

## In Memoriam

### **Israel Dostrovsky 1918-2010**

Israel Dostrovsky passed away in September 2010. His impressive life story has embodied all the focal points of the rebirth and development of the State of Israel. His scientific work touched upon an endless list of research areas and reflected a remarkable harmony between curiosity driven scientific research and the exploitation of science for the benefit of humanity.

Dostrovsky was born in Russia a few weeks after the end of World War I and immigrated to Israel as a baby, with his father, a world renowned dermatologist. In his childhood and youth in Jerusalem he combined an early love of science, curiosity for the secrets of nature, a practical approach to technology, a socialist upbringing aiming at a future life in a Kibbutz and an activity, from a very young age, in the “Hagana”, the Jewish defense organization. But, at a certain stage, he decided in favor of academic studies, choosing his favorite subject, Chemistry, as his major topic at London University. In many ways, already at that early age, his personality reflected all the different angles that were later crucial for the creation of the new State: Pioneering spirit, dedication to defense, higher education, science and international networking.

After the end of World War II, when the decision was taken to establish the Weizmann Institute with an initial array of five scientific departments, the young Dostrovsky was among the scientists invited to join the Institute. The leaders of the first five departments were to have been senior world class Jewish scientists from various countries, who had accepted the mission to create the new Institute. While the well equipped laboratories and the attractive building were waiting for their first occupants, the War of Independence broke and only two of the appointed scientific leaders dared to arrive at the besieged young State, which was fighting for its life. The leadership of the three remaining departments was then deposited in the hands of three young Israeli scientists in their early thirties: The brothers Aharon and Ephraim Katzir-Kachalsky and Israel Dostrovsky. Now, with the passing of Israel Dostrovsky, the last founding father of the Weizmann Institute has left us.

While the Institute was still hesitating between an emphasis on basic research and a more applied direction, Dostrovsky showed the right way, without yet turning it into the firm ideology which is accompanying the Institute until this very day. He excelled in basic research in the field of radioactive isotopes, which, at that time, became relevant to a variety of areas in science, medicine and technology. At the same time, he initiated several applied projects, based on the fundamental discoveries, thus contributing significantly to the science corps of the embryonic Israeli Army and to the security of young State.

Dostrovsky moved with great agility and talent from one research area to another, and was mentor to generations of young scientists, who worked, among other fields, in Geology, Hydrology, Physical Chemistry, Brain Research, Archaeology, Environmental Science, Solar Energy, Nuclear Magnetic Resonance, Particle Physics and Astrophysics. He established, within the Institute campus, a semi industrial facility, separating Oxygen isotopes, producing water enriched with a heavy Oxygen isotope, which is commonly used in medical diagnostic procedures. This facility was the pioneering step in the history of industrial applications and exploitation of patents by the Weizmann Institute, eventually placing the Institute as a world leader in the field of using intellectual property derived from basic research.

During the 1960's Dostrovsky served as the Director General of the Israel Atomic Energy Commission and led it to remarkable achievements, which are an important chapter in the history of the State of Israel. Upon returning to the Weizmann Institute, he was appointed as Vice President of the Institute and, two years later, he was elected as the Fifth President of the Weizmann Institute. He served during the difficult period of the Yom Kippur War, and the following years of retrenchment, with a freeze on construction and restrictions on budgets and expansion plans. In spite of all constraints, his term in office led to significant new developments and to the establishment of remarkable new scientific management blueprints at the Institute. After leaving the Presidency, Dostrovsky was appointed as the Chief Scientist of the Israeli Ministry of Defense, and, in this capacity, left a significant imprint on the Defense R&D establishment, which had advanced significantly after the Yom Kippur War.

As someone who never rests on his laurels, Dostrovsky returned to the Weizmann Institute and placed on the agenda of the Institute, and of the entire country, the need to exploit Solar Energy for diverse purposes and not only for heating water. At his initiative, the Institute constructed the Solar Tower facility on campus and recruited an ever widening nucleus of scientists studying topics in Energy Research. Later, the new department of Environmental Science, led by some of his former students, has been established at the Institute.

As if closing a full circle, he then turned to the most fundamental basic research topic: the basic particles of nature and the understanding of processes inside stars. Dostrovsky developed a remarkable method of discovering elusive particles arriving from the sun, penetrating everything and being detectable only in large underground laboratories. He and his colleagues were senior partners in a successful experiment, performed in a multinational laboratory under the Apennine Mountains in Italy. This experiment succeeded, using the Dostrovsky method, in identifying and counting Neutrino particles emanating from the sun, and it clarified several important issues related to the properties of these particles as well as some features of the processes inside the sun.

Dostrovsky was awarded a number of major prizes and honorary degrees and received other recognition, but all of these reflected only a small fraction of the appreciation and glory he deserved. As a person who established and managed a scientific department at the age of 30, he maintained an eternal young spirit, full of revolutionary and original

ideas, open to any new suggestions and believing that great tasks should be performed by creative and talented young people, rather than by those who accumulated significant experience by repeated failures.

I had the honor of knowing him well and admiring him, for 40 years. As someone who knew many of the greatest scientists in the world, many international leaders of nations and organizations, most of the leaders of Israel and all the leaders of the Weizmann Institute, since its establishment (except for Weizmann himself), I dare to state that Israel Dostrovsky was one of the half dozen most impressive personalities I have met in my life. He possessed a very special combination of wisdom, originality, modesty, diligence, strength of character, positive Chutzpa, creativity, tenacity, talent, a belief in the good nature of people and love for the State of Israel. I fear that such people are not “produced” any more. May his memory be blessed.

**Haim Harari**