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## REPORT OF THE WASHINGTON MEETING OF THE INSTITUTE

The forty-ninth meeting of the Institute of Mathematical Statistics was held in Washington, D. C., at the National Bureau of Standards on October 26-27, 1951, in conjunction with the October, 1951, meetings of the American Mathematical Society and of the Washington Section of the American Society for

Quality Control. These meetings formed a part of the Semicentennial celebration of the National Bureau of Standards. Three hundred fifty-one persons registered, including the following members of the Institute:

Paul H. Anderson, T. W. Anderson, Ishver S. Bangdiwala, Charles A. Bicking, David Blackwell, John B. Boddie, R. C. Bose, A. H. Bowker, R. A. Bradley, Irwin J. Bross, R. S. Burlington, Glenn L. Burrows, Joseph M. Cameron, Burton H. Camp, William S. Connor, Jr., Edward L. Corton, Jr., G. F. Cramer, John H. Curtiss, Joseph F. Daly, George B. Dantzig, Donald A. Darling, Besse B. Day, R. DeLancie, W. Edwards Deming, P. Desind, Irene L. Doto, David Duncan, A. J. Duncan, David Durand, M. Dwass, Howard Edelson, Churchill Eisenhart, Henry Ellner, Jerome Engel, Benjamin Epstein, J. Kampé de Fériet, Clarence B. Fine, Kathryn Froelich, Edward Fritz, H. H. Germond, B. C. Getchell, Dorothy Morrow Gilford, Leon Gilford, Samuel W. Greenhouse, Joseph A. Greenwood, Robert E. Greenwood, Alan A. Grometstein, E. J. Gumbel, Max Halperin, James F. Hannan, Harry H. Harman, Boyd Harshbarger, Herman Hess, Elvin A. Hoy, Charles H. Hubbell, George J. Hurwitz, Walter Jennings, Abraham E. Karp, Morton Kupperman, B. M. Kurkjian, Jack Laderman, Otis E. Lancaster, Gilbert Lieberman, Marguerite Lehr, E. Lehmann, Julius Lieblein, Jacob E. Lieberman, Eugene Lukacs, Mary D. Lum, Eli S. Marks, Arthur S. Marthens, Clifford J. Maloney, John Mandel, Nathan Mantel, Frances A. Marans, Robert Mirsky, Hugh J. Miser, Sigeti Moriguti, L. E. Moses, Charles M. Mottley, Mary G. Natrella, Monroe L. Norden, Toby Oxtoby, William R. Pabst, Jr., George W. Petrie, III, Harry Press, Don C. Price, F. R. DelPriore, Frank Proschan, Carl J. Rees, Mina Rees, M. H. Replogle, J. N. Rice, Paul R. Rider, Joan R. Rosenblatt, Ernest Rubin, Rose Sachs, Marion Sandomire, I. Richard Savage, Henry Scheffé, S. A. Schmitt, Marvin A. Schneiderman, Monroe G. Sirken, Rosedith Sitgreaves, John H. Smith, R. T. Smith, A. D. Solem, Herbert Solomon, D. Teichroew, Benjamin J. Tepping, M. E. Terry, Reuben Tucker, A. W. Tucker, John Tukey, George W. Tyler, F. M. Wadley, Frank M. Weida, Sidney Weiner, Harry Weingarten, Walter Whelan, Frank Wilcoxon, Max Woodbury, W. J. Youden.

Dr. Eugene Lukacs, National Bureau of Standards, presided at the opening session on Friday morning, at which the following papers were contributed:

1. *On the Law of Propagation of Error. Preliminary Report.* Churchill Eisenhart and I. Richard Savage, Statistical Engineering Laboratory, National Bureau of Standards.
2. *Multivariate Orthogonal Polynomials. Preliminary Report.* D. B. Duncan and L. W. Cooper, Virginia Polytechnic Institute.
3. *An Analysis of Variance for Paired Comparisons.* Henry Scheffé, Columbia University.
4. *Statistical Theory of Fatigue Failures.* E. J. Gumbel, Consultant, Stanford University, and A. M. Freudenthal, Columbia University.
5. *Analysis of Chain Block Designs. Preliminary Report.* W. S. Connor, Jr., and W. J. Youden, Statistical Engineering Laboratory, National Bureau of Standards.

This was followed by a symposium on *The Planning of Experiments* at which Miss Besse B. Day, U. S. Naval Engineering Experimental Station, presided. The speakers and their subjects were:

1. *The Control and Measurement of Experimental Error.* W. J. Youden, National Bureau of Standards.
2. *Recent Developments in Incomplete Block Designs.* R. C. Bose, University of North Carolina.

Dr. Benjamin J. Tepping, Bureau of the Census, acted as chairman of the first Friday afternoon session at which time the following invited address was given:

*The ONR Program in Probability and Mathematical Statistics.* Herbert Solomon, Office of Naval Research.

The second session of Friday afternoon was a joint meeting with the Washington Section of the American Society for Quality Control, with its chairman, Mr. Leon Gilford, Bureau of the Census, presiding. The invited address was:

*Recent Developments in Acceptance-Sampling Theory and Practice.* A. H. Bowker, Stanford University.

Dr. Joseph F. Daly, Bureau of the Census, presided at the opening session of Saturday morning, at which the following papers were contributed:

1. *An Approximation Theorem. Preliminary Report.* I. Richard Savage, Statistical Engineering Laboratory, National Bureau of Standards.
2. *Testing Multiparameter Hypotheses.* E. L. Lehmann, Stanford University and University of California, Berkeley.
3. *Analysis of a Certain Random Walk by the Monte Carlo Method.* Robert Mirsky, Cornell Aeronautical Laboratory, Inc., Buffalo, N. Y.
4. *On Certain Estimators Based on Large Samples of Extremes. Preliminary Report.* Julius Lieblein, Statistical Engineering Laboratory, National Bureau of Standards.
5. *The Use of Previous Experience in Reaching Statistical Decisions.* (By title.) J. L. Hodges, Jr., University of California, Berkeley, and E. L. Lehmann, Stanford University and University of California, Berkeley.
6. *Results of Some Tests of Randomness on Pseudo-Random Numbers. Preliminary Report.* J. M. Cameron, Statistical Engineering Laboratory, National Bureau of Standards.

This was followed by a symposium on *Statistical Inference* presided over by Professor John W. Tukey, Princeton University. The two speakers and their subjects were:

1. *On the Varieties of Statistical Reasoning.* George E. Kimball, Columbia University.
2. *Statistical Decision Theory in Relation to Scientific Experimentation.* David Blackwell, Howard University.

First on the Saturday afternoon program was the NBS Semicentennial Session with Dr. John H. Curtiss, Chief of the National Applied Mathematics Laboratories, acting as chairman. Dr. A. V. Astin, Acting Director of the National Bureau of Standards, gave the address of welcome. Subsequently, Dr. T. W. Anderson, on behalf of the Institute, presented to Dr. Astin a scroll to the National Bureau of Standards in commemoration of its 50 years of service in science.

Special events of the meeting included tours and demonstrations of various scientific activities at the National Bureau of Standards. On Friday those interested were taken on guided tours of selected NBS Laboratories and observed exhibits and demonstrations of clinical thermometer testing, standards of length

and mass, tire and leather testing, radioactivity standards, spectrochemistry, and chemical thermometric standards. On Saturday a demonstration of the National Bureau of Standards Eastern Automatic Computer—the SEAC—was held. The generation and testing of random numbers and a solution of Laplace's equation by the Monte Carlo method were demonstrated.

CHURCHILL EISENHART  
*Assistant Secretary*

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## REPORT OF THE BOSTON MEETING OF THE INSTITUTE

The fourteenth Annual Meeting of the Institute of Mathematical Statistics was held in Boston, Massachusetts on December 26–29, 1951. Headquarters were at the Copley Plaza Hotel where all the sessions were held. Joint sessions were held with the American Statistical Association and the Econometric Society. The following 225 members of the Institute attended:

Adam Abruzzi, F. S. Acton, Beatrice Aitchison, J. E. Alman, R. L. Anderson, T. W. Anderson, F. W. Appel, H. E. Arnold, K. J. Arnold, Max Astrachan, J. C. Bain, T. A. Bancroft, G. E. Bates, H. P. Beard, R. E. Bechhofer, Joseph Berkson, C. A. Bicking, C. I. Bliss, Isadore Blumen, C. A. Bodwell, Paul Boschan, R. C. Bose, R. A. Bradley, A. E. Brandt, M. F. Bresnahan, (Mrs.) Jean Bronfenbrenner, (Mrs.) Bernice Brown, T. H. Brown, M. A. Brumbaugh, T. A. Budne, R. W. Burgess, I. W. Burr, L. D. Calvin, B. H. Camp, G. A. Carlton, P. C. Clifford, W. G. Cochran, F. G. Cornell, Jerome Cornfield, L. M. Court, David Cowan, C. C. Craig, S. L. Crump, J. F. Daly, G. B. Dantzig, B. B. Day, F. R. DelPriore, Lucile Derrick, Philip Desind, W. J. Dixon, J. L. Dolby, Robert Dorfman, H. F. Dorn, J. A. Dudman, A. J. Duncan, D. B. Duncan, C. W. Dunnett, David Durand, Solomon Dutka, A. M. Dutton, P. S. Dwyer, J. S. Elston, Benjamin Epstein, W. T. Federer, Robert Ferber, J. W. Fertig, C. H. Fischer, Evelyn Fix, L. R. Frankel, D. A. S. Fraser, H. A. Freeman, Milton Friedman, Edward Fritz, M. A. Girshick, Abraham Golub, L. A. Goodman, G. E. Gourrich, E. L. Green, B. G. Greenberg, S. W. Greenhouse, T. N. E. Greville, A. A. Grometstein, Frank Gross, H. O. Gulliksen, E. J. Gumbel, L. S. Gunlogson, John Gurland, Margaret Gurney, R. K. Haddad, K. W. Halbert, Max Halperin, J. F. Hannan, M. H. Hansen, H. H. Harman, G. M. Harrington, Boyd Harshbarger, J. L. Hodges, Jr., R. G. Hoffman, W. C. Hood, H. B. Horton, D. G. Horvitz, R. H. Hoskins, E. E. Houseman, H. S. Houthakker, W. G. Howe, C. H. Hubbell, H. M. Humes, Leonid Hurwicz, E. R. Immel, Š. L. Isaacson, J. E. Jackson, T. A. Jeeves, P. O. Johnson, H. L. Jones, A. E. Karp, Leo Katz, H. J. Kelly, J. C. Kiefer, E. P. King, Jr., T. C. Koopmans, R. L. Kozelka, K. H. Kramer, William Kruskal, Jack Laderman, D. H. Leavens, G. J. Lieberman, J. E. Lieberman, R. E. Link, S. B. Littauer, G. F. Lunger, W. G. Madow, E. S. Marks, Jacob Marschak, P. J. McCarthy, G. E. McCreary, F. E. McIntyre, Paul Meier, Margaret Merrell, C. A. Metzner, M. F. Millikan, Albert Mindlin, Robert Mirsky, E. B. Mode, J. E. Morton, L. E. Moses, Jack Moshman, Frederick Mosteller, Hugo Muench, R. B. Murphy, N. R. Neifeld, C. J. Nesbitt, R. T. Nichols, H. Nisselson, G. E. Noether, M. L. Norden, H. W. Norton, E. G. Olds, Ingram Olkin, P. S. Olmstead, Toby Oxtoby, W. R. Pabst, Jr., R. E. Patton, B. E. Phillips, Aditya Prakash, D. A. Probst, Frank Proschan, Howard Raiffa, L. J. Reed, P. R. Rider, H. M. Roberts, C. F. Roos, J. H. Roseboom, Irving Roshwalb, S. N. Roy, Herman Rubin, Rose Sachs, M. M. Sandomire, M. A. Schneiderman, E. L. Scott, Esther Seiden, Jack Sherman, S. S. Shrikhande, Elizabeth Shuhany, I. H. Siegel, W. R. Simmons, W. B. Simpson, Rosedith Sitgreaves, F. H. Smith, J. H. Smith, Milton Sobel,