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Publications of Herman Rubin

On the distribution of the serial correlation coefficient. *Ann. Math. Statist.* **16** (1945) 211–215.

A constant-utility index of the cost of living. *Rev. Econ. Studies* **XV** (1947–48) 84–87. With L. R. Klein.

Estimation of the parameters of a single equation in a complete system of stochastic equation. *Ann. Math. Statist.* **20** (1949) 46–63. With T. W. Anderson.

The asymptotic properties of estimates of the parameters of a single equation in a complete system of stochastic equations. *Ann. Math. Statist.* **21** (1950) 370–382. With T. W. Anderson.

Measuring the equation systems of dynamic economics. In *Cowles Commission Monograph* **10** (T. C. Koopmans, ed.) 53–237, Wiley, New York, 1950. With T. C. Koopmans and R. B. Leipnik.

Consistency of maximum-likelihood estimates in the explosive case. In *Cowles Commission Monograph* **10** (T. C. Koopmans, ed.) 356–364, Wiley, New York, 1950.

Note on random coefficients. In *Cowles Commission Monograph* **10** (T. C. Koopmans, ed.) 419–422, Wiley, New York, 1950.

A Bayes approach to a quality control model. *Ann. Math. Statist.* **23** (1952) 114–125. With M. A. Girshick.

Postulates for generalizations of Hilbert space. *Proc. Amer. Math. Soc.* **4** (1953) 611–616. With M. H. Stone.

Asymptotic properties of limited information estimates under generalized conditions. In *Cowles Commission Monograph* **14** (Wm. C. Hood and T. C. Koopmans, eds.) 200–212, Yale Univ. Press, New Haven, 1953. With H. Chernoff.

On distribution-free statistics. *Ann. Math. Statist.* **25** (1954) 593–598. With Z. W. Birnbaum.

Transformations of relativistic particle mechanics. *Pacific J. Math.* **4** (1954) 563–601. With P. C. Suppes.

On two-place predicates and fitting sequences. *J. Symb. Logic* **20** (1955) 121–122. With P. C. Suppes.

The maximum value of a Fourier–Stieltjes transform. *Math. Scand.* **3** (1955) 97–102. With E. Hewitt.

Estimates of bounded relative error in particle counting. *Ann. Math. Statist.* **26** (1955) 276–285. With M. A. Girshick and R. Sitgreaves.

Limit-preserving embeddings of partially ordered sets in directed sets. *Proc. Amer. Math. Soc.* **7** (1956) 812–813. With J. R. Isbell.

The estimation of the location of a discontinuity in density. In *Proc. Third Berkeley Symp. Math. Statist. Probab.*, Vol. 1 (J. Neyman, ed.) 19–37, Univ. of Calif. Press, Berkeley, 1956. With H. Chernoff.

Statistical inference in factor analysis. In *Proc. Third Berkeley Symp. Math. Statist. Probab.*, Vol. 5 (J. Neyman, ed.) 111–150, Univ. of Calif. Press, Berkeley, 1956. With T. W. Anderson.

Uniform convergence of random functions with applications to statistics. *Ann. Math. Statist.* **27** (1956) 201–204.

The theory of decision procedures for distributions with monotone likelihood ratio. *Ann. Math. Statist.* **27** (1956) 272–300. With S. Karlin.

Distributions possessing a monotone likelihood ratio. *J. Amer. Statist. Assoc.* **51** (1956) 637–643. With S. Karlin.

Estimation of regression line with both variables subject to error under an unusual identification condition. *Ann. Math. Statist.* **29** (1958) 606–608.

A note on convexity in Euclidean n-space. *Proc. Amer. Math. Soc.* **9** (1958) 522–523. With O. Wesler.

Generating functions and the semigroup theory of branching Markov process. *Proc. Natl. Acad. Sci.* **44** (1958) 1057–1060. With A. T. Bharucha-Reid.

On the foundations of quantum mechanics. In *Axiomatic Method with Special Reference to Geometry and Physics*. Proc. Internat. Symp. at Univ. of Calif., Berkeley (L. Henkin, P. Suppes and A. Tarski, eds.) 333–340, North Holland, Amsterdam, 1959.

A new form of the generalized continuum hypothesis. *Bull. Amer. Math. Soc.* **65** (1959) 282–283.

Estimating the parameters of a differential process. *Ann. Math. Statist.* **30** (1959) 641–658. With H. G. Tucker.

The estimation of discontinuities in multivariate densities and related problems in stochastic processes. In *Proc. Fourth Berkeley Symp. Math. Statist. Probab.*, Vol. I (J. Neyman, ed.) 563–574, Univ. of Calif. Press, Berkeley, 1960.

Partnership games with secret signals prohibited. *Michigan Math. J.* **8** (1961) 71–76. With Martin Fox.

Characterization of the Wishart distribution. *Ann. Math. Statist.* **33** (1962) 1272–1280. With Ingram Olkin.

Likelihood ratios of differential processes. *Ann. Math. Statist.* **34** (1963) 1115 (Abstract).

Elementary characterization of the geometric and exponential distribution. *Amer. Math. Monthly* **71**(7) (1964) 828 (Abstract).

Admissibility of quantile estimates of a single location parameter. *Ann. Math. Statist.* **35** (1964) 1019–1030. With Martin Fox.

On a characterization of the Poisson distribution. *Sankhyā A* **26** (1964) 295–298. With C. R. Rao.

Multivariate beta distributions and independence properties of the Wishart distribution. *Ann. Math. Statist.* **35** (1964) 261–269. With Ingram Olkin.

Supports of convolutions of identical distributions. In *Proc. Fifth Berkeley Symp. Math. Statist. Probab. II*, Part I (J. Neyman, ed.) 415–422, Univ. of Calif. Press, Berkeley, 1965/66.

An elementary concentration inequality. *Sankhyā A* **27** (1965) 415–416.

Probabilities of moderate deviations. *Sankhyā A* **27** (1965) 325–346. With J. Sethuraman.

Bayes risk efficiency. *Sankhyā A* **27** (1965) 347–356. With J. Sethuraman.

An elementary treatment of the amount of information in an experiment. *Sankhyā A* **28** (1966) 97–98.

Some properties of quantile estimates. *Z. Wahrsch. Verw. Gebiete* **4** (1966) 352–353. With Martin Fox.

The 'secretary' problem. *Ann. Math. Statist.* **37**(2) (1966) 544 (Abstract).

The Halmos–Savage theorem in the non-dominated case. *Ann. Math. Statist.* **37**(5) (1966) 1431 (Abstract).

A property of the log-likelihood-ratio process for Gaussian processes. *Ann. Inst. Stat. Math.* **20** (1968) 311–314. With B. L. S. Prakasa Rao.

A theorem on n-tuples which is equivalent to the well-ordering theorem. *Notre Dame J. Formal Logic* **8** (1967) 48–50. Corregendum. *Notre Dame J. Formal Logic* **11** (1970) 220. With J. E. Rubin.

Domains of attraction for the subcritical Galton–Watson branching process. *J. Appl. Probab.* **5** (1968) 216–219. With D. Vere-Jones.

The effect of auto-regressive dependence on a nonparametric test. *IEEE Trans. Inform. Theory* **IT-13** (1967) 311–313. With S. S. Wolff and J. L. Gastwirth.

On robust linear estimators. *Ann. Math. Statist.* **40** (1969) 24–39. With J. L. Gastwirth.

Representation of nonnegative continuous functions on product spaces. *Bull. Amer. Math. Soc.* **74** (1968) 332–333.

Functions of processes with Markovian states. *Ann. Math. Statist.* **39** (1968) 938–946. With Martin Fox.

Functions of processes with Markovian states II. *Ann. Math. Statist.* **40** (1969) 865–869. With Martin Fox.

A new approach to the foundations of probability. In *Foundations of Mathematics*. Symposium commemorating Kurt Gödel, Columbus, Ohio, 1966 (J. Bulloff, T. Holyoke and S. Hahn, eds.) 46–50, Springer, New York, 1969.

Functions of processes with Markovian states III. *Ann. Math. Statist.* **41** (1970) 472–479. With Martin Fox.

Decision theoretic approach to some multivariate problems. In *Multivariate Analysis II*. Proc. Second Internat. Symp., Dayton, Ohio, 1968 (P. R. Krishnaiah, ed.) 507–513, Academic Press, New York, 1969.

Decision-theoretic evaluation of some nonparametric methods. In *Nonparametric Techniques in Statistical Inference*. Proc. Symp. Indiana University, 1969 (M. L. Puri, ed.) 579–583, Cambridge Univ. Press, London, 1970.

A characterization based on the absolute difference of two i.i.d. random variables. *Ann. Math. Statist.* **41** (1970) 2113–2122. With P. S. Puri.

Effect of dependence on the level of some one-sample tests. *J. Amer. Statist. Assoc.* **66** (1971) 816–820. With J. L. Gastwirth.

On extreme stable laws and some applications. *J. Appl. Probab.* **8** (1971) 794–801. With M. L. Eaton and C. Morris.

Occam's Razor needs new blades. In *Foundations of Statistical Inference*. Proc. Symposium, Waterloo, Ont., 1970 (V. P. Godambe and D. A. Sprott, eds.) 372–374, Holt, Rinehart and Winston of Canada, Ltd., Toronto, Montreal, 1971.

Optimization problems in simulation. In *Optimizing Methods in Statistics*. Proc. Symposium, Columbus, Ohio, 1971 (J. S. Rustagi, ed.) 29–32, Academic Press, New York, 1971.

On large sample properties of certain non-parametric procedures. In *Proc. Sixth Berkeley Symp. Math. Statist. Probab.*, Vol. I (L. Le Cam, J. Neyman and E. Scott, eds.) 429–435, Univ. of Calif. Press, Berkeley, 1972.

A decision-theoretic approach to the problem of testing a null hypothesis. In *Statistical Decision Theory and Related Topics*. Proc. Symp. W. Lafayette, Indiana, 1970 (S. S. Gupta and J. Yackel, eds.) 103–108, Academic Press, New York and London, 1971.

The relationship between two weak forms of the axiom of choice. *Fund. Math.* **80** (1973) 75–79. With P. Howard and J. E. Rubin.

Probabilistic proof of the normal convergence theorem. *Ann. Probab.* **1** (1973) 867–869. With D. Root.

On a characterization of the family of distributions with constant multivariate failure rates. *Ann. Probab.* **2** (1974) 738–740. With P. S. Puri.

Special case of the distribution of the median. *Ann. Statist.* **3** (1975) 251–256. With S. R. Paranjape.

Asymptotic distribution theory of the empiric c.d.f. for mixing processes. *Ann. Statist.* **3** (1975) 809–824. With J. L. Gastwirth.

The behavior of robust estimators on dependent data. *Ann. Statist.* **3** (1975) 1070–1100. With J. L. Gastwirth.

Some non-standard problems of inference in stochastic processes. In *Proceedings of the Summer Research Institute on Statistical Inference for Stochastic Processes*. Bloomington, In., 1974 (M. L. Puri, ed.) 203–209, Academic Press, New York, 1975.

The relationship between convergence of random variables and convergence of distribution on arbitrary topological spaces. *Notices of AMS* **20** A-536, 1973.

Estimate of ultimate recoverable oil and gas in the United States. (1975). Report prepared for the Federal Energy Administration included in their interim report to Congress. With G. P. McCabe.

A method for computing random multinomial probabilities from random Poisson probabilities. *Bull. Inst. Math. Statist.* **4** (1975) 168 (Abstract).

On selecting a subset containing the best population – a Bayesian approach. *Ann. Statist.* **5** (1977) 969–983. With P. K. Goel.

Robust Bayesian estimation. In *Statistical Decision Theory and Related Topics II* (S. S. Gupta and D. S. Moore, eds.) 351–356, Academic Press, New York, 1977.

The approximation of symmetric X-ray peaks by Pearson Type VII distributions. *J. Appl. Cryst.* **10** (1977) 66–68. With M. M. Hall, Jr., V. G. Veeraraghavan and P. G. Winchell.

The finite memory secretary problem. *Ann. Probab.* **5**(4) (1977) 627–635. With S. M. Samuels.

Asymptotic distribution of symmetric statistics. *Ann. Statist.* **8** (1980) 165–170. With R. Vitale.

Computation of penalty-maximum-likelihood density estimators. *J. Statist. Comput. Simulat.* **10** (1979) 65–78. With J. K. Ghorai.

Asymptotic theory of estimation in nonlinear stochastic differential equations. *Sankhyā A* **43** (1981) 170–189. With B. L. S. Prakasa Rao.

Infinite precision methods of generating random variables with specified distributions. *Notices AMS* (1977) A-249.

Computational complexity of the generation of non-uniform random variables. *Notices AMS* (1978) A-12.

Asymptotic regular almost compactness and convergence of nets of probability measures. *Notices AMS* (1978) A-152.

Estimating a possibly rational mean. In *Statistical Decision Theory and Related Topics III*, Vol. 2 (S. S. Gupta and J. O. Berger, eds.) 263–268, Academic Press, New York, 1982.

Bayes risk consistency of nonparametric Bayes density estimators. *Austral. J. Statist.* **1** (1982) 51–66. With J. K. Ghorai.

Convergence rates of large deviations for point estimators. *Statist. Probab. Lett.* **1** (1983) 197–202. With A. Rukhin.

A note on the behavior of sample statistics when the population mean is infinite. *Ann. Probab.* **12** (1984) 256–261. With Jeesen Chen.

Drawing a random sample from a density selected at random. *Comp. Statist. & Data Anal.* **4** (1986) 219–227. With Jeesen Chen.

On the distributions of sums of symmetric random variables and vectors. *Ann. Probab.* **14** (1986) 247–259. With Thomas Sellke.

Bounds for the difference between median and mean for Gamma and Poisson distributions. *Statist. Probab. Lett.* **4** (1986) 281–283. With Jeesen Chen.

How non-uniform can a uniform sample be? *Probab. Theory and Related Fields* **73** (1986) 245–254. With Jeesen Chen and Burgess Davis.

Another look at Poisson processes. *Sankhyā A* **49** (1987) 133–137. With W.-J. Huang and P. S. Puri.

Bayesian estimation subject to minimaxity of a multivariate normal mean in the case of a common unknown variance. In *Statistical Decision Theory and Related Topics IV*, Vol. 1 (S. S. Gupta and J. O. Berger, eds.) 326–348, Springer-Verlag, New York, 1988. With A. DasGupta.

A weak system of axioms for "rational" behavior and the non-separability of utility from prior. *Statistics and Decisions* **5** (1987) 47–58.

Robustness in generalized ridge regression and related topics. In *Third Valencia Symposium on Bayesian Statistics* **3** (J. Bernardo, M. DeGroot, D. Lindley and A. F. M. Smith, eds.) 403–410, Clarendon Press, Oxford, 1988.

Some results on robustness in testing. In *Statistical Decision Theory and Related Topics IV* (S. S. Gupta and J. O. Berger, eds.) 371–78, Springer-Verlag, New York, 1988.

Some stochastic processes related to density functions. *J. Theoret. Probab.* **1** (1988) 227–237. With J. Chen.

Exact computation of the asymptotic efficiency of maximum likelihood estimators of a discontinuous signal in a Gaussian white noise. *Ann. Statist.* **23**(3) (1995) 732–739. With K. S. Song.

Independence and determination of probabilities. *Proc. Amer. Math. Soc.* **125**(12) (1997) 3721–3723. With Z. Chen and R. A. Vitale.

Versions of normality and some weak forms of the axiom of choice. *MLQ Math. Log. Q.* **44**(3) (1998) 367–382. With P. Howard, K. Keremedis and J. E. Rubin.

Disjoint unions of topological spaces and choice. *MLQ Math. Log. Q.* **44**(4) (1998) 493–508. With P. Howard, K. Keremedis and J. E. Rubin.

Correlation in a Bayesian framework. *Canadian J. Statist.* **28**(4) (2000) 675–687. With A. DasGupta, G. Casella, M. Delampady, C. Genest and W. Strawderman.

A new approach to default priors. *Canadian J. Statist.* **29**(3) (2001) 437–450. With G. Casella, A. DasGupta, M. Delampady and W. Strawderman.

Bayes estimates as expanders in one and two dimensions. *J. Statist. Plann. Inference* **113**(1) (2003) 1–14. With A. DasGupta.

Estimation of the Binomial parameters when both parameters are unknown. *Special Issue of Journal of Statistical Planning and Inference in Honor of Herman Chernoff* (in Press). With A. DasGupta.

A contemporary review of infinitely divisible distributions and processes. *Sankhyā A* **64**, Part 3(ii) (2002) 763–819. With A. Bose and A. DasGupta.

Books

Equivalents of the Axiom of Choice. North Holland, Amsterdam, 1963. With J. E. Rubin.

Equivalents of the Axiom of Choice II. North Holland, Amsterdam, 1985. With J. E. Rubin.

Technical Reports

Limit theorems for transformed variables. *MSU Research Memorandum* **85** 1961.

Construction of random variables with specified distributions. *MSU Research Memorandum* **88** 1961.

Maximum likelihood estimates of matrices of finite rank. *MSU Research Memorandum* **119** 1964.

Calculation of upper tail percentiles for the Chi-square distribution. Technical Report No. 102, Stanford University, 1964. With J. Zidek.

Approximation to the distribution function of sums of independent Chi random variables. Technical Report No. 106, Stanford University, 1965. With J. Zidek.

A waiting time distribution arising from the coupon collector's problem. Technical Report No. 107, Stanford University, 1965. With J. Zidek.

Distribution of a sum of waiting times in coupon collection. Technical Report No. 109, Stanford University, 1965. With G. Chase.

First passage times and other analysis of continuous parameter Markov chains. Technical Report No. 111, Stanford University, 1965. With I. MacNeill.

A stochastic model for the evolution of cloud cover-estimation of parameters and goodness of fit based on Boston data. *MSU Research Memorandum* **132** 1965. With Martin Fox.

An iterative process of high order. *MSU Research Memorandum* **170** 1966.

Some fast methods of generating random variables with preassigned distributions. I. General acceptance–rejection procedures. Technical Report #466, 1976, Purdue University, Department of Statistics.

The effect of dead time on the physical generation of random digits. Technical Report #467, 1976, Purdue University, Department of Statistics.

A new 'definition' of the integral. Technical Report #468, 1976, Purdue University, Department of Statistics.

Mellin transforms from Fourier Transforms. Technical Report #81-14, Purdue University, Department of Statistics.

Drawing a random sample from a density selected at random. *I.M.S. Bulletin* **12** (1983) 214. With Jeesen Chen.

Fallacies of classical statistics. Technical Report #86-31, Purdue University, Department of Statistics.

An efficient method of generating infinite-precision exponential random variables. Technical Report #86-39, Purdue University, Department of Statistics.

The effect of non-normalization on the risks of the density estimators. Technical Report #86-50, Purdue University, Department of Statistics. With Jeesen Chen.

A new approach to integration. Technical Report #86-56, Purdue University, Department of Statistics.

Regular extensions of measures. Technical Report #86-57, Purdue University, Department of Statistics.

Generating non-uniform random variables: Infinite precision procedures and computational complexity. Technical Report #86-58, Purdue University, Department of Statistics.

A purely probabilistic method for finding deterministic sums. Technical Report #95-06 (1995). With A. DasGupta.

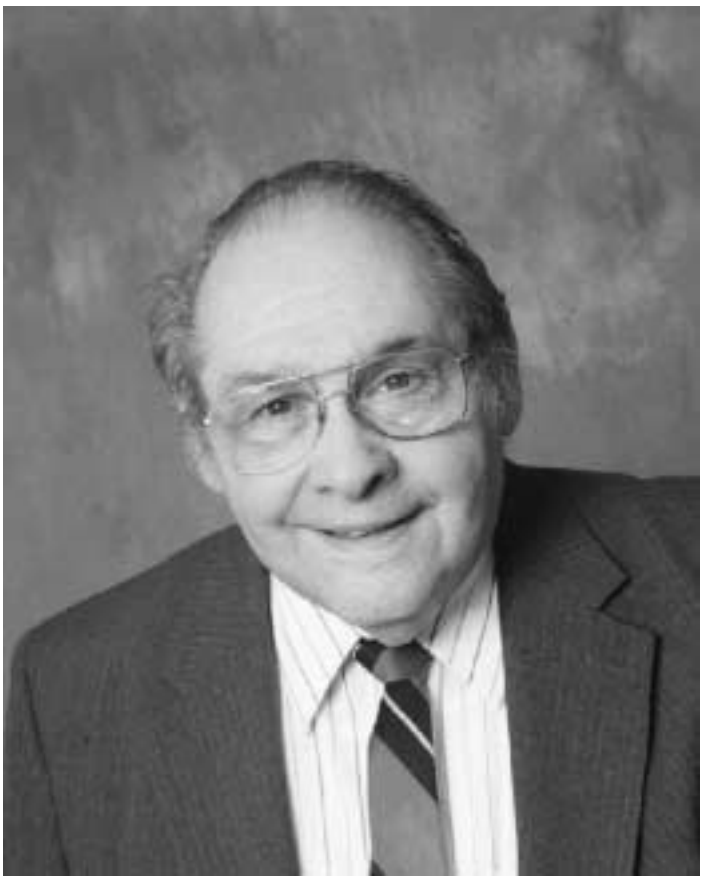
Ph.D. Students of Herman Rubin

Stanford University
Om Aggarwal
Charles Boll
Craig Magwire
Lincoln Moses
A. R. Roy
Oscar Wesler

University of Oregon
Jack Borsting
R. P. Pakshirajan

Michigan State University
Thurman Brown
Donald Fisk
Gerald Funk
John McCloskey
B. L. S. Prakasa Rao

Purdue University
Jeesen Chen
Philip Cohen
John Dirkse
J. K. Ghorai
S. R. Paranjape



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