

EDMOND NICOLAU - A RENAISSANCE MAN OF THE 20TH CENTURY

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«...at the end of this century and millennium, we witness to a process similar to the one that preceded the Renaissance. »

Edmond Nicolau

Key Words: Edmond Nicolau, scientist, academic.

Edmond Nicolau (born 1922 Braila - dead 1996 Bucharest); professor, engineer, cybernetician, scientist, historian of science and technology.

The expose at the end of this essay, regarding Edmond Nicolau's personality, allows us to enter the intimacy of its creative laboratory, and punctuate what we consider to be the structural elements of the spirit of this 20th century Renaissance man, Edmond Nicolau.

In the chapter "Humanist message", of a great essay dedicated to his good friend, also from Braila, Anton Dumitriu, Edmond Nicolau wrote: "*When we study the written works of Anton Dumitriu, we see not only a certain continuity of ideas, but also a clear and original message, coming forward from all that he's left us.*"

Living simultaneously on two planes – the reasoning of the scientific thinking, first of all, especially logics and mathematics – and on the other side the conscious living of exceptional states, intuition strikes, Anton Dumitriu has always asked himself the same questions, coming up with more and more elaborate and complex answers."¹

So, one of the great spirits of knowledge in the 20th century was and remains in the history of scientific research and culture as an open spirit, accepting any "challenge" (here, the term has been underlined, because of its over-use in the last two decades), searching, "investigating" domains or sub-domains not probed or not enough probed; new ideas were born from this, applicable to all of the domains he researched.

Nicolau, inter-disciplinary researcher, fully shows in his work the benefits of this method. A significant demonstration of this reality is his work "*Engineering of knowledge*".² From the beginning, the title proves enticing, putting together terms from different domains: technology and the psychic process of knowledge. As future reader, you are confronted with a dilemma: if you have a humanist formation, will you be able to read and comprehend it, as it deals with "engineering"? On the other hand, as technician, will you be able to untangle the complicated ways of human knowledge? Its reading will not only benefit the reader from an information point of view but it will also be pleasant: the information concerning "engineering" are not exactly to everyone's understanding, as in previous mass education works, but is doable; he explains it non-academically, interpreting the phenomena with a humanistic approach. The title's ambivalence is therefore inside the work as well, and Edmond Nicola's success, at least during the time this was published, owing to this mix of scientific and literary style.

The essence of his work in this volume was exceptionally described by Solomon Marcus in *Essay for printing the book*:³ "The discovery that the exact sciences as well as the technical ones, follow the road from substantial, in the most concrete sense of the material, the substantive, to the

* Muzeograf, Casa Memorială „D. P. Perpessicius” din Brăila.

¹ Document written by typewriter, to be found in the Memorial Fund *Edmond Nicolau*, Department Memorial, Braila Museum.

² Albatros Publishing House, 1985.

³ Dated 26 iulie 1985; document written by typewriter, in the Memorial Fund „Edmond Nicolau”.

cognitive aspects, the information, which are interfering with the entire human knowledge and includes a great deal of it in its action“.

At the same time he was “seduced” by the theory of the system, confessing that the “scientific ambiance of the Electronics Faculty, stimulated first by the Professor Tanasescu, the by the Professor Cartianu and first of all by Professor Iancu Constantinescu – the three pillars which have created our electronics school, on the other hand meeting dr. Constantin Balaceanu, as well as people who dealt with the theory of information... allowed me on one hand to form a structure of the systems theory, which I tried to put into practice with Balaceanu in neurology – or, alone, in problems regarding transmitting information through language”.⁴

His systemic vision was applied not only to the domains traditionally open to this type of research and interpretation, but also to a sensitive domain, the human personality. The following quote from his work *Human personality – a cybernetic interpretation*⁵ is relevant: “What we call psyche is a system and the effect of the realization of certain programs in the nervous system. The human personality is an extremely difficult but exciting subject and its study requires joint effort from cybernetician, psychologists, neurologists, all who deal with the human being”.⁶

A humanist by excellence, his research activity has as starting point the exact sciences, the laws of physics which govern them, and as final point, an honorary task, the optimization of life, of the conditions of manifestation of the human potential. In a March 1989 interview, his definition of cybernetics excellently captures this: “In my conception, cybernetics is a new humanity”. And, onwards, he explains: “... cybernetics gives us something extra. It's not, of course, that it's a great deal of information, but how we manipulate it, how we maneuver this information, to show its value.” “The manipulation” of information accumulated or created by Edmond Nicolau had only one vector: man! And to understand this complex construction, until now considered the most complex known to man, the academic dedicated his work life to it. His work *Neuronal networks. Biological structures and new systems of electronic calculus*⁷ has as main theme uncovering the cognitive processes from the perspective of the brain as a system. The message is important for the integralist, inter-disciplinary vision he promoted and practiced: “The author sought in this text to be useful to engineers as well as biologists, medics and even philosophers interested in the problems of their own thinking being”⁸.

Edmond Nicolau shows, through options that don't belong to the exact sciences, the availability to probe controversial fields; he will manifest as a free man, open to experiences and experiments which lead to evolution, to the perfect human being. Convinced of the need for self-knowledge and continuous spiritual enrichment, of the symbiosis between spirit and psychic, he practiced Yoga. The Renaissance principle of cultivating body and mind was a life model for Edmond Nicolau.

Always involved in finding answers to the social problems before 1989, he entered the Freemasonry. For a person who couldn't be caged in absurd rules, oppressing individual freedoms, his gesture, shown on the website of the Romanian Freemasons, is more than the action of a social rebel. It is, we think, the action of an adversary of dogma, of barriers which contradicted logic, of rigidity in thinking and action. “The first meeting organized in freedom after 5989 took place on the day of Saint Steven 5989, (27th December 1989) in the Memorial Temple (known as “The Courtyard”) from Radu de la Afumati Street. There were five: Anton Dimitriu, Nicu Filip, Edmond Nicolau, Mircea Sion and Ion Udrea.

It was this historical meeting, really emotional, we gathered in open meeting, recognizing ourselves as brothers. Above was the faming star, on an improvised altar, the triangle and the beam compass opened to degree 1, visibly, as is traditional.

⁴ Typewritten, Memorial Fund „Edmond Nicolau”.

⁵ Junimea Publishing House, 1972.

⁶ *Ibidem*, p. 233.

⁷ Technical Publishing House, Bucharest, 1994.

⁸ p. 3 the *Foreword* of the typewritten text „Neuronal networks”, to be found in the Memorial Fund „Edmond Nicolau”.

The lack of a document of this meeting is explained by brother Edmond Nicolau, present: « We were so emotional, that no one of us thought about it. It was natural, I never thought to live this day, after 45 years of Soviet occupation, done by Romanian hand...».⁹

About this final consideration, I allow myself to comment: it is the only time he took a stand regarding to the communist regime, which I have found; the personal archives, donated by his wife, Eugenia Tocineanu-Nicolau, together with the other pieces which make up the Memorial Fund *Edmond Nicolau* of the Department Memorial of the Braila Museum, contain no critical references to that period; it is true that Edmond Nicolau was refused almost nothing during this time, if we consider the number of publications, participations in foreign scientific forums, honors in the country and abroad, except, of course, a place in the Romania Academy!

We continue the quote stated above: “Here, spoke Edmond Nicolau, Nicu Filip, Mircea Sion, this one extensively; there were invited, in white clothes, other personalities from different fields, who enlightened the brothers.

You can even find today, in the huge attic of the temple, the boards which constituted, in horseshoe, the table.”¹⁰

For his openness towards universality, for the one who never refused any experience which could bring spiritual fulfillment, being a member, and an active one, of an association as A.C.M.E.O.R,¹¹ is proof of this spirit avid of information, willing to break barriers. His answer to a question on the motivation of approaching the “blessed people” without having Jewish roots is of a great sincerity and reveals his tolerant spirit, characteristic to all great men: “Leaving aside the fact that I spent my childhood in the backyard, along Jewish people, I understood that my spirit is close to the Jewish spirituality.”¹² To this, we add the curiosity of the researcher willing to probe a culture and civilization which continues to intrigue us.

“Homo universalis” not only in what information is concerned, as Edmond Nicolau was known to be a true encyclopedia, with a special sense of beauty, Edmond Nicolau steps, even from youth, the realm of art. His verse gets a material form – printed during his student years in Craiova, in “Ramuri” and in the magazine *Albatros*¹³. Asked about his poetic creation, Edmond Nicolau explains: “The genesis of these verses? I think it was a sediment of my readings. I think it was one of my readings sediment My evolution as a reader was unequal. At first I was interested in stories, then, for may years, I was faithful to Jules Verne. For a good period of time – a summer vacation, I intoxicated myself with police novels, but this lasted me for life. Later, I reached Blaga, who was for years my favorite poet. Much later Arghezi. During my student years I read and re-read a small volume of “Mould flowers”.

But my poetry was an effort to turn into verse the adventure novels form the far North I was reading. In grew up on the border of the Danube, in Braila, and the atmosphere of the port has influenced me a lot” (this text, in the Memorial Fund Edmond Nicolau, is not dated).

With this occasion, he also speaks about his efforts to write prose, a novel even! But, not pleased with the result, he gives up.

He confesses that, in adulthood, he tried to write. The reasons: “... but only for scientific reasons. As you all know, at a certain moment the poem Island was famous – it was created by a computer. I wondered wether it is possible to program literature writing.

⁹ <http://www.mlmar.ro/francmasoneria/masoneria-romana>; antoher website offers the information regarding the existence of the *Edmond Nicolau* Loggia, in Bucharest: <http://mucenicul.wordpress.com/2010/11/07/radu-balanescu-este-noul-sef-al-masoneriei-romanesti/>, telephonically confirmed by mr. Stoica Șeicaru Dumitru, a member.

¹⁰ Idem.

¹¹ The Cultural World Association of Jews from Romania (Tel Aviv).

¹² From the interview given by Edmond Nicolau to Nando Mario Varga, after being given the ACMEOR 1995 prize; Nando Mario Varga, chief editor of the Israeli Romanian newspaper "Viața Noastră", Tel Aviv; born in Braila, in 1957.

¹³ 1941, The poetry *Night in South*; *Albatros* magazine (10th of March-15th of June 1941, only seven numbers published), led by Geo Dumitrescu, it promoted the new-modernist current.

Generally speaking, my desire for knowledge expands outside literature. In a way I think cybernetics can give us a deep view on this process also. In many essays I showed that the idea of automated composition of artistic works is not new. (I have, as you can tell, a weakness for history, for considering things in their evolution). I have tried to generate, randomly, poems, but the experience was not as satisfactory as it was difficult. Later on, I moved to a new method, inspired by biology. I started from the experiences of Olga Lepeshinskaia with animals...

Onwards, you saw the spontaneous organization of this substance which used to be alive. Even if these experiences are nowadays contested, others are not. For example, you take different cells, mix them and observe a spontaneous re-organization, a re-grouping.

What could this mean for poetry? You decompose them in fragments and re-organize them after certain rules and random criteria. This way, a random rubbaiyat was born, published in the first number of the magazine "Literary Romania":¹⁴

I-1.

*For in an'out, beyond, around an'down,
the Ash spins – and it prospers now
“her small child walks wrongly into the darkness?”*

II -1.

*Then, at this worldly whole in down
whose gates are winds of rain
as snow shadow with an angel face
lowers we ourselves are not here not there.*

August 1968”

Rational spirit, doubled by an artistic one, Edmond Nicolau was a complex personality who not only explored various fields of human knowledge, but also added, most of the time added, at the highest level of creation.

Edmond Nicolau represents at the highest level of performance the scientist, investigating various domains of scientific knowledge, and equally the humanist who touched with passion and interest problems of cosmogony, anthropology, philosophy and logic, hermeneutic, linguistics, aesthetic and religion... All those who met him were impressed by his intelligence, encyclopedia-level knowledge, great memory, the dynamism of ideas and the impeccable presence of the man and academic Edmond Nicolau. His activity sets him along the greatest academics of the world.

Short note on the life and work of Edmond Nicolau

He was born in Braila on the 3rd of June 1922. After high-school (science section of the High-school "Nicolae Balcescu", baccalaureate in 1940), where he shows a penchant for exact sciences, especially biology and electronics, he attends the Polytechnic Institute of Bucharest, The Faculty of Mechanics and Electricity (major in radio telecommunications; graduated in 1945). He is one of the founders of the Faculty of Electronics IPB (1945) where he is a professor. Fond of interdisciplinary research, he attends the Faculty of Philosophy in Bucharest (graduated in 1954). He becomes a doctor of technical sciences in 1968 with *Synthesis of Radiant Systems* and doctor of sciences (1974).

He goes through all the university levels, from assistant (1948), to lecturer (1949) and professor (1951). He is professor at the Faculty of Electrotechnics and Electronics of the Polytechnic Institute of Bucharest, and associate professor at other technical schools. An exceptional professor, he promoted the creation of the Faculty of Cybernetics of the Academy of Economic Studies (and is its first dean); he was also the first scientific director of the Calculus Center of the Academy of Economic Studies and director of studies of electronics and automatics at

¹⁴10th October, 1968; with the essay "Genealogy of a Rubaiyat (random)", avant-title, "Cybernetics and Poetry"; the page of the column "Scientific Horizon".

the Scientific Association of Engineers and Technicians (ASIT). Besides the remarkable contributions in technics, many of them innovations, - here, we mention his research and studies on antennae, propagation of electromagnetic waves, measurements in radiotechnique, etc. -, a field where he brought original and important contributions was cybernetics, with all its ramifications: technical, economic, biocybernetics. In this last field, together with Constantin Balaceanu Stolnici and his Lausanne friend, Alexandru Popovici, he researched rigorously, with spectacular results, the cybernetic patterns of the nervous system (neurocybernetics), applicable in the medical field (medical cybernetics) and psychology (the study *Conscience from a cybernetic point of view*¹⁵, co-author Balaceanu Stolnici, published in France and US in 1963) or *Human personality – a cybernetic interpretation* (Junimea, 1972). He also collaborates with Solomon Marcus and Sorin Stati, and the results of their research are quickly observed by the world scientific community. Their works are published by prestigious publishing houses in France, US, Italy, Spain, USSR, Bulgaria... He studied bionics and bioengineering, as well as artificial intelligence (natural languages¹⁶). The professor, promoter and adept of the principle of transdisciplinarity in scientific research, (to paraphrase, not of the principle “research only for research's sake”), he also made the transition from the fundamental research to the applicative research, in what concerns the human life, being one of the founders of the Romanian Society of Neuronal Networks.

His exceptional personality, valuable research, originality of solutions, have been recognized in the international research community, which celebrated its merits and was honored by its presence: he was invited to hold conferences at prestigious universities in Aachen, Lausanne, Moscow, Durham, Paris, Ciudad de Mexico, Kiev, Strasbourg, Arrabida; he led delegations to international congresses of cybernetics (London, Namur, Oxford, Patras, Amsterdam, Palma de Majorca, Vienna etc.), he was a member of the organizing committee of the International Congress of Cybernetics, Bucharest 1996, and the Congress Transdisciplinarity in Cybernetics and Philosophy, Oradea, 1996; he led international scientific organizations: director for education of *World Organisation for Systems and Cybernetics (WOSC)*; international technical director of *Institute des Hautes Syntheses* (Nice); vice president of *Academia de Cibernetică Odobleja* (Lugano); member of the Board of *Association Internationale de Cybernetique* (Namur), member of *International Academy of Sciences, AIS* (Accademia Internazionale delle Scienze; Akademio Internacia de la Sciencoj (in Esperanto), San Marino); he led or collaborated with international publications: *Kybernetics, Revue internationale de sistemique, Robotica, Cybernetica*; he received important prizes: *Diploma de onoare a ASIT*, 1957; the prize «Traian Vuia» of the RSR Academy, 1974; *Grand Prix*, Institut de Hautes Synthese, Nise, 1975; *Certificate of Award Systems Rescordi Foundation*, Canada, 1986; *Diploma de Onoare* of the Association of Scientists... Internationally, in 1992 was set up the *Edmond Nicolau Prize*, given yearly during the National Conference of Medical Informatics, for the best study of biophysics and/or biocybernetics; also internationally, was founded a grant *in memoriam* Edmond Nicolau, at the *World Organization for General Systems and Cybernetics (WOSC)*, Namur, Belgium.

Edmond Nicolau is an author of great scientific value and, at the same time, extremely prolific: author, coauthor or coordinator of over 70 volumes and approximately 500 scientific articles.

¹⁵ “The principle of inverse connection of circular systems, formulated and introduced in psychology by Stefan Odobleja in *La Psychologie Consonantiste* (Paris, 1938) and the mathematical, technical and biologic model built on the feedback theory of Norbert Wiener (*Cybernetics: Or the Control and Communication in the Animal and the Machine*, Paris, 1948), were taken upon by the two researchers, and Edmond Nicolau and I have taken it and applied it to the nervous system, in neurology, neurophysiology and psychology”. (C. Bălăceanu Stolnici).

¹⁶ *Language and strategy*, Scientific and Encyclopedic publishing House, Bucharest, 1983.

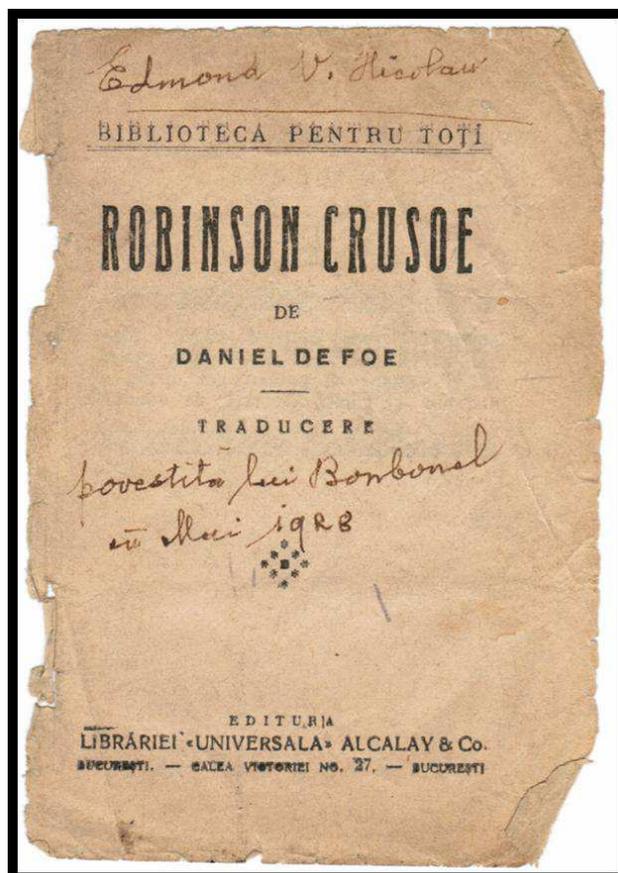


Foto nr. 1. Fila de gardă a romanului lui Daniel Defoe, *Robinson Crusoe*; însemnare a tatălui, avocatul Victor Nicolau: *Povestită lui Bombonel în mai 1928*. Edmond Nicolau avea 6 ani. Aventura “traului semisălbatic al lui Robinson” va fi pusă în antiteză cu “implantarea civilizației” din *Insula misterioasă* a lui Jules Verne, în eseu *Răntâlnire cu Jules Verne-anticipatorul* (1966).



Foto nr. 2-3: Edmond Nicolau, student (1942), în curtea casei părintești din Brăila, Strada Plevnei 214.



Foto nr. 4. Edmond Nicolau, profesor, în laboratorul IPB., cca.1947.



Foto nr. 5. Edmond Nicolau, profesor, în tabăra studențească, cca. 1950.



Foto nr. 6-7. Edmond Nicolau, Comisia de Cibernetica a RSR, octombrie 1984.



Foto nr. 8. Edmond Nicolau, Mexic, 1981.



Foto nr. 9. Edmond Nicolau la Al 13-lea Congres Internațional de Cibernetică, Namur, Belgia, 1992. A condus Simpozionul cu tema *Adaptare-Învățare-Fuzzy* și a prezentat comunicarea *Pot societățile învăța? (Can Society Learn ?)*

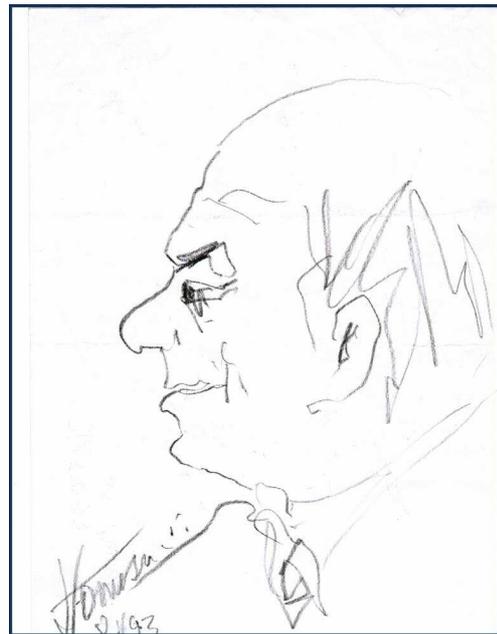


Foto nr. 10-11. Desene ale lui Edmond Nicolau:
Mila 23, datat 27.07.78;
Portretul lui Nae Ionescu, datat 8.V.93