

Mike William's Weissenberg Rheometer

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When I joined the Chemical Engineering Department in Fall 1975, I chose an office located a few steps from Mike's office. He never switched office location, nor have I. At that time, Mike was building his research effort in understanding polymers and polymer solutions. An important characteristic of polymers is their flowability, what we in the trade call flow rheology. At that time, one of the most precise and general instruments to quantify flow behavior was a Weissenberg Rheometer. It was a robust, rather large, heavy, and indestructible-looking instrument manufactured in Great Britain. Mike had ordered one in 1973, two years earlier. In spite of his well-known meticulousness, delivery of the instrument had been delayed and delayed and delayed In one of our early discussions, he proudly proclaimed that the rheometer was finally to be delivered to the Port of Oakland the following week; he was going down to celebrate and to watch it being unloaded.

So later on the day of delivery, when Mike was back in his office, I checked in hoping to see this formidable apparatus. Mike was disheartened. He said that he watched the crane raise the instrument from the ship deck in netting, swing it out high over the dock, and slowly lower it to dock level. Alas, on the way down, the net tore, and the entire large wooden-container box crashed from a considerable height onto the pier asphalt below. There was no need to open the box as the rheometer lay in unrepairable pieces.

Mike was a meticulous and detailed researcher. He volunteered to be second reader on my first student PhD thesis. His corrections were so major and so extensive that after redrafting he was second author on my first three Berkeley manuscripts. Mike was infamous for long, painstaking, and hand-written messages to the faculty recommending detailed changes to department functioning and undergraduate and graduate curricula. So, when I entered Mike's office after his return from Oakland that afternoon, he was already busy filling out the necessary forms for insurance coverage, import information, and contacting the rheometer manufacturer for a replacement instrument. Mike's fastidiousness was rewarded with a new instrument within 6 months.

Mike heavily used the Weissenberg instrument for much of his career including his jet-fuel demisting-polymer additives with Ed Grens and his blood-flow studies. As it remains today, there was then already a tradition that once a semester a Berkeley faculty would deliver a department colloquium. One of Mike's turns came up in the late 1960's during the Viet-Nam-War student protests. His chosen title was "Blood Bath at Berkeley," a tongue-in-cheek title but at an inauspicious time. That week, the local press and national news outlets descended on the department; we had to cancel the talk and reschedule (with a different title). Happily, Mike's inventiveness lives on in the Department.