

Good, Irving John

Born in London, England, December 9, 1916

Employment

Foreign Office, 1941-45. Worked at Bletchley Park on Ultra (both the Enigma and a Teleprinter encrypting machine the *Schlüsselzusatz* SZ40 and 42 which we called Tunny or Fish) as the main statistician under A. M. Turing, F. R. S., C. H. O. D. Alexander (British Chess Champion twice), and M. H. A. Newman, F. R. S., in turn. (All three were friendly bosses.)

Lecturer in Mathematics and Electronic Computing, Manchester University, 1945-48.

Government Communications Headquarters, U.K., 1948-59.

Visiting Research Associate Professor, Princeton, 1955 (Summer).

Consultant to IBM for a few weeks, 1958/59. (Information retrieval and evaluation of the Perceptron.)

Admiralty Research Laboratory, 1959-62.

Consultant, Communications Research Division of the Institute for Defense Analysis, 1962-64.

Senior Research Fellow, Trinity College, Oxford, and Atlas Computer Laboratory, Science Research Council, Great Britain, 1964-67.

Professor (research) of Statistics, Virginia Polytechnic Institute and State University since July, 1967. University Distinguished Professor since Nov. 19, 1969. Emeritus since July 1994.

Adjunct Professor of the Center for the Study of Science in Society from October 19, 1983.

Adjunct Professor of Philosophy from April 6, 1984.

Grants

A grant, Probability Estimation, from the U.S. Dept. of Health, Education and Welfare; National Institutes of Health, No. R01 Gm 19770, was funded in 1970 and was continued until July 31, 1989. (Principal Investigator.)

Also involved in a grant obtained by G. Tullock and T. N. Tideman on Public Choice, NSF Project SOC 78-06180; 1977-79.

Degrees and Honors

Rediscovered irrational numbers at the age of 9 (independently discovered by the Pythagoreans and described by the famous G.H.Hardy as of "profound importance": A Mathematician's Apology, §14). Also, at the same time, found an infinity of solutions of $2x^2 = y^2 \pm 1$ (Pell's equation). Good cannot legally prove these statements but he can defend them.

Rediscovered mathematical induction and, in a sense, integration, at age 13. Good cannot legally prove this statement but he can defend it.

Major Scholar of Jesus College, Cambridge, 1934.

State Scholar, 1934.

B.A., Cambridge, 1938.

Cambridgeshire Chess Champion, 1939.

Smith's Prize, Cambridge (one or two Smith's Prizes are awarded each year for mathematical essays by graduate students), 1940. Supervisor: A. S. Besicovitch, F.R.S.

Ph.D., Cambridge (Mathematics), 1941. Supervisor: G. H. Hardy, F.R.S.

In 1943 Good was one of a small group who helped specify Mark 2 of a large-scale (classified) binary electronic digital computer called Colossus. Colossus was the first large-scale digital computer but not quite general-purpose. [Mark 1 was specified by M.H.A. Newman (and perhaps A.M. Turing). T.H. Flowers headed the engineering group among whom I believe the next most influential were S.W. Broadhurst, W. W. Chandler, and A. W. M Coombs. Flowers deserved a knighthood.] The main users at first were Newman, Michie and Good, and some months later about twenty mathematicians. Good was a main user and produced more than half the theory for the use of the Colossi.

Communication Theory Committee, Ministry of Supply, U.K., 1953-56.

M.A., Cambridge, 1943.

Signals and Data Handling Committee of the Scientific Advisory Council, U.K., 1957-60.

Runner-up in the West of England Chess Championship, 1958.

"Fellow" of the Institute of Mathematical Statistics, 1958.

Communications Committee of the Electronics Research Council of the Ministry of Aviation, U.K., 1960 to about 1962.

On Editorial Board of Research Journal of Philosophy and Social Sciences (Meerut City), 1963-74.

Sc.D., Cambridge ("Doctor of Science" is an advanced "post-doctoral" degree in the U.K.), 1963.

D.Sc., Oxford, 1964.

Member of the International Statistical Institute, 1964. Later Honorary: see below.

Artificial Intelligence and the Simulation of Behaviour, on Founding Steering Committee, 1965.

Associate Editor for Minicommunications, Communications in Statistics, Part B: Simulation and Computation, 1976/77.

Royal Statistical Society, Research Section Committee, 1965-67.

Visiting Professor at the Summer Research Institute, Melbourne University, 1966. (The other visitor that year was Clifford A. Truesdell.)

Distinguished Member of the Crypto-Mathematics Institute, 1966.

- Working Party on Information Retrieval, Office for Scientific and Technical Information, Ministry of Education and Science, UK, 1966/67.
- Evaluation done for the British Science Research Council of the Department of Machine Intelligence at Edinburgh, 1967.
- On Editorial Board, International Journal of Theoretical Physics (Plenum Press, London and New York), 1968-76.
- On Editorial Board of the Journal of Biological Physics, 1973+.
- Chairman of the Statistics Section of the Virginia Academy of Science, 1968-69.
- President of the Virginia Chapter of the American Statistical Association, 1968/69.
- One of the original six people designated the title "University Professor", 1969. Title changed to "University Distinguished Professor", without change of meaning, in 1975.
- On Editorial Advisory board of the Journal of Statistical Computation & Simulation, since 1970. A Section Editor instead since 1977. (Section on "Comments, Conjectures, and Conclusions".)
- On Advisory Board to the Center for Study of Public Choice, VPI&SU, 1970+.
- Outstanding Educators of America, 1970.
- Horsley Prize (Virginia Academy of Science) (shared with his student R. A. Gaskins), 1972. For the best scientific paper presented that year at the annual meetings.
- Fellow of the American Statistical Association, 1973.
- Invited to edit the Probability and Statistics parts of the Encyclopedia of Applicable Mathematics (Academic Press), 1974, but declined.
- Member of the New York Academy of Sciences, 1974 (invited 1970). Resigned but rejoined.
- Board of the Virginia Cultural Laureate Center, 1976+. Resigned 1981.
- On Editorial Board of Speculations in Science & Technology, 1978+. (Invited in Dec. 1982 to be the editor, but did not accept.)
- On advisory Editorial Board of New Ideas in Psychology, invited in 1980. The first issue was in July, 1983.
- Senior Consultant for the Center for Scientific Anomalies Research, 1981.
- Gave the Special Invited Paper on Applications at the Annual Meeting of the American Statistical Association in Washington, D. C. in 1979.
- Among numerous invited lectures, gave the "keynote speech" on the teaching of probability and statistics at the school level at the Fourth International Congress on Mathematical Education in Berkeley, August 1980.
- Invited lecture for the opening academic session of the meetings of the International Statistical Institute at Buenos Aires, 1981 December, 1981.
- Sigma Xi, 1982.

Editor of the “Statistical Discussion Forum” of the J. Statist. Planning & Inference from September, 1985 to 1990.

Fellow of the American Academy of Arts and Sciences, May 8, 1985.

Honorary Member of the International Statistical Institute, 1990 November 16, 1990. The others were M.S. Bartlett, Sir David Cox, E. Malinvaud, C.R. Rao, and Frank Yates.

Gave a ‘President’s Invited Paper’ at the meetings of the American Statistical Association in Atlanta, Georgia, in August 1991. (Invited, not by George Bush, but by the ASA president.)

In the Marquis Who’s Who in the World 1993-1994, eleventh edn. and other editions and other Who’s Whos.

Fellow of the Virginia Academy of Science, 1993. (Now-a-days there is at most one Fellow per year.)

International Order of Merit (IOM), 1993. Awarded by the International Biographical Centre, Cambridge England. (Limited to 500 people world-wide, a life-time honor.)

“Man of the Year”, 1993 (American Biographical Institute, ABI)

“Most Admired Man of the Decade” (Offered by the ABI, approximately 300 men have been selected since 1990. Good decided not to accept this honor because he regarded the IOM as good enough.)

“500 Leaders of Influence” (ABI).

“International Cultural Diploma of Honor” (offered by the ABI).

“The Key Award”(ABI).

Computer Pioneer Award (Medal), Computer Soc. of IEEE, 1998.

American Medal of Honor (ABI), 2002.

In The Hundred Most Intriguing People of 2002 (ABI).

Congressional Medal of Excellence, 2004, awarded by the ABI.

Various other honors from the IBC and ABI , mostly not accepted.

Honorary Fellow of the Royal Statistical Society, 2004.

Publications (See Good’s “Shorter Publication List,” and *Good Thinking*, pp.251-313.)

Good’s publishing writings run to over three million words and receive many citations in the Science Citation Index. (See “Some of I. J. Good’s better publications as judged by him,” #1134, but he has not updated this since 1980.)

Probability and the Weighing of Evidence (Griffin, 1950; written in 1947 apart from Sec.6.9 written in 1948: the last sentence on page 75 requires a correction), the first book, but not the first publication, on subjective (personal) probability. L.J. Savage, in *The Foundations of*

Statistical Inference (Savage et al), page 10, says “The book by I.J. Good, 1950, is a landmark in its statistical reawakening; see also Good, 1952 [article #26].”

General Editor of *The Scientist Speculates* (Heinemann & Basic books, 1962). Assoc. Ed. A.J. Mayne, Biol. Ed. John Maynard Smith. (There were French and German translations, and a paperback in 1965.) The book was described as a “célèbre ouvrage” by Louis & Jacques Bergier in *Planète*, No. 18, 1964, p.22.

Author of *The Estimation of Probabilities: an essay on modern Bayesian methods* (MIT Press, 1965).

D. B. Osteyee and I. J. Good, *Information, Weight of Evidence, the Singularity between Probability Measures and Signal Detection* (Lecture Notes in Mathematics; Springer-Verlag, 1974).

Some of Good’s more philosophical papers on probability etc. have been published by the University of Minnesota Press with the title *Good Thinking: the Foundations of Probability and its Applications* (Dec. 1983). For reviews see Tech. Rep. #91-7 = paper #1891.

Societies (not mentioned under Honors)

American Mathematical Society

British Association for the Advancement of Science

British Society for the Philosophy of Science

Cambridge Philosophical Society

London Mathematical Society

Mathematical Association of America

Mensa

Mind Association

Mu Sigma Rho Honorary Fraternity (Founder Member, 1979)

Pattern Recognition Society, 1973 – 1987

Philosophy of Science Association

Pi Mu Epsilon Honorary Fraternity