

Anthony J. Raimondi

Kiyoshi Sato

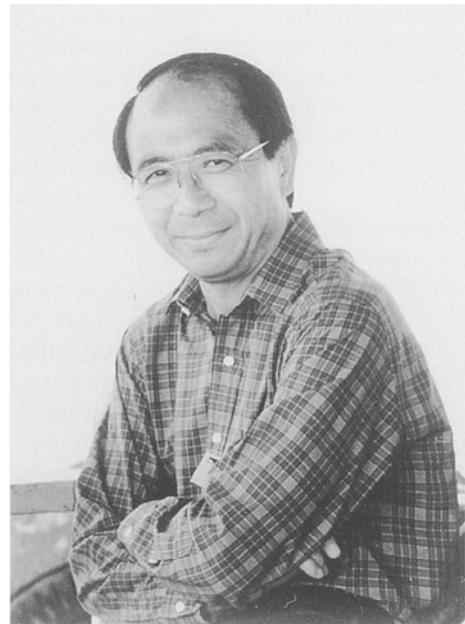
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Kiyoshi Sato is first, and above all, a natural human being: his values have to do with the world as we know it, the world as we have structured it, and the world as he wishes it to be. In this sense, Professor Sato has always pursued each of his athletic and academic endeavors to the full realization of his own potential, always recognizing the value of them in light of his family, his teachers, and, later in his life, his students. Never intrusive, always supportive, he has continued to work in a manner compatible with his culture, his ideals, and his person.

As his teacher, I think for hours on end of the satisfactions that only a well-balanced and highly gifted student, relaxed with his own capacities and grateful for the learning opportunities afforded him, can provide: in an entire life-time, a teacher may experience two or three such encounters.

It is pleasant, to be sure, to review some flashbacks of Dr. Kiyoshi Sato's life: working in the laboratory, reviewing the charts of his junior residents at 10 o'clock at night, preparing a patient for surgery, reporting on the results of his immunohistochemical research; and then, as a young Department chairman, directing his staff and later still, as senior Department chairman, about to become Hospital President.

These professional aspects are all well and good, but they are rather stereotyped and cannot reflect the element of humanity and geniality. Kiyoshi has never lost the perspective of his 'ancestors' or of his descendants. His wife, Tako, continues to be the equilibrating force between Kiyoshi's work and his purely human side, the extension in time between his 'ancestors' and his children. If one sits and listens long enough for Kiyoshi to pass from formality to humanity, one hears of his daughter's music and his



son's swimming, of thoughts and practice, of doing things and preparing for the future . . . and one learns that man does not exist alone. For Kiyoshi Sato the concept of a teacher is inextricably woven into his very fabric (a blending of Confucian thought into Shinto philosophy), an idea that is completely foreign to the ancient Greek mythological perspective of interhuman relations based entirely upon the eternal conflict between progenitor and descendant, father and son, teacher and student. For the Confucian/Buddhist/Shinto, each generation builds upon the one before, and hence Kiyoshi Sato sees himself in the perspective, or rather perspectives, of his teachers and his students: there is no place in his world for protagonism.

What is his history? Where has he been? Where is he going? What has he done? What will he do in the future and what will his students do? Will he ever be more than the silence of his contributions to his students and his ser-

vices to his teachers? These are not questions, thoughts phrased as such, but attributes, for they express the person.

Let us look now at this neurosurgeon who, for a period of his life, chose to be identified as a pediatric neurosurgeon.

Kiyoshi Sato was born in Tokyo, Japan, on 26 January 1938, to Navy Captain Atsushi Sato, M.D. and Yuriko Sato. His father graduated from Chiba University School of Medicine and soon after entered the Japan Naval Medical College as a staff surgeon, where he dedicated himself to general surgery and conducted research on blood transfusion. In 1944, at the age of 36, he was suddenly transferred to the aircraft carrier *Shokaku*, where in the sea battle near Saipan on June 19 he was mortally wounded (while treating wounded sailors on deck) and died the same day.

Yuriko Sato was born in 1910 and brought up in San Francisco where her father, a gynecologist, was practicing after his clinical training at Johns Hopkins Hospital. Kiyoshi's paternal great grandfather-in-law, Dr. Susumu Sato, who is mentioned again below, studied medicine at Berlin University School of Medicine (1869-1874), and after graduation learned general surgery under the direct tutelage of Prof. Dr. Theodor Billroth in Vienna. Kiyoshi's paternal grandfather, Tatsujiro Kawai, who was adopted by Susumu Sato after graduation from Tokyo Imperial University School of Medicine, also studied modern surgery in Germany and Austria (1897-1903).

During Kiyoshi's childhood, this family background imbued in him a desire to enter the medical profession when he reached the appropriate age. However, during his elementary and high school education at Gakushuin he developed a great desire to become a competitive swimmer rather than a competitive student seeking entrance to a medical school. Gakushuin was originally founded as a private school, in the Meiji period. It continued to educate the children of imperial and aristocratic families in this capacity until the end of World War II, teaching the arts of the pen and the sword. It became recognized as the mold of many politicians, scientists, lawyers, surgeons, and physicians who subsequently dedicated themselves to developing modern Japan and reviving a war-torn nation.

Kiyoshi was ranked as one of the top high school Japanese free-style swimmers and so dreamed of becoming an Olympic competitor. However, he failed in his efforts to become a finalist in the all-Japan high school swimming meet in August 1955, and only then made up his mind to go to medical school.

He began immediately to prepare himself for the entrance examination for the premedical course of Juntendo University School of Medicine. He was accepted and, during the 2-year course focusing on preparatory studies, succeeded in passing the entrance examination. He then entered the Juntendo School of Medicine, which developed from the older medical institution 'Wada Jyuku' (Wada Private School of Dutch Medicine) founded in Edo (now Tokyo) by Dr. Taizen Sato in 1838.

Taizen Sato was invited by Masayoshi Hotta, the feudal clan lord in Sakura, to establish a new medical institution there (presently Sakura City, Chiba Prefecture), and he accepted, transferring the management of Wada Jyuku to his medical partner. He was thus free to establish a more advanced and sophisticated institution under the name of Juntendo, permitting a number of major surgical procedures to be undertaken with, or without, anesthesia. Written forms of consent to major surgery, lists of fees for a variety of operations, and surgical instruments have been preserved at 'Sakura Juntendo,' illustrating for us how modern medicine was then applied. Students from all parts of Japan who intended to become surgeons gathered at Juntendo, where they were obliged to learn Dutch so they could understand Dutch medical texts. Consequently, they were able to make up for the delay in introducing modern European medicine into Japan. Juntendo was subsequently recognized as having had a major role in Japan's success in breaking out of 400 years of isolation from the western world.

Dr. Shunkai Yamaguchi, a distinguished student of Taizen Sato at Wada Jyuku and Sakura Juntendo, was legally adopted by Taizen and given the name Shocyyu Sato. He became Taizen Sato's successor. Later, in 1869, Shocyyu Sato became the president of Daigaku-Toukou (College East Campus), which in turn became one of the basic structures of the present day Faculty of Medicine, Tokyo University, which was founded in 1877. Others included Shouhei-kou (Shouhei School), and Kaisei-Gakkou (Kaisei School). In 1877, Dr. Susumu Sato became the third Juntendo representative. Basically trained as a general surgeon under the direction of Theodore Billroth, he was already a well-known surgeon in the middle of the Meiji era. He is known as the first Japanese surgeon to perform trepanation to remove bone fragments and a bullet from the frontal region of a soldier's head (during the Southwestern Rebellion). It is recorded the patient died 10 days after the operation. Juntendo was finally converted from a private medical institution into a medical school in 1943.

Kiyoshi graduated from Juntendo University School of Medicine in 1962 and was an intern for 1 year at St. Luke's International Hospital in Tokyo, after which he enrolled at Juntendo University Postgraduate School of Medicine, where he studied neurosurgery and neuropathology in addition to conducting research in neurotraumatology at the Tokyo Medical Examiner's Office of the Tokyo Metropolitan Government for 4 years. In his residency training, he studied not only neurosurgery but also general surgery. In 1965, he attended his first annual meeting of the Japan Neurosurgical Society held in Iwate, where the invited special lecturer, Dr. Norlen, spoke of his clinical experience in treating ruptured intracranial aneurysms. Kiyoshi well remembers how impressed the entire audience was, because at that time not only neurosurgeons, but also general surgeons and physicians in Japan had little experience in diagnosing and treating patients with subarachnoid hemor-

rhage resulting from ruptured aneurysms. It was erroneously believed at that time that the incidence of subarachnoid hemorrhage caused by ruptured aneurysms was lower in Japan than in the western nations. Kiyoshi became determined to visit the U.S. and/or Europe to observe and study the advances in neurosurgery at first hand.

Dr. Shozo Ishii, the present President of Juntendo, was a principal investigator (1964–1968) associated with Prof. Joseph Evans and Prof. Sean Mullan in experimental head injury research at the University of Chicago. In 1968, he was invited by Prof. K. Kaketa, the Dean of Juntendo University Medical School, to establish a Department of Neurosurgery at the Juntendo Hospital. One year before his departure from Tokyo, Kiyoshi's request to work as a research associate with Dr. Ishii in Chicago was granted, with Prof. K. Tanaka's support. Four weeks before leaving for Chicago, Kiyoshi was married to Takako Godo.

Dr. Sato continued to work in experimental research at the University of Chicago for 2 years and 6 months before and after Dr. Ishii's return to Tokyo. While Dr. Ishii was still in Chicago, he regularly took Kiyoshi to Cook County Hospital, where Dr. A. J. Raimondi and Dr. O. Sugar held weekly neurosurgery and neuroradiology conferences. Kiyoshi was introduced to Dr. Raimondi by Dr. Ishii on his first visit and realized that the two were very close friends, having undertaken neurosurgery resident training together at the University of Chicago when they were young. Kiyoshi was exposed to some aspects of American clinical neurosurgery for the first time at these conferences and was deeply impressed by the large number of cases presented, the logical approaches to diagnosis of the different cases, and the decision-making involved in their treatment as explained by the three neurosurgeons.

From Chicago, Kiyoshi went to Cologne, West Germany, where he studied brain tumor biology under Prof. K. J. Zülch for 2 years and 4 months, and conducted cerebral ischemia research with Prof. K. A. Hossmann at the Max Planck Institute for Brain Research. He then returned to Tokyo and became actively engaged in clinical neurosurgery at Juntendo University (1970–1974).

The I Annual Meeting of the International Society for Pediatric Neurosurgery was held in Tokyo in 1973 under the direction of Prof. Satoshi Matsumoto, who had com-

pleted training in general and pediatric neurosurgery at Children's Memorial and Cook County Hospitals (Northwestern University) under Prof. A. J. Raimondi before his appointment to the Chair at Kobe University. At this ISPN meeting, Dr. Raimondi, Chairman, Department of Neurosurgery, Northwestern University, accepted Kiyoshi's request to undergo resident training in pediatric neurosurgery at Children's Memorial Hospital, where Dr. Raimondi had been extensively developing new aspects of modern pediatric neurosurgery. Kiyoshi was 36 when he began resident training from the junior level, and he completed the 5-year course when he was 40. Prof. D. G. McLone, Dr. L. Cerullo, and Dr. F. Gutierrez supported his stay at Children's Memorial Hospital. Meanwhile, he was also appointed as an assistant professor at Northwestern University, where he was engaged in experimental research on pediatric brain tumors with special reference to immuno-oncology techniques under the direction of Prof. Charles Dray at the University of Illinois. He was physically strong enough to undertake neurosurgical residency training and laboratory research simultaneously. This may have been due to the spiritual and physical strength he gained in his training as a swimmer. During the 5-year period in Chicago, Kiyoshi assisted in the care of an extremely large number of pediatric neurosurgical cases with diseases of the central nervous system, and he brought this knowledge and experience back to Juntendo.

As the incidence of congenital malformations in the Japanese population is approximately one-tenth that in the U.S. and European countries, during his first 8–10 years he had difficulty in gaining experience of a sufficiently large number of pediatric neurosurgical cases, and therefore turned his hand to adult as well as pediatric neurosurgery. He also continued to do experimental research, his subject being the pathomechanism of learning difficulties in children with congenital hydrocephalus.

In his Presidential Address at the XXI Annual ISPN Meeting in Phoenix, Arizona, in 1993 (this issue, p. 429), Dr. Sato presented a summary of his experimental research on hydrocephalus and experimental tumor immunology at Juntendo between 1983 and 1993. This Presidential Address follows.