Famous Statisticians from History

W. Edwards Deming—Deming was a pioneer of quality control and best known for his work in post-World War II Japan. He was a professor of statistics at several universities and gave seminars on quality control, sampling, and productivity to top industrial executives around the world.

Florence Nightingale—Nightingale was a member of the Royal Statistical Society and one of the first people to collect statistics on health policy. She also was a pioneer for women statisticians. Her work led to health policy reforms in 19th-century Britain and saved the lives of countless British soldiers. *See below for more information about Nightingale*.

Janet Norwood—Norwood was the first woman commissioner of the U.S. Bureau of Labor Statistics. She has made major contributions to government statistics, especially the Consumer Price Index and unemployment statistics. She also served as president of the American Statistical Association in 1989, was a senior fellow at the Urban Institute, and a counselor and senior fellow at the New York Conference Board.

John Tukey—Tukey applied mathematical and theoretical statistics to a variety of scientific and engineering disciplines. He also is credited with coining the term "bit," a contraction of "binary digit," which refers to a unit of information processed by a computer.

ASA STATISTICIANS IN HISTORY

The American Statistical Association maintains a website with biographies of prominent statisticians from around the world and the United States. Go to Statisticians in History to learn more about the men and women who shaped today's statistical sciences.

SIGNIFICANCE *MAGAZINE PROFILES GERTRUDE COX*

Gertrude Cox, The First Lady Of Statistics

Gertrude Cox didn't intend to become a statistician. After graduating from high school in 1918, she decided she wanted to be a deaconess in the Methodist Episcopal Church. Thinking that some knowledge of psychology and craft could be useful in her chosen career, she enrolled at Iowa State University to study these subjects. However, she chose to major in mathematics as that subject had come naturally to her in high school. In order to pay her college expenses, she landed a job in the computing lab of her calculus professor, George Snedecor. Encouraged by this experience, she went on to study statistics, receiving Iowa State's first Master's degree in statistics a couple of years later. Read more.

SAS CELEBRATING STATISTICIANS SERIES

JANUARY 2013
Celebrating Statisticians: Ronald A. Fisher
Provided by SAS

JMP users have spoken! On LinkedIn and Facebook, they overwhelmingly chose Ronald A. Fisher as the influential statistician to be profiled first in the JMP Blog as part of our celebration of the International Year of Statistics.

Here's what some voters had to say about Fisher:

- "Fisher laid the foundations for most of experimental design, analysis of variance and much of statistical inference," said Richard De Veaux, Professor at Williams College.
- "I think he was a genius who created the foundations for modern statistical science," wrote Fiona Sun, Senior Marketing Analytics Manager at VMware.
- "Fisher is the true visionary and in my opinion deserves a Nobel Prize," said Manny Uy, Professional Staff at the Johns Hopkins University Applied Physics Laboratory. Read more.

FEBRUARY 2013
Celebrating statisticians: Florence Nightingale
Provided by SAS

This month we have chosen Florence Nightingale as an influential statistician to celebrate for the International Year of Statistics. While Florence Nightingale is most well-known as the founder of modern nursing and worldwide healthcare reform, she was also a passionate statistician and a pioneer in statistical graphics.

Florence Nightingale was born on May 12, 1820, to a wealthy, upper-class British family. Her parents provided her with a well-rounded education that included mathematics, in which she excelled. As a young adult, she rejected the expected role of a woman of her status and entered nursing in 1844 despite the opposition of her family. Read more.

MARCH 2013
Celebrating Statisticians: J. Stuart Hunter
Provided by SAS

J. Stuart ("Stu") Hunter is the statistician we are celebrating in the month of March in this International Year of Statistics. He is considered by many people to be one of the most important and influential statisticians of the last half century, especially with regard to applying statistics to problems in industry.

Hunter was born in Holyoke, Massachusetts, in 1923. He turned south for his higher education. He received a bachelor's degree in electrical engineering in 1947, a master's degree in engineering mathematics in 1949, and a doctorate in experimental statistics in 1954 — all from North Carolina State University, the birthplace of SAS. His doctoral thesis supported the emerging response surface methodology and the properties of the central composite design, in particular. Read More.

APRIL 2013
Celebrating Statisticians: Gertrude Cox
Provided by SAS

This month, we celebrate Gertrude Mary Cox, one of the pioneers of academic statistics departments in the United States and one of the first female statisticians. She has been dubbed the "First Lady of Statistics." Her efforts were fundamental to the development of the vibrant statistics community in the Research Triangle of North Carolina. She was the founder of the first independent statistics department in the nation, established at North Carolina State University in 1940. Read More.

MAY 2013
Celebrating Statisticians: George E.P. Box
Provided by SAS

In this International Year of Statistics, we at JMP are celebrating famous statisticians on a monthly basis. This month is my turn, and early this year I chose Professor George E.P. Box as the subject of my celebration. I was looking forward to writing this piece because I knew George personally and have been an admirer of his since the beginning of my career. Sadly, George passed away in late March, and I wrote a remembrance of him for the JMP Blog at that time. That blog post expresses what I would have written in a post celebrating him. So, instead of speaking in general about his life and accomplishments, in this post I will focus on one of his many great papers. Read more.

JUNE 2013
Celebrating Statisticians: Thomas Bayes
Provided by SAS

JMP is celebrating the International Year of Statistics by honoring an influential statistician each month. This month we take a look at Thomas Bayes, a minister and mathematician whose name is literally attached to statistical inference. Very few details are known about Bayes, but his impact on statistics and science in general is remarkable considering that he published only two papers in his lifetime. His primary contribution was Bayes Rule, a law of conditional probability that bears his name. Bayes Rule led to the field of Bayesian Inference, a very powerful approach to data analysis that continues to gain momentum. Now there is an International Society for Bayesian Analysis devoted to promoting and developing Bayesian methods. We don't have much to say about the life of Thomas Bayes, but we can focus on his impact on the field of statistics. Read more.

JULY 2013
Celebrating Statisticians: Walter Shewhart
Provided by SAS

Career background: During the first decade of the 20th century, the phone system designed by Bell Labs and mainly manufactured by Western Electric grew from a small local system to a transcontinental communications system. [Walter] Shewhart worked at Western Electric as a mathematician. With the growth of the phone system came obstacles and challenges. There were no telephone ringers, and no hang-up hooks; the cables were faulty, there were no dials, buttons, or even dial tone. All of these integral parts of a phone

system which we take for granted today were yet to be invented. “The scientists and engineers at Bell Labs inhabited what one researcher there would aptly describe, much later, as ‘a problem rich environment’ (Gertner, 2012). To ensure these new parts and inventions were built using the specified requirements and in a quality manner, Shewhart invented a statistical management technique, which was soon known as “quality control.” Read more.

AUGUST 2013
Celebrating Statisticians: W. Edwards Deming
Provided by SAS

As part of the International Year of Statistics, this month we celebrate the American statistician, consultant, author and a founding father of quality management, Dr. W. Edwards Deming. If you’ve taken a course in quality management, continuous improvement or industrial statistics, you’ve no doubt been introduced to Deming and his management philosophy, and are aware of the impact he’s had on the fields of statistics, quality and productivity. I was first introduced to Deming in the early 1990s while working for a manufacturing company. The company was implementing Total Quality Management (TQM), a structured approach to quality improvement striving to provide products and services that satisfy customer needs. TQM, I learned, is largely based on the teachings and works of Deming. Read more.

SEPTEMBER 2013
Celebrating Statisticians: John W. Tukey
Provided by SAS

“Box plot,” “stem and leaf plot,” ANOVA” and, yes, even “bit,” “software” and “vacuum cleaner” are terms coined by this month’s featured statistician–John Wilder Tukey–whom we are honoring as part of celebrating the International Year of Statistics. Tukey’s impact on science and society is so wide and significant that I will only highlight a few areas here. As a side note, Tukey’s influence on JMP is also significant, and I’ll save an interesting connection for the end of this blog post. Many recognize Tukey as the father of exploratory data analysis, in part for creating many effective visual techniques such as the box plot and stem and leaf plot, which are standards in introductory statistics courses today. He made many enduring contributions in time series, multiple comparisons, ANOVA, robust statistics, and interactive and multivariate graphics, too. Read more.

OCTOBER 2013
Celebrating Statisticians: William Sealy Gosset (a.k.a. Student)
Provided by SAS

To many of us, whether statistician or not, the name William Sealy Gosset may be unrecognizable. His pseudonym Student, however, reveals him as one of the most prominent statisticians in history. Student’s t-test is an important part of every introductory statistics course, making everyone from single-statistics-course students to those who have devoted their lives to the discipline familiar with his work. Read more.

NOVEMBER 2013
Celebrating Statisticians: Johann Carl Friedrich Gauss
Provided by SAS

Statistics wouldn’t be what it is today without Johann Carl Friedrich Gauss, a German scientist. He was born April 30, 1777, in Braunschweig and died Feb. 21, 1855, in Göttingen. Born as the only son of a poor worker’s family with illiterate parents, he was a child prodigy. Luckily, teachers, professors and even the Duke of Braunschweig recognized his potential and supported him early on. Mathematical historian G. Waldo Dunnington names his bibliography Carl Friedrich Gauss: Titan of Science, and that is for sure: Gauss holds an eternal place in the Olympus of natural sciences. Today, as part of celebrating the International Year of Statistics, we honor Gauss. Read more.

DECEMBER 2013
Celebrating statisticians: Karl Pearson
Provided by SAS

In celebration of the International Year of Statistics, the final statistician we celebrate is Karl Pearson. His work in the late 19th and early 20th centuries laid the structure of mathematical statistics.

Born March 27, 1857, in London, England, Pearson was raised in an upper-middle class family. He studied mathematics from 1876-1879 at King's College, Cambridge, graduating as the third-ranked among those receiving a degree. This scholarly success allowed Pearson to pursue further studies, which were very diverse in nature, and not suggestive of his future as one of the founding fathers of statistics. These included physics, physiology, German literature (he was actually offered a post in the German Department of Cambridge University), and socialism. Following in the footsteps of his father, he studied the law and was called to the Bar in 1882, but he never practiced. Read more.

SAS's RICK WICKLIN PROFILES JEROME CORNFIELD

The Statistician Who Established Risk Factors For Lung Cancer And Heart Disease

Rick Wicklin, SAS senior researcher in computational statistics, profiles statistician Jerome Cornfield, who not only served as a president of the American Statistical Association, but also made fundamental contributions to the fields of statistics, medical research, and epidemiology. Read more.

THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE'S MEMBERCENTRAL PROFILES DANIEL BERNOULLI

Bernoulli Succeeded Despite Paternal Rivalry

Imagine having your father ban you from his house when he couldn't bear being compared as your equal, and then plagiarizing your work. Such was the life of Daniel Bernoulli (1700-1782), the Swiss mathematician and physicist.

Coming from a notable family of mathematicians, Bernoulli distinguished himself at a young age as being one of the brightest. His father, Johann, was head of mathematics at Groningen University in the Netherlands (before they moved to Basel, Switzerland) and made important contributions to calculus. His uncle Jacob Bernoulli did early work in probability theory. Read more.

Provided compliments of the American Association for the Advancement of Science (AAAS) and AAAS MemberCentral.

INDIA'S PRASANTA CHANDRA MAHALANOBIS

Professor Prasanta Chandra Mahalanobis (June 29, 1883–June 28, 1972) was principally a physicist who got fascinated with statistics by chance. W. H. Macaulay at King's College, Cambridge suggested Mahalanobis read Biometrika, a journal edited by Karl Pearson. Mahalanobis wasimpressed with Biometrika. Though he joined Presidency College as Professor of Physics, he analysed anthropological measurements collected on the Anglo-Indians of Kolkata and published his first scientific research paper in 1922. He coined D2-Statistics (Mahalanobis Distance Measure) and used it for divergence-based grouping.

After analysing 50 years of statistics on rain and flood in northern Bengal, he challenged engineering experts and suggested a low-cost plan to drain floodwater. His plan was found fruitful and workable. He initiated sample surveys in 1937 for estimating production and area under jute and conducted various surveys on consumer-expenditures, tea-drinking habits, public opinion, plant diseases, etc. during the period 1937-44. These pilot surveys became the base for sequential sampling as noted by Abraham Wald in his book. Due to his creditable achievements in the field of sampling surveys, Professor Mahalanobis was elected in 1947 as the chairman of the United Nations Sub-Commission on Statistical Sampling.

A laboratory, which he established in his chamber at the Presidency College, Kolkata, witnessed the birth of the Indian Statistical Institute (ISI) in 1931-32. He started publication of Sankhya, a statistical journal of the Institute, in 1933. The Government of India appointed him its Honorary Statistical Advisor in 1949. He paved theway for establishing the Central Statistical Organisation (CSO) in 1951 and the National Sample Survey Unit in 1950 that finally institutionalised as the National Sample Survey Organisation (NSSO) in 1970.

He was appointed a member of the Planning Commission (1953-68) and prepared the Second Plan document in 1954 at the ISI. His model, which was technically different from Leontief's Input-Output model, would ensure faster industrialisation in India. He was chief executive of the Indian Statistical Institute until the day he passed away–June 28, 1972.

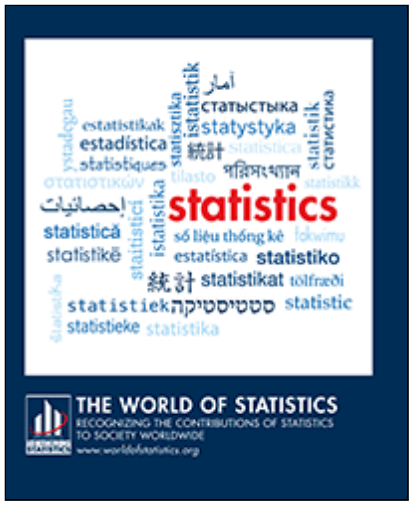
Mahalanobis received the Weldon Medal (1944) from Oxford University and Padma Vibhushan (1968) from the Government of India. He was elected Fellow of the Royal Society of London (1945), president of the Indian Science Congress (1950), Fellow of Econometric Society of America (1951), Fellow of the Pakistan Statistical Association (1952), Honorary Fellow of the Royal Statistical Society of England (1954), Foreign Member of the Soviet Academy of Sciences (1959) and Fellow of the American Statistical Association (1961).

This bright-star statistician once again luminously shone on the horizon in 2007 when a notification was published in the Gazette of India and thereafter the Ministry of Statistics and Programme Implementation issued an official order to celebrate his birthday–June 29–as 'Statistics Day' each year.

Click here to read more.

Provided by Pankaj Naithani, joint director of the Directorate of Economics and Statistics for the Government of Uttarakhand (India).

- **StatCloud Poster**



- **The World of Statistics Flyer**

Link to Us