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ABSTRACT

Dumitru Bagdasar, who is indisputably considered as the founder of neurosurgery on the Romanian territory during the interwar period, was born in Roșiești, the former Fălciu County, in 1893. In 1913, after having completed his primary and secondary education, he enrolled at the Faculty of Medicine of Bucharest and, in the summer of 1916, at the end of his third university year, he transferred to the Medical Military Institute. From 1916 to 1918, **D. Bagdasar** dealt with the whole array of illnesses arising from the world conflict, including firearm-related injuries to the nervous system. After the war, he was transferred to the Neurology Clinic of the Colentina Hospital where, under the supervision of Professor **Gheorghe Marinescu**, he elaborated and completed his doctoral dissertation entitled: *Contribuțiuni la studiul Sindromului Parkinsonian-postencefalitic* (Contributions to the Study of Postencephalitic Parkinsonism), which he defended in 1922. From 1922 to 1926, at the Military Hospital of Bucharest, he completed his neurology internship under the guidance of the eminent neurologist Dumitru Noica and his initiation to surgery under Professor Mihail Butoianu. In 1927, after giving up his military contract, he was transferred to the Jimbolia Hospital by the Ministry of Health to work as an attending neuropsychiatrist. At the end of the same year, with a recommendation from Professor **Nicolae Paulescu**, he earned a neurosurgery specialisation scholarship under Professor **Harvey Cushing** in Boston. There, under the guidance of Professor **Cushing** and Doctor **Bailey**, he wrote two papers: *Le traitement Chirurgical des gommés cérébrales* and *Intracranial Chordoblastoma*, which were published in presti-

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Frazier, J. F. Fulton, Th. de Martel, W.
Freeman etc.),
the first professor of neurosurgery in
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gious medical journals. In 1929, he returned to the Jimbolia Hospital where, in 1930, he performed his first neurosurgical procedures. At the end of 1931, he transferred to the Cernăuți Hospital, again as a neuropsychiatrist, and in the following two years he performed a number of 149 operations on the central nervous system, which are described in the surgical reports written by Doctor **Bagdasar** himself. In 1934, he transferred to Bucharest, where he performed neurosurgical procedures in two hospitals (Emergency Hospital and Central Hospital) and, at the end of the same year, he was tenured as an attending neurosurgeon at the Central Hospital, following a contest organised by the Ministry of Health. From 1935, he worked primarily in the aforementioned hospital but he also performed operations in other hospitals (Emergency, Colțea, Military etc.). Alongside his surgical activity, he was also interested in the histopathology of the operated tumours, he wrote scientific papers based on his own case reports, participated in medical congresses (Bucharest, Bern, Chisinau etc.) and became interested in the social-political issues of the time..., joining the Communist Party in 1943. In 1940, just before the outburst of World War II, he wrote *Acute craniocerebral trauma* and published it in *Probleme de Medicină de Războiu* (War Medicine Issues). During the war, due to his over a decade long experience in neurosurgical procedures, he assisted the injured (both militaries and civilians), while also managing common neurosurgical cases in Romania and the adjacent countries and even in Palestine, as a member of the so-called “golden team” (**C. Arseni, I. Ionescu, Irina Ogrezeanu-Ionescu**). In 1945, he was appointed Minister of Health and at the end of the same year, he became the first professor of neurosurgery in Romania. Unfortunately, his life came to an abrupt end on 16 July 1946 because of a metastatic brain tumour probably caused by primary lung cancer.

Dumitru Bagdasar (1893-1946) was born in Roșiești, the former Fălciu County, currently Vaslui County, on 17 December 1893, in a family of peasants of Armenian origin¹, being the fourth of twelve children. He attended primary school in the nearby town of Indricii de Sus, having an exceptional schoolteacher, Gh. Balaur and completing all five primary school years as best pupil of his class. Then, he enrolled to the renowned secondary school „Gheorghe Roșca Codreanu” of Bârlad, where he graduated from the humanities program in 1913. Given the difficult financial situation of his family, which had been economically destabilized by his mother’s death (while giving birth to her thirteenth child, during her son’s high school years), when he enrolled at the Faculty of Medicine of Bucharest, Dumitru Bagdasar also took a position as an educator at the Sfântul Sava High School, thus having free meals and accommodation. He managed to pay his university

fees and other expenses (books, lectures and so on) through tutoring. This complex situation (being concomitantly a student, an employee and a tutor) went on for his first two university years – from 1913 to 1915 – without negative consequences on his university exam results. During his 3rd year of medical school, he gave up his educator job and started to work at the Zerlendi Sanatorium (a tuberculosis sanatorium) as an intern – according to A. Kreindler – probably a voluntary intern whose job was to perform the patients’ sputum tests² from 7:30 PM to 10:30 PM, against meals, accommodation and the monthly wage of 5 lei. At the end of his 3rd year of studies, as Romania was preparing to enter into World War I, due to the tempting conditions offered by the Medical Military Institute, he accepted to be transferred to that institution, where he was given the rank of sublieutenant and a corresponding salary which enabled him to continue his medical education without the financial concerns he had previously had. At the same time, he was enlisted in the 41st Regiment of Infantry (Cf. Dr. V. Lavrov, *Oameni și fapte din istoria medicinei militare românești*, vol. I, Editura Pro Transilvania, 2005, p. 401, where it is stated that he was enlisted in the 66th Regiment of Infantry, the 17th Division, as an ambulance military doctor), which gave him the opportunity to become familiar with the whole array of illnesses arising from the world conflict, in particular, injuries caused by firearms, chemical substances or infective diseases, including disorders of the central and peripheral nervous systems. Except for a period when he suffered from exanthematous typhus and a period of reformation of the regiment in 1917, Sublieutenant Dumitru Bagdasar participated in all the military war campaigns, from August 1916 until his demobilisation in November 1918 (Cf. Dr. V. Lavrov, *Ibidem*, “For his devotion and self-sacrifice proven during the war, he was decorated with the 1916-1918 Commemorative Cross, the Romanian Crown Order as a knight and the Cross of Medical Merit 2nd class”). It should be noted that, in June 1918, during his military leave, he took all his 4th year examinations at the Faculty of Medicine of Iași, with excellent results³.

After the war, in 1921, he wrote two papers in cooperation with Doctor Dem Paulian, entitled *A propos du traitement du Parkinsonisme (Considerație asupra tratamentului în Parkinsonism)* (On Parkinsonism Treatment) published in the *Revue*

Neurologique, June 1921, 703⁴ and *Chist hidatic al creierului* (Hydatid Brain Cyst), published in Spitalul, July 1921, 55⁵. From 1921 to 1922, he attended the Neurology Clinic run by Professor Gheorghe Marinescu, where he was transferred from the Medical Military Institute for specialisation⁶. In 1922, he was awarded the Doctor of Medicine and Surgery degree, upon completion of his dissertation entitled: *Contribuțiuni la studiul Sindromului Parkinsonian-postencefalitic* (Contributions to the Study of Postencephalitic Parkinsonism), coordinated by Professor Gheorghe Marinescu⁴.

After defending his doctoral dissertation in 1922, Doctor Bagdasar did his internship in neurology and psychiatry at the Regina Elisabeta Military Hospital of Bucharest, where his mentor was the renowned physician Dr Dumitru Noica. Under his guidance, from 1922 to 1927, he wrote 12 scientific papers on neurology (which are listed and commented in his work *Titluri, lucrări științifice*, Bucharest 1934⁷).

At the same time, during his neurology internship, the professional collaboration between the two doctors, D. Noica and D. Bagdasar, doubled by a personal/spiritual bond between master and disciple, was decisive for Dr Bagdasar's path in neurosurgery. At that time, Dr Bagdasar was interested in gathering sound knowledge on the histopathology of the nervous system, working in the laboratory of pathologic anatomy led by professor Șt. Beznea, alongside the latter's assistant, Dr I. T. Niculescu, who was back from his specialisation in histology in Paris; their fellowship soon turned into a strong friendship. After discovering his vocation for neurosurgery that he later developed into a profession, Dr Dumitru Bagdasar started to work on growing his education in surgery (which had started during the war, from 1916 to 1918) at the Military Hospital, under the guidance of General Mihail Butoianu⁸. Alongside his activity in neurology, from 1923 to 1926 he worked in the surgery unit of the same hospital, which was led by Professor Butoianu, and where he was initiated to general surgery. This surgical practice was, undoubtedly, the foundation of his training in neurosurgery, knowing that Professor Butoianu was one of the pioneers of neurological surgery in Romania⁹.

The year 1927 has a triple importance for Doctor Dumitru Bagdasar, being the year when he married Florica Ciumetti (of Armenian origin), was assigned the position of attending neuropsychiatrist at the

Hospital for Mental and Nervous Diseases of Jimbolia (after he resigned from the army) and, following the recommendation of Professor Nicolae Paulescu, he earned a 2-year scholarship from the Ministry to Health to specialise in neurosurgery at Professor Harvey Cushing's clinic within the Peter Bent Brigham Hospital of Boston. It should also be noted that a beautiful professional and personal relationship developed between Professor Paulescu and Doctor Dumitru Bagdasar, which grew closer and closer in time, from the period of Bagdasar's medical studies and until the premature end of Professor Paulescu (see the correspondence between master and disciple)¹⁰. Regarding this beautiful friendship in the Romanian medical environment of the early 20th century, it should also be noted that the same kind of relationship existed between two great medical scientists born in the same year (1869) and, though living on two different continents (North America and Europe), connected by mutual esteem due to the experimental research on the subtemporal removal of the hypophysis in dogs, which had been successfully performed by Nicolae Paulescu ever since 11 March 1903 when, with the help of Doctor Ion Bălăcescu, *he performed the first hypophysectomy with temporal access*. The procedure involved the following *sequence*: temporal drilling, opening the dura mater, gently lifting the temporal lobe to expose the Sella turcica, from which the surgeon: „*could pick the hypophysis like a fruit from a tree*” (cf. Nicolae Paulescu). This technique was first described in the *Journal de Physiologie et de pathologie générale* of 1907¹¹ and then it was detailed in the monography of hypophysis physiology, also published in Paris in 1908¹². The method was superior to all the other existing methods and its advantage was that it allowed to avoid the dreaded complications of the previous attempts (trauma, haemorrhage and meningitis), since it was accompanied by histological checks for the absence of residual gland tissue in the Sella turcica and provided all certainties for its application in humans. That is why Harvey Cushing, when talking about the Romanian physiologist's method in 1910, stated that it was “*...by far the most important contribution to the subject matter*”¹³ and adopted “*the method in his ground-breaking neurosurgical work that made him famous*”¹⁴. The correspondence between Cushing and Paulescu regarding Bagdasar goes back to 1926, following a letter written in German from

Bagdasar to the illustrious American neurosurgeon. In Cushing's positive response to Bagdasar on 21 August 1926 send to the address of the Military Hospital of Bucharest, the former promised he would give the applicant "*an Arbeit*" and would have him work in the clinic; at the same time, he thought he could arrange for him to have his meals at the hospital but he did not have funds to provide him with accommodation at the clinic. Professor Cushing concluded his letter as follows: "*I wrote to Professor Paulescu to see if you might want to apply for a Rockefeller scholarship. In case you do, it would be better if you asked him to write to Mr Clifford Wells, the scholarship advisor, Rockefeller Foundation, 61 Broadway, New York City, stating that he wants you to come here to work with me for a year and they will probably accept you as one of their itinerant fellows*"¹⁵. Though the two leading medical experts of those times communicated their thoughts to each other through mutual correspondence or through their mutual connection, D. Bagdasar, never managed to meet because of the geographic distance or the Romanian professor's illness... The last but one attempt was at the International Congress of Physiology in Boston, 1929, when Nicolae Paulescu could have met both Harvey Cushing and Ivan Petrovici Pavlov, the renowned Russian physiologist, a recipient of the Nobel Prize for Medicine and Physiology in 1904. The last possibility would have been at the International Congress of Neurology in Bern (Switzerland), 31 August – 3 September 1931 but unfortunately the Romanian professor had died the previous month (17 July 1931).

The recommendation letter written by Professor Nicolae Paulescu to Professor Harvey Cushing, alongside the deep knowledge of neurology, the determination and diligence of the young doctor Dumitru Bagdasar, were the main advantages that gained the latter the appreciation he benefited from throughout his professional specialisation in the United States. Professor Cushing stated that, "*My door is always open for Paulescu's students*"¹⁶. Since Professor Cushing's reputation at the peak of his career attracted disciples from all over the world (Europeans: H. Olivecrona, H. Cairns, N. Dott, S. Obrador; Americans: E. Cutler, G. Horax, L. Davidoff, W. Wagener), his clinic had become a point of maximum interest and pilgrimage for those who wanted to specialise in neurosurgery. In 1928, Professor Harvey Cushing's secretary, Madeline

Stanton, stated that, "*...we're toiling to receive 200 visiting surgeons*"¹⁷!

But let us see what the daily schedule of the Romanian doctor D. Bagdasar at the clinic of the renowned American neurosurgeon H. Cushing looked like:

I get up at 5:30 AM every day and I read in English until 9:00 AM, when I leave for the hospital. I go into the operating room every day to see one or two procedures which end at about 2:00 or 3:00 PM. After the operating schedule is over, I go to the laboratory where the extracted pieces are analysed and discussed until about 7:00 PM. I spend 9 to 10 hours at the hospital every day. When I get home, I read in English until 11:00 PM¹⁸.

In professor Cushing's clinic, the master placed Bagdasar under the wing of one of his closest collaborators, the renowned anatomopathologist, neurologist, neurosurgeon and psychiatrist Percival Bailey, who introduced him to the standard procedures of the main neurosurgical operations performed in the clinic, alongside the techniques for the preparation and anatomopathological analysis of the intraoperatively extracted pieces¹⁹. During his training in neurosurgery under Professor Harvey Cushing of the Peter Bent Brigham Hospital of Boston – as a voluntary assistant – Doctor Bagdasar wrote two significant papers on neurosurgery: *Le traitement chirurgical des gommés cérébrales (Tratamentul chirurgical al gomelor cerebrale)* published in Rev. Neurologie, 1929, 2 (1), 1-30 and *Intracranial chondroblastoma (Cordoblastoamele intracraniene)* published in Amer J Path., 1929, 5 (5), 429. The first paper had a single author, while the second one had two authors (the second being the renowned P. Bailey), both papers having the approval of the scientific mentor in neurosurgery of those times, the great Harvey Cushing²⁰:

After a continuous working schedule of 14 hours a day, of which 9 to 10 hours were in the neurosurgery clinic, added to the fact that Bagdasar was a heavy smoker (like his mentor at that time), after 14 months of activity, both Bagdasar and his wife Florica Bagdasar fall ill of tuberculosis. Due to Cushing's network of friends, the Bagdasars are treated in two of the best American pneumology sanatoriums: the Sarnac Sanatorium in the Anderadaks Mountains and then the Troudeau Sanatorium²¹.

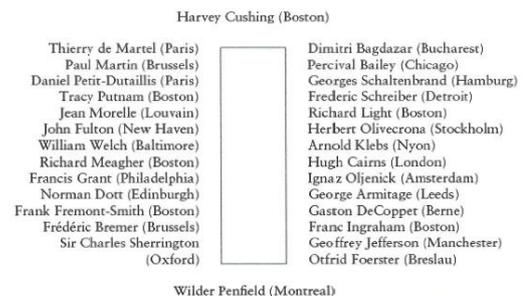
The appreciative characterisation made by the intransigent and authoritative H. Cushing regarding Dumitru Bagdasar remains remarkable – in one of the annual reports of the Surgery Clinic (*Report of the Surgeon-in-Chief of the Peter Bent Brigham Hospital*, reprinted from the Fifteenth Annual Report 1928, p. 102): “Dr Dumitru Bagdasar from Bucharest fell ill and had to temporarily suspend his stay with us. We deeply feel his absence, not only for personal reasons but also for his sharp understanding of neurological matters and his unusual working capacity”²². It has to be mentioned that during the antituberculosis therapy in the abovementioned clinics, the family-like connection – one might say – between Cushing and Bagdasar continued through an amiable correspondence (found in the personal archives of the two families), where the Bagdasars talked about the favourable outcome of their illness and Cushing encouraged them or replied affirmatively to their polite requests²³.

We shall conclude this very important chapter in the training of the Romanian doctor Dumitru Bagdasar in neurosurgery at the American Professor Harvey Cushing’s clinic by mentioning the correspondence that Bagdasar had throughout that period with his friends in Romania, namely: Professor N. Paulescu, Doctor I. T. Niculescu, his colleague, a distinguished neurologist and close friend D. Noica (head of the Neurology Unit of the Military Hospital in Bucharest), as well as the renowned physiologist J. Fulton, with whom he had become friends in the USA. In the autumn of 1929, Doctor Bagdasar was relatively stabilised from a pneumological point of view and returned to work in the Jimbolia Hospital where, with the help of his wife (who had a degree in Medicine and had joined him in the USA where, with Professor Cushing’s support, earned a Fulbright scholarship which enabled her to specialise in social medicine), performed the first 27 neurosurgical procedures in Romania in 1930: 15 ventricular punctions, 9 frontal parietal flaps, two subtemporal decompressions, one cerebellar decompression, as well as 18 procedures not involving the central nervous system: 12 vasectomies, four femoral sympathectomies and two frenectomies²⁴.

In 1930, Doctor Dumitru Bagdasar reports all the cases of medullary tumours published and operated in Romania up to that date: four had been operated by Professor Amza Jianu upon recommendation

from Doctor State Drăgănescu (information from the doctoral dissertation of L. Dragomirescu), two had been operated by Professor I. Iacobovici and three by the associated professor Iancu Jianu²⁵.

In late August-early September 1931 (31 August - 3 September), Doctor Dumitru Bagdasar attended the First International Congress of Neurology in Bern, Switzerland, where Professor Harvey Cushing presented his memorable paper based on a personal statistic on 2,023 operated brain tumours. The presentation remained famous in the medical world because, for the first time, none of the participants (of which 25 were Cushing’s disciples) was left outside the presentation room. During the congress, the American professor organised a festive dinner at the Bellevue Hotel, where he invited some of the leading experts in neurosurgery that were present. The disposition of the 29 seats at the table was prepared by the very host. The image below shows the honourable spot occupied by Bagdasar, at Cushing’s left, facing the head of French neurosurgery, professor Thierry de Martel and near Doctor Percival Bailey, his second mentor in neurosurgery during his American traineeship^{26, 27}.



From June 1931 to December 1933, he worked as an attending psychiatrist at the Hospital for Mental and Nervous Diseases “Carol al II-lea” of Cernăuți. Here, assisted by his wife, Florica Bagdasar, by Miss Brenner and others, Dumitru Bagdasar performed 28 neurosurgical procedures in his first year and 31 in his second year^{28,29}. The procedures performed in 1932 were as follows:

The first two procedures were performed on patient Karl A. (the age is not specified), the surgeon was Doctor Bagdasar, the name of the assistant is not mentioned and under “Anaesthesia” the first procedure mentions: local with novocaine, and the second one: local with novocaine 5%. The diagnosis for the first procedure of 11 January 1932 was:

cerebellar tumour and for the second one: Tumour of the left cerebellar hemisphere and vermis. Under “Procedure”, the following is stated for the first operation: right ventriculography, and for the second operation: tumour ablation. Description of the first procedure³⁰:

Classical incision. Drilling. A ventricular needle is inserted into the right lateral ventricle on the first attempt; the fluid streams out at first, then drips rapidly. After draining about 65 to 70 cc, filtered air in the amount of 20 cc is introduced. The needle is removed gently (the patient reports slight headaches after receiving the first 15 cc of air). The wound is closed in two layers. Dressing with Mastisol”. Description of the second procedure³¹: “The procedure begins at 9:30 AM and carries on until 8:00 PM; heart beat 120-130, does not answer any questions. The procedure is suspended for 15 minutes (2 cc of caffeine and 10 cc of camphor oil are given). The patient starts to recover, answers questions, the procedure is resumed without further incidents until the end. Crossbow (Cushing-style) incision. At the level of decompression, the dura is covered with a very thin fibrous layer and cannot be separated through cleavage. The dura is opened with the help of a crochet on the left side, the entire left half of the bone breach is under heavy pressure and painful at the slightest movements. After opening the dura for a 2-cm length, a brown neoplastic tissue comes out. The incision is widened beyond the median line. After lifting several bone residues that were forming a bridge on the median line, the neoplastic tissue having a surface equal to the thenar eminence is dissected with a blunt instrument after having delimited the tumour; two stitches are applied on its most convex part and the dissection is continued while applying slight traction on the silk threads. Several haemorrhages are stopped with muscle tissue taken from another patient and silver staples. The tumour slightly exceeds the median line to the right side. After lifting the central part of the tumour (the size of a plum), smaller tumour pieces are lifted with a clip, continuing to dissect with blunt instruments. Healthy cerebellar tissue becomes visible on the lower side. When several tractions were performed on the lower side of the capsule, the patient felt pain in the left eye and had a strong shake (felt as if electrocuted), probably because of the irritation of the pyramidal fascia. Some capsule residue remains on the bottom and becomes heavily excavated, like half of an egg shell. During the procedure, the wound was flooded twice by an enormous quantity of cerebrospinal fluid which probably had drained from the ventricles through the cerebral aqueduct. After the first part of the tumour was lifted, the whole left hemisphere of the cerebellum remained depressed and stayed that way until the end of the procedure. The neoplastic tissue was placed on a pad that absorbed most of the liquids and, at the end of the procedure (several hours after it had been removed – 2 or 3), the tumour weighed 15 g. The dura was

closed using the regular method. Dressing with gold sheets and Mastisol. Saline 400 cc is delivered subcutaneously on the surgical table. After the procedure, the patient feels well, no longer reports headaches, is slightly pale. The heartbeat is 130, normal, regular breathing.

On 15 February 1932, Doctor D. Bagdasar, assisted by his wife, Florica Bagdasar, performed a procedure under local anaesthesia with novocaine in a patient suffering from Jacksonian epilepsy, through a left temporal parietal flap. Description of the procedure:

After cutting the flap, the dura appeared to be under tension, without pulses. An incision was performed on the dura parallelly to the bone and 1 (one) cm inside the bone, leaving an upper pedicle. Clips were applied on the smaller veins of the dura. When cutting the dura, adherences were seen between the dura and the cortex at the upward parietal level. The adherences were very thin and broke easily. The arachnoid mater appeared in the upper-front half of the infiltrated breach as superplastic, with several whitish nodules the size of a pin head and a spermaceti-like appearance. At the level of the adherence, that is at the upward parietal level, in the centre of the hand, there is a yellowish, well-delimited nodule near two large veins. The nodule is the size of a bean. Two clips are placed on the veins and then the nodule is detached through blunt dissection, also lifting part of the healthy substance in the brain. The bleeding is stopped with muscle tissue. A cotton pad immersed in formalin 10% is pressed on the cavity remaining after the nodule extraction (Cushing style). Several separated stitches are applied on the dura. Then, the bleeding is stopped with several pieces of temporal muscle – haemorrhagic on one half. The flap is put back in place and sutured the regular way³².

One month later, on 15 March 1932, Doctor Bagdasar, again assisted by Florica Bagdasar, performed a procedure under local anaesthesia with novocaine in a patient suffering from spinal arachnoiditis, through an explorative laminectomy of the 2nd, 3rd and 4th lumbar vertebrae. Description of the procedure:

The muscle tissues are separated with great difficulty because of the contraction. After lifting the spinal apophyses, drilling is carefully performed and the breach is widened at the level of the 2nd, 3rd and 4th lumbar vertebrae. An incision is performed on the dura which has some adherences to the arachnoid, along a 3–4 cm distance. The arachnoid is very much thickened and slightly translucent. There is nothing else of notice. The spinal cord is normal. The wound is closed with a continuous suture on the dura and 4 additional layers. Dressing with Mastisol³³.

Of the 28 surgical procedures performed by Doctor Dumitru Bagdasar in 1932, we shall also stop on the one performed on 1 June. This involved a female patient (Gertrude T.) operated by the same operating family team, under general anaesthesia with avertin 2 g 3% sol. + local anaesthesia with novocaine 2%. The patient diagnosed with a right cerebellar cystic tumour (pontopeduncular) was subjected to cerebellar exploration. Description of the procedure:

Crossbow incision. Craniotomy under the occipital protuberance, the dura appeared to be destroyed, without pulses. The VLD is punctured, the fluid flows with a slight pressure but stops flowing after 5–6 cc of fluid. An incision is performed on the dura and the right cerebellar hemisphere comes out through the breach; the vermis is punctured with the same result. Region V IV is examined but nothing is found. Given the appearance of the cerebellum, we suspect the presence of a deep tumour, probably located on the front side of the right cerebellum which is inaccessible for our surgical methods. The musculocutaneous flap is closed without suturing the dura (500 cc of saline is given on the table). The surgery lasted from 9:30 AM to 1:40 PA.

Autopsy: A cystic tumour was found under the right cerebellum, between the cerebellum and the pontopeduncular area; it was the size of a large walnut, containing haemorrhagic brown fluid whose appearance was identical to that of the fluid drained through the suboccipital puncture (15 May 1932). The cystic cavity was covered with gliomatosis tissue from which several pieces were collected for anatomopathological examination³⁴.

Summing up the surgical procedures performed by Doctor Dumitru Bagdasar in Cernăuți in 1932, based on the protocols of the 28 procedures, one can conclude that 21 procedures were for brain diseases and the remaining (7) were for spine disorders (CT=1; T=3; L=3, of which one was a medullary tumour).

The experience acquired in the Boston clinic, in the Jimbolia Hospital and the Cernăuți Hospital materialises in 1932 with the publication of three scientific papers and the presentation of two communications on neurosurgery³⁵.

From 10 to 18 September 1932, Doctor Bagdasar participated in the 9th International Congress on the History of Medicine in Bucharest, whose main topic was "The evolutions of medicine in the Balkan countries". Among the 137 personalities coming from 23 different countries and representing 48 universities (Cf. Răzvan Constantinescu, *Carol al II-lea și congresul din 1932, Viața medicală din 18 iulie 2014*), there was also Doctor John Fulton, a friend of

Bagdasar's since they had both trained in neurosurgery in the clinic led by professor Cushing; the congress was an occasion for them to meet and reconnect.

An important aspect of the neurosurgical activity carried out by Doctor Bagdasar in Cernăuți from 1931 to 1932 was his application to the Healthcare Inspectorate where he requested that a psychiatry unit be converted into a neurosurgery unit. Through its official communication no 4429 of 2 November 1932, the Inspectorate expressed its approval and thus the first official neurosurgery unit in the country was founded; Doctor Herbert Urban of the surgical clinic of the Vienna University asked to be informed on how this unit had been organised so that the same model could be implemented in Vienna³⁶.

In 1933, 31 neurosurgical procedures were performed by Doctor Dumitru Bagdasar assisted by his wife, Doctor Florica Bagdasar, as well as by Ms. Stofer, Sava, Sorodoc, Pokai (nurse). These procedures included: cerebral decompressions, explorative or decompressive drillings, cerebellar explorations, abscess opening through the cerebellum, trigeminal neurotomies, laminectomies, cordotomies and decompressions or sutures of the peripheral (median/cubital) nerve traumas²⁹.

Summing up the activity carried out at the Hospital for Mental and Nervous Diseases of Cernăuți, Doctor Bagdasar states that, from 1931 to 1933 he admitted 639 patients to the Neurology Unit, many of which required neurosurgical treatment: 24 ventricular punctions, 33 subtemporal decompressions, 17 Rolandic decompressions, 28 FP flaps, 5 F flaps, 18 cerebellar explorations, 4 retrogasserian neurotomies, 20 laminectomies (tumours, arachnoidites, rhizotomies and cordotomies). Besides the aforementioned procedures on the central nervous system, he also performed procedures on the peripheral nervous system: two pericarotid sympathectomies and a suturing of the median nerve. He also performed 16 vasectomies in patients with mental disorders³⁷.

The four scientific papers published in 1933 reflected the neurosurgical issues Bagdasar had faced during that year, beginning with *Cerebro et Ventriculoscopie*, continuing with two papers on trigeminal procedures and concluding with one paper on a cystic cerebellar tumour³⁸.

In 1934, Doctor Bagdasar returned to Bucharest, with the support of Professors Iacob Iacobovici and

Nicolae Minovici, where he carried out his neurosurgical activity in two hospitals: the Emergency Hospital founded by Professors Minovici and Iacobovici within the Ambulance station³⁹ on Independence Street and the Central Sanatorium⁴⁰. In 1934, he performed 41 neurosurgical procedures at the Emergency Hospital⁴¹ and 23 procedures at the Central Sanatorium.

The neurosurgical pathology he dealt with during that year led Doctor Bagdasar to write and publish six scientific papers⁴².

At the end of 1934, Doctor Dumitru Bagdasar published the paper entitled: *Titluri, lucrări științifice și activitate* (Titles, scientific papers and activity) including 28 pages, which we mentioned in the bibliographic references.

In the chapter *Surgical activity*, he underlines the fact that, alongside his activity in neurology, he also worked in the Surgery Unit of the same hospital, led by Professor Mihail Butoianu, where, for three years, says the author: "I was given the freedom to operate and I performed a relatively significant number of procedures", "This surgical traineeship which lasted for three years was useful in my approach to neurosurgery and is the foundation of my training in that field"¹⁹.

The chapter *Neurosurgical activity* is divided into four parts: the United States, the Jimbolia Hospital (27), the Hospital for Mental and Nervous Diseases of Cernăuți (149), the Emergency Hospital and the Central Sanatorium of Bucharest (60), and mentions the types and number of procedures (236) performed in the hospitals of Greater Romania from 1930 to 1934. He also makes brief notes on the surgical techniques used and the difficulties he faced in the preoperative radiological exploration of patients⁴³. We previously stated that the surgical report archive of the two hospitals in Bucharest (the Emergency Hospital and the Central Sanatorium) where Doctor Bagdasar performed procedures in 1934 contains 64 reports, representing – most certainly – the correct number of procedures performed (the four additional procedures were performed by Doctor Bagdasar after the publication of that volume).

The activity carried out by Doctor Bagdasar at the Emergency Hospital of Bucharest, since returning to Bucharest and until early autumn was described by one of the hospital leaders, professor Iacobovici in a certificate of activity, probably required for the

enrolment in a contest for an attending neurosurgeon position at the Central Sanatorium which was approaching.

Dr Bagdasar has been working in the Emergency Hospital since its founding. He took on 38 cases of non-traumatic injuries and led the treatment of all the skull fractures and all the traumatic nervous injuries. [...] Anyone who has experience in nervous surgery would see in Mr Bagdasar the maximum level of knowledge in this special branch of surgery, an impeccable technique and rare operating dexterity. Humble, hard-working, absolutely unbiased, Mr Bagdasar works with his own personnel, trains other practitioners of the Emergency Hospital and he brings all his own instruments every time. After surgeries, he attends to each patient day by day with extreme care until the end. [...] I have seldom had a collaborator with such exquisite education, such deep scientific insight and who worked with more self-sacrifice for science and the ill⁴⁴.

In late 1934, from 30 November to 2 December, the first contest in Romania for the position of attending neurosurgeon at the Central Hospital for Mental and Nervous Diseases took place in Bucharest. The three practitioners who enrolled in this contest, doctors Bagdasar, Moruzi and Vasiliu had completed their specialisation in important centres of the United States or Europe. Details about this contest are provided by Dumitru Bagdasar in a so-called Diary⁴⁵ that we had access to thanks to the efforts of Professor Ștefan I. Niculescu (son of I. T. Niculescu). The author of the diary concludes the description as follows: "*The ranking was decided as follows: since Moruzi and I had equal grades, I was ranked first because the rules set forth that seniority in the Ministry was decisive in case of equal grades*".

Since 1935, Doctor Dumitru Bagdasar's surgical activity was carried out predominantly in one hospital, the Central Hospital for Mental and Nervous Diseases of Bucharest, where he earned his position following the contest for attending neurosurgeon. In that hospital, he performed 17 neurosurgical procedures in 1935⁴⁶. The working conditions in the operating unit of this hospital that was under refurbishment from the second half of 1934 are described in a very plastic but truthful way by the one who assisted him in a large number of neurosurgical procedures throughout 7 years of activity (1934-1940) – Doctor Maria I. Niculescu. She describes the shocking working conditions of D. Bagdasar and his team in those early days of neurosurgery in Bucharest: "*the patients were naked,*

kept behind bars and, in that eerie atmosphere, outstanding surgical procedures were performed on an improvised wooden table, using a vacuum cleaner for home use adapted for surgeries and most instruments bought or made based on Bagdasar's instructions, thus following Cushing's example but without comparable financial resources⁴⁷. At the same time, he continued to perform procedures at the Emergency Hospital⁴⁸ or even other hospitals in Bucharest, such as the Colțea Hospital⁴⁹ as well as the Military Hospital⁵⁰ and the French Sanatorium or Paul Vincent Hospital⁵¹, using a portable surgical instrument case that he sterilised in the hospital unit where he performed the procedure.

Alongside his surgical activity in the abovementioned hospitals, Doctor Bagdasar would attend the histology laboratory of the Medical School led by Professor Ștefan Besnea and then by Ion T. Niculescu each week: "Every week, the microscopic sections of all the operated tumours brought in in countless cups and containers were discussed in depth by Brătianu, Ion Bazgan, later C. Arseni and occasionally Emil Crăciun and Maria Niculescu, drawing up reports including the macroscopic description, size, weight, microscopic description, diagnosis and synthesis of the discussions"⁵².

Throughout the years, he participated in various congresses, scientific meetings on neurology (The 1931 Bern Congress), the history of medicine (The 1932 World Congress of Bucharest), neurology, psychiatry and endocrinology (Chisinau, 1935), surgery (The National Congress of Surgery, Bucharest, 1939) etc.

In 1936, Doctor Dumitru Bagdasar wrote a report mentioning all the cases of primordial medullary tumours published and operated in Romania up to that date: 12 cases operated by professor Amza Jianu at the recommendation of Dem Paulian, two cases operated by Doctor Constantin Leonte at the recommendation of the same doctor and 13 cases operated by Doctor Alexandru Moruzi under the supervision of Professor Leon Ballif. (Apud Ștefan Balmez, *Tumori medulare – studiu anatomo-clinic și terapeutic* (Medullary tumours – anatomic, clinical and therapeutic study) (doctoral dissertation)⁵³.

From 1931 to 1941, summing up his activity in a report, Dumitru Bagdasar stated:

During the years before the current war (1941), besides the domestic patients, I also received patients from Hungary, Bulgaria and Palestine. From 1931 to date – therefore

during a time span of 10 years – I performed 1,800 surgical procedures on the nervous system, divided as follows: 473 ventriculograms having the purpose to diagnose the existence and location of neoplasms, 988 large craniocerebral procedures, 259 laminectomies, 83 procedures on the peripheral nerves⁵⁴.

From 1939 to 1940, after the death of Professor Marinescu, with his successor, Professor Nicolae Ionescu-Sisești and with the approval of the Council of the Faculty of Medicine and the Civil Hospital Board, a plan was drawn up to oversee the fitting of a modern neurosurgery ward with a capacity of at least 80 patients near the Neurology Clinic of the Colentina Hospital that could rival similar services abroad... In a report from 1941, after the beginning of the war, Doctor Bagdasar stated with disappointment: "[...] In February this year, however, I found out that, for reasons unknown to me, the ward had been given a different destination.

The war caught me by surprise in a totally insalubrious building and the available personnel that had been trained for these procedures was made up of Doctor Arseni C. with a 5-year experience in the speciality and 3 nurses who had trained in the neurosurgery unit for the previous years.

Doctor Arseni was mobilized and kept on the battlefield since the beginning of the war, although I had made countless attempts through the Ministry of Health and the military authorities to have him brought back to the hospital, where he would have been incomparably more useful to the army than on the battlefield. Such reasons have not been understood and my requests remained unanswered. [...]

During the months of July and August, the injured started to come in as neurological patients with much more serious injuries than those in the general surgery units: complete irreversible palsies of the lower limbs through sectioning of the spinal cord, half-body palsies through brain injuries, brain abscesses, meningitis etc."⁵⁵

From 1942 to 1946, according to the reports of Doctor Sofia Ionescu-Ogrezeanu⁵⁶:

Doctor Dimitrie Bagdasar would come to the hospital from the Cotroceni neighbourhood before 5 AM. Doctor Constantin Arseni would walk several kilometres on Calea Văcărești on any weather to be in the hospital at 5 AM. The family Ionel and Sofia Ionescu lived at the hospital.

Professor Bagdasar was renowned for his incredible work capacity. A handful of people had to cater to all the needs of the patients occupying the 80 beds the ward had at that

time. An ambulance would bring in a war injured or a neurosurgical emergency every minute.

Professor Bagdasar started his day by visiting the patients in the injured ward. Then he visited everybody else. Once he entered the operating room only God knew when he would come out. He would keep his cool even in the most difficult circumstances in the operating room. He had the lightest hand when operating. At the end of each procedure, he filled in the surgical report for the operating register very meticulously. His notes were a priceless study material for anyone who read them. His writing was easily readable, clear, accompanied by drawings, sometimes using colours. He would describe the key moments of each procedure with extreme meticulousness for his collaborators. Any patient in a deep coma was cared for by Bagdasar's team until the very last moment. In Doctor Bagdasar's ward, no patient passed away without a doctor by their side. Inoperable cases and inane complications caught his interest. He had real talent as a researcher.

Every case was a lesson learned. In 1946, the neurology professor Ionescu Sisești, speaking about the activity in his ward, said: it was not only a hospital where surgical procedures were performed, it was a centre of relentless scientific research⁵⁷.

His left-wing political orientation was a characteristic of his views throughout the years, being materialised through his membership of the Romanian Communist Party since 1943, by signing the memorandum of April 1944 through which the intellectuals demanded the exit of Romania from the war, through his activity in the board of "Apărarea Patriotică" and his tenure as Ministry of Health in the Petru Groza Government since 6 March 1945. This orientation was analysed, accepted and classified – after a period of 60-70 years – by his daughter, a world-renowned mathematician, Professor Alexandra (Bagdasar) (Bellow) Calderon⁵⁸ and by Doctor Mihail Mihailide⁵⁹.

My father's life was a continuous struggle. He had nothing «for free». Extreme poverty marked his childhood and adolescence years. When he thought he had overcome the «money issue», World War I broke out and he was sent to the battle front as a military doctor; there he fell ill of typhus and struggled to survive. His desire to learn and his prodigious work capacity were to a great extent also fed by his strong desire to contribute to the fight against poverty and human suffering which he had personally faced since a young age". [...] "Of course, my parents were not «professional revolutionaries». They were not made for a political career, power games and political scheming. The fight for privileges and benefits had nothing to do with them. But my father grew up seeing a lot of poverty and

human suffering in the rural areas. In a country where the majority of people were peasants, he was acutely aware of the situation in the rural environment: illiteracy was spread to a shocking extent, the lack of hygiene and medical care, the huge rate of child mortality were all issues he felt deeply and first-hand. Humanistic ideas attracted him instinctively, because social injustice and racism, chauvinistic and exclusivist nationalism revolted him (see his diary from 1934 to 1935). He was, by his nature, on the side of the needy, so his left-wing orientation was natural. My mother, who was devoted to him and passionately believe in him, embraced his ideas⁶⁰.

Being well informed and endowed with the scientific rigour of his profession, Doctor Mihail Mihailide managed to extract – from a history of communism in Romania – the parts that refer to Doctor Bagdasar, drawing up his own motivated presentation after what Alexandra Bagdasar⁵⁹, ⁶¹ had written before him, in two substantial articles of medical history published in the weekly paper "Viața Medicală" which he ran at that time and of which we shall quote a small part⁴⁹:

[...] "For his unconditional support to the new Government, Dumitru Bagdasar was appointed Minister on 6 March 1945. He travelled across the country, becoming, according to the existing documents, an excellent propagandist, due to his increasing medical prestige and rhetoric qualities. Several speeches he held on various occasions have been preserved in his own writing: agitator messages, some of which used a wooden language that was quickly adopted by the speaker, including reverences to the Great Eastern Friend, filled with slogans and concluded with the invariable "Long live...!"

Regarding the awarding of his professor title, reader Dumitru Bagdasar, who had been recently appointed Ministry of Health in the Petru Groza Government, there are memorial documents that are considered unique in Romanian higher education, where a reader refuses the title of professor on the first proposal and accepts it unwillingly on the second nomination. I shall quote those testimonies left for posterity for the elegant expression and argumentation of the two parties at the dawn of the new democracy through: the request sent to the dean of the Faculty of Medicine, Professor Gr. T. Popa by Bagdasar and the reply that the latter received: "Mr Dean, please be my interpreter with the Faculty professors, to whom I thank with all my heart for the care they show to our higher education or for the efforts they make to accomplish something in our

field. The political position I hold at the moment does not allow me to accept this honour. During the dictatorship, I heavily criticised the tendency of certain high dignitaries to secure benefits for themselves or their friends in higher education. The professors and the public opinion of the time shared this view"; professors C. I. Parhon, C. I. Urechia replied to this request on 1 November 1945: "We, the members of the advisory commission for position holders, have been aware for several months of your refusal to accept this title [...] However, considering the need to have a neurosurgery department in our institution, we and all our colleagues are asking you to please not deny our Faculty the honour to have the first department in our country for this branch of medicine and to accept our recommendation!"⁶²

He died on 16 July 1946 after an illness that lasted several months and forced him to give up his ministerial assignment on 24 April 1946, as well as the nomination for ambassador of Romania in the United States⁶¹. Before that date, following a medical examination in Vienna, he had found out his primary diagnosis (inoperable lung/digestive cancer)⁶² and he established his secondary diagnosis on his own (brain metastasis) once apraxia settled in... "With his extraordinary common sense, professor Bagdasar did not tell the truth to anyone. He retired to the town of Breaza to await his end. On his deathbed, in his very last moments, he called his collaborators: Dr Constantin Arseni, Dr Ionel Ionescu, Dr Sofia Ogrezeanu Ionescu. What were his last words?

Do everything in your power for this speciality to evolve. Be as one. Continue what you started with the same energy, the same passion and, especially, with the highest ethics.

He also wanted Doctor Constantin Arseni to be appointed manager of the ward"⁶³.

He became a *post-mortem* member of the Academy of the Popular Republic of Romania in 1948⁶⁴.

After he won the contest for the position as attending neurosurgeon, during one decade (1935-1944), he published 28 scientific papers in medical journals and he presented three reports at specialist congresses. Two other papers to which he had contributed substantially were published *post mortem*:

D. Bagdasar, Gh. Pasăre, *Sindromul senzitivo-motor de tip periferic după traumatismele parietale,*

Spitalul, 1947, An. 67, Nr. 5-8/Mai-August, p. 106-108⁶⁵.

D. Bagdasar, C. Arseni, *Traité de neurochirurgie*, Introducere de C. I. Parhon, Editura Academiei R. P. R., București, 1951, 601 [603] p., cu 1 [4] f. (translated in French by Doctor Maria Niculescu)⁶⁴.

For the 10-year anniversary from the death of Professor Dumitru Bagdasar, Professor I.T. Niculescu, a correspondent member of the Academy of the Popular Republic of Romania, made a magnificent description of Bagdasar starting from their first encounter in 1914, continuing with the time spent in Professor Marinescu's clinic and up to the time in Doctor Noica's ward at the Military Hospital of Bucharest where lifelong friendships had been built between co-workers who shared the same spiritual values...:

In 1914, I first met a young man with smiling and kind eyes but at the same time endowed with a subtle irony. It was Mitică Bagdasar. He was the pride of the people of Bârlad who had joined him at Medical School. His wide general knowledge, his kindness and loyalty had immediately earned him the high esteem and fondness of his colleagues. An original note was his travel wear, with a wide hat and floating lavalier that completed his appearance as a young man with a mind full of verses and good reading, which had always been his spiritual delight. [...]

Bagdasar's first years as a student were impacted by the war of 1916-1918, when he did his duty as a doctor. After the war, I had the privilege to get to know Bagdasar better when we worked together in Professor Marinescu's clinic in Colentina, as well as later, when he worked with the great clinician, Doctor Noica. Mitică Bagdasar approached this distinguished person, follower of Dejerine, Babinski and Pierre Marie, with fondness and attachment, learning everything from Doctor Noica's experience in the admirable French clinic. The intellectual respect for Noica was doubled by a rare lifetime friendship between the two. Thus, through his long and diligent work alongside Noica and Marinescu, Bagdasar set the foundation of a deeply eradicated neurologic culture which later turned him into one of the most erudite neurologists in Romania.

Since Bagdasar knew very early that he was going to become a neurosurgeon, he integrated his activity with extensive work in surgery within Professor Butoianu's unit at the Military Hospital. [...]

Bagdasar was the founder of modern neurosurgery in Romania. Romanian science owes him a lot. He transplanted a difficult but very useful science into our country. He brought in all the scientific and technical knowledge in neurosurgery of the great Harvey Cushing, he applied all the novel scientific breakthroughs in this field

with discernment and seriousness, bringing important personal contributions and showing at all times the utmost respect for the ill whom he helped with love, delicacy and a sense of humanity. He was a gentle and understanding master for his followers.

Throughout his tragically ended life, Bagdasar was a great doctor and a good man, whom all good people should remember with love and kindness⁶⁶.

The disciple and successor of Professor Dumitru Bagdasar as leader of the neurosurgery school in Bucharest, professor Constantin Arseni, on the occasion of the 30-year anniversary from his master's death, wrote in a prestigious journal of the time:

Doctor Bagdasar lived in a golden era of the Romanian medical school. That was for him an advantage because he had examples to emulate but also a disadvantage because it is obviously more difficult to shine in the light than in the shade. But – though it was more difficult – he managed to shine in the light. [...]

Doctor Bagdasar's personality as a doctor was necessarily and harmoniously doubled by the finest personality as a person. He was a good and generous man, showing endless understanding towards human suffering, he had an unusual sense of justice and therefore of revolt in front of injustice. He was a deeply honest person, having a real cult for honesty, human values and respect for people, for the liberties of the individual and society. He was harsh on himself and would not accept any moral compromise. These ethical principles developed his activist side. It is known that he was one of the initiators and signatories of the 1944 memorandum through which intellectuals requested the exit of Romania from the war and after 23 August 1944, as Doctor Bagdasar was continuing his activity as a neurosurgeon, he found new resources to participate in the leadership of "Apărarea Patriotică" and in 1945 he was appointed Minister of Health in unimaginably difficult circumstances of neediness, hunger, epidemics, destruction and disorganisation. With the same perseverance and selflessness, Doctor Bagdasar did all his duty and gave his whole self.

In 1946, he died knowing he had completely honoured his duty⁶⁷.

NOTES

1. Simion Tavitian, *Armeni de seamă din România*, vol. I, p. 55, in: www.ziuaconstanta.ro,
2. Acad. prof. dr. A. Kreindler, *Viața și opera profesorului dr. Dumitru Bagdasar*, Societatea pentru răspândirea științei și culturii, București, 1960, p. 4.
3. Dumitru Bagdasar, *Muncă și caracter*, *Scrisori-jurnal-portrete-discursuri-evocări*. Introducere, selecție,

prezentare și aparat critic de Ștefan I. Niculescu, Editura Eminescu, București, 1987, *Mărturiile de Nicolae Bagdasar*, p. 351-353.

4. Dr. D. Bagdasar, *Titluri, lucrări științifice și activitate*, București, 1934, p. 4.
5. Dr. D. Bagdasar, op. cit., p. 4-5.
6. Dr. D. Bagdasar, op. cit., p. 3: "From 1921 to 1922, I attended the Neurologic Clinic of Professor Marinescu, being transferred there by the Medical Military Institute for specialisation".
7. Dr. D. Bagdasar, *Titluri, lucrări științifice și activitate*, București, 1934, p. 5-11.
8. Dr. D. Bagdasar, op. cit., p. 12.
9. M. Butoianu, I. Gilorteanu, *Cranioplastie tardivă cu placă metalică pentru pierderi mari de substanță craniană*, Spitalul, 1922, p. 310.
10. Ștefan I. Niculescu, *Contribuții la biografia lui D. Bagdasar*, în: *Trecut și viitor în medicină*, Studii și note, sub redacția dr. G. Brătescu, Editura Medicală, București, 1981, p. 618-619. There are three letters that Professor Nicolae Paulescu wrote to Doctor Dumitru Bagdasar in reply to the latter's own letters to his master, which I shall reproduce here to show their narrative beauty after nearly one century since they were written... The first letter is dated 15 April 1928: "My dear friend, I am delighted by what you found in Boston and that it is everything you wished for. Please be so kind as to send my greetings to Professor Cushing, along with my gratitude for the kind welcome he has shown you. Yours truthfully, Paulescu". It should be noted that the letter was written in French so that Bagdasar could show Professor Cushing the gratitude that Professor Paulescu had expressed towards him. The second letter, dated 18 December 1928: "My dear friend, thank you so much for the kind wishes for my onomastic. How long will you be in America? We are anxious to have you back. The other day, I saw a still young gentleman from the higher class (Mr Bărdescu) with signs of tumour localised on the lower right peri-Rolandic region, with Jacksonian seizures. Since you were not here, I had to send him to Paris to be operated by a specialist". The next part of the letter is written in French, probably for the same reasons we suspected for the first letter: "Please remind your eminent and illustrious master, Professor Harvey Cushing, of me and give him my best regards". At the end, he adds in Romanian: "And please accept, my dear friend, my affectionate and devoted greetings, Paulescu – P. S. I should be delighted if you sent me a photograph of master Cushing". Paulescu's last letter is dated 11 February 1929: "My dear friend, your incomparable master informed me of the accident that forced you to suspend your training. Do not worry too much because such inconveniences have often happened before in many young people, for instance a professor of Iași, who is now big and fat and perfectly healthy. I do believe though it would be safer if you returned to our country as soon as your health allows you to travel. Please give

- my best regards to Mrs Bagdasar and receive my affectionate and devoted greetings, Paulescu”.
11. N. C. Paulesco, Recherches sur la physiologie de l'hypophyse du cerveau, Journal de Physiologie et de pathologie générale, no. 1, Paris, 1907.
 12. N. Paulesco, L'hypophyse du cerveau. I. Physiologie. Recherches expérimentales, Paris, 1908.
 13. S. J. Crowe, Harvey Cushing and John Homas, Experimental hypophysectomy, Johns Hopkins Bull, 1910, 21, p. 130.
 14. Ian Murray, Paulesco and the isolation of insulin, JI. Of the History of Medicine and Allied Sciences, 1971, 26, p. 152.
 15. Ștefan Niculescu, op. cit., p. 617.
 16. Prof. Dr. Radu Iftimovici, Osmoza Paulescu – Cushing, Viața Medicală, Vineri 21 oct. 2016.
 17. Hortensiu Aldea, Istoria Modernă și contemporană a neurochirurgiei românești, Editura Pim, Iași, 2017, p. 12
 18. Dumitru Bagdasar, Muncă și caracter, Scrisori-jurnal-portrete-discursuri-evocări. Introducere, selecție, prezentare și aparat critic de Ștefan I. Niculescu, Editura Eminescu, București, 1987, 413 p., p...
 19. Hortensiu Aldea, op. cit., p. 13.
 20. Dr. D. Bagdasar, op. cit., p. 13-14: In his first paper, Tratatul chirurgical al gomelor cerebrale, the author states that from a statistic of 1,500 brain tumour operated in Professor H. Cushing's neurosurgery unit, only 8 (0,5%) were anatomopathologically verified brain gummas. Conclusion: surgery is useful because 7 of the operated patients were cured and the specific treatment was more efficient after decompression or removal of the sclero-gummatous lesion. In the second paper, Cordoblastoamele intracraniene, the authors reported two cases operated by professor Harvey Cushing: the first one involved a single procedure following which the patient was cured, while the second one involved two procedures distanced by six months (the second one was fatal). Conclusion of the study: total removal of these tumours is not possible and relapses are frequent.
 21. H. Aldea, op. cit, p. 13.
 22. Ștefan I. Niculescu, op. cit., p. 619-620.
 23. Ștefan I. Niculescu, op. cit., p. 619. In a letter dated 9 March 1929, Cushing wrote: "Dear Bagdasar, I have just received a letter from Paulescu who asked me to give you a letter directed to you. From what he writes, I suppose he heard about your illness and the temporary suspension of your work which saddens us all enormously. But I hope you and your wife are both on your way to recovery. Please sent him my warmest regards. Yours sincerely, Harvey Cushing”.
 24. Dr. D. Bagdasar, op. cit., p. 14: "In 1930, I performed the first neurosurgical procedures in our country. Influenced by Dufour's ideas that in case of neurosyphilis resistant to medical treatment cranial decompression can be beneficial, I performed procedures on four syphilis patients whom I followed up for several months. The patients did not improve. My conclusions were that decompression is only beneficial in case of brain gummas and I abandoned this method. Overall, at the Jimbolia Hospital, I performed 27 procedures on the central nervous system, divided as follows: 15 ventricular punctures, 2 subtentorial decompressions, 1 cerebellar decompression, 9 frontal parietal flaps. Besides these, I performed: 4 femoral periarterial sympathectomies, 2 frenectomies, 12 vasectomies”.
 25. H. Aldea, op. cit., p. 27.
 26. H. Aldea, op. cit., p. 15.
 27. Horia Pleș, Horia Berceanu, Eliza Berceanu, 150 de ani de la nașterea părintelui neurochirurgiei mondiale, Harvey Williams Cushing (1869-1938), a IX-a Ediție a Congresului Național de Istoria Medicinii, Vaslui, 23-25 mai 2019, Volum de lucrări (ediție coordonată și îngrijită de dr. Valeriu Lupu), Editura Pim, Iași, 2019, p. 314.
 28. Dumitru Bagdasar, Surgical reports – 1-28 – procedures performed at the Hospital for Mental and Nervous Diseases of Cernăuți in 1932. Operating register, Archives of the Clinical Emergency Hospital Bagdasar-Arseni, Bucharest. The surgical reports are written by Doctor Dumitru Bagdasar in a clear, calligraphic handwriting.
 29. Dumitru Bagdasar, Surgical reports – 1-31 – procedures performed at the Hospital for Mental and Nervous Diseases of Cernăuți in 1933. Operating register, Archives of the Clinical Emergency Hospital Bagdasar-Arseni, Bucharest. The surgical reports are written by Doctor Dumitru Bagdasar in a clear, calligraphic handwriting
 30. Dumitru Bagdasar, Ibidem, Surgical report for the first procedure performed in Cernăuți in 1932.
 31. Dumitru Bagdasar, Ibidem, Surgical report for the second procedure performed in Cernăuți in 1932.
 32. Dumitru Bagdasar, Ibidem, Surgical report for the procedure performed on 15 February 1932.
 33. Dumitru Bagdasar, Ibidem, Surgical report for the procedure performed on 15 March 1932.
 34. Dumitru Bagdasar, Ibidem, Surgical report for the procedure performed on 1 June 1932.
 35. Dr. D. Bagdasar, op. cit., p. 15-17.
 36. Dr. S. Lavrov, Oameni și fapte din istoria medicinei militare românești, vol. I, coordonat de general de brigadă (r) dr. Mircea Diaconescu, Editura Pro Transilvania, București, 2005, p. 405.
 37. Dr. D. Bagdasar, op. cit., p. 15.
 38. Dr. D. Bagdasar, Ibidem, p. 17-20.
 39. The Emergency Hospital of Bucharest was founded in 1933 (through decision no 68920 of the Ministry of Labour, Health and Social Security, published in the Official Gazette no 251 of 31 October 1933), creating a unified emergency care system, with a sole management for all activities (first aid, transportation – Ambulance, specialistic care – Emergency Hospital). I. Iacobovici had been appointed medical manager of the hospital and N. Minovici managed administrative matters. After the management had been appointed and approved by the administrative and technical - healthcare authority of the Ministry in September-October 1933, on 6 November 1933, the Ambulance Society Committee acknowledged

- all the action taken up to that point and gave its approval for the fitting of an emergency surgery hospital within the head office of the Ambulance Society on Splaiul Independenței. Unofficially but partially, the hospital starts to operate immediately, thus preceding the official opening of the 50-bed hospital on the 5th of May 1934 (Apud, Mircea Beuran, Benone Duțescu, Rodica Duțescu-Zăvoianu, Asistența urgențelor chirurgicale din București, Certitudini și speranțe, Editura Academiei Române, București, 2014, p. 30-31).
40. The Central Hospital for Mental and Nervous Diseases was a ward hospital assigned in 1923 where Professor Alexandru Obregia relocated the psychiatry clinic that had been run until that point at the Mărčuța Hospice.
 41. Dumitru Bagdasar, *Ibidem*, Surgical reports of the Emergency Hospital of Bucharest, 1934.
 42. Dr. D. Bagdasar, *op. cit.*, p. 21-25.
 43. *Idem*, p. 25. Summing up his neurosurgical activity carried out in the Romanian hospitals from early 1930 to November 1934, Doctor Bagdasar stated that the following procedures had been performed: 49=ventriculograms, 12=T flaps, T-P flaps, 27=cerebellar explorations, 42=subtemporal decompressions, 17=Rolandic decompressions, 5=metal plate plastic surgeries of the skull, 4=retrogasserian neurotomies, 32=laminectomies
 44. National Archives of Romania, Bucharest, Bagdasar Family Fund, File 20, 21 September 1934. Information confirmed in Mircea Beuran, Benone Duțescu, Rodica Duțescu-Zăvoianu, *Asistența urgențelor chirurgicale din București*, Editura Academiei Române, București, p. 32).
 45. Dumitru Bagdasar, *Muncă și caracter*, *Scrisori-jurnal-portrete-discursuri-evocări*. Introducere, selecție, prezentare și aparat critic de Ștefan I. Niculescu, Editura Eminescu, București, 1987, 413 p., p. 243-246. The diary includes Bagdasar's daily notes from two time periods: 3 September 1934 – 10 September 1935 and 12 October 1935 – 10 July 1936, the missing time span being due to the author's illness. These notes by Doctor Dumitru Bagdasar had been originally published by Professor Șt. I. Niculescu in the volume: *Apărarea sănătății ieri și azi*, Editura Medicală, 1984, p. 399-424.
 46. Dumitru Bagdasar, *Ibidem*, Surgical reports from the Central Hospital, 1935.
 47. Dumitru Bagdasar, *Muncă și caracter*, p. 11.
 48. Dumitru Bagdasar, *Ibidem*, Surgical reports from the Emergency Hospital, 1935.
 49. Dumitru Bagdasar, *Ibidem*, Surgical reports from the Colțea Hospital, 1935.
 50. Dr. Mihail Mihailide, D. Bagdasar, un exponent al „stângii naive” (1), *Viața Medicală*, Miercuri 1 mai 2013, or at: <https://www.viata-medicala-ro//istoria-medicinei/d-bagdasar-un-exponent-al-stangii-naive>
 51. Maria I. Niculescu, *Operații neurochirurgicale la care l-am ajutat eu*, Manuscript, kept at the Library of Medical History of the National Public Health Institute, Bucharest, p. 63, with the mention that it is currently being printed.
 52. Dumitru Bagdasar, *Muncă și caracter*, p. 12.
 53. H. Aldea, *op. cit.* p. 17.
 54. Rodica Simionescu, *Neodihna binelui*, neurochirurg Sofia Ionescu, Editura Atlas, București, 1998, p. 86.
 55. Dumitru Bagdasar, *Muncă și caracter*, p. 207-208.
 56. Tatiana Roșca, Horia Berceanu, Antoaneta Marinescu-Lucasiciu, Maria-Gabriela Suliman, Doctor Sofia Ionescu (1920-2008) prima femeie neurochirurg din lume, *A 47-a Reuniune Națională de Istoria Medicinii*, Roman, 17-19 mai 2018.
 57. Rodica Simionescu, *op. cit.*, p. 81-82.
 58. Alexandra Bagdasar (called “Gugu” by her parents) was born on 30 August 1935 in Bucharest where she attended primary and secondary school and the Faculty of Mathematics of the University of Bucharest, graduating in 1957. Married since 1956 to her first-year mathematics professor, Cassius Ionescu-Tulcea, whom she joined in 1957 to the USA, at the Yale University, where he had been invited for a research project. After two years, Alexandra defends her doctoral dissertation – *Ergodic Theory of Random Series (Teoria ergodică a seriei aleatorii)* at that university (dissertation supervisor: Professor Shizuo Kakutani). She was considered as an elite expert of ergodic theory, probability and mathematical analysis. Since 1967, Alexandra Ionescu was a mathematics professor at the Northwestern University and since 1996 she was Professor Emeritus of the same university. She was married three times: the first marriage lasted from 1956 to 1969, the second marriage to the American writer, recipient of the 1976 Nobel Prize for literature, Saul Bellow, lasted from 1974 to 1985 and the third marriage to the renowned mathematician Alberto Calderon lasted from 1989 to 1998 (when the husband died).
 59. https://ro.wikipedia.org/wiki/Mihail_Mihailide
 60. Alexandra Bellow, *Asclepios versus Hades în România (I)*, *Revista 22* din 25.08.2004.
 61. Alexandra Bellow, *Asclepios versus Hades în România (II)*, *Revista 22* din 01.09.2004.
 62. Dr. Mihail Mihailide, D. Bagdasar, un exponent al „stângii naive” (2), *Viața Medicală*, Vineri 10 mai 2013, or at: <https://www.viata-medicala-ro//istoria-medicinei/d-bagdasar-un-exponent-al-stangii-naive>
 63. Rodica Simionescu, *op. cit.*, p. 84-85.
 64. https://ro.wikipedia.org/wiki/Lista_membrilor_Academiei_Romane
 65. Dumitru Bagdasar și Florica Bagdasar, *Lucrări*, p. 10
 66. Ion T. Niculescu, *În amintirea doctorului D. Bagdasar*, *Analele Academiei Republicii Populare Române*, 1956, vol. VI, p. 401-404.
 67. C. Arseni, *Sentimentul datoriei împlinite*, *Flacăra*, nr. 22, 3 iunie 1976, p. 14.