the inspector. The technique under investigation is that of adding and subtracting the value of the sample range, or a portion thereof, to its upper and lower values, respectively. If the sum and difference are still within the prescribed tolerances the lot is accepted. Plans of this type are found to yield approximately the same results as attribute sampling plans requiring twice the sample size. The inspector need only know addition and subtraction for their use.

13. **Evaluation of Quality through Demerit Rating System.** HARRY G. ROMIG, International Telemeter Corporation.

Where inspection and tests are made for a series of specified requirements, these results must be properly analysed to obtain maximum benefits. Such requirements cover characteristics and other features, termed Inspection Items. When such Items are inspected by the Method of Attributes it is economical and efficient to classify them with respect to their importance or seriousness into definite classes, such as Critical, Major, Minor and Incidental. Various classifications, such as three-fold, four-fold, and five-fold, with their assigned Demerit Weights are discussed and the mathematical relations pertaining to their use are developed. Various uses of these systems in evaluating the quality of different processes, products and activities are presented. The nature of these distributions depicted by the multinomial and approximations thereto are described. It is shown how to use Demerits, Demerits-per-Unit and Indexes for single components, subassemblies, assemblies and Systems, as well as shops and composite plants for evaluating performance quality-wise. Various weighting systems are introduced and evaluated. Procedures for setting up control charts with prescribed limits are given. Finally it is shown how to combine variables results with attributes data to obtain over-all quality ratings for any desired sequence of operations.

14. **On Structural Fatigue under Random Loading.** JOHN W. MILES, Department of Engineering, UCLA, and Douglas Aircraft Company.

Experience has shown that the fluctuating loads induced by a jet may cause fatigue failure of aircraft structural components. In order to throw some light on this and similar problems, the stress spectrum and the "equivalent fatigue stress" of an elastic structure subjected to random loading are studied. The analysis is simplified by assuming the structure to have only a single degree of freedom and by using the concept of cumulative damage, the results being expressed in terms of quantities that can be directly measured. As an example, a similarity expression for the probable value of the equivalent fatigue stress of a panel subjected to jet buffeting is derived.

NEWS AND NOTICES

Readers are invited to submit to the Secretary of the Institute news items of interest

Personal Items

P. C. Clark has been appointed Executive Vice-President of Hunter Spring Company.

Dr. Edward P. Coleman, formerly Visiting Professor, has been appointed Professor in the Department of Engineering, University of California at Los Angeles.

Dr. R. N. Bradt of Stanford University has been appointed to an assistant professorship at the University of Kansas.

Nolan A. Curry has accepted an assignment in Northern Ireland for a period of approximately two years. During this period his duties will be to serve as a Technical Consultant on Coated Abrasives manufacturing both for the Belfast plant of Behr-Manning Ltd., Northern Ireland and the Paris plant of Behr-Manning de France. Both companies are subsidiaries of Norton Behr-Manning Overseas which handles the overseas operations of both the Norton Company of Worcester, Massachusetts and Behr-Manning Corporation of Troy, New York.

John Curtiss is now associated with the Institute of Mathematical Sciences, New York in the capacity of a Senior Scientist.

Richard De Lancie has accepted a position as Senior Associate, Broadview Research and Development, Burlingame, California.

Arthur N. Doi is now employed with the rank of lecturer at the College of the City of New York, Division of Teacher Education doing statistical work of descriptive and analytical nature.

James R. Duffett has accepted a position as analytical statistician in the Guided Missile Reliability Program at White Sands Proving Ground.

Dr. Geroge L. Edgett, who has been a visiting professor in statistics at Virginia Polytechnic Institute since the first of January returned at the end of August to his duties at Queen's University, Kingston, Ontario.

Dr. A. V. Feigenbaum is now Manager, Quality Control and Cost Reduction, General Electric Company, Manufacturing Services Division, Schenectady, New York.

Lt. Albert A. Folop, U. S. Navy, after two years of graduate study in statistics at Princeton University, has been transferred to the U.S.S. Mississippi (EAG 128) where he is the Combat Information Center Officer.

Professor E. J. Gumbel is teaching Mathematical Statistics in the Free University of Berlin during the summer term 1954 under the exchange program of Columbia University.

Dr. E. Cuyler Hammond has been appointed Professor of Biometry in the Graduate School at Yale University. He will continue in his present position as Director of the Statistical Research Section of the American Cancer Society.

Harry H. Harman, has resigned from the Department of the Army where he has been Chief of the Statistical Research and Analysis Section, Personnel Research Branch, A.G.O. for the past six years and has accepted a position with the RAND Corporation in Santa Monica, California, where he is engaged in a Systems Training Program for the Air Defense Command.

H. S. Houthakker has left the Cowles Commission for Research in Economics to join the Department of Economics at Stanford University as an Acting Associate Professor.

Chester H. McCall, Jr. is an instructor in Statistics at The George Washington University while working on his Ph.D. in Mathematical Statistics.

Craig A. Magwire is now employed as Applied Science Representative for International Business Machines.

Albert Mindlin, formerly mathematical statistician at the Bureau of the Cen-

sus, has transferred to the Social Security Administration, Bureau of Old-Age and Survivors Insurance, Baltimore, Maryland.

J. E. Morton is on leave of absence from Cornell University to the National Science Foundation, where his principal duties will be to plan and direct a survey of scientific research undertaken by American Industry.

Jack Moshman, formerly a Senior Statistician, Mathematics Panel of the Oak Ridge National Laboratory, has accepted a position as a member of the Technical Staff of the Bell Telephone Laboratories, Murray Hill, New Jersey.

Aditya Prakash, formerly with Prudential Insurance Company, is now at Equitable Life Assurance Society, New York.

F. S. Riordan, Jr. is Technical Supervisor of Quality Control, The Chemstrand Corporation. The Chemstrand Corporation has the only integrated nylon plant in the world.

John Roseboom, formerly statistician with Quality Control, Hq. Air Material Command, has joined the Operations Research Office of Johns Hopkins University.

Ernest M. Scheuer has returned to his position as mathematician at the U. S. Naval Ordnance Test Station, Pasadena Annex.

C. H. Springer has accepted a position as Chief Engineer of the H. E. Morse Company of Holland, Michigan. The company is engaged in the manufacture of industrial gaging equipment, plating equipment and the comparoscope, a device for the optical evaluation of surface finishes.

R. M. Sundrum has resigned his position as Research Associate in the University of North Carolina to return to his position as Lecturer in the University of Rangoon.

K. F. Thomson, formerly with Richardson, Bellows, Henry and Company, has accepted a position as section chief of Statistics at PRB, AGO.

George W. Snedecor Award in Statistics

The Statistical Laboratory of Iowa State College has been authorized to establish "The George W. Snedecor Award in Statistics," to be given annually to its most outstanding candidate for the Ph.D. degree in statistics. The award will comprise a year's paid membership in the Institute of Mathematical Statistics and a subscription to its Annals. The first recipient, chosen by vote of the graduate faculty in statistics, is Miss Helen Bozivich, half-time associate who passed her preliminary examinations last fall.

Educational Testing Service

The Educational Testing Service is offering for 1955–56 its eighth series of research fellowships in psychometrics leading to the Ph.D. degree at Princeton University. Open to men who are acceptable to the Graduate School of the

University, the two fellowships each carry a stipend of $2,500 a year and are normally renewable.

Fellows will be engaged in part-time research in the general area of psychological measurement at the offices of the Educational Testing Service and will, in addition, carry a normal program of studies in the Graduate School. Competence in mathematics and psychology is a prerequisite for obtaining these fellowships. The closing date for completing applications is January 13, 1955. Information and application blanks will be available about November 1st and may be obtained from: Director of Psychometric Fellowship Program, Educational Testing Service, 20 Nassau Street, Princeton, New Jersey.

Doctoral Dissertations in Statistics, 1933

Listed below are the doctorates conferred during the year 1953 in the United States and Canada for which the dissertations were written on topics in statistics or related fields. The university, month in which degree was conferred, major subject, minor subject, and the total of the dissertation are given in each case if available.

O. P. Aggarwal, Stanford, June, major in statistics, "Bayes and Minimax Procedures in Sampling from Finite Populations."

V. L. Anderson, Iowa State College, June, major in statistics, "A Model for the Study of Quantitative Inheritance."

F. C. Andrews, California, (Berkeley), September, major in mathematical statistics, "Asymptotic Behavior of Some Rank Tests for Analysis of Variance."

J. R. Blum, California, (Berkeley), June, major in mathematical statistics, "Strong Consistency of Stochastic Approximation Methods."

L. D. Calvin, North Carolina, major in experimental statistics, "Doubly Balanced Incomplete Block Designs for Experiments in which the Treatment Effects are Correlated."

C. L. Chiang, California (Berkeley), major in mathematical statistics, "On Regular Best Asymptotically Normal Estimates with an Application to a Stochastic Process."

K. G. Clemans, Oregon, June, major in mathematical statistics, "Limiting Distributions of Certain Statistics of the Kolmogorov-Smirnov Type."

L. J. Cote, Columbia, major in mathematical statistics, "On Fluctuations of Sums of Random Variables."

R. B. Dawson, Jr., Harvard, major in mathematics, "Unbiased Tests, Unbiased Estimators, and Randomized Similar Regions."

H. P. Edmundson, California (Los Angeles), June, major in statistics, "Statistical Estimation of Matrix Quantities by Means of a Class of Discrete Markov Chains."

R. E. Fagen, Minnesota, December, "Certain Probability Limit Theorems and Transformations of Stochastic Processes."

J. E. Flanagan, Illinois, June, minor in philosophy, "Topics in Information Theory."

Dean Gillette, California (Berkeley), June, "Representable Infinite Games."

J. F. Hannan, North Carolina, June, major in mathematical statistics, "Asymptotic Solutions of Compound Decision Problems."

W. C. Hoffman, California (Los Angeles), August, major in mathematical statistics, "A Statistic Associated with the Joint Distribution of N Successive Amplitudes."

T. W. Horner, North Carolina, major in experimental statistics, "Non-Allelic Gene Interaction and the Interpretation of Quantitative Genetic Data."

D. G. Horvitz, Iowa State College, June, major in statistics, "Ratio Method of Estimation in Sample Surveys."

W. W. Hoy, Ohio State, June, "The Estimation of Parameters in the Ornstein-Uhlenbeck Process."

J. P. Hoyt, George Washington, May, major in mathematical statistics, "Estimates and Asymptotic Distributions of Certain Statistics in Information Theory."

D. V. Huntsberger, Iowa State College, June, major in statistics, "An Extension of Preliminary Tests of Significance Permitting Control of Disturbances in Statistical Inferences."

M. C. Johnson, Minnesota, major in educational psychology, minor in statistics, "Classification by Multivariate Analysis with Objectives of Minimizing Risk, Minimizing Maximum Risk, and Minimizing Probability of Misclassification."

R. M. Kozelka, Harvard, February, "On some Special Order Statistics from the Multinomial Distribution."

J. Laderman, Columbia, major in mathematical statistics, "On Statistical Decision Functions for Selecting One of k-populations."

G. J. Lieberman, Stanford, June, major in statistics, minor in industrial engineering, "Contributions to Sampling Inspection."

R. F. Link, Princeton, October, "Statistical Techniques Useful for Estimating the Mean Life of a Radioactive Source."

C. A. Magwire, Stanford, major in statistics, "Sequential Decisions Involving the Choice of Experiments."

O. B. Moan, Purdue, May, minor in economics, "The Simultaneous Distribution of the Mean and Range in Small Samples."

C. B. Moore, Kentucky, June, "On Regression for a Compound Bivariate Surface."

P. B. Moranda, Ohio State, June, "Estimation of Parameters of the Ornstein-Uhlenbeck and Related Stochastic Processes."

G. W. Morganthaler, Chicago, June, "The Central Limit Theorem for Orthonormal Systems—the Walsh Functions."

S. S. Moy, Michigan, February, "Applications of Conditional Expectation."

J. Pachares, North Carolina, August, major in mathematical statistics, "On the Distribution of Quadratic Forms."

E. Parzen, California (Berkeley), June, major in mathematics, "On Uniform Convergence of Families of Sequences of Randon Variables."

J. Putter, California (Berkeley), June, major in mathematical statistics, "Contributions to Sampling Theory and Nonparametric Hypothesis Testing."

R. W. Royston, Michigan, major in mathematics, "A Frequency Function which can be Transformed into a Gamma Type Function by a Quadratic Transformation of the Variable."

Anne E. Scheerer, Pennsylvania, June, "Brownian Motion and the Green's Function—the Plane Case."

Rosedith Sitgreaves, Columbia, March, major in mathematical statistics, "Contributions to the Problem of Classification."

P. N. Somerville, North Carolina, June, major in mathematical statistics, "Some Problems of Optimum Sampling."

F. L. Spitzer, Michigan, February, "On the Theory of Stochastic Processes which Appear in the Description of Two Dimensional Brownian Motion by Polar Coordinates."

M. Taback, Johns Hopkins, June, major in biostatistics, "Family Structure and Its Changing Pattern."

D. Teichroew, North Carolina, major in experimental statistics, "Distribution Sampling with High Speed Computers."

L. H. Wegner, Jr., Oregon, major in mathematical statistics, "Contributions to the Several Sample Problem."

L. Weiss, Columbia, January, major in mathematical statistics, "On the Use of Moments in Approximating Distribution Functions and Expectations."

D. H. Wright, George Washington, June, major in mathematical statistics, "Survival Probability."

F. M. Wright, Northwestern, August, "On the Backward Extension of Moment Sequences."

C. Zippin, Johns Hopkins, June, major in biostatistics, "Evaluation of the Removal Method of Estimating Animal Populations."

Preliminary Actuarial Examinations Prize Awards

The winners of the prize awards offered by the Society of Actuaries to the nine undergraduates ranking highest on the score of Part 2 of the 1954 Preliminary Actuarial Examination are as follows:

First Prize of $200

Monsky, Paul	Swarthmore College

Additional Prizes of $100

Bowers, Newton L.	Yale University
Croteau, Robert	University of Montreal
Driscoll, Francis T.	Yale University
Fike, Charles T.	University of the South
Freeman, David N.	Yale University

Huff, Robert W.	College of Wooster
Reinken, Donald L.	Princeton University
Shapland, Robert	Drake University
Strang, William G.	Massachusetts Institute of Technology

The Society of Actuaries has authorized a similar set of nine prizes for the 1955 examinations on Part 2.

The Preliminary Actuarial Examinations consist of the following three examinations:

Part 1. Language Aptitude Examination.

(Reading comprehension, meaning of words and word relationships, antonyms, and verbal reasoning.)

Part 2. General Mathematics Examination.

(Algebra, trigonometry, coordinate geometry, differential and integral calculus.)

Part 3. Special Mathematics Examination.

(Finite differences, probability and statistics.)

The 1955 Preliminary Actuarial Examinations will be prepared by the Educational Testing Service and will be administered by the Society of Actuaries at centers throughout the United States and Canada on May 11, 1955 (tentative date). The closing date for applications is March 15, 1955.

Detailed information concerning the Examinations can be obtained from:

The Society of Actuaries
208 South LaSalle Street
Chicago 4, Illinois

New Members

The following persons have been elected to membership in the Institute

February 10, 1954 to May 13, 1954

Arnold, Lester G., M.A. (Univ. of Michigan), Design Engineer, Eastman Kodak Company (Navy Ord.), *73 Gatewood Avenue, Rochester 11, New York.*

Bearman, Jacob E., Ph.D. (Univ. of Minnesota), Assistant Professor, School of Public Health, University of Minnesota, Minneapolis 14, Minnesota.

Beyer, William H., M.S. (Virginia Polytechnic Inst.), Statistician, Aerophysics Department, Goodyear Aircraft Corporation, Akron, Ohio, *488 Euclid Avenue, Akron, Ohio.*

Bojarsky, Sol Melville, B.S. (Louisiana State Univ.), Mathematician, Freeport Sulphur Company, Grand Ecaille, Port Sulphur, Louisiana.

Court, Arnold, M.S. (Univ. of Washington), Student, Statistical Laboratory, University of California, Berkeley 4, California.

David, Herbert T., M.A. (Columbia Univ.), Research Associate, Statistical Research Center, University of Chicago, Chicago 37, Illinois.

Dion, Louis G., S.B. (Massachusetts Inst. of Tech.), Quality Control Engineer, Corning Glass Works, Danville, Kentucky.

Doi, Arthur N., M.A. (Univ. of Minnesota), Quality Control Statistician, Aeronautical

Division, Minneapolis-Honeywell Regulator Company, Minneapolis, Minnesota, *4100 Sheridan Avenue, S., Minneapolis 10, Minnesota.*

du Mas, Frank M., Ph.D. (Univ. of Texas), Assistant Professor of Psychology, Department of Psychology, Michigan State College, East Lansing, Michigan.

Edmundson, Harold Parkins, Ph.D. (Univ. of California at Los Angeles), Mathematician, Department of Defense, *205 N. Abingdon Street, Arlington 3, Virginia.*

Fryer, William D., B.S. (Carnegie Inst. of Tech.), Assistant Physicist, Cornell Aeronautical Laboratory, Inc., Buffalo, New York, *27 Linda Drive, Buffalo 25, New York.*

Gates, Charles Edgar, M.S. (North Carolina State College), Assistant Statistician, Department of Experimental Statistics, North Carolina State College, Raleigh, North Carolina.

Ghosh, Manindra nath, D.Phil. (Univ. of Calcutta), Visiting Professor, Department of Biostatistics, School of Public Health, University of North Carolina, Chapel Hill, North Carolina.

Giese, Wanda Williamson (Mrs. Robert W.), B.S. (Univ. of Wisconsin), Research Assistant and Statistician, Organoleptic Section, Research Department, Oscar Mayer and Company, Madison, Wisconsin, *1127 East Gorham Street, Madison 3, Wisconsin.*

Glass, Stanley Owen, B.S. (Univ. of Wyoming), Student and part time Instructor, Statistics, University of Wyoming, Laramie, Wyoming, *1114 Harney, Laramie, Wyoming.*

Khan, Muhammad Khalid Hayat, M.A. (Panjab Univ., Lahore), Statistical Officer, Punjab Health Directorate, Civil Secretariat, Lahore, West Pakistan.

Kingsley, Edward H., M.S. (Northwestern Univ.), Student, Department of Mathematical Statistics, University of North Carolina, Chapel Hill, North Carolina, *639 N. Columbia Street, R.F.D. 2, Box 1, Chapel Hill, North Carolina.*

McCarty, Robert C., B.A. (San Jose State College), Student, Mathematical Statistics, University of Washington, Seattle, Washington, *Apt. B-109, 801 Spring Street, Seattle 4, Washington.*

Mundle, Peter B., B.S. (Univ. of Oregon), Student, Mathematics and Statistics, University of Oregon, Eugene, Oregon, *1975 Harris, Eugene, Oregon.*

Muth, John Fraser, B.S. (Washington Univ.), Student, Department of Economics, Carnegie Institute of Technology, Pittsburgh 13, Pennsylvania, *5050 Forbes Street, Pittsburgh 13, Pennsylvania.*

Neter, John, Ph.D. (Columbia Univ.), Assistant Professor of Business Statistics, Syracuse University, Syracuse University, Syracuse 10, New York.

Reiter, Stanley, M.A. (Univ. of Chicago), Research Associate, Applied Mathematics and Statistical Laboratory, Stanford University, Stanford, California.

Riche, Charles V. Jr., M.A. (Univ. of Louisville), Student and Extension Instructor, Department of Extension Classes, University of Washington, Seattle, Washington, *11739 41st N.E., Seattle 55, Washington.*

Rosenbaum, Joseph, B.A. (Univ. of California), Research Associate, Department of Biostatistics, Graduate School of Public Health, University of Pittsburgh, Pittsburgh, Pennsylvania.

Silverman, Robert, B.S. (Ohio State Univ.), Student and Assistant Instructor, Statistics Laboratory, Mathematics Department, Ohio State University, Columbus 10, Ohio, Box 3132 University Station, Columbus 10, Ohio.

Smith, Walter L., Ph.D. (Univ. of Cambridge), Statistician to the Medical School, University of Cambridge, Department of Human Ecology, Fenners, Cambridge, England.

Stoller, David S., Ph.D. (Univ. of California at Los Angeles), Research Engineer, Aircraft Division, The RAND Corporation, 1700 Main Street, Santa Monica, California, *3400 Mountain View Avenue, Los Angeles 34, California.*

Suzuki, George, Ph.D. (Univ. of Minnesota), Statistical Specialist, Applied Mathematics Laboratory, David Taylor Model Basin, Washington 7, D. C., *7830 Lakewood Drive, Falls Church, Virginia.*

Taeuber, Richard Conrad, B.A. (Swarthmore College), Student and Research Assistant, Institute for Research in the Social Sciences, University of North Carolina, Chapel Hill, North Carolina, *4222 Sheridan Street, Hyattsville, Maryland.*

Yost, Earl K., Jr., M.S. (Univ. of Oregon), Operations Analyst, Operations Analysis, HQ-SAC, Offutt AFB, Omaha, Nebraska, *4057 Frederick Street, Omaha 5, Nebraska.*

REPORT OF THE PASADENA MEETING OF THE INSTITUTE

The sixty-first meeting of the Institute of Mathematical Statistics was held in Pasadena, California, on June 18–19, 1954. The meeting was held in conjunction with meetings of the Biometric Society, Econometric Society, and American Society for Quality Control. There was one joint session with each of these societies. A special invited address was given by Dr. E. Cuyler Hammond, American Cancer Society and Yale University, on *The Problem of Establishing Cause and Effect Relationships in the Etiology of Chronic Diseases.* A beer party and a tea were held. A total of 143 persons attended including the following 55 members of the institute:

I. J. Abrams, T. W. Anderson, K. J. Arrow, Allan Birnbaum, Z. W. Birnbaum, Charles Boll, A. H. Bowker, G. G. den Broeder, Jr., Bernice Brown, Douglas Chapman, K. G. Clemans, E. L. Crow, G. B. Dantzig, R. C. Davis, W. L. Deemer, W. J. Dixon, Robert Dorfman, Mary Elveback, E. A. Fay, Evelyn Fix, Martin Fox, R. S. Gardner, G. E. Ghormley, E. J. Gilbert, W. K. Green, W. C. Guenther, E. C. Hammond, T. E. Harris, W. C. Hoffman, J. M. Howell, Martin Krakowski, C. A. Magwire, A. W. Marshall, O. B. Moan, A. M. Mood, R. A. Moor, L. E. Moses, Mervin Muller, S. W. Nash, John Norton, James Pachares, W. W. Page, G. J. Resnikoff, R. L. Rogers, H. G. Romig, Herman Rubin, M. M. Sandomire, Henry Scheffé, D. S. Stoller, D. Teichroew, Elizabeth Vaughan, L. H. Wegner, Oscar Wesler, Bryan Wilkinson, R. K. Zeigler.

The program of the Institute meeting was as follows:

FRIDAY; JUNE 18, 1954

9:30 A.M. Programming Models and Their Solutions.

Joint session with the Econometric Society.

Chairman: George B. Dantzig, The RAND Corporation.

(1) *A Solution of the Traveling Salesman Problem.* Ray Fulkerson, The RAND Corporation.

Panel: *Ideas for Solving Large-scale Linear Programming Models.*

Discussion: George B. Dantzig, The RAND Corporation, Robert Dorfman, University of California, Alan Manne, The RAND Corporation, William Orchard-Hays, The RAND Corporation.

2:00 P.M. Session on Experimental Design.

Chairman: T. E. Harris, The RAND Corporation.

(1) *Construction of Optimal Invariant Sequential Decision Procedures.* M. A. Girshick and H. Rubin, Stanford University.

(2) *Some Models of Sequential Design.* R. Bradt, University of Kansas and S. Karlin, California Institute of Technology.

4:00 P.M. Contributed Papers.

Chairman: David Stoller, The RAND Corporation.

(1) *The Integral of a Symmetric Unimodal Function over a Symmetric Convex Set and Some Probability Inequalities.* T. W. Anderson, Columbia University and Stanford University.

(2) *The Spectral Method of Hypothesis Testing Concerning Continuous Gaussian Stationary Random Processes.* R. C. Davis, Hughes Tool Company.

(3) *Note on the Distribution of a Definite Quadratic Form.* James Pachares, Naval Air Missile Test Center, Point Mugu.

(4) *On Simultaneous Analysis of Variance Test.* (By title.) K. V. Ramachandran, University of North Carolina.

(5) *The Optimum Character of a Certain Wald Sequential Test.* J. V. Breakwell, North American Aviation, Inc. Introduced by T. E. Harris.

(6) *An Optimum Decision Procedure for Ranking Means of Normal Populations.* (By title.) K. C. Seal, University of North Carolina.

(7) *On the Central Limit Theorem for d_n Dependent Variables.* (By title.) P. H. Diananda, University of North Carolina and University of Malaya.

(8) *Estimation of a Selection Function.* (Preliminary report.) Douglas G. Chapman, University of Washington.

(9) *On the Power of a Distribution-free One-sided Test of Fit Against Stochastically Comparable Alternatives.* (Preliminary report.) Z. W. Birnbaum and Ernest M. Scheuer, University of Washington.

SATURDAY, JUNE 19, 1954

9:00 A.M. Social and Medical Applications.

Chairman: Dan Teichroew, Institute for Numerical Analysis, NBS.

(1) *Occupations and Cigarette Smoking as Factors in Lung Cancer.* Dr. Lester Breslow, Bureau of Chronic Diseases, California State Department of Health.

(2) *A Study of the Onset of Mental Disease from Admission Data.* A. W. Marshall, The RAND Corporation.

11:00 A.M. Special Invited Address.

The Problem of Establishing Cause and Effect Relationships in the Etiology of Chronic Diseases. Dr. E. Cuyler Hammond, Yale University and American Cancer Society.

1:00 P.M. Industrial and Engineering Application.

Joint session with the American Society for Quality Control.

Chairman: John Howell, Los Angeles City College.

(1) *The Uses of Probability and Statistics in Theory of Guided Missiles.* Robert Muchmore, Ramo-Wooldridge Corporation.

(2) *A Statistical Method of Determining Relationships between Test Specification Limits and Performance Specification Limits.* Berl D. Levenson, Hughes Aircraft Company.

(3) *A Method of Specification, Testing, and Evaluation of Missile Systems.* E. J. Althaus, S. C. Morrison, and W. R. Tate, Hughes Aircraft Company.

(4) *Discovery Sampling.* James R. Crawford, Lockheed Aircraft Corporation.

(5) *Evaluation of Quality through Demerit Rating System.* Harry G. Romig, International Telemeter Corporation.

(6) *On Structural Fatigue under Random Loading.* John W. Miles, Department of Engineering, UCLA, and Douglas Aircraft Company.

T. E. HARRIS
Program Chairman

Rutgers University Honorary Professorship

The first Honorary Professorship in statistical Quality Control awarded by Rutgers University on August 11, 1954 was given Dr. Walter A. Shewhart, pioneer in statistical quality control techniques and Research Engineer for the Bell Telephone Laboratories.

PUBLICATIONS RECEIVED

WOLD, HERMAN, *A Study in the Analysis of Stationary Time Series*, 2nd ed., Almqvist and Wiksell, Stockholm, 1954, viii + 236 pp. 28 kr.

Revista de la Facultad de Ciencias Economicas, Vol. VI, Nos. 51–52, Ministerio de Educacion, Universidad de Buenos Aires, 1953, 386 pp.

WILLIAMS, J. D., *The Compleat Strategyst*, McGraw-Hill Book Co., Inc., New York, 1954, xiii + 234 pp., $4.75.

GUÉRARD, H. W. v., *Untersuchungen zur inneren Verkehrslage grosser Stadtkreise*, Vol. 25, Droste-Verlag, Dusseldorf, 64 pp.

LIEBLEIN, JULIUS, *A New Method of Analyzing Extreme-Value Data*, National Advisory Committee for Aeronautics, Technical Note 3053, National Bureau of Standards, Washington, January 1954, 88 pp.

Studi De Economia E Statistica, Ser. I, Vol. I, 1951, Università di Catania Anno Accademico 1950–51, 302 pp.