

Community



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Leo Goodman is the Class of 1938 Professor of Sociology and Statistics at UC Berkeley. He has revolutionized methods of statistical analysis used in sociology and the social sciences more broadly. In particular, he has had an important role in elevating the analysis of survey data from an art form to a rigorous branch of statistical science by providing a set of interrelated statistical tools that enable researchers to rigorously examine categorical data.

In recognition of his achievements, Leo is an elected member of each of the three main learned societies in the U.S.: the National Academy of Sciences, the American Academy of Arts and Sciences, and the American Philosophical Society. This recognition also extends to numerous awards including the American Statistical Association's Samuel S. Wilks Memorial Medal, the American Sociological Association's Career of Distinguished Scholarship Award, the Institute of Mathematical Statistics' Henry L. Rietz Lectureship, the Committee of Presidents of Statistical Societies' R.A. Fisher Lectureship, and the American Sociological Association Methodology Section's Paul F. Lazarsfeld Award for a Career of Distinguished Contributions to Sociological Methodology, among other awards.

די לאנגע רייזע The Long Journey



Di lange rayze can be loosely translated as "the long journey." It is meant to evoke the dual journeys: that of European-Jewish émigrés who came to the US in the first half of the twentieth century, and of Leo's personal journey to become a scholar. Leo is both the son of Jewish-Ukrainian émigrés and a student of Jewish scholars who fled the Nazis. What follows is a scholar's personal story of the journey taken. It adds to the historical record of the persistence of anti-Semitism, while also highlighting the often-overlooked chance opportunities that aid the rigorous work it takes to achieve success. Leo is characteristically positive and often disarmingly simple in his explanation of what led to his success. And so, when asked why he preferred to develop statistical methods, he replied, "I guess I like to figure things out."

Born in 1900, Abraham "Abe" Goodman, Leo's father, grew up in a Jewish village (a *shtetl*) in the Ukraine. His mother supported the family as owner of a women's sewing factory, and his father, Aria-Leib (Leo, the Lion of God), was a Talmudic scholar and direct descendant of the Baal Shem Tov (1700-1760), the founder of Chassidism. Chassidism is a Jewish sect founded by opponents of the Hellenistic innovations and devoted to the strict observance of the ritual of purification and separation. Abe was not raised an Orthodox Jew, nor even to be particularly religious. However, these distinctions mattered little to marauding Ukrainian Cossacks who periodically swept into the village on horseback intent on pillaging and killing Jews. The regularity of these attacks taught villagers to hide at the earliest hint of the sound of Cossack

horses' hooves pounding the ground. When Abe was still very small, Cossacks broke into his home. Abe was crawling on the floor, while his grown sister was hiding above in an attic area where she could see her brother exposed and in danger. Selflessly putting aside danger, she climbed down from the attic and put herself between the Cossacks and her little brother. They killed her, but spared Abe.

When Abe was still a boy, he was playing in a field near the village with a friend of his when they saw Cossack horses coming towards them from a distance. The two boys ran in search of safety. Abe tripped and fell to the ground just before the horses rushed past him, but his friend, still visible to the men on horseback, was killed.

Many years later, after Abe had grown into a man, he went to the father of a girl, Mollie, whom he had been friends with all through childhood to say that they wanted to get married and live in Palestine. Mollie's father was supportive, but he had many grown children whom he wanted to keep together, so he asked Abe to put off marrying his daughter until after the whole family, along with Abe, migrated to America.

The extended family settled in a Jewish neighborhood in Brooklyn where they all lived in the same apartment building. Abe worked with his father-in-law selling bulk goods out of a tiny shop on Orchard Street in the East Village. Abe and Mollie had two children, Leo (named after Abe's father) in 1928, and a girl, Janice, four-and-a-half years later.



Abe and Mollie Goodman with their newborn, Leo

After Hitler came to power, Abe knew that Hitler wanted to kill all the Jews, and so he understood that those whom he had left behind in Europe were in great danger. Abe stopped his work at once and he went back by ship to warn not only his own family, but also all the other families in the *shtetl* that they needed to move further east out of Hitler's path. However, they were all confident that the Soviet army could beat Hitler so they stayed. After his father returned home to Brooklyn, Leo recalls, the two of them were lying down on the floor listening to one of Eleanor Roosevelt's broadcasts on the radio when Leo could see that his father's carotid artery began "jumping out of his neck." Abe whispered to Leo to call his mother who was in the kitchen. She in turn contacted her brother-in-law who was a medical doctor and Abe was taken to a hospital in an ambulance. Abe had suffered a nervous attack after he realized that his younger sister, nephew, and all the others he cared about back in

Europe had been killed. The sole survivor was Abe's brother-in-law, who was at the time in a Gulag in Siberia.

For his first two years of elementary school, Leo attended a Hebrew school (a *yeshivah*) where the day was divided between Hebrew and a general curriculum. Abe wasn't particularly interested in Leo following all the rules of Judaism and just wanted his son to know he was Jewish. When Leo did go to the synagogue, it was to please his maternal grandfather. His grandfather was a short man, and when Leo sat with him near the front and center of the synagogue, he noticed how his grandfather sat up as tall as he could while proudly glancing around. After the services in the synagogue were completed, Leo's grandfather gave him some money (he was not supposed to bring money to the synagogue) and asked him to purchase Turkish cigarettes called Murad for him (smoking cigarettes was definitely not good for his health).

The *yeshivah* was located on the border of Leo's neighborhood and an Italian neighborhood. At the end of the school day, Leo would walk with a couple of his classmates along the border of the two neighborhoods to get home. One day, while the three Jewish boys were walking home, they were confronted by three Italian boys carrying lighted torches, which they were aiming at Leo and his two classmates. Leo could see that the Italian boy who was aiming his lighted torch at Leo had an ear partly burnt off and a burnt face, so Leo made up in his own mind the following "Jewish" proverb, which he told to his two classmates: "Boys running without lighted torches can run faster than boys running with lighted torches."

Leo's best friend in middle school, Saul Jacobs, lived across the street from Leo in a private home. It was the middle of World War II and Saul, who was the son of a relatively well-off dentist, aspired to become an Army officer. Saul felt that his chances of becoming an Army officer would be much improved if he were able to attend the elite all-boy Stuyvesant High School in Manhattan, renowned, even then, for its math and science curriculum. He convinced Leo to go with him to take the entrance exam, arguing that after they took it, they would have the rest of the day off from school. Leo passed the exam, but Saul didn't.

To get to Stuyvesant, Leo had to take two subway trains during rush hour to connect from Brooklyn to Manhattan and then two trains back to Brooklyn at the end of school. Ironically, it was this long commute which contributed to the two boys losing touch with one another. (Despite the fact

that Saul didn't attend Stuyvesant, Leo later learned that Saul eventually became a lifelong Army officer).

At the end of high school, Leo successfully applied to Syracuse University, which he chose because all of the top universities at the time had strict restrictions limiting the number of Jewish students they would admit. His mother had gently cajoled Leo into taking a pre-medicine program with words like: "I think that your dad would like you to be a medical doctor." So Leo did what his father and mother wanted. But after being in the pre-med program for a short time, and taking courses like biology that required a lot of memorization, which Leo was terrible at, he switched his major to sociology. Statistics was a required course for sociology majors and the instructor, Bob Faris, recognizing Leo's abilities in the course, encouraged him to strengthen his mathematics education.

At that time, Syracuse University was not a particularly good university, but the chair of the mathematics department had recruited two underappreciated world-class Jewish mathematicians who fled the Nazis. They were Charles Loewner and his student from Prague, Lipman "Lipa" Bers.

Leo had the propitious opportunity to study under both Loewner and Bers during their short stint at Syracuse before they both moved on. Loewner later became a professor at Stanford University, and Bers became a professor at the Courant Institute of Mathematics in New York City.

Leo graduated from Syracuse summa cum laude with a dual major in mathematics and sociology, and was the class valedictorian. The sociologist, Bob Faris, received his Ph.D. from the University of Chicago and recommended Leo apply to the graduate sociology program there. Bers wanted Leo to apply to the math program at Princeton because he knew that no one from Syracuse had ever been accepted there, and he felt that Leo had a chance. The chair of Princeton's mathematics department at the time was Solomon Lefschetz, a Moscow born Jew whose parents were Ottoman Empire citizens. Lefschetz had started out as an electrical engineer but had lost both hands and part of his forearms after a transformer exploded in

a lab where he was working several decades earlier. Afterwards, he wore wooden prosthetic hands with gloves on them. He shifted to mathematics and became a professor in the Princeton University Math Department in 1924. Lefschetz was one of the first, if not the first, Jewish faculty member at Princeton, and would later say that he had felt early on that he was an invisible person, ignored by all the other faculty members.

As department chair, Lefschetz built Princeton's Mathematics Department into a world class center for research and teaching. Nevertheless, he had his faults. Lefschetz could be rude, imperious, idiosyncratic, and obstreperous. More immediately, and what Bers had not revealed to Leo, Lefschetz stated openly that he would not admit Jewish students into the graduate program because he felt the mood in America was still too anti-Semitic for Jewish students to get good work positions after they completed the program.

Though Leo had applied to both Princeton and Chicago and had not yet been accepted to either, he couldn't choose

between them. While visiting his parents in New York City during his senior year at Syracuse, he decided to visit the Princeton University campus. The mathematics department was located in Fine Hall, which until 1939 had also included the offices of the members of the Institute of Advanced Study. The most famous Jewish European émigré of them all, Albert Einstein, had had his office in room 109 of Fine Hall. Leo was very impressed with the great beauty of the Princeton campus, and as a young 19-year old he walked down the halls of Fine Hall thinking, "This is where the great Albert Einstein had his office."

One office had its door open, and the secretary working there came out to ask if she could assist Leo. After she learned that he had applied to the mathematics program, she introduced Leo to Professor Samuel Wilks, a mathematical statistician. Wilks was the son of a Texas rancher, and spoke with "a very pleasant Texan drawl." Wilks invited Leo to come into his office, and they talked for more than an hour. Concerned that he had imposed too much on Wilks' time, Leo got up to leave. Wilks asked him to wait a minute while he picked up his



Leo at time of graduation from Syracuse University

phone to call another statistician who was in the Sociology Department, Fred Stephan. Then Wilks sent Leo to meet and talk with Stephan.

Afterwards, Leo went to the Princeton Junction train station, but dazed by his good fortune, he got on the train headed in the wrong direction. Arriving in Philadelphia rather than New York, he realized his mistake. After that eventful day he made up his mind and was subsequently admitted to the math graduate program at Princeton.

Later, Leo found himself walking down the hallway of Fine Hall again, this time as a graduate student, when he crossed paths with one of the mathematics professors, John Tukey. Tukey asked Leo how he was doing, and Leo replied that he didn't know how he was doing. At that moment, Leo was actually feeling out of his element because Princeton's math program attracted the best students in the world including John Nash, one of Leo's classmates and a good friend, who went on to win the Nobel Prize for his work. Tukey suggested to Leo that both of them should walk down the hallway and find an empty classroom.

Alone together, Tukey asked Leo to go to the blackboard, and he gave Leo a math problem to work on. While Leo was doing so, he could see Tukey had sat down near the back of the classroom focused on something else—maybe he was working on a new research paper, Leo mused. After Leo finished working on the problem as best as he could, Tukey gave him another problem to work on without commenting. Tukey kept giving problems to Leo, who would work them on the board to the best of his ability, one after the other. After more than an hour elapsed this way, Tukey got up from his chair, slowly walked down to the blackboard, and turned very slowly to Leo with a very serious expression on his face saying: "What I think," then pausing for some time, "that you need," another long pause, "is some folk dancing." This was Tukey's way of letting Leo know that his math ability was very good. Regardless, Leo attended Friday evening folk dancing lessons every week for well over a year.

One of Leo's mentors at Princeton was a European Jewish émigré, Salomon Bochner. Bochner was the son of orthodox Jews living near Krakow. He lectured at the University of Munich until the Nazis promulgated a law in 1933 forcing all teachers of Jewish descent to resign, and so he left for Princeton. Five years earlier, Harvard University was considering recruiting Bochner but this was scuttled by G.D. Birkhoff, a Harvard professor and a leading mathematician,

whom Albert Einstein once referred to as "one of the world's great anti-Semites." Emile Artin was a third European émigré in the Mathematics Department at Princeton while Leo was there. Artin was Austrian and one of the leading algebraists of the twentieth century, known for his work on algebraic number theory. While not Jewish, Artin's wife was and the Nazis issued another law four years after the one that pushed Bochner out, this time aimed at those married to Jews.



Leo as a Princeton graduate student

In a 2009 interview, Leo related how Bochner once mused how, if he could have a life changing do-over, rather than be a professor he would choose to be a laundry-truck driver. Leo was surprised to hear this from such a great mind so he asked him what he meant. Bochner went on to explain in detail a laundry-truck driver's daily work routine before concluding, "and, while you are doing this during all that time," taking an extra-long pause before continuing with a smile, "you can also simultaneously spend all that time proving interesting theorems!"

Leo described the Princeton mathematics program in this way:

Math graduate students at Princeton, at the time when I was there, were not required to attend any courses. All you had to do was pass an oral exam, called the general exam, covering four subfields of math, usually taken after your first year as a graduate student was completed, or sometime after that. You then had to submit a thesis and have the thesis approved. Also, there was a foreign language requirement, two foreign languages of your choice, and, for each of these languages, you had to demonstrate to a math faculty member of your choice that you had a reasonable ability to read ordinary mathematical texts that were written in the foreign language. There seemed to be a general understanding among the math graduate students that the math faculty didn't take the language requirement very seriously. As a math graduate student at Princeton,

you had the feeling of having almost complete freedom.

Sociology and Statistics Departments. Leo retired in January, 2017.

It turned out that Leo happened to receive an important lesson on complex manifolds in an impromptu, hour-long lesson from a more advanced graduate student a short while before his general exam. When the day of the general exam arrived, Bochner, who was one of the four examiners along with Wilks and Artin, asked Leo what he knew about complex manifolds. "Not very much," Leo replied. Then Bochner instructed Leo to demonstrate on the blackboard what he knew about them. While he was writing on the board what he had learned earlier from the more advanced graduate student, Artin exclaimed, "This is incorrect!" Then Bochner interjected: "No, that is correct," and Leo watched as these two examiners argued with each other, before the exam resumed with more questions. Despite the argument, Leo passed.

If the unbridled freedom of the program Leo describes is not enough to create envy in today's sociology graduate candidates, consider the fact that Leo obtained his Ph.D. in mathematics just two years after his BA. However, any graduate committees would likely grant a Ph.D. as quickly if they were able to predict a candidate would go on to receive the sort of recognition in their field Leo has.

The influence of Syracuse's Bob Faris stayed with Leo even though he did not choose to attend graduate school at Chicago. After obtaining his Ph.D. from Princeton, Leo went to Chicago where he was appointed a Professor of Statistics and Sociology, not mathematics. He stayed there from 1950 to 1986, and then joined UC Berkeley's

Did You Know?

by Michael Burawoy



...that *Herbert Blumer* was not the founder of the Sociology Department? Blumer only arrived from the University of Chicago in 1952, whereas the department was officially founded in 1946. It was a late developer, held back by the fiery Irish auto-didact *Frederick Teggart*, who was so obstreperous that the administration gave him his own department in 1923, the Department of Social Institutions. Teggart had a deep antipathy to sociology which he regarded as a vacuous and ahistorical discipline. He himself studied migration patterns between China and the Roman Empire and can be considered the first world systems theorist. Teggart successfully opposed sociology until he died in 1946, whereupon the university recalled one of Teggart's proteges, Robert Nisbet, from the war front to become the first chair of the now newly-created Sociology Department. The move generated such a political storm that he only lasted six months before the department was put into receivership under the direction of the philosopher Edward Strong, who would later become the controversial and subsequently deposed Chancellor of the University during the Free Speech Movement. From the beginning, Berkeley sociology was beset with strife that has made its sociology so exciting.