Jean Mayer 1920–1993

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Jean Mayer and I were friends and colleagues for more than forty years. I first met him when I joined the staff of the Department of Nutrition of the Harvard School of Public Health in December 1952. Jean and I had adjoining laboratories, and we soon became friends. Jean was the most multifaceted man I ever met. He was very ambitious, bright, and well informed, but so were most of the people I have known professionally. What made Jean different was the breadth of his interests and his wonderful sense of humor combined with an incredible amount of charm. These characteristics provided him with opportunities that most of us never have.

Jean was born on February 19, 1920, in Paris. His father, Andre, who was 45 when Jean was born, was a famous physiologist and early nutritionist. As an undergraduate, Jean first studied history. Like many people his age, his education was interrupted by World War II. During the war, Jean served as an officer in the Free French Army. Those of us who knew Jean during his postwar years were regaled with fascinating war stories. To many of us they seemed implausible. They appeared to have come out of wartime Hollywood movies. Jean was short and slight, and he did not have the warrior image. In addition, he was a sweet, considerate man who loved people and animals. He was, however, strongly patriotic; he hated fascism and loved democracy. Even skeptics had to become believers on learning that for his heroic work during the war, he received 14 decorations, including the Croix de Guerre with two palms, the Resistance Medal, and the Legion of Honor.

After the war, Jean entered Yale University as a graduate student in the Department of Physiological Chemistry, working with Willard Krehl. Jean’s doctoral thesis involved studies of the interrelationships of vitamins A and C in the nutrition of rats. After finishing his doctorate at Yale, Jean was offered a faculty appointment at the University of Utah Medical School with the opportunity of going to medical school. However, he decided to become an FAO nutrition officer in Washington, D.C. He felt that “his duty was to help build a peaceful and prosperous international order as a complement to his five years of war against fascism.” I believe that this feeling of duty motivated him for the remainder of his life. While in Washington, Jean worked at night in the Department of Pharmacology of the George Washington University Medical School on the effects of vitamin A deficiency on the secretion of male sex hormones in the rat. This work enabled him to defend a second thesis for the Doctor of Science degree in Physiology at the The Sorbonne in 1950. In 1950, Jean became a member of the Department of Nutrition of the Harvard School of Public Health. At that time, knowledge of the regulation of food intake was in its infancy, and obesity in humans was seen as the result of some sort of character defect. Excited by the intellectual challenges provided by studies of the regulation of food intake and conscious of the importance of work in this field to the health of people and animals, Jean enthusiastically devoted all of his research time to this area for more than twenty years. Jean and his excellent students and other asso-


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ciates studied the regulation of food intake and its consequences in persons of all ages, in normal mice and rats and genetically obese rats and mice or those made obese chemically or by hypothalamic surgery, in dogs, in ruminants and even in goldfish. They published hundreds of papers on the subject. They were among the first to demonstrate the complexity of the regulation of food intake. Carefully studying the effects of exercise on energy intake in humans and animals, they found that in adults there was a clear linear correlation between energy intake and output in what Jean called the normal range of activity. This did not happen at very high or low levels of activity. At very high levels of activity, exhaustion occurred and food intake levels dropped. At very low levels of activity, food intake did not decrease below a minimum level dependent on the individual. Carl Seltzer, a highly respected physical anthropologist working with Jean, showed that when ectomorphic persons, who have with little body fat and elongated bones, decreased their activity markedly, their energy intake decreased correspondingly and did not level off. In contrast, mesomorphic individuals with massive skeletons and a large muscle mass put on fat if they did not maintain a substantial daily exercise program.

As they had shown in animals, Jean and his colleagues were among those who showed that body type and, importantly, the tendency to become obese were strongly influenced by genetics. I was particularly fascinated by studies by Beverly Bullen and Jean in a children's summer camp on Cape Cod. Using time lapse photography and dietary intake studies, they demonstrated that obese children did not eat more than normal weight children but that the way they engaged in physical activities, such as swimming or tennis, resulted in markedly less energy use than that of normal weight children. The importance of exercise rather than food intake as a controlling factor in obesity was confirmed in other studies involving hundreds of youngsters. Furthermore, in a study of 31 infants from birth to 15 mo of age, fat babies showed average energy intakes but very low physical activity from birth. When these studies were done, there were already concerns about health problems associated with obesity. Jean and his colleagues went further and showed that obese children demonstrated psychological problems such as obsession with self-image, passivity and expectation of rejection. Some of this was not surprising, because Jean was also able to demonstrate discrimination in college admissions against otherwise normally able obese teenagers.

During his investigative career, Jean was probably best known for his studies that led to what he termed the glucostatic theory of the regulation of food intake. He reasoned that there must be some metabolic determinant of hunger. Because fat and protein reserves remain essentially unchanged between meals, he hypothesized that changes in carbohydrate metabolism likely were responsible for altered feelings of hunger in normal situations. This then suggested that glucoreceptors and hormones involved in carbohydrate metabolism might also be involved. At the time, it was generally thought that no part of the central nervous system was insulin sensitive. By chemical or surgical means, Jean's team was able to show that there were various centers in the hypothalamus that controlled eating and drinking behavior. Destruction of the ventromedial hypothalamus by surgery or by the administration of gold thioglucose resulted in obesity in mice. The administration of gold thioglucose but not other gold-containing compounds affected the ventromedial hypothalamus, which because of its affinity for glucose attached to the compound with its destructive heavy metal. At about the same time, studies of the food intake of normal and diabetic rats given varying amounts of insulin and glucose and studies correlating hunger sensations and gastric contractions in humans with arteriovenous glucose differences supported the hypothesis that hunger and eating behavior were linked to rates of glucose utilization. Furthermore, alloxan diabetic rats were protected against gold thioglucose lesions with the protection eliminated by insulin, suggesting the dependence of the ventral medial hypothalamus on insulin. These and other studies of Mayer's group were accompanied by exhaustive microscopic and electron microscopic examinations.

Mayer's group published more than 100 studies of the characteristics of obesity in different kinds of genetically obese mice. The causes of obesity in these animals were generally different than those just described here and supported Jean's contention that obesity has multiple causes. Jean's work has stood up pretty well during the past twenty-five years. Much more has been learned about the regulation of food intake and obesity during this time, but it is discouraging that the problems of eating disorders and obesity in our country and others have become worse.

In an academic society filled with people with high aspirations, Jean's ambitions, which he never discussed with me in detail, were characterized by his desire to be and to be recognized as outstanding and by his willingness to do what it took to accomplish them. In our early years as friends, Jean and I usually ate lunch with some of our colleagues. Then during a short period, Jean disappeared from our group. Boston has a number of fine private dining clubs; to meet influential people, Jean joined a number of them. He told me later that for while he ate alone, but then he started to become friends with the members. I am not sure whether it was in one of these clubs that he met Daniel Patrick Mohnihan, later to become a New York senator, but I believe it was through Mohnihan that Jean met President Nixon. This changed his life. His clearly impressed the president, and in 1969 he was appointed Special Consultant to the President of the United States. I remember the day in June 1969 when I was preparing to go fishing in Canada and Jean called and told me that he had months to organize the first White House Conference on Food, Nutrition and Health and that he needed my help. At a previous White House conferences had taken years to organize. Instead of going to Canada, I went to Washington. Jean offered me the chairmanship of one of the conference panels. He expected that I would choose one dealing with nutrition and health or with nutrient requirements and was surprised when I chose the one concerned with federal feeding programs. It was hard work for all of us involved, but it was also fun and exciting. I remember having lunch with Jean and Doris Calway in the private dining room of the White House. Jean introduced us to a number of officials in the executive branch of the government. Suddenly after we sat down, Doris reached into her handbag and said, "I wonder if this is the time," as she pulled out a large anti–Vietnam War button. The speed with which Jean reacted was miraculous. His left hand shot up, shielding the sight of the button from Pat Mohnihan at the next table, and at the same moment, he said under his breath in his delightful French accent, "This is not the time."

The conference was a huge success. It brought together 5000 persons from all parts of U.S. society. Most of its recommendations were implemented and are still used in the planning of U.S. domestic nutrition policy. It made Jean a national figure for the remainder of his life. One Saturday morning during the summer of 1969, I calledJean at his summer home. As I started to apologize for disturbing him, he said, "Don't worry. I have already talked to President Nixon and Kissinger this morning. You are in good company." It was pretty heady...
stuff. I disliked Nixon from the time he ran for Congress in California, but one must give the devil his due. At the time of the conference, I and the members of my panel felt (and I still do) that food programs such as food stamps should be replaced by a negative income tax that would provide money to persons whose incomes are below the poverty line as shown on their income tax form. President Nixon thought it was a good idea, but liberal members of the Congress opposed it because they were afraid that the recipients of the money would spend it on the "wrong" things.

In 1972, Jean became master of Dudley House, one of the largest undergraduate divisions of Harvard. At Harvard, courses can be taught through the houses, circumventing the departments. For the first time, we were able to provide Harvard undergraduates with nutrition courses designed for them. Jean started spending more of his time in Cambridge and less at the School of Public Health in Boston. The retirement of the dean of the School of Public Health and his replacement by a physician who did not understand what Harvard's Department of Nutrition was about made us all anxious. Jean told me that he was wanted to be the president of a good university. On July 1, 1976, he became the president of Tufts University. Those of us who attended the ceremonies at which he was installed as president viewed it as a coronation. Jean, dressed in opulent new academic robes, strode down the aisle, with a wide grin on his face as students, faculty and guests cheered. He was followed to the stage by dignitaries, including a representative from France, who looked like an admiral in Gilbert and Sullivan's H.M.S. Pinafore. I doubt that many in the audience realized that on that day Tufts University ceased to be a sleepy little school with a good undergraduate program and some very good graduate schools and started to become a first-rate university with an international reputation.

Before 1976, Tufts had never had a fund-raising campaign. Shortly after Jean arrived, Tufts started a successful campaign that raised more than $145 million, followed by a campaign that raised more than $200 million; to this day, Tufts has continued to raise large sums of money not previously imagined. During his tenure as president, Jean created a School of Nutrition, the Sackler School of Graduate Biomedical Sciences, the Tufts' Center for Environmental Management and a Tufts' Center in Talloires, France, housed in a beautiful 11th-century monastery. Of equal importance was the effect Jean had on the students, faculty and administrators of the university. Everyone felt the excitement he brought to the university. College-bound high school students found out about the "new" Tufts almost immediately. Not only did undergraduate applications increase, but the percentage of accepted students who came to Tufts rose markedly. This resulted in a space crisis. Two years after May começou became president, not only was there a shortage of classrooms but the school that guarantees freshman dormitory space found that it lacked rooms for 400 freshman. Jean solved the problem by renting a hotel in Harvard Square for 4 years and renting buses. Jean, ever the optimist, said that these students had the best of all possible worlds: a Tufts education and living in Harvard Square. As the competition to get into Tufts increased, the quality of the students soared. The percentage of incoming freshmen in the top 10% of their graduating high school class rose from 38% in 1976 to 74% in 1992.

It was not surprising that Jean wanted to have some kind of an expanded academic nutrition program at Tufts. Tufts already had a superb dietetic training program, run by Johanna Dwyer at the Francis Stern Center. Jean envisaged a nutrition research institute with the faculty having their academic appointments in appropriate departments of the university. However, there were no laboratories available for nutrition; in fact, the laboratory facilities for the medical school faculty were inadequate. Jean approached Congress with a request for an appropriation through the U.S. Department of Agriculture to build a nutrition center for the study of the relationships of nutrition to aging. It was a brilliant move. Not only was there a demonstrable need for such a center, but most of our legislators either were elderly or had family members who were elderly. At various times, Jean asked me to help him by testifying at congressional hearings or meeting with appropriate people in the executive branch of government. Although I was still a member of the Harvard faculty, I was happy to help. At some point in early 1977, Jean offered me the opportunity to direct the nutrition research institute and a tenured professorship in the Tufts University Department of Medicine. I accepted his offer on the condition that I be allowed to bring social scientists into the institute at ranks equal to those given to the bench scientists. My experiences in Third World countries and working with disadvantaged people in the United States had convinced me that there was nothing in the usual training of nutrition scientists and physicians that equipped them to design, administer and evaluate large and expensive nutrition programs that were necessary to help people throughout the world. I also was aware that attempts to bring social scientists into nutrition departments in places such as Harvard, Massachusetts Institute of Technology and University of California at Berkeley had not been very successful probably because the bench scientists did not understand or respect what they did. As someone who had spent most of his professional life in public health, Jean did understand, and he gave me his blessing. I made two other requests of Jean. One was that my appointment be in arts and science and not in medicine, and the other was that if he decided to leave Tufts to take over the world, he would not leave me there. I joined the Tufts' faculty on July 1, 1977.

As 1977 progressed and it became apparent that we were likely to get the appropriation, a number of interesting things occurred. Harvard, Massachusetts Institute of Technology and Boston University became aware of what we were doing and decided to try to get part of the action. Harvard's Nutrition Department founder Fred Stare, then retired, wrote to a group of federal legislators that Tufts had no experience in nutrition; and that if the center was established, it should be managed by representatives from all four universities. However, by this time, the nutrition research institute had recruited most of Harvard's Department of Nutrition in exile and some outstanding people from Massachusetts Institute of Technology. Furthermore, it was hard to imagine the management of the center if all four schools were involved. The Massachusetts Institute of Technology tried to get a part of the center placed on its campus, but that was rejected. Boston University, which had limited credentials in the field of nutrition, created such a nexus in Washington that Speaker O'Neill, in whose district Tufts was located, rebuked its president. This ended the actions of Boston University and resulted in its president testifying in favor of an intercultural and teaching building at Tufts. Through all of this Jean chortled while I fumed.

It took me no more than 2 weeks after I arrived at Tufts to realize that over the long run, Jean's concept of a nutrition institute would not work. I received a folder filled with letters from people at Tufts who wanted to be members of the institute. Most did not know what it was or were not qualified to join. Many of the really good persons who applied had so many responsibilities that they could not provide us with sufficient time. However, the major problem was that Jean was trying to upgrade the faculty, particularly in many of the arts.
and sciences departments. Their faculties resented being asked to give appointments to people they did not care about because they worked in the president's field. I suggested to Jean that we form a School of Nutrition, but the board of trustees, who were wary of Jean's exciting but costly ideas, would not support my proposal. Instead, with Jean's support, a graduate department of nutrition was authorized in the Graduate School of Arts and Sciences, and I was named chairman. Our success was impressive enough that with the blessings of the board of trustees and all of the faculties at Tufts, we became a school 3 y later, and I served as its dean. Jean was very busy to do and was careful to avoid appearing to favor nutrition over other areas of the University, so he kept his distance unless we really needed him. After our first class of graduate students arrived, I thought it would be appropriate for Jean to address them. I went to his office and asked his appointments secretary, Arlene Ratner, whom he had brought from Harvard, to find a time for him to talk to our students. It was September, but he did not have an available 30 minutes until February!

Toward the end of 1977, the Congress appropriated money to start construction of the U.S. Department of Agriculture Human Nutrition Research Center on Aging at Tufts. Funds were also provided to enable research to start. Because we did not have laboratories, we rented space at the state's public health laboratory facility. To my delight, Bob Geyer, the acting chairman of Harvard's Department of Nutrition, allowed me to keep my laboratory there, in part because he was afraid that if it was empty, the dean would appropriate it for non-nutrition purposes. We accomplished so much in our interim facilities that our U.S. Department of Agriculture friends suggested that we slow down lest it appear that we did not need the center to achieve our mission. During the first 7 y that the center functioned, it was governed through a cooperative agreement between Tufts, the U.S. Department of Agriculture and the Department of Health, Education and Welfare. There was an executive committee consisting of Jean and the secretaries of the two federal departments or their designates who made the major administrative decisions. As Jean's designate and with the title of principal investigator of the center, I always attended the meetings of the executive committee. It was during this time that Hamish Munro was named director of the center and was appointed a Tufts' professor and a senior civil service member of the U.S. Department of Agriculture. It took ~4 y to build the laboratory, which is situated on Tufts' Boston medical campus. Over the years, both the center, which is now directed by Irv Rosenberg and named after Jean Mayer, and the school, which is now named the Tufts University, School of Nutrition Science and Policy, have flourished. I think Jean would be very proud, as am I over what we accomplished.

Jean knew that Tufts did not have the resources to compete with its neighbors, Harvard and Massachusetts Institute of Technology, but he felt that there were things that a small university like Tufts could do that its competitors could not. As a result of his efforts and those of the faculty, I think that the teaching of undergraduates at Tufts is better than that at Harvard. Jean put pressure on the various faculties at Tufts to develop innovative programs and to work together and with persons from other universities. For example, the School of Nutrition Science and Policy teaches students in every school of the university and has joint degree programs with the medical school, School of Arts and Sciences and the Fletcher School of International Law and Diplomacy. The Fletcher School also has a program under which their students and students at Dartmouth's Amos Tuck School of Business Administration can earn a joint degree in international business. Jean created a Tufts' Global Classroom Project that twice a year linked students at Tufts with students in the former Soviet Union via satellite for live televised, interactive global classrooms on current events and world history. These and other initiatives that Jean encouraged have helped make Tufts the kind of exciting place for undergraduate and graduate students as well as for faculty that it is today.

Jean retired as Tufts' president in 1992. He was named chancellor, and when he died suddenly and unexpectedly on January 1, 1993, he was working on the development of major biomedical research parks in Boston and at The Tufts' School of Veterinary Medicine's Grafton campus. He was survived by his wife Elizabeth, his daughter Laura, his sons Andre, John Paul, Theodore and Pierre, five grandchildren and his sister Genevieve Masse of Rennes, France—a wonderful family that filled him with love and pride.

Jean Mayer left a legacy of accomplishments. In addition to those already described, he was an advisor to Presidents Nixon, Ford and Carter and science advisor to the U.S. Secretary of State. In 1989 President Bush presented him with the Presidential End Hunger Award and said, "The goal of ending hunger requires involvement, and Jean Mayer is an example of the rare breed of individual who has never hesitated to get involved when he saw a need." In 1991 President Bush presented him with the President's Environment and Conservation Award for creating the Tufts' Environmental Literacy Institute. Jean received 21 honorary degrees from U.S. and foreign schools and a large number of other awards. He published more than 750 papers and 10 books and produced a popular nationally syndicated nutrition column first with Joanna Dwyer and later with Jeanne Goldberg. He was a consultant to FAO, WHO and UNICEF, and as the chairman of the National Council on Hunger and Malnutrition, he had a major role in calling attention to the nutritional problems of the poor in the United States.

At a celebration of the life of Jean Mayer held at Tufts, February 1, 1993, his long-time assistant Arlene Ratner read the following: "Some people come into our lives and quickly go, some stay for awhile and leave footprints on our hearts, and we are never the same."