

ANOTHER STUDY FROM IASI DEDICATED TO THE WORK OF SOLOMON MARCUS IN MEMORIAM. 10 YEARS OF MARCUSIAN IMMORTALITY

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Abstract

In 2026 it will be ten years since the departure to heaven of the scientist Solomon Marcus, but the people of Iasi do not forget him, dedicate studies to him and create places conducive to documentation, research and inter and transdisciplinary dialogues, approaches that are under the Marcursian sign. Last year the Romanian academician was celebrated by UNESCO, 2025 being the *Year of Solomon Marcus*, as a recognition of the value of creation and visionary of the man who wrote over 45 books and 400 scientific articles. On this occasion, at the International Congress *Preparing the Future by Promoting Excellence*, the XXXV edition, organized by the "Apollonia" University of Iasi and held between February 27 and March 1, 2025, a massive volume of exceptional practices in research and education was launched, dedicated to the memory of academician Solomon Marcus. The monograph coordinated and edited at the Cartea Românească Publishing House by Vasile Burlui and Mina-Maria Rusu is entitled *Marcus 100. Dialogues for the Future*, being a document-volume, of academic format, totalling over 550 pages with evocations and thoughts of the scientist with openings to several sciences, apparently different, of the mentor concerned with his disciples, of a lover of research, but also of the dialogue with his peers. Researchers from Iași, including Cassian Maria Spiridon, are increasingly concerned with approaching new themes, with transdisciplinary openings that start from Marcurs' complexity.

Keywords: Solomon Marcus, Cassian Maria Spiridon, Mathematics.

Cassian Maria Spiridon has published over 70 volumes of poetry, criticism, journalism and essays, valuable books awarded with the Romanian Academy Prize, with awards of the Romanian Writers' Union and numerous other appreciations. The one who founded the culture magazine *Poezia* and the new series of the magazine *Timpul*, being since 1995 also the director of the magazine *Convorbiri literare*, is also known as an initiate in the work of great writers such as Iacob Negruzzi, Nichita Stănescu, Nicolae Manolescu, Cezar Ivănescu, Mihai Ursachi,

Solomon Marcus, etc., to whom he dedicated a book. The most recent volume, published by Junimea Publishing House, in 2024, is entitled *Solomon Marcus and the perfect language*, Cassian Maria Spiridon analysing the connections of extremes, between arts and sciences, as they appear in the vision of the scientist who had the time, grace and gift to dialogue not only with academicians, but also with all young people interested in changing the educational system and society for the better, in general, proposing an expansion of knowledge. The book begins with the chapter *The Art and Science of Solomon Marcus*. Cassian Maria Spiridon starts his scientific discourse from the Greek philosophers, concerned with metaphysics. From Platonic and Aristotelian ideas, people wanted to explore the mysteries of the universe. In order to glimpse the mystery of metaphysics, we turn to numbers, physics and mathematics, but also to poetry and philosophy, which form a unitary whole. The critic from Iasi specifies that in the homage volume edited on the occasion of the awarding on March 7, 2013 of the title of Doctor Honoris Causa by the "Apollonia" University of Iasi, in a broad profession of faith that crowns a life of brilliant researcher - *The Solitude of the Mathematician* (which has as its motto: *My passport to universality was mathematics*) the academician Solomon Marcus refers to Rainer Maria Rilke and the advice given in *Letters to a Young Poet* to the aspirant to literary glory, "to investigate... to the deepest place of the heart..." (Spiridon, 2024)

Analysing *The Mathematician's Solitude*, the critic notes Marcus' concern to identify two typologies of languages: additive and integrative,

mathematics being difficult to define in the same way as poetry or philosophy. Marcus' volumes *The Loneliness of the Mathematician* and *The Linguistics of Mathematics* created a shock due to the scholar's audacity to approach poetry with mathematical tools. Cassian Maria Spiridon brings the arguments through which mathematics facilitates and deepens the prosodic structures, the rhetorical figures, the formal and typological aspects of the narrative, the types of theatrical geometry. Both poetry and mathematics encrypt a hidden world, which must be known. Both are daughters of myths, having the function of symbolization and setting in a fictional universe, which mediates the relationship with the real world. The playful element is another one of their features. Approaching the volume *Art and Science*, in which poetic and scientific languages are studied, Cassian Maria Spiridon identifies authors who are equally concerned with the two languages, starting with the sixteenth century, when Latin and the science of numbers were taught at the Cotnari Academy, founded by Despot-Vodă in 1562. At the princely academies of Iasi (1640) and Bucharest (1679), in addition to letters and philosophy, physics and mathematics were taught. Cassian Maria Spiridon mentions Constantin Cantacuzino, the first Romanian who was well acquainted with *Euclid's Elements*, Nicolae Milescu-Spătaru, the first compatriot to write a book on arithmetic in 1672, and the poet Antioh Cantemir, son of Prince Dimitrie Cantemir, the first Romanian to write a treatise on algebra. Next comes the leaders of the Transylvanian School, pioneers of mathematics. Then, in Iasi, in 1795, the first mathematics book in Romanian belonging to Amfilohie Hotiniul was published. In Bucharest, Gheorghe Lazăr founded in 1818, the National School of Architectural Engineering, where he taught arithmetic, geometry, and trigonometry according to his own textbooks, and among his disciples were the poet and writer Ion Heliade Rădulescu, professor of arithmetic and geometry at St. Sava College, author of an arithmetic textbook; Petrache Poenaru, who, in 1827, invented the tank-holster, the present-day pen. Four other emblematic names, identified by Solomon Marcus and evoked by the critic from Iasi, are Gheorghe Asachi and Costache Conachi

in Moldova, Ion Ghica in Wallachia and Farkas Bolyai in Transylvania, all four having prolific activity as writers and scientists. The creators better known to us are Spiru Haret, Matila C. Ghyka, Pius Servien and Ion Barbu (Dan Barbilian) who excelled in several fields of mathematics and poetics. Barbilian's merits are that he introduced in our country the concerns of modern algebra – the axiomatic algebra. The spaces from algebra bear his name as he intuited the subsequent developments in the field.

Cassian Maria Spiridon, being a graduate of the Polytechnic and a poet, is concerned not only with the study of Marcusine's work, but also delves into the depth of the two languages, looks for the common elements between mathematics and poetry, refers to self-referentiality, to the narcissism of the mathematical crowd and of poetry, both cannot be told, they are related to the economy of expression, the elegance of exposition and the ownership of terms. The researcher appreciates the clear style of academician Solomon Marcus, the clarity of argumentation, the breadth of horizon in approaching the diversity of theories and problems, the logic in building demonstrations that make the similarity between arts and science, a unique interdisciplinary approach of the great scientist who opened numerous paths in knowledge. "We must accept the new reality, according to which the boundary between science and art is no longer as clear as it might have seemed to us in a certain idealized representation, of extreme specialization, so strong only three decades ago," states the author of the monographic study. (Spiridon, 2024)

In the second part, entitled *Solomon Marcus and the Perfect Language*, the exegete states that, among our contemporary scholars, Solomon Marcus remains "a beneficial and informed fighter for the affirmation of the right of mathematics as a city." (Spiridon, 2024) Cassian Maria Spiridon refers to *The Loneliness of the Mathematician*, the reception speech in 2008, at the reception of Solomon Marcus in the Romanian Academy, appreciating it as "a happy and instructive plea for the recognition of mathematics as a cultural and educational phenomenon, as an authentic humanistic field of study." The author reminds that the reception speech, published by

the Romanian Academy Publishing House in 2008, was republished in 2014, by Spandugino Publishing House. The scholar evoked the professors (Simion Stoilow, Victor Vălcovici, Octav Onicescu, Grigore C. Moisil, Octav Mayer and many others) who, due to the communist regime, did not have the honour of having such speeches, which were part of an old, beautiful and natural tradition of the reception speech at the reception in the Academy. Solomon Marcus makes a retrospective of Romanian education, when Romanian culture had a certain unity: the subjects were not firmly constituted, their dialogue represented the normal way of existence. The faces of first-rate intellectuals such as the engineer, mathematician and pedagogue Petrache Poenaru, who had consecrated his speech to Gheorghe Lazar and the Romanian school, are remembered. Another argument in order to demonstrate the astonishing tradition of research and academic communion is the continuity of discourses from previous centuries. "The writer and engineer Ion Ghica answered the physicist, chemist and mathematician Emanoil Bacaloglu, who had spoken in 1880 about the calendar. The physicist and meteorologist Ștefan C. Hepites analysed the speech about Spiru Haret, delivered by Gheorghe Țițeica in 1914. In 1933, the composer George Enescu presents his speech about the writer Iacob Negruzzi and about the entry of music into the Romanian Academy, and the answer is given by the mathematician Gheorghe Țițeica. In 1936, the mathematician Dimitrie D. Pompeiu dedicated his speech to the chemist Petru Poni and the doctor Ioan Cantacuzino, and the answer was given by another doctor, Gheorghe Marinescu." (Spiridon, 2024)

Recalling and appreciating this continuity, Cassian Maria Spiridon exclaims, "truly, what times, what beautiful times were possible until the fall of the Iron Curtain!" The researcher analyses the academician's speech and explains why Marcus wondered: "Has the reception speech fallen into disuse?" He also explains what the *Loneliness of the mathematician* and the professor means when he had to deal with an education system faced with various problems, but which had to prove that mathematics is *alive*. In the 1950s, new challenges emerged that made

it possible to normalize the relations between the real sciences and the humanities. "The most diverse subjects are brought into a common river: linguistics, psychology (Chomsky considered generative linguistics a chapter of cognitive psychology), computers, mathematics, logic and biology; but through information theory, in full momentum at the time, the connection with physics was also made, especially with thermodynamics. Needless to say, philosophy was facing unprecedented challenges. The events listed took place at a time when computer science was being born in Romania, under the baton of the extraordinary conductor of creative energies, Grigore C. Moisil," wrote Solomon Marcus, quoted by the critic of *Convorbirilor*. (Spiridon, 2024) The scholar understood the challenges of transdisciplinarity, which has its basis in the studies of Ștefan Lupașcu and Basarab Nicolescu. Sensing these openings, Marcus was initiated into structural linguistics, publishing the course in mathematical linguistics in 1963. This unpublished volume was sent to important universities, enjoying an extremely favourable reception in New York, Paris, Moscow and Prague.

The scientist did not agree with the rigid way of teaching mathematics that led to fragmentation and the distancing of some students from the beauty of this science of numbers. Marcus recalls the science of Pythagoras, the existence of the transcendent number, but also some writers of the last century who found similarities between mathematics and other arts. André Gide compared "the novel to a theorem, but the theorem can sometimes be at the end of an adventure in which truly dramatic moments occur." Solomon Marcus, appealing to the etymology of the word *theorem*, highlights that the road to a theorem can be a spectacle. He also describes the ambiguity of poetry and mathematics, both of which having infinite possibilities of interpretation. Referring to the similarities between music and the mathematical text, Solomon Marcus identifies their polyphony, but also the passion or repulsion of some people for these two fields that can be viewed with admiration or indifference. Some consider music, poetry or useless mathematics, on the other hand, mathematicians demonstrate that

there is no more precise language, a simpler expression than mathematics, calling it “the most perfect language in which a natural phenomenon can be told,” as Țițeca wrote. Cassian Maria Spiridon approaches Marcus’ work with great rigor, giving examples from other authors in order to demonstrate the role of transdisciplinarity. He evokes Novalis, with one of his aphorisms: “Poetry disposes at will of pain and voluptuousness - of pleasure and displeasure - of error and truth - of health and disease. It mixes them all in view of its great purpose, the purpose of ends- *the elevation of man above himself*.” Mathematics is also at such heights, as Țițeca says. Novalis, the romantic writer, in *Math notebook* (June-July 1798), considered, following the model of Leibniz and Newton, that “all sciences must become mathematics.” Solomon Marcus demonstrates that poetry and mathematics have common elements and that is why he writes about the role of mathematical poetics, semiotics, etc., pleading for the unification of knowledge for the search for the beauty of the ideological transfer between subjects that would culminate in the *the elevation of man above himself*. The scientist responds to sceptics who are afraid to become mathematicians: “that mathematics is a way of thinking with universal value,” it “triggers spiritual joys to which every human being should have access.” To the extent that adolescents learn to enjoy the beauties of mathematics, science, art and literature and feel the need to attend them, “they will no longer suffer from boredom, and the temptation to ridiculous, sometimes antisocial, activities will decrease.” (Spiridon, 2024)

The final part of the book contains an extensive dialogue between Cassian Maria Spiridon and Solomon Marcus, which was originally published in *Literary Conversations*. The academician reveals himself and acknowledges that his poetic concerns are justified. Nils Bohr, himself, the creator of quantum theory, has this reflection: when we refer to the quantum world, language can only be poetic. The quantum world and the world of poetry are located beyond the directly perceptible, observable universe, as Ion Barbu said in *The Second Game*. Marcus quotes the great mathematician, Gauss: “maximum thought in a

minimum of comprehension.” This definition can also be given to poetry, because both poetry and science “make a very strong appeal to paradox.” (Spiridon, 2024)

Solomon Marcus states that we like the work of art the moment we discover in it a profound simplicity. “This was the aesthetic conception elaborated by the ancient Greeks Pythagoras and Aristotle and we lived in this tradition of associating beauty with relative simplicity.” (Spiridon, 2024) The scholar admits that in the last 15 years, he has been more concerned with the study of Eminescu’s poetry, from a semiotic and mathematical point of view, being interested in the temporality and viscosity of his universe. He noticed that in the dictionary of word frequency in Eminescu’s work, the mostly used noun is *eye*. The fact that he was preoccupied with researching the fields of mathematics, physics, biology, etc. represents solid proof that Eminescu was convinced that he had to enrich his cultural horizon in all directions. From Eminescu’s notebooks results the concern for the essential. He was not satisfied with sticking to his initial talent for easy versification, or only to express spontaneous lyrical states. “Eminescu remained a cultural model for many poets who followed him, too difficult to access,” (Spiridon, 2024) says Solomon Marcus. He also gives the example of Lucian Blaga, who was also very thirsty to absorb. “He is one of the first in our country to grasp the essentials of quantum physics, for example. But we must admit that most Romanian poets did not have the strength to follow this model.” (Spiridon, 2024) Nichita Stănescu is also mentioned as he was a poet who had a good mathematics teacher, Ion Grigore, thanks to whom he created the *Laus Ptolemai cycle*. The mathematician Moisil had literary talent. Novalis, Paul Valéry, Omar Khayyam, Italo Calvino, etc. are other writers who have notebooks that abound in scientific notes. Galileo Gallilei is also evoked, as someone who wrote both a literary and a scientific work. “I believe that literature exists potentially in any texts developed by humans,” (Spiridon, 2024) says Solomon Marcus. The one who is a good connoisseur of universal and Romanian poetry is optimistic about our lyrics “I believe that Romanian poetry is at the highest level,”

(Spiridon, 2024) represents another important conviction of Solomon Marcus.

Asked if globalization and multiculturalism will lead to cultural flattening, uniformity, and homogenization, the scholar is confident in human spirituality, arguing that there are many similarities between cultures. In this sense, he recalls the filiation between Romanian folklore and the folklore from Zaire, Africa or Asia, identifying proverbs similar in meaning to those in our paremiology. "I think we should not be afraid of such a closeness between cultures, that is, we should not cultivate specificity for the sake of specificity." (Spiridon, 2024) The scholar warns about the need for transcendence that defines us as people and resorts to the etymology of the word *trans* - *beyond*, followed by *scand-o/-um/-ere* - *to climb, to swing, to climb* -, suggesting the child's permanent desire to climb, to swing - an ambition that must be cultivated and guided. Solomon Marcus is a guider, one of the few connoisseurs of "the perfect language," (Spiridon, 2024) considers the author of the volume, demonstrating the Marcusian plea for cultural unification.

Cassian Maria Spiridon's volume demonstrates once again the importance of Marcus's work, which the academician Gheorghe Păun testifies

to be so vast and profound, that Solomon Marcus could have had four or five successful careers (mathematical analysis, mathematical linguistics, computer science, semiotics, mathematical poetics, history and philosophy of science, school and education). Cassian Maria Spiridon reiterates that the internationally recognized scholar has managed not only to unite extremes, but also to approach transcendence as a universal paradigm, being a pioneer in guiding us towards the knowledge of the perfect language. The Iasi monographs mentioned, *Marcus 100. Dialogues for the Future* and *Solomon Marcus and the Perfect Language*, confirm the value of the encyclopaedic creation of academician Solomon Marcus, which, ten years after his departure for heaven, is increasingly current and recognized, not only by various scientific researchers, but also by the general public. We are convinced that other exegesis from Iasi will appear based on Marcus's extensive work and the studies that will also come from the research centre of the "Apollonia" University of Iasi, under the patronage and blessing of academician Solomon Marcus.

References

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