



MEET ALAN MATTOCK

Bridge to learning

K. Michelle Burgess

Alan Mattock was born in Halifax in northern England, where, at the age of 10, he became interested in model airplanes after he received a kit.

"I think that my passion for model airplanes would surprise most people," Mattock says. "I just find the building and flying of them to be a great relaxation."

He still constructs and flies model airplanes and has flown his indoor models in the Boeing 747 plant at Everett, Wash., as a guest of the Boeing employees' model airplane club.

Model airplanes weren't his only boyhood interest, though.

"I was always fascinated by bridges, and this drew me into civil engineering and structural engineering," he says.

After earning his doctorate from the University of London in England, Mattock's ambition to become a consulting engineer led him to take a three-year contract with the British Colonial Engineering Service as a district engineer in what was then British Guiana in South America.

In his district, he oversaw all government buildings, roads and bridges, drainage and irrigation works, and sea-defense works. He had his work cut out for him when, in the first November and December he was there, he had to contend with 120 in. (3050 mm) of rain and the consequent flooding.

Back in London, he had majored in concrete technology and became involved in prestressed and precast concrete in 1947.

"I was inspired to make prestressed concrete my primary interest through studies of Freyssinet's work on the Marne river bridges," Mattock says. "Research on the behavior of prestressed concrete structures has engaged me throughout my career."

This research came in handy as he ended his contract in British Guiana. A. L. L. Baker, professor of concrete technology and Mattock's graduate advisor at Imperial College in London, offered Mattock a teaching position at Imperial College. Baker encouraged Mattock to develop a course in prestressed concrete design.

"This is how I came to be in academia, something that had not even entered my head previously," Mattock says.

In 1957, Mattock received an offer that would briefly take him away from teaching. The Portland Cement Association (PCA) invited him to come to Skokie, Ill., to work in its research and development division.

"They sent me particulars of their newly constructed structural laboratory and made me an offer I couldn't refuse," Mattock says.

At that time, PCA employees had much independence to choose whatever research topics they thought would advance concrete construction, even if there was no immediate application in practice.

"The project of which I was most proud and found most challenging concerned the design of prestressed, precast concrete bridges made continuous over multiple spans by reinforced concrete connections," Mattock says. In the project, various aspects of design were studied in large-scale structural tests,

culminating in the test of a complete half-scale, two-span, two-lane bridge.

Although Mattock enjoyed his work at PCA, teaching called again. In 1964, the University of Washington in Seattle offered him the position of professor of civil engineering to take charge of the structural engineering program.

Through teaching, Mattock has, in some ways, remained a proper Englishman. For instance, former students who could now be considered his peers still call him Professor Mattock.

When he had begun teaching prestressed concrete design in 1952, the design of prestressed concrete structures was not covered in any codes of practice for structural concrete design.

Now books and codes for precast, prestressed concrete are readily available in the United States. However, Mattock says that the teaching of prestressed concrete design could be further improved if individual companies cooperated more with local universities and supported teaching and research concerned with subjects of interest to the industry.

Mattock retired in 1990 after a career filled with awards, high-profile committee work, and many published papers. ▮

Alan Mattock



"Always be open to new ideas and new ways of doing things. That way the industry will continue to develop and increase the range of construction topics for which precast, prestressed concrete will become the first choice."