

In memoriam

NICOLAE POPESCU

The shore reigns in the ocean's freedom
Full darkness contains the light
Upon the still land, fear is the wave
that leaves in its wake the world to come.

Everything is nothing in seeking immortality
In this mute despair silence is the word,
Even unhappiness contains the happiness
when, humbled, you will leave this world.

Subdued illusion hides the truth
revealed only when you depart-
Today the merely transitory
becomes eternal when you're found.³

³ „When your are found”, poem by Elena Liliana Popescu

Reflect on everything, taking as leader the Supreme Intelligence from Above and if you arrive, after you have left your body, in the free ether, you will be an eternal god, incorruptible, and forever freed from death⁴.

Preface

From his first years of study as an undergraduate student, Nicolae Popescu initiated a scientific seminar where he brought together, around his exceptional personality, undergraduate students, young researchers, and even assistant professors, sharing with them his mathematical ideas, very consistent from that young age. At the time, his scientific papers were published in very prestigious journals both abroad and in Romania and were very much appreciated. In particular, one of these early results has become famous under the name of The Theorem of Popescu-Gabriel and was cited in two foreign encyclopedias of mathematics, in numerous monographs, articles, and PhD theses from Romania and abroad.

He delved into study with seriousness from his early years and obtained, naturally and in abundance, what others may have searched feverishly led by ambition, through great efforts, and in indirect ways. His results had immediate impact and received appreciation in Romania and abroad. He had a strong intuition for what was important in a new field, the theory of categories, where significant results had already been obtained and became known internationally by publishing articles and monographs, at prestigious publishing houses from Romania and abroad.

With his own vision of the way to study and create mathematics, revealing and sharing its secrets with generosity, as everyone who tried to get close to him can attest, he has continued to generate emulation and has lead his scientific seminar for 50 years -- a fact unique in the history of the Mathematics Department of the University of Bucharest and possibly in the entire country. Many mathematicians, university professors, researchers, Romanian or foreign, have benefited from his results obtained over so many years through the high level mathematical school he has created.

He did not seek positions in society, even though he was well known internationally for what he had accomplished in his profession from a young age. In many situations his merits were officially recognized and he occupied such positions related to his scientific activity. He did not seek material advantages and honors, even though he obtained several professional awards; he was a man detached from such things.

Sobriety, distinction, honesty and generosity were qualities he has always displayed and have been a constant of his entire life. God gave him a lot and maybe through him He has gifted those around him, whether it was someone's mathematical training, where he excelled as a mentor or in other situations when people who asked for his advice received his help and his warm support.

Nicolae Popescu had a magnetic attraction for people around him and they would soon realize how they met an exceptional personality. Many people would come to him with a request for help, with a certain type of problem, and they would end up receiving everything they had asked for and perhaps much more. He never expected to receive anything from anyone. He

⁴The Golden Verses of Pythagoras

always understood different life situations. He was giving from the fullness of his heart, he was meant for it, he was completing his tasks diligently, regardless of the level of difficulty and regardless of the level of effort required to do things well. He was carefully polishing the roughness for all of those who came in contact with him, helping in meaningful ways all of those who asked for his help. And they were many...

Those who met him realized that they met a man with a deep and thorough mind, with a sharp intuition, with a great heart, who was fighting for people. His generosity was out of the ordinary; he wanted to help, knew how to do it and always went to great lengths to do it.

Even his many tries, -- some of them mentioned in this volume among the witness-memories attesting how much "lack of understanding" some of his praiseworthy deeds received, professional and human deeds having to do with honesty, dignity, and professional competence - he accepted them without any resentments, and through his power of sacrifice he offered an ultimate example. Firm, uncompromising especially with himself, and without resentments toward others, he always offered an example of dignity and altruism. He would learn from all his suffering by reflecting on his life and trying to improve it, realizing every time the benefic unseen part that would impact him through the acquired experience.

For 28 years he had not been allowed to travel abroad to honor invitations received from universities from more than twenty countries. They are the years from the publication of his first scientific paper that led to his international reputation until 1990. Related to the numerous invitations received that he could not honor, we can say that it was a big disservice not only to him, but to the entire Romanian mathematics that could have been represented at the highest level, at international congresses where he was invited to give plenary talks along famous mathematicians, or as a visiting professor at different foreign universities. Only after 1990, when he turned 52, he could travel abroad and could honor such invitations, giving successful talks at numerous universities from France, Switzerland, Italy, Belgium, Germany, Russia, USA, Spain, Japan, Kuwait, Mexico, Egypt, Pakistan, Chile, Nicaragua, etc., until 2007, as much as his health allowed.

Nicolae Popescu left a deep trail not only in mathematics where he produced a consistent work and a school of algebra and number theory. Through his personal example which is so difficult to follow and through what he seeded in all of us who knew him, he also left us with a wonderful work spiritual in nature, of unique freshness, beauty, and depth.

Nicolae Popescu was an electrifying and fascinating presence, has lived in this world with dignity and was gifted with a handsome and shining face, with a live and penetrating look that you could not forget, and with a smile that warmed your soul.

Some of us had a chance given by destiny to live around the man Nicolae Popescu. A man of a huge moral value, spiritually and professionally, uncompromising with himself in the first place, and trying, with responsibility and spirit of sacrifice, to contribute to the education and growth of those around him.

This volume dedicated to the mentor, mathematician, and man Nicolae Popescu, contains essays of some of his professors, some of his disciples, colleagues, friends, and people with various cultural and professional interests, Romanians and foreigners, people who knew and appreciated his qualities. There are many those who got in touch with him for longer or shorter

periods, who felt the benefic influence of his presence, of a man with a deep and vast knowledge much beyond mathematics and with an extremely sharp mind.

The idea to realize this book was born naturally after the premature passing of Professor Nicolae Popescu while he was still an active researcher. It was then, when all of us, his family, his friends, his disciples, came to realize one way or the other, how painful his departure has been for us, how big and difficult his loss is, and how much we have received from him.

His professors recall with emotion of their very talented student Nicolae Popescu, who stood out among his student peers through exceptional mathematical results published in prestigious journals in Romania and abroad, through a scientific seminar that he initiated when he was a second year student of the Mathematics Department of the University of Bucharest, and also through his charismatic presence.

His friends realized what it meant to have a true friend, because they met a representation of such a friend in the person of Nicolae (Nae) Popescu, who 'had the gift of friendship', to quote from one of his lifelong friends. One must remark that not only scientific researchers or graduates of the Mathematics Department, currently professors in various universities or colleges in Romania and abroad, enjoyed his friendship. Many people of other professions, physicists, chemists, engineers, archeologists, historians, linguists, writers, poets, and people of different social categories were among his friends. They considered that they must write about an important fact, their meeting with their friend Nicolae Popescu.

In this volume dedicated to the famous Romanian mathematician Nicolae Popescu, correspondent member of the Romanian Academy, creator of the modern Romanian school of Algebra and Number Theory, one will find words from many of his disciples -- today spread in universities and research centers across the world. Some of those who prepared PhD theses under his direction defended their theses in Romania, while others went abroad, either before or after December 1989, and continued their doctoral work there, getting their PhD degrees based on the strong background acquired at the Seminar lead by Professor Nicolae Popescu. His disciples continued the work started under his direction, keeping in their minds and hearts the personal example of their mentor.

Several of the contributors to this volume dedicated to Professor Nicolae Popescu are his former undergraduate students who had a chance to learn from a great professor. Some wrote senior theses (*lucrare de licenta*) under his supervision. His lectures in algebra, category theory, or number theory, taught to many students from different years in the Department of Mathematics of the University of Bucharest between 1968-1995 remained legendary for their consistency, the inclusion of many modern results, clarity and the high level of exposition, for their live and original teaching style, that revealed his exceptional pedagogical talent. Professor Nicolae Popescu was not only a promoter but also a creator in mathematics of first class. His lectures carried the stamp of his mathematical knowledge and not only mathematical, since he showed deep knowledge in many other areas as remarked by all people who knew him. Without going to much into details related to the special personality of Professor Nicolae Popescu, we can mention that, to describe his personality those who benefited from his lectures use words like: *fascinating, incandescent, shining, live, unique, sober, distinguished, etc.* We also mention the fact that many students, although not officially registered for his classes, would come to listen to him because he had the fame of being "gifted to teach others".

It is possible that some mathematicians from abroad or from Romania, professors, former colleagues, or former students, have not heard of his premature passing. We may have not succeeded in reaching many of those who knew Professor Nicolae Popescu.

This first edition has been written during the time passed from his departure from life on earth, on July 29, 2010. Naturally, it cannot contain a complete description of his personality. Given this fact, we hope that this volume will bring to its readers several images full of lessons from the experiences lived by those who describe their meetings with a first class personality of science, culture, and Romanian spirituality, Nicolae Popescu, member of the Romanian Academy.

We take this opportunity to thank Professor Dan I. Papuc for his exceptional contribution to the part about the mathematical life and the mathematics lived by Professor Nicolae Popescu. We also thank those who contributed to the part about the mathematical work of their mentor Nicolae Popescu. Among them we mention Victor Alexandru, Ghiocel Groza, Angel Popescu, Tiberiu Spircu, Marian Vajaitu, Constantin Vraciu, and Alexandru Zaharescu.

We thank those who advertised this special project in the memory of Professor Nicolae Popescu, a necessary volume for the generations of mathematicians to come. Among those who helped in this direction, we mention Constantin Nastasescu, Toma Albu, George Georgescu, Horia Pop, Angel Popescu, Cristian D. Popescu.

Our thanks go to the Rector's Office of the University of Bucharest who included this volume about the scientific and human personality of Professor Nicolae Popescu in the editorial plan of the University of Bucharest Press at the request of the Dean's Office of the Department of Mathematics.

Also, we thank the head editor of the University of Bucharest Press for all the help offered during the finalizing stage of this editorial project.

We thank all of those who contributed in one way or another to the making of this volume meant to bring a modest homage to the man, the mathematician, and the mentor Nicolae Popescu, correspondent member of the Romanian Academy. All of us have known him more or less, but sufficiently well to realize that we have been near a big personality, a phenomenon of great human, scientific, and spiritual value, as one of his first students and friends said. We express our gratitude to Him who made possible our meeting with the MAN Nicolae Popescu.

The Mathematical Work of Professor Nicolae Popescu, correspondent member of the Romanian Academy, will be published under the auspices of the Romanian Academy. The volume will contain his scientific papers, published or in print, totaling about 2000 pages. Step by step, posterity will add new elements to make us better understand the significance of the Work of the mentor Nicolae Popescu. He gave, not only to Romania, scientific results of fundamental importance, that were fruits of his mature, ordered, and very high level thinking. His exceptional spiritual experience played a very important role in everything that he did. He worked with detachment, without seeking any results of one type or another.

The editor