

IN MEMORY OF PROF. ETTORE MARUBINI

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Ettore Marubini (EM) was born in Mozzanica (BG) to his father Adelio and his mother Giuseppina Viazzarini on 3 July 1934. After the premature death of his father, a graduate in pharmacy and owner of a community pharmacy, his mother took over the management of this pharmacy under the responsibility of graduated pharmacists.

The young Ettore begins to live in Milan with a paternal aunt to attend the Liceo Classico Beccaria (a high school with focus on classical studies) giving further proof that attendance at a scientific high school is not a necessary condition to develop a scientific mentality, given the scientific rigour that Prof. Ettore Marubini has always applied as a scientist and passionately taught as a lecturer.

Ettore, the eldest of four siblings, to keep the pharmacy which was the only source of income for the Marubini family was forced to enroll in the Faculty of Pharmacy of Pavia and graduated in Pharmacy on 27 July 1956 with 110/110 cum laude. Thus he was able to take on the assignment of the pharmacy, to which the Marubini family was necessarily linked, but he had to renounce his desire to graduate in Medicine and Surgery.

This episode demonstrates how the spirit of sacrifice, sense of responsibility and dedication to the family, qualities that we have known in

Prof. EM, are to be considered intrinsic to his personality. Furthermore, even if the degree in Pharmacy had been obtained begrudgingly, Ettore always recounted with pleasure the times when as a pharmacist, he carried out galenic preparations as prescribed at the time by doctors, thus demonstrating the uncommon ability to grasp the pleasant side of not particularly loved situations.

In 1958 he married Mariangela Pintus, known to all as “Mariola”, whom he had met riding the tram on his way to school and who, as a member of the Italian women's ski team, acquainted him with skiing and the mountains which came to constitute two constant points of reference in the life of Ettore also attending various advanced ski courses with his son Mario, the eldest of his three children with Laura and Francesca. Particularly in his skiing activity, Ettore showed his competitive temperament which he often brought to the academic field too.

EM, Doctor of Pharmacy, was hired by Farmitalia, an important Italian pharmaceutical company where he reaches the position of department head, almost a managerial position, dealing with quality control in the production of drugs. It is in then that he meets Professor Giulio Alfredo Maccacaro, the first professor of Medical Statistics of the University of Milan and also of Italy and director of the Institute of Medical Statistics and Biometrics of the University of Milan who wrote on November 18, 1969, in a presentation note about Dr EM, perhaps for the University of Ancona, the Faculty of Medicine and Surgery which in 1970 gave EM the position of teacher in Health Statistics for the academic year 1971/72:

“I met Dr. Ettore Marubini in 1957 when he attended a course I held at the University of Milan in Statistical Methodology for researchers with degrees in Medicine, Biological Sciences and Pharmacy. Among the students of this course, Dr. Marubini quickly distinguished himself as one of the most assiduous and brilliant”.

It is known that a friendly relationship immediately developed between Marubini and Maccacaro far beyond that between pupil and teacher and which led Marubini to be close to Maccacaro as a "pupil and collaborator, increasingly

engaging in study, research and, subsequently, teaching” as G.A. Maccacaro wrote in the aforementioned note.

It is also very clear that another love exploded in Ettore, that of medical statistics which accompanied him even up to a few days before his death and which also cost him the considerable sacrifice of not always being present within his family and of not playing, above all else, his role as father.

At first, he graduated in statistics (70/70) at the Catholic University of the Sacred Heart of Milan in 1963 and then continued to attend the Institute of Medical Statistics and Biometrics until he competed and obtained the position of assistant on October 1, 1969, first role that the institute, founded in 1966, had at its disposal in 1968.

The decision to resign from Farmitalia coincided, undoubtedly, with a lower salary which, with a young family to support, must not have been an easy decision to take but allows us to understand how important medical statistics was to Ettore. However, we would also like to underline that such decisions cannot be made unless one has a "great woman" by his side, his wife, who continued to assist him throughout his last years deeply marked by a strongly debilitating illness and progressive blindness.

Thus, frequenter of the Institute of Medical Statistics and Biometrics of the University of Milan, Volunteer Assistant in 1966, Ordinary Assistant in 1968 and Free Lecturer in Medical Statistics and Biometrics in the 1969 session of the University of Milan, began the academic life of Ettore Marubini, Professor Emeritus of the University of Milan on 21 September 2005.

As Rodolfo Saracci says, in his memory of EM (Epidemiology and Prevention, September 2022), Ettore was very gifted and passionate about the most sophisticated methodological developments. In the first years of his academic involvement, EM worked in the auxological field, using different types of body growth curves on data of adolescent populations, in line with the best that was done then in the international arena. In this regard, EM spent a period, in 1971, as a Visiting Scientist at the Child Institute of the University of London, Department of Growth and Development. Later, he started to

collaborate on liver disease studies with the newborn hepatology group of the Italian Society of Gastroenterology, a group that had a non-marginal influence in promoting the start of the Italian Epidemiology association. Other topics of great interest to him, deriving from the experience in Industry, were the statistical analysis of experiments, in particular with ANOVA, and the applications in toxicology and quality control of biological assays.

When EM was appointed as Director of the Institute of Medical Statistics and Biometrics of the University of Milan, he immediately took action in: i) the recruitment of young researchers that could give a new character to the Institute, oriented to make the methodology of medical statistics and biometrics a respected topic for a modern biomedical scientific research; ii) formalizing through a memorandum of understanding the relationship already in place with the National Cancer Institute in Milan, which was signed in 1980; iii) restarting the School of Specialization according to the new teaching plan requested by Prof. G.A. Maccacaro in 1973; iv) taking an active part in completing the work started by Maccacaro at the Ministry of Health for the definition of principles and modalities of work of the Ethics Committees, which still nowadays are being applied.

EM pioneered the dissemination of knowledge on the methodology of data analysis and clinical trials, as evidenced by various texts in Italian and his role as Director of the Zambon Center for Biomedical Applications of Electronic Computing of the University of Milan, which edited a series of monographs. The text of the series “Quaderni di Biometria” published with Adriano Decarli on “Analysis of the relationships between quantitative characters” (Piccin Editore, Padova 1983) and the monograph written with Bruno Mario Cesana “Sample size in Biomedical Research”, published by the Zambon Center (Monograph N.8, 1986) date back to the eighties. In the meantime, his research interests expanded to multiple fields, with numerous applications especially in cardiology and oncology.

His solid collaboration with the National Cancer Institute in Milan, where he was the Director of the Unit of Medical Statistics, resulted in works that have made the history, for example, of breast cancer treatment (many in collaboration with L. Mariani, P. Boracchi and E. Biganzoli). Stimulated by

these applications, his methodological passion expanded in the mid-80s to the analysis of survival data, when he published with Maria Grazia Valsecchi the monograph “Analysis of survival in controlled clinical trials and planned observations” in the series of the Zamboni Center (Monograph No. 9, 1987). This monograph was the starting point for a text in English with Maria Grazia Valsecchi entitled “Analysing survival data from clinical trials and observational studies”, published by John Wiley in 1995, a rare example, among the publications of a leading anglo-saxon editor, of a text of statistical methodology by Italian authors. As Maria Grazia Valsecchi reported, the work on this text was a very demanding adventure: preparing the draft of each chapter and revising them together with him was a very tiring job, also considering that current tools that facilitate search, data analysis and text writing, were at that time not available (statistical software, online material, writing tools...). The work sometimes progressed more slowly than planned and he could react very harshly to this, as he was very rigorous on respecting deadlines and commitments at work. In that period, Maria Grazia Valsecchi says, my mother was very ill (she died soon after the book was published) but he could not listen to any justification and I had a hard time with that, although, at the end, I understood that this was his way to keep me focussed on a project that was very important for my scientific career.

Returning to his figure in Medical Statistics, the scientific legacy of Prof. Ettore Marubini is still very relevant in the current context of this discipline. EM published 198 papers in the field of biomedical research and medical statistics which, according to current bibliometric parameters, have had a strong impact, given the number of citations and the corresponding H index (23396 citations, H-index 55, Scopus). EM has always been very much interested in the new developments in medical statistics and in updating the methodology in applications and in teaching, not just simply doing what was fashionable but what was useful and sound for scientific research. He always gave great emphasis to the debate held in the international arena and to the activity in International Scientific Societies related to the discipline. He was indeed an active animator of the Biometric Society, vigorously supporting the Italian Region, of which he was also President (1992-95), and continuing the activity started by Maccacaro with the “Courses of Statistical Methodology for Basic

and Applied Biological Research” , which this year have seen the 29th edition (organized in Turin, 5-8 September 2022).

He was a founding member of the International Society of Clinical Biostatistics (Brussels, May 1979) and stimulated all of us, young collaborators, to contribute to the annual conferences. He organized the Fifth Conference in San Marino (September 1984) and was the President of the Scientific Programme Committee of the 21st conference organized in Trento (September 2000).

At the national level, he was one of the founders of SISMEC (Italian Society of Medical Statistics and Clinical Epidemiology, 2001) and ASA (1989, Association of Applied Statistics, Editor of Italian Journal of Applied Statistics, formerly *Rivista di Statistica Applicata*).

EM has always taught with passion and rigor, especially to students in the School of Medicine and the School of Pharmacy. He also stimulated post-graduate residential teaching as one of the cornerstones of the dissemination of statistical knowledge in biomedicine and the development of interdisciplinary approaches to research. We also remember him as a teacher in the courses of the School of Specialty of Health Statistics and Biometrics, which has been active at UNIMI since 1979.

His example of study, scientific rigor and work ethic has left an indelible mark on many of his collaborators and students and on our discipline. In his work, he applied his characteristics as a mountain person, determined in reaching the goal, with passion, concentration and preparation. From his retirement from the University of Milan, more than twenty years have passed, and yet his memory is still alive in his collaborators and in the younger generations they have formed.

In his honour, the University of Milan will organize a day of discussion on the role and perspectives of the School of Specialty in Health Statistics and Biometrics and there will be a session dedicated to him in the 44th ISCB Conference which will be held at the University of Milano Bicocca in August 27-31, 2023 (<https://www.iscb.info/iscb-conference-2023/>).