

# Miscellaneous Reminiscences

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## 1. JOHN TUKEY

My first encounter with a statistician was memorable for me even though neither of us was a statistician at the time. It occurred in my first year of graduate work 1935-36 at Brown University. In a course in complex variables there was John Tukey, the youngest member of the class by two or three years, giving the professor fits by pointing out that his proofs did not quite hold water and explaining how they could be fixed up. I was accustomed to being at the head of the class and it came as quite a shock to me that I could be outclassed by a classmate—and such a young one. I was a physicist in those days. Several other physics students and I complained to the Mathematics department that this esoteric course was too unrelated to our needs. That was a mistake. The department moved us out of the frying pan into the fire of a Russian czar, J. D. Tamarkin, who literally swamped us with applications of complex variables to physical problems.

My next encounter with John, a fast mover, occurred at Princeton when he was one of the faculty members on my oral exam committee. I know of no other person who can concentrate on two things at once or who can read as rapidly as John; he reads at about the same rate as he can turn the pages. When I was supervising a large survey of educational institutions while I was at the U. S. Office of Education, I asked John to be on the advisory committee. He came to the first meeting with a suitcase full of books and plowed through several of them during the course of the meeting while participating fully in the proceedings. Afterward a committee member said to me "I wonder what that fellow was looking for thumbing through all those books?" Before explaining, I suggested that maybe John was trying to find a \$50 bill he had hidden one of those books. The inquirer thought that was a pretty good guess.

## 2. SAM WILKS AND PRINCETON

My statistical career began accidentally when I applied to the Princeton Mathematics department in 1938 for student assistance after serving as an instructor of Applied Mathematics for a couple of years at the University of Texas. I had interrupted my graduate studies to marry the lovely Harriet Harper and had switched from physics to teaching mathematics be-

cause that was the best paying job I could find. Most of us were opportunists in those depression years; as an undergraduate I was a Chemistry major until the moment the Physics department offered me a student assistantship. The only assistantship available at Princeton was with Sam Wilks; I took it without really intending to specialize in statistics but was soon persuaded that this was a very promising field and a most interesting one because of its roots in probability.

Sam was a slave driver. Fred Mosteller has remarked on several occasions that Sam turned him into a workaholic. Certainly that happened to me; I was fairly easygoing until I fell into Sam's clutches. The trouble was that Sam never did anything but work and it was clear that his students were supposed to follow suit. In any case, it would have been uncomfortable for us to take an afternoon off for tennis or an evening off for a movie when we knew that Sam was toiling away while we were indulging ourselves. But he didn't even give us a chance to feel uncomfortable. If he couldn't find us at work at home or on the campus, he went into action telephoning around town and firing off telegrams if the telephone failed him. Of course, it was possible that he was just worried that some disaster had befallen us, but we didn't think so. Two years of that treatment ingrains the habit and you are ruined for life.

Sam was a true mathematician in that he always strove for elegance in proofs and was always most careful about details—a perfectionist. One unfortunate result was that his beautiful book (Wilks, 1962) on mathematical statistics was published about 20 years too late. A reasonably complete version was ready in 1942 and issued in lithographed form in 1943 for limited distribution. Sam kept tinkering with it year after year; then Harald Cramér published his book (Cramér, 1946) which covered much the same ground. So Sam decided to make his much more comprehensive and tinkered with it another 15 years. Cramér's book enjoyed great prestige—something Sam's book could have had if he had been a little less concerned about impeccability.

But that is a minor matter. Sam's greatest accomplishment, even greater than his ingenious research or his development of *The Annals of Mathematical Statistics*, consisted of his students. The leaders of many of our best statistical departments and laboratories were launched by Sam Wilks. His research and