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# THE PUBLICATIONS AND WRITINGS OF LUCIEN LE CAM

## *Papers* (*including reviews and discussions*)

(1947) Un instrument d'étude des fonctions aléatoires, la fonctionelle caractéristique. *C.R. Acad. Sci. Paris* **224** 710–711.

(1948) Sur certaines classes de fonctions aléatoires. *C.R. Acad. Sci. Paris* **227** 1206–1208 (with J. Bass).

(1949) Les lois des débits des rivières francaises. *Houille Blanche, Numéro Special* **B** 733–740 (with G. Morlat).

(1953) On some asymptotic properties of maximum likelihood estimates and related Bayes' estimates. *Univ. California Publ. Statist.* **1** 277–329.

(1954) Note on a theorem of Lionel Weiss. *Ann. Math. Statist.* **25** 791–794.

(1955) An extension of Wald's theory of statistical decision functions. *Ann. Math. Statist.* **26** 69–81.

(1956a) On the asymptotic theory of estimation and testing hypotheses. *Proc. Third Berkeley Symp. Math. Statist. Probab.* (1954–1955) **1** 129–156. Univ. California Press, Berkeley.

(1956b) A remark on the roots of the maximum likelihood equation. *Ann. Math. Statist.* **27** 1174–1177 (with C. Kraft).

(1957) Convergence in distribution of stochastic processes. *Univ. California Publ. Statist.* **2** 207–236.

(1958a) Remarques sur les variables aléatoires dans les espaces vectoriels non séparables. *Le calcul des probabilités et ses applications* (Paris, 15–20 juillet 1958. Colloques internationaux du CNRS, LXXXVII). *Publications de l'Institut de Statistique de l' Université de Paris VII* 39–53. CNRS, Paris.

(1958b) Un théorème sur la division d'un intervalle par des points pris au hasard. *Publications de l'Institut de Statistique de l'Université de Paris VII* 7–16.

(1958c) Les propriétés asymptotiques des solutions de Bayes. *Publications de l'Institut de Statistique de l'Université de Paris VII* 17–35.

(1960a) Locally asymptotically normal families of distributions. *Univ. California Publ. Statist.* **3** 37–98.

(1960b) A necessary and sufficient condition for the existence of consistent estimates. *Ann. Math. Statist.* **31** 140–150 (with L. Schwartz).

(1960c) The Poisson approximation to the Poisson binomial distribution. *Ann. Math. Statist.* **31** 737–740 (with J. L. Hodges, Jr).

(1960d) An approximation theorem for the Poisson binomial distribution. *Pacific J. Math.* **10** 1181–1197.

(1961) A stochastic description of precipitation. *Proc. Fourth Berkeley Symp. Math. Statist. Probab.* **3** 165–186. Univ. California Press, Berkeley.

(1963) A note on the distribution of sums of independent random variables. *Proc. Nat. Acad. Sci. U.S.A.* **50** 601–603.

(1964a) Sufficiency and approximate sufficiency (Special invited address, Institute of Mathematical Statistics, Dec. 1959). *Ann. Math. Statist.* **35** 1419–1455.

(1964b) Consistent estimates and zero–one sets. *Ann. Math. Statist.* **35** 157–161 (with L. Breiman and L. Schwartz).

(1965a) On the distribution of sums of independent random variables. In *Bernoulli, Bayes, Laplace* (J. Neyman and L. Le Cam, eds.) 179–202. Springer, New York.

(1965b) A remark on the central limit theorem. *Proc. Nat. Acad. Sci. U.S.A.* **54** 354–359.

(1966) Likelihood functions for large numbers of independent observations. In *Research Papers in Statistics* (F. N. David, ed.) 167–187. Wiley, New York.

(1967) Generalizations of theorems of Chernoff and Savage on asymptotic normality of test statistics. *Proc. Fifth Berkeley Symp. Math. Statist. Probab.* **1** 609–638. Univ. California Press, Berkeley (with M. Raghavachari and Z. Govindarajulu).

(1968) Panel discussion on statistical inference. In *The Future of Statistics* (D. Watts, ed.) 139–160. Academic Press, New York.

(1970a) Remarques sur le théorème limite central dans les espaces localement convexes. In *Les probabilités sur les structures algébriques. Actes Colloques internationaux du Centre National de la Recherche Scientifique* **186** 233–249. Éditions CNRS, Paris.

(1970b) On the assumptions used to prove asymptotic normality of maximum likelihood estimates. *Ann. Math. Statist.* **41** 802–828.

(1970c) On the weak convergence of probability measures. *Ann. Math. Statist.* **41** 621–625.

(1971) On seminorms and probabilities, and abstract Wiener spaces. *Ann. of Math.* **93** 390–408. [Correction (1976) *Ann. of Math.* **104** 391] (with R. M. Dudley and J. Feldman).

(1972a) Limits of experiments. *Proc. Sixth Berkeley Symp. Math. Statist. Probab.* **1** 245–261. Univ. California Press, Berkeley.

(1972b) Paul Lévy 1886–1971. *Proc. Sixth Berkeley Symp. Math. Statist. Probab.* **3** xiv–xx. Univ. California Press, Berkeley.

(1973a) Convergence of estimates under dimensionality restrictions. *Ann. Statist.* **1** 38–53.

(1973b) Sur les contraintes imposées par les passages à la limite usuels en statistique. *Bull. Internat. Statist. Institute* **45**. *Proc. 39th Session of International Statistical Institute* (*Vienna, 1973*) **4** 169–180.

(1973c) Sur la lois des grands nombres pour des variables aléatoires de Bernoulli attachées à un arbre dyadique. *C.R. Acad. Sci. Paris Sér. A, B* **277** A963–A964 (with A. Joffe and J. Neveu).

(1974a) On the information contained in additional observations. *Ann. Statist.* **2** 630–649.

(1974b) J. Neyman: On the occasion of his 80th birthday. *Ann. Statist.* **2** vii–xiii (with E. L. Lehmann).

(1975a) On local and global properties in the theory of asymptotic normality of experiments. In *Stochastic Process. and Related Topics* (M. L. Puri, ed.) **1** 13–53. Academic Press, New York.

(1975b) Distances between experiments. In *A Survey of Statistical Design and Linear Models* (J. N. Srivastava, ed.) 383–396. North-Holland, Amsterdam.

(1975c) Construction of asymptotically sufficient estimates in some non-Gaussian situations. In *Proc. Prague Symp. on Asymptotic Methods in Statist.* (J. Hájek, ed.) **1** 179–200. Academia, Prague.

(1975d) Comment on "Defining the curvature of a statistical problem with applications to second-order efficiency," by B. Efron. *Ann. Statist.* **3** 1223–1224.

(1976a) Circadian rhythm of stimulated lymphocyte blastogenesis. *J. Allergy Clinical Immunology* **58** 181–189 (with M. Kaplan et al.).

(1976b) An unusual metastatic lesion in a patient with osteosarcoma receiving tumor specific transfer factor. In *Transfer Factor* (M. S. Ascher, A. A. Gottlieb and C. H. Kirkpatrick, eds.) 537–542. Academic Press, New York (with A. S. Levin, V. S. Byers and J. O. Johnson).

(1976c) Tumor specific transfer factor therapy in osteogenic sarcoma. *Ann. New York Acad. Sci.* **277** 621–627 (with V. S. Byers, A. S. Levin, J. O. Johnston and A. J. Hackett).

(1977a) A reduction theorem for certain sequential experiments. In *Statistical Decision Theory and Related Topics II* (S. Gupta and D. Moore, eds.) 223–244. Academic Press, New York.

(1977b) On the asymptotic normality of estimates. In *Proc. Symp. to Honor Jerzy Neyman* (Warsaw, 1974) (R. Bartoszyński, E. Fidelis and W. Klonecki, eds.) 203–217. Państw. Wydawn. Nauk., Warsaw.

(1977c) Identification of human populations with a high incidence of immunity against breast carcinoma. *Cancer Immunology and Immunotherapy* **2** 163–172 (with V. S. Byers, A. S. Levin, W. H. Stone and A. J. Hackett).

(1977d) A note on metastatistics or "An essay towards stating a problem in the doctrine of chances." Foundations of probability and statistics I. *Synthese* **36** 133–160.

(1978) On the asymptotic behavior of mixtures of Poisson distributions. *Z. Wahrsch. Verw. Gebiete* **44** 1–45 (with R. Traxler).

(1979a) On a theorem of J. Hájek. In *Contributions to Statistics*: *Jaroslav Hájek Memorial Volume* (J. Jurečková, ed.) 119–135. Reidel, Dordrecht.

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(1979c) Immunotherapy of osteogenic sarcoma with transfer factor, long-term follow-up. *Cancer Immunology and Immunotherapy* **6** 243–253 (with V. S. Byers, A. S. Levin, J. O. Johnson and A. J. Hackett).

(1979d) Jerzy Neyman. Biographical supplement to the *International Encyclopedia of the Social Sciences* **8** (D. L. Sills, ed.). Free Press, New York.

(1980) Comment on "Minimum chi-square—not maximum likelihood," by J. Berkson. *Ann. Statist.* **8** 473–478.

(1982a) Limit theorems for empirical measures and Poissonization. In *Statistics and Probability. Essays in Honor of C.R. Rao* (G. Kallianpur, P. R. Krishnaiah and J. K. Ghosh, eds.) 455–463. North-Holland, Amsterdam.

(1982b) On the risk of Bayes estimates. In *Statistical Decision Theory and Related Topics III* (S. S. Gupta and J. O. Berger, eds.) **2** 121–137. Academic Press, New York.

(1982c) On some stochastic models of tumor growth and metastasis. In *Probability Models and Cancer* (L. Le Cam and J. Neyman, eds.) 265–286. North-Holland, Amsterdam.

(1982d) A remark on empirical measures. In *Festschrift for Erich L. Lehmann* (P. Bickel, K. Doksum and J. L. Hodges, Jr, eds.) 305–327. Wadsworth, Belmont, CA.

(1983) An extension of a theorem of H. Chernoff and E. L. Lehmann. In *Recent Advances in Statistics* (M. H. Rizvi, J. Rustagi and D. Siegmund, eds.) 303–337. Academic Press, New York (with C. Mahan and A. Singh).

(1984) Review of "*Statistical Estimation*: *Asymptotic Theory*," by I. A. Ibragimov and R. Z. Has'minskii, and "*Contributions to a General Asymptotic Statistical Theory*," by J. Pfanzagl and W. Wefelmeyer. *Bull. Amer. Math. Soc.* **11** 392–400.

(1985a) Sur l'approximation de familles de mesures par des familles gaussiennes. *Ann. Inst. H. Poincaré* **21** 255–287.

(1985b) On Lévy's martingale central limit theorem. *Sankhyā Ser. A* **47** 141–155 (with P. Jeganathan).

(1986a) The central limit theorem around 1935 (with discussion). *Statist. Sci.* **1** 78–96.

(1986b) Comment on "Consistency of Bayes estimates," by D. A. Freedman and P. Diaconis. *Ann. Statist.* **14** 59–60.

(1987) Convergence of stochastic empirical measures. *J. Multivariate Anal.* **23** 159–168 (with R. J. Beran and P. W. Millar).

(1988a) Discussion of "The Likelihood Principle," by J. O. Berger and R. L. Wolpert. *IMS Lecture Notes Monogr. Ser.* **6** 182–185. IMS, Hayward, CA.

(1988b) On the preservation of local asymptotic normality under information loss. *Ann. Statist.* **16** 483–520 (with G. L. Yang).

(1988c) Distinguished statistics, loss of information and a theorem of Robert B. Davies. In *Statistical Decision Theory and Related Topics IV* (S. Gupta and J. O. Berger, eds.) **2** 163–175. Springer, New York (with G. L. Yang).
(1990a) Maximum likelihood: An introduction. *Internat. Statist. Rev.* **58** 153–171.
(1990b) On the standard asymptotic confidence ellipsoids of Wald. *Internat. Statist. Rev.* **58** 129–152.
(1990c) A conversation with Ildar Ibragimov. *Statist. Sci.* **5** 347–355 (with P. J. Bickel).
(1991) Some recent results in the asymptotic theory of statistical estimation. In *Proc. International Congress of Mathematicians* 1083–1090. Math. Soc. Japan, Tokyo.
(1992a) Review of "*Comparison of Statistical Experiments*," by E. Torgersen. *SIAM Rev.* **34** 669–671.
(1992b) Stochastic models of lesion induction and repair in yeast. *Math. Biosci.* **112** 261–270.
(1994) An infinite dimensional convolution theorem. In *Statistical Decision Theory and Related Topics* **5** (S. S. Gupta and J. O. Berger, eds.) 401–411. Springer, New York.
(1995) Neyman and stochastic models. *Probab. Math. Statist.* **15** 37–45.
(1996) Comparison of experiments: A short review. In *Statistics, Probability and Game Theory. Papers in Honor of David Blackwell* 127–138. IMS, Hayward, CA.
(1997) Metric dimension and statistical estimation. In *Advances in Mathematical Sciences*: *CRM's 25 Years* 303–311. Amer. Math. Soc., Providence, RI.
(1998a) Recollections on my contacts with Jaroslav Hájek. In *Collected Works of Jaroslav Hájek with Commentary* (M. Hušková, R. Beran and V. Dupač, eds.) 21–28. Wiley, New York.
(1998b) Asymptotic normality of experiments. In *Encyclopedia of Statistical Sciences. Update Series* (S. Kotz, C. Read and D. Banks, eds.) **2** 21–31. Wiley, New York.
(1999) About tangents. *Math. Methods Statist.* **8** 209–219.
(2000a) Estimation with quadratic loss. In *Statistics for the 21st Century* (C. R. Rao and G. J. Székely, eds.) 251–263. Dekker, New York.
(2000b) La statistique mathématique depuis 1950. In *Development of Mathematics 1950–2000* (J.-P. Pier, ed.) 735–761. Birkhäuser, Basel.

## *Books, Edited Volumes, Lecture Notes*

(1965) *Bernoulli*, *Bayes*, *Laplace*. Springer, New York (with J. Neyman).
(1967) *Proc. Fifth Berkeley Symp. Math. Statist. Probab.* **1–5**. Univ. California Press, Berkeley (with J. Neyman).
(1969) Théorie asymptotique de la décision statistique. *Séminaire de Mathématiques Supérieures* (Été 1968) **33** 7–143. Les Presses de l'Université de Montréal.
(1972) *Proc. Sixth Berkeley Symp. Math. Statist. Probab.* **1–6**. Univ. California Press, Berkeley (with J. Neyman and E. L. Scott).
(1974) *Asymptotic Methods in Statistical Decision Theory*. *Publications du Centre Recherches Mathématiques, Université de Montréal, Canada*. CRM, Univ. Montréal, Canada.
(1982) *Probability Models and Cancer*. North-Holland, Amsterdam (with J. Neyman).
(1985) *Proc. Berkeley Conference in Honor of Jerzy Neyman and Jack Kiefer* **1–2**. Wadsworth, Belmont, CA (with R. A. Olshen).
(1986) *Asymptotic Methods in Statistical Decision Theory*. Springer, New York.
(1990) *Asymptotics in Statistics. Some Basic Concepts*. Springer, New York (with G. L. Yang). (Chinese translation: Science Press, Beijing, 1994.)
(2000a) *Asymptotics in Statistics. Some Basic Concepts*, 2nd ed. Springer, New York (with G. L. Yang).

(2000b) *Game Theory, Optimal Stopping, Probability and Statistics*. *Papers in Honor of Thomas S. Ferguson*. IMS, Beachwood, OH (with F. T. Bruss).

## *Unpublished Papers*

(1950a) Etude sur les Crues (Abstract, Chapters 1–3).
(1950b) Etude sur les Crues (Chapter 4, conclusion, figures, bibliography).
(1968) Remarks on the Bernstein–von Mises theorem. 82 pp.
(1970) Note on a certain class of measures. 37 pp.
(1972) On replacing a fixed sample size by a random variable. 43 pp.
(1977) Addendum to the paper "A reduction theorem for certain sequential experiments." 23 pp.
(1981) Nonanaphylactic food allergies mediated by immune complexes: I. Evidence for immune complex mediated vascular inflammation. 12 pp.
(1983) On the range of validity of J. Berkson's complaints about maximum likelihood. 4 pp. (Invited talk at the Joint Statistical Meeting in Washington, DC.)
(1986) On the Bernstein–von Mises theorem. Technical Report No. 57. 17 pp.
(1987) Harold Cramér and sums of independent random variables. Technical Report No. 103, Dept. Statistics, Univ. California, Berkeley. 23 pp. (Invited talk at the IMS annual meeting in San Francisco.)
(1988a) On some stochastic models of the effect of radiation on cell survival. Technical Report No. 136, Dept. Statistics, Univ. California, Berkeley. 44 pp.
(1988b) On the Prokhorov distance between the empirical process and the associated Gaussian bridge. Technical Report No. 170, Dept. Statistics, Univ. California, Berkeley. 18 pp.
(1989) On measurability and convergence in distribution. Technical Report No. 211, Dept. Statistics, Univ. California, Berkeley. 15 pp.
(1990) Some special results of measure theory. Technical Report No. 265, Dept. Statistics, Univ. California, Berkeley. 39 pp.
(1993) On the variance of estimates with prescribed expectations. Technical Report No. 393, Dept. Statistics, Univ. California, Berkeley. 43 pp.