Skibinsky, Morris, B.S. (City College of N. Y.), Graduate Student, Department of Mathematical Statistics, University of North Carolina, *Room 323 B-Dormitory, Chapel Hill, North Carolina.*

Sullivan, J. R., M.A. (Georgetown Univ.), Instructor in Mathematics, Clemson College, South Carolina (on leave); and Graduate Student, University of North Carolina, *18-C, Lennox, Chapel Hill, North Carolina.*

Tornqvist, Leo, Ph.D. (Abo Akademi), Professor in Statistics, Institute of Statistics, University of Helsinki, Helsinki, Suomi (Finland).

von Guerard, Hermann W., Director, Statist. Amts., Lambertusstr. 1, Dusseldorf, Germany.

Wunsche, Gunther, Dipl. Math. (Tech. Univ. of Dresden), Chefmathematiker und Prokurist, Universitatsdozent, *Lenbachplatz 4, Munich 2, Germany.*

REPORT OF THE CHICAGO MEETING OF THE INSTITUTE

The thirteenth Annual Meeting and forty-fifth meeting of the Institute of Mathematical Statistics was held in Chicago, December 27–29, 1950. Headquarters were at the Congress Hotel. Sessions were held at the Congress Hotel, Roosevelt College and the Palmer House. One or more sessions were held in conjunction with one or more of the following organizations: the American Statistical Association, the Econometric Society, the American Association of University Teachers of Insurance, the American Economic Association, the American Farm Economic Association, the American Marketing Association, the American Psychological Association, the American Public Health Association, the American Society for Quality Control (Chicago Section), the Association for Computing Machinery, the Biometric Society (Eastern North American Region), the Population Association of America, and the Psychometric Society. The following 266 members of the Institute attended:

Helen Abbey, F. S. Acton, Beatrice Aitchison, A. A. Alchian, J. E. Alman, R. L. Anderson, T. W. Anderson, E. E. Ard, K. J. Arnold, K. J. Arrow, Max Astrachan, G. J. Auner, R. R. Bahadur, E. W. Bailey, J. C. Bain, T. A. Bancroft, E. W. Barankin, Walter Bartky, W. D. Baten, R. E. Bechhofer, B. M. Bennett, Richard Berger, Z. W. Birnbaum, C. I. Bliss, Isadore Blumen, C. R. Blyth, A. H. Bowker, R. A. Bradley, Dorothy S. Brady, A. E. Brandt, M. F. Bresnahan, C. A. Bridger, Jean Bronfenbrenner, I. D. J. Bross, R. W. Burgess, L. D. Calvin, J. M. Cameron, E. S. Cansado, A. G. Carlton, C. G. Carlyle, O. S. Carpenter, Maria Castellani, F. R. Cella, Herman Chernoff, Randolph Church, W. G. Cochran, C. H. Coombs, Jerome Cornfield, J. H. Cover, Gertrude M. Cox, C. C. Craig, E. L. Crow, S. L. Crump, E. E. Cureton, Cuthbert Daniel, D. A. Darling, Besse B. Day, F. R. Del Priore, D. B. DeLury, W. E. Deming, B. W. Dempsey, Lucile Derrick, J. L. Doob, H. F. Dorn, D. B. Duncan, C. W. Dunnett, David Durand, A. M. Dutton, P. S. Dwyer, Churchill Eisenhart, Lila Elveback, Benjamin Epstein, H. P. Evans, W. D. Evans, W. T. Federer, Robert Ferber, J. W. Fertig, Evelyn Fix, M. M. Flood, E. J. Frank, L. R. Frankel, D. A. S. Fraser, H. A. Freeman, H. C. Fryer, R. P. Gage, M. A. Girshick, Mary A. Goins, L. A. Goodman, Roe Goodman, B. G. Greenberg, S. W. Greenhouse, J. A. Greenwood, L. E. Grosh, F. A. Gross, F. E. Grubbs, Harold Gulliksen, L. S. Gunlogson, John Gurland, R. K. Haddad, R. J. Hader, K. W. Halbert, Max Halperin, F. J. Halton, M. H. Hansen, H. H. Harman, T. E. Harris, H. L. Harter, Mina Haskind, P. M. Hauser, W. C. Healy, Jr., F. M. Hemphill, J. L. Hodges, Jr., William Hodgkinson, Jr., R. G. Hoffmann,

J. F. Hofmann, R. V. Hogg, H. B. Horton, D. G. Horvitz, Harold Hotelling, E. E. Houseman, W. G. Howard, C. J. Hoyt, Leonid Hurwicz, P. E. Irick, S. L. Isaacson, J. E. Jackson, C. M. Jaeger, A. T. James, E. H. Jebe, R. J. Jessen, H. L. Jones, L. B. Kahn, Leo Katz, L. S. Kellogg, H. J. Kelly, Oscar Kempthorne, Nathan Keyfitz, A. W. Kimball, Jr., E. P. King, L. R. Klein, L. A. Knowler, Lila F. Knudsen, C. F. Kossack, R. L. Kozelka, K. H. Kramer, William Kruskal, Solomon Kullback, T. E. Kurtz, R. A. Leibler, H. O. Levine, G. J. Lieberman, Gilbert Lieberman, J. E. Lieberman, R. F. Link, Michel Loève, G. F. Lunger, W. G. Madow, C. J. Maloney, John Mandel, Nathan Mantel, E. S. Marks, Mary Marquardt, Jacob Marschak, Margaret P. Martin, Pat Maxwell, Jr., K. O. May, P. J. McCarthy, G. E. McCreary, D. C. McCune, P. W. McGann, F. E. McIntyre, Brockway McMillan, Margaret Merrill, Robert Mirsky, A. M. Mood, R. H. Morris, J. E. Morton, L. E. Moses, Jack Moshman, Frederick Mosteller, B. D. Mudgett, Hugo Muench, M. R. Neifeld, C. J. Nesbitt, Jerzy Neyman, R. T. Nichols, M. L. Norden, J. I. Northam, H. W. Norton, G. B. Oakland, E. G. Olds, P. S. Olmstead, Bernard Ostle, Toby Oxtoby, A. E. Paull, M. P. Peisakoff, B. E. Phillips, Frank Proschan, Joan E. Raup, L. J. Reed, J. S. Rhodes, P. R. Rider, B. A. Rojas, C. F. Roos, S. N. Roy, M. M. Sandomire, F. E. Satterthwaite, L. J. Savage, Henry Scheffé, M. A. Schneiderman, Elizabeth L. Scott, R. H. Shaw, R. W. Shephard, Jack Sherman, W. A. Shewhart, I. H. Siegel, Jack Silber, P. B. Simpson, Rosedith Sitgreaves, H. F. Smith, J. H. Smith, Milton Sobel, Herbert Solomon, L. D. Sommers, F. A. Sorensen, Mortimer Spiegelman, E. W. Stacy, B. R. Stauber, R. G. D. Steel, C. M. Stein, H. W. Steinhaus, F. F. Stephan, O. F. Stewart, J. V. Sturtevant, B. R. Suydam, Zenon Szatrowski, J. V. Talacko, Dan Teichroew, J. G. C. Templeton, B. J. Tepping, D. J. Thompson, G. R. Treanor, A. E. Treloar, J. W. Tukey, G. W. Tyler, S. A. Tyler, S. A. Vora, D. F. Votaw, Jr., Helen M. Walker, D. L. Wallace, W. A. Wallis, F. A. Weck, Samuel Weiss, M. E. Wescott, Eric Weyl, Phillips Whidden, S. S. Wilks, C. P. Winsor J. Wolfowitz, M. A. Woodbury, Holbrook Working, W. J. Youden, R. K. Zeigler.

At 10 a.m., Wednesday, December 27, 1950 the American Statistical Association joined the Institute in one of two sessions held at that time for contributed papers. Albert H. Bowker of Stanford University presided. The following papers were presented:

1. *Cost Functions for Sample Surveys. Preliminary Report.* Garnet E. McCreary, University of Manitoba and Iowa State College.
2. *On a Preliminary Test for Pooling Mean Squares in the Analysis of Variance.* A. E. Paull, Abitibi Power & Paper Company, Limited, Toronto, Canada.
3. *Estimation for Sub-Sampling Designs Employing the County as a Primary Sampling Unit.* Emil H. Jebe, Iowa State College and North Carolina State College.
4. *The Probability Distribution of the Number of Isolates in a Social Group.* Leo Katz, Michigan State College.
5. *Estimating Population Size Using Sequential Sampling Tagging Methods.* Leo A. Goodman, University of Chicago.
6. *Application of the Distribution of a Linear Form in Chi-square Variates.* Arthur Grad and Herbert Solomon, Office of Naval Research, Washington, D. C.
7. *A Large Sample t-statistic which is Insensitive to Nonrandomness.* (By Title.) John E. Walsh, The Rand Corporation.

At the second session for contributed papers held at 10 a.m., Wednesday, December 27, 1950, K. J. Arnold of the University of Wisconsin presided. The following papers were presented:

8. *Conditional Expectation and Convex Functions.* E. W. Barankin, University of California, Berkeley.

9. *Transformation Parameters.* Melvin P. Peisakoff, The Rand Corporation.
10. *A Generalization of the Neyman-Pearson Fundamental Lemma.* Henry Scheffé, Columbia University.
11. *Nonparametric Estimation V, Sequentially Determined Statistically Equivalent Blocks.* D. A. S. Fraser, University of Toronto.
12. *A Bayes Approach to a Quality Control Model.* M. A. Girshick and Herman Rubin, Stanford University.
13. *On the Translation Parameter Problem for Discrete Variables.* David Blackwell, Stanford University.
14. *On Ratios of Certain Algebraic Forms.* Robert V. Hogg, State University of Iowa.
15. *The Economics of Sampling.* (By Title.) Norman Rudy, Sacramento State College.
16. *Exact Tests of Serial Correlation Using Noncircular Statistics.* (By Title.) G. S. Watson, University of Cambridge, and J. Durbin, London School of Economics.
17. *Stochastic Difference Equations with a Continuous Time Parameter. Preliminary Report.* (By Title.) S. G. Ghurye, University of North Carolina.
18. *Nonsequential Problems in the Case of k Hypotheses. Preliminary Report.* (By Title.) Herman Chernoff, University of Illinois.

Also at 10 a.m., Wednesday, December 27, 1950, the Institute joined the American Statistical Association (Biometrics Section) and the Biometric Society (Eastern North American Region) in a session on *Statistical Problems in Radio-Biology.* A. E. Brandt of the United States Atomic Energy Commission was chairman. The papers presented were *Gene Mutations in Populations* by Bruce Wallace of the Long Island Biological Laboratory, *Long-Term Radiation Experiment in Dogs* by S. Lee Crump of the University of Rochester, and *Metabolism of Labeled Carbon Compounds* by Hardin B. Jones of the University of California at Berkeley. The papers were discussed by H. Fairfield Smith of the University of North Carolina and C. W. Sheppard of the Oak Ridge National Laboratory.

At 2 p.m., Wednesday, December 27, 1950, the American Statistical Association and the American Society for Quality Control (Chicago Section) joined the Institute in a session devoted to an address, *Statistical Control*, by W. A. Shewhart of the Bell Telephone Laboratories. E. G. Olds of the Carnegie Institute of Technology presided.

Also at 2 p.m., Wednesday, December 27, 1950, the Institute joined the American Statistical Association (Biometrics Section), the American Farm Economic Association, the Biometric Society (Eastern North American Region), and the Psychometric Society in a session on *Theory of Variance Components.* W. J. Youden of the National Bureau of Standards was chairman. The papers presented were *The Present Status of Variance Component Analysis* by S. Lee Crump of the University of Rochester, *Testing a Linear Relation Among Variances* by William G. Cochran of Johns Hopkins University, and *Application to Regression and to Errors of Measurement* by John W. Tukey of Princeton University. The papers were discussed by A. M. Mood of the Rand Corporation.

Also at 2 p.m., Wednesday, December 27, 1950, the Institute joined the American Statistical Association and the American Association of University Teachers of Insurance in a session on *Developments in Actuarial Science.* Cecil J. Nesbitt of the University of Michigan was chairman. The papers presented were *Survey of Theoretical Developments* by Charles A. Spoerl of the Aetna Life Insurance

Company, and *Survey of Practical Applications* by E. A. Lew and Frank Weck of the Metropolitan Life Insurance Company. The papers were discussed by Alfred Guertin of the American Life Convention, Chicago.

At 4 p.m., Wednesday, December 27, 1950, the American Statistical Association and the Econometric Society joined the Institute in a session devoted to a *Half-Century of Progress* address, *Multivariate Analysis*, by T. W. Anderson of Columbia University. M. A. Girshick of Stanford University presided.

Also at 4 p.m., Wednesday, December 27, 1950, the Institute joined the American Statistical Association (Biometrics Section), American Society for Quality Control (Chicago Section), and the Biometric Society (Eastern North American Region) in a session on *Precision of Measurements*. W. Edwards Deming of the Division of Statistical Standards was chairman. The papers presented were *The Specification of Precision of Measurements* by Churchill Eisenhart of the National Bureau of Standards, *The Estimation of Precision of Measurements* by Frank E. Grubbs of the Aberdeen Proving Grounds, and *Estimate of Precision of Textile Instruments* by John C. Whitwell of Princeton University. The papers were discussed by H. Fairfield Smith of the University of North Carolina.

Also at 4 p.m., Wednesday, December 27, 1950, the Institute joined the American Statistical Association (Business and Economic Statistics Section), the American Economic Association, and the Econometric Society in a session on *Analysis of Choices Involving Risk*. Jacob Marschak of the Cowles Commission for Research in Economics was chairman. The papers presented were *Alternative Approaches to Theory of Choice in Risk-Taking Situations* by Kenneth J. Arrow of Stanford University and *An Experimental Measurement of Utility* by Frederick Mosteller of Harvard University. The papers were discussed by Armen Alchian of the University of California at Los Angeles and Franco Modigliani of the University of Illinois.

At 10 a.m., Thursday, December 28, 1950, the American Statistical Association joined the Institute in a session devoted to a *Half-Century of Progress* address, *Non-Parametric Inference*, by A. M. Mood of the Rand Corporation. P. S. Dwyer of the University of Michigan presided.

Also at 10 a.m., Thursday, December 28, 1950, the Institute joined the American Statistical Association and the American Society for Quality Control (Chicago Section) in the first session on *Engineering*. Frederick J. Halton, Jr., of Deere & Company, was chairman. The paper presented was *Statistics in Production and Inspection* by Edwin G. Olds of the Carnegie Institute of Technology. The paper was discussed by Warren E. Jones of Desplaines, Illinois, and Charles A. Bicking of Hercules Powder Company.

Also at 10 a.m., Thursday, December 28, 1950, the Institute joined the American Statistical Association (Section on the Training of Statisticians), the American Psychological Association, and the Psychometric Society in a session on *Statistical Literacy in the Social Sciences*. The address was given by Helen M. Walker of Columbia University. Philip M. Hauser of the University of Chicago was chairman.

Also at 10 a.m., Thursday, December 28, 1950, the Institute joined the American Statistical Association (Biometrics Section) and the Biometric Society (Eastern North American Region) in a session on *Statistical Methods in Pharmacology and Immunology*. Lloyd C. Miller, director of Revision of the United States Pharmacopeia, was chairman. The papers presented were *Collaborative Bioassays* by Lila F. Knudsen, Food and Drug Administration, and *Statistical Methods in Immunology* by Herbert C. Batson of the Army Medical Center. The papers were discussed by Everett Welker of the American Medical Association and George Hunt of Bristol Laboratories.

At 2 p.m., Thursday, December 28, 1950, the American Statistical Association and the Econometric Society joined the Institute in a session devoted to an address, *Some Recent Advances in the Theory of Decision Functions*, by Jacob Wolfowitz of Columbia University. J. L. Doob of the University of Illinois presided.

Also, at 2 p.m., Thursday, December 28, 1950, the Institute joined the American Statistical Association and the Population Association of America in a session on *Developments in United States Census Taking*. W. F. Ogburn of the University of Chicago was chairman. The papers presented were *Role of Research in Census Taking* by Morris Hansen, Bureau of the Census, *Evaluation of Census Results* by Eli Marks, Bureau of the Census, and *Census Programs and Operations* by A. Ross Eckler, Bureau of the Census. The papers were discussed by Nathan Keyfitz of the Dominion Bureau of Statistics, Ottawa, and Vergil D. Reed of the J. Walter Thompson Company.

Also at 2 p.m., Thursday, December 28, 1950, the Institute joined the American Statistical Association, the American Psychological Association, and the Psychometric Society in a session on *Statistical Problems and Psychological Theory*. Allen Edwards of the University of Washington was chairman. The papers presented were *Statistical Problems and Psychological Scaling* by Clyde H. Coombs, University of Michigan, and *Statistical Problems and Learning Theory* by Kenneth W. Spence, State University of Iowa. The papers were discussed by Harold P. Bechtoldt, Iowa City, and Harold Gulliksen of the Educational Testing Service.

Also at 2 p.m., Thursday, December 28, 1950, the Institute joined the American Statistical Association (Biometrics Section) and the Biometric Society (Eastern North American Region) in a session on *Applications of Variance Components*. G. W. Snedecor of Iowa State College was chairman. The papers presented were *Variance Components as a Tool for the Analysis of Sample Data* by Walter A. Hendricks, United States Department of Agriculture, *Consistency of Estimates of Variance Components* by R. E. Comstock and H. F. Robinson of North Carolina State College, and *Use of Components of Variance in Preparing Schedules for the Sampling of Baled Wool* by J. M. Cameron of the National Bureau of Standards. The papers were discussed by Walter T. Federer of Cornell University.

Also at 2 p.m., Thursday, December 28, 1950, the Institute joined the Ameri-

can Statistical Association and the American Society for Quality Control (Chicago Section) in the second session on *Engineering*. W. Edwards Deming of the Division of Statistical Standards was chairman. The papers presented were *Statistics in Engineering Research and Development* by Ellis R. Ott of Rutgers University, and *Statistical Developments in South Africa* by H. S. Sichel of the Educational Testing Service.

At 4 p.m., Thursday, December 28, 1950, the Psychometric Society and the Econometric Society joined the American Statistical Association (Section on the Training of Statisticians) and the Institute in a session devoted to a *Half-Century of Progress* address and a *Special Invited Paper*, *Statistical Inference*, by Jerzy Neyman of the University of California at Berkeley. S. N. Roy of the University of North Carolina presided.

Also at 4 p.m., Thursday, December 28, 1950, the Institute joined the American Statistical Association (Biometrics Section, Business and Economic Statistics Section), the American Farm Economic Association, and the Biometric Society (Eastern North American Region) in a session on *Sample Survey Techniques*. W. F. Callander of Gainesville, Florida, was chairman. The papers presented were *Double Sampling and the Curtis Impact Study* by D. S. Robson of Cornell University and Arnold J. King of National Analysts, Inc., Philadelphia, *Approaches to Agricultural Price Statistics* by F. E. McVay and Henry Tucker of North Carolina State College, and *Problems in Rural Surveys* by R. L. Anderson and A. L. Finkner of North Carolina State College. The papers were discussed by B. R. Stauber of the Division of Agricultural Price Statistics and B. J. Tepping of the Bureau of the Census.

Also at 4 p.m., Thursday, December 28, 1950, the Institute joined the American Statistical Association, the Association for Computing Machinery, and the Psychometric Society in a session devoted to a *Round Table: What Can High Speed Electronic Computing Equipment Do For and To Statistics?* William G. Madow of the University of Illinois was moderator. Electronic Engineer Sam N. Alexander of the National Bureau of Standards and Expert User Byron Schreiner of the A. C. Nielson Company, Chicago, were the speakers. The papers were discussed by Howard C. Grieves of the Bureau of the Census and John J. Finelli of the Metropolitan Life Insurance Company.

At 10 a.m., Friday, December 29, 1950, the American Statistical Association joined the Institute in a session devoted to a *Half-Century of Progress* address, *Surveys*, by W. G. Madow of the University of Illinois. F. F. Stephan of Princeton University presided.

Also at 10 a.m., Friday, December 29, 1950, the Institute joined the Econometric Society in a session on *Problems of Incorrect and Incomplete Specification*. Merrill M. Flood of the Rand Corporation was chairman. The papers presented were *Some Specification Problems and Their Applications to Econometric Models* by Leonid Hurwicz of the University of Illinois and the Cowles Commission for Research in Economics, and *An Approach to Effects of Non-Normality*

in Tests of Significance by William Kruskal of the University of Chicago. The papers were discussed by T. W. Anderson of Columbia University and John W. Tukey of Princeton University.

Also at 10 a.m., Friday, December 29, 1950, the Institute joined the American Statistical Association, the Psychometric Society, and the American Psychological Association in a session on *Factor Analysis as a Statistical Tool*. The address was given by L. L. Thurstone of the University of Chicago. The paper was discussed by E. E. Cureton of the University of Illinois. Harold Gulliksen of the Educational Testing Service was chairman.

Also at 10 a.m., Friday, December 29, 1950, the Institute joined the American Statistical Association and the American Society for Quality Control (Chicago Section) in a session on *Statistics in the Physical Sciences*. The address was given by Walter Bartky of the University of Chicago. The paper was discussed by J. L. Doob of the University of Illinois. S. S. Wilks of Princeton University was chairman.

Also at 10 a.m., Friday, December 29; 1950, the Institute joined the American Statistical Association (Biometrics Section), the Biometric Society (Eastern North American Region), and the American Public Health Association in a session on *Statistical Methods in Medicine*. Hugo Muench of Harvard University was chairman. The papers presented were *A Stochastic Model of Relapse, Death and other Risks Following a Treatment* by Evelyn Fix and J. Neyman of the University of California, Berkeley, *The Design of Physiological and Clinical Investigations* by Donald Mainland of New York University and J. W. Hopkins of the National Research Council, Ottawa, and *Discriminatory Analysis* by Joseph L. Hodges, Jr., of the University of California, Berkeley. The papers were discussed by Samuel W. Greenhouse of the National Cancer Institute.

At 2 p.m., Friday, December 29, 1950, the American Statistical Association joined the Institute in a session devoted to an address, *Elements of Information Theory*, by Brockway McMillan of the Bell Telephone Laboratories. Solomon Kullback of George Washington University presided.

Also at 2 p.m., Friday, December 29, 1950, the Institute joined the Econometric Society and the American Economic Association in a session on *Collection and Use of Survey Data*. J. Neyman of the University of California at Berkeley was chairman. The papers presented were *Sample Surveys of Households: A New Tool in Econometrics* by Lawrence R. Klein of the University of Michigan, and *Use of Sample Surveys of Business Expectations and Plans* by Franco Modigliani of the University of Illinois. The papers were discussed by Paul F. Lazarsfeld of Columbia University.

Two sessions for contributed papers were held at 4 p.m., Friday, December 29, 1950. At one of these Oscar Kempthorne of Iowa State College presided. The following papers were presented:

19. *The Moments of a Multinormal Distribution after One-sided Truncation of Some or All Coordinates*. Z. W. Birnbaum and Paul L. Meyer, University of Washington.

20. *An Algorithm for the Determination of all Solutions of a Two-Person Zero Sum Game with a Finite Number of Strategies.* H. Raiffa, G. L. Thompson, and R. M. Thrall. University of Michigan.
21. *A Note on the Convolution of Uniform Distributions.* Edwin G. Olds, Carnegie Institute of Technology.
22. *On the Consistency of Certain Estimates of the Linear Structural Relation.* Elizabeth L. Scott, University of California, Berkeley.
23. *A 3-Decision Problem Concerning the Mean of a Normal Population.* R. R. Bahadur, University of Chicago.
24. *Consistent Estimate of the Slope of a Linear Structural Relation.* J. Neyman, University of California, Berkeley, and Charles M. Stein, University of Chicago.
25. *A Remark on Almost Sure Convergence.* Michel Loève, University of California, Berkeley.
26. *A Significance Test for Differences Among Ranked Treatments in an Analysis of Variance.* D. B. Duncan, Virginia Polytechnic Institute. `

At the fourth session for contributed papers, the second at 4 p.m., Friday, December 29, 1950, W. D. Baten of Michigan State College presided. The following papers were presented:

27. *On Information and Sufficiency.* S. Kullback, George Washington University, and R. A. Leibler, Washington, D. C.
28. *Asymptotic Theory of Certain "Goodness of Fit" Criteria Based on Stochastic Processes.* T. W. Anderson, Columbia University, and D. A. Darling, University of Michigan.
29. *The Effect of Preliminary Tests of Significance on the Size and Power of Certain Tests of Univariate Linear Hypotheses with Special Reference to the Analysis of Variance. Preliminary Report.* Robert E. Bechhofer, Columbia University.
30. *The Exact Distribution of the Extremal Quotient.* E. J. Gumbel, New York, and L. H. Herbach, Columbia University. (The paper was read by J. A. Greenwood.)
31. *The Distributions of the t and F Statistics for a Class of Nonnormal Populations.* Ralph A. Bradley, Virginia Polytechnic Institute.
32. *Note on the Behavior of the Characteristic Function of a Random Variable at Zero.* M. Rosenblatt, University of Chicago. (Introduced by L. J. Savage.)

Also at 4 p.m., Friday, December 29, 1950, the Institute joined the American Statistical Association (Section on the Training of Statisticians) in an *R. A. Fisher Survey* session. Gertrude Cox of the University of North Carolina was chairman. The papers presented were *Revolution of Methods in Experimentation* by W. J. Youden of the National Bureau of Standards, and *The Impact of R. A. Fisher on Statistics* by Harold Hotelling of the University of North Carolina.

Also at 4 p.m., Friday, December 29, 1950, the Institute joined the American Statistical Association (Business and Economic Statistics Section), the American Marketing Association, the American Psychological Association, and the Psychometric Society in a session on *Measurement of Opinion.* William G. Cochran of Johns Hopkins University was chairman. The papers presented were *Implications for Factor Analysis of Lazarsfeld's Latent Structure Theory* by Bert J. Green of Princeton University, discussed by Paul F. Lazarsfeld of Columbia University, *A New Approach to Thurstone's Method of Scaling* by Frederick Mos-

teller of Harvard University, discussed by L. L. Thurstone of the University of Chicago, and *A Critical Analysis of Guttman's Theory of Principal Components in Attitude Measurement* by Philip J. McCarthy of Cornell University.

A meeting of the 1950 Council was held on Wednesday, December 27, 1950, at 12:00 noon, Professor J. L. Doob presiding. The Annual Business Meeting was held on Wednesday, December 27, 1950, at 7:00 p.m., Professor J. L. Doob presiding. A meeting of the 1951 Council was held on Friday, December 29, 1950, at 12:00 noon, Professor P. S. Dwyer presiding. The report of the Annual Business Meeting appears elsewhere in this issue.

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K. J. ARNOLD
Associate Secretary

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MINUTES OF THE ANNUAL MEMBERSHIP MEETING, CHICAGO, DECEMBER 27, 1950

The meeting was called to order at 7:10 p.m. by President J. L. Doob. The annual reports of the President, Editor, and Secretary-Treasurer were read. They are printed elsewhere in this issue.

The Acting Secretary moved that Article 2 of the By-Laws of the Institute be amended so that the first two sentences read: "Members shall pay ten dollars at the time of admission to membership and shall receive the full current volume of the Official Journal. Thereafter Members shall pay ten dollars annual dues, of which seven dollars shall be for a subscription to the Official Journal." and that exception D be amended to read: "Any Member who resides outside the United States and Canada shall pay seven dollars annual dues." The motion carried.

The President asked for instructions from the membership as to the procedure to be followed in filling the unexpired term of Abraham Wald. It was voted that the candidate for the Council receiving the fifth largest number of votes be declared elected for a term of one year.

J. W. Tukey moved that it is the sense of this meeting that a four day annual meeting is preferable to a three day meeting even if this means meeting alone on the fourth day. The motion carried.

Harold Hotelling moved the adoption of the following resolution:

> *Whereas* the death of Professor Abraham Wald, who with Mrs. Wald was killed in an airplane crash in India, deprives statistics of a vigorous, brilliant, and original contributor to its fundamental ideas; and
>
> *Whereas* the future of statistical methods will be vitally affected by Abraham Wald's introduction of a formalized and accurate method of sequential analysis, and by his work on the foundations of statistical inference, including particularly the consideration of loss and risk functions, of general decision problems, of the minimax principle and the related theory of games, of the nature of the estimation of unknown quantities, and of the testing of hypotheses; and