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History of statistics in Brazil: Annotated bibliography

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(Received: April 7, 2025; Revised: April 8, 2025; Accepted: April 8, 2025; Published: November 28, 2025)

Abstract

In this note, documents related to the history of development of statistical science in Brazil are listed and briefly commented. These documents deal with interviews, personal reports, teaching developments and obituaries.

Keywords: Statistics; Data science; Interviews; Academic societies.

1. Introduction

A group of members of the Brazilian Statistics Association was appointed to write a historical record of statistics in Brazil. This article presents a compilation of works related to that work on statistics in Brazil (Pereira, 2001).

1.1 Acronyms

The acronyms and sources of documentation used in the preparation of this work are presented below:

ABE - Associação Brasileira de Estatística

BJPS - Brazilian Journal of Probability and Statistics

BJB - Brazilian Journal of Biometrics

BRE - Brazilian Review of Econometrics

COPPE - Instituto Alberto Luiz Coimbra de Pesquisa e Pós-Graduação de Engenharia

EBE - Encontro Brasileiro de Econometria

EBEB - Encontro Brasileiro de Estatística Bayesiana

EMR - Escola de Modelos de Regressão

ENCE - Escola Nacional de Ciências Estatísticas

ESTE - Escola de Series Temporais e Econometria

IBGE - Instituto Brasileiro de Geografia e Estatística

IBS - International Biometrical Society
 IMPA - Instituto de Matemática Pura e Aplicada
 ISBA - International Society for Bayesian Analysis
 ISBRA - Seção Brasileira da ISBA
 LNCC - Laboratório Nacional de Computação Científica
 RBB - Revista Brasileira de Biometria
 RBE - Revista Brasileira de Estatística
 RBRAS – Região Brasileira da IBS
 SINAPE - Simpósio Nacional de Probabilidade e Estatística
 UFLA – Universidade Federal de Lavras
 UERJ - Universidade do Estado do Rio de Janeiro
 UFRJ - Universidade Federal do Rio de Janeiro
 UNESP – Universidade Estadual Paulista “Júlio de Mesquita Filho”
 USP - Universidade de São Paulo
 WASA - Workshop in Analysis of Survival Analysis

1.2 Sources of Documentation

Statistical related to academic societies, institutions and journals:

ABE

The ABE was founded in 1984. Since 1987 publishes the Brazilian Journal of Probability and Statistics. ABE also publishes an online Bulletin. With agreement with the IBGE (Instituto Brasileiro de Geografia e Estatística), the Government National Statistical office, since 1987, is responsible for the edition of the Revista Brasileira de Estatística published by IBGE since 1940.

ABE is responsible and organize, every two year, the SINAPE (Simpósio Nacional de Probabilidade e Estatística) initiated in 1974 (see Pessoa, 2010). ABE also promotes other special topics meeting every two years: the EMR (School of Regression Models), since 1989, the ESTE (School of Time Series and Econometrics), since 1988 with SBE (see Teixeira, 1981), the EBEB (Brazilian Meeting of Bayesian Statistics), with ISBRA and, the WASA (Workshop in Analysis of Survival Analysis).

RBRAS

The Brazilian Region (RBRAS) of the International Biometric Society (IBS) was founded in 1953 with the presence of important statisticians like Fisher, Rao, Finney, Cochran, Stevens, etc. For a historic summary of RBRAS from 1955 to 2005 see Gomes & Barbin (2005).

RBRAS organize an annual national scientific meeting and since 2024 publishes the Brazilian Journal Biometrics (BJB). The history of the BJB began at the Universidade Estadual Paulista “Júlio de Mesquita Filho” (UNESP), Campus Jaboticabal, where it was launched in 1983 under the name “Jornal de Matemática e Estatística”. In 2007, it was renamed “Revista Brasileira de Biometria”. Until its move to the Universidade Federal de Lavras, in 2016, the journal was under the editorial setup of Professor Euclides Braga Malheiros. In 2024, with its current name, the BJB became the official journal of RBRAS.

SBE

The Brazilian Econometric Society (Sociedade Brasileira de Econometria – SBE) was created in 1979 during the 1st Brazilian Econometric Meeting (EBE). SBE publishes since 1981 the Brazilian Review of Econometrics (see Teixeira, 1984).

ISBA

The International Society for Bayesian Analysis (ISBA) was created in 1992 just after the 1991 meetings in Rio de Janeiro: 1st EBEB - Encontro Brasileiro de Estatística Bayesiana (organized by Dani Gamerman) and SBIES – Seminar on Bayesian Inference and Econometrics and Statistics (organized by Ruben Klein, from Press and Zellner).

ISBRA

The Brazilian Section of the International Society for Bayesian Analysis (ISBRA) was created in 2000 and has been responsible for the Brazilian Meeting of Bayesian Statistics (EBEB). EBEB has been held every two years since 1991, initially organized by groups of Brazilian researchers interested in the dissemination and growth of research in Bayesian statistics in the country. In 2000, the organization of the EBEB became the responsibility of the board of ISBRA. In 2002, ISBRA organized its first event, the 6th EBEB, in conjunction with the 1st Latin American Bayesian Statistics Congress (I COBAL).

IBGE

IBGE is the Brazilian Government Statistical Office. Historical details can be obtained on its official site, especially in its Memorial site. The volume 43, number 169, 1982 of the Brazilian Journal of Statistics (RBE) brings a summary of all previous numbers since 1940. Of special interest are papers related to personalities related to the official statistical community and of the demographers Giorgio Mortara and João Lyra Madeira. For a summary about IBGE activity see Pereira and Morettin (1995). The National School of Statistical Science (ENCE) was created in 1953 by IBGE. Initially, ENCE offered B.Sc. in Statistics. For some time also offered High School and Technical courses. Currently it offers B.Sc., M.Sc. and Ph.D. courses.

2. Teaching Institutions

Historical descriptions about statistical institutions and teaching can be seen in Pardal (2001), Dantas (2002), Barroso (2002), and Gama (2002).

Cordeiro (2010) and Silva (2009) briefly report about the statistics teaching at UFRJ and IMPA respectively.

Pedro Morettin and co-authors, in a series of papers, give more historical details. See Morettin (1988), Morettin *et al.* (1983, 1985, 1991); Peres & Morettin (1982), Peres *et al.* (1985), Mentzand & Morettin (1989) and Pereira & Morettin (1991).

Pioneers on post-graduate courses in Statistics was USP in 1970 (see Dantas, 2002) and IMPA that started in 1971 with a program developed by Pedro Jesus Fernandes and Alan Stuart from London School of Economics (see Silva, 2009, see also interview of Louzada-Neto, 2010).

During the 1970's beginning of 1980's all Statistics Departments in Brazil had, at least, one former students of USP or IMPA as academics. Among the former permanent staff of IMPA we recall: Oscar Bustos, Bent Jorgensen, and Maria Eulalia Vares, among others.

Of interest about our statistical community are the documents of West (2009), Neyman (2010), and Loschi (2015).

3. Personalities

In this section, we will point out details of some professional of a previous generation of us that we had contact with or learn from colleagues about and we think worth highlighting.

From Demography, we should point out Giorgio Mortara (IBGE- Sínteses Históricas Giorgio Mortara 1 e 2), Elza Salvatori Berquó (Berquó, 2017) and João Lyra Madeira (IBGE – Memória Institucional 14, 2008 and IBGE – Revista Brasileira de Estatística, 1979).

The volume 40, number 157/158, 1979 of RBE is dedicated to the work of Lyra Madeira as also is the publication: “Lyra Madeira, Documentos para Disseminação, 14.

Lyra Madeira taught at ENCE, the courses of Demography and Marked Research. Of curiosity is the fact that Lyra Madeira was the one that taught guitar to his nephew, the famous composer and maestro Antonio Carlos Jobim.

From Universities in São Paulo mention should be made to Milton Camargo da Silva Rodrigues (Ferreira *et al.*, 2015; Dantas, 2002; Pereira & Morettin, 1991; Campos (2016); Costa, (2011) and Frederico Pimentel Gomes (Crisafuli, 2015; Demetrio, 2002).

From UFMG and UNB we should mention José Maria Pompeu Memoria (1917 – 2014). A summary of his life is given by Giordano (2009).

Curiosity about Memoria is that when Jersy Neyman first come to Brazil, the only Brazilian statistician he knew was Memoria. In 2000 when Sir David Cox received a Dr Honoris Causa from UFRJ, Memoria brought his lectures annotations from Sir Cox of Cambridge University in 1950. The two stayed together at the all ceremony.

From Rio de Janeiro, we have to mention Jesse Montello (1919-1994) (IBGE- Sínteses Históricas), Rio Nogueira (1922-2005) (Inventário Rio Nogueira, 2014) and their professor Oscar Edwaldo Porto Carreiro (Nascimento, 1906). Rio Nogueira with Porto Carreiro and Jesse Montello were responsible for the creation of Pension Funds in most of the Brazilian State Companies.

We gathered little information from Porto Carreiro, apart from personal histories from some of his students (Dionisio Dias Carneiro, Aloisio Pessoa de Araujo, Frederico Carvalho and David Dorigo) from the Faculty of Economics at UFRJ. He taught Probability and Statistics all Saturday days and that he had lost most of his lungs during prison in the 1930's. Some of his works and data can be found in Inventário Rio by Nogueira (2014).

Finally, we mention two names of importance in the formation of faculty staff of USP and UFRJ. These two men were responsible to send most of the department staff to study abroad: Carlos Alberto Barbosa Dantas in São Paulo (Dantas, 2002; Louzada-Neto, 2010; Pereira, 2017) and Alberto Luiz Coimbra in Rio de Janeiro (Massarani *et al.*, 2003; Louzada-Neto, 2010 Pereira, 2017).

4. Interviews

Interviews with members of ABE, RBRAS, ISBRA and ISBA were made by Weschler (2002), Pereira (2002), Demetrio (2002), Lopes (2003, 2016), Barroso *et al.* (2004), Schmidt (2007), Louzada-Neto (2009, 2010), Albin *et al.* (2010), Pereira (2010, 2015), Achcar (2011), Loschi (2016), and Alves (2016, 2017).

5. Obituaries

Obituaries of some of the associates of ABE were prepared by Pereira *et al.* (2002), Tanaka (2002), Pereira (2004), Branco *et al.* (2007), Cordeiro *et al.* (2009), Rodrigues *et al.* (2009), IMPA (2021), Soares (2022), Gomes (2022), Madruga & Rodrigues (2023), and Lopes (2025).

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Some references on statistical methods, including historical aspects, can be found in Pereira (1971, 1977, 1981, 1990, 1990b, 1997).

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