

George E. P. Box

George Edward Pelham Box FRS^[1] (18 October 1919 – 28 March 2013) was a British statistician, who worked in the areas of quality control, time-series analysis, design of experiments, and Bayesian inference. He has been called "one of the great statistical minds of the 20th century". [3][4][5][6]

Education and early life

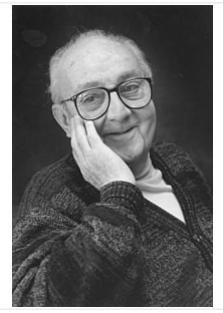
He was born in <u>Gravesend</u>, <u>Kent</u>, England. Upon entering university he began to study chemistry, but was called up for service before finishing. During <u>World War II</u>, he performed experiments for the <u>British Army</u> exposing small animals to poison gas. To analyze the results of his experiments, he taught himself statistics from available texts. After the war, he enrolled at <u>University College London</u> and obtained a bachelor's degree in mathematics and statistics. He received a <u>PhD</u> from the <u>University of London</u> in 1953, under the supervision of Egon Pearson. [2][7]

Career and research

From 1948 to 1956, Box worked as a statistician for Imperial Chemical Industries (ICI). While at ICI, he took a leave of absence for a year and served as a visiting professor at North Carolina State University at Raleigh. He later went to Princeton University where he served as Director of the Statistical Research Group.

In 1960, Box moved to the <u>University of Wisconsin–Madison</u> to create the Department of Statistics. In 1980, he was named Vilas Research Professor of Statistics, which is the highest honor given to a member of the University of Wisconsin–Madison faculty. Box and Bill Hunter co-founded the Center for Quality and Productivity Improvement at the University of Wisconsin–Madison in 1985. Box officially retired in 1992, becoming an emeritus professor. 10

George Box



Born 18 October 1919 Gravesend, Kent,

England

Died 28 March 2013

(aged 93)

Madison, Wisconsin

Alma mater University College

London

Known for "All models are

wrong"

Response-surface

methodology

EVOP

q-exponential

distribution

Box-Jenkins method

Box-Cox

transformation

Box-Tidwell

transformation

Box-Behnken design

Box-Cox distribution

Box published books including Statistics for Experimenters (2nd ed., 2005), Time Series Analysis: Forecasting and Control (4th ed., 2008, with Gwilym Jenkins and Gregory C. Reinsel) and Bayesian Inference in Statistical Analysis. (1973, with George Tiao).

Awards and honours

Box served as president of the American Statistical Association in 1978 and of the Institute of Mathematical Statistics in 1979. He received the Shewhart Medal from the American Society for Quality Control in 1968, the Wilks Memorial Award from the American Statistical Association in 1972, the R. A. Fisher Lectureship in 1974, and the Guy Medal in Gold from the Royal Statistical Society in 1993. Box was elected a member of the American Academy of Arts and Sciences in 1974 and a Fellow of the Royal Society (FRS) in 1985. [1]

His name is associated with results in statistics such as Box-Jenkins models, Box-Cox transformations, Box-Behnken designs, and others. Additionally, Box famously wrote, in various books and papers, that "all models are wrong, but some are useful".[11][12][13]

Personal life

Box married Jessie Ward in 1945. [14] In 1959, Box married Joan Fisher, the second of Ronald Fisher's five daughters. In 1978, Joan Fisher Box published a biography of Ronald Fisher, with substantial collaboration with Box. [15] Box married Claire Louise Quist in 1985.

Box died on 28 March 2013. He was 93 years old. [1][16]

Selected publications

Box, G.E.P, Cox, D.R. (1964) "An Analysis of Transformations (https://www.nuffield.ox.ac.uk/users/cox/c ox72.pdf)". Journal of the Royal Statistical Society. 26 (2): 211-252.

	Box-Muller transform
	Box–Pierce test
	Box's M test
	Ljung–Box test
Aurarda	
Awards	Shewhart Medal
	(1968)
	Wilks Memorial Award
	(1972)
	R. A. Fisher
	Lectureship (1974)
	FRS (1985) ^[1]
	Guy Medal (silver,
	1964) (Gold, 1993)
	George Box Medal
	(2003)
Scientific career	
Fields	Statistics
Institutions	ICI
	Princeton University
	University of
	Wisconsin-Madison
Thesis	Departures from

Independence and

Homoskedasticity in

Variance and Related

the Analysis of

Analysis (1953)

Egon Pearson

H. O. Hartley^[2]

Greta M. Ljung

Ronald Fisher

John F. MacGregor^[2]

Statistical

Doctoral

advisor

Doctoral

students

Influences

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- 7. O'Connor, John J.; Robertson, Edmund F., "George E. P. Box" (https://mathshistory.st-andrew s.ac.uk/Biographies/Box.html), *MacTutor History of Mathematics archive*, University of St Andrews
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External links

 Box-Behnken designs (http://www.itl.nist.gov/div898/handbook/pri/section3/pri3362.htm) from a handbook on engineering statistics (http://www.itl.nist.gov/div898/handbook/) at NIST

- ASQ: George E.P. Box Accomplishments in statistics (https://asq.org/about-asq/honorary-members/box)
- Articles and Reports by George Box (http://curiouscat.net/authors/1-George-E-P-Box)
- Statistics for Experimenters Second Edition, 2005 by George Box, William G. Hunter and Stuart Hunter (https://web.archive.org/web/20060702220811/http://williamghunter.net/statisticsforexperimenters/)
- Biography of George E. P. Box (https://www.informs.org/content/view/full/273116) from the Institute for Operations Research and the Management Sciences
- anomaly.io/about/ (https://anomaly.io/about/)

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