tennessee gave the opening address on *Statistical Problems in Psychological Testing*. After a lively discussion the following contributed papers were presented:

1. *Accuracy of a Linear Prediction Equation in a New Sample*. Professor George E. Nicholson, Jr., University of North Carolina.
2. *Independence of Quadratic Forms in Normally Correlated Variables*. Professor Yuki-yosi Kawada, Tokyo University of Literature and Science, Tokyo, Japan. (Read by the chairman).
3. *Bounds on the Distribution of Chi-square*. Mr. S. A. Vora, University of North Carolina.

This was followed by a Biometric Society address by Professor C. R. Henderson of Cornell University on *Estimation of Genetic Parameters*.

Professor W. G. Cochran presided at the final session for contributed papers on Saturday afternoon. The following papers were presented:

1. *Estimating the Mean and Standard Deviation of Normal Populations from Double Truncated Samples*. Professor A. C. Cohen, Jr., University of Georgia.
2. *Minimax Estimates of Location and Scale Parameters*. Mr. Gopinath Kallianpur, University of North Carolina.
3. *On Some Features of the Neyman-Pearson and Wald Theories of Statistical Inference, Their Interrelations and Bearing on Some Usual Problems of Statistical Inference*. Professor S. N. Roy, University of North Carolina.
4. *Note on Uniformly Best Unbiased Estimates*. Mr. R. C. Davis, Naval Ordnance Test Station, Inyokern, Calif.
5. *Competitive Estimation*. Professor Herbert Robbins, University of North Carolina.
6. *The Effect of an Unknown 'Location Disturbance' on "Student's" t Based on a Linear Regression Model*. Professor Uttam Chand, Boston University.
7. *Corrections for Non-normality for the Two-sample t and F distributions Valid for High Significance Levels*. Professor Ralph A. Bradley, McGill University.
8. *Some Tests Based on the Empirical Distribution Function*. Mr. J. F. Hannan, University of North Carolina.
9. *On a Generalization of the Behrens-Fisher Problem*. (By title). Dr. John E. Walsh, Rand Corporation, Santa Monica, Calif.
10. *Construction of Partially Balanced Designs with Two Accuracies*. (By title). Mr. S. S. Shrikhande, University of North Carolina and Nagpur College, Nagpur, India.
11. *Designs for Two-way Elimination of Heterogeneity*. (By title). Mr. S. S. Shrikhande.
12. *Designs for Animal Feeding Experiments*. (By title). Mr. S. S. Shrikhande.
13. *A Truncated Sequential Procedure for Interval Estimation, with Applications to the Poisson and Negative Binomial Distributions*. (By title). Mr. D. Martin Sandelius, University of Washington and Uppsala University, Uppsala, Sweden.
14. *A Generalization of the Method of Maximum Likelihood: Estimating a Mixing Distribution*. (By title). Professor Herbert Robbins, University of North Carolina.
15. *Smallest Average Confidence Sets for the Simultaneous Estimation of k Normal Means*. (By title). Mr. Raghu Raj Bahadur, University of North Carolina.

About eighty-five members of the two organizations attended a tea given by Professor and Mrs. Hotelling at the conclusion of the Saturday afternoon session.

HERBERT ROBBINS
Assistant Secretary