

Department of Statistics and Data Science



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THE HISTORY

Yale University Department Of Statistics 1963-2000

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Preface

It probably is easy, for those of you who know me, to guess the authorship of this History, even if I hadn't given my name to it. The request from the Department that this history be written was accompanied by the suggestion that it include some of the human-interest stories that many of you have heard me tell over the years.

I found material for this narrative in the Annual Reports of the Department, the many Chairmen's Commentaries written over the years, and in various reports directed to the Yale Administration, and the recollections of some of the former students of the Department; the human-interest material came from memory.

The Department at Yale was my employer from 1963-1995, and those 32 years were indeed very happy for me. The association with the Department and its members enriched my life and provided many heartwarming memories. The writing of this chronicle was indeed a labor of love.

One of the most rewarding results of this work was contact it brought with many old friends. On the occasion of my 30th anniversary with the Department, Frank Anscombe gave a little talk about the



James Dwight Dana House

founding of the Department and ended it with an Ogden Nash poem:

Senescence begins And middle age ends
The day your descendants Outnumber your friends.

He went on to say, “Unless Barbara’s children produce a prodigious line of descendants, she can never grow old.”

Thank you all for keeping me young!

Barbara (Amato) Kuslan

Foreward

There may be discrepancies between the dates on which Ph.D. degrees were actually awarded and those recorded in this document. That is largely because degrees given in December were not included in the Annual Report for an academic year (which runs July 1 to June 30), yet were listed as awarded in the calendar year. It would be too much work to make it absolutely accurate! You purists, forgive me if I recorded the date of your degree inaccurately

The quotations from various students are included in starred portions of the narrative to differentiate them from the story of the Department. Perhaps modesty should have prevented me from recording here some of the kind words said about myself, but I chose not to edit them out. The human-interest items are in a different font to set them off from the formal history.

There were many employees of the Department over the years and, unfortunately, the way the records were kept makes it very difficult to give the exact years they worked in the Department. Instead, I list them here in their order of service and hope that will be sufficient.

Librarians: Rega Wood, Darlene Patrick, Sue Ling, Stephanie Sabar, Ceil Lerner, Caesar Rodriguez, Marcia Bickoff.

Secretaries: Marilyn Shields, Helen Ivey, Jeanne Boyce, Patrina Williams, Lucy (Corky) Kennedy, Susan Jackson-Mack.

Business Managers: Barbara (Amato) Kuslan, Lucy (Corky) Kennedy, Kathryn Young.

I have completed this history through the year 2000 (a nice round number). However, I was not intimately associated with the Department and had no firsthand knowledge of departmental life after my retirement in 1995. I thank the current Business Manager, Kathryn Young, for making it possible for me to complete the story to the end of the 20th Century.

History

Prior to the founding of the Department of Statistics, the teaching of that subject at Yale was the concern of a “Committee on Statistics”, which consisted of representatives from many different departments within the University for which instruction in this discipline was important. As many universities across the country began to recognize Statistics as an important branch of academia in and of itself (separate and distinct from mathematics or any other study) and to develop individual departments of Statistics, the administration decided that the time was ripe for that to happen at Yale. Thus Professor Francis (Frank) J. Anscombe was recruited from Princeton to come to Yale for the purpose of establishing such a department. The official date of its founding was July 1, 1963.

The primary focus of the Department was to be a graduate program of study. Though undergraduate courses would be taught, there would be no undergraduate major in Statistics. In its first year of operation, 1963-64, the faculty consisted of Frank Anscombe as Chairman and Director of Graduate Studies, Professor Alan T. James (a transfer to Statistics from the Yale Mathematics Department), and Senior Research Associate and Lecturer Chester I. Bliss.

Though there had been no public announcement of the Yale graduate program in Statistics, there were about a dozen applications for admission in 1963 and three were admitted to its first class – one of whom, Richard A. Olshen, proved to be of outstanding ability and was, several years later, the first recipient of a Ph.D. in Statistics from Yale.

The Department was temporarily housed at 51 Prospect Street, being given several rooms on an upper floor, while the University searched for its permanent home. Barbara Amato was hired in September, 1963, as a part-time secretary (all that was needed at the time); she remained there for 32 years, becoming full-time in 1966, and some-time later was promoted to Business Manager. When Barbara first reported for work, she found that the Department had no furniture, no phone lines, no office equipment – not even a pencil to call its own. A hurried call to Purchasing revealed that the only way to order supplies and equipment required a University Purchase Requisition and there were, of course, no such forms on hand. Fortunately, Barbara was able to borrow some forms from Mathematics and thus began normal office operations.

Barbara had been on the job for only a few months when Frank Anscombe’s wife, Phyllis, telephoned about a most urgent family matter. Frank was in a closed-door meeting with a representative of the Office of Naval Research, and Barbara was hesitant to interrupt until Phyllis explained the problem. Their very young son had ingested some bright red berries from a bush in their yard. A hurried call to the Connecticut Agricultural Station revealed that the berries were poisonous if many were eaten, and the child was too young to accurately report how many he had consumed. Phyllis wanted Frank’s advice as to whether she should take him to the Emergency Room to have his stomach pumped. Barbara called Frank from his meeting and he took the call at her desk. After his greeting to Phyllis, there was dead silence as he listened to her tale. When she got to the question, he replied, “Well, don’t you think we

should wait until we see if he gets sick?" The child never did have any ill effects from the berries so it was the right decision, and Barbara gained new respect for his aplomb in a crisis.

The setting up of a new department implies a large financial commitment for a university. During the initial years, the faculty teach smaller numbers of students than would be expected later in its history. In this sense a new department is inefficient and budgetary support is especially welcome. IBM made a very generous five-year grant to support the new department and that was of the utmost value in helping it get well established. One-half of the grant was used to support the Department's normal budget and the other half was used for purposes outside that, such as bringing in visiting professors, which are especially valuable for a new department. Those distinguished visiting staff enriched the program for the graduate students, encouraged broad interests, and helped make the Department more widely known. The IBM grant also supported the development of the departmental library, which under the able direction of our first librarian, Rega Wood, became a significant asset to the Department.

The Department's most urgent need in its early years was for senior faculty of the right caliber so it was a most severe loss when Alan James resigned as of December 31, 1964, to take a Chair at the University of Adelaide in his homeland of Australia. Informal invitations were issued to several persons during 1963-64 but no acceptances were received. It was thus exciting indeed when Leonard J. (Jimmie) Savage agreed to join the faculty for 1964-65. His presence made a profound difference in the character of the Department and facilitated recruitment of additional high-level faculty members. Jimmie Savage was appointed the Eugene Higgins Professor of Statistics on July 1, 1964.

A number of very good students applied for admission in 1964, and four of them joined the Department that September, which increased the student enrollment to seven. The housing problem was resolved satisfactorily when the Department agreed to the administration's suggestion that it be accommodated in Dana House, 24 Hillhouse Avenue, as soon as that building became vacant. In November, 1965, the Department moved into its new home, which had been slightly remodeled for its convenience. It has been very comfortable there ever since.

From the very beginning, Frank and Phyllis Anscombe promoted and wholeheartedly supported the social activities of the Department. It became the custom to hold a departmental picnic early in September to allow both the new and old faculty and students to become acquainted. There was always a Christmas party, and then a year-end picnic, to bid farewell to those moving on from the Department to other places and opportunities. Third-year students were the organizers of these events which were always very well attended by both faculty, staff and students.

Recruitment during 1963-64 resulted in the appointments for 1964-65 of Visiting Professors Robert J. Aumann, Lecturers Hilary L. Seal and Geoffrey F. W. Yeo, Postdoctoral Research Fellow John A. Carpenter, and a joint appointment of Professor Colin White (from the Department of Epidemiology

and Public Health at Yale). In addition Harald Cramer, the former Chancellor of the Swedish University System, was appointed a Visiting Fellow for the period April 22 through May 19, 1965. They joined the regular faculty of Frank Anscombe (Chairman and Director of Graduate Studies), Alan James (until December 31, 1964), Jimmie Savage and Senior Research Associate and Lecturer Chester Bliss. At the end of that year, four students were awarded the M.S. degree.

For the 1965-66 academic year some additional faculty appointments were made: James (Jim) M. Dickey as Research Staff Statistician and Lecturer; George A. Barnard as Visiting Professor, from April 1 to May 31, 1966; Robert J. Aumann and Mary H. Regier as Research Associates, from July 1 to August 31, 1965 and from November 1, 1965, to June 30, 1966, respectively; and Cedric A. B. Smith, as Visiting Fellow from March 7-21, 1966. By this time student enrollment was nine, and two students were awarded the M.S. degree at the year's end.

Frank Anscombe firmly believed that "The field of statistics would be in better shape if it were the usual practice for the most exciting new PhDs to spend several years in a research team that had some definite mission – that it is better to realize what the problem really is, and solve that problem as well as one can, instead of inventing a substitute problem that can be solved exactly, but is irrelevant". Thus he molded the Yale Statistics Department to provide graduate students with a good grounding in theory but also to have them participate in some current statistical practice. It was for that reason that it became a regular part of the curriculum for second-year students to participate in a program of practical work with a faculty member from another department who had a significant statistical problem in his/her field. The student would attempt a statistical analysis of the problem under the direction of a Statistics faculty member, and submit a report at the end of the year. In 1965-66 two of our students were the first of many to be involved in such practical work.

Two students were awarded the M.S. degree in June, 1966. Richard Olshen completed his doctorate in the fall and was officially awarded the Ph.D. in December, 1966.

One little anecdote from that period. In those days the railroad tracks located alongside the building were still in use, but weeds grew to huge heights on both sides of them. One fall day, when these weeds were very dry, someone must have thrown a match or a lighted cigarette in that direction and the weeds caught fire. By the time this was noticed, both sides of the tracks were ablaze. The office staff called the Fire Department but, meanwhile, Jimmie Savage and Richard Olshen rushed out to save the day. With only makeshift implements, they did a pretty good job. Jimmie inadvertently turned the spray from his fire extinguisher into the boot of a fireman, but their help in putting out the fire was still appreciated.

At that time, Frank Anscombe had just begun to realize the role that computing was to have in statistics. His Chairman's Commentary to the Annual Report of 1965-66 stated that he hoped in the next few years to devote substantial effort to that activity. In a report to the administration in 1967, he

commented that “Statistical computing is a field urgently needing development ... Computers must be effectively harnessed to the statistician’s needs, and the latter must take due account of the vastly expanded possibilities of computing”. How right he was!

Joseph (Jay) B. Kadane was appointed Assistant Professor and Joseph (Joe) B. Kruskal a Visiting Professor, both beginning July 1, 1966, as well as Richard O1shen as a Research Staff Statistician and Lecturer.

In the fourth year of operation, 1966-67, the Department consisted of: Frank Anscombe (Chairman); Jimmie Savage (Director of Graduate Studies); Colin White (a joint appointment with Epidemiology and Public Health); Joe Kruskal (Visiting Professor); Jay Kadane (Assistant Professor); Chester Bliss (Senior Research Associate and Lecturer); Jim Dickey and Richard O1shen (Research Staff Statisticians and Lecturers); and Hilary L. Seal (Lecturer). The student enrollment during that year was ten, with five students being awarded the M.S. and one student the MPhil. degree.

At the conclusion of that year, Chester Bliss retired from the University and Jim Dickey and Richard O1shen resigned to take other positions. As of July 1, 1967, Paul I. Feder and Barry H. Margolin accepted positions as Assistant Professors, and I. Richard Savage (brother of Jimmie Savage) was appointed Visiting Professor and Martin Schatzoff as a Visiting Associate Professor.

Another story about Jimmie ... Rega Wood, our first Librarian, was taking classes in the Divinity School and felt a need to learn Latin to properly benefit from her studies. Rather than take a class in that subject, she opted for a self-study and ordered the book “How to Teach Yourself Latin” from a out-of-state supply house. When the package arrived, she discovered that they had sent “How to Teach Yourself Latvian” by mistake. She called them and they promised to send the correct book immediately, along with packaging so she could return the Latvian book without cost. Awaiting the second shipment, she put the Latvian text on the book shelves behind her desk.

One day a friend of Jimmie’s came to town from out of state to visit another department, and he and Jimmie were to go to lunch together. When the visitor arrived, he strolled about the office area waiting for Jimmie to come down. He happened to notice the Latvian book and was quite surprised to see that someone would actually want to learn that language. As he and Jimmie were strolling to their lunch spot, he commented on it to Jimmie. Now Jimmie knew that Rega wanted to learn Latin in conjunction with her studies in the Divinity School and told his friend that he was mistaken – it wasn’t Latvian but Latin that was printed on the spine of the book. Of course, his friend was very sure that it was not Latin but Latvian. So they made a bet, and the loser was to pay the entire cost of lunch. They came rushing back after lunch, hurried into the office, and Jimmie discovered that he was the one to be out of pocket for lunch that day.

As we moved into the fifth year of existence, 1967-68, the faculty of Frank Anscombe (Chairman), Jimmie Savage (Director of Graduate Studies), Colin White, Jay Kadane and research staff of Chester Bliss (an honorary appointment) and Hilary Seal continued, augmented by the additions of the Assistant Professors Paul Feder and Barry Margolin, and the visiting faculty of Richard Savage and Martin Schatzoff. The enrollment was ten graduate students, with three of those students receiving MPhil. degrees in June and two the Ph.D. degree (Daniel [Dan] Relles and B. K. Shah). Although the practice continued of having no undergraduate major in Statistics, a special major in quantitative studies, proposed jointly by the Departments of Administrative Sciences, Mathematics and Statistics, was announced for 1968-69.

There was an interesting story to tell about one of our students who began to notice that a car would come every single weekday, park on the Trumbull Street side of the building just before noon, stay there for a considerable period of time, and then suddenly pull out into traffic, turn left, and drive up Hillhouse Avenue. The student began to suspect the man was a drug dealer or something of the kind, and mentioned it to Barbara Amato, thinking that perhaps she should alert the police. It was then she became a "private eye". It took some investigation but she eventually learned that the man was a building inspector for the City of New Haven, that he was having an affair with a married woman who was a dental hygienist employed in a dental office on Trumbull, just down the street from Hillhouse. He would park there waiting for her to finish her duties, more or less at noon, but sometimes later. Then when he saw her enter her car, he would follow her up Hillhouse, where she would park and enter his car. About two hours later, he would bring her back and they would drive off separately.

In a weird coincidence, it happened that the woman was a high-school classmate of Barbara's husband, Lou, and their class was about to have a reunion. At the reunion, she came with her husband, and Barbara saw that he was not the man she met every weekday. Of course, once the mystery was solved, Barbara lost interest in the situation. But, one day just for fun, she looked again but the man's car wasn't there at noon, and there was no tryst, either that day or the next. It seemed the affair was over. However, Barbara learned just by accident that the woman had burned her hand in a cooking accident and had been unable to work for some months, but was returning to work on a specific Monday morning. On that Monday Barbara looked again for the familiar car ... and there it was. Eventually, the dental office moved elsewhere. Perhaps today, there is another office worker somewhere who is wondering about the strange behavior of a regular parker.

In 1968-69, Frank Anscombe was in his sixth year as Chairman, Jimmie Savage continued as Director of Graduate Studies, Colin White as a joint appointment, with three Assistant Professors, Paul Feder, Jay Kadane, and Barry Margolin, plus the Lecturer Hilary Seal and Research Associate Chester Bliss. Student enrollment had risen to thirteen, and William (Bill) Cleveland received the Ph.D and one student the MPhil. in June. Jimmie Savage was the recipient of the Distinguished Statistician Award from the Chicago Chapter of the American Statistical Association in April of 1969. Though the

Department was disappointed at the resignation of Jay Kadane as of June 30th, it was elated at the appointment of Associate Professor (with tenure) John A. Hartigan, effective July 1, 1969. Jimmie Savage had agreed to assume the chairmanship for a three-year term commencing July 1, 1969.

In 1969-70, the faculty were: Jimmie Savage (Chairman), Frank Anscombe, Colin White (joint appointment), John Hartigan (Director of Graduate Studies), Paul Feder, Barry Margolin, Hilary Seal and Chester Bliss, with Professor Edward J. Hannan, visiting from Australia, appointed as a Research Associate for the second semester. There was still a student enrollment of ten and one student was awarded the M.Phil., though four others so entitled elected not to request it. Robert (Bob) Ling received the Ph.D. Paul Feder resigned to take another position at the end of the year.

In the Chairman's Commentary of the Annual Report for 1969-70, Jimmie Savage stated: "The acquisition of John Hartigan has had an exhilarating effect on the Department. His prowess and his fresh ideas, vigorously expressed, stimulate both students and faculty. He is a wonderful Director of Graduate Studies." It is obvious that Jimmie thought a great deal of John; it is sad that they would have so little time to interact.

Bob Ling writes about Jimmie Savage:

Jimmie made very generous contributions to the works of others. It is well-known among my generation of Ph.D. candidates that, although I was (I think) the only one who was officially under Jimmie's direction in the years 1967-69, he gave in-depth feedback to all of those who worked under the direction of other faculty members in the Statistics Department.

It is less well-known, except to Jimmie's close professional colleagues, that he was as meticulous in his detailed comments over their manuscripts as he was over my dissertation drafts! The latter were legendary – I have given samples of audio tapes of his comments, as well as my original manuscript (marked black and blue on every page by Jimmie) to the Yale Library Archives in his honor.

Two such manuscripts that came to my attention (through Jimmie) were one by Harry Roberts (my former colleague at the U. Of Chicago), and another by Bruce Hill (U. Of Michigan), both about Bayesian statistics. Jimmie would mark the manuscripts not only on substantive points, but also on such details as minor grammatical points and/or written style.

Perhaps unbeknownst to me during my own professional career, the example Jimmie set was so deeply impressed upon me that, I believe, my unpublished and anonymous contributions in refereeing statistical manuscripts or grant proposals far exceeded the totality of all my own publications! In one case, the author (a journal editor him-self) of a paper submitted simulations results which I am sure no one knew at the time were analytically derivable (exactly, i.e.) from unpublished theoretical results of

mine. When I presented those details in my referee's report, to show that the simulation results were remarkably close to the exact results, both the author and the editor were quite surprised, and the results in the report, compiled into a paper, were later recommended for publication in a "mathematical" journal by the author who withdrew his paper submitted to a "simulation" journal.

Jimmie was especially generous in the time he personally dedicated to individual students. I was very fortunate that he took me under his wing from the first days I arrived at Yale. When I began working on my doctoral dissertation, he would regularly set aside an hour or two every week for us to talk about whatever I'd done or was thinking about doing. The regularity of these meetings made it a great incentive (okay, pressure) for me NOT to let things slide. We would meet whether I had anything new or not, and MY material was occasionally so boring that Jimmie actually dosed off while I was talking. But it definitely worked! It kept me going on a topic that didn't lend itself to much "theory" or "breakthrough". Had I been left to work on my own, and asked to see him only when I felt I had something that seemed worthwhile, I probably would not have finished my Ph.D.

When I had my own doctoral students, I adopted Jimmie's model. At least two of my doctoral students (each of whom had more publications than I did, I might add) thanked me for my personal attention to them, as something they valued, both when they graduated and again when I informed them of my retirement from the statistical profession.

Jimmie also had a subtle way of sizing up my skill in various areas. I realized, only in retrospect, why he was doing certain things that were inexplicable to me at the time. While I admired this about him immensely, I was unable to mimic those methods.

Example 1. Even before the fall session started in 1966, Jimmie had already given me a topology problem (from a friend of his in the Math Department) and asked me to see if I could write a computer program to enumerate the numbers of configurations, to help prove or disprove a conjecture of that friend. When I proceeded to formulate the program via a flow-chart, it soon became quite apparent to me that, not only were the numbers so large that they were not "computable", but I was able to argue that the conjecture was false without computing a single number! I never followed-up on that problem, but I suspected Jimmie knew the answer all along and was just testing to see if I was a non-thinking computer jock.

Example 2. Sometime between my 2nd and 3rd year at Yale, Jimmie showed me a copy of a mathematics journal published by the Republic of China, in which the inside front-cover always had a political editorial (written in Chinese, of course) which had nothing to do with mathematics! Jimmie asked me to translate one of those editorials for him. Unfortunately, I had already forgotten many of the Chinese characters. By the time I solicited help from my brother (at Brown) to translate those characters/phrases and pieced them together for my "homework" for Jimmie, the end result was less coherent, or smooth in context and flow, than might be expected from a 5th grader in an English class.

It only dawned on me later that, while I spoke English quite well without much of any Chinese accent, Jimmie was trying to find out how well (if at all) I could write in English, both for my dissertation and his nomination of me for a Stirling Fellowship at Yale. I didn't receive the latter but was greatly honored by the mere fact that I was nominated. Jimmie used samples of my statistical internship reports for the Stirling nomination. Had he used my translated Chinese editorial, I might well have been rejected from Yale for illiteracy in the English language!

These are but two of the many examples I could cite where Jimmie subtly tested various aspects about me, for my own benefit, without ever letting on the reasons behind the "madness" in his "tests".

Those years at Yale are still vivid in my mind. I remember Dan Relles, Don Berry, Bill DuMouchel and me being carried away with our bridge game in the attic, and Jimmie having to go up there to drag us down to a seminar.

I always felt that the faculty were very accessible to the students and really cared about them – it was truly personal. The size of the Department had much to do with it, I think. There were only eight students in total the year I entered (1966); I was one of only two admitted that year. With that kind of student-body size, it was inevitable that we got much individual attention.

In 1970-71, the faculty and research staff were: Jimmie Savage (Chairman), Frank Anscombe, Colin White (joint with Epidemiology and Public Health), John Hartigan (Director of Graduate Studies), Barry Margolin, Hilary Seal, Chester Bliss, and a Visiting Assistant Professor from Australia, Robb J. Muirhead. The student enrollment was thirteen; during that year three students were awarded the Ph.D. degree (Donald [Don] Berry, William [Bill] DuMouchel and John [Gerry] Ramage) and five the MPhil. degree.

The year 1971-72 began with a faculty of Jimmie Savage (as Chairman), Frank Anscombe, Colin White (joint appointment), John Hartigan (Director of Graduate Studies), Barry Margolin, Robb J. Muirhead (converted from visiting to regular faculty with the rank of Assistant Professor), and Research Associate Hilary Seal. Peter J. Huber had an appointment as Visiting Professor for the period September through March.

Don Berry writes:

In my first semester at Yale, I took a course in probability out of Feller, Volume 1, in the Fall of 1965 before the move to Dana House. Jimmie Savage was the instructor. The few first-year graduate students took the course along with a couple of dozen advanced undergraduates. One day Jimmie told me that, should he ever fail to show up on time, I was to start teaching in his stead. Holy Cow! How

could I do that? It would be sort of like pinch hitting for Babe Ruth. I breathed a sigh of relief every time he showed up for class. Then one day, he didn't. So I got up and asked if there were any questions on the homework, and there were. Somebody asked about the hardest problem of the lot. I had struggled with it but, luckily, I thought I understood it. I presented my solution on the board. About halfway through my presentation, Jimmie showed up. I handed him the chalk but he sat down and said that I should con-tinue. I did, but with very weak knees. After giving the solution, I gave some intuition for it and also suggested an extension. I don't remember what Jimmie said when he took over, but he was satisfied with what I had done and he didn't add anything to it I was proud as a peacock. I still remember the problem ... and the solution!

In my second year, Albertus Magnus College (in New Haven) called the Department and asked if we had someone who could teach a semester introductory course in mathematical statistics. Jimmie thought it would be good practice for me and he knew that I could use the money – \$400 was a lot in those days! I agreed, and I bought a car with the money, a 1958 Chevy. Jimmie called the car “Big Al” in honor of the source of funding.

Jimmie felt it was very important for statisticians to learn the science in any of their applications. This was completely consistent with his (Bayesian) statistical philosophy. It is an aspect of his philosophy that he passed to me and that I most highly value. I teach it to my students and to all statisticians who work with me. From both Jimmie and Frank Anscombe I learned to deplore the notion that a statistician can take a set of numbers and analyze them separate from understanding the process that produced them. One of the resources Jimmie provided for us in the Dana House library was a set of volumes of an encyclopedia of science. I gathered that, since the set was expensive, he had to overcome some resistance in purchasing it for the Department. Once when Fred Mosteller had given a Statistics seminar, I gave him a ride to the airport (in Big Al!). Jimmie came along for the ride. I've forgotten the substance of one discussion we had, but it showed that I knew some rather esoteric science associated with an application in which I was involved. Jimmie asked the source of my information. I said that I had gotten it in the science encyclopedia in the library. He beamed, and claimed that this vindicated his purchase.

In my first month at Yale we had a departmental picnic. This gave me the opportunity to ask Frank Anscombe about a problem that was troubl-ing me. Donna and I had three children at the time, all boys. I said that I understood that the maximum likelihood estimate of our prob-ability of having a boy was 1. However, this seemed to be a lousy estimate for the probability that our next child would be a boy. He said something like this: “Well, if you assume a uniform prior for p (which clearly has too much variability, but it serves to make my point), then Laplace's rule of succession means that the probability that your next child will be a boy is $4/5$.” I appreciated that his answer was better than mine, but I had no idea what he was talking about!

A year later when Donna was pregnant with child number 4, I wanted a better answer. (Among other things, I wanted to counter the obstetrician who had told her that she was “due for a girl” and therefore that a girl was more likely than a boy!) By then I had learned about prior distributions. I asked Jimmie what he thought would be a reasonable prior. He said that I should get some data and referred me to a book by Corrado Gini published about 1905. It consisted of page upon page of data from various cultures concerning the sex distributions of families of various sizes. (How in the world did he know about this book’s existence? The breadth of his knowledge and the depth of his knowledge never ceased to amaze me!) Families with many children had sex distributions with obviously greater dispersion than any binomial. I learned about mixtures and about estimating a prior distribution from such empirical information.

As Donna neared her due date, Frank asked me how we were going to pay for the doctor and for the hospital stay. I honestly said that I had no idea. Frank said, “Bring the bills to me.” I didn’t ask any questions and just brought him all \$700 worth of bills. He saw to it that they were paid. Baby Scott cost us nothing!

On November 1, 1971, our world was shattered when Jimmie Savage, just before his 54th birthday, died very suddenly of a heart attack at his home in New Haven. I think the words of his former student, Don Berry, (printed in *The American Statistician*, Volume 26, No. 1, February, 1972) say it best:

“On November 1, the statistical community lost one of its own. Whenever a man of the stature of Leonard J. Savage passes on, it is the custom of a periodical such as yours to cite what you deem to be his professional contributions. In the case of Jimmie Savage these can be nothing but impressive. Readers will lament that the profession has lost one of its most innovative members, perhaps the most innovative member. I am writing not to alter that impression but to augment it. No doubt you will not say in your tribute that he was a man of unlimited compassion, patience, and love. To his colleagues and students each moment with him was cherished – around him the atmosphere tingles, the tingles emanating not only from his sparkling intelligence and wit, but also from his empathy and warm-heartedness. He was ever willing to discuss a subject at any level, and ever capable of leading one’s fallacious argument gracefully and elegantly over a nearby logical cliff. I cannot imagine the existence of another who combines raw intelligence and teaching ability as effectively as did Jimmie Savage.

“It is difficult for me at this moment to understand why the entire world is not grieving the loss of such a man. How unfortunate it is that so very few knew that he was in their midst. For me, and for most who knew him, and for all who loved him, there will remain an enormous gap in life. Speaking for myself, the person whom I most tried to impress is gone and no one could possibly take his place. I grieve as much for humanity as I do for his family.”

Don spoke for us all. Just as an example of Jimmie's quick wit, here's a little story. A friend of Jimmie's had once written to tell him that the writer's brother and his second wife, who had married quite late in life, had just had a baby. Jimmie wrote back, "I shudder for your brudder".

Jimmie (and his brother Richard too) had a congenital eye problem which caused them to have extremely poor vision. In order to read, Jimmie had to hold the material quite close to his eye and he also had difficulty in writing for the same reason.

It fell to Barbara Amato to clean out Jimmie's office and separate the personal from the professional. Among his papers, she found a anecdote he had written one night when he couldn't sleep. Here is a summary.

There was a little boy, in the early grades in school, who had made an unfavorable impression upon all his teachers because he was too slow in completing written assignments and would only read haltingly when called upon in class. The boy felt the teachers considered him quite dull and stupid. Thus school for him was just a misery.

One day a substitute teacher appeared in class. She was young and pretty, obviously had no preconceived ideas of the ability of this little boy nor of any of the students in the class. As a first assignment she tacked up on an easel a picture of a cow standing in a meadow with wild flowers all around. She asked the students to study the picture and then gave them a fixed period of time to write a story suggested to them by the picture. Not only was it impossible for the little boy to see the picture but, even if he had seen it, he could not have written a story in the time allowed. When time had expired, the teacher called each child, in turn, to come to the front of the room and read his/her story. As it happened, she called upon the little boy first. Though his paper was blank, the little boy had a very facile mind (despite what his teachers had thought) and, as he made his way to the front of the room, only a quick glance at the picture was all he needed to make up a credible story. Holding the blank paper up before him, the little boy told his tale. The teacher then praised him and his effort as he made his way back to his seat. He was elated – his ever-constant misery had turned to joy!

A little girl named Ethel sat behind the little boy. She quickly realized his paper was blank, raised her hand, and told the teacher. Thinking she had been deceived, the teacher gave him the reprimand she thought he richly deserved. The little boy was devastated.

With all the honors and acclaim that Jimmie had received in his lifetime, it was sad to realize that he was still hurting from his early childhood experiences.

John Hartigan also shared a story with Barbara just recently. He and Jimmie were walking to lunch one day, and Jimmie told John that he had a friend, a distinguished statistician, who had been told that he was seriously ill and only had a year or two to live. What did that man do? Jimmie said he just went on with his life. He took a vacation to Europe, taught classes, edited manuscripts, advised students ... he just did what he always did. It only occurred to John after Jimmie died that his death was not such a surprise to him as it was to the rest of the us.

Frank Anscombe resumed chairmanship of the Department after Jimmie's death. The enrollment had been sixteen during that academic year. At the year's end, one student was awarded the Ph.D. (Jack Alanen), six students were awarded the MPhil. and eight the M.A. degree.

For 1972-73, there were two faculty promotions: John Hartigan to full Professor with tenure and Barry Margolin (now Director of Graduate Studies) to Associate Professor. With Frank Anscombe as Chairman, the remaining faculty were Colin White (joint appointment), and Robb Muirhead. In addition there was Visiting Lecturer S. James Press (joint with the Department of Administrative Sciences), Visiting Fellow Warren M. Hirsch, and Postdoctoral Fellow Willi Maurer.

Student enrollment was twenty-one, with one student receiving the MPhil. and five the M.A. degree during the year.

In 1973-74, the chairmanship passed to John Hartigan. The other faculty were: Frank Anscombe, Colin White (joint appointment), Barry Margolin (Director of Graduate Studies), Robb Muirhead, and a new joint appointee Ward Whitt, also of the Department of Administrative Sciences. In addition there were three visitors: Edward J. Hannan (joint with the Cowles Foundation) as Senior Research Statistician and Lecturer; Visiting Lecturer Leo Breiman and Visiting Fellow Warren M. Hirsch. Student enrollment was twenty, with three students receiving the Ph.D. (Yasuko Chikuse, Yuzo Hosoya, and Norman Johnson), nine the MPhil. and three the M.A. degree during the year.

About this time, there was a foreign student who was to leave for home in late May but, unfortunately, his support ran out a few months before he was to leave. He did not confess that he was in dire straits but tried to maintain himself as best he could until he was free to depart. So ... he vacated his apartment and moved into the third floor of Dana House, as at that time a substantial portion was unfinished and not used for student offices. He made that space his home. No doubt his fellow students were aware of this but they kept his secret.

Frank Anscombe had granted permission to the New Haven Historical Society to meet in our building one evening, because they were quite interested in the Dana House. The following day a distinguished-looking gentleman rang the doorbell and Barbara Amato answered the door. He explained that he was an architect and had been unable to attend the meeting the night before but wondered if he could see the building that day. So Barbara conducted a tour of the building for him. She did not intend to show

him the unfinished attic but he expressly asked to see that because, he said, he could tell much about the construction by looking at it. As she led him through the attic, they came upon the “little home” of our student; fortunately, the student was not there at the time. The architect drew himself up to his full height and said, “You really shouldn’t allow this because there are no fire escapes from this side of the building.” Barbara felt duty bound to report it to the Director of Graduate Studies, but mercifully he turned a blind eye to the situation and the student was gone in a few weeks’ time.

On May 15, 1974, there was a conference at Yale, sponsored by the Department with support from the office of Naval Research and the National Science Foundation, with five speakers and forty invited participants. A report on the five talks and the discussion following them was produced in February, 1975.

In 1974-75, I. Richard Savage joined the Department as Professor and Director of Graduate Studies, John Hartigan continued as Chairman, and the other faculty were Frank Anscombe, Colin White and Ward Whitt (joint appointments), Barry Margolin, and Robb Muirhead. The student enrollment was sixteen, with two students receiving the Ph.D. (Lawrence [Larry] Rafsky and Christine Waternaux) and three the MPhil. degree. Barry Margolin was made a fellow of the American Statistical Association in August, 1974.

For 1975-76, Robb Muirhead was promoted to Associate Professor. The faculty for that year consisted of John Hartigan (Chairman), Frank Anscombe, Richard Savage (Director of Graduate Studies), Colin White and Ward Whitt (joint appointments), Barry Margolin, and Robb Muirhead. There were two distinguished visitors who contributed to the program: Beat Kleiner, Research Associate and Lecturer during the month of February, and Laszlo Engelman, Visiting Research Scientist for most of the month of May. Student enrollment was eighteen, with five students receiving the Ph.D. (Gerald [Jerry] Dallal, William [Bill] Eddy, Gokul Ghia, Takashi Miyawaki, and Jean-Michel Pomarede), and one the MPhil. at the year’s end.

Frank Anscombe was honored as a Charter member of the Connecticut Academy of Sciences and Engineering, and John Hartigan was appointed a Visiting Fellow of the Australian National University for June-December, 1976.

The Chairman’s Commentary submitted with the Annual Report for 1975-76 was the first one prepared since 1969-70, and thus it covered much ground. It mentioned that five of our students were working as statistical consultants one afternoon a week at the Yale Computer Center, from which they gained some useful experience. It also attributed a growth in undergraduate enrollment in our courses, in part, to the innovative course, Data Analysis 43b, which had few mathematical or computer prerequisites. A second course of this type, with less emphasis on computing and more on carefully prepared case studies, was being offered as well.

Jerry Dallal writes:

During my time in the Department and students and faculty went to lunch together regularly: Someone, often Robb Muirhead, would yell “Lunch!” up the stairs to the third floor to gather the troops (some-times I believe it was Barry Margolin who did the yelling). One reason the faculty was so accessible was Dana House. Other depart-ments didn’t have as intimate a set-up. That’s one virtue of being a small department.

As for lunch, there was a time when it felt like more learning went on at lunch than anywhere else. I can remember first hearing Frank describe the properties of something called “Studentized residuals” over lunch. In Richard’s interview for Statistical Science, he stated that the faculty never published together and gave the impression they didn’t interact. Yet, at lunch, everyone interacted, with faculty and student alike talking about what they were currently working on.

I have a hazy memory that lunch tailed off after Richard’s arrival. I recall the tradition continued when he first came; I recall him coming along. But this hazy memory said that it might have been a chore for him physically so he started staying behind. Perhaps some students stayed behind with him? But I left the year after he arrived, so I’m not sure these “memories” count.

Then, there was the year or two after the foosball table was installed in the alcove off the dining hall. Nothing got done between 1:00 and 2:00 because everyone was playing the game. Teams were chosen hap-hazardly. Everyone was teamed with everyone else at one point or another. I don’t recall Frank ever playing and I don’t think Barry did. They must have gone back to the Department after lunch and were productive, but John and Robb were regulars. After a while, I began posting players’ rankings after each day’s games, calculating them by using Frank’s terminal in the basement, which he had given me permission to use.

Also, I remember the Christmas parties! Does John still draw his elaborate pictures featuring current faculty and students in a fanciful tableau?

Also, Barbara, you mustn’t leave out your role in this! You know you were official den mother and the place wouldn’t have been nearly as friendly without you.

Around this time, we had a very engaging set of entering students. Hearing that there was to be a “luncheon seminar”, they wandered into Barbara’s office and inquired about the format. She explained that people brought a bag lunch and consumed it while a speaker, often a fellow student, gave a talk on his current work. Evidently they decided this was a good time to make an impact on their new department. On the appointed day, they set up a luncheon table for themselves, replete with a white table-

cloth, candelabra, china plates and silverware, a bottle of wine, and wine glasses. They offered wine to the faculty and the senior Ph.D. student, Lorraine Bromberg-DeRobertis. Barry Margolin commented, "I knew I liked this incoming class!" The three conspirators were John Irvine, Gary Oehlert, and Jeff Simonoff; the speaker that day was Jonathan Arnold, who was not too happy about the attention this diverted from his talk. Barbara, called out from her office to see the table, laughed hysterically.

During 1976-77, Richard Savage began serving as Chairman, with faculty consisting of Frank Anscombe (Director of Graduate Studies), John Hartigan, Colin White and Ward Whitt (joint appointments), Barry Margolin, Robb Muirhead, and Visiting Assistant Professor David B. Pollard (a joint appointment with the School of Organization and Management) for the second semester. Student enrollment was nineteen, with two students awarded the Ph.D. (William [Bill] Glynn and Yohanan Wax), one the MPhil. and three the M.A. degree.

John Hartigan had become acquainted with David Pollard when he was in Australia on leave in 1975. Impressed by him, John invited David to come to Yale for a visit for the second semester of 1976, by which time he would have completed his Ph.D. That visit affirmed John's good opinion of David, and he was asked to accept a regular appointment as Assistant Professor. David did so, although he was already committed to a visit to Germany for 1977-78, and thus was listed as being on academic leave for that year.

For 1977-78, Barry Margolin and Ward Whitt had both resigned to take positions elsewhere. David Pollard and Mary Anne Maher were appointed Assistant Professors and Edward (Ed) Tufte became a joint appointee (with Political Science). Richard Savage continued as Chairman, Frank Anscombe was Director of Graduate Studies. The remaining faculty were John Hartigan, Colin White (joint appointee), Robb Muirhead, and two visitors: Laszlo Engelman in the second semester as Visiting Lecturer and Research Scientist, and Jose M. Bernardo, a Postdoctoral Fellow. Student enrollment was nineteen and two students were awarded the Ph.D. (Rouh-Jane Chou and Lorraine C. [formerly Bromberg] DeRobertis), and six students the MPhil. degree.

Edward Tufte was named a Guggenheim Fellow for 1977 and Mary Anne Maher was awarded a National Research Council Travel Grant to the International Congress of Mathematicians in Helsinki, Finland, for August, 1978.

The Chairman's Commentary to the Annual Report of that year noted that the University Committee on Statistics reported a need for additional coordination on the teaching of statistics within the University. This Committee was comprised of Horace D. Taft (Chairman), George Furnival, Robert McCollum, Harry Miskimin, Guy Orcutt, and Richard Savage. In particular, the Committee recommended: (1) joint appointments between the Department of Statistics and the substantive departments; (2) cooperation between the departments in the teaching of basic courses at both

undergraduate and graduate levels; and (3) the active participation of the administration to maintain a statistics program with efficiency and quality.

It is time to inject a little levity with a few stories that surely must be recorded here but, as they were not suitable for the Annual Reports, it is no longer known when they actually occurred. For example, we had a great problem over the years with thievery. Once Jimmie Savage had stored some Christmas presents for his children in the closet just outside his door (which had a very good lock on it). On Christmas Eve Jimmie and his wife, Jean, came to pick up the presents but ... you guessed it, they were gone. At that time we had outside cleaning help who had keys to every lock and we could only suspect they were responsible but could not prove it.

On another occasion, student Diccon Bancroft (quite a big and tall man) had picked up some trousers from the cleaners and stored them in his office on the third floor until time to go home. He went downstairs to attend class and, upon his return, his pants were gone. It is hard to imagine how someone could have picked them up on the third floor and carried them downstairs and outside without being noticed. It is even harder to imagine how that person could have fit those pants!

Once Barry Margolin needed to return a man's shirt to a New York department store. The store was willing to pick it up but, since Barry and his wife both worked, there would be no one at home to give the shirt to the driver. Thus Barbara Amato was asked to be custodian of the package and the driver was asked to pick it up at Dana House. Well, for about a week or so that the package sat on a cabinet in Barbara's office before the driver came for it. When he did, he hefted it in his hand and said, "This feels really light. Are you sure there is something inside?" Again, you guessed it ... it was entirely empty. Barbara was glad there was clear evidence that her husband, Lou, was too large for that shirt or else she might have been suspected of skullduggery.

One day two teenage boys came into the building in the early morning and asked to use the first floor rest room. As you might know, it is a very small room but both of the boys squeezed into that tiny space – and one of them was quite rotund. Barbara thought she better keep a close eye out until they exited the building but, unfortunately, an important phone call distracted her and the boys had left the bathroom by the time she returned to it. They were next seen walking down the front stairs from the second floor and out the door. Since they had no business being on the second floor, it was clear they had been up to no good. As one secretary, Helen Ivey, watched out the window to see where they were going, Barbara raced upstairs to see what rooms were open that they might have entered. The only office open was John Hartigan's, which he had left ajar when he went to the Computer Center. Barbara called him there and he gave her an inventory of things he prized that might now be missing. Fortunately, everything was still there ... with one exception. They had taken his bag lunch which had been sitting on his desk, and Helen Ivey observed them sharing it between them out on the street.

That story becomes even more bizarre. We notified the Campus Police because the boys might do something more serious in another Yale building. The police apprehended them on the railroad tracks between Computer Science and Dana House, threatening two East Haven youths who had skipped school and walked the tracks into New Haven. An awl was being held against the throat of one youngster while his companion was instructed to go to Peabody Museum to steal from the cashier at the door. The two offenders were arrested. Months later Barbara had to go to juvenile court (a new experience) to testify against them.

One night Barbara and Lou Amato were coming home from an event in downtown New Haven and, as they passed Dana House, noticed that the lights were on in the office later than 11:00 p.m. on a Friday night. They almost went to investigate but Barbara remembered that a faculty member mentioned he had extensive copying to do that night, so the occupancy of the office seemed explained. However, when she came to work on Monday, she found that the contents of a cigar box in a locked file containing a \$100 petty cash fund and a large supply of stamps had been stolen. This was reported to Campus Police; they took the cigar box and fingerprinted it, and Barbara as well, since any other fingerprints on the box would be suspect. They did find one other set of prints, ran them through the F.B.I., and learned that they belonged to one of their own! A Campus Policeman had stolen the money and the stamps – he had a set of master keys that not only let him into the office but into the locked file cabinet. Restitution was made and the man was fired.

After the file cabinet theft, Barbara decided that its simple lock was not sufficient to protect its contents and decided to have a steel bar installed to run down the front of the cabinet inside the handles of each drawer, in a more sophisticated locking system. Whenever Physical Plant was requested to do such a job, it was very expensive. They charged union wages and added a surcharge that helped to support their department. She frequently called upon her husband, Lou, to do such work for the Department, paying only for the cost of the materials, never for labor. The day he came to install the steel bar, as luck would have it, some workers from Physical Plant arrived for another reason shortly after Lou came. Lou, along with the materials for the job, had to be hidden in a storage closet until the workers left the building to avoid a job complaint from the union. It wasn't bad enough that he was taking time from his business (where time is money) to do this job for Barbara, but the time it took was extended by his being forced to hide from the union workers.

Barbara was once at a meeting of Business Managers in the Social Sciences and one Manager was proud of her accomplishment in getting her husband paid for doing such work, rather than employing the very expensive Physical Plant Department. Barbara sniffed that her husband did it for free, and the woman replied, "You better hope our husbands never met and compare notes."

The most amusing theft happened one evening just after 5:00 p.m. Barbara Amato and David Pollard were discussing some current problem at her desk and, over David's shoulder, she had a clear view of

the front door. Someone unknown to her entered, though he looked like an average undergraduate, and went up the stairs. One of our teaching assistants often had undergraduates come to office hours, but Barbara knew that the TA had already gone home that day. She fully expected this supposed undergraduate to come back down the stairs soon when he discovered the TA's office on the second floor locked. When he didn't come down after some time had gone by, Barbara told David and he went upstairs to look for the person. He was nowhere on the second floor so David and John Hartigan (now also involved in the search) called up to the third floor, "Is anybody up there?" There was a response and someone then came down and walked right by them, down the stairs, and out the door, mumbling some sort of excuse for why he was there. Bill Kahn, our graduate student, had been conferring with John in his office, so Bill raced upstairs to the student offices to see if anything was missing. Bill had just bought himself a new pair of running shoes and this thief had taken off his own shoes (which had holes in the sole), put on Bill's, replaced Bill's shoes with his own, and walked right past David and John wearing Bill's shoes. Bill never again saw those shoes!

This story, which has nothing to do with thievery, is amusing nonetheless. It was the job of the first-year students to prepare for the seminar teas. One day the student who was to buy groceries became ill and had to go home, and Barbara was pressed into service to run to the supermarket in her car in the pouring rain. She came back to the parking lot on the other side of the Cowles Foundation only to discover that every single parking space, but one, was taken – and that was hardly wide enough for her car. But, in desperation, she squeezed her car into that spot. She had to alight from the car carrying two paper bags full of groceries, plus her pocketbook and umbrella. She was barely able to exit with her parcels from the car and then found that she could not get the car door to shut properly. There simply wasn't enough space to get leverage to shut the door completely. Putting the bags down was not an option because all surfaces were very wet. She spent some minutes trying in vain to get the car door to close, trying her hip, her knee, her foot – nothing would shut it sufficiently so she could lock it. Thus she gave up, closing it as tightly as she could, and started back to the Department. Unfortunately, she was wearing a skirt without a waistband that day; the zipper locked it in place. Her gyrations trying to shut the door caused the zipper to unlock and, as she walked alongside the Cowles building, her skirt started to slide down toward her ankles. There was little she could do to stay its course and, when it was all the way down, she could walk no longer. Even if she stepped out of it, there was no way she could pick it up and she certainly couldn't go back to the Department sans skirt. She was just standing there, under her umbrella, trying to figure out her next move. Suddenly a man (definitely not the academic type) came around the building, but he knew an emergency when he saw one. He asked, "Where are you going, lady?" She explained and he very kindly took the parcels and followed her lead to the Department. As for the skirt, all she could do was grasp it firmly under her raincoat until she could nip into the Department's restroom and make things right.

In 1978-79, Robb Muirhead had resigned for another position and a new Assistant Professor, Kai Fun Yu, was appointed in his place. Richard Savage continued as Chairman, Frank Anscombe as Director of Graduate Studies, John Hartigan, Ed Tufte and Colin White (joint appointments), David Pollard, and Research Associate Susan R. Wilson with appointment for the second semester.

Student enrollment was sixteen, with two students awarded the Ph.D. (Adnan Awad and Steven [Steve] Schwager), one the M. Phil. and four the M.A. degrees. Frank Anscombe broke the departmental record for enrollment in any one course, with 340 undergraduates and 14 graduate students enrolled in 123a/523a, Introduction to Statistical Methods, I.

The Chairman's Commentary of that year explored the problems and successes of the program. It stated that the small number of faculty and students remained a worry for the Department, but that the teaching efficiency of the Department was increasing and the doctoral program healthy.

One student of that era writes:

For me the Department was terrifying. The faculty seemed to know everything and the *other* students all seemed really brilliant, e.g., Diccon Bancroft, Bill Eddy, Lorraine Bromberg-DeRobertis. The faculty were accessible, and everyone went to lunch at the Commons, where John Hartigan would lead discussions in his inimitable style. He was terrific, funny, and fascinating. Sometimes we all went to Clark's pizza. The students always felt that the faculty cared about them. But did the faculty give me a warm and fuzzy feeling? Quite the contrary. In case you didn't know (although everyone else did!) the warmth came from you, Barbara – we students viewed you as a mother figure. We could tell you our problems and fears, and you would help us out. I also remember Nettie, the maid, who worked there early in the mornings, as a caring presence. And of course, the students took care of each other.

I got a fantastic training at Yale but the experience bred insecurity among the students.

I have been chair at my University and Barbara is always my model for whom to hire – or try to hire – for department secretary.

In 1979-80, there remained the usual five full-time faculty: Richard Savage (Chairman), Frank Anscombe (Director of Graduate Studies), John Hartigan, David Pollard and Kai Yu (Director of Undergraduate Studies). In addition, there was a new joint appointee, Peter Phillips (of Economics), along with the other joint appointments of Ed Tufte (of Political Science), and Colin White (of Epidemiology and Public Health). Also appointed was John K. (Kim) Peck (of the School of Organization and Management).

The student enrollment was sixteen, with two students receiving the Ph.D. (Bruce Spencer and M. Anthony [Tony] Wong), one the MPhil. and two the M.A. during the year. Frank Anscombe's Introduction to Statistical Methods, I (123a/523a) had an enrollment of 283 undergraduate and 4 graduate students. This course was intended for students with relatively little mathematical background. Its companion course, Introduction ... II (124b), which introduced students to the use of computers in the analysis of data, enrolled 14 undergraduates.

Edward Tufte was the recipient in this year of the Gladys Kammerer Award of American Political Science Association for the best book on United States national policy (Political Control of Economy)

In this year the Department re-examined its elementary courses, Statistics 241a and 242b, introductions to Probability Theory and Statistical Theory. It planned to divide these courses into two different mathematical levels beginning in 1980-81: one anticipated that its students were learning calculus; the other was intended for students who already had a working knowledge of calculus. Statistics 230b, a well-established course on data analysis was to continue as constituted. The Department also participated in the undergraduate program in Applied Mathematics, with a member of the Statistics faculty being a member of the Supervisory Committee of that program and other Statistics faculty members participating when appropriate.

Jeff Simonoff writes:

The way I always thought about the Department was that our being in Dana House couldn't have been more perfect, because it felt like a family (and you know who played the role of Mom – Barbara!). The faculty's office doors were always open, for professional or personal guidance. During my years at the Department, we went as a group for lunch to Commons almost every day – students, faculty and even Barbara. John and David were very regular participants, but Richard Savage often came, despite the logistical difficulties. Luncheon discussion could range from the fundamentals of Bayes methods to politics to the subtleties of NHL hockey. When I moved out the graduate student dorm into an apartment, I had parties in two consecutive years, and they were attended not only by Stat students, but faculty as well. From everything I've heard from people who got their degrees at other stat departments, the warmth of the atmosphere at Yale was amazing, and absolutely unique. I consider myself very lucky to have been able to spend four years there.

In 1980-81 David Pollard was promoted to the rank of Associate Professor and Guy H. Orcutt joined the Department (a joint appointment with both Economics and the Institution for Social and Policy Studies). Richard Savage continued as Chair, with Frank Anscombe (Director of Graduate Studies), John Hartigan, Kai Yu (Director of Undergraduate Studies), Kim Peck and the joint appointees of Guy

Orcutt, Peter Phillips, Ed Tufte and Colin White. In addition, there were two visiting appointments for that year: Adrian Baddeley (Fellow of Trinity College, Cambridge) as Lecturer for the spring term and Associate Professor Doris C. Appleby (of Marymount College) as Visiting Fellow for the period September to August.

The student enrollment during the year was thirteen, with one student being awarded the Ph.D. (Jeffrey [Jeff] Simonoff) and seven the MPhil. degrees.

Student enrollment continued at a high level in 123a/523a, but Statistics 124b was not taught that year because Frank Anscombe was on leave for the second semester. 241a/541a, Probability and Its Applications, was taught for students who knew calculus, and Statistics 330a/601a, Probability Theory, was for those without knowledge of calculus. A new lower division course in probability theory was to be offered in 1982-83 for those students who lacked the mathematical prerequisites for 241. Statistics 124b, the sequel to the multiple-sectioned 123a, was not to be taught in 1982-83 because Frank Anscombe intended to modify the content of 123a to include data-analytic methods, which reduced the need for 124b. Statistics 230, developed by John Hartigan, had been very successful and was well received when offered by other faculty members. Because the Department did not have the manpower to support an undergraduate degree in Statistics, it suggested the strengthening and restructuring of the Applied Mathematics Program.

Gary Oehlert writes:

I've been associated with three statistics departments, Yale as a student, and Princeton and Minnesota as a faculty member. In my experience, the Yale department is far and away the friendliest, with the best mixing among students and faculty. Part of it is the people, part may be the environment.

The faculty and students really mixed. Many ate lunch together almost every day. John Hartigan played on our volley ball team at least one year. We had the Christmas party and two picnics a year; nearly everyone attended, and I think nearly everyone had a good time. I remember one "touch" football game where John and I were lined up against each other play after play. John came to Dana House on Monday bruised from top to bottom; somehow I still graduated. I had Thanks-giving with Richard Savage and his family once, and dinner with John and his family more than once. Inclusion was important.

For what it's worth, I try to have my students over for dinner/picnic at least once a year. It breaks down barriers and helps us understand each other. I was once asked why I do it. I do it for my students because someone did it for me – I learned it at Yale.

Students at Yale were involved in the functioning of the Department. One cohort was helping set up seminars, another was planning the parties/picnics, another was inviting seminar speakers. We gave suggestions for courses and the program. We were asked about job candidates. Students weren't faculty, but we were clearly members of the Department, not just passers-through.

These don't seem like such big things, and they are probably more signs of an attitude than causes of togetherness, but you only need to spend some time in a department where things like this don't happen to see the difference in atmosphere.

A few closing anecdotes:

The tablecloth-candle-and wine lunch seminar of 1976; three of us decided we'd dress in our best three-piece suits and wow the Christmas party – John showed up in a tux! Frank nearly always wore a three-piece suit, even when he wore shorts in the summer. Richard used the quantity 2k in a lecture, and noted that 2k was a well-known statistician. Frank's office with every level surface piled at least three feet deep with books and papers, but when I asked a question, he immediately went to a pile and removed a journal about 18 inches from the top. It was the right one. Barbara Amato welcoming all the new students. Barbara sending graduate students to every copy machine in a two-block radius when Frank's exam arrived late for class (an early instance of parallel processing).

There's more but I'll stop. Not everything was beer and skittles, but the whole department was a tight-knit group.

For the Christmas Party of 1981, The Dana House Repertory Company (some of our students) presented a play "The Real Tragedy of King Richard II or How the Bayesian Was Uniformly Beaten". It was noted that all the characters were fictitious but that any slanderous reference to actual persons was intentional and was to be taken as such. The cast was as follows:

King Richard II (A Bayesian) . Stuart Newstead
Henry Bowlingball, Duke of Hamden (a Spectral Analyst) John Parades
Earl of Hillhouse (a frequentist) . Albyn Jones
Lord Orange (a Data Analyst) Bruce Roberts
Aide to the King Dan Barry
Messenger Antonio Possolo
Airy Spirit Debbie Nolan

SCENE 1: Richard rules as Bayesian king and has done so since the popular Queen Barbara was tragically killed by a jealous typewriter. This little introduction was performed by Debbie in a narrative role.

SCENE 2: There is the trial of Henry Bowlingball, Duke of Hamden, who is accused of violating the likelihood principle and flashing a confidence interval in public. His punishment is decided by the roll of dice and he is condemned to banishment in the wild lands to the North. After he is removed, the king states his intention to fight the Irish hordes and this angers the aide, who is determined to thwart any such action.

SCENE 3: The aide is approached by the Earl of Hillhouse and Lord Orange, who are in despair at this rule by priors and chance, and wish to restore the kingdom to its former glory which it enjoyed under Queen Barbara. They refer to the struggles on the border which could lead to the king being overthrown.

SCENE 4: The king confers with his aide about the rumors of a plot and together they count the lords who are still loyal to the crown. Handscombe is neutral but Savage is still a man of trust. A messenger brings news that rebel forces have occupied Princetown and established HQ at Murray Hill. The Duke of Hamden is with them and it is suggested that Sir John Rattigan might be a valuable ally because of his experience of the terrain between the Palace and Princetown. Richard replies that he cannot be trusted ("he too plots ..."). The king and the aide move forward to kill Hartigan in the audience but are stopped by a new message that Crown Towers are taken, Savage deceased, along with his wife ... Aide shows his true colors and departs with the messenger. The king is left alone in despair.

SCENE 5: The avenging Duke of Hamden pulls a jackknife and a copy of EDA as a shield. The king defends himself with Bayes rule and a copy of Jeffreys. A fight ensues, the king is killed, and the Earl of Hillhouse and Lord Orange enter to claim the throne.

FINAL SCENE: Randomness introduces herself to the three victors and points out that in the end it is she, not any scheme of probabilities, that determines all because she reveals herself to be death.
(Curtain)

The players were all costumed appropriately, though Stuart Newstead notes that Deb absolutely refused to wear the suggested see-through tutu, but did wear a pink translucent version, complete with a wand to wave. (Deb is now a full professor at Univ. Of California -Berkeley.) Deb performed the epilogue, to sum up the moral of the play:

"... then remember this, If someone thwarts your great ambition, Please don't blame the statistician."

(A complete transcript of the play is being given to the Department with a typed version of this history.)

Stuart Newstead left the Department with an MPhil. in 1981, though the faculty tried to persuade him to stay on and work toward his doctorate. Though to tell the next story means jumping ahead a year or so, Stuart also wrote a poem to be read on the occasion of the Department's 20th anniversary party in

1983 (more about that later). It was a two-line rhyme for each letter of the alphabet. Unfortunately the original has been lost and Stuart only remembers three of the verses. The first because he remembered dear Frank's speech mannerisms and his particular attachment to the APL computer language.

A is for Anscombe, gosh! Yes, well, I say.! Only man who thinks APL's here to stay.

Stuart also remembers the P verse. At the time Stuart was with us, we had Kim Peck on staff and Stuart remembers that he often wore sweaters with his initials on them. And that he was forever writing Fortran programs to do stuff like differentiation, and that he had an assistant called Joan Bernstein.

P is for Peck and his Bernstein abettors, Writing Fortran routines to knit monogrammed sweaters.

He also remembers the Z verse:

Z end.

The most amusing thing about that poem was that he mailed it from his home in England, planning that it should arrive in time for the party. He called Barbara to make sure it had gotten there in time – and it hadn't. He then dictated it over the phone and she took it down in shorthand, translated it into English, and it was read at the party.

In 1981-82, the five full-time faculty were the same: Richard Savage (Chair), Frank Anscombe (Director of Graduate Studies), John Hartigan, David Pollard, and Kai Yu (Director of Undergraduate Studies). The joint appointees too were the same: Guy Orcutt, Peter Phillips, Ed Tufte, and Colin White. Kim Peck continued as Lecturer.

The student enrollment in the graduate program was sixteen, with two part-time students as well. Four students were awarded the Ph.D. degree that year (Sten Bergman, John Irvine, Gary oehlert, and Daniel [Dan] Ramey), with one student receiving the MPhil. and three the M.A. degree.

Richard Savage was elected the President-Elect of the American Statistical Association in June, 1982, quite an honor for him and for the Department.

In 1982-83, the five full-time members of the Department remained the same: Richard Savage (Chairman), Frank Anscombe (Director of Graduate Studies), John Hartigan, David Pollard (Director of Undergraduate Studies), and Kai Yu. The joint appointees of Guy Orcutt, Peter Phillips, Ed Tufte, and Colin White, were joined by Assistant Professor Donald (Don) W. K. Andrew (of the Department of Economics). Lecturer Kim Peck was joined by Diccon R.E. Bancroft for the fall term.

At the end of the year John Hartigan was named Eugene Higgins Professor of Statistics, and David Pollard was given tenure and promoted to Professor of Statistics. In August of that year, Frank

Anscombe served as the R. A. Fisher Lecturer at the Joint Statistical Meetings in Cincinnati; David Pollard was elected Fellow of the Institute of Mathematical Statistics.

There was much joy in the Department when David Pollard was given tenure and there was a departmental party at John Hartigan's house in celebration – to which all and sundry were invited. It was the first time in the history of the Department that anyone had risen through the ranks in this fashion (Assistant Professor, Associate Professor, to Professor without term).

The graduate enrollment was fifteen full-time and one part-time student, with two students being awarded the Ph.D. (Jonathan Arnold and Daniel [Dan] Barry), two the MPhil. and two the M.A. degrees in that year.

An addendum to the Annual Report for that year gave a report on undergraduate teaching, as well as a summary of undergraduate attendance of our undergraduate courses for the previous three years. It made clear that 123a had the largest attendance, though it had declined a little each year since its inception. 210b, Introduction to Probability, was taught for the first time in 1982-83, presented by David Pollard, and was to continue in 1983-84. This course had minimal formal prerequisites, provided a lively and penetrating analysis, and was considered a possible sequel to 123a. 230b had been serving as a sequel to 123a, had been taught in past summers by our advanced graduate students, which had gone well and had good attendance. In 1983-84, it was planned to have graduate student, Ed Carlstein, teach that course. Ed, an exceptionally strong student, had teaching experience at the college level, but this was a first-time experience for the Department to have a graduate student in charge of a course during the school year. Some worry was expressed about aspects of the quality of the Applied Mathematics Program, though it was attracting a larger audience. The report suggested some measures that warranted discussion, particularly as to increasing the mathematical requirements of the program.

Dan Barry writes:

There was a tremendous community life attached to Dana House. This was most apparent, I suppose, on the major set-piece occasions, such as the spring and Fall picnics and the Christmas party. But community living was “how every day was” while I was at Yale.

A large group of faculty and students would meet every day for lunch and shoot the breeze about everything from politics to religion and from sports to literature, and even a word or two about statistics at times. We had to listen to Hartigan's plan to end inflation by making a loaf of bread the unit of currency. Discussions as to a suitable name for this new currency went on for days ... and I cannot remember a single proposal ... but I do know that many were extremely crazy! The great thing

about these lunchtime gatherings was that no distinctions were made between faculty and students – everybody was welcome whether they came every day or just occasionally.

Then there were the lavish seminar teas organized by the first-year students. These were usually jolly affairs which I later came to see as part of a huge ploy to place the speaker at his or her ease before they were viciously attacked by Messrs. Hartigan and Pollard, before they had time to put up the second of their slides. The funniest thing that happened at a seminar was when the speaker, upon being interrupted by John 30 seconds into his talk, informed John that he would take questions at the end! I guess that more speakers should have tried this because John just up and walked out. Sometimes it was a bit confusing to see John attack a speaker at 4:00 and then host an open house for the same speaker at 8:00 that evening – to which everybody in the Department was invited, let me add.

My memories of Christmas parties are all jumbled together. The high-light each year, of course, was Mrs. A's Game, when clues in verse led to cunningly hidden words that led to wisdom when put in the right order. I remember Stuart Newstead's play that brought Shakespeare to Dana House and gave many a laugh to both cast and audience. There was the Casino Night when Lou Amato's horse-racing game stole the show. Picnics are another source of memories. Softball, volleyball, and Bocci provided the amusement, and everybody brought food.

During the summer of 1983, there was a celebration of the 20th anniversary of the founding of the Department. A tent was erected in the backyard of the building, with many of our former students and faculty visiting for that day. There were speeches and refreshments, but the prevailing activity was renewing old acquaintances.

The Provost of the University, William Brainard, had been invited to attend but he had declined because he had an appointment in Washington that weekend. Barbara Amato had been asked to give a talk at this event, to consist of the interesting things that had happened over the years (translation: the gossip). She had been nervous about delivering this with the Provost in the audience and was much relieved when he said that he would not be able to be present. So her "speech" was written out and about to be delivered, when the Provost unexpectedly arrived on the scene. His appointment had been rearranged and he was able to attend after all. Well, it was too late to change the focus of the talk, so it was delivered as prepared ... with the Provost sitting in the front row. He told her later that he never forgot that talk.

Antonio Possolo writes:

The faculty during my time at Yale were Frank Anscombe, Richard Savage, John Hartigan, David Pollard and Kai Fan Yu, plus assorted visitors. Among the latter Adrian Baddeley stands out in my memory as superlatively refined intellectually and as an all-around delightful person.

New to things as I was when I came there, how could I have guessed that John used to like to take a nap after lunch? And thus I went and knocked on his door one warm day after lunch, and it took several knocks to coax him at last to come to the door. His hair was askew, and he had a just-awakened look, yet never a disapproving look – just that vintage, mischievous smile of his that spoke more eloquently than words.

How could I have guessed that the young woman who came to talk to me one day – I was then on my way to becoming a “senior” student in the Department – so unsure about her chances, freshly back in school after working at IBM, in due course would become a tenured member of Berkeley’s statistics faculty? That was Deborah Nolan.

Intrigued as I have always been about different points of view held by people with different ethnic origins, I turned one day to Atsuyuki Kogure and asked him this: “Since people of one race often find people from a different race more alike than others do themselves, whom do you think I look like?” His reply: “I often confuse you with Dan Barry.” Talk about unpardonable offenses!

The little bathroom in the attic was the least attractive feature of Dana House: it was a little closet into which the amenities of a bathroom had been packed by some contractor who went on to design bathrooms for space capsules. My office in my first years in the Department was right next door to that achievement of architecture, and eventually I could invariably tell who was in that bathroom, and precisely what it was they were doing in the course of their visits.

We had a basement, too, quite spacious, yet largely underutilized in the days before computer labs. Those were the days when David Pollard did not yet know how to do any numerical computations, hence kept himself busy playing with empirical measures and, out of sheer boredom (remember, this was before the Internet was invented ...), proved the consistency of k-means.

Yes, my days were days of computer centers: you’d go to visit the computer in its own house; it did not come into your home. Well, one day John Hartigan came in with a cumbersome metal box under his arm. That was the first personal computer that I ever saw and, if I remember correctly, it had an operating system called CPM. John allowed his graduate students to take turns using it. And it sat in the basement. Dan Ramey would consume whole nights on end running simulations in it.

The Department was run by Barbara Amato. One felt one could ask anything of Barbara and she would make it happen. One day I asked to borrow a power drill and a saw to install a lock in my new apartment. The next day she brought them over! That’s when I started realizing that Amato was more than Barbara – it was a full-fledged enterprise that could get anything done. The Barbara-Lou team

that, together, did not know anything about impossibilities, and were all resourceful, and always inspiring because of a perennially happy and pleasant mood.

I was awed by the library in Dana House – not so much on account of the contents generally – but by the collection of doctoral theses that lined one of the bottom shelves; each of them testified to a “Via Dolorosa”, but it also suggested the possibility of a successful conclusion to my studies.

Shortly after I arrived at Yale, I decided to take my foreign language proficiency exam in French. That amounted to visiting Frank Anscombe in his office, sitting down in front of a piece by Laplace, and ad-libbing a translation into English. That I did, and was surprised –pleasantly surprised, but very much surprised nonetheless – by Frank’s conclusion that my English was very good!

Richard Savage was a perfect American gentleman. Forced to be deliberate in the mechanical operations of the physical world, yet he was nimble as an ibex when negotiating the far more precipitous crags of the intellectual realm. And he was patient and generous: took no exception to ignorance, and instead gave explanations out simply and carefully, if only one would stop to ask. I did ask him once what a “linear manifold” was: and he just told me, without any fuss or fanfare – when a lesser man would have told me that I should have known to begin with.

Once Richard asked me whether I would prepare a few transparencies for an overhead projector for a talk he was going to give. I asked him about typographical options that he might like, and he replied that he wanted me to prepare them freehand, in my own handwriting, because he thought it was very readable. I found, in this compliment, abundant compensation for the little time it took me to actually draft his slides. However, some time later, he gave me a photo-montage and lithograph of a picture of him, with my slides as background. His wife, an accomplished artist, had gone to the trouble of making this for me. It stands today, framed on a wall in my family room, now in Niskayuna, New York, where I am after one year at Princeton and fifteen years in Seattle.

The classes I took from David Pollard were all difficult, and all were exhilarating. He was the perfect paradigm of a teacher: invariably perfectly prepared, yet open to improvisation and surprises; willing to reveal himself thinking about the subject while standing in front of the class; dedicated to meticulous annotation of homework (marking not only errors, but applauding felicitous choices, and inserting encouraging remarks); and giving of himself totally in the process of teaching, which was a joy-ride of enthusiasm and discovery through his subject. Learning probability theory from David was reliving scenes from the Lord of the Rings cast in a world of mathematics.

David’s promotion to a tenured slot, the first in many years in the Yale Statistics Department, was one of the high points in the period of departmental life that I witnessed. John Hartigan assembled everybody one evening to give them this news, and to have a party for the occasion. This was a major accomplishment for all the faculty who had rallied on David’s behalf, and another source of pride for

the little folk whom John never left out, but instead always gave a sense of belonging, and of being in on those things that mattered.

Going to lunch with John Hartigan and David Pollard was a special treat – that one could enjoy just about every day. Sitting there in Commons, watching and listening to them sparring about problems, ideas, and techniques, was all the justification one could ask for why one was studying at Yale; and to do it under the gaze of the pictures of McArthur and other Yale alumni that decorated the walls of Commons made these occasions incomparable events, blending all the energy of the present with the great traditions of the place.

I have come to know John Hartigan better as the years wore on, after Yale; odd as it may sound, Patrick White's canvas of Australian characters is one of the sources from which I've drawn this knowledge. All his divine powers aside, I believe John's human persona is quintessentially Australian – for all the good that there is in it, for the unassuming generosity in particular.

John was going to give a talk at a professional meeting one day; that very day, out of the blue, he asked if I wanted to go with him to New Jersey. He'd drive there after class to give his talk. He had a sandwich that he had brought from home and he offered to give me half of it for lunch.

John did a good deal of computer programming in Fortran in those days. I once found an error in one of his codes and showed him a counter-example to prove it. Did he get mad? Well, he told Frank Anscombe about it – because Frank congratulated me on it a few days later. Subsequently, one afternoon as John was returning to Dana House and I was leaving, he stopped to tell me casually that he had told Barbara to set me up with a monthly stipend, to help things along.

Friday afternoons John would have his Ph.D. students come to his office, one after another, to talk about their progress. One would have thought these were like dental appointments – both for the wait, and for the pain once one got to sit in that chair (which really was a small sofa where he'd sit alongside you). Although always these were times of anxiety (one would not want to disappoint him by having too little to show), they were also magical moments – to behold him in action. The closest thing to compare this to is simultaneous chess games that champions often play against multiple opponents by going around the room, table to table. Here he was, ready to shuffle pages in his mind, in quick succession to turn his attention to the several, so very different problems that his students were tackling. His fountain pen drawing in his beautiful handwriting; he was the Giving Tree, time and time again, every Friday, to each of his students. If one had done little, he would do more; he would outline new paths, experiment with new ideas, try out calculational techniques – all immensely valuable and inspiring. He was always willing to listen and always ready to help; he revealed no favoritism; he never put one down; he persevered in his encouragement, not so much by his words but by his way of carrying himself in your presence, and by the way he turned to you as he walked and talked, that

suggested you come along with him towards tomorrow, and all the better days ahead. His generosity knew no bounds; he was like a good father.

Would I go back and do it all over again? Of course I would –especially if I were allowed to carry along all I've learned in the meantime, because then I'd appreciate it all and benefit from it, a good deal more than I did then. But lives are lived but once, and the closest one can come to re-living them is by remembering, and by remaining grateful.

The faculty remained the same during 1983-84. David Pollard had been given tenure, effective July 1, 1983. Thus the faculty was Richard Savage (Chairman), Frank Anscombe (Director of Graduate Studies), John Hartigan, David Pollard (Director of Undergraduate Studies), and Kai Fun Yu. In addition there were the joint appointments of Donald Andrews (Economics), Guy Orcutt (Institution for Social and Policy Studies), Peter Phillips (Economics), Edward Tufte (Political Science) and Colin White (Epidemiology and Public Health, as well as Diccon Bancroft as Lecturer for the fall term. Kim Peck had resigned for another position as of September 1, 1983, but served as Lecturer for July and August of that year. In August, 1983, Richard Savage gave the Fisher Lectureship of the Committee of Presidents of Statistical Societies in Toronto.

The graduate program had sixteen full-time and one part-time student, with two students receiving the Ph.D. (Antonio Possolo and Daniel Zelterman), six the M.Phil., and three students the M.A. degree. The undergraduate courses had strong enrollments. An IBM grant to support personal computers allowed much more extensive computing experience in our course work. Courses were planned around this new equipment in' 1984-85.

Kai Yu resigned as of June, 1984, and Stephen Morgenthaller was appointed in his place as Assistant Professor. So the faculty for 1984-85 was Richard Savage (Chairman), Frank Anscombe (Director of Graduate Studies), John Hartigan, David Pollard, and Stephan Morgenthaller (Director of Undergraduate Studies), along with the joint appointees, Donald Andrews, Guy Orcutt, Peter Phillips, and Edward Tufte. Diccon Bancroft again served as Lecturer for the fall term. A visitor that year was Nell Sedransk, under a National Science Foundation Visiting Pofessorship Program for Women. The student enrollment was seventeen with two students receiving the Ph.D. in May, (Siu-tong [Tom] Au and Edward [Ed] Carlstein); one student was awarded the MPhil. and one the M.A. degree as well.

The Chairman's Commentary for that year mentioned the greatly increased facilities that the Department had acquired for statistical computing, which was slated to be the dominant activity for the remainder of the century. Almost all members of the Department had developed great statistical computing abilities. It was anticipated that the next several years would be a period of strong research

activity, strong development of resources and computing, and a continuing strong educational program.

It should be noted that Barbara Amato was in charge of the copy machine and never failed to collect an appropriate charge per page from anyone who used it for personal copying. Lou Amato did not have a copying machine for his business and, from time to time, he asked Barbara to make some copies for him. She never failed to do so, though she always charged him the fee per page. He would grouse that for all the things that he did for that department, they wouldn't even give him a free copy once and a while, but Barbara could not do something for Lou that others were denied. Thus she ignored his complaint and collected each and every time.

During one very hot summer day, David Pollard chose to work at home rather than in his office. Suddenly Barbara needed David desperately for something and evidently the noise of his air conditioner masked the ringing of the phone which was in another room. He wasn't answering her call. Knowing that Lou was working just up the street from David's condo on Whitney Avenue, Barbara called him to ask if he could run down, knock on David's door, and ask him to call the office. Lou said he could indeed do that but, he asked, how many copies was it worth to her. Barbara acknowledged that he had her over the barrel, so for the next several months she paid for Lou's copies out of her own change purse.

Ross Ihaka joined the Department for 1985-86 as Assistant Professor and become the Associate Director of the Social Sciences Statistical Laboratory. The remaining faculty were Richard Savage (Chairman), David Pollard (Director of Graduate Studies). John Hartigan (who was also serving as the Director of the Social Sciences Statistical Laboratory), Frank Anscombe, and Stephan Morgenthaller (Director of Undergraduate Studies). Burton Singer became a joint appointee, his primary appointment being in the Biostatistics Division of Epidemiology and Public Health. The other joint appointments were Donald Andrews, Guy Orcutt, Peter Phillips and Edward Tufte. Benedikt Pötscher was appointed as Visiting Research Scientist from May 1, 1986 to April 30, 1987.

The Social Sciences Statistical Laboratory was established in 1986 to provide statistical consulting and statistical computing on micro-computers. The Laboratory was actually part of the Institute for Social and Policy Studies, but two members of our Department (as mentioned above) served as its Director and Associate Director. At that time it had 25 AT microcomputers, a number of statistical packages and data libraries, and provided statistical consultation through graduate students consultants from a variety of departments, organized by its manager, Larry Gall.

In that year two of our faculty were accorded honors: Ross Ihaka was appointed a Lily Teaching Fellow, and David Pollard was elected a member of the International Statistical Institute.

There were sixteen students enrolled and four students were awarded the Ph.D. in May (John Fox, Albyn Jones, Atsuyuki Kogure and Deborah [Deb] Nolan). Three M.A. degrees were also awarded

that year.

Albyn Jones writes:

When I first arrived at the Statistics Department in 1978, pretty much the whole department went together to lunch at Commons every weekday. For someone who came from a big state university where the faculty were socially distanced from the students, it was an incredible experience. There were lively exchanges about statistical issues, current events, politics, and so forth.

Later the lunch group split into a subset that stayed in the Dana House and a subset went to Commons, and later still I recall only a group eating together in the Department's Common Room every day. In any case, we always had a mix of faculty and students, and I have lots of warm, fuzzy memories of lunchtime socializing. The Department parties and picnics were a big part of the social scene.

Deb Nolan writes:

One of the best parts about graduate school was the friendliness of the faculty. I learned a lot about statistics through informal meetings with faculty at lunch time. John and David led a group of students to the Commons, where we bought lunch or brown-bagged it. If you didn't want to wander out, you could join Richard in the "dining room" of 24 Hillhouse. Over lunch, the faculty would often talk about their research, a statistics book or article they were reading, or some interesting problem. The lunch conversation wasn't limited to statistics. We also had conversations about the invasion of Granada, the cost of Whirlpool washing machines, recipes for passion fruit pavlova, and all sorts of things. These conversations were invaluable to me; I learned as much in them as in the classroom.

The Christmas parties were a blast. EVERYONE in the Department contributed to the festivities. Faculty, staff, and students brought a dish to share, and we planned party games (often over lunch). John drew a mural in colored chalk on the blackboard that depicted everyone in the Department. It would be unveiled at the party, and the cock-tail time was spent trying to figure out who was who. The year he was on sabbatical, a group of us took over the tradition in his absence.

One of the most memorable Christmas parties was when we bet on the amount of electricity that we would consume during the party. At the start of the evening, tickets were sold with kilowatt/hours marked on them, and as the evening progressed the meter was read on a regular basis and the new data added to the blackboard. Tickets were traded and resold, and some got so involved in the process that, at one point, the air conditioner on the third floor was turned on and the thermostat was set at

85; then someone (who had a low number) flipped the circuit breaker and shut off all electricity to the second and third floors of the building!

I remember I wore a frothy pink tutu with a leotard and carried a wand with a star on the end when I acted in the Shakespearean play in 1984. I can't believe I did that!!!!

In 1986-87, the faculty remained the same as in 185-'86; Benedikt Potscher's title was changed to Postdoctoral Fellow and his visit concluded on April 30th. There were eighteen students enrolled; eight received M.A. degrees and four M.Phil.'s were awarded in this year.

During the second semester of that year, John Hartigan devoted great effort to his role as Acting Director of the Institution for Social and Policy Studies. The Stat Lab (Social Sciences Statistical Laboratory) clearly had become a successful undergraduate teaching tool.

The Chairman's Commentary for that year commented that the Department had been very successful in its primary activity, producing good doctoral students. Secondary successes, such as development of new undergraduate and graduate courses and the establishment of facilities for statistical computing, had also been made, despite the small size of the Department. It was noted how very important it was to recruit new students, support them well, and make a very thorough search for outstanding faculty. It stated that the Department must attain an enrollment of at least eighteen full-time students and a full complement of faculty.

In 1987-88, two appointments were made: Grace Wahba as Clare Booth Luce Visiting Professor (for the period September 1, 1987 to August 31, 1989); and Kathryn Roeder, as Assistant Professor (from July 1, 1988 to June 30, 1991). They joined a faculty that had remained unchanged since 1985-86.

The enrollment was thirteen full-time and one part-time doctoral student and two full-time M.A. students. Two Ph.D. degrees were awarded (Robert [Ertie] Brunell and Jim-Yau Wan), as well as two M.A. degrees and one MPhil. degree at the year's end.

The Stat Lab replaced its AT machines with advanced PS workstations running DOS and UNIX. In addition, seven MacII's were acquired.

Ross Ihaka resigned effective December 31st and Stephan Morgenthau as of July 1st, 1988. Frank Anscombe, founder of the Department, retired on June 30th after 25 years of service at Yale. There was a big party for Frank in the Kline Biology Tower Dining Room and all in the Department, as well as some of his former students, were present to wish him well in his retirement years.

The award of the MPhil. degree was withdrawn effective 1988-89 but, under a grandfather clause, it was still awarded to any eligible student who entered the Department when it was listed as being

offered.

In 1988-89, the regular faculty were augmented by Grace Wahba (continuing her visit until August 31, 1989); Gabor Szekely, Visiting Professor, spring term; and Dan Barry, Visiting Assistant Professor, fall term. There were eleven full-time doctoral students, one full-time and two part-time M.A. students, as well as one student in the Division of Special Registration enrolled during the year. The degrees awarded were: three Ph.D.s (Michael [Mike] Escobar, Yuichiro [Yuichi] Kanazawa, and Jeankyung [Jean] Kim); two M.Phil.'s and five M.A. degrees.

The Stat Lab had increased its services for teaching and consulting, and was being heavily used as a statistical computing classroom as well as for overnight long-running simulations. In addition, it provided statistical consulting services and assistance in gaining access to computerized information of various types. The Manager, Larry Gall, was promoted to be Director of the Laboratory, and he ably carried out directorial responsibilities after his promotion.

It was during this year that the Statistical Laboratory in the basement of Dana House was developed. It was opened officially on May 7, 1988, dedicated to Francis J. Anscombe, on the occasion of the 25th anniversary of the Department which he founded.

There is an interesting story on the manner in which the room was furnished (aside from the computers themselves). Barbara Amato was asked to provide the computer tables but the amount the budget could afford was insufficient, even if we bought used furniture. Her husband, Lou, was very sensitive to her facial expressions and realized that she was worrying about something on a particular evening. Inquiring as to what was wrong, she confessed her present dilemma. He thought for a moment, and then said, "Here's what we'll do ...". He purchased unfinished doors from a local building supply house, at a low price, finished them himself in his workshop (with help from John Hartigan), installed the legs (purchased from a discount place in California) and, to and behold, we had furnished the room within our financial means. The tables were smuggled into the Department in the dark of night (lest the union workers at Yale put up a fuss) in plenty of time for the opening.

This was, of course, not the first time that Lou Amato had done work for the Department. His pay was only and always the love and appreciation he received from Barbara – but never free copying service.

In 1989-90, Joseph (Joe) Chang was appointed as Assistant Professor for the period July 1, 1989 to June 30, 1992. The faculty of the Department were: John Hartigan (Chairman), David Pollard (Director of Graduate Studies), Richard Savage (Director of Undergraduate Studies), Kathryn Roeder and Joe Chang, with Larry Gall serving as Lecturer. Ursula Gather was a visiting Professor for the spring term. The joint appointees remained the same: Don Andrews and Peter Phillips (of Economics), Burton Singer (Epidemiology & Public Health).

John Hartigan served the fall term as Fellow, Center for Advanced Study in the Behavioral Sciences, in Palo Alto, California.

The Department was authorized to fill one senior position for 1990-91 but the search for a suitable person begun in that year was not successful.

The Social Sciences Stat Lab, at that point directed by Larry Gall, continued to expand its support of statistical computing in teaching and empirical research in the Social Sciences. The new manager of the Lab, Ann Green, had special interests and skills in acquisition and maintenance of data bases.

There were thirteen full-time doctoral students enrolled, as well as two students in the Division of Special Registration. The degrees awarded were: three Ph.D. (Ruth Daniel, William [Bill] Kahn, and Anna Nicolaou), one M.Phil., and one M.A. degree.

In 1990-91, the faculty was John Hartigan (Chairman and Director of Undergraduate Studies), David Pollard (Director of Graduate Studies), Richard Savage, Joe Chang, Kathryn Roeder, and Lecturer Larry Gall. In addition was Bruce Lindsay, as visiting Professor, for the fall term, and the continuing joint appointments of Don Andrews, Peter Phillips, Burt Singer and Ed Tufte (those four having no teaching responsibilities in the Department).

During this year, Richard Savage became ill and, because of his illness and irreversible disability, was unable to return to the Department in September and retired from the University in February. Kathryn Roeder was promoted to the rank of Associate Professor as of July 1, 1991. The Department was authorized to fill one senior position for 1991-92 but the search during 1990-91 was again not successful.

The Social Sciences Statistical Laboratory continued to be administered by the Department, under the direction of Larry Gall. Ann Green, Manager of the Laboratory, asked that her position be reduced to part-time as she had just had a new baby. She continued her work in acquisition and maintenance of statistical data bases, an important mission of the Laboratory. The Lab continued its service to the statistical computing needs of the University, both in supporting many statistically-oriented courses in the Lab, and in offering a comprehensive list of statistical packages for research computing, and maintained a small cadre of graduate students consultants who helped people with statistical computing problems.

The Department acknowledged that it was short of teachers for the computer-intensive applied courses, the most useful to people from other disciplines. The declining enrollments in its introductory course, 123, were noted and it was decided to have one of the senior faculty teach it in the following academic year. All other teaching seemed to be going well, with substantial enrollments in both introductory and advanced courses coming from people outside the Department. It was noted that Joe Chang was doing especially well in attracting graduate students and faculty to his advanced courses.

In 1990-91, there were twelve full-time doctoral students enrolled, as well as one student in the Division of Special Registration. One Ph.D. degree was awarded to Robert [Bob] Sherman and three M.A. degrees as well.

A most interesting turn of events in the year 1990-91 was the fact that John Hartigan, in addition to service as Chairman of the Statistics Department, was appointed Chairman of the Department of Philosophy at a time of inner turmoil within that Department. John held that position for a full year, during which an external search was conducted for a suitable person to join the Philosophy faculty as its new Chairman.

The Chairman's Commentary, covering the period 1988-89, 1989-90, and 1990-1991, stated that at the beginning of this time span, Frank Anscombe had retired, and two junior professors left for better positions elsewhere. So, in effect, the faculty has been only John Hartigan, David Pollard, and Richard Savage. Hard work had gone into the attempt to fill the senior position authorized for Statistics but it had not been successful. With Richard Savage's retirement in February, the Department was in a fragile position and needed to make an excellent senior appointment.

On the positive side, it was noted that David Pollard had grown in stature and recognition throughout the University and the whole statistical community, and that the intellectual life of the Department continued to flourish.

In 1991-92, the faculty consisted of John Hartigan (Chairman), David Pollard (Director of Graduate Studies), Kathryn Roeder, Joe Chang (Director of Undergraduate Studies), and Lecturer Larry Gall. In addition, Daniel (Dan) Barry was appointed as a visiting Associate Professor for the Fall term. The joint appointments continued, as before, with those four having no teaching responsibilities within the Department. The Department was proud to announce that Andrew R. Barron accepted a position as Professor of Statistics in June, 1992.

There were fourteen full-time doctoral students and one in the Division of Special Registration. Three Ph.D.s were awarded at the end of that year to Evelyn Crowley, Surya Mohanty, and David Riceman, as well as six Master's degrees.

The Social Sciences Statistical Laboratory lost its valued Director, Larry Gall, who took a new position as Director of Computing Systems in the Peabody Museum at Yale. A manager for the Stat Lab was appointed, David Bruce, and John Hartigan temporarily took on the role of Acting Director.

It was noted that there were increased enrollments in undergraduate courses in 1990-91 and that the introductory course, 123, was using the Social Sciences Statistical Laboratory for realistic data analysis and that methods were evolving for making computers and statistical packages more accessible for them.

David Pollard was elected to the Institute of Mathematical Statistics Council for the term 1992-95.

Hemant Ishwaran writes:

A small story about Andrew Barron ... I remember when Andrew first arrived, especially the big moving truck that contained his books. Anyway, Andrew was very eager to move into his new office but he wanted to make it look nice so he decided to have the walls painted.

Now, at that time Dominic Bennett, one of the Ph.D. students, was a little low on money. So Andrew, very kindly, offered to pay Dominic some money to paint his office. I remember coming in one weekend and hearing some noise in Andrew's office and found Dominic all splattered in paint, diligently painting Andrew's walls. It was hilarious. In the end (as I remember it), Andrew had to get the walls repainted by someone else because Dominic didn't do a very good job, though he tried very hard. I think this story shows Andrew's kindness in helping out a student – one he hardly even knew at the time. This is just one story of the many that could be told of the kindness on the part of the people in the Department.

In 1992-93, the faculty consisted of Andrew Barron, John Hartigan (Chairman), David Pollard (Director of Graduate Studies), Kathryn Roeder, Joe Chang (Director of Undergraduate Studies) and Bin Yu (visiting in the Spring term with the title of Assistant Professor), in addition to Evangelos Tabakis as Visiting Lecturer for the Fall term. The regular joint appointees continued, with the addition of Heping Zhang (of the Department of Epidemiology and Public Health).

Perhaps this information doesn't belong in the Department's history, but there was a very sad occurrence that year when Lou Amato died of cancer in the Yale Health Center on August 29, 1992. It is a measure of both the care and concern of the members of the Department and the fact that Lou had played a role in its life that all in the Department who could attended his funeral service in early September, despite the fact that it was the beginning of the Fall term and a busy time for both faculty and students. That was very much appreciated by Lou's family ... and Barbara. The table and chairs in the Statistics Library were donated in his memory and bear a plaque to that effect.

During the year the Social Sciences Statistical Laboratory was administered by David Bruce as Acting Manager. While a new permanent director was being sought, John Hartigan continued as Acting Director.

Nicolas W. Hengartner accepted a four-year appointment as Assistant Professor of Statistics to begin in 1993-94.

The following honors were conferred upon various faculty members: Andrew Barron, Co-recipient (with B.S. Clarke) of the Browder J. Thompson 1992 Memorial Prize for their paper, judged best paper in all IEEE Transactions, Journals, and Proceedings for authors of age 30 or under at the time of submission; Joe Chang was chosen to attend the National Science Foundation Foundation 1992 Summer Program in Probability and Stochastic Processes; Kathryn Roder was the recipient of a National Science Foundation 1992 Young Investigator Award.

The Department had an enrollment of nineteen full-time doctoral students and one Master's degree student in 1992-93. At the year's end two Ph.D. degrees (Hemant Ishwaran and Gregory [Gary] Rozal) and six Master's degrees were awarded.

In 1993-94, the faculty were Andrew Barron (Director of Graduate Studies), John Hartigan (Chairman), David Pollard, Kathryn Roeder, Joe Chang (Director of Undergraduate Studies), Nicolas Hengartner, in addition to Visiting Professor Richard A. Vitale and Postdoctoral Fellow Leticia Cueller-Montoya. The joint appointees remained the same with the exception of the new addition, Theodore (Ted) Holford (of the Department of Epidemiology and Public Health).

Enrollment during 1993-94 was sixteen doctoral students and one Master's student. one Ph.D. was awarded (Zhiwei Ma).

The Social Sciences Statistical Laboratory was ably administered by David Bruce, now appointed Acting Director, while the search continued for a permanent director.

There had been a concerted effort to improve the variety of under-graduate course offerings, which led to the introduction of two new courses: Stochastic Processes, and Information Theory. In addition, a data analysis course (formerly 661) was aimed more specifically at undergraduates with some preparation in theoretical statistics and probability. All these courses were intended to be attractive to Applied math majors. It was noted that the introductory undergraduate courses (123 and 241) had maintained good enrollments, and that Joe Chang was an effective and attractive teacher at all levels.

The honors and awards accorded our faculty in this year were: David Pollard, elected a Fellow of the American Statistical Association; Kathryn Roder, invited speaker at Purdue University's School of Science "120th Anniversary Lectures Series: Science and Society".

Kathryn Roeder submitted her resignation on 18 April 1994, effective 1 July, to accept a tenured appointment at Carnegie Mellon.

The Chairman's Commentary submitted that year recounted the history of faculty losses and gains since 1987. It commented that Joe Chang has proven himself to be a superb teacher, attracting huge classes for both advanced and elementary courses (with many faculty attending, especially in the advanced courses). Joe has worked on research problems with colleagues in many departments and works hard on student theses. It also mentioned that the search process for a senior person was

suspended during a period of restructuring of the University, when it was at least contemplating the Department's termination. Strong support of the Department was received from a number of colleagues in Economics during that restructuring process, and eventually the Department was authorized to fill its vacant position. Andrew Barron, a young person with broad interests who had done important work in information theory, was appointed. It was noted that Andrew, who had worked out very well, was strongly committed to the Department and was doing an excellent job as Director of Graduate Studies. It also commented that David Pollard had grown from strength to strength and was scheduled to take over as Chairman for the next three years. The Commentary ended with the words "We are doing well."

In 1994-95 the faculty were Andrew Barron (Director of Graduate Studies), John Hartigan, David Pollard (Chairman), Offer Kella (an Associate Professor from the former Yale Operations Research Department), Joe Chang (Director of Undergraduate Studies), Nicolas Hengartner, and Postdoctoral Fellow Leticia Cueller-Montoya, and Visiting Professor Johannes Ledolter. The joint appointees remained the same as last year.

The Department had fourteen full-time doctoral students and one Master's degree student enrolled during this year. Two Ph.D. degrees (Amy Kiuchi and Zhong-xin Zhang) and one Master's degree were awarded.

Offer Kella resigned on June 30, 1995, to accept a new position with a university in Israel.

In May of 1995 Barbara Amato married Louis (Lou) Kuslan, and the Department turned out in full force for this happy event. Though Barbara had promised David Pollard that her marriage would not cause her to leave the Department, it did in fact lead to her retirement in September of 1995. There was a large goodbye party at John Hartigan's house, attended by virtually all of the Department.

Written by Ron Fricker to Barbara:

My recollections of the Department center around its small intimate atmosphere and the generosity and friendliness of the faculty and staff. Indeed, unlike other graduate students who often seemed to choose where to attend school based on a particular faculty member's reputation or expertise, I really was drawn to the department because of its size and "personality".

Having returned to graduate school later in life than most other students, I was interested in both becoming a good statistician and also in enjoying graduate school and the learning experience. I clearly remember that my time in the Department was indeed very pleasant and enjoyable. Of course,

it was also very challenging, and often stressful, as I worked to master the subject. But what I remember most is how nice everyone was.

My most vivid recollections have to do with the qualifying exam. What I remember most about the written exam was how loud the ticking clock in the classroom was! I don't remember how long we had to take the test – I know it was many hours – but I do remember how fast the time seemed to go and how the ticking of the clock emphasized that. I can't think of another time in my life where I felt so much of the future rode on one thing. Sitting there, taking the test, I could see two paths ahead – one as a statistician and another not; passing that test defined the branching point and it felt like time was just zipping by during that important event.

Then, on the day of the oral exam for our class a big blizzard hit. I remember barely getting in to the Department through all the snow. But then I remember how kind the committee was during the orals. Sure they were thorough, but I most remember feeling a sense that they wished me well and were kind of rooting for me. I have no doubt that my performance during the oral exam was marginal at best, but they never said so or made me feel poorly about it.

Things I remember about the faculty –

John Hartigan: I remember how at one meeting at the beginning of the year, when we were figuring our class schedules, he reminded everyone to help each other out and that we weren't there to compete against each other. That probably characterizes what I liked most about the Department and how I think it was really different from many other places. I also remember constantly thinking that John was probably the smartest, yet kindest, person I had every met or was likely to ever meet.

David Pollard: I remember what a great teacher he was. He could make the hardest concepts seem easy and intuitive. I remember many times walking out of his class thinking a hard concept was easy, because he was so good at explaining things. I also remember sometimes later thinking back on a concept that I didn't quite get, though "it seemed easy and made sense when David explained it" and yet later it slipped through my mental fingers.

Joe Chang: I never would have made it through the program without Joe. In fact, I don't think I ever would have been accepted into the program without his support. Joe was always generous with his time and really showed me what it means to "think deeply" about a concept. Like David, Joe is a wonderful teacher who has the gift of making difficult subjects seem easy. I remember taking Measure-theoretic Probability from Joe and how he was able to explain the proofs and concepts so well. He has forever linked some concepts about expectations with cat pans!

Nicolas Hengartner: When Nicolas first arrived at the Department, we took a point processes class with him. What I remember was how he used to have a coffee or two before class. The result was that

he would blast across the chalkboard at Mach 2. I remember coming out of each class with pages and pages and pages of notes!

Of course, I remember you and Corky in the departmental office. In particular, I remember how much the faculty depended on both of you.

I also remember our trip to that Syracuse football game and how you outpaced both Christine and me! I still have the sweatshirt I bought there and I often think about us wandering through the store before the game as we shopped for it. Of course, I remember the picnics at your lake house. And, I often think about how much you set the tone at the Department that first attracted me to it. I also remember your wedding ceremony with Lou, how loudly you said “I do!”, and how everyone at the ceremony enjoyed it!

[Note from Barbara: My late husband, Lou Amato, had graduated from Syracuse University and was very involved in alumni affairs. We often traveled together to the Syracuse campus for both sporting events and meetings. Christine (Ron Fricker’s wife) also graduated from Syracuse, and she and Ron invited me to go with them to a Syracuse football game in the Carrier Dome, after I was widowed, to renew my connection. They were very kind to me ... then and now.

Also, I want to explain my loud “I do”. The minister had told me that people wanted to hear the vows and that I should speak up when asked to say those important words. I still don’t know why everyone laughed!]

In 1995-96, the faculty were Andrew Barron (Director of Graduate Studies), John Hartigan, David Pollard (Chairman), and Assistant Professors Joe Chang and Nicolas Hengartner, along with visiting Lecturer Philip J. Everson. The joint appointees, with no teaching responsibilities the Department, remained the same. Joe Chang was promoted to Associate Professor in June, 1996.

There were fifteen full-time doctoral students and two master’s degree students enrolled during the years. Two Ph.D.’s (Edwin [Ed] Iversen and Thomas [Tom] Kelleher) and one Master’s degree were awarded at the year’s end.

In 1996-97, the faculty remained the same, with Joe Chang now an Associate Professor, joined by Visiting Lecturer Marten Wegkamp and Visiting Scholar Jun-ichi Takeuchi (from the NEC Corporation in Tokyo, Japan). The joint appointees remained the same and Marten Wegkamp was promoted to Assistant Professor on January 1, 1997.

There were fifteen full-time doctoral students, one Master's degree and one JD/MA student enrolled during this year. Four students received the Ph.D. (Ronald [Ron] Fricker, Jonathan Reuning-Scherer, Qun Xie, and Yuhong Yang) at the year's end.

It was commented in the Annual Report that undergraduate teaching had grown steadily and that a great effort had been put into Statistics 200L a/b [Statistics Computing Laboratory] during 1996-97. Though the latter required many faculty-hours and strained the Department's resources, the performance of the students, using the course as a prerequisite for other Statistics courses, had improved appreciably.

It also commented that a major undertaking had been the planning of a new unified Statistics course, Stat. 101/102/103. Joe Chang, as DUS, negotiated and organized this cross-departmental Intro. Stat. course, which began in the Fall of 1998. It mentioned that Joe's diplomatic skills had been crucial in putting this into place, which was of major benefit to both the Department and the University.

The Annual Report for 1996-97 also contained a copy of a letter of from the office of the Chief Public Defender of the State of Connecticut to Richard Levin, the President of Yale University. It praised David Pollard's effort as an expert consultant, begun in late 1995, in a legal challenge and reformation of the process by which the State of Connecticut summons its citizens for jury duty.

In 1997-98 the faculty were John Hartigan, David Pollard (Chairman), Andrew Barron (Director of Graduate Studies), Joseph Chang (Associate Professor and Director of Undergraduate Studies), and Assistant Professors Nicolas Hengartner and Marten Wegkamp.

There were 18 students enrolled in the doctoral program that year. Two students received the Ph.D. (Gerald Cheang and Xuemei Liu) and one an M.A. Degree at the year's end.

In 1998-99 the faculty remained the same, though Joe Chang took unpaid leave of absence for the year to visit the University of California at Santa Cruz. Nicolas Hengartner took up the duties of Director of Undergraduate Studies in Joe's absence, and Dr. Setenay Oner (Osmangazi University, Eskisehir, Turkey) was appointed as Visiting Scholar for the period June-September 1998. The joint appointees were the same.

There were sixteen full-time doctoral and four master's degree students during this year. Three students received the Ph.D. Degree (Jason Cross, Qiang [John] Li, and Thomas [Brendan] Murphy) at the year's end.

The Annual Report commented that undergraduate teaching had grown steadily and that 1998-99 saw great effort extended successfully in the inter-divisional Statistics course 101-105. The latter put some strain on the Department as the faculty and teaching-assistant hours were more than anticipated. It also commented that, though there is no undergraduate major, the core courses were

in place if one were to be developed and that Applied Math undergraduates were both welcomed and offered a full range of courses.

Two promotions were made during this year, to be effective in 1999-2000: Joe Chang was given tenure and promoted to the rank of Professor, and Nicholas Hengartner was promoted to Associate Professor. Since Joe was on leave in Santa Cruz at the time, there was no opportunity for a party to celebrate his promotion but it should be noted that it was only the second time in the history of the Department that a faculty member had risen through the ranks (Assistant Professor to Associate Professor to Professor).

In 1999-2000 the faculty were Andrew Barron (Director of Undergraduate Studies), Joe Chang (Director of Graduate Studies), John Hartigan, David Pollard (Chairman), Nicolas Hengartner, and Marten Wegkamp, in addition to Philippe Barbe (visiting Associate Professor for the period September 1999 to May 2000). The joint appointees remained the same, except for the addition of Oliver Linton (of Economics).

There were fifteen full-time doctoral students and two Master's degree students enrolled during this year. Two students received the Ph.D. (Andrew Carter and Alexandra Thiry) and four the Master's degree at the year's end.

The Annual Report for that year noted that a new course, Stat. 374/674, Analysis of Spatial and Time Series Data, was offered in the-Fall term intended for both undergraduate and graduate students. It was intended to complement other courses offered to students in the Applied Math program and to be of interest to seniors in other disciplines (such as Geology, Environmental Science, Engineering, and Economics), as well as graduate students in Forestry and the School of Public Health.

Frank Anscombe, who had suffered for many years from Alzheimer's disease, died on October 17, 2001, while this history was being written. It could not end without these tributes to Frank.

Jerry Dallal writes:

Frank was one of the finest men, let alone statisticians, I've been privileged to know. As much as I am saddened by his death, news of his Alzheimer's disease affected me as much, if not more so. "Tragic" is not too strong a word to describe the erosion and loss of such a fine mind and personality.

Random thoughts about Frank ...

Every time I walk into a classroom, I'm reminded of Frank's comment of how very little one can hope to do in an introductory stat class. I keep trying to prove him wrong. I may have succeeded a bit, but on the whole I keep proving him correct.

Would I be as accomplished at programming if Frank hadn't awarded me the privilege of using his APL terminal in the basement?

The only statistics-related quotation on my bulletin board is from Frank, from a class in Experimental Design: "The more you look at a set of data, the less it looks like what you originally thought." Frank is the only faculty member with whom I exchanged letters since leaving Yale.

I wish he were still around. I have a couple of questions about the history of statistics that I may never be able to sort out, but I know he'd know the answers off the top of his head.

Right after my motorcycle accident, I took the foreign language examination from Frank. Lying on my back on the floor of his office with my leg propped up on his couch. (I must have been up against a deadline.) How hard could a French reading exam in statistics be? All of the words are cognates. Frank pulled a French textbook off his shelf and had me read it. I did a miserable job. It turned out I was reading a detailed description of a roulette wheel! He passed me despite my miserable performance. I suspect the crutches helped

Frank and Phyllis shared the same anniversary date as Ellen and I (June 16). One year they took us to a show at the Goodspeed Opera House. As a thank-you, we had bought them a bottle of champagne, which they graciously accepted. Oops! I never knew if their avoidance of alcohol arose from a personal or religious conviction.

And, of course, the many splendid open houses, which, I believe, is where the students of my era had most of our interactions with Chester Bliss.

Excerpt from a communication from Richard Olshen (written for Frank's Memorial Service:

I first met Frank in the summer of 1962 in his office in the old Fine Hall at Princeton. I was about to enter my senior year as an undergraduate at Berkeley; knew that I wanted to study statistics as a graduate student; and took most seriously the advice of my youth-ful Berkeley mentor, David Freedman. David said that if I wanted to go "back East" to graduate school, I should study with Frank. That summer I happened to be visiting nearby, so I got in touch with Frank and asked to meet him. He was then, as always, charming, an interesting person with whom to speak about science and history, and modest to a fault.

Next contact came in January of 1963. Frank said that he was moving to Yale, and he encouraged me to apply. Again with David's blessings, I did. Vivian and I came to Yale in September, 1963. The Department was brand new, had offices in an old brick building, replete with cannon guarding it, on Prospect, on the site of what now seems to be the Watson building. Frank was Chair. Alan James was joint with Mathematics, Chester Bliss with the Connecticut Agricultural Experiment Station, Colin

White with Biometry. Some others around the campus had connections to the Department; but the person who kept it all together was the sole staff person, Barbara Amato, as she was called then. We felt like pioneers, whether we ever said it out loud or not.

Frank taught a course that was pure Frank: history of statistics with emphasis on Fisher in the fall, experimental design, meaning studies of regression from Frank's unique perspective in the spring. Phyllis was then as I am sure she has been for many years, ever the gracious hostess, like Frank, mostly witty and fun, and ever so slightly acerbic when the situation demanded it. I remember the Anscombe home, the word games, the food, all four kids, and most of all the warmth in the best sense of the word. These were genuinely good people. I remember accompanying the Anscombes to festivities at the home of exalted President Kingman Brewster and my shock that he actually knew my name. Obviously Frank had told somebody or other, maybe only seconds before. But it mattered to an utterly impression-able young lad like me.

Frank's statistical accomplishments were plenty – his path-breaking work on sequential analysis; his ingenious work on transformations of data; his pioneering efforts on analyzing residuals from analyses by regression; his early attention to computational matters; his overly modest but very considerable mathematical abilities; his demanding that we as budding statisticians should get as close to the sources of our data as possible; his knowledge of early French; and his interest in earlier versions of the English language. Frank's ratio of wits and charm to bombast was at the highest level. I have come to realize only in recent years how truly remarkable he was.

And the Department moved on into the 21st Century.

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