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Van Leupen

In Memoriam

JOHAN M. J. KOOY
1902-1983

On 25 February 1983 Johan Kooy died after a short illness in Breda. Throughout his career he contributed to a variety of scientific subjects. He graduated in Electrical Engineering in Delft, 1927. In 1936 he was awarded the title of Doctor of Physics and Mathematics on the thesis "Theory of Optical Activity". Here he became involved with research on quantum mechanics. After obtaining his doctorate at the University of Leyden he extended his interest to rocket dynamics, orbit mechanics and cosmology and, on the other hand, to the functioning of the human mind itself. The years during World War II were very productive; he developed on his own the theory of rocket propulsion, orbit mechanics, attitude control, etc. Thus, it was possible for Kooy just after the war to publish with Prof. J. W. H. Uytenbogaart, who had spied with his group on the launchings and crashes of the V-weapons the book "Ballistics of the Future". This book was the first and most technically developed description of the V-1 and V-2 and expected developments in this area. Already the perturbed Kepler motion for satellite vehicles was described; this book became a standard work for the space engineers in the 1950s and early 1960s.

Johan Kooy's scientific interest went deeper than indicating along what lines technical development should occur: he was fascinated by the question of how the universe is structured and if the factor "time" could be fitted in to it. He found that time is a reflection of the human biological process itself. The idea of causality was explained by him as the recognition of identical characteristics of different groups of processes observed by us. By such original insights, he was able to clearly define how problems of cosmology should be interpreted.

Publications such as "On the possibility of determining the radius of curvature of the intergalactic space and the rate of increase of this radius by astronomical observation", "Spherical space-time and the special theory of relativity", and "Space, time and consciousness" illustrated these original views which were not only milestones for Johan Kooy himself but also for others, such as the late Prof. Zwicky who made astronomical observation-programmes based on long discussions with Johan Kooy and on his publications.

He was one of the founders of the Dutch Astronautical Society (1952) and he was chairman during a period of 17 years. He was elected a founder member of the Academy and later on as trustee of the engineering section. He was an active member of the Committee of Space Relativity. He was nominated as professor both in Breda (Royal Military Academy) and Delft (Technical University). During this period he was able to publish the three Volumes of "Space Dynamics", dealing with theoretical mechanics, orbit mechanics, rocket propulsion, cosmology, theory of relativity, gravitation, etc.

As mentioned before he was deeply conscious that science cannot make relevant progress if we are not aware of what we experience and what "objective reality" is. He was therefore extremely interested in parapsychology, in particular because he experienced himself several precognitive dreams (Dunne-effect). The publication "Space, Time and Consciousness" in the American Journal of Parapsychology is one of his most important publications in which he indicates typical characteristics of the human mind. I graduated as an engineer in Aerospace with him, and we had many discussions. He quoted a citation of Poincaré which must be a message for all scientists: "The human mind can prove by analyses a variety of Physical and Mathematical laws, but Intuition has to put up the ideas first."

It is this aspect which is often neglected in modern science: we should try more to experience things in order to get a feeling of how nature could be structured and develop from these experiences, models which can be mathematically proven.

Johan Kooy was a scientist who was able to realize this, which resulted not only in remarkable scientific progress, but also in a generation of enthusiastic pupils who had the privilege of knowing him.

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