

ȘTEFAN PROCOPIU

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When I decided to write about Ștefan Procopiu – a decade after his passing away – I felt I lack the capacity to appreciate, at their real value, indeed, his unique scientific achievements, who placed him for good among the great minds of our nation. It was only rarely that nature brought together, in one and the same being, so many virtues and intellectual fidget, such an insatiable scientific thirst and relentless will, such exigency and firmness. For more than half a century, Ștefan Procopiu has held the first position among Romanian physicists, unveiling, by the keen mind and experimental abilities with which he had been endowed, the secrets of matter. Brought together in a volume entitled *Selected works*, his scientific studies demonstrate an unique consistency of ideas, going far beyond the limitations of classical physics, thus opening new horizons and forcing scientific and technical progress. Not affected by the lack of material means, which he substituted by his thinking, imagination and unwavering belief that the phenomena characterizing the surrounding world may be disclosed by rigorous reasoning and simple experiments, the scientist who was to become distinguished himself as early as his student years (1912), as a keen, wholly genuine researcher. His conviction was that a mentor should be necessarily a man of science and culture, as well, and that the university represents the spiritual arena in which truth is born by efforts and confrontation of ideas. All of us who came to know him, colleagues or former students, were astonished by his scathing irony, by his immense odium for shallowness, by the faultless organization of his mind, contrasting the apparent mess of his worktable. As a matter of fact, his whole personality was developing between the extremes generated by an ardent temper and rationalism, exercising a difficult to define, yet wholly admiring attraction.

The scientific work of Procopiu, including more than 170 original studies, approaches various domains of physics. Mention should be here made of his special propensity for *magnetism, electro and magneto-optical phenomena, thermal properties of substances and metal-electrolyte potential*, without leaving aside *spectroscopy, electrolyte diffusion, radioactivity, electrical properties of solids or gas discharge*. His most extraordinary – capital in physics – contribution remains the discovery of the relation for the *theoretical magneton*, today known as the *Bohr-Procopiu magneton*, while the precedence of the latter one remains undisputable. In 1912, when only 22 years-old, prior to the issuing of Niels Bohr's

theory, Ștefan Procopiu formulates the *dependence of the theoretical magneton on electron' charge and mass, respectively on Planck constant*.



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Further on, starting from Bohr's theory, the same expression is confirmed by other reputed scientists (Einstein – 1913, Chalmers – 1915, Wereide – 1917). In a volume issued in 1981, entitled *Ideas for all seasons*, authored by Catinca Muscan, the personality and work of Ștefan Procopiu are brilliantly outlined in a special chapter: *The beauty of truth and the cult for work*. As a lucky disciple of the great thinker having lived all his life on the Copou hill of Iași, where he elaborated his enduring scientific work, I dare say that the portrait drawn by the above-mentioned author is the best and most representative one, exemplary for the young generations of today. Mention should be also made here of the scientific contributions of the great physicist to the study of longitudinal depolarization of light through colloidal solutions and crystalline suspensions (*the Procopiu phenomenon* – 1921) and the magnetic discontinuities through a ferromagnetic wire during passage of an alternative current (*the Procopiu effect* – 1929). Last but not least, on investigating terrestrial magnetism, Ștefan Procopiu demonstrates that the *magnetic moment of the Earth globe began to increase starting with the year 1932*, after 120 years of uninterrupted decrease.

The presentations of his achievements should not leave aside the impressive volumes dedicated to: *Electricity – magnetism* (volumes I and II, published in 1929 and 1933, respectively) and *Thermodynamics* (1948), which will remain over time exquisite examples of great stores of knowledge and didactic gift.

Definitely attached, with his whole being, to the sweet land of Moldova, lover of nature and of cultural values, severe but fair, modest and intrepid, unanimously recognized by his nation, Ștefan Procopiu remains, by his genial essence, present among the founders of modern physics as one of the most celebrated scholars of our century.

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