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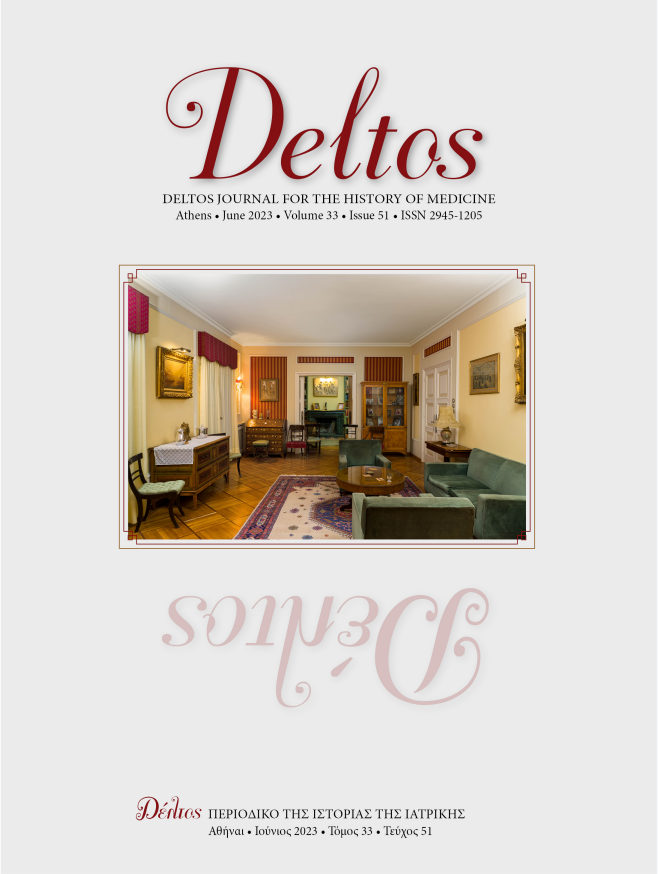

Insights into the Beginnings and Glory of Romanian Gerontology

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Insights into the Beginnings and Glory of Romanian Gerontology

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Figure 1. Otopeni. Ana Aslan Institute.

Abstract

Romanian medicine has made significant early contributions to modern gerontology and geriatrics. Understanding, integrating and combating old age was in keeping not only with ancient mythology and old Romanian fairy-tales, but also with the scientific approaches to the art of prolonging life, or macrobiotics, which emerged in the 19th century. In the 20th century, several Romanian doctors focused on gerontology and geriatrics, a research area directly related with the progress of neurology, endocrinology and physiology. Professors Gheorghe Marinescu, Constantin I. Parhon and Ana Aslan, along with Grigore Benetato, all members of the Romanian Academy, as well as Dr. Dimu Kotsovsky were among these scientists interested in age study and management. Institutes, publications and medico-social establishments were designed for this purpose. Today, Romania is striving to revitalise its rich tradition of gerontology and geriatrics in alignment with current international standards.

Key Words: *Marinescu, Parhon, Aslan, gerontology, geriatrics, longevity*

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Introduction

Mythological and empirical imprints in Romanian antiquity

Auguste Comte determined three stages through which humanity progresses in its understanding of the world: theological, metaphysical, and positive, also known as the scientific stage. These stages can sometimes coexist. This holds true when examining the history of old age and longevity, too.

Senescence preoccupied numerous philosophers, alchemists, and physicians throughout history. Hippocrates (460-370 BC), introduced "macrobiotics" as a means to maintain and prolong healthy life. Aristotle (384-322 BC) defined "macrobiotics" as a system of living in harmony with Nature, to attain longevity and wellbeing. For him, ageing meant losing the "innate heat". Galen (ca 129-216 AD) argued that both the innate/animal heat and vital humours were progressively lost with age.

Towards modern medicine in the Romanian Lands

As once things happened with the Greek and Roman colonies in this part of the world, the proximity of the Romanian Lands - Moldavia and Wallachia - with Constantinople, Padua and Venice, but also with Transylvania, facilitated the transmission of Western European scientific influences during the Middle Ages, the Renaissance and the Enlightenment.

In the 15th century, rediscovering the virtues of sober life, the Venetian Luigi Cornaro (1467?-1566) wrote that "nature does not forbid us to wish for longevity"[1] Cornaro's ideas were reconsidered by the father of occupational medicine and forerunner of public health, Dr. Bernardino Ramazzini (1633-1714), in the 17th century.[2] For him, apart from one's lifestyle and work, environmental factors balance was also important. Almost at the same time, the Prince of Moldavia Dimitrie Cantemir (1673-1723), a reputed polymath, philosopher, historian, iatrohistorian and composer, formulated a "theory of ages" in his work [*The Divan or The Wise Man's Parley with the World or The Judgement of the Soul with the Body*].[3] His Christian conclusions outlined the fact that "inter peritura vivimus" urging individuals to derive meaningful understanding from the transient and contradictory nature of temporal epochs.

At the dawn of the 18th century, in England, medieval Galenism was resuscitated through a different approach, marking a sort of "scientific revolution", when, in 1724, Dr. John Floyer (1649-1734), published one of the first books on geriatrics, entitled *Medicina gerocomica: or, The Galenic art of preserving old men's healths.* In 1797, the German physician and philosopher Christoph W. Hufeland (1762-1836) wrote a book on "Macrobiotics: The Art of Prolonging Life". It was translated into Romanian by Dr. Pavel Vasici [Ungureanu] (1806-1881) from Banat and published in two volumes, in Brasov-Kronstadt [Transylvania], in 1844-1845. But already in 1838, Ioan T. Albinet (ca 1821-1878), professor of rhetoric and history at the Michaelian Academy in Iasi [Moldavia], edited a book on "Macrobiotics or Rules for preserving good health", which he translated from the work of the German doctor Joseph Friedrich Sobernheim (1803-1846), one of Hufeland`s pupils. Dr. Vasici, Dr. Albinet and Dr. Hufeland were all members of the first scientific academy in the Romanian Lands and South-East Europe, the Society of Physicians and Naturalists in Iasi, founded in 1833. Obviously, this institution endeavoured to scientifically investigate nature, its riches, and disseminate reliable knowledge to scientists and to the general public. In 1837, at Buzau, a book by Dr. Stefan Vasile Episcopescu (1777-1850) [Wallachia] was edited, on "The Great Romania's metallic waters, investigated, described, and accompanied by dietetics and macrobiotics", outlining similar principles.

Macrobiotics dominated the entire 19th century. The 20th century witnessed the emergence of groundbreaking concepts that sought to elucidate senescence and propose effective treatments based on scientifically supported complementary approaches. Simultaneously, modern medical institutions took over the role of providing medico-social assistance to the elderly, supplanting the medieval "gerontocomii" or "gerocomii" establishments, which exemplified Christian charity. Hope always existed. Etymologically speaking, the Greek language used a mere "accent" to differentiate between the terms "old age" and "robustness", wherein the key lay in accentuating the significance of crucial elements: *γερός* (gerós) denoted healthiness, vitality, while *γέρος* (*géros*) represented old age.

Modern medical approaches to gerontology

Charcot and his lessons on ageing

Ageing was commonly viewed as either a normal physiological process or an abnormal pathological phenomenon, often leading to conflicting theories.

Renowned French Professor Jean-Martin Charcot (1825-1893) considered senescence as a natural phase of human life. Serving as the medical director of Paris's Pitié-Salpêtrière Hospital and overseeing the Hospice

for Aged Ladies (Hospice de la Vieillesse - Femmes) he extensively studied the process of ageing. From this perspective, the Pitié-Salpêtrière Hospital served as the initial nucleus of a geriatric establishment.[4,5] Consequently, this multifaceted physician wrote a book entitled "Clinical Lessons on Old Age Disorders" (*Leçons cliniques sur les maladies de la vieillesse*), contributing to the further "medicalisation" of old age. In addition to reading his works, Romanian physicians and psychiatrists often studied with Charcot and his followers at the Pitié-Salpêtrière Hospital in Paris. This influenced their understanding of senescence, its connection with neurology and mental disorders, and their choice of treatments to be applied to elderly patients.

Two Romanian followers of Charcot: Zosin and Marinescu

Panaite Zosin

Dr. Panaite Zosin (1873-1942) was a neuropsychiatrist trained in Paris, Berlin and Heidelberg. He briefly served as a substitute professor of nervous and mental diseases at the Faculty of Medicine in Iasi. A dedicated follower of Auguste Comte's positivism, Zosin made a distinction between senescence, senility, and precocious senility. He highlighted the significant "texture changes" observed by Charcot in the elderly in 1868, which often made the physiology and pathology of age-related diseases appear similar. According to Zosin, old age was characterised by atrophy, degeneration, and atheromatosis, but these conditions were not exclusive to this stage of life. In his 1912 study on senescence, Zosin differentiated between arteriosclerosis and atheromatosis. He argued that while arteriosclerosis could occur in individuals of any age, atheromatosis, the fatty degeneration of the arterial wall, was particularly associated with senility and pathological ageing. Despite this, the elderly were generally wiser, although their responsiveness was diminished, requiring careful attention.[6] Notably, both the arteriosclerotic and atherosclerotic theories have enjoyed remarkable longevity.

Gheorghe Marinescu and the histochemical theories of degeneration

Like his mentor Jean-Martin Charcot, Professor Gheorghe Marinescu (1863-1938), also known as Georges Marinesco, the founder of the Romanian school of neurology, recognised ageing as an irreversible physiological process. From 1924 to 1932, based on experimental and clinical studies, Marinescu, a valued pupil of both Victor Babes in Romania, and Charcot in France, under Pasteur's and Claude Bernard's influence, linked senescence to neurohistological, cellular and physicochemical disturbances, blood imbalances, protein and colloid changes, oxidation-reduction and hydrolytic reaction impairment, lipofuscin accumulation, chromatolysis; cholesterolemia, dehydration and energy restrictions.[7,8] All these chemical behaviours would occur under the control of diastases, i.e. "soluble ferments", according to Claude Bernard. Influenced by Alexander Gurwitsch, Marinescu wrote a short monograph on "mitogenetic radiation" in 1939. Energetics and longevity were a prevailing paradigm in explaining ageing. He thus endeavoured to slow down cellular aging using serums from young animals, extracts from young organs, and "mitogenic radiation" - usually ultraviolet radiation, emitted by dividing cells and capable of stimulating division in other cells.

The redox and radiation chemistry theories of ageing were later reformulated by Dr. Denham Harman (1916-2014) and remain relevant in contemporary medicine.[9] In Marinescu's opinion, these aspects expressed the harmonious cycle of regenerative-degenerative phenomena of the nervous system and other biosystems, whose features depend on heredity, nutrition, environmental factors, age and gender, including hormone levels.. While he observed microglial cells – i.e. scavenger cells - surrounding modified nerve cells, he disagreed with Metchnicoff`s theory of phagocytosis in ageing, considering that neuronophages did not display phagocytosis since "true neuronophagia - a term he defined differently from others in 1930 - was but necrophagia".[10]

Concurrently, Metchnicoff elaborated a humoralistic concept and believed that neuronophagia was secondary to chronic nerve cell poisoning by toxins from colic bacteria, discharged through the bloodstream, in the aged body. On the other hand, together with Paul Blocq, Marinescu described the first senile plaques in 1892; he further analysed this issue in 1911-1912 and 1928.[11,12] These lesions were correlated with ageing and Alzheimer`s disease. Charcot himself repeatedly and thoroughly described sclerotic plaques, a sign of neurodegenerative diseases. As early as 1893, Marinescu and Blocq reported damaged neurons in the *substantia nigra* as associated with Parkinson's disease. In 1902, Marinescu described paranucleolar acidophilic corpuscles in both *locus niger* and *locus ceruleus*.[13] Now known as Marinescu bodies, these intranuclear inclusions found in pigmented neurons of the *substantia nigra* increase with normal ageing. Their frequency is higher in Alzheimer's disease, dementia

with Lewy bodies and other neurodegenerative disorders. Elevated levels of Marinesco bodies would express cell death initiation in *substantia nigra* neurons.[14] The famous Romanian scientist explicitly mentioned that neurofibrilar alterations almost always coincided with the appearance of senile plaques, formed by enlarged thickened trabeculae. Another aspect Marinescu clearly outlined was the changes undergone by the cell pigment, particularly the nerve cell pigment.[15] All these degenerative events occurred as a result of disharmonious physicochemical and biological reactions, as previously mentioned. Based on his scientific analyses and in line with the prevailing zeitgeist, he also wrote broader epistemological and philosophical studies on the same subject: "Life, matter and cell" (1914), "Problems of old age and natural death" (1924) and "Old age and rejuvenation" (1929).[15-17]

Metchnikoff, gerontology and the prolongation of life

Ilya Mechnikoff (1845-1916) is credited with coining the term "gerontology" in 1903, while the Austrian-born doctor Ignatz Leo Nascher (1863-1944) coined "geriatrics" in 1909. Combining his Russian and French background and training, Metchnikoff (1845 - 1916). defined senescence as a disease attributed to excessive phagocytosis by phagocytes.[18-20] A Nobel Prize laureate in 1908, with distant Romanian ancestry, he explained ageing as a gradual self-intoxication with toxins or poisons derived from the gut microbiota and putrefaction processes. Hence old age could be treated by controlling the intestinal flora and promoting "intestinal bacteriotherapy".

According to Metchnikoff's theory, natural control could be achieved through yogurt- or kefir-based diets or the use of appropriate cytotoxic serums in small doses for individuals with various causes of anaemia. This was demonstrated in the experiments conducted by Doctors André, Bordet, Cantacuzino, and Besredka.[19,20] Several outstanding Romanian bacteriologists were trained at Metchikoff`s Laboratory at the Paris Pasteur Institute; one was the renowned academician Ion Cantacuzino.

Constantin I. Parhon, the father of Romanian geriatrics and gerontology

Constantin Parhon (1874-1969) was a professor of neurology and mental diseases at Iasi University's Faculty of Medicine (1912-1933). He specialised in Munich, being the disciple and later coworker of Gheorghe Marinescu. Parhon emerged as a pioneer of endocrinology and gerontology, not only in his own country, but across the world.

In 1909, he coauthored with Dr. Moise Goldstein and published in Paris the first synthesis on endocrinology, titled "The internal secretions"[21] Parhon linked neuropsychiatry and endocrinology to gerontology. First published in 1910 in Bucharest, his report on the endocrine glands and mental pathology was expanded in 1913, at the third International Congress on Neurology and Psychiatry in Gand.[22,23] In the academic year 1924-1925, he already gave lectures on "Senescence, senility, psychoses of age-related involution, senile dementia, arterio-sclerotic dementia", which he subsequently published in 1925.[24]

In 1933, the Society of Psychiatry, Neurology, Psychology and Endocrinology, based in Iasi since 1918 and presided by its main founder, Professor Parhon, dedicated its annual conference held in Sibiu (Romania) to senescence. The topic was approached from a multidisciplinary perspective by representative scientists. Parhon thought ageing was a general dystrophy, and he explored the potential of hygienic-dietary measures, as well as organo- and opo-therapy, for prevention and treatment. He undoubtedly critically considered the experiments promoting the "glandular solution" of Édouard Brown-Séquard (1817-1894), Eugen Steinach (1861-1944) and Serge A. Voronoff (1866-1951). In 1925, Parhon attempted to explain human ontogenesis, the biology of ages or *ilikibiology,* a term he coined himself (gr. *ilikia* – age; *bíos* - life; *lógos* – discourse, science), from an endocrinological perspective. He distinguished between physiological "ageing" and longevity, and defined *ilikipathology*.[25] In line with other theories, like Metchnikoff's, he also believed that poisoning, intoxication, and arteriosclerosis had a significant impact. Parhon conducted interesting experiments that mirrored clinical studies, advocating for hormonal and non-hormonal treatments, such as pineal gland extracts, low doses of insulin, and vitamin E, cysteine or methionine. He believed that "from a theoretical point of view, [....] ageing begins simultaneously with growth and development, and [....] the mechanism of ageing can be understood only in terms of changes which the entire organism undergoes throughout its lifetime".

Later in 1933, Parhon left Iasi for Bucharest, where a Department of Endocrinology was eventually created for him at the Faculty of Medicine. In Iasi, Parhon's followers, such as Professor Petre Branzei (1916-1985), a reputed Romanian psychiatrist, continued analysing mental disorders connected with both physiological and pathological old age.[26] In Bucharest, academician

Parhon closely collaborated with Dr. Ana Aslan. Since 1948, he had already included gerontology as a research project of the Romanian Academy. In addition to the Endocrinology Institute he had already established in 1946, Parhon also inaugurated the first Institute of Geriatrics in the world on January 22, 1952, after the first International Conference on Gerontology held in Liège in 1950. From 1952 until the 1960s, this institution bore his name: "Prof. Dr. Constantin I. Parhon" Institute for Geriatrics.[27] Dr. Ana Aslan was soon appointed its vice director. In 1948, Parhon wrote a monograph on "Old Age and Its Treatment" and in 1955, he coauthored a book with Ana Aslan on "Novocain, a eutrophic and rejuvenating factor in the prophylactic and curative treatment of old age".[28-30] This new type of treatment, partly inspired by René Leriche's studies, relied on the local anaesthetic substance novocain or procaine - the future pharmacological basis of Gerovital H3 -, largely developed under Ana Aslan`s direction of the Institute in the following decades. As a specialist in neurology and mental diseases, Parhon outlined both the biological and the psychological aspects of senescence.

Dimu Anatoli Kotsovsky - An almost ignored gerontologist of international repute

Dimu Anatoli Kotsovsky (1896-1965) lived and worked mainly in Chisinau, capital of Moldavia, former Bessarabia, then part of Romania. In Chisinau, Dr. Kotsovsky inaugurated in 1933 the first Institute for The Study and Combat of Ageing (*Institutul pentru studierea si combaterea batranetii - Institut für Altersforschung und Altersbekämpfung*). This quasi-private Institute was recognised by the Romanian government only later. In 1936, Kotsovsky founded a periodical – the Institute's Monthly Reports (*Monatsberichte*), that in 1937 was expanded and changed its title to *Altersprobleme: Zeitschrift für Internationale Altersforschung und Altersbekämpfung* - [Problems of Ageing: Journal for the International Study and Combat of Ageing]. Kotsovsky's Institute became a worldwide knowledge exchange centre. The Institute's honorary members included Emil Abderhalden and Casimir Funk, Max Bürger and Eugen Steinach, Oswald Spengler, Nobel Laureates such as Hans Spemann, and Theodor Svedberg, together with some 80 other scientists, from the Americas, Europe, and Asia.[31]

In the interwar period, Parhon and Kotsovsky corresponded, discussing topics related to old age presented during the conferences held by scientists from the *Institute for the research and combat of old age,* based in Chisinau. Dr. Kotsovsky's encyclopaedic and creative personality and his synthetic work was probably neglected for political reasons as well. Opposing communism, this "Lackland" scientist was compelled to depart his homeland when Romania fell under communist rule. He subsequently immigrated to West Germany while continuing his work on gerontology and recognising the potential for extending human life to 200 years.[32]

Ana Aslan, Gerovital therapy and new hopes for the aged

A pupil of Gheorghe Marinescu and particularly Constantin I. Parhon, Professor Ana Aslan (1897-1988) efficiently directed the Institute of Geriatrics, which transformed into the National Institute of Gerontology and Geriatrics in 1974. The Institute thrived, housing various departments for research, clinical assistance, and hospitalisation of the elderly. Distinguished individuals from around the world visited Bucharest, and Professor Aslan received invitations to international scientific events, along with prestigious national and international titles and medals. She became a member of the Romanian Academy. Following in Parhon's footsteps, Dr. Aslan established a comprehensive project encompassing medical assistance, laboratory investigations, and experimental gerontology and geriatrics. She believed that ageing resulted from irreversible metabolic changes and considered senescence a pathological process occurring within a specific period of an organism's life cycle. It was essential to differentiate between biological and chronological age, as well as physiological ageing versus premature or pathological ageing. Efforts were also made to study the biological rhythms in the elderly, but before long, collaboration with Dr. Graziella Yvonne Nicolau (1936-1992) from the "C. I. Parhon" Institute of Endocrinology in Bucharest was interrupted.[27]

In the 1960s-70s, Dr. Simion Oeriu (1902-1976), a controversial biochemistry professor, revived the redox theory of ageing, outlining the reduced quantity of thiol groups (-SH-SH-), remarkable antioxidants, and increased disulphide groups (–S-S-) in the elderly. The thiol groups-disulfide bridges balance was considered very important for ageing dynamics. To correct the oxidative stress, the Simion Oeriu – Ion Oeriu team prepared remedies belonging to the *Folcysteines* classes *U* (human), *A* (animal), and *P* (plant), a medicine patented both in Romania and internationally.[33] Comparable hypotheses were connected to malignant cell proliferation by E. E. Selkov.[34] However, Professor

Aslan rejected the use of *Folcysteine* in her Institute.[27] Originating in the collaboration between Dr. Ana Aslan and pharmacist Elena Polovrageanu, the medications Gerovital H3 (1972) and Aslavital (1976) were successfully implemented against ageing, atrophy, pain, depression, neuropsychic and cardiovascular disorders. In parallel, complementary therapies were administered, massage, kinetotherapy and relaxation therapies were performed in a picturesque natural environment. She had a transdisciplinary vision of biological time.[35] Despite tremendous national and international success, from the very beginning, criticism and controversies emerged both in Romania and abroad regarding the actual efficiency of this therapy.[27-36] In 1984, Aslavital products also became available for treating children`s nervous deficiencies. Preventive geriatrics was insisted upon. Issues concerning geronto-psychology and geronto-sociology, geronto-hygiene and the control of environmental agents were also tackled.

Thanks to Professor Aslan and her colleagues, a national geriatric network was established, offering solutions to the elderly regardless of their financial means or social status. There were 131 gerontological-geriatric assistance points in the 1960s, but by the end of the Aslan era in May 1988, the number had increased to over 220. Ana Aslan also inaugurated multiple "Universities of the Third Age", enabling elderly individuals to socialise, avoid marginalisation, abandonment, and what is commonly referred to as "social death". These universities provided opportunities for attending lectures and engaging in practical activities. According to academician Aslan, successful adaptation to old age also depended on cultural and educational background. Remarkably, in June 1988, just three weeks after her passing on May 19th, the first National Congress of Gerontology and Geriatrics with International Participation, which had already been organised, took place in Bucharest. This congress served as a tribute to her exceptional personality and accomplishments. However, it wasn't until 1990 that her renowned geriatric institution, situated near Bucharest in Otopeni, was officially named the "Ana Aslan" National Institute of Gerontology and Geriatrics. In 1992, Gerontology and Geriatrics were finally incorporated into the academic curricula of Romanian Medical Universities. Nonetheless, shortly after 1994, the "Ana Aslan" National Institute of Gerontology and Geriatrics gradually lost its national and international prestige. Today, more than 70 years after its establishment, the Institute struggles to regain its former brilliance, efficiency, and multidisciplinarity. The illustrious history of Romanian gerontology and geriatrics now seeks a revitalising elixir for itself, in line with current international standards.

Discussion and conclusions

During the interwar years, gerontology and geriatrics were thoroughly examined from a modern scientific standpoint. The aftermath of World War I brought new hopes and realities that needed to be faced. This interest was soon incorporated into a more sophisticated approach, encompassing social and medical hygiene issues. Along with nutrition and the fight against chronic and epidemic diseases, it became part of the realm of biopolicies and biopolitics, aimed at fostering a healthy population in a healthier environment. The state of health, ageing, and longevity were not merely social concerns but also had direct biological links to genetics. As a result, concepts such as social hygiene, old age, and longevity became intertwined with eugenic theories and strategies. In 1935, Gheorghe Marinescu established the Royal Romanian Society of Eugenics and the Study of Heredity and represented Romania at the International Federation of Latin Eugenics Societies.[3,37] Debates also revolved around the extension of life, whether through "artificial" or "natural" means.

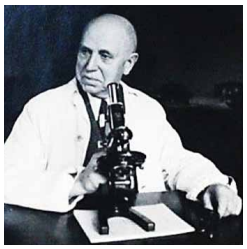
Following the COVID-19 ordeal, modern medicine now engages in discussions concerning the "one health" concept. Older concepts and hypotheses hold significant value today. Macrobiotics is being reconsidered as a natural therapy that can complement or serve as an alternative, ensuring a healthy life. The explanations put forth by Charcot regarding physiological versus pathological ageing have been extensively explored and applied. Metchnikoff's theories on infection, intestinal putrefaction, and arteriosclerosis appear to be closely linked to present-day detox diets, cleansing plans, and the utilisation of eubiotics, synbiotics, pre-, pro-, and/or post-biotic therapies. The redox theory of ageing, anticipated by Marinescu was later supported convincingly by Denham Harman, who has continuously refined the hypothesis of oxidative stress-induced ageing since 1956.[9] Today, maintaining a balanced redox state is considered immensely important in regulating cellular processes.

Parhon`s prophetic personality paved the way to gerontology and geriatrics conceived as a system requiring multidisciplinary cooperation. Giving solutions and new hope, Ana Aslan`s visionary therapy combined anti-ageing drugs, physiokinetic treatments and social integration. Art-therapy became a perennial inspiring fountain of youth and rejuvenating ideas.

Pioneering representatives of gerontology and geriatrics in Romania


Panaite Zosin


George Marinescu


Constantin I. Parhon


Dimu Kotsovsky


Ana Aslan

Ana Aslan Foundation


Otopeni. Ana Aslan Institute

Stamps: Ana Aslan - 1996, 2016

Lately, life expectancy has extended considerably and this "geriatrisation" of society requires increased healthcare efficiency, better defined bioethical and moral principles, and an old age that is as active as possible. Social costs are constantly debated. Upgrading humanitarian traditions, contemporary societies must further ensure justice, autonomy and quality of life for the elderly. Therefore, it is vital to promote and implement a significant cultural dimension that upholds humane healthcare systems and respects the principles of medical deontology, particularly those aligned with Hippocratic ideals. Medicine should indeed always try to add life to years, not only years to life.

The question remains whether ageing is an unavoidable natural, physiological process or a pathological phenomenon to be treated. Humans only know that their "days are like the evening shadow"; and they "wither away like grass".

ΠΕΡΙΛΗΨΗ

Διερεύνηση της Πρώιμης Εποχής και της Δόξας της Ρουμανικής Γεροντολογίας

Dana Baran

Η Ρουμανική ιατρική είχε σημαντική πρώιμη συμβολή στην μοντέρνα γηριατρική και γεροντολογία. Κατανοώντας, συμμετέχοντας και αντιμετωπίζοντας την προχωρημένη ηλικία παρέμεινε πιστή όχι μόνο στην αρχαία μυθολογία και τα ρουμανικά παραμύθια αλλά και στις επιστημονικές προσεγγίσεις στη τέχνη της επιμήκυνσης της ζωής, ή των μακροβιοτικών, όπως πρωτοεμφανίστηκαν τον 19ον αιώνα. Στον 20ον αιώνα, αρκετοί Ρουμάνοι γιατροί εστιάσθηκαν στη γεροντολογία και στην γηριατρική, ένα πεδίο ερεύνης συνδεόμενο κατ'ευθείαν με τη νευρολογία, την ενδοκρινολογία και την φυσιολογία. Οι καθηγητές Constantin Parhon και Ana Aslan, παράλληλα με τον Grigore Benetato, όλοι τους μέλη της Ρουμανικής Ακαδημίας, όπως και ο Dr. Dimu Kotsovsky ήταν μεταξύ εκείνων των επιστημόνων που ενδιαφέθηκαν για την μελέτη και αντιμετώπιση του γήρατος. Ινστιτούτα, δημοσιεύσεις και ιατρο-κοινωνικά ιδρύματα σχεδιάσθηκαν για τον σκοπό αυτόν. Σήμερα, η Ρουμανία αγωνίζεται να αναζωογονήσει την πλούσια παράδοσή της στη γεροντολογία και την γηριατρική σε ευθυγράμμιση με τις σύγχρονες διεθνείς προδιαγραφές.

Λέξεις Κλειδιά: *Marinescu, Parhon, Aslan, γεροντολογία, γηριατρική, μακροβιότης*

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