PROF. ION POPESCU-VOITEȘTI AS THESIS COORDINATOR AT 'KING FERDINAND I' CLUJ UNIVERSITY

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Abstract. A rare document – probably the single copy still preserved – is presented herein: Augustin Vancea's bachelor's thesis corrected by his coordinator, Prof. Ion Popescu-Voiteşti. It is a thesis defended in 20th inter-wars time, the coordinator and the student being both nowadays outstanding personalities, sharing merits in the Romanian petroleum geology. The handwritten marginal notes are valuable, showing the professor's various viewpoints related to petroleum geology, more exactly to the natural gas pools in Romania or worldwide. His exigency is obvious, as well as his will to share his geological knowledge with younger disciples. The thesis is rather an account than an original contribution, but we know that it was in fact an exercise for Vancea's next professional step - his Ph. D. thesis, coordinated by the same professor.

Key words: petroleum geology, Romania, I. P.-Voiteşti, A. Vancea.

Rezumat. Prof. Ion Popescu-Voiteşti - coordonator de teză la Universitatea „Regele Ferdinand I" din Cluj. Un document rar – probabil unicul exemplar păstrat – este prezentat în continuare: teza de licență a lui Augustin Vancea, corectată de către îndrumătorul său, Prof. Ion Popescu-Voiteşti. Teza a fost susținută în perioada interbelică a secolului trecut, îndrumătorul și studentul de atunci fiind astazi personalități recunoscute, ambii cu merite în geologia petrolului din România. Notele marginale manuscrise sunt valoroase, arătând punctele de vedere diferite ale profesorului privitoare la geologia petrolului, mai exact a zăcămintelor de gaz metan din România sau de pe plan global. Sunt evidente atât exigența, cât și dorința de a-și împărtăși cunoștințele geologice mai tinerilor discipoli. Teza este mai degrabă un referat decât o contribuție originală, însă știm că, de fapt, reprezenta un exercițiu al lui Vancea spre pasul profesional următor - teza sa de doctorat, coordonată de același profesor.

Cuvinte cheie: geologia petrolului, România, I. P.-Voiteşti, A. Vancea.

INTRODUCTION

At the end of the World War I, when Transylvania became part of the Romanian Kingdom, the academic studies taught in Romanian in Cluj University (the former Hungarian Royal University) were in sooth a main challenge for the Romanian authorities. Until 1919, all disciplines at this level were taught exclusively in Hungarian. Therefore, the former 'Hungarian Royal University' turned into the new 'King Ferdinand I' by the Decree 4090/September 12, 1919 and Romanian professors were called to positions in Cluj according the Decree 241/January 27, 1920 issued in the Official Gazette 222/January, 29, 1920 (MOCIOI & HUICĂ, 2002). In this new-born university, the geological studies were a main priority, because after war the economy was on a rising trend mainly based on geological resources. As a matter of fact, two geological chairs started to function.

Figure 1. Prof. Ion Popescu-Voiteşti (1876-1944).

Figure 2. I.P.-Voiteşti - bas-relief made by Mircea Ilie (curate at Babeș-Bolyai University, Department of Geology, Cluj-Napoca).

The first one was on petrology-mineralogy, where Gheorghe Munteanu-Murgoci (Vădeni, Braila County, July 20, 1872 - Bucharest, March 5, 1925) (ILIE, 1957) was the first holder. Geologist with rich contributions on tectonics, mineralogy, petrology, soil science and even geography, he gave the first course on petrology-mineralogy in Romanian

until a definitive occupant came in this position, as Ludovic Mrazec specified in his declamation at Murgoci's funerals (whole text in PAUCĂ, 1998; pp. 63-64). Therefore, Murgoci's stay in Cluj was almost ephemeral (only on the academic year 1919/1920; however, time enough to give a professional trend to his follower, Victor Stanciu).

The second chair was on palaeontology-stratigraphy, leaded by Ion Popescu-Voiteşti (Voiteşti, Gorj County, November 18, 1876 - Voiteşti, October 4, 1944) (Figs. 1, 2). Unlike Murgoci, he spent seventeen years of his life (October 1, 1919- November 20, 1936) and built most part of his academic career (with essential contributions on tectonics, palaeontology, stratigraphy, field geology, teaching etc.) in Cluj (STANCIU, 1936; ILIE, 1957; MAXIM, 1945, 1948; HUICĂ & TEOTOI, 1976; CORVIN-PAPIU, 1980; PAUCĂ, 1998; MOCIOI & HUICĂ, 2002).

In the personal collection of documents of one of us (VAC), there is a copy of the graduation thesis that the student Augustin Vancea (1925) defended at Cluj University. It is extremely valuable because it keeps handwritten side notes belonging to his coordinator: the geologist Prof. I.P.-Voiteşti.

THE MENTOR: I.P-VOITEŞTI

It's really hard to add new, original, data to Voiteşti's contributions after the afore-mentioned biographers, almost all of them contemporaneous with this one. Just for reminding, it is amazing how genial was his teacher on Latin – prof. Faur, from 'Carol I' Gymnasium in Craiova -, when he had the intuition to turn the 'too common' name Ion Popescu into Ion Popescu-Voiteşti, by adding the name of his schoolboy's native locality. Probably Faur never believed that later, his young scholar will give fame to this additional name, making famous the village he originated from worldwide. In fact, this addition was done just for very practical reasons, for perceiving him from another colleague also named Ion Popescu (HUICĂ & TEOTOI, 1976). At that time, it happened often in schools: it was the same situation in the case of Murgoci, the name Munteanu being added in same manner, for same reasons. But unlike Voiteşti, this one disliked the additional name and asked all his close friends to use after graduation, simply Murgoci.

Among his main contributions to the Romanian geology, we can list: his conception about the thrust nappes in the Carpathians and his tentative to correlate these nappes with the Alpine ones (VOITEŞTI, 1929; BLEAHU, 1980) (it is worth to point out that at the beginning of the 20th, this theory was not agreed by a lot of geologists; but, as he was a former disciple of the Austrian geologist Viktor Uhlig [see 1907] or the French Émile Haug, his opening for such ideas is easy to be understood and explained); the contributions about the relationships between the salt geology and the presence and distribution of petroleum reservoirs; the various data on the Cenozoic invertebrate and vertebrate faunas (he was interested mainly in the large Paleogene foraminifers, the nummulites; BOMBIŢĂ, 1980); the rich data on the Romanian stratigraphy (BOMBIŢĂ, 1980) and last, but not least his synthesis on the Romanian geology (he coined the discipline Geology of Romania, now taught in all the Romanian geological departments of universities; but as seemingly stars were against, just in Cluj-Napoca University where this course was introduced by Voiteşti, it has now the briefest extension…). Every once in a while, he reviewed his overview on the Romanian geological structure, since 1921 (BLEAHU, 1980). Unfortunately, the last one (1944) remained in manuscript.

Perhaps, the best reference list where all these topics are not simply mentioned but in some cases also briefly described, can be find in HUICĂ & TEOTOI (1976) and also in HUICĂ (1980), although a fair list including the contributions until 1928 belongs to VOITEŞTI (1928) himself. It is also important to underline that he was among the first defenders of Alfred Wegener's theories (MAXIM, 1945) in a time when the continental drift was strongly called in question by a lot of geologists. As stratigrapher he outlined and defined some new 'horizons' (i.e. the Brezoi Conglomerates, the Lucăceşti Sandstone), as well as specific facies (Fusaru Sandstone, Siriu Sandstone, the 'Senonian red marls', the Eocene 'marginal facies', the Eocene Şotrile facies; MAXIM, 1945, 1948; BOMBIŢĂ, 1980).

But above all things, in Cluj University, Voiteşti was a teacher. When he won his position as professor in Cluj University, he already had twenty years of experience as lyceum teacher, teaching natural sciences, geography, physics and chemistry (HUICĂ, 1980). He taught in various towns of Oltenia and Muntenia, such as Tg. Jiu or Bucharest. As in those times the manuals about geology were extremely few, he published the first treatise on palaeontology (1928; unfortunately, he achieved only the first volume on invertebrates, while the second one, on vertebrates, never issued), as well as courses on geology either for schoolboys (e.g. Elements of Geology - first edition in 1921, followed by other two on 1924 and 1927; or, Concepts of Geology, in 1943) or students (e.g. 1924 a, b; 1925, 1930 a, b).

Himself, he was a brilliant student: when he applied as Ph.D. candidate in Paris in Sorbonne at Émile Haug, his studies and graduation diploma obtained in Bucharest was equated, the first such case (HUICĂ, 1980). In Vienna, in 1907, he was elected president of a student society named 'Junimea', giving the most conferences on various scientific topics (HUICĂ, 1980).

As a professor, he was a demon for work: his courses were of exemplary brightness and clarity, each one trying to expose in detail the progress of a geological phenomenon. He was exigent with his pupils and students, but never unfair. A true friend, he was forgiving always even his hostile colleagues. He tried always to help the weak and worried people. Undoubtedly, his talents helped a lot in the didactic work, being an instinctual, skilful sketcher. It was very important for exposing clearly the geological sections or logs. The students were also fascinated by his field trips, where he presented in a very clear manner the geological structure of each visited region (MAXIM, 1948). But he never resumed to geology: visits to historical monuments or folkloric events were added. He was crazy aware about field

work, which he considered essential (Fig. 3), using to say: '*Nature represents the great laboratory of a geologist*' (PAPIU, 1980). He was also a patriot, trying to plant this feeling in the soul of each of his students.

Figure 3. I. P.-Voiteşti in a field mission.

Figure 4. Augustin Vancea (1892-1973).

THE DISCIPLE: AUGUSTIN VANCEA

Undoubtedly, among the petroleum geologists of Romania, Augustin Vancea (Parhida, Bihor County, December 19, 1892 - Cluj, August 3, 1973) (Fig. 4) was a personality (PANAITESCU et al., 2014). His first studies were at Beiuș (Bihor County, 1903-1907), than at Năsăud (Bistrița-Năsăud County, 1908-1912; PLEȘ, 2011, 2013; SENI, 2016). In his youth, immediately after the end of the First War, he was secretary of the Mine Direction (1919-1920) of the Industry Resort (SENI, 2016).

He followed academic studies in geology in inter-war times at the University of Cluj, where he followed Voitești's courses. The professor was Vancea's teacher but moreover, he was also supervisor of his graduation dissertation.

THE THESIS

Popescu-Voitești received the copy in 1925, as he handwritten on the front page: 'Received with the Dean's Office' address no. 506/7.03.925' (Fig. 5). It means that several months passed between the moment when the thesis was achieved by VANCEA on 1924 (as it appears on page 92) and this official receipt.

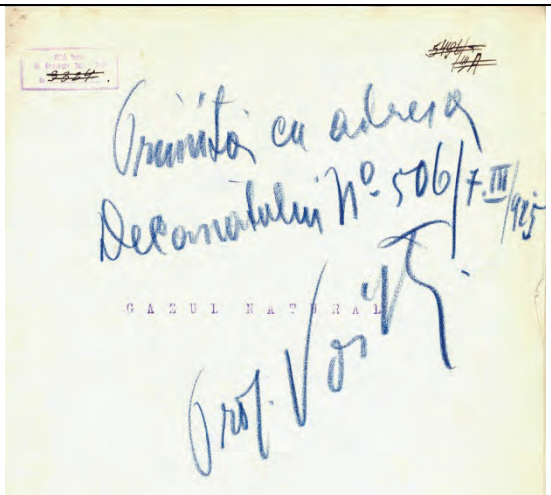

Figure 5. Front page of Vancea's graduation thesis

The thesis, the title of which is 'The Natural Gas' is typewritten on 92 pages + 2 pages of references, unnumbered. It has eight chapters, each one with various numbers of sub-chapters. A map showing the areal distribution of the anticlines and domes bearing methane pools in the Basin of Transylvania (drawn after Hugo Böckh) and 12 figures (various drawings exposing mainly theoretical cases related to different methane fields, labelled from 6 to 17; the first five figures, i.e. 1-4 related to mud 'volcanoes' and the 5th probably dealing with some boreholes from Transylvania, are lost) complete the text.

A short introduction – not included among chapters - opens the lecture, underlining the importance of geology for the theoretical progress, but mainly for its applied targets like raw materials and combustibles as oil and coal: '[…] *without coal and oil, the nowadays economic conditions couldn't be imagined*' (page 1).

He points out the richness of oil and gas pools in our country and defines the targets of his thesis: i. to show the geographical distribution –worldwide and national - of the gas fields, ii. the geological genesis of gas and iii. the gas chemical structure, the extraction and use, as well as its economic value for Romania. It is interesting to point out that he mentioned about gas: '[…] *usually it bode the oil and by its emissions to surface, gives us clues about the deep existence of an oilfield.*' (page 2). A marginal Voitești's pencil blue mark probably express the teacher's agreement.

Firstly, he dealt with the geographical distribution of the gas fields. Voitești's notes refer to: '*Are they missing in South Africa?*' or '*In Central and Southern France there are nice oil seepages*'. Rightfully, the professor did not agree at all with the location of Țețcani (Neamț County) and Pârjol-Câmpeni (Bacău County) localities in Muntenia, mentioning correctly that both are in Moldova. He is intrigued by the idea that the Caucasus oilfields are '*crossing beneath the Black Sea*' extending to Crimea. Visibly, he was not pleased either by pleonasms or strange enunciations as '*monstrous gas field*' or '*In North America the fields do not show any regularity*' (page 4).

In the second chapter - mentioning a reference - Vancea points out the ancient wasted values of the gas seepages in our country: '*Until then, gas of enormous value was let to spread into the atmosphere, therefore billions of lei* (note: the Romanian currency) *were lost for the national economy* (…)' (page 8). Voitești added that this situation continued until those days…

The gas genesis was a challenge because there were various theories in that time. Again, the professor disliked some allegations as: '*The opinions of scientists were very variable and led to different theories, the old being reversed by the new ones, than the forgotten ones being recovered, put into competition with the new ones*' (page 15), or '[…] *the hypothesis expressed by a series of researchers, who, with a rich fantasy, tried to invent various modalities for explaining the origin of bituminous rocks*' (page 15; underlined by Voitești). As it is well known, there were two basic explanations for the origin of the oil and gas: the inorganic theory and the organic one. Nowadays, the first one is obsolete if we try to explain the big reserves of some oilfields and gas pools, the organic theory being largely accepted by scientists. The inorganic theory could eventually explain only small hydrocarbon accumulations. But, it was not the same either at the end of the 19th, or at the beginning of the 20th, when sustainers of the inorganic origin were still vocals. In this context, Vancea mentioned for Romania, Murgoci's opinions. It is true, Murgoci was an outstanding defender of this theory but earlier, the geologist who introduced and defended this kind of origin was Cobălcescu. The author of the first geological paper written in Romanian (1862) was also at least for a part of his career the convinced advocate of the inorganic genesis for oil and gas. His reception address at the Romanian Academy (1887) was dealing with this topic. Vancea did not mention anything about it.

About the organic theory, Voitești did not have objections or corrections to note, but he did not agree that Ludovic Mrazec is '*the true sustainer of the organic origin hypothesis of the bitumen* (…)' (page 21). Would it be a sign about some disagreements with Mrazec? It is hard to know, but we remind that after their common paper on the nappe structure of the East Carpathians (1913), they had not another common work. Moreover, when Voitești went to Cluj, he did not remain geologist-collaborator of the Geological Institute where Mrazec was a director. In 1930, when Mrazec retired rather against his will, Voitești became director in his place. Anyway, after this note, the professor did not have any intervention in the text where Vancea exposed Mrazec's ideas in a detailed manner.

In the four chapter, it is important to note that Vancea defined the '*gas horizon*' and '*geological horizon*'. The definition of the gas horizon concerns: '*Strata that contain gas and share same structure, their gas content and their pressure*'. Further, '*The complex of strata of the same field, which belong to the same geological formation, we name it formation or geological horizon*' (page 25). Concerning the classification into primary and secondary accumulations of oil and gas that Vancea assigned the paternity to Mrazec, Voitești noted: '*According to all petroleum geologists, not only to Mrazec*' (page 26). The primary status of the gas accumulations in Oswege (USA) intrigued Voitești, who briefly noted: "*Based on what*?". An even more laconic message is related to the idea that '*The migration can be done also directly through the mass of marl clay rocks, by capillarity and diffusion*' (page 33) - *'!? Hard'*.

A valuable note can be found on page 45, where Vancea gave some data about the gas pools from Transylvania. He wrote about the Basin of Transylvania: '*Interiorly it has a typical plain* (Câmpie, in Romanian) *character*". In fact, the name Câmpie is usual in Transylvania, mainly for the inner depression areas, bounded by the Mureș-Arieș rivers to South and the Someș rivers to North (VANCEA, 1929). In the actual stratigraphy, the bulk of the Badenian (Middle Miocene) formations from the Basin of Transylvania are included in the Câmpie Group (FILIPESCU, 2001; i.e., the 'Câmpie Strata' *sensu* KOCH, 1900). For the huge majority of readers, but also for Vancea at that time, 'plain' had a strictly geographic, geomorphological connotation, meaning a flat relief at low altitude. There, Voitești mentioned: '*The sense of Plain gave by the Transylvanian people is not equal with the one understood by these geographers = a flat area, devoid of folds, but a Deforested one. The Transylvanian Plain = the deforested portion in Transylvania, surrounded by mountains*' (Fig. 6). In this manner Voitești clarified the genuine regional sense of this name, even nowadays misunderstood by a lot of people.

Related to the basin sole, the professor wrote: '*certainly in sole there are also*: *the Cretaceous, Eocene and Oligocene'*, because he considered that this sedimentary basin started to function in the Cretaceous. In a table where Vancea wrote that the Oligocene is unknown in this basin (page 48), Voitești retorted: '*not even on its margins? On North and NE (…) there is also Eocene*'. Nowadays, the complex structure of the basin sole was in a large part solved by several borehole data, part of them already reported in Vancea's monograph (VANCEA, 1960). Obviously, this sole concerns in its deeper portions parts of the nappe structures from the neighbouring Carpathian Alpine orogene CIUPAGEA et al., 1970;

BALINTONI et al., 1998; CIULAVU et al., 2000; SĂNDULESCU & DIMITRESCU, 2004; IONESCU & HOECK, 2004; IONESCU et al., 2009).

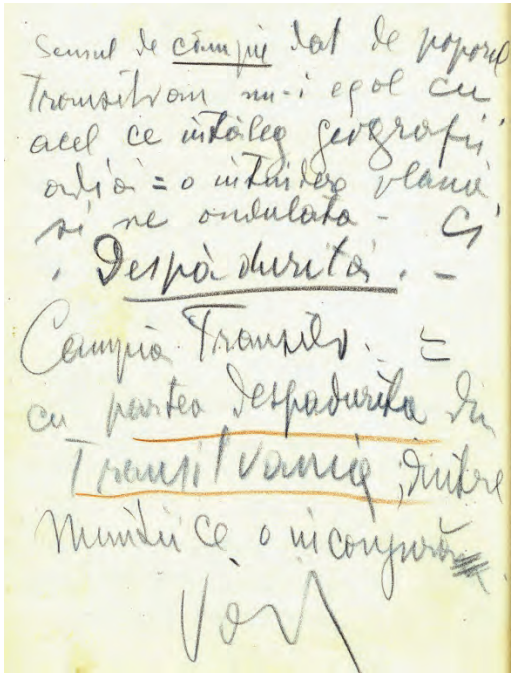

Figure 6. Facsimile of Voitești's marginal note.

Vancea's Miocene environmental reconstructions obviously intrigued Voitești: '(…) *the sea is restricted in narrower boundaries, and the warm and dry climate, through an intense evaporation, concentrated so much the waters* (salinity), *that the salted clay and salt laid. /This idea finds support in the fact that the gas pools have a strong tectonic relationship with the salted waters./ After this a change follows, the sea is transgressing, volcanic eruptions take place, which related tuffs reach considerable thicknesses mainly on the northwestern areas of the basin, and in other places form thinner strata. The basin was covered by some water, here and there forming expanded swamps, until the end of Pontian*' (page 47). Such a palaeogeographical evolution pattern explains why Voitești was cautious. The recent advances in the geology of the Basin of Transylvania (e.g. GIVULESCU, 1997; CHIRA et al., 2000; PETRESCU, 2003) pointed out that the Middle and Upper Badenian climate was not so warm and dry as presumed before, and the post-Badenian geological history was different compared to Vancea's reconstructions.

It would be difficult even to presume that the professor did not have any comment about the tectonics of the Basin of Transylvania! He mentioned about the folds, which Vancea considered Lower Miocene: '*The folds in their actual shape are post-Pliocene*'. About the ages of some sedimentary deposits from the dome cores, presumed to be Sarmatian, he wrote that one should interpret them with precaution: '*one presumed, because there is no paleontological evidence*' (p. 51).

If considering strictly the natural gas, Voitești was right to disagree its accumulation into clay (page 57). Vancea also wrote that '*the natural gas has a peculiar oil odour*' (page 51), but Voitești supervened: '*In general, the odour is given by the salted waters where the hydrocarbons are dissolved in some strata*' and '*Just in Transylvania it has this odour, which presume the presence of oil hydrocarbons*'. This phrase reflects the professor's supposition about the presence of the oil somewhere in the older sediments of the Basin of Transylvania, a theory which underlay some further investigations in this basin. Vancea himself mentioned some paragraphs above this idea, but in his mind the oil could be under the Burdigalian rocks, underlying that the gas origin was an unsolved challenge. In fact, the oil presence was proved since long time ago into the rocks of the basin margins, near Someș-Odorhei, in the granular reservoirs of the Jibou Formation (Maastrichtian-Lutetian), where the oil was even extracted in small amounts since the end of 19th century (KOCH, 1894). But the origin of this oil remains even nowadays, unknown: it is unclear if it has an origin related to the rocks belonging to the Transylvanian Basin as the geologist Ion Athanasiu presumed (BULIGA et al., 2014) or, in our mind, it could migrate from the Șimleu Basin, where deep sediments and sole are very poorly known, due to the too few deep boreholes. At Bârsa, where the oil was once extracted, there is exactly the limit between the Șimleu and Transylvanian sedimentary basins, the Miocene deposits of the first, transgressing the Jibou Formation, which on its turn, is draping the metamorphic rocks of the Meseș uplift (CODREA & GODEFROIT, 2008).

It is relevant to say that Voitești made an exigent lecture of this text. He corrected some grammar mistakes and he asked about the authors of some data included in tables. But in the last chapters, his interventions are fewer: perhaps, he was not interested too deep on the gas extraction and transport, or on its consumption and economic targets.

Vancea ended his thesis as a motherland lover: '*…the methane gas locked in the deep Earth will not savagely erupt without any benefit, but it will be calmed down by our own creativity. Only in this way we'll make Romania a wealthy and respected country.*' (page 92). The further history showed how this direction became reality, or not…

CONCLUSIONS

Herein analysed, Vancea's thesis shows the work of a laborious student eager to learn a lot about the natural gas, a field where he later became a top geologist. Obviously, he was an implicate student in the local scientific life, being among the founders of the Society of Sciences of Cluj and the Naturalists Student Chapter, whose first session

was presided by MURGOCI (1921). However, at first sight, this thesis could seem rather an account, than an original contribution. But for any biographer interested by Vancea, it is very clear that it reflects nothing else but plain and simple an exercise for his Ph.D. thesis (Diploma from August 8, 1929, Magna cum laude; Fig. 7), Voitești being both coordinator and commission president. According to the rules of that time, Vancea defended in fact two theses. The first was entitled '*Geological observations in the South-West area of the Transylvanian Plain – with a general view on the geology of the Basin of Transylvania and special description of the natural gas dome from Zau de Câmpie*', while the second one was on '*Positions proposed by faculty*', including '*Natural Hydrocarbon pools. Geographical distribution and their pool environment*' and '*Fossil waters. The importance of their chemical composition for the study of the hydrocarbon pools*'. The title of the first chapter of the second thesis (unfortunately, unprinted at Cluj University) is extremely close to the topic of the graduation thesis.

NOS RECTOR

ET UNIVERSITAS LITTERARUM REGIA DACOROMANA NAPOCENSIS

LECTURIS SALUTEM!

Laudabile imprimis Maiorum Nostrorum institutum est, ut qui honestis studiis atque artibus semet dediderunt, antequam ad vitae communis usum se conferant, debitum suae eruditionis testimonium legitimo acquirant modo. Cum itaque Ornatissimus ac Doctissimus Dominus Augustin Vancea annorum aetatis XXXVI. religionis Gr. or., e pago Parhida in comitatu Bihor natus, in hac Universitate Litterarum Regia Dacoromana Napocensis suam in disciplinis philosophiae et quidem in Naturali Historia ~~ut principali~~ in ~~et in~~ ut subsicivis eruditionem scientiamque magna cum laude comprobaverit, Eundem Ornatissimum ac Doctissimum Dominum Augustin Vancea die, mense, et anno infrascriptis PHILOSOPHIAE DOCTOREM creavimus, pronunciavimus declaravimus, conferentes Ei omnia privilegia et praerogativas, quibus Philosophiae Doctores iure et consuetudine fruuntur. Quorum in fidem diploma hoc publicum maiore Universitatis sigillo munitum et consuetis subscriptionibus roboratum Ei dari curavimus.

Datum in civitate Clusio in Romania die VIII. mensis Junii anno Domini millesimo nongentesimo vicesimo nono.

Rector m. Emil Hațieganu

p. Ministrul Instrucțiunii m. C. Ionașcu

L. S. A. I.

Decanus m. Prof. Dr. I. G. Voiteș

#0699.

Figure 7. Vancea's Ph.D. diploma (photo of a document copy curate at Natural Gas Museum Mediaș).

The fate of these two petroleum geologists were very different. Voitești left Cluj University in 1936 and gave courses as professor at the University of Bucharest, continuing his research on the petroleum and gas bearing formations of Romania and the Carpathians tectonics, until his retirement. In spite of his great and original contributions, he was never elected member of the Romanian Academy, but was among the founders of the Academy of Sciences (PETRESCU & FABIAN, 2008), whose member he remained until his sudden death in his own native village, when he returned from hunting. It is worth to be mentioned that his former colleague in Paris, George Macovei, in spite of lesser brilliant scientific contributions, became member of the Romanian Academy, probably as PAUCĂ (1998) presumed rather due to his Free Masson status, which Voitești never had. In 1930, he was named director of the Geological Institute of Romania – position extremely ephemeral -, based on his close relationship with the leaders of the National-Peasant Party (mainly with the ones of the former Romanian National Party, from Cluj; PAUCĂ, 1998). With such background, it would be interesting to imagine which would have been his fate after 1945, if he had had a longer life. Probably a sad one, because the Communist regime could not easily forget his political sympathies… On the other hand, his generous and truthful character, with frank attitude (STANCIU, 1936; MAXIM, 1945; ILIE, 1957; PAUCĂ, 2008) probably would have led him towards aversions and enemies. Or in that troubled epoch, all these could bring him to a tragic end as a lot of other Romanian intellectuals shared, all victims of the Stalinian system.

Even nowadays, our tribute to his personality could be stronger as it is: his native house from Voitești is now a museum, a street in Cluj-Napoca downtown bears his name (due to the late Prof. N. Mészáros' endeavour), the yearly symposium of the Department of Geology of Babeș-Bolyai University of Cluj-Napoca bears the name of this famous forerunner too, like a classroom in the central building of same university. In Gorj County, in the last years, few scientific meetings also pointed out his basic contribution to the Romanian geology.

Vancea browsed a different way. He was firstly, geologist at the Natural Gas Direction in Cluj, then one of the leaders of the National Society of Methane Gas in Mediaș (SENI, 2016) in high ranked positions. He worked a lot in the field geology, on several areas of interest for methane gas as Zau de Câmpie, Sărmășel, Cetatea de Baltă, Șaroș, Șamșudul de Câmpie etc. (SENI, 2016). Deeply engaged in such professional tasks, his time for the scientific research was surely not too generous. Therefore, he never reached the scientific level of his mentor, but his contributions for the regional geology and related gas pools from Transylvania remains important, although not excessively numerous. His scientific work includes few papers related to geology, gas reservoirs and stratigraphy (PANAITESCU et al., 2014; SENI, 2016) and a single book, but this one is the first monograph wrote in Romanian of the Basin of Transylvania (1960). He was elected president of the Society of Geological Sciences, Mediaș branch and he also won the State Prize on 1963 (SENI, 2016). It became corresponding member of the Romanian Academy, unusual election for a geologist working far from the capital Bucharest or the main universities from Cluj and Iași. Strangely, PAUCĂ (1998), one of the authors of the subsequent monograph on the Basin of Transylvania (1970), does not mention Vancea at all in his memories.

ACKNOWLEDGEMENTS

This work is a tribute dedicated to the 140th commemoration of Voiteşti's birth, on November 18, 2016. Authors thank a lot to Mrs. Angela Păucean, curator at the Natural Gas Museum Mediaș, for the photocopy of Vancea's Ph.D. thesis. Dr. George Pleș, kindly offered to one of us (VAC) valuable references about Vancea's studies in Năsăud. We also wish to express our gratitude to Silviu Rus, who provided us with a drawing portrait of A. Vancea, found in the Nasaud House of Culture, whose director he is. Last but not least, Marian Bordeianu gave us fair collegial help in processing on computer some of figures.

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Received: February 10, 2017
Accepted: June 26, 2017