Mechanics of Materials and Structures
G.Z. Voyiadjis, L.C. Bank and L.J. Jacobs (Editors)

MACIEJ P. BIENIEK - A BIOGRAPHICAL SKETCH

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Maciej was born in Wilno, Poland, on January 5, 1927. In the mid-thirties, his parents moved to Jarosław, a small town in the south of Poland, where he completed the standard six years of elementary school just before the war. World War II started for Poland in September of 1939. Maciej's father, an army officer, left for the front immediately. He was killed in 1941. From 1939 on, the entire burden of caring for Maciej and his younger brother was borne by their mother.

Although the academic high schools were closed during the war, Maciej studied the material usually taught there on his own, eventually passing the diploma examination. In the meantime during 1941-43, he attended a vocational school specializing in what today would be called "Architectural Technology." As Maciej recalls, the program at that school was no less than extraordinary, with instruction by competent and dedicated teachers. Among other things, they taught statics of trusses and beams, stresses, Hooke's law--even continuous beams. It was exactly that first encounter with mechanics and structures that led the young man to choose his future profession.

Maciej entered the Civil Engineering Department at the Cracow Polytechnic in June, 1945, as it was the first engineering school to be activated after the war, but transferred to the Gdansk Institute of Technology for the 1946-47 school year. After graduating in December, 1948, with the equivalent of an M.S. Degree in Civil Engineering, majoring in Structures and Transportation, he remained at Gdansk as a teaching assistant while working on his doctoral dissertation. Upon completion of his research on viscoelastic wave propagation, he received his Ph.D. in Applied Mechanics in December, 1951. At Gdansk, he had again been fortunate to have such outstanding and inspiring teachers: Professors Nowacki (Structural Mechanics), Blaszkowiak (Bridges), Bogucki (Steel), Bukowski (Concrete), and Kazimierczak (Structural Mechanics). They had, in turn, wisely evaluated the talent and promise of their new graduate and appointed him Lecturer in 1952. In 1955, he was promoted to Associate Professor, and supervised his first doctoral student.

In 1956, at the request of the Polish Academy of Science, Maciej went to China as consultant to the China Academy of Sciences, where he helped to establish the Institute of Applied Mechanics in Harbin. Upon his return in 1957, he was appointed Director of the Laboratory of Elasticity of the Institute of Engineering Science, Polish Academy of Science, in Warsaw.

During this period 1949-58, Maciej also had an active professional career as consultant and design engineer for the Design Offices of the Departments of Heavy Industry, Transportation and Urban Affairs of the Government of Poland, in Gdansk and Warsaw. This parallel involvement in scholarly mechanics research and the practice of structural engineering would continue throughout his career.

In 1958, the opportunity developed for a trip to the United States. Professor Alfred M. Freudenthal, with whom he had earlier professional contracts, secured an appointment for Maciej as Visiting Scholar in the Department of Civil Engineering and Engineering Mechanics at Columbia University. He arrived in September of 1958. Again, he was in the company of outstanding teachers and researchers. The senior faculty at Columbia at that time included Hans Bleich, Bruno Boley, Don Burmister, Alfred Freudenthal, Ray Mindlin and Mario Salvadori. This was a time of rapid expansion of engineering research and education in the United States and the Columbia faculty also knew a good thing when they saw it. Maciej's initial one year appointment changed to Visiting Associate Professor and, in 1960, to Associate Professor of Civil Engineering.

During these early Columbia years, he had the good fortune to meet Gudrun Dalchow, who has been his wife for 33 years. They are the parents of two attractive and talented daughters, Christina and Sandra.

In 1963, Maciej left Columbia to become Professor of Civil Engineering at the University of Southern California in Los Angeles. With his colleagues, Vic Weingarten, Paul Seide, Sam Masri, and an Adjunct Professor, Kerry Havner, they developed a strong program in solids and structures. In those days of intense activity in various space and defense projects, a large number of very good full and part-time students from the aerospace companies filled their classrooms. Teaching them was a most challenging and rewarding experience. In the period 1963-69, seven of the best of these students completed doctoral dissertations under Maciej's supervision. The research problems at that time were in the areas of structural dynamics, shells, random vibrations, and elastic-plastic wave propagation. During this period, he was consultant to Ling-Tempko-Vought Research Center, North American Aviation and Agbabian Jacobson Associates on problems involving structural dynamics and fatigue and the design of acoustic test facilities.

During 1968 and 1969, important faculty changes occurred at Columbia. Professor Mindlin became seriously ill and Professors Boley and Freudenthal left for Cornell and George Washington, respectively. Given the opportunity to offer Maciej research and teaching opportunities in his major fields of interest, we were able to convince him to return in 1969. Columbia has been his home since then.

Although Maciej taught many courses at Columbia, he has been primarily associated with a nine-credit-hour sequence in elasticity, viscoelasticity and plasticity, which replaced similar courses previously taught by Professor Mindlin and Freudenthal. Although not formally required, every doctoral student in our Department eagerly registered for these courses, carefully and gracefully presented by the recipient of Columbia University's Great Teacher Award in 1979.

During his Columbia years, Maciej attracted a disproportionate share of our best doctoral students. He directed the thesis research of twenty-four of them in solid and structural mechanics. In solids, he and the students studied large strain plasticity, creep, viscoplasticity, fatigue and fracture. In structural mechanics, the work dealt with response in the elastic-plastic range with large deformations, including buckling and post-buckling behavior. The devotion of his students long after leaving Columbia, and his continued concern for them, reflect the intellectual and personal relations that he cultivated. Since his return to Columbia, he has continued his consulting activities with a number of "blue chip" organizations. At Weidlinger Associates, he was in charge of development of the two widely used dynamic elastic-plastic response codes TRANAL and EPSA, the former for buried structures and the latter for submerged shells. For the American Bureau of Shipping, he was involved

with analysis, design and specification development of offshore structures, while for AT&T, he consulted on vibration control in microelectronic manufacturing facilities.

During the past decade, Maciej has become increasingly involved with problems of evaluation and rehabilitation of New York's suspension bridges as a consultant to both the Triborough Bridge and Tunnel Authority and the Port Authority. In recognition of his expertise, New York's governor appointed him to the prestigious Williamsburg Bridge Advisory Committee, which during 1987-88, studied the alternatives of replacing or rehabilitating the Williamsburg Bridge; and in 1991, the Metropolitan Section of the American Society of Civil Engineers honored him with the Roebling Award. In the years of his "retirement," Maciej will probably devote his full-time effort to New York City's bridges, so this Sketch will have a sequel.

What should not be lost in this recollection of his technical accomplishments and recognition is the man coupled to the engineer/scientist. More than his professional stature, friends, colleagues and students will remember the intellectual honesty, friendliness, lack of condescension and the infectious laugh which so often explodes through his outward reserve. We wish him the best in the years to come.

Doctoral Students

Name	School	Year
Eugeniusz Bielewicz	Gdansk Institute of Technology	1957
Robert J. Hull	Princeton University	1960
Neil E. Johnson	University of Southern California	1967
Samy A. Adham	University of Southern California	1967
Leslie M. Lackman	University of Southern California	1967
Angelo A. Caputo	University of Southern California	1967
Hsueh-Chien Fu	University of Southern California	1968
Sun-Ju Hung	University of Southern California	1969
Geral A. Gurtman	University of Southern California	1969
George Z. Voyiadjis	Columbia University	1973
Kenneth N. Morman	Columbia University	1973
Farid Shahid-Noorai	Columbia University	1976
Ali D. Karakaplan	Columbia University	1976
Natverlal R. Patel	Columbia University	1977
Hugh C. Briggs	Columbia University	1978
Ka-Kin Chan	Columbia University	1979
Serafim G. Arzoumanidis	Columbia University	1980

Robert S. Atkatsh	Columbia University	1980
Fikry R. Botros	Columbia University	1982
Alan J. Levy	Columbia University	1982
Lembit M. Kutt	Columbia University	1982
Lawrence C. Bank	Columbia University	1985
Tiiu V. Kutt	Columbia University	1985
Lawrence J. Jacobs	Columbia University	1987
Xiaogong Lee	Columbia University	1988
Juan Jie Lua	Columbia University	1989
Marc Benowitz	Columbia University	1990
Sanjiv B. Gokhole	Columbia University	1991
Emad G. Barsoum	Columbia University	1992
Ruben Hernandez	Columbia University	1992
Samuel J. DiMaggio	Columbia University	1993
Shanji Xiong	Columbia Univeristy	1993
Albert J. DiNicola	Columbia University	1993

Publications

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"Methods of the Theory of Stability of Motion" (in Polish), Rozprawy Inzynierskie (Engineering Transactions), No. 31, 327-358 (1955).

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"Axial-Symmetric Boundary Value Problem with Nonlinear Elasticity" (with W. R. Spillers), AIAA J., V. 1, 948 (1963).

"Case-Bounded Elastic-Plastic and Nonlinear Elastic Hollow Cylinders" (with M. Shinozuka and A. M. Freudenthal), AIAA J., V. 1, 1828-1832 (1963).

"Finite Plane Deformation of a Hollow Cylinder" (with M. Shinozuka), AIAA J., V. 2, 568-569 (1964).

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