

Academician George Vâlsan – a peerless master in deciphering the mysteries of Romania’s landform evolution*

I met the savant and University Professor PhD George Vâlsan indirectly, by studying his work, what was written about him, narratives of his former students (high school teachers, or the Prof. N. Popp), or lectures of my former professors. All of these formed the image of a devotional and constructive example in geography and that of a remarkable pedagogue.

Though his life was extremely short, he asserted himself by an elaborate work based on flawless theoretical knowledge, deep field research (especially on key sectors) that led to distinct information, a peerless intuition that allowed multiple correlations, concise and well argued language, and rich illustrations in context and variety (complex profiles, maps, drafts, suggestive block diagrams, photographs, etc.). He was also the only professor solicited by the three important Romanian universities (Iași, Cluj, București) to teach, research and manage. His results in the “university aura” were so remarkable that he became a creator of geographic school, making his own way towards the Academy (he became a titular member of the Academy in 1920) and to his final acknowledgement in shaping the modern geography in our country, as the main scholar of the savant and academician Simion Mehedinți. Simultaneously, he can be found in the activities of the Royal Romanian Society of Geography, through conferences, scientific material in its publications (especially in the Bulletin) whose thematics involved purely geomorphologic and also other regional, historical geography, demography issues etc., all these written with undeniable arguments reflecting the field research results and the truth resulted from history or the geographical interpretation of the naturalistic information. He received European recognition through active participation in international meetings (Geography Congresses in London, Cambridge and Warsaw) or through materials published in various prestigious journals. Add to this the pure didactical contributions (advice to students, textbooks, relevant opinions regarding the teaching methods

and methodology or to improvement of the content of education, either secondary or university etc.) or the understanding of the need to develop the Carpathian tourism (he was the first president of the National Tourism Office).

A few elements reflect other qualities completing the scientist's complex profile, engaged in a multiple system of preoccupations which reflect the combination of genius struggling with the suffering caused by health problems which had deprived him in the latter part of life of many of the sides which are priorities (firstly, the field research in large spaces). He is the author of manifold poems and vivid descriptions of many beautiful places located within the Carpathian Mountains, which mirrors both sensibility resulted from his communion with nature, and his desire to make known the beautiful and interesting features of the nature, playing with words so cunningly chosen, through metaphors, comparisons and a distinct verification. In the fund of manuscripts, there are also letters to the few loved ones, whose analysis can provide many answers concerning the complexity of his life and his creation. But just as well, these features are understood by studying images, photographs representing him at different times. Following his facial features and especially the forehead, the eyes, the chin, we distinguish a determined and ambitious man whose beliefs are strong, a way of thinking in which the structure and the objective laws prevail, a thin smile that shows kindness and understanding. From one photograph to the other we can see the differences depicting changes over time occurring in the plane of his inner life (sadness, rigor, disappointment, dullness, anger etc.).

George Vâlsan was a distinct personality who, though he died young, gave valuable creations in the Romanian geography and science, contributions that aimed major problems in geomorphology, physical geography, ethnography (German school influence, also the influence of Simion Mehedinți and his belief in the need to restore traditional values of popular culture), geopolitics, human

* This paper was presented at the session of scientific communications of the Romanian Academy from December 17th, 2011, dedicated to the 125 year commemoration of this great geographer’s birth.

geography (also, the importance of studying the Romanians abroad), geographical didactics etc.

His "**Geomorphology**" contains the most numerous achievements starting from an excellent PhD thesis prepared under Professor's Emm. de Martonne guidance followed by many communications and articles dedicated to regional areas which required special genetic and evolution complexities, and for which he issued original and very well argued ideas, lithology courses and lectures with content based on his experience but also based on a deep knowledge of French, English and German geography concepts. Views developed in various geography textbooks or popular works should not be overlooked, nor the maps he prepared in which the relief is perceived as the central element of the geographical system. These accomplishments were gradually developed in time. Until 1920, they were achieved through field-based study evaluations, geographical and historical data interpretation, all these combined into the complex system based on analysis from nodal point to regional conclusions, and demonstrative onto genesis – evolution – chronology – immediate and time effects axis. Between 1920 and 1929 he strived to systematize the education and geographical research at the University of Cluj – supporting the basic geography forms and all related areas of knowledge. He organized the geographical expeditions and conferences of Emm. de Martonne in Transylvania, supervised the publishing of these expeditions' results in *Geographic Magazine of Cluj*; he also structured The Ethnographical Society in Cluj, whose president he was. It was a period he contributed to the development of theoretical and practical geography through writings and conferences on various topics in which the links between the relief and other components of the environment were permanently at the very basis of understanding the unity of the whole regardless of its extent. He always relied on results of his previous researches, the vast pool of theoretical knowledge and his manager skills. In the third stage – the last six years – at the Bucharest University, G. Vâlsan continues his assets with emphasis on the didactical side (with more lectures in land morphology), with writings on regional geomorphological synthesis (Danube Delta, coastal platform, morphology of Prahova's Carpathian basin) in which the field observations over time were enriched with map analysis and lots of intuition.

Among these works, four of them created at different times, fully reflect the working system he followed his whole scientific life on the one hand

(thorough documentation with selection of the essential geological elements, detailed field research – observations, schematics, drillings, profiling –, permanent analysis of topographic and geologic maps, truth extrapolation from pilot points to larger areas, completions through evidence of essential and specific genetical-evolutionary elements reflected in a rich-content illustration leading to a better understanding of theoretical concepts), and on the other hand the perennial value regardless of any followers' subsequent addition.

The Romanian Plain – is his master work, a corollary of his geomorphologic research started even since he was a student (Bucharest and surroundings) guided by Simion Mehedinți. His geographic training continued in Berlin and Paris (R.R.S.G. scholarships) where his masters were A. Penck and Emm. de Martonne. This is definitely the best and most comprehensive work of its kind, unequalled in ideas, demonstrations and truths by any later works. This is his PhD thesis (the first geographic work of this type presented in Romania, in 1915; it was published by the Library of R.R.S.G., in 1916), assigning him as the first Romanian creator of geomorphologic school – a titan of Romanian geography, and supporting his exquisite university career and Academy membership (correspondent member in 1919 and titular member since 1920). Within this paper we can only point out some of George Vâlsan's most significant contributions:

- *this is a genuine model to approach, acknowledge and present completely a vast regional area, also valuable considering that it is a plain unit where the morphogenetic "mysteries" are more difficult to identify, correlate and demonstrate (this approach should be considered by those who have researched lately smaller geographic units, limiting to area situations and neglecting the depth of systemic presentations);*

- *it represents an eloquent model of multidisciplinary approach, since the naturalistic (especially geologic) or human pressure on environment data and information are treated as a whole within the geomorphologic documentation, resulting a unitary, functional and chronologic understanding (while some actual researchers take statistical data, information, or definitions from different works and insert them in their studies as simple additions, not as defining elements within the analysis system);*

- *it proves his mastery and appreciation of the informative fund through opportune quotations (a fact neglected now by those seeking recognition by all means) and harmonious combination of texts and*

illustrations (he is the first Romanian geographer who appreciated correctly this approach, opening the door to use it not only in geomorphology, but also in other directions);

- a few *achievements* should be detailed, as they were significant, new and complex a century ago:
 - setting the geomorphologic contact of the Romanian Plain with the adjacent units, according to the various genetic factors and time interferences;
 - analyzing a rich theoretical fund and pointing out especially the geologic elements necessary for the geomorphologic approach or the palaeo-geographic evolution reconstruction;
 - differentiating and characterizing the genetic types of plains;
 - identifying and describing the morphostructural plain steps, especially the terraces, watersides, and flood plains;
 - presenting morphogenetic agents, dynamics of actual processes and resulted landforms;
 - presenting landform genesis and evolution on loess, loess and sand rocks;
 - presenting river network evolution with detailed analyses on representative sectors;
 - concluding that the Romanian Plain is a complex morphologic system resulted from the association of different landforms created in different stages of the Quaternary, as the lake retreated toward the East and North-East and the hydrographic network generated steps;
 - highlighting that the influence of the tectonic factors and other agents generated specific landforms locally, concluding in a Quaternary evolution differentiated by sectors.

Other remarkable achievements are: the concordance between statements and illustrations (accurate representations); the text, abundant in information, made up of clearly expressed phrases, many of them becoming axioms for those who resumed the research later, so that the news belong to George Vâlsan, while the additions to his followers.

On the Danube crossing the Iron Gates – represents George Vâlsan's contribution to clearing up the evolution of one of the largest gorges in Europe and the most important within the basin of this river. His approach reflects the sequence of problems, a solving technique based on studying former geomorphologic and geologic papers combined with his own observations, map analysis and excellent intuition.

He considered all possibilities of gorge evolution and indirectly of Danube formation between the Pannonian and the Getic basins in upper Pliocene –

Quaternary. These variants were argued differently by the researchers quoted by the professor, depending on the acceptance of river capture or lake overflow. But George Vâlsan focused on the critical analysis of the Serbian professor J. Cvijic, the first one who mapped in detail the landforms and deposits within the Danube gorges. He paid attention to the following aspects: the extent of the Pontian level, the upper terraces and the better developed terraces within the gorges; interpreting the characteristics of the deposits in Severin-Timoc basin in terms of structure, aspect, and age; the valley network characteristics in the gorges compared to the Danube; the valley network formed in the western Getic basin in the Quaternary, as the lake was filled and retreated eastward, etc. He considered necessary to observe the evolution in time of the Pannonian and Getic basins, including the gorges within a complex system generated by the regional tectonics, with different stages of intensity and directions correlated with the evolution of the adjacent lakes (in the upper Pliocene – lower Pleistocene). These led him to the *hypothesis of the Danube formation in the gorges* (made initially by tectonic fragmentation in the Sarmatian) *by capture* (Greben sector) in the lower Quaternary. The arguments are mainly morpho-hydrographic. The palaeo-geographic evolution of the Getic basin in the lower Quaternary favored the capture process due the low base level that provided a stronger penetration force westward. G. Vâlsan considered that from the *chronologic and evolutional* points of view, this area evolved as a tectonic gorge (graben) in the upper Miocene (there was a lacustrine connection between the Pannonian and the Getic basins), drained in the upper Pliocene by two rivers towards the adjacent lakes (the watershed was located at Greben), and finally the river completed by capturing the western river at the beginning of the Quaternary.

The morphology of the upper Prahova valley and of adjacent areas. This writing was published posthumously (1939) and it was, unfortunately, the last large work of regional geomorphology, considered a valuable morphogenetic synthesis of the area connecting the units studied by Emm. de Martonne and A. Nordon. It is also an excellent model of combining observations with geological data, maps, profiles and enviable intuition, reflected in the morphologic sequences, genetic and evolutional correlations, or chronological results on landforms. Other important contributions were: the manner of analysis, the gradual sequence of problems (from the erosion steps to the valley network, or the actual morphogenetic processes

reflection on the landscape), or the scientific and artistic geomorphologic representations (profiles, maps, block diagrams, panoramic drafts).

The starting point was to present the morphologic evolution of the Carpathian area between the rivers Ialomița and Buzău (considered a relatively unitary region from the morphostructural point of view), based on the landforms resulted in different stages. They have morphometric, physiognomic and morphostructural characteristics that differ on sectors and belong to two stages:

- *The stage of old evolution cycles* corresponds to those in the Southern Carpathians, considered pre-Quaternary (the level of ± 2000 m peaks and plateaus belonging to the Borăscu erosion surface, the levels belonging to the Râu Șes erosion surface in Ialomița basin and Clăbucete, Predeal level that extends on Bran area correlated with the Gornovița erosion surface, and ± 800 m and ± 700 m low levels on the edge of Brașov Depression).
- *The stage of new Quaternary cycles* (terraces, steep slopes, valley steps, capture gorges at Posada and Timiș, etc.).

Other important contributions were:

- *the extent of the erosion steps* that emphasizes regional differences determined by the tectonic movements, different in intensity and direction, and by the local litho-structural influences (represented outstandingly in profiles);
- *the attempt to correlate* all existing erosion steps with the adjacent Carpathian area, as well as the manner they join regionally or locally;
- *the description of the modified valley sectors by captures* and their reflection on the orographic characteristics.

A new hypothesis of the Danube Delta – is the last paper presented by this great geographer within an international reunion – the Geography Congress in Warsaw (1934). The novelty and arguments aroused interest and distinct appreciations. The bases of this paper were the map of Vidrașcu (1913), the two genetic and evolution maps of Gr. Antipa and C. Brătescu, and many foreign and Romanian references (especially those referring to the Black Sea). The deep analysis of each defining landform or lithologic element led the author to a new hypothesis on the Delta's evolution. The entirely marine formations (sand banks) from the Eastern Delta, the outward convergent offshore bars

(presumed toward the Isle of Snakes), the way the shore line cuts them, the East-West regressive shore evolution during the last millennium, were some of the arguments that determined G. Vâlsan to state that the Danube Delta is now during a retreat stage, while the sea forwards toward the land, cutting the marine bank sands. This process is connected with the effects of the descending movements that would occur in the western Black Sea and with the sea level oscillations (favored by climate variations in upper Quaternary). G. Vâlsan considered that the Danube Delta is post-glacial, and the large sand banks that extended more eastward had formed during a dry climate with a lower sea level; the shore retreat and offshore bar cutting (from East to West) to the actual shape belong to a wet climate (Subatlantic). Some of these specifications resulted from some papers published posthumously.

In conclusion, a few viable arguments were enough to achieve a new evolution system with a precise chronologic development, a fact that denotes an excellent intuition and a model of rapid explanation.

These arguments along with others that may be added show a life full of scientific achievements. Throughout his didactic career, Professor George Vâlsan was an *exquisite geographer, a genial geomorphologist, a pillar of modern geography imagined and accomplished with his mentor, Professor Simion Mehedinți. His contributions to culture, research, teaching and Academy were completed by his managerial abilities. He supported youth education in general, but especially the implementation of modern geographic research. He was a board member of many scientific, cultural, and tourism societies, he founded geographic magazines, he wrote poems and geographic readings passionately, and he respected and praised his forerunners and few friends.*

If his fate had not been so cruel, the road he climbed so gloriously would have certainly led him among the most important geographers of the 20th century worldwide, and Geography would have got more prestigious works.

He was a savant, an excellent didact, a renowned geographer, a poet geographer, but first of all, he was a great MAN.

Mihai IELENICZ