

## **A BRIEF HISTORY OF THE GEOGRAPHY IN IAȘI - at the 150th anniversary of the Romanian Academy -**

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**Key words** Historic premises, Development of the geography, "Alexandru Ioan Cuza" University, city of Iași

**Abstract.** Romania's first modern university, founded in 1860, the University of Iassy is, nevertheless, a higher educational institution with forerunners as a series of organizational essays which have culminated in the Academy of Mihai Sturza. The beginning of the scientific geographic preoccupations has preceded also the establishment of the university, being represented by the works of Nicolae Milescu and of Dimitrie Cantemir. Even after the establishment of the university, the first lessons of geography, with many original elements, have not been given here, but in the school of military sons, by Grigore Cobălcescu.

The first regular lessons of geography in the University began in 1904 and have been given by Ștefan D. Popescu, who, unfortunately, is dead very young. The years between the two World Wars have been marked by the personality of two great geographers - Mihai David, who held also the function of rector of the university, a geologist as training and with preoccupations especially in the physical geography, and Gheorghe Năstase, the founder of the school of human geography of Iassy. These ones have been succeeded by a whole suite of valuable geographers - Victor Tufescu, Constantin Martiniuc, Ion Gugiuman, Nicolae N. Lupu ș. a.

After the Second World War the physical geography continued to develop itself, especially in the fields of the geomorphology, of the climatology, of the hydrology, of the pedology and of the regional physical geography, but the human geography has been obliged to restrict itself, on principle, to the economic geography and made some progresses especially in the fields of the geography of the population and of the human settlements.

Finally, in the last twenty six years the establishment of a new balance takes place and the geography of Iassy begins again to be taken in consideration at the level of the European scientific and cultural values.

### ***Premises***

The first works with a geographic character conceived by a scientist born in Moldavia have been those of the constable Nicolae Milescu (XVII-th century) – *Journey through Siberia...* and *Description of the travel to China*, books written in Russia, after the diplomatic travel of 1675 – 1678, where the author, a scientist with a serious and multilateral education, insists on the nature of the Asiatic countries, as on the habits of the Chinese people. Sometime after him, the prince of Moldavia, Dimitrie Cantemir has conceived the first *Description of Moldavia*, a book rich in original geographic and historic notices, accompanied by a detailed map of the principality.

The development of the education in the Rumanian language, in the final part of the XVIII-th century and in the first half of the XIX-th one, imposed the printing of a great number of handbooks of geography, as that of the bishop Amfilohie Hotiniul, that of Vasile Fabian Bob, of Gheorghe Asachi (this one accompanied, in 1838, by a small school atlas), of V. Popescu-Scriban, D. Gusti etc.

### ***The second half of the XIX-th century and the beginning of the XX-th century***

The foundation, immediately after the country's unification of 1859, of the first modern universities in Rumania has given a particular progress to the development of the Romanian education, creating conditions for a general emulation, not only in the field of the geography. In 1884, in the faculty of philosophy and letters of the University of Iași has been established a chair of antique history, epigraphy and geography, directed by Petre Râșcanu, this one being the first mention of the geography in the Rumanian higher education. But, a higher mention is worth by the course of geography taught by Grigore Cobălcescu at the school of military sons of Iași,

published in two volumes in 1888 – the *Physical Geography of Modern Dacia* and the *Physical Geography of the Rumanian Countries and of the Neighbouring Countries*. By the law of 1898 the section of history of the faculty of philosophy and letters has been transformed into **a section of history and geography**, a degree in geography being also introduced.

In 1902 a course of geographic didactic, for the graduates of the section of natural sciences and for those of the faculty of letters, has been inaugurated, course entrusted to the young lecturer of geography at the faculty of sciences, in 1904, at the same time being teacher of geography and mathematician, Ștefan D. Popescu, educated in Germany and appointed as a teacher of geography and mathematics at two high schools of Iași - the pedagogical school „Vasile Lupu” and the commercial school of young girls. His **first free course of geography, sustained the 13-th of April 1904**, wore the title „The place of the geography among the sciences, its educational significance”. Although the university scientific and teaching activity of Ștefan Popescu has been relatively short, it is impressive by its variety, in his works he approaching such themes as the geomorphologic evolution of the upper sector of the Olt valley, problems of economic geography in Great Britain and the geographic distribution of the industries in Romania.

Unfortunately, Ștefan Popescu has had a short life and, after his death, in 1911, began a period of substitution, supported by Ion Simionescu and Ion Borcea. George Vâlsan has been appointed as titular professor in 1916, but as a consequence of the first World War and of a train accident, he was not able to teach here, although he has signed with the title of professor at our university two of his fundamental geomorphologic works – *The valleys* and *About the Danube's crossing through the Iron Gates – a study of physical geography*.

In Iași has been organized also the first Rumanian congress of the geography teachers, presided by the founder of the Romanian scientific geography – Simion Mehedinți.

### ***The inter-war period***

The period between the two World Wars has been dominated by two important geographers, who have set up the **geographic school of Iași** – Mihai David and Gheorghe Năstase.

Mihai David, having an education as a geologist, was appointed in the chair of geography, as tutor - drawer in 1913, then, after sustaining his doctor thesis in geology, in 1919, was promoted as a substitute professor of geography in 1920 and as titular professor in 1922. His activity was oriented especially to the field of the physical geography, with a particular accent put on the geomorphology of the Moldavian Plateau, where he has studied *The characteristic relief forms* (with a particular accent on the structural relief – structural platforms, cuestas, contact depressions etc., followed by the fluvial relief, especially by the valleys and their terraces, capable to indicate old river routes, and the erosion platforms, correlated to some stratigraphic gaps). Later, Mihai David has extended his geomorphologic researches over the Moldavian Subcarpathians, the Eastern Carpathians and the Transylvanian Depression. These researches have been useful for the Professor David's works of physical regionalization of the Romanian territory.

In his youth papers Gheorghe Năstase seems to have been attracted in the same measure by the geomorphology as by the human geography, analysing the geomorphologic peculiarities of the Danube Delta, the submarine valleys of the Black Sea shelf, the Prut valley and the Bugeac steppe, the land slidings of Centum Monticuli etc.

From the younger inter-war geographers, paid attention to the geomorphology, generally in the spirit of Mihai David, Constantin Martiniuc (in his doctor thesis about the Baia Depression), Victor Tufescu (with well documented studies about the region of Dealul Mare-Hârlău), Ion Gugiuman (with numerous papers about the Huși Depression and the neighbouring Prut valley, the land slidings of the Bârlad and Crasna valleys etc.), Nicolae N. Lupu (concerning the Dărmănești Depression), Ion Șandru (about the Subcarpathian Depression of Onești) and Natalia Șenchea.

The other domains of the physical geography have been less attractive for the geographers of Iași in the inter-war years. Let us mention, although, the climatology and the river hydrology (illustrated by Iulian Rick, Gheorghe Gr. Gheorghiu, Ion Gugiuman, Natalia Șenchea, Ion Șandru and Nicolae N. Lupu), the limnology (Gheorghe Năstase and Natalia Șenchea) etc.

New courses of physical geography or related to the physical geography have been introduced in the years between the two World Wars – one of history of the geography, entrusted to Emil Diaconescu, in 1926, a course of geodesy and agricultural measurement (later transformed in a course of topography and cartography), entrusted to the general Scarlat Panaitescu, a course of agro-geology, sustained firstly by Mihai David and then by Nicolae Florov, etc. Some of the courses have been lithographed by the students of Professor David, including Ion Gugiuman.

New preoccupations for the human geography have been initiated by the activity of Gheorghe Năstase, born in Bessarabia and member of the Country's Council, who voted for the unification of this eastern part of Moldavia with the rest of Rumania, in 1918. With a part of his studies made in Paris, lecturer of anthropogeography in 1932 and professor of general and human geography in 1938, Gheorghe Năstase has dedicated the most important of his works to the historic geography, publishing excellent and well documented works about the field realities of the Danube Delta, Bessarabia (especially concerning the antique earth walls), the Siret valley etc.

Other research directions of Gheorghe Năstase have been the population geography (about the regional peculiarities of the population's ethnic, confessional and professional structure, the population's dynamics, its density and distribution etc.), the geography of the human settlements (the urban structure and networks in Moldavia, especially along the Prut valley), and the economic geography (about the salt exploitation in the Bugeac etc.). A part of professor Năstase's courses have been published, again with the contribution of some of his students, firstly the course of anthropogeography (1926),

From the other, more or less younger geographers of the Iași university, an important interest has been manifested for the human-geographic problems by Victor Tufescu (about the problems of the population, of the urban settlements, with a special interest for the commercial boroughs and for the towns of Botoșani and Iași, the rural settlements of Moldavia, the energy resources of this province, the tobacco cultivation etc.), Emil Diaconescu (about the network of middle-age roads of Moldavia and the problems of political geography), Iulian Rick (concerning the dynamics of the territorial administrative organization and the economic geography of the Jijia Hilly Plain, the fishing in Japan etc.), Ion Gugiuman (about the human geography of the Huși depression and the geographical peculiarities of some towns, like Huși and Bălți), general Scarlat Panaitescu (concerning the problems of Bessarabia, the history of the cartography, the military geography and the toponymy), Alexandru Obreja (about the network of typical commercial boroughs of Moldavia and the influence zone of Iași), Ioan Șandru (about the towns

of Rădăuți, Bacău and Târgul Ocna), Nicolae N. Lupu and Ion Gugiuman (concerning the villages of the Mureș valley and of the Hilly Plain of Fălciu) etc.

In their works, Victor Tufescu, Alexandru Obreja, Constantin Martiniuc and Ion Chelcea were often approaching also the problem of the ethnic minorities – Gypsies, Jews, Bulgarians, Hutsuls etc. Adepts of the concept of an integrated geography, and intending to demonstrate the mutual relations between the human society and its environment, the geographers of the Iași university have given a proper attention to the problems of the human geography in their papers of physical geography too, as in those of Gheorghe Năstase dedicated to Centum Monticuli or to the Bălătau lake, in those of Nicolae N. Lupu concerning the depressions of Dărmănești and Rădăuți, so as the French region of Auvergne, in those of Victor Tufescu about the regions of Dealul Mare – Hârlău and Ruginoasa – Strunga, in that of Alexandru Obreja concerning the eastern part of the upper Bârlad basin, in that of Iulian Rick, analysing the Jijia hilly Plain and in that of Ioan Șandru about the Onești-Cășin Subcarpathian Depression.

In the first half of the XX-th century began also the development of an ethnographic direction, in relation with the human geography and under the impulse of Ion Chelcea. In 1943 has been founded a museum of ethnography, who grew as an autonomous institution after the Second World War.

Tight and fruitful scientific relations have been established with the foreign geographers, beginning with the great French scholar Emmanuel de Martonne, who presented in the Iași university three conference serials (in 1918, 1926 and 1928) and organized a geographic excursion in Moldavia and Bessarabia, whose results have been used in the chapter consecrated to Romania of the IV-th volume of the French *Géographie Universelle* (1931). Emmanuel de Martonne, who was made also Doctor honoris causa of the University of Iași (1938) has facilitated also scholarships in France for some geographers of Iași, like Gheorghe Năstase, Victor Tufescu and Nicolae N. Lupu.

The same period has been marked also by the organization of the geographical society “Dimitrie Cantemir” and by the publication of a first geographical scientific review in Iași – *Lucrările Societății Geografice “Dimitrie Cantemir”*, edited in four volumes in the years 1938 - 1942.

### ***The years 1948 – 1989***

The dramatic economic, political and social changes after the Second World War have strongly affected the destiny of the geographical research and education in Iași too. In 1948 has been organized a new faculty – that of history and geography, with a historical and a geographical sections; new courses, with an evident ideological content, have been introduced, like the course of economic and political geography, the political-ideological courses and that of Russian language. The professors and lecturers of the inter-war period (Mihai David, Gheorghe I. Năstase, Emil Diaconescu, Jana Martiniuc, Natalia Șenchea, Ion Chelcea, Nicolae N. Lupu, Elena Lupu) have been obliged to retire or to go to the high school education, remaining in the university only the former assistants Ioan Șandru, Ion Gugiuman and Constantin Martiniuc. Many younger geographers replaced the estranged professors, like Alexandru Obreja, Ion Sârcu, Maria Schram, Vasile Băcăuanu, Nicolae Barbu, Constantin Blaj, Maria Pantazică, Mihai Apăvăloaiei etc. But the political purges continued till 1957, touching also some younger geographers engaged after the Second World War: Lucia Popescu, Mărioara Dumitrașcu, Georgeta Țicăloiu, Valeria Asandei, Carol Barat, Iosef Natansohn, Olimpia Lazăr, Victor

Apostoleanu, Dimitrie Oancea, Alexandru Rogobete, Cornelia Mihai, Maria Popovici and Andreea Șandru.

A long time Tiberiu Morariu remaining the only Romanian geographer having the right to supervise doctor dissertations, many young geographers of Iassy have been obliged to sustain their dissertations in Bucharest (Ion Șandru), in the “Babeș- Bolyai” University of Cluj or in the U. S. S. R. (Mihai Apăvăloaiei). Hardly in 1963 the professor Ioan Șandru has obtained the right to supervise doctor dissertations, followed in 1966 by Ion Gugiuman and Constantin Martiniuc, later (1971) by Vasile Băcăuanu and Ioan Donisă. The majority of their candidates for a doctor’s degree were Romanians (Pompiliu Poghirc, Iulia Văcărașu, Irina Ungureanu, Cazimir Swizewski, Elena Erhan, Ion Bojoi, Veronica Giosu, Victor Sficlea, Dumitru Ploscaru, Ioniță Ichim, Ioan Stănescu, Alexandru Ungureanu, Dumitru Chiriac, Gabriel Davidescu, Vasile Nimigeanu, Nicolae Lupu-Bratiloveanu, Virgil Apopei, Maria Rădoane, Virgil Surdeanu, Nicolae Rădoane etc.), but there were also some ones from other countries (Columbia, Egypt, U. S. S. R.). In the years 1966 – 1998 have been sustained 55 doctor dissertations.

In 1950 – 1956 a new faculty, that of geology and geography, has been organized, with a very composite curriculum, comprising a course of geography of the U. S. S. R., many geological and biological disciplines, pedology (firstly sustained by Nicolae Bucur and then taken over by N. Barbu), materialist philosophy, chemistry, mathematics, physics and so on, but with a deficient education in the field of the human geography. In 1956 a new name appeared, that of faculty of natural sciences and geography, with sections of botany, zoology, physical geography, geography–natural sciences and natural sciences–geography. Beginning with 1968 specialization groups for the students of geography have been organized – those of geomorphology – pedology, climatology–hydrology and geography of the population and human settlements. In 1977 another transformation appeared, by the introduction of a double didactic profile – that of geography – a foreign language and literature (geography – French, geography – English, geography – Russian and geography – German).

Beginning with 1951, in the conditions of a great lack of young teachers, in parallels with the “Alexandru I. Cuza” University has been organized a pedagogical institute, but, in 1966 the Faculty of History-Geography of this institute has been transferred to Bacău. A number of years has functioned in Iași also a “workers’ faculty”, with very many students, but, evidently, with a very low educational level.

The geographers of Iași have tried to resist to the attempt of detaching the human geography of the physical geography, even if this resistance has been, generally, a tacit one and tried to maintain the classic line of the Romanian geography of the inter-war years. This position has been sustained especially by Ioan Șandru, in a paper published in 1964 (*The economic geography – object, methods and history*) and by Ioan Hârjoabă, in 1984, in a paper consecrated to the “neogeography”.

Yearly scientific conferences have been organized, some of them having also a national and even international participation, as, for example, the National Colloquium of Applied Geomorphology (1973) and the National Colloquium of Population and Settlement Geography. The majority of the studies realized by the geographers of the “Al. I. Cuza” University and of the “Stejarul” research station have been published in the own publications - *Scientific Annals of the “Al. I. Cuza” University, Papers of the Geographical Seminary “Dimitrie Cantemir”* (resumed since 1981) and *Papers of the “Stejarul” Research Station*.

Although the relations with the foreign geographers, especially with the western ones, became very difficult, nevertheless impressive efforts have been done in order to participate to

the congresses of the I. G. U. (Rio de Janeiro, 1967, Moscow, 1989) and to the Franco-Romanian geographical colloquia, to organize exchanges of professors and students with the universities of Debrecen, Jena, Cairo, Alexandria, Lubumbashi etc., to participate to the jubilee of the Geographical Society of Netherlands, to the summer courses organized by the Iași university, referring to the *Nature and Man in the Eastern Carpathians* etc.

Some geographers from Iași (Ioan Șandru, Ion Gugiuman, Ion Sârcu, Constantin Martiniuc, Ioan Donisă, Victor Sficlea, Ioan Hârjoabă, Nicolae Barbu, Ion Bojoi, Alexandru Ungureanu, Dumitru Chiriac) have visited other countries, with research and study scholarships, for conferences etc. In exchange, important foreign geographers, working in the Soviet Union, in France, Poland, Italy, Eastern and Western Germany, Belgium etc., have visited Iași, for documentation trips or in order to present conferences.

The necessity of geographic information in order to document some economic projects (construction of new communication ways, buildings, hydroelectric plants, irrigation systems, a. s. o.) or to re-organize the territory and the settlements imposed the introduction of a system of research conventions and the co-operation with the projecting institutions.

With this aim and also in order to support the teaching tasks, has been organized, in 1956, the “Stejarul” Station of Biological, Geographic and Geologic Research, in the mountain village of Pângărați, on the Bistrița valley, using the buildings of an old monastery, dating from the XVI-th century and enlarged in the XIX-th one. The geographers of this station, directed, at the beginning, by the professors Ion Gugiuman and Constantin Martiniuc, worked here until 1983, when they moved into a new location, in Piatra-Neamț, under the scientific coordination of the Center for Biological Research in Iași. The main directions of the geographic research in Pângărați have been those of the geomorphology, hydrology, climatology and geography of the soils, after 1980 the greatest part of these researches being funded by research grants obtained from different state institutions.

On the same way, beginning with 1986, at professor Ioan Hârjoabă’s initiative, has been organized a research team of the C type, with young geographers representing also a reserve for the teaching corps

The maintaining of the unity of the geography has been realized by the geographic regional complex studies, motivated by the “plans of systematization and development”.

From the main complex works of regional integrated geography, to whom the geographers from Iași (Constantin Martiniuc, Ion Sârcu, Victor Sficlea, Ioan Șandru and Constantin Blaj) have substantially cooperated in that years, let us highlight the *Geographic monograph of Romania*, published in 1960 in two volumes, concerning the physical and the „economic” geography of the country, work accompanied by two volumes of maps. The second part of the second volume, presenting the regional geography, also accompanied by a volume of maps, with, again, an important contribution of the geographers of Iași (Ion Gugiuman, Mihai Apăvăloaiei, Ion Șandru, Elena Balaban, Cazimir Swizewski and Pompiliu Poghirc), although printed, has not been distributed, for political reasons. For the same reasons, Gheorghe Năstase who had a substantial contribution to different chapters, especially to that presenting the Central Moldavian Plateau, as to the common field trips and to the discussions with the co-operating soviet geographers, was not allowed to sign his own work.

A second work of large interest has been the *National Atlas of Romania*, published in 1974 – 1979, where the geographers of Iași have had contributions to the general concept (Victor Sficlea) so as to different thematic maps (Constantin Martiniuc, Ioan Donisă, Ioan Șandru, Cazimir Swiezewski, Dumitru Chiriac, Alexandru Ungureanu and Vasile Băican).

The third one, who has been only started in 1983, was the *Geography of Romania*, conceived in six volumes, the first three of them being published before 1989 and comprising the physical and the human geography, so as the first part of the regional one (concerning the Romanian Carpathians and the Transylvanian Depression). From the contributors of Iași, the following ones must be mentioned - Vasile Băcăuanu (taking part to the chapters about the relief and about the Moldavian Plateau), Ioniță Ichim (author of the chapters about the glaciary relief and the superficial deposits, and co-author of the chapters about the general peculiarities of the relief, the climatic conditions of the relief evolution, the Bârgău – Dorna – Moldova corridor, the Mountains of the Bistrița and of the Trotuș), Virgil Surdeanu, Maria Rădoane and Nicolae Rădoane (about the relief formed on conglomerates and sandstones), Elena Erhan (about the climatic research and, co-operating with Mihai Apăvăloaiei – about the atmospheric precipitations), Florin Mihăilescu (about the local winds), Ion Gugiuman (about the urban topoclimates), Maria Schram and Maria Pantazică (the chapter about the Black Sea), Nicolae Barbu (concerning the natural pedogenetic factors, different types soils and the Bukovina's Obcine), Irina Ungureanu (about the notion of geographic environment in the romanian litterature), Alexandru Ungureanu (co-author of the chapters concerning the toponymy and the geography of the towns), Ioan Șandru (co-author of the chapters about the evolution of the towns and of the urbanization), Cazimir Swiezewski (author of the chapter about the Giurgeu depression, co-author of the chapters about the tourism and the human geography of the Romanian Carpathians), Pompiliu Poghirc, Virgil Apopei, Nicolae Rădoane, Maria Rădoane (co-authors of the chapter concerning the Mountains of the Bistrița) and Iulia Văcărașu (co-author of the chapters about the Hăghimaș and Trotuș mountains).

Different geographic regions made also the object of some complex geographic studies, as the Moldavian Plateau (Vasile Băcăuanu, Nicolae Barbu, Maria Pantazică, Alexandru Ungureanu and Dumitru Chiriac), the Bistrița valley (Ioan Donisă and Pompiliu Poghirc), the Obcine of Bukovina (Nicolae Barbu), the Hăghimaș Mountains (Iulia Văcărașu), then the Bârlad Plateau and the Tutova Hills (Pompiliu Poghirc), the Iași county (Ioan Șandru, Vasile Băcăuanu and Alexandru Ungureanu), the Vaslui county (Ion Gugiuman, Vasile Cârcoță and Vasile Băican), the Neamț county (Ioan Bojoi and Ioniță Ichim), the Bacău county (Nicolae Lupu, Iulia Văcărașu and Constantin Brânduș), the Galați county (Dimitrie Oancea and Cazimir Swiezewski), the Giurgeu Depression (Cazimir Swiezewski), the Huși Depression, so as the former Iași and Galați regions (Ion Gugiuman), the former districts of Pașcani, Bârlad and Huși, the north-eastern economic region of Romania and the former Suceava region (Mihai Apăvăloaiei), the Cotnari vineyard, the Trotuș basin, the Giurgeu Depression (Cazimir Swiezewski), the Dărmănești, Borsec and Cason Depressions, or towns, like Iași (studied by a staff coordinated by Nicolae Barbu and Alexandru Ungureanu) and Bacău (Ioan Șandru).

In keeping with an initiative of the Romanian Geographical Society, a serial of geographical dictionaries of the Moldavian counties have been realized and some of them have been also published, like that of the Iași county (Alexandru Obreja) and that of the Vaslui one (Ion Gugiuman, Vasile Cârcoță and Vasile Băican).

Having no or less ideological-political subtext, the physical geography has got in that years a substantial upsurge and a multilateral diversification, in all its branches, firstly, the geomorphology, directed and developed by professor Constantin Martiniuc and his successors, these ones (Vasile Băcăuanu, Ioan Donisă and Ioan Hârjoabă) conceiving and publishing also an original geomorphologic dictionary (1974).

The main subjects of the relief researches have been the evolution of the river valleys and of the fluvial terraces (developed along the Siret, Bistrița, Bârlad, Bahlui etc.), the geomorphologic processes, including the glacial-evolution, the land sliding, the torrent evolution, and the geomorphologic regionalization. Another major aspects of the geomorphology which preoccupied the specialist of Iași has been the problem of the formation of the relief levels, in relation with the geomorphic evolution on river basins, so as with their lithologic peculiarities and the relation with the man-made dams, beginning with the works and papers of Constantin Martiniuc and Ion Sârcu, followed by Ioan Donisă, Ioan Hârjoabă, Vasile Băcăuanu, Ioniță Ichim, Maria Rădoane etc. Notable have been also the study of the geomorphologic role of the periglacial processes, especially in the Carpathians, where have been made the researches of Ioan Sârcu, Ioan Donisă, Ion Bojoi, Ioniță Ichim etc, the dynamics of the river beds (Ioniță Ichim and his co-operators), the origin and the effluence of the alluvia from different river basins (Maria Rădoane a. o.), the gully evolution in the Moldavian Plateau and the erodibility of the terrains, the geomorphologic mapping (Ioan Donisă, Irina Ungureanu). and the practical application of the relief studies.

Important geomorphologic regional studies have been realized and partially published by Ioan Sârcu (concerning the Rodna Mountains and other high massifs of the Carpathians), Victor Sficlea (about the Covurlui Plateau), Vasile Băcăuanu (about the Moldavian Plain), Ioan Donisă (concerning the Bistrița and Siret valleys), Ioan Hârjoabă (about the Tutova Hills), Ion Stănescu (about the Ceahlău Massif), Ioniță Ichim (the Stânișoara Mountains), Ioan Bojoi, Gheorghe Lupașcu, Ioan Ioniță etc.

The climatologic-meteorological field developed itself especially by professor's Ioan Gugiuman endeavor, this one being also the first organizer of the two first Romanian conferences of urban climatology and struggle against the air pollution. He was that who initiated climatologic studies with a practical applicability, approaching and supporting the development of the microclimatology, in works about the climate and the microclimates of the Cotnari vineyard so as of the Onești-Cășin Depression. Ion Gugiuman has been also that who taught the first course of urban climatology in Romania and published studies about the wind potential, so as, together with dr. Marțian Cotrău, a volume of elements of urban climatology, with examples from Romania. Very well-known is the study done by professor's Gugiuman team (comprising also Gheorghe Pleșca, Elena Erhan and Ion Stănescu) about the climatic units and subunits of the eastern part of Romania (1960).

Ioan Donisă has approached also the climatologic field, publishing, together with Elena Erhan, in 1974, a *Climatology of Romania*, and underlining, together with Gabriel Davidescu, the influence of the Carpathians on the climatic differentiation of Romania's territory. Elena Erhan has been the author of studies about the temperature inversions of some depressions of the Carpathians and of the Moldavian Plateau, the hoarfrost and the frost in the Jijia hilly plain (in co-operation with Valentina Ștefan) etc.

Many researches have been dedicated to the problem of the atmospheric precipitations, especially in the eastern part of the country, due especially to Ioan Gugiuman (who, in co-operation with Rodica Stoian have been preoccupied by the snow cover of the Carpathians), to Elena Erhan (who studied the precipitation regime, the snow cover in Moldavia, the draught and hail in the Moldavian Plateau etc.), to Ioan Hârjoabă (concerning the origin of the precipitations, in co-operation with Luminița Crețu, the characterization of the aridity index etc.).

From the complex climatologic regional studies let us mention firstly that one done by Ioan Gugiuman and Elena Erhan (about the climate and the microclimates of the city of Iași and



its surroundings), study taken again and thoroughgoing published by Elena Erhan, on the basis of her own network of micrometeorological stations, than the study about the climate, especially about the precipitations and the air temperature of the Eastern Carpathians and of the Moldavian Subcarpathians, made by Gabriel Davidescu, Liviu. Apostol, Mihai Apăvăloaiei etc.) so as that about the climate and the micro-climates of the zone of the man-made lakes along the Bistrița valley (Ion F. Mihăilescu). Microclimatic studies made on the basis of the instrumental field observations have been done about the Romanian Black Sea Coast (due to Gabriel Davidescu and Eugen Gheorghiu), about the Moldavian Subcarpathians (Gabriel Davidescu and Ion F. Mihăilescu) etc. Detailed studies about the air pollution and the influence of the wind regime on this pollution in the zone of the Iași city, so as along the Bistrița and Trotuș valleys, have been done by Elena Erhan, Ion F. Mihăilescu, Liviu Apostol, Mihai Apăvăloaiei and Ion Pârvulescu.

In the field of the hydrology, Constantin Martiniuc has organized and directed the study of the variations of the underground water level on the territory of the Iași town. Maria Pantazică has occupied herself with the hydrologic study of the Moldavian rivers, publishing also, in 1974, her doctor dissertation, concerning the hydrography of the Moldavian Plain, whereas Maria Schram has studied the man made ponds of the same Moldavian Plain, drawing out also a doctor dissertation on the same subject; the water quality of the Moldavian rivers has been analyzed also by these two authors. Hydrological studies about different rivers of Moldavia have been undertaken by Ioan Gugiuman, Ion Stănescu and Virgil Apopei. The geographers of the “Stejarul” station (Vasile Ciaglic, Virgil Apopei, Elena Pantazi) studied especially the thermic regime and the level variations of the man-made lakes along the Bistrița and Siret valleys. About the underground waters have been made studies in the Lăpuș alluvial plain, studies published in 1985 and due to Ioan Bojoi and Constantin Brânduș, so as about the Bistrița valley (Virgil Apopei).

During the same period, the pedology has developed itself very much at the University of Iași, a serious school of pedo-geography being organized by the professor Nicolae Barbu, gifted with an own laboratory for the chemical and physical analysis of the soils. In the years after 1975 the pedo-geographic researches have taken a more powerful upsurge, concentrating themselves on the study of the soils of the Eastern Carpathians (regarding the mountains of Rarău, Hăghimaș, Ciuc, Tarcău, Bistrița, Mestecăniș, Ceahlău, Stânișoara, Giupalău, Suhard, Nemira and Berzunț), of the Moldavian Subcarpathians (the Cracău-Bistrița Depression), so as of some administrative units, like the counties of Suceava and Neamț. To these researches participated, in co-operation with Nicolae Barbu, especially Gheorghe Lupașcu and Constantin Rusu. Besides his courses of pedo-geography (1974) and geography of the Romania's soils (1987), Nicolae Barbu has published a serial of papers about the pedo-geographic position and the pedo-geographic regionalization of the Romanian territory, about the soil as study object of the geography, about the Romanian system of soil classification etc.

The preoccupation for the bio-geographical problems have not made default any more, as those about the Călimani, due to Gheorghe Lupașcu. Those orientated in the direction of the applied studies concretized themselves in the study about the prospective of the space organization in the Cotnari vineyard (Irina Ungureanu and Vasile Nimigeanu), about the therapeutic natural resources in the Moldavian Plateau (Ioan Bojoi and his staff), about the Iași and Vaslui counties etc.

As a natural result of the evolution of the fundamental and applicative speciality research and reflecting the same holistic, integrate approach of the study object – in the scientific line introduced by Simion Mehedinți, the founder of the modern geography in Romania – in the

^70yes of the last century, in the speciality research the systemic demarch came clearer into view and in the geographic higher education appeared a new discipline, the geography of the environment, In difference with the accepted meaning for environment, so much in other fields of the science as in the practice (human ambience and – respective – the tautologic locution „environmental milieu”), in the geographical faculty of Iassy this reality has been approached (Irina Ungureanu, 1976, 1984, 2005) as a geosystem (the system earth), do much in the educational process as in the speciality research, having in view so much its – abiotic, biotic and anthropic/anthropized - structure as its complex functionality. This approach has been logically fundamented on the continuity specific to the geographical integrated demarch and has been stimulated by the maintaining of the synthesis spirit of the speciality investigation, even in the conditions of a harsh political-ideological interference and of a long occultation of some fundamental geographic branches,

In the years '70-'80 one had in view an elucidation of the systemic basis of the geographic investigation (I.Donisă, Irina Ungureanu, I.Bojoi), of the terminology, of the dynamics, of the estimate of the quality and of the cartography of different sectors of the geosystem (Irina Ungureanu). In the methodological respect, one went thoroughly into the investigation possibility by means of a serial of analytic marks and appeared in the systemic investigation the logic necessity of some synthesis indicators, being identified/imaginated some indicators resulting from other 8 – 28 simple/derived indicators, introduced in 3 – 5 – 7 levels of successive integration, verified/completed by the application to some concrete of the Suceava Plateau and of the Eastern Carpathians (Irina Ungureanu). It has been conceptually approached, from a geosystemic position, the notion of risk, so as the problems of the risk (Irina Ungureanu). Concerning the graphic expression of situation/states by the use of some synthesis indicators, one has used informational techniques by the superposition of several layers of morphometric and hydrographic information (Ioan.Donisă, Valentin Donisă, Ciprian Mărgărint), to whom has been added a method of progressive visualisation, which allows the graphic expression, legible but not unomissive of the successive integrations (Irina Ungureanu).

In the human geography this long enough stage has been characterized by the attempt to impose a certain dogmatism of a Marxist essence, which limited the human geography to the economic aspects and considered that this one was taking part in another group of sciences, relatively distant – the social sciences. After the soviet model, to the “economic” geography was entrusted especially a propagandistic and educative role, glorifying the system of centralized planning and contributing to the creation of the “new man”. It appeared even a rupture with the occidental human geography, exactly in the time when this one was registering a great progress, appearing many new currents and theories, as those of the behaviourist geography, of the systemic geography, of the quantitative geography etc.

If the Marxist theoretical concepts were respected, the “economic” geography wood have arrived to a total renunciation to the critic spirit, inherent to a scientific discipline, to the disappearance of the analyze and of the dialogue, so to the accepting, without any trace of contesting, of the received directives. All this would have signified the death of the human geography, this one being, essentially, a science of the relativism and of the conjuncture, submitted to a high degree of subjectivity of the decidents.

On another side, a good note for the human geography of Iași in the post-war years is given by the realization of some complex studies about the whole country, as *Romania – a geographical over-view* (published, in Romanian and in French by Ioan Șandru) and *Romania's economic geography* (published by Vasile Nimigeanu).

Beginning with 1948, initially at the initiative of the urban authorities, later at professor's Ioan Şandru one, urban-geographic studies about a whole serial of towns have been realized – those about Tulcea (Gh. Năstase), Vaslui (Nicolae Lupu), Focşani (Ion Gugiuman), Fălticeni (Constantin Martiniuc), Tecuci (Alexandru Obreja), Galaţi (Victor Sficlea), Iaşi, Botoşani, Galaţi, Brăila, Botoşani, Suceava, Paşcani, Huşi, Oneşti, Buhuşi, Adjud, Piatra-Neamţ, Comăneşti, Câmpulung Moldovenesc, Techirghiol etc. With a foreign themes, Ioan Hârjoabă has realized an interesting study about the African city of Lubumbashi. These studies, some made in co-operation with specialists in urban engineering (Iaşi, Galaţi, Paşcani, Huşi, Bacău etc.) ended with chapters dedicated to the urban management problems. Nicolae Barbu, Alexandru Ungureanu and their co-operators have published to the end of this period a comprehensive monograph of the city of Iaşi, distinguished with a price of the Romanian Academy.

Of a much higher attention, in comparison with the pre-war years, have enjoyed the studies of rural geography, in the conditions of a higher degree of typological diversity. The human geographers have focused their attention on the problems of the development possibilities of the villages and of the urban future of some of them, on the relations between the villages and the characteristic geographic conditions, on the specific problems of the small villages, on the changes intervened in the network of rural settlements by the construction of some large hydroelectric stations and so on. Substantial contributions to the solution of the rural geographic problems have been brought by Ioan Şandru, Dumitru Chiriac, Pompiliu Poghirc, Vasile Nimigeanu, Nicolae Lupu-Bratiloveanu, Mihai Apăvăloaiei, Cazimir Swizevski and Iulia Văcăraşu. The first achieving of a complex regional study concerning the ensemble of the Moldavian villages is due to Dumitru Chiriac.

From the problems of the population geography have been approached those of the dynamics, of the territorial distribution and of its modification, of the evolution of the different structure types, of the territorial mobility, of the relations between the population and the economic development, of the resources of working force etc. Let us mention the contributions due to Ioan Şandru, Veronica Giosu, Victor Sficlea, Dumitru Chiriac, Alexandru Ungureanu, Vasile Nimigeanu, Nicolae Lupu-Bratiloveanu etc.

On the line of the previous preoccupations of Gheorghe Năstase and Emil Diaconescu, the researches of history of the cartography have been continued, the specialists (Ioan Şandru, Vasile Băican, Victor Sficlea, Alexandru Ungureanu, Marcel Vârlan) using the archaeological data and the documents of the old cartography, in order to reconstitute the distribution of the human settlements, their dynamics and that of the population, of the roads and of the woods in different periods of the past, with a special attention given to the XVIII-th and XIX-th centuries. The importance of some unpublished sources of the libraries and archives of Paris has been also evidenced.

### ***The years after 1989***

The collapse of the communist regime opened the way to important changes in the organization and in the content of the geographic research and education.. So, in 1990, by the detaching of the Biology it remained a Faculty of Geography and Geology, with a chair of geography (1989 – 2000), followed by a Department of Geography, with three chairs, and, beginning with 2008, without any chairs.

From the didactic point of view, the length of the study has been reduced in 1993 to four years, but it remained the two previous sections – that of geography and that of geography - a foreign language and literature. (English, French and German). Beginning with 1996, for the first

time, has been founded a section with courses and seminars in a foreign language – the francophone section of Geography-French language and literature, which resisted, besides those of Geography-English and Geography-German, until 2008. In 1994 has been set up a new section, that of Environmental Science (a couple of years denominated of Geography – Environmental Science) and in 2003 – that of Tourism Geography.

By the adopting of the Bologna protocol (2005), the length of the license studies has been reduced to three years, reduction compensated by two supplementary years of master studies. New license specializations appeared also for the license studies – those of Territorial Planning and of Hydrology – Meteorology – so as for the master studies – Tourism and Regional Development, Natural Risks and Territorial Planning, Actual Environment and Sustainable Development, all this with accompanied by a considerable increase of the number of students.

The opportunities of scientific documentation have been substantially improved also by the contribution of the former student of the faculty, Eugen Cosinschi, and of his wife, Micheline Cosinschi, who have offered to the faculty two extremely valuable collections of scientific books.

Among the doctor directors of the former period continued to sustain this charge Constantin Martiniuc (directing the work of Gheorghe Lupașcu) and Ioan Donisă (directing the dissertations of Mircea Amăriucăi, Liviu Apostol, Daniel Condorachi, Cristian Patriche, Ciprian Mărgărint and Adrian Ursu, so as, together with Micheline Hotyat – that of Simona Niculescu).

Many relatively younger professors have received the right to direct doctor dissertations – Elena Erhan (who directed the doctor dissertations of Lucian Sfâcă), Nicolae Barbu (supervising the dissertations of Vasile Băican, Eugen Rusu, Cristian Secu, Bogdan Roșca and Cristian Stoleriu), Ioan Bojoi, Ioan Hârjoabă (with, as future doctors – Dan L. Stoica, Ion Ioniță, Adrian Grozavu and Daniela Larion), Ioniță Ichim (director of the doctor dissertation of Dan Lesenciuc), Irina Ungureanu (supervising the work of Toma Căpățână and Alexandru Bănică), Gheorghe Lupașcu, Ioan Ioniță, Constantin Rusu (directing the dissertations of Ionuț Minea, Lilian Neacșu, Cătălin I. Stângă, Ionuț Vasiliniuc and Mihai Niculiță), Gheorghe Romanescu, Eugen Rusu, Liviu Apostol and Maria Rădoane (for Alina Popa), all in the field of the physical geography. In the field of the human geography have directed doctor dissertations Alexandru Ungureanu (for Ionel Muntele, Octavian Groza, Corneliu Iațu, Ionel Boamfă, Radu Dimitriu, Marinela Istrati, George Țurcănașu, Oana Stoleriu and Alexandru Rusu), Vasile Nimigeanu (for Raluca Horea-Șerban), Octavian Groza (for Gabriel Camară, in co-operation with Lydia Coudroy de Lille – and Adrian Covăsneanu), Ionel Muntele (for Daniel Tudora) and Corneliu Iațu (for Mihai Bulai). Daniela Balin has sustained her doctor dissertation in Switzerland, Radu Căpitan – in Canada and Nicolae F. Roman – in France, whereas Gheorghe Romanescu and Dan Dumitriu have their doctor titles obtained in Bucarest.

Very many young people have been engaged in the Department of Geography, these ones representing today the great majority of the learning staff.

The scientific and didactic relations with the universities from abroad have had an impressive development, by much more contacts with institutions and specialists from other countries, and by the participation to different international projects (for example, a series of projects realized in the frame of the E. S. P. O. N. , S. Y. G. E. T., in co-operation with the Canadian geographers from Montreal, *Development of algorithms and computer programs for filtering profilometry data*, in co-operation with the University of Helsinki, the digitization of the territorial administrative organization of Romania, in co-operation with the university of Lausanne, the realization of the *Atlas de la Roumanie*, realized in co-operation with the

geographers from Paris and Bucharest and printed also in Romanian) etc. Other types of cooperation have been – the common guidance of doctor dissertations (those of Octavian Groza, Simona Niculescu, George Camară), the sustaining of dissertations under the guidance of foreign professors (Aurelian N. Roman), the participation to the summer schools etc.

As an international recognition of the quality of the geographical research in Iași, in 2009 has been inaugurated here the E. S. P. O. N. contact point for Romania, Adrian Grozavu and Ștefan Kocsis have participated to the European Leonardo project *Environment and Earth Sciences Multilingual Multimedia Dictionary*, publishing also a Romanian version of the respective dictionary, Corneliu Iațu has been the director of the Romanian participation to the international research project *East-european places of the spirit*, Carmen Donisă has participated to the project *Study of the behaviour of the trace elements in the Norwegian podzols and of their relationship with the pedo-genetic processes and the pollution* etc.

A noticeable number of foreign geographers have been invited to present lessons and conferences in Iași – Robert Ficheux, the age dean of the French geography, Jean-Bernard Racine (Lausanne), Violette Rey and Béatrice von Hirschhausen (E. N. S. Lyon), Paul Claval and Micheline Hotyat (Paris IV), David Turnock (Leicester), Charles Hussy and Bertrand Lévy (Geneva), André Dauphiné (Nice), Michel Bussi (Rouen), Myriam Baron (Paris XII), François Seys (Lille), Per Lindsåg (Linköping), Ann van Leeuw (Brussels), Frank Dieter Grimm (Leipzig) etc. The title of Doctor honoris causa has been conferred to the geographers Jean-Bernard Racine (Switzerland), Jean-Robert Pitte (France), David Turnock (United Kingdom) so as to Denis Baise ph.D. (France) and that of honour professors to Violette Rey (Ecole Normale Supérieure of Fontenay-Saint-Cloud) and Micheline Cosinschi-Meunier (University of Lausanne).

The geographers from Iași have had now more opportunities to present abroad courses and conferences – Alexandru Ungureanu (in Paris, Dijon, Lausanne, Leipzig, Halle, Munich, Padova, Linköping, Chișinău etc.), Corneliu Iațu (in Nice, Paris, Montpellier, Limoges, Poitiers, Amiens, Lille, Lausanne, Rouen, Liège etc.), Irina Ungureanu (in Liège, Nice, Paris etc.), Octavian Groza (in Paris, Nantes, Brussels, Fontenay-aix-Roses, Lyon, Dijon, Marseille etc.), Eugen Rusu (in Laval - Canada and Paris), Gheorghe Romanescu (in Paris, Durham, Konstanz, Nice, Ottawa, Concepción and Liège), Ioan Donisă (in Chișinău), Ionel Muntele (in Nantes), Adrian Grozavu (in Bordeaux), Daniela Larion (in London, Leeds, Brussels, Neuchâtel) etc. With the support of the university, the geographers have had the opportunity to take part to different scientific expeditions – in the Arctic regions of Canada and in Greenland (Constantin Rusu, Eugen Rusu), in the Atlantic Ocean and in the Fire Land (Gheorghe Romanescu), in the south, south-west and south-east Asia, in the Andine countries, in the Atlas Mountains (Dragoș Nica), in South Africa etc. A large exchange of students has been organized, with different universities of France, Belgium, Italy, Spain, Sweden, Denmark etc.

A particular attention has been given to the scientific relations with the republic of Moldova - guidance of the young geographers, a considerable group of them elaborating and sustaining their dissertations with professors from Iași – Stelian Manic, Victor Țapeș, Ion Danilescu, Vitalie Sochircă, Gheorghe Cuciureanu and Dorin Lozovanu, education of young students, organization of common scientific conferences, alternative presentation of courses, exchange of reviewers at the presentation of some doctor dissertations etc.

Beginning with 1999 three centers of scientific research have worked in the department of geography – the center of human geography and territorial organization, directed by Alexandru Ungureanu and Octavian Groza, the center for physical geographic and pedologic

researches directed by Gheorghe Lupașcu, and the center for the geomorphologic and hydro-climatic researches directed by Constantin Rusu.

Until 1993 the scientific research has been focused mainly on directions sketched out in the previous period, looking to a complex analysis of the north-eastern part of Romania (the Moldavian Subcarpathians and the Moldavian Plateau), the finalizing of the material conceived for the IV-th volume of the *Geography of Romania*, concerning the Moldavian Subcarpathians and the Moldavian Plateau, under the co-ordination of Ioan Donisă and Vasile Băcăuanu : among the authors of this volume have signed 13 geographers from Iași (Alexandru Ungureanu, Elena Erhan, Maria Pantazică, Nicolae Barbu, Veronica Giosu, Dumitru Chiriac, Mihai Apăvăloaiei, Vasile Nimigeanu, Irina Ungureanu, Eugen Gheorghiu, Nicolae Lupu Bratiloveanu, Ion Stănescu and Pompiliu Poghirc).

At the same time with the introduction of the geo-informatics courses given by a specialist, the preoccupation for the modernization of the methodology of the geographic research became vaster. The G. I. S. and the remote sensing became more and more used in different branches of the physical and human geography and even a doctor dissertation has been realized with a subject developing this methodology – about the numeric processing of the images in order to obtain informations necessary for the G. I. S. (Valentin Donisă). Nicolae A. Roman has introduced the method of the spatial hierarchic relations applied to the satellite images of the Jijia hilly Plain, has approached the use of the multi-media means in the landscape analysis and has realized a national unified informational system about the land use. M. C. Mărgărint has used the national fund of digitized data for the studies of land improvement. The systematic introduction of the statistical methods in the geography has been argued by Mihai Apetrei in his course of *Elements of statistics with applications in the geography*, elaborated in co-operation with Claude Grasland and Octavian Groza (1006).

The results of this new orientation began to be more visible through the realization, under the co-ordination of Ioan Donisă, of the *Informatized Atlas of Moldavia* (1993 – 1997) and the regular yearly organization of the international conferences on the G. I. S. problems.

From the theoretical and methodological field, works about the systemic and ecologic perspective of the geography have been published by Ioan Bojoi, whereas Irina Ungureanu published a vast synthesis of *Geography of the environment* so as proposition of marks for the appreciation of the quality of the environment. Iulian Stîngă bent himself towards the natural risks, publishing a volume about this subject and insisting on the same theme in his doctor thesis about the Tutova basin. In co-operation with Dan Petrea, from the “Babeș - Bolyai” of Cluj, Alexandru Ungureanu has edited a concise course of *General geography*.

The geographical department has sustained also the geographic education in the high schools, conceiving and publishing well appreciated schoolbooks, due to Ioan Donisă, Angelica Donisă, Alexandru Ungureanu, Ionel Muntele, Irina Ungureanu etc.

The researches in the field of the physical geography. As in the past, the main contributions have been those in the field of the geomorphology, of the climatology, of the hydrology and especially in that of the pedo-geography, made under the impulse of N. Barbu and having the aim to contribute to the conservation of the soil quality, the stability of the slopes, to control the pollution of the soil, of the air and of the waters, so as to study some representative geo-systems. Gheorghe Romanescu, in co-operation with Gabriela Romanescu and Ana Maria Romanescu have edited two editions of a *Dictionary of physical geography*, so as a course of *General physical geography*.

Complex regional researches of physical geography have been done also in the form of doctor dissertation – about the Rarău massif (Constantin Rusu), about the Hășmaș mountains (Constantin Grasu, with the contribution of Constantin Rusu and other specialists), about the Subcarpathians between the Trotuș and Sușița rivers (Adrian Grozavu), the basin of the Bașeu (Cristian Secu), the hilly region comprised between the rivers Lohan and Horincea (Daniel Condorachi), the zone of the Central Moldavian Plateau between the rivers Vasluiet and Stavnica (Cristian Patriche), the transition zone of the Carpathian Curvature (Adrian Ursu), the northern slope of the Călimani mountains (Dan L. Stoica) etc.

Geomorphologic studies have been done about different territories, like the Tutova basin (Ioan Ioniță, Violeta Ioniță) or the south-eastern part of the Maramureș Depression (Nicolae Barbu). Paleogeographical aspects have been approached in the flysch zone of the Suceava basin by Doru Juravle and Delia Andone, as along the contact of the Carpathians with the Moldavian Plateau, by Paula Cristina Condurache, whereas the sedimentation rate has been estimated by Ion Ioniță. Although, the problems of fluvial geomorphology have represented the main interest point – studies concerning the evolution of the river valleys (due to Ion Ioniță, Adrian Grozavu, Constantin Rusu etc.), the characteristics and the evolution of the river channels (Marcel Vârlan, Ioan Bojoi, Alina Popa etc.), the river terraces (Adrian Grozavu, Dan Lesenciuc etc.), the morpho-dynamics of the Jijia alluvial plain (Ioan Bojoi) etc. The erosion platforms in the Giumalău massif have made the object of the study of Dan Lesenciuc. A special attention has been given to the contemporary geomorphologic processes – the mass-movements in the middle Bârlad basin, the gullies of the Bârlad basin and the sedimentation speed in the lakes on the basis of measurements made after the radioactive sediments deposited after the Tchernobyl accident (Ioan Ioniță), the seasonality of the geomorphic processes in the Bistrița valley (Nicolae Rădoane), the geomorphic processes of the Danube Delta, of the Romanian shore of the Black Sea (Gheorghe Romanescu) and of the Giumalău massif (Dan Lesenciuc), so as the study about of the karstic relief formed on the gypsum layers in the Tazlău Subcarpathians and about the present-day geomorphologic processes of the whole Moldavian Subcarpathians (Adrian Grozavu) etc.

An impressive number of doctor dissertations with geomorphologic subjects have been elaborated in these years – about the Danube Delta (Gheorghe Romanescu), about the middle basin of the Bârlad (Ion Ioniță), about the Moldova alluvial plain in the frame of the Moldavian Plateau (Mircea Amăriucăi), about the Giumalău massif (Dan Lesenciuc), about the river channel of the Siret river (Alina Popa), about the Vrancea subcarpathic depression (Viorel Căpățână).and about the budget of alluvia in the Trotuș basin (Dan Dumitriu).

The problems of the morphometry have enjoyed a particular attention. from the geographers Irina Ungureanu, Adrian Grozavu, Gheorghe Romanescu, Dan Lesenciuc etc. As an important mean of quantification and geographic research, the numeric model of the relief has been vastly developed, beginning with the study of the territory of Iași city (Valentin Donisă and Ștefan Kocsis) and going on with the study of the relief of whole Moldavia, for the informatized atlas of this province . Afterwards, the use of the numeric model of the relief has been generalized for morphographic and morphometric analyses, so as for climatic and hydrologic studies. Using big scale topographic maps and satellite images, geomorphologic maps of the G. I. S. type, with superposed layers have been created (Daniel Condorachi, 2003). Mihai Niculiță has elaborated an interesting doctor thesis on the subject of a work frame for the geomorphological analysis of the relief represented by numeric models.

A treaty of *Geomorphology* has been published, in two volumes, in 2000, by Maria Rădoane, Dan Dumitriu and Ioniță Ichim. A new geomorphological dictionary, with the explanation of the proper terms in english, french and russian, has been edited in 2009 by Ioan Donisă, Nicolae Barbu and Ion Ioniță, whereas Gheorghe Romanescu published in 2015 a *Littoral geomorphology*,

Particular efforts have been dedicated to the meteorological and climatic studies. Some of them have had larger objectives, like those concerning the precipitation regime in the equatorial zone, the characteristic features of the atmospheric circulation on the Earth, especially of the monsoon circulation in Asia (Ioan Hârjoabă), the climatic resources of Moldavia (Elena Erhan), the climate and the topoclimates of the Moldavian Subcarpathians (Adrian Grozavu, Liviu Apostol, Ion Pârvulescu), the climate of the Siret corridor (Lucian Sfâcă), of the Jijia hilly plain (Dumitru Mihăilă) and that of the town of Vaslui (Daniela Larion).

The air temperature has been investigated from the point of view of the thermic inversions in the Ciuc Depression (Mihai Apăvăloaiei), so as its variation in latitude and longitude in Europe (Ioan Hârjoabă, Elena Erhan and Cristian Patriche). It has been used a calculation method based on the regression, coming out from the netto radiation (Cristian Patriche).

Under different aspects and for different regions have been approached the atmospheric precipitations – from a general point of view in the Moldavian Subcarpathians (Liviu Apostol), in the Rarău massif (Liviu Apostol and C. Rusu), in the Bârgău mountains (Eugen Rusu), in the Bașeu bassin (Cristian Secu and D. Stoica) and in the Jijia valley (Corneliu Iașu), from the point of view of the yearly regime in Europe (Elena Erhan, Ioan Hârjoabă and Cristian Patriche), from that of the daily precipitations (Mihai Apăvăloaiei a. o., Lucian Sfâcă, Ioan Minea), of the characteristic features of the rainfall regime in the Central Moldavian Plateau (Daniela Larion) and of the torrential rains in the Siret basin (Liviu Apostol and Lucian. Sfâcă).

Other climatologic works have been dedicated to the nebulosity and sun shine dower (Elena Erhan, Liviu Apostol and Constantin Rusu), to the atmospheric humidity (Mihai Apăvăloaiei a. o.), to the air temperature and to the winds in the Jijia hilly Plain (Elena Erhan), to the energy potential of the wind in Iași (Daniela Larion), to the climatic aridization in the Moldavian Plateau (Nicolae Soroceanu and Mircea Amăriucăi) and to the foehnization of the air in the eastern part of Romania (Elena Erhan). Neither some natural injurious phenomena, like the hoarfrost or the untimely frosts in the Jijia hilly Plain, nor some man-induced ones, like the air pollution in Iași (Elena Erhan) or the sound pollution in the same city (Daniel Condorachi) have not been neglected.

The field of the hydrology has been illustrated by numerous and important studies effectuated especially about the waters of the eastern part of Romania. So, Gheorghe Romanescu has published in 1996 his doctor dissertation – a morpho–hydrographic study about the Danube Delta, followed by versions in foreign languages, by a study about the complex of lagoons Razim-Sinoie, by the complex analyze of the hydrologic risks (2009), by studies concerning the floods on the Siret in 2005 and the moist zones of different regions Romania's, by two edition of his course of *General hydrology* etc. In co-operation with the geographer Gheorghe Jigău, from Chișinău, and other specialists, he has published in Bucharest a *Dictionary of Hydrology* (2003), co-operated to the Canadian work *Politiques de l'eau – grands principes et réalités* (2006), to a *Dictionary of general hydrology, hydrogeology and hydro-physics of the soils* (Chișinău, 2001), etc.



Ionuț Minea has consecrated his preoccupations to the basin of the Bahlui river, Gheorghe Romanescu – to the hydrological potential of the Siret and Prut rivers so as to the characteristics of the lacustrine waters and of the humid zones, Ioan Hârjoabă and Mircea Amăriucăi – to the underground water-feeding, Ion Stănescu - to the water flow balance of the Siret and to the water resources of the town of Câmpulung Moldovenesc, Virgil Apopei and his fellows – to the pollution of the underground waters in the alluvial plain of the extracarpatic Bistrița, Ion Bojoi and his fellows – to the problems of applied geography of the alluvial plains, requiring draining measures, Constantin Rusu – to the problem of the influence of the water reservoirs on their environment, Daniela Talambă – to the experimental studies on the hydrologic processes by means of tracing means. Gheorghe Romanescu and Valerian Ciaglic – to the hydrologic and hydrogeologic characteristics of the Hășmaș mountains a. s. o. An ample work has been elaborated in order to inventoried and to establish a typology of the moist zones of the Eastern Carpathians (Angela Lupașcu, Dan Lesenciuc and Gheorghe Romanescu, 2010).

A series of synthetic pedologic and pedo-geographic studies have been published by Nicolae. Barbu – concerning the chernozemoid soils, the soil as a geographic cover of the Earth, the evolution of the pedo-geographic thinking in Romania, the development stages of the soil study in Romania etc. In order to precise the terminology Gheorghe Lupașcu and his team have published in 1998 a *Dictionary of soil science and ecology*, whereas Cristian Secu and Cristian. Patriche have edited a second issue of their work – *the Soils of the world - classification, distribution and characteristics* and Cristian. Secu, Lilian Niacșu and Ionuț Vasiliniuc – an *Atlas of the colors and symbols for the legend of the soil maps*, as a proposition for the use of the G. I. S., Ionuț Vasiliniuc – a book concerning the quality of the soils, Cristian Secu in co-operation with Constantin Rusu – a *Geography of the soils, with elements of pedology*, Constantin Rusu being also joint author of the book published by a staff co-ordinated by Dumitru Bulgariu, *Introduction in the analytical pedo-geochemistry*.

The researches in the Carpathic area have been continued, with studies about the soils of the volcanic mountains of the north-western part of the Eastern Carpathians (Nicolae Barbu, Constantin Rusu and their co-operators), about the soils of the Maramureș mountains (Cristian Secu), the Bârgău mountains (Eugen Rusu) and the Giurgeu mountains (Constantin Rusu and his co-operators). But, a greater attention has been given to the pedologic problems of the Moldavian Subcarpathians – about the soils of the Cracău – Bistrița Depression (the doctor dissertation of Gheorghe Lupașcu, sustained in 1991) and to those of the Moldavian Plateau – in the Jijia hilly plain (Cristian Secu publishing a *Multi-media atlas of the anthropic soils of the Moldavian Plain*), in the Tansa –Belcești area (Constantin Rusu a.o.), in the zone of the Iași city (with an atlas concerning the geochemistry of the heavy metals, with the contribution of Cristian Secu), in the Pereschiv basin (also with an *Atlas concerning the relief and the soils*, conceived by Lilian Niacșu), in the basin of the Horoiata (Ionuț Vasiliniuc) etc.

More special studies have been also done - about the distribution of the chemical elements in the soil profile and its relation with the pedo-genetic processes (subject of the doctor dissertation of Carmen Donisă), about the organic material of the ando-soils of the Oaș – Igniș Mountains (Angela Lupașcu), about the elaboration of a simulation methodology for the accumulation of the humus stock in the soils of the Central Moldavian Plateau (Cristian Patriche), about the influence of the relief on the distribution of the azonal soils (Dragoș Nica) etc.

During these years, the field of the biogeography has taken also its own profile and specific doctor dissertations have conceived, like those of Cristian Stoleriu, concerning the

phyto-geography of the Râmnicul Sărat basin, of Angela Lupașcu, about the submountainous zone of the Suceava and Neamț counties and of Liliana Aniței, concerning the vegetation of the Bahlui basin. Due to Eugen Rusu has been published a multilateral *Geography of the woods*, with a preface written by Dan Bălțeanu, of the Romanian Academy, whereas Cristian Stoleriu has participated to a complex research theme concerning the birds and their habitat of the moist zones of Moldavia.

The regional physical geography is illustrated, among other works, by a detailed course of geography of the Romanian Carpathians and Subcarpathians, redacted by Irina Ungureanu in 2004.

The human geographic research In the conditions of a democratic regime a new orientation towards the theoretical research and the geographic epistemology, especially of the new generation became possible. This orientation is visible in the works of Octavian Groza, concerning the relations between the paradigms of space and territory, about the networks, territories and spatial interaction, about the spatial scales of the Romanian territoriality, as well in those of Ionel Muntele, about the theoretical models of the zones of urban influence, about the fear before the spatial memory, in those of Corneliu Iațu, concerning the time, in those of George Țurcănașu, Alexandru Ungureanu etc.

An objective approach of the human-geographic become currently possible, being conceived and published works treating subjects interdicted under the previous totalitarian regime. From this works stands out the work of historical geography realized by Vasile Băican about the whole Moldavia in the XVIII-th century. Other works of the same type have been published about the changes in the ethnic structure of the population Romania's and of the actual republic of Moldova (Ionel Muntele, Alexandru Ungureanu) so as about the totality of Romanians living beyond the to-day borders (Alexandru Ungureanu).

The number of human-geographic works with international themes has grown very much. Among these ones may be quoted Octavian Groza's doctor dissertation concerning the geography of the world industry, his works about the regionalization phenomena in the world economy, about the transports in East Europe and the submarine oil extraction. Extremely detailed and well informed are Ionel Muntele's works about the European spatial units (concerning the dynamics and the structure of the states' population, the international migration etc.), those of Corneliu Iațu (who has published several volumes concerning the European development model and the European Union), Alexandru Ungureanu (about the urban development in the East-European countries) etc.. Very much has grown the number of the co-operations to different foreign encyclopaedias, atlases, reviews and collections – those to *International Encyclopaedia of Human Geography*, *Images économiques du monde*, *Atlas du XXI-e siècle*, *Encyclopédie Clartés*, *Le petit Robert des noms propres*, *Österreichische Enzyklopedie Osteuropas*, made by Octavian Groza, Ionel Muntele, Alexandru Ungureanu, Corneliu Iațu, George Țurcănașu etc. Together with the geographers of the university of Paris has been achieved the human-geographic atlas of Romania and with those of the university of Lausanne – the study about the territorial networks of Romania.

Another general characteristic of the last years is the more and more accentuated orientation towards a quantitative human geography, based on the statistic methods, on those of the spatial analysis, on the spatial models applied to the field reality, with the help of the computer programs and of the realization of automatic maps. In this direction distinguished themselves Octavian Groza (concerning the utilization of the shift and share analysis to the problem of the dezindustrialisation, the use of the G. I. S. in order to emphasize the general

spatial structures and the local specific), Ionel Muntele (in his works concerning the evolution of the territorial hierarchization of the population, the typology of the migratory balance of the population etc.), Corneliu Iașu (in the conjugated analysis of the contiguous spaces, the representation of the spatial structures by variograms a. s. o.), George Țurcănașu (in his dissertation about the to day state of the settlement system in Moldavia), Vasile Nimigeanu, Alexandru Ungureanu, Oana Stoleriu, Marinela Istrati a. s. o

Differently of the situation of the immediate post-war years, a much greater attention has been paid to the analysis of the development of the communication networks and means, so as to their effects on the towns, special works and papers on this subject being published by Ionel Muntele, Octavian Groza, George Țurcănașu, Alexandru Ungureanu a. o.

From the orientations continuing the previous ones, but at a superior level and with a supplementary minuteness, the most obvious is that towards the realization of particularly deep and detailed human-geographic studies, theoretic or of regional complex, like those done by Ionel Muntele (concerning the population of Moldavia in the last two hundred years, the spatial differentiations in the population dynamics, the evolution of the ethnic structure of the population Romania's etc.), Octavian Groza (about the migration problems etc.), Alexandru Ungureanu (the analysis of the regional dynamics of the population Romania's), Vasile Nimigeanu (about the evolution of the natural balance of the population), Corneliu Iașu and Ionel Muntele (the realization of the *Statistic-geographic and territorial management atlas of the Iași county*), Corneliu Iașu (concerning the Rădăuți depression), Radu Dimitriu (who studied in detail the Neamț depression), Radu Dimitriu, Ionel Muntele, Silvia Marcu and Andreea Dimitriu (who have elaborated a study about the international migration of the population of whole Moldavia), Corneliu Iașu and Ionel Muntele (authors of an exhaustive treaty on the theoretic geography of the tourism), Alexandru Ungureanu and Ionel Muntele (authors of a comprehensive *Geography of the population*), Daniel Tudora and Ionel Muntele (working together on the indices of the social state of the population in western Moldavia) etc.

The tradition of the geography of the settlements has been continued by George Țurcănașu, author, among other studies, of an original investigation about the Moldavian system of settlements, by Marinela Istrate, who has approached by different methods the influence zones of the Moldavian towns, by Oana Stoleriu, who has realized the most detailed human-geographic study concerning the city of Iași, by Alexandru Ungureanu, with studies about the territorial evolution of the Moldavian settlements, made in correlation with the population evolution and of the spatial distribution of the functional and size types of the Moldavian villages, by Alexandru Rusu, author of a study concerning the main cities of the eastern part of Romania, Gabriel Camară, who has elaborated a work about the interstitial towns of Romania, Akexandru Bănică, author of a monographic study about the town of Târgul Ocna etc. In co-operation with George Țurcănașu, Alexandru Ungureanu has editated a work about the *Geography of the human settlements*.

Ionel Boamfă has formed himself as a specialist in toponomastic, linking earnestly this discipline with the historic and social geography of the Făgăraș depression and of other regions of the country. Alexandru Ungureanu has continued his preoccupations of comparative toponomastics, publishing papers where he traces a certain parallelism between the romanian toponymy, the French and the British ones. Together with Ionel Boamfă he has published a course of Toponomastics, destined to the geographers.

The preoccupations for the politic geography have increased also considerably, notable works being those concerning the electoral geography of Romania after 1989 (Corneliu Iașu), the

*Electoral geography*, published by Ionel Boamfă in 2013 and the *Political geography* drawn up by Alexandru Ungureanu in 2005.. Without being, in the last years, an evident specialization of the geographers of the "Alexandru I. Cuza" university, the economic geography is nevertheless present, by works of general economic geography (Cristian Braghină and Ionel Muntele), geography of the tourism (Ionel Muntele, Corneliu Iașu, Daniela Larion etc.) and of the agriculture (Nicolae Barbu, Ionel Muntele, Corneliu Iașu, Alexandru Ungureanu, Vlad Palamariu) etc.

In time, during the last twenty decades stood out powerfully two aspects of the necessity and of the valoric potential of the geosystemic studies realized by the geographers of Iassy : the clear utility for the realistic identification of the geographic (natural/human) potential of the national territory and for the responsible documentation of all the forms of land management; the real possibilities of the active geographers to documentate correctly the capitalization of the natural and human resources, the correction of the management/capitalization errors of the fluent or of the previous stages, so as, more recently, of identification of the resilient resources of different studied resources, This complex potential of the research of a geosystemic type is to be found again in studies approaching, for example, some acute aspects of the capitalization/management/organization of the space, the densification of the urban network in Moldavia, the potential of the natural and anthropic risks of the Moldova valley (Irina Ungureanu, Dan Lesenciuc, Daniel Condorachi), the dynamics of the level of socio-economic development of the rural settlements of the Botoșani county (George Țurcănașu), the dynamics of the areas of urban influence (Ionel Muntele, Marinela Istrate), the quality of the urban environment (Irina Ungureanu) etc. Integrating several indicators and producing some progressive more and more complex levels of information, so as new conclusions, these studies have fundamentated much more correct and more precise possibilities for the evaluation and the graphic expression of the natural favourability for dwelling, of the feasibility of the urbanization, of the evaluation of the level of economic development, of the polarizing capacity of the towns and of the quality of the urban environment, Not in the last time, the identification (with original tools, new not only for the Romanian research of this type) of the resilient potential in demographic, energetic, diverse utility structures, in urban physical infrastructures a. s. o. has allowed correct diagnoses of state, the constructions of some realistic scenarios of the evolution with an integrated resilience, the identification of some viable solutions for the problems of structural defect, of discordance and adjusting rhythm a, s, o, and finally – documented and responsible prognoses in front of the following evolutive sequences, all these being to be refound in a volume coordinated by Alexandru Bănică and Ionel Muntele.

From the didactic point of view, in 1993 – 1994 the geography of the environment becoming a specialization section it has constituted the educational ground for successive generations of graduates who have continued their instruction in a master degree with a duration of two years (Actual environment and sustainable development) and, since 1997, with a doctor school (with Irina Ungureanu as scientific director). The following changes in the structure of the specializations for the doctor degree in geography, introducing this specialization in the „science of the environment”, the young people educated as geographers have been directed, beginning with 2006, by Liviu Apostol or Radu Lăcătușu.

The topographic – cartographic field has continued to be illustrated by Vasile Băican, author of a *Dictionary of cartography*, so as of courses of topography (published in two successive editions) and of cartography.

More and more regularly, the traditional scientific reviews, *Analele Științifice ale Universității "Al. I. Cuza" - seria geografie* and *Lucrările Seminarului geografic "D. Cantemir"*, continued to be published, with an increasing proportions of papers in foreign languages.. New periodical publications have been issued in these last years – *Factori și procese pedogenetice în zona temperată* (since 1990), *Lucrările Simpozionului de Sisteme Informaționale Geografice* (since 1995) and *Present environment and sustainable development* (since 1996).

Many geographers from Iași have been honoured with scientific distinctions -. the Opera omnia award has been offered by the National Council of the Scientific Research from the Higher Education to Ioniță Ichim, Ioan Șandru and Alexandru Ungureanu, and annual prizes of the Romanian Academy have been distributed to Nicolae Barbu, Vasile Băican, Gheorghe Lupașcu, Ionel Muntele, Ion Ioniță, Constantin Rusu, Octavian Groza and his co-operators, Corneliu Iașu, Doru. Juravle, Dan Dumitriu, Lilian Niacșu, Iulian Cătălin Stângă, Radu Dimitriu and his co-operators.

Nicolae Barbu has been also distinguished with the award of the International Organization of the Vineyard and of the Wine, so as with the award of the Romanian Association of the Writers, Gheorghe . Romanescu – with the „Umwelt und Wohnen" award of the german Karlsruhe und Konstanz universities, Adrian. Grozavu and Ștefan Kocsis – with the „Zlaty kosak” award, conferred by the Slovak Ministry of the Agriculture. Ioan. Donisă has been honoured with the Doctor honoris causa title of the University of Tiraspol (refuged in Chișinău) and Alexandru Ungureanu – with those of the universities of Suceava and Timișoara. Ioan Șandru and Alexandru Ungureanu have been received as honour fellows of the French Geographical Society. The awards for the best doctor dissertations have been conferred by the University of Iași to Doru Juravle, in 2004, to George Țurcănașu, in 2006, and to Marinela Istrate, in 2007.

In order to conclude, the geographic department of the "Alexandru I. Cuza" University of Iași continue to be, as in the past, an honourable fellow of the Romanian scientific and educational community, open to the newest tendencies in the research and in the education of the young generation.

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