

We are IntechOpen, the world's leading publisher of Open Access books Built by scientists, for scientists

4,800

Open access books available

122,000

International authors and editors

135M

Downloads

Our authors are among the

154

Countries delivered to

TOP 1%

most cited scientists

12.2%

Contributors from top 500 universities



WEB OF SCIENCE™

Selection of our books indexed in the Book Citation Index
in Web of Science™ Core Collection (BKCI)

Interested in publishing with us?
Contact book.department@intechopen.com

Numbers displayed above are based on latest data collected.
For more information visit www.intechopen.com



Andrés Martínez Vargas, the Founder of Modern Paediatrics in Spain

Miguel Labay Matías

Additional information is available at the end of the chapter

<http://dx.doi.org/10.5772/58889>

1. Introduction

Unlike the history of Spain, which has been the subject of many studies and publications by authors of recognised prestige, the history of Spanish medicine in general, and of Spanish paediatrics in particular, are not well known to the wider world. The contributions to our scientific heritage made by several Spanish doctors are plentiful, pioneering and important. Andrés Martínez Vargas (1861-1948) is considered the founder of modern Spanish paediatrics. His extensive work is not valued highly enough and he still remains in the shadows. This text is intended to be a fitting tribute to his fascinating life and works.

As a result, the author has carefully read many of his texts, drawing conclusions that aim to show the real nature of this master of paediatrics, one who loved his country.

2. The first stages in his life

Writing about Professor Andrés Martínez Vargas means writing about the founder of modern paediatrics in Spain. His personal life and career present so many facets that it is difficult to summarise them.

He was born in 1861 in the city of Barbastro, in the province of Huesca. Barbastro is for many the main point of entry from the Aragon region to the Central Pyrenees. The oldest of seven children, and the son of a barber in the city, whose establishment was located in the central Plaza del Mercado market square, he clearly stood out in his primary school studies at the Colegio de los Padres Escolapios School in Barbastro. He was first cousin to the acclaimed *regenerationist* and thinker Joaquín Costa Martínez (1846-1911). Joaquín Costa was a great

Spanish visionary, a fighter, an idealist, who coined phrases like “*escuela, despensa y siete llaves para el sepulcro del Cid*” (school, larder and double-lock the tomb of El Cid). With his ideas he was instrumental in the first Spanish irrigation systems, public works, the Europeanisation of Spain and he always felt close to the people he served until his death. Despite the age difference, this man, with whom Andrés Martínez Vargas had a close relationship, must have been a role model for him [1, 2].



Figure 1. Barbastro (Huesca), at the end of XIX century. El Cruzado Aragonés archives

With no medical background in the family, in 1877 he began studying medicine at the University of Zaragoza, finishing his studies at the age of nineteen with an Outstanding grade and Extraordinary Degree Award. He moved to Madrid and, under the supervision of Doctor José Salamero Martínez, defended his doctoral thesis (1881) “*Clorosis: crítica de sus teorías*”

patogénicas" (Chlorosis: review of its pathogenic theories), obtaining the highest possible qualification. His teacher, Doctor Antonio Espina y Capó, suggested that he put himself forward for the public entrance exams to work in the *Cuerpo de Beneficencia* (General Charity Society) in Madrid, and he was offered one of the five jobs available, for which 105 people had applied [3].

3. The beginnings

He was not idle during his time in the Spanish capital. He worked for the Charity, at the University, and with Juan R. Gómez Pano and Antonio Espina y Capó, acting as third signatory in the selection and drafting of articles on medicine, pharmaceuticals and official notices in various volumes of "*La Oficina de Farmacia Española*" (The Spanish Pharmacy). This vast body of work is worth examining to understand the surprising world of healthcare and its pharmacopoeia all around the globe in the late nineteenth century [4]. It is equivalent to thinking about the Internet today. It includes chapters about Healthcare Legislation, all kinds of lists of subjects for public entrance exams, pharmacology, toxicology, hydrotherapy, medicines, new equipment, supply of books, etc. It also had correspondents in all the provinces and many countries, some still Spanish Colonies overseas, as well as in France, England and Germany, and they sent back huge amounts of information for articles. What cannot fail to draw attention is the widespread use of opium, cannabis and cocaine in many preparations. Curing was difficult at that time and instead doctors listened and relieved. I cannot resist reproducing some examples of this. "*Whooping cough, the treatment of: Administer a common or coffee spoonful, according to the child's age, of the following solution in the morning and afternoon in a glass of milk to which an egg yolk has been added: 2 grams of potassium bromide, 4 grams of sodium, 2 grams of ammonia, 6 grams of codeine, 60 grams of water, 50 grams of chloral syrup (Le Nouveau Remédes, 8 February 1886)*". "*Coryza (the treatment of): 1 gram of cocaine hydrochloride, Water, Glycerine up to 10 grams. Bathe the nasal passages with a cotton bud. The coryza is cured instantly, even in children (Barataux, 1887)*". "*Cocaine pills: Cocaine hydrochloride 16 parts, powdered opium 64, Menthol 16, Marshmallow root 48. Mix them according to the recipe with glycerine and gum arabic. This is for making pills of 3 centigrams in weight, to be placed on the decayed tooth. Immediate effect in all ages (Zeitschrift d. Allg. Ap. Ver., 1888)*". There are chapters like that on saccharin, among others, that are written by Antonio Espina and Andrés Martínez Vargas. The issue I consulted contains more than 1, 500 pages.

4. His time in America

His restless spirit led him to abandon Madrid (1886). He was already particularly interested in illnesses that affect children. Therefore he travelled to the USA, to the Bellevue Hospital, to have classes and practice medicine with the acclaimed Abraham Jacobi, considered the grandfather of American paediatrics. After a two-year stay, he moved to Mexico where he worked and gave talks that allowed him to become part of the Mexican Royal Academy of

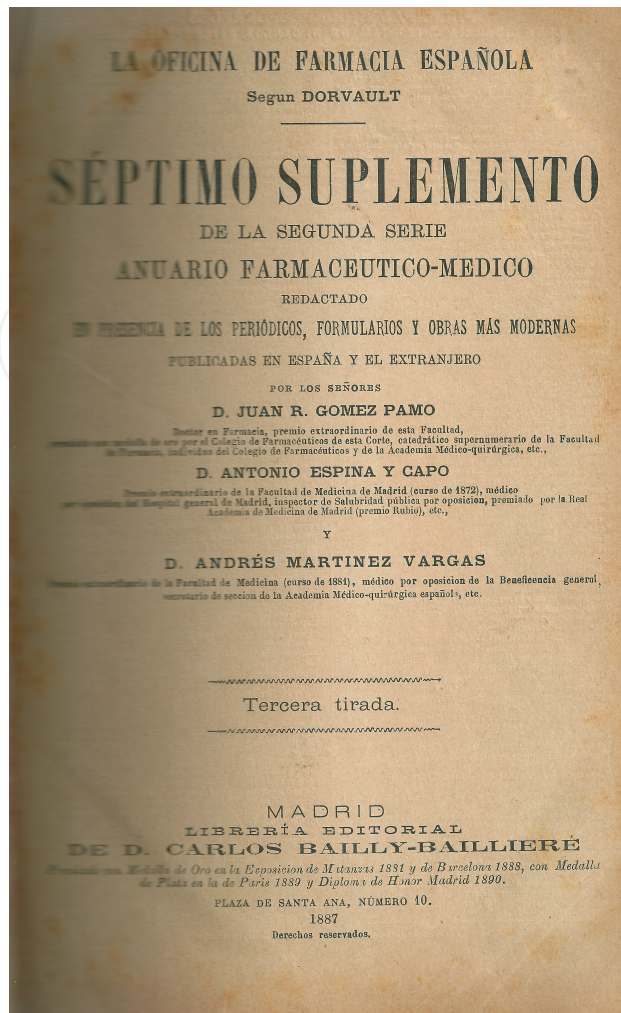


Figure 2. The Spanish Pharmacy. Property of author

Medicine. He rejected the good financial deals they offered him and returned to Spain. He described it in the following way: *“I travelled to North America in 1886, then from New York to Veracruz, and in that city and in Mexico I was offered two well-paid medical positions, which I did not accept as I only wanted to serve Spain.....”* [5]. Once back in his country, he learned that vacancies for university professors in *Childhood Illnesses* had been announced. In almost no time, he prepared for the public entrance exams and obtained the job at the University of Granada (1888). Only one year earlier, Patricio Borobio, who would become a lifelong friend, had obtained the same position in Zaragoza.

5. University professor in Granada

In Granada he founded the *“School for Mothers”* in order to educate them on how to take better care of their children. He was alarmed by the poverty and the lack of health education common throughout Spain at that time. He had already suggested that the subject he taught should

change its name and become known as *Paediatrics*. He was known for his social concerns, visiting the most deprived areas of the city, such as the caves of *Albaicín*, located close to the impressive *Alhambra*, and he began giving informative talks to its inhabitants about personal and family hygiene. He was behind the creation of the institution that was later known as "*Gota de Leche*" (Milk Drop) (1891). These centres were attended by healthy wet nurses who donated their milk. This was then sterilised, stored in cold conditions and administered in bottles to the newborns and infants who needed it [6]. The current Spanish "*Bancos de leche materna*" (Breast milk banks) are their heirs. However, nobody remembers these doctors from the nineteenth century. They were led by Francisco Vidal y Solares (1890) who founded a centre in Barcelona. Years later (in 1904) Rafael Ulecia y Cardona in Madrid would call this the "*Gota de Leche*" and would then start something similar at their own expense (in Barcelona, Granada, Madrid and gradually widening to the remaining Spanish cities). Andrés Martínez Vargas, aware of the great initiative by Francisco Vidal y Solares, introduced it into his *School for Mothers* in Granada. On 2 October 1888 he began his teaching activity and in that Facility established a subject which had not existed until then. His lessons on diarrhoea, diphtheria and infant assessments, etc. were followed with enthusiasm by his students. He developed and published some perimetric and pedi-barometric charts: "*Tabla pedibarométrica como directora de la lactancia y profiláctica de la mortalidad infantil*" (Pedi-barometric table as a guide to breastfeeding and preventing infant mortality). He gave some lessons on the "*Introduction to Paediatrics*", reinforcing his idea that the subject should be named in this way [7].



Figure 3. Andrés Martínez Vargas, as young. Property of author

6. University professor in Barcelona

After a rewarding stay, and through a competitive transfer process, he obtained the *Chair of Childhood Illnesses and their Clinic Practice* at the University of Barcelona (1892).

He would live in Barcelona until his death (1948). His activity was extraordinary throughout his professional life. He did not like what he found at the Faculty of Medicine and its Hospital: clutter, filth, lack of medical equipment, lack of space, etc. Everything he achieved was through hard work [8]. He joined the *Real Academia de Medicina de Cataluña* (Royal Academy of Medicine of Catalonia) in 1894 with the talk "*Empyema in children*", actively participating in its sessions.

7. Initiative to create a ministry of health

One of his most famous speeches was given at the Commemorative Session of the 150th Anniversary of the Royal Academy of Medicine, held on 29 December 1920.

This speech was entitled "*The Ministry of Health in Spain*" [9]. He began his speech by noting that this Academic Corporation was older than the ones in London and Paris. He argued brilliantly: "*Social medicine is the combination of medical knowledge and the legislative progress, directly applied to the welfare of the individual and social improvement. Ideally its purpose is to reduce disease and mortality, prolong average life expectancy, especially in the lower classes....My view is that the new age will be characterised by greater interest in the physical and mental health of man and by the direct involvement of medicine in the governing of towns.... Given all of this, it can be argued that in times of peace as in those of war, the health of the citizens is the most important factor in work, wealth and progress... all the gold on earth would not be enough to restore life to a dead person...man spends half his life mining the natural resources of his health, and the other half making desperate efforts to recover the good that has been lost*". He was upset that in Spain infant mortality in children under one year of age was 157 deaths per 1, 000 in 1917 (twice that of Holland, Denmark, Norway, etc.) and that up to five years it stood at 45 percent. He railed against the mass emigration of Spaniards (56, 400 in the first half of 1920) along with the alarming birth rate, the low population density, the indiscriminate abortions, the filthiness of grocery stores, the poor sanitation of housing, its high prices, the total lack of control over drinking water, the lack of interest from politicians in improving the situation by legislating and enforcing laws....He ended by saying: "*If order and plans are the essential basis for success, and dissociation that for failure, there is no doubt that Spain, with the current fragmented system of medical responsibilities, cannot improve on what already exists. The secular organisation of healthcare reveals an infinite dispersion of factors that involve the Ministries of Interior, War, Justice, Development, Education, and others....This dispersion of power and responsibility brings with it a loss of energy, inefficiency, irresponsibility, mutual excuses for mistakes, disorientation in censoring and the impossibility of remedies... to which we can add the little interest shown by Deputies and Senators in the issue... This is why we need to create the Ministry of Health in Spain, following the examples of France and England. This request had already been made in 1910, at the First International Congress on tuberculosis in Barcelona...*". The criticism of politicians was bitter and blunt: "*A former Minister of the Crown has denounced once again the*

contempt and disdain with which many Ministers and MPs have treated health issues, and has highlighted the supine ignorance that places them at the level of a bad Medical student. When it comes to health problems they behave badly due to a lack of understanding of the problem... The leaders of the country are more interested in other businesses that are more lucrative to them...but we must not lose hope... I believe Spain should be part of the Red Cross with all its consequences". Andrés, a great visionary, anticipated by more than 70 years the creation of the Ministry of Health in Spain. Some of his phrases and arguments are still valid today.

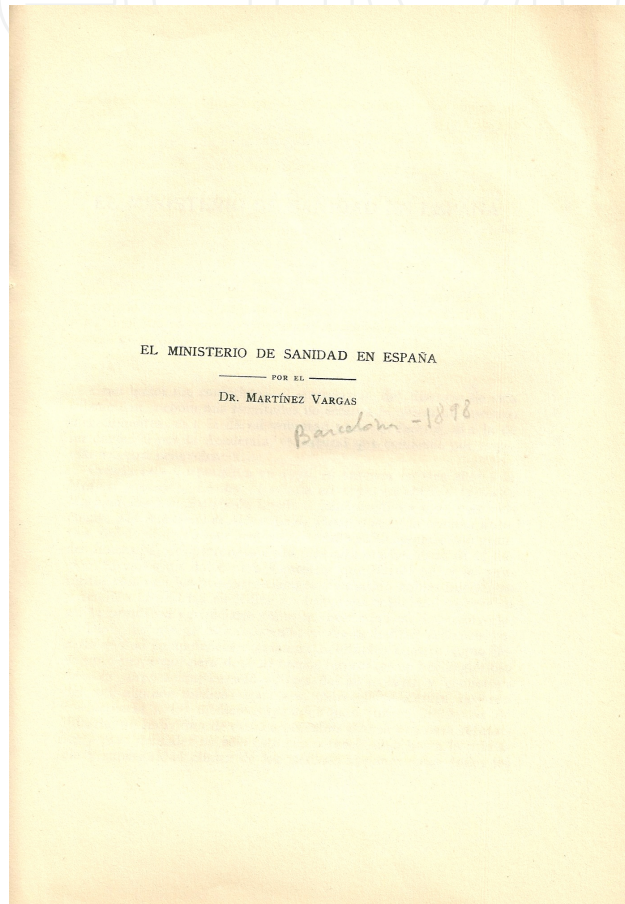


Figure 4. Ministerio de Sanidad: Discourse. Property of author

8. His journal and social concerns

We now go back to 1900 when he founded the scientific journal *"La Medicina de los niños"* (Medicine for children), in which he, along with other authors, published countless articles until 1936. Many of them are cited by the author in numerous published books and talks. The Spanish civil war put an end to this scientific journal, as it did to all of them [2, 7].

He spoke French, English and German and had a good grasp of Russian. This allowed him to be the main Spanish scientific ambassador in many conferences and meetings of all kinds.

There is a record of more than 300 articles published and signed by Andrés, many of them in English, French and German. He collaborated with “La Vanguardia” (Barcelona) and other newspapers, producing another 500 informative articles on aspects of hygiene, disease prevention, child care and care for mothers. Some of them can still be found on the Internet [2].

Deeply concerned about the lack of health and general culture in the majority of the population, he organised and played a leading role in “La Universidad Popular” (The People's University-1902), where on Sunday mornings he would offer free informative talks to the most disadvantaged people in Barcelona's industrial belt. His obsession was to improve the level of education. Other notable scientists such as Odón de Buen from Zaragoza also took part. Not content with this initiative, he imported the idea of the German “Kindergarten”, so that working mothers would have places where their young children could be looked after and breastfed by their mothers. In short, he was the promoter of the first Spanish nurseries. At the same time he fought for working women to be given enough time to breastfeed their children and for them to be fed [1, 2, 6, 7, 10].

9. His relationship with doctor Julio Comby

In 1896, he translated the Treatise on “*Enfermedades de la Infancia*” (Childhood Illnesses) by the famous French physician Julio Comby [11]. The copy I have read belonged to Dr Alfredo Cebrián. The quality and depth of what is written is of the highest level for its time. Interestingly, Andrés added and published footnotes containing many extremely valuable personal observations, notes and explanatory comments, along with contributions from other foreign authors. Dr Comby wrote about breastfeeding: “*Natural breastfeeding should be continued for sixteen to eighteen months, while there is no problem for the mother, since there can be none for the child during this time; on the contrary, the longer breastfeeding continues, the stronger the child will become. It shall be exclusive in the first eight or ten months; only from that age may the child be given some easily digestible foods, such as rice flour, tapioca.... They must not be given wine, vinous water or coffee; milk must be their ordinary beverage, not only during breastfeeding but also long after weaning...*”. Doctor Cebrián wrote a footnote in pencil: “*Dr Martínez Vargas thought the same in his recent speech at the Ateneo*” [11].

In the chapter on diphtheria, the historical quotations from Andrés highlight the ignorance that existed about Spanish medical history on this and other topics. “*As the author has outlined, in terms of the history of diphtheria, Spanish literature has been very fruitful on this matter and I feel it necessary to record here my personal research that I shared at the 12th International Medical Congress held in Moscow in August 1897. The result of that work has been the rehabilitation of Spanish physicians from the sixteenth and seventeenth centuries, both before the assembly and in the medical literature due to the fact that the main conclusions of my paper are recorded in the recent work by the Professor of Paediatrics in Berlin, A. Bagynsky: Diphtherie und Diphtheristischer croup, Vienna 1898, on page 4... Despite Spain being the country where the clinical description of diphtheria took place, almost all historians omit the work of Spanish physicians on this and other diseases... The first description of croup also came from Spanish authors in the first*

third of the sixteenth century, using the name "garrotillo" or "morbo sofocante" (gallows disease). What follows is a historical journey which quotes, in detail, Pedro Díaz de Toledo, Luis Lobera de Ávila, Jerónimo Soriano (for his masterful description of tonsillitis), Luis de Mercado, Francisco Vallés, Cristóbal Pérez Herrera, Juan de Soto, Francisco Pérez Cascales, Juan Alonso de los Ruices y Fontecha, Alfonso Nuñez, Francisco Figueroa and Antonio Pérez de Escobar. The text covers five pages. He also provides his personal experience with cases of recurrent diphtheria. He fought the idea that an attack of diphtheria provides protection for life. He advocated the administration of an anti-diphtheria serum and suggested that children's immune systems required repeated administrations of the serum to prevent very serious episodes which could kill them [11].

With regards to measles, Dr Comby says: *"In this case I have a very eloquent example that reinforces much of the author's advice. I refer to a three-year old girl who, due to being neglected by her relatives in the first twelve hours of the eruptive period of measles, had difficulty with the outbreak of the spots; very soon her temperature rose to 41° and 42°, and then she suffered violent eclamptic fits, with asystole and very intense cyanosis; given the imminence of death I decided to give cold affusions with iced water for half an hour; the fever broke, and this very complex clinical incident calmed down, the disease could once again run its course and the eruption broke out, splendidly, all across the skin's surface; the girl was cured in the same way as with regular forms of the disease"*.

When writing about childhood tuberculosis, Dr Comby concluded that its prognosis is one of the bleakest as it may lie dormant until it manifests itself in adolescence or adulthood. It was already known that Koch's bacillus was the cause of this terrible pandemic. The author of the Treatise wrote: *"... When the liver and spleen are of a considerable volume, especially if the spleen comes through the false ribs and is clearly visible in the abdomen, you can almost confirm the presence of tuberculosis"*. Andrés, added: *"In certain cases the examination of temperature can be of great service. After numerous observations I could convince myself that in latent tuberculosis there is a temperature under 37° for long periods; and this prolonged hypothermia, combined with other symptoms, will serve to reveal the existence of hidden tuberculosis....This hypothermia is persistent. I have discovered twelve cases in children and young people with these characteristics, which were confirmed later (De l'hipothermie dans la tuberculose, sa valeur diagnostique. Congrès de Obstetrique et de Pédiatrie-Burdeos, August, 1895, page. 1005).*

Martínez Vargas claimed that the diagnosis of tuberculous meningitis was very simple. Martínez Vargas advised that after carrying out the lumbar puncture, the cerebral spinal fluid should be placed in a test tube and kept for one or two days at room temperature. At the end of this time, a "little cloud" appeared at the top of the liquid. He stated that in this "little cloud" it is very easy to observe microscopic Koch's bacilli. This "little cloud" is a fibrin network in which the bacilli are concentrated, and these can be identified quickly and safely. He may not have been the discoverer, but he spread the word in Spain. This method has been used by the signatory in the cases of tuberculous meningitis attended and it has never failed. The problem of how to rapidly diagnose tuberculous meningitis was solved more than one hundred years ago, but has been lost to current generations. It would be a wise move to recover it [12].



Figure 5. Fibrin network. Source: <http://www.actamedicacolombiana.com/anexo/articulos/01-1976-05.htm>

The description of onanism by Doctor Comby is very curious, as he says it is a disturbance in genital feeling that is observed in both sexes even at very early ages, without deserving the importance given to it in general. He explains that in girls it may be caused by pruritus vulvae or the presence of pinworms. Although he describes the morbid consequences of the act: *“emaciation, paleness, ineptitude in all physical and intellectual efforts... however we should not take against the onanists... it is better to offer them a healthy lifestyle, with exercise and outdoor games... the nervous and agitated will be given potassium bromide. In girls female circumcision has been proposed and practised, successfully”!!!... Andrés makes no comment, which is significant and could be considered as an expression of his disapproval.*

In today's culture, the previous paragraph by the French physician would be unacceptable. Nonetheless, the Treatise is full of wisdom. The chapter dealing with Kidney Diseases is fantastic for its content. In the chapter devoted to Bladder stones, our protagonist added: *“... in one of the operations that I performed on a child in the clinic in Granada in the year 1889, I found a stone very attached to the mucous, not encapsulated, and this character, not mentioned before that time, should form an integral part of this pathological chapter. To learn all about this process, see my work, **Adherent vesical calculus in a child**, published with engravings in *The Archives of Pediatrics, Philadelphia, April 1890*”. This article was the first in Spanish history to be published by a paediatrician in an American journal. Later there would be others published in English, French and German. [11] It was quoted in the fourth edition of the Treatise of Paediatrics by the German Doctor Luis Unger. However, it was not mentioned in previous editions [13].*

10. Interest in basic school education

In 1905, he published his *“Botiquín Escolar”* (School First-Aid Kit), in the *La Escuela Moderna* (The Modern School) publications. It was a small manual which outlined the most common

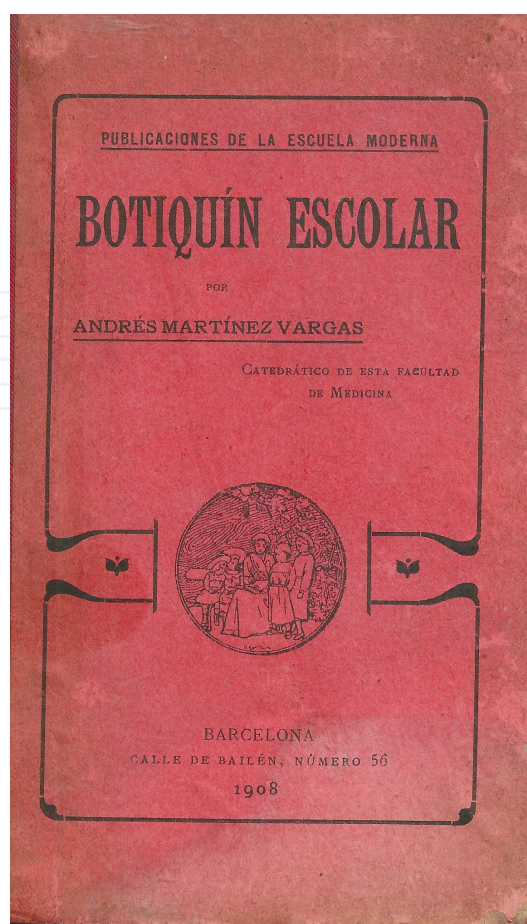


Figure 6. School First-Aid Kit. Property of author

problems faced by children during their time at school [14]. It has 14 chapters and consists of everything required to provide assistance to pupils as and when needed. It was priced at 0.50 peseta centimos. For the first time the manoeuvres for basic cardiopulmonary resuscitation were explained, through text and drawings, and it advised that children who have suffered a blow to the head, suffering from mild concussion, should be allowed to sleep, against popular belief, and said that placing a coin pressed against the “bump” was not appropriate. It is written with a lot of common sense. *“Understanding how to prevent children having accidents and how to cure the sudden ailments they may suffer in their daily school life is of such importance that teachers have made it known to me...I have been unable to explain the omission of those writing about Hygiene in schools with regards to the Boletín Escolar (School Newsletter). Neither in theory has their involvement been advised, nor in practice has there been any teaching about this issue. However, in few places is the helpfulness of having at hand a number of resources which serve to remedy the various accidents that children may experience whilst at school been so evident. As a result of the Hygiene talks that I have been giving at the Escuela Moderna (Modern School) for four years now, I have become convinced of how regrettable this omission is, and therefore, that the First-aid kit is as necessary as any other school item... It seems to me that this First-aid kit should be found in every teaching institution, whatever its nature, and that teachers and senior students should be familiarised with its handling... so that nobody can say due to ignorance or neglect: that the remedy is one hundred times worse than the disease”.*

11. Interesting personal details

There are certain endearing aspects about the life of Andrés. During his time as a medical student in Zaragoza, he stayed in lodgings in the street called *calle Prudencio*, owned by my great grandmother. In the nineteen eighties demolition men destroyed the entire area. Later, once working as a university professor, he was a regular customer of the El Sol Hotel on his visits to the capital located on the Ebro River. The Hotel, run by my grandparents, was in the street *calle Alfonso*, on the corner with the street *calle Molino*, very close to the Basilica of Nuestra Señora del Pilar (Our Lady of the Pillar). This building still exists today, now converted into apartments. My grandparents told me that Andrés was a polite and charming man, with a very healthy appetite. The daily menu consisted of five courses and he loved to have second helpings. Later he would stay at the Gran Hotel, but frequently returned to visit this old hotel [1, 2]. His great-grandson, Andrés Martínez-Vargas Vallés, told me that when he was older he would eat an entire chicken on Sundays. When reprimanded by his wife, Ángeles Mariana, he would exclaim: “Woman, it is mostly bones”.



Figure 7. El Sol Hotel and accommodation card. Property of author

12. Typhoid fever

Of great interest is “*Tratamiento de la Fiebre tifoidea con el Suero. Publicaciones de la Medicina de los Niños*” (Treatment of Typhoid fever with Serum. Publications from Medicine for Children) (1910). The copy I have read is personally dedicated by the author to the prestigious General Valeriano Weyler [15]. It describes fourteen cases, with great accuracy, in a clinical lecture

given on 11 December 1909, with bibliographic notes on articles published in various languages. Its prologue reads as follows: *"In this booklet I explain my clinical studies on curing typhoid fever using an anti-typhoid serum and demonstrate the undisputed usefulness of the anti-typhoid vaccine. The curing of typhoid fever with the serum is a fact. This terrible disease, painful due to its duration, repugnance, complications, irremediable injuries and high mortality, can be cured with a simple injection of the serum, a relatively benign treatment...I seek satisfaction for my country with Spain having been the first nation in the world in whose medical press these anti-typhoid serum studies have appeared. The publication of two articles of mine in La Gaceta médica Catalana and in la Medicina de los Niños (1909) have been the first that I know of, published in the press in Spain and abroad... Typhoid fever has produced more casualties than steel, lead and shrapnel... Having demonstrated its transmission by water and inter-human infection, and that convalescents can spread infectious bacilli through their faeces or urine 2 and 3 weeks after being cured... The vaccination of health staff is required, in nursing homes, in families...Serum for the sick and vaccinations for the healthy."* With this our protagonist demonstrates his scientific greatness and his national pride.

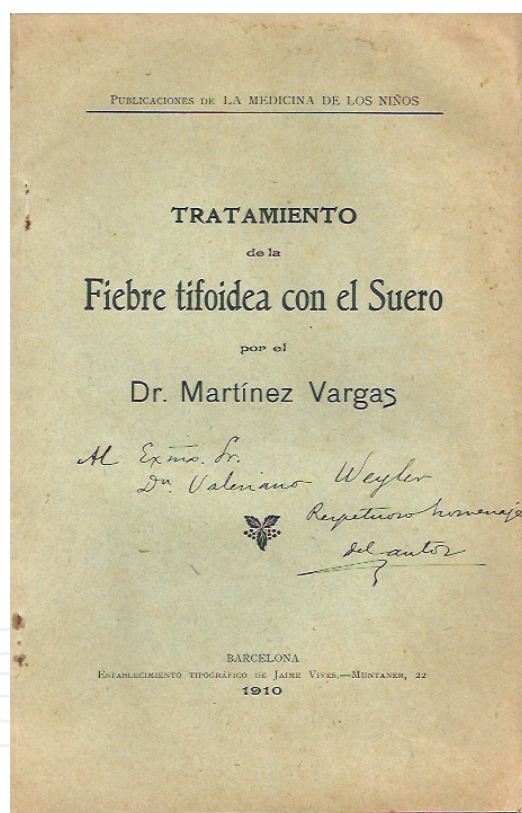


Figure 8. Treatment of Typhoid fever with Serum. Publications from Medicine for Children. Property of author

13. Criticism of the Spanish situation at that time and his proposals

In 1918 he gave the Inaugural Address at the solemn opening of the Academic Year before the Faculty at the University of Barcelona. Its title *"In defence of race"*, may be viewed as

controversial in the eyes of modern readers. However, its content is extraordinary and shows the protagonist's social concerns [16]. Once again his personality can be seen from the reasoning and the energy that shines through. *“The older I am, the more I feel the obligation for every citizen to yield to their country and society all the fruit of their experience and their worth, as cooperation in creating the national heritage and as a fair return for the culture with which the nation supported their youth, educated them and prepared them for social action...To my homeland I offer my musings, my work, and some procedures that, if put into practice with great perseverance, will be able to improve our children, our men and put the Spanish nation on a level with the most cultured nations”*

Andrés demonstrated his pure love for Spain, an aspect that a part of the Catalan nationalist bourgeoisie did not accept. However, many of the social, human and scientific initiatives were of particular benefit to Catalonia. After reading many of his texts, I have come to the conclusion that he was a person of deep religious belief, who had a conservative nature but very advanced social ideas for his time. This dichotomy makes him an even more interesting figure. His pioneering initiatives in human affairs, his boundless dedication to the most disadvantaged, defending the rights of women and children, and of the workers, are examples of this. He did not like what he saw and experienced in Spain, so he fought against it to improve its position. He was conservative in some ways, but extremely progressive in everything social. Multilingual, with people skills, intelligence, a lucid mind that accepted and adopted ideas, a way with words and a gifted writer, researcher, innovator, tireless worker, risk taker, a brave man, interested in everything and everyone, with his own ideas, dedicated to children, families and his beloved Spain and Catalonia, which he fought to improve: that was Andrés.

He continues: *“Over recent centuries Spanish society has ignored the regressive reality, living in a continuous paradox with a superficial appearance of strength that concealed a weak interior, with no resistance or austerity; we thought we were invincible until this was tested...but the summer of 1898 came and the country emerged from its historical party to face a surprise: with the disaster the nation lost over half its territory and all its legendary prestige. Since that moment all lips, all speeches, and all printed pages have been full of cries of great pain and an intense national crisis with a strong yearning for improvement has been revealed. Our rulers, the ones who must fix this problem, have sharpened their wits devising a more or less sonorous phrase as a remedy for everything, with no decisive action; one after another they have limited themselves to squeezing the lexicon to create new words that by dint of repetition have fallen into vulgarity and blandness... and with this policy of phrases twenty years have passed aggravating the problem...”*. These phrases, pronounced in 1918, have also not lost their validity when looking at the situation today. He summarised the Spanish situation at that time: famine, basic lack of culture, lack of hygiene, little importance placed on a child's life, growth deficiency in the Spanish in comparison with the Europeans, the terrifying infant mortality figures already explained previously, multiple authorities that make the country ungovernable.... He wrote something that is very curious but true: *“We physicians who help children know the great value of the relationship between an observant mother and the manifestations of a disease in their children, as on many occasions they have given us half the diagnosis”*.

He strongly argued that the basis of the recovery of Spain was in schools, food and healthcare [16]. He listed the needs of children and adolescents according to age. He proposed the creation of an “Ethnocultural Commission”, along the lines of the local and provincial boards of education. He spoke of his *Child Protection Policies*, established in Lleida, through which parents signed a commitment to do their utmost to keep their children alive until they reached the age of one, for which they were financially rewarded. “We must put an end to the laws appearing in *La Gaceta* and not regulating our actions... no child should leave school until they are at least 12 years old. If they show their skills they should be rewarded with State or private scholarships... a country that wastes more than 2, 000, 000 pesetas in horse racing and quadruple that in bullfighting should not find it difficult to organise a loan of 30, 000, 000 for schools and scholarships...the prosperity of a people depends more on its education system than on its institutions or government. To fulfil this duty, there is no need for new laws, new agencies, newly appointed civil servants, or financial sacrifices: the will to achieve it and to organise the resources already there is enough.” One would think that he was writing about modern-day Spain. Due to extension problems it is impossible to say what he thinks about teachers. One hundred years ago he was already arguing for what is currently required: vocation, knowledge, ability to teach, observing the behaviour of children even in the playground, treating them according to their characteristics, and he concludes by saying that these are the basis of the educational system. This speech is so rich in concepts and development that it deserves a chapter of its own [16].

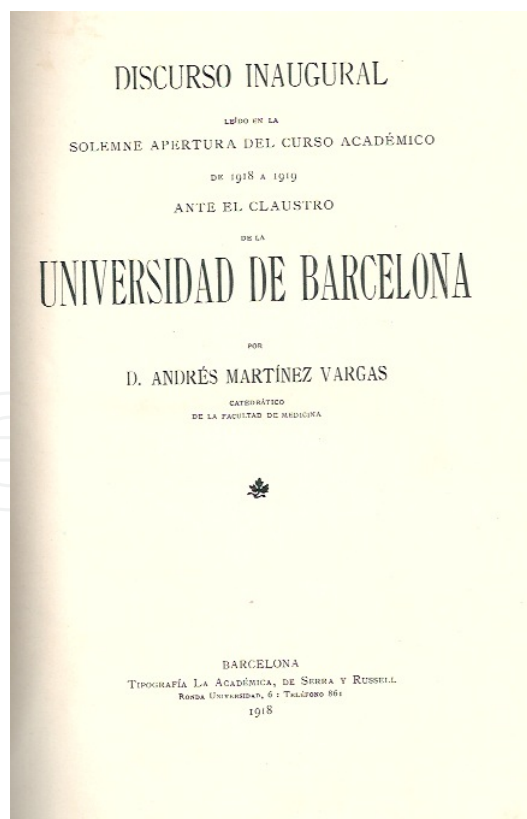


Figure 9. *In defence of race: Opening discourse.* Property of author

14. Various initiatives and awards

He founded the Catalonia Society of Paediatrics and the Spanish Society of Paediatrics (1912) which, although it had a short life, is the origin of the current Spanish Association of Paediatrics. He organised and chaired the First National Congress of Paediatrics (Palma de Mallorca 1914). He wrote his impressive *Tratado de Pediatría* (Treatise of Paediatrics) in 1915. He founded the *Instituto Nipiológico* (Nipiological Institute) in Barbastro (1916), which spread throughout the whole of Spain. He was Dean of the Faculty of Medicine and Rector of the University of Barcelona (1921-1927), publicly criticising the lack of interest among students and the neglect of some teachers [17]. He was Senator-elect for Huesca (1922), Honourable Academician of the Royal Hispanic American Academy of Sciences and Arts (1925), and Knight of the Legion of Honour in France (1926). With the protection of the French Consulate he moved to Pamplona during the disastrous Spanish civil war, working as a physician and Head of the Surgical Ward, innovating in the treatment of "trench foot-Teruel feet" or dry gangrene (1937-1939). In 1941 he published the book *Enfermedades del recién nacido* (Diseases in the newborn), considered the pillar of Spanish Neonatology, and in 1947 he made his last great contribution: *Historia de la Pediatría en España* (History of Paediatrics in Spain). He worked up until the last day of his long life (87 years old).

15. In France during the great war

His curiosity about everything and everyone took him to France during the First Great European War (1914-1918) and it was there that he wrote the book "*Mi visita al frente Francés*" (*My visit to the French front*) (1919). The copy I have seen is dedicated to a French friend. It strikes me that, despite being dedicated in his own handwriting and with a business card, I had to unstick its pages with a scalpel in order to read it [18]. In short, the friend never read this book in which he describes very innovative surgical techniques in the treatment of the terrible wounds caused by "mustard gas", shells, burns, etc. His thoughts are full of wisdom. "*Humanity will not fully enjoy its welfare whilst peace between the nations is not guaranteed, whilst no restrictions are placed on the excesses of a dictator, whilst a kind of patriarchy for universal balance is not created, so that when someone ambitious, unruly or crazy wants to disturb it, the whole weight of the rest of the world is thrown at them, to make them back down, willingly or by force. Instead of performing evil, through science, it would be better to live in a state of backwardness, in primitive ignorance. Progress and civilisation must be based on respect for the law and the concept of justice. Brute force must not dominate reason...*" As is clear from his words, Andrés was a staunch pacifist and unfortunately these words are still valid today.

16. His love for Spain and fundamental scientific works

He had good people skills which allowed him to form relationships with his fellow medics worldwide. He was outraged to find that the history of Spanish medicine counted for nothing



Figure 10. *My visit to the French front* and business card. Property of author

and was systematically ignored. From this blessed indignation arose articles in various prestigious journals, rightly proclaiming the achievements of our medical science. That is the context in which his reflections on the work of the Teruel-born Jerónimo Soriano appeared; they were written in French for a select journal and were not wasted. In the year 1600, his Treatise on Paediatrics, *Methodo y orden de curar las enfermedades de los niños* (Method and order in curing diseases in children) was published, and Andrés proclaimed him as the very first Spanish and international paediatrician: "I am going to introduce you to a physician from Aragon, not because I want to endorse regionalism but because he was one of the first doctors in Spain and the world to have written books exclusively about childhood diseases. I am talking about Jerónimo Soriano, born in Teruel, in the final third of the sixteenth century. Soriano belongs to that brilliant age which

must be considered as the seed for these studies and which constitutes the beginning and foundation of this speciality in Spain and in the whole world". Andrés heralded the man from Aragon and claimed the rightful place that belonged to his illustrious Spanish physician ancestors, unfairly forgotten inside and outside of Spain. The two greatest founders of Spanish paediatrics had been found...350 years later! [1, 2, 19].

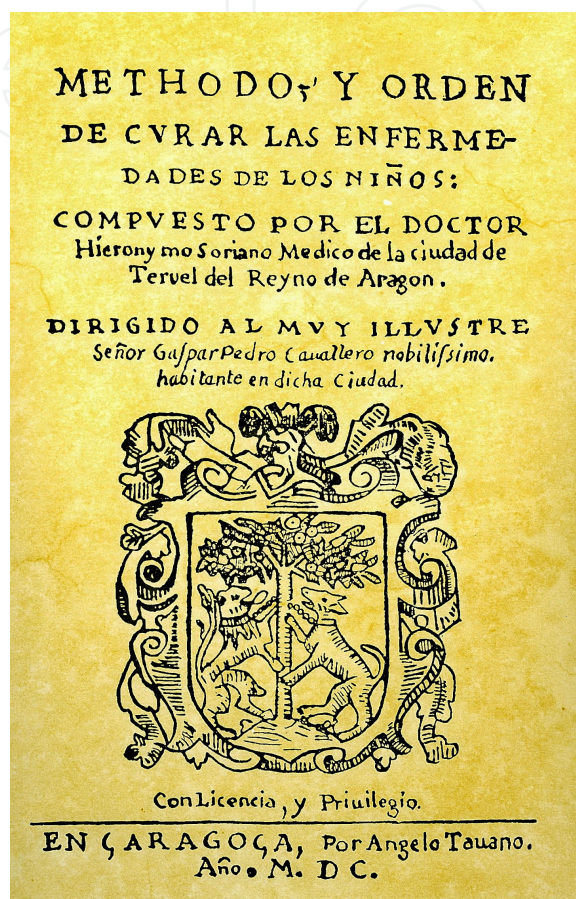


Figure 11. Method and order in curing diseases in children, Jerónimo Soriano. Property of author

His major works are the "Tratado de Pediatría" (Treatise of Paediatrics) (1915) which he dedicated to his wife and children (*To my beloved wife Angeles Mariana and my children Sara and Andrés*) and the "Historia de la Pediatría en España" (History of Paediatrics in Spain) (1947), his last major contribution, cited above [8, 17]. In the Prologue of the Treatise, Dr Rodríguez Méndez wrote, among other things: "I know Martínez Vargas like I know few, or perhaps no, others. With a noble soul, brave spirit, great intelligence, an uncommon culture... Sick or healthy, overwhelmed by his large clientele, he was always the same: a persistent, tireless worker at the forefront of the scientific world... This great student from Aragon made his name in Madrid, in Mexico, in New York... Almost everyone who goes to exotic lands go as an apprentice, only a few return as masters, it is a rare case; Martínez Vargas returned to Spain famous for being a great scholar, a great teacher. They did not teach him abroad: they taught us about his worth. Here he was baptised, but there he was confirmed. He has not rested in the enormous task of championing Paediatrics. I dare to say that his Treatise is the best in

existence..." Reading the Treatise is extremely interesting. Andrés is humble, claiming that you can only take on these tasks with maturity and experience. He defends teaching on three levels: theory, practice and the personal monitoring of the children from the Dispensary in their homes by the students.

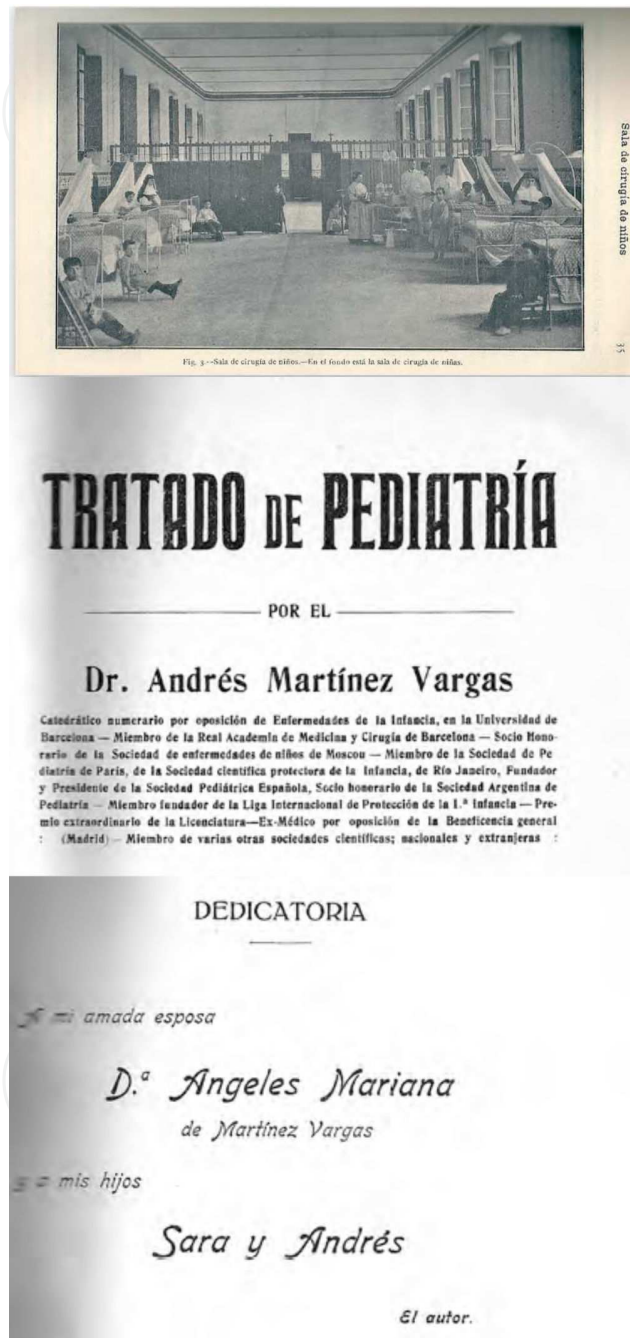


Figure 12. Paediatrics hall, treatise and dedication. Property of author

It is moving to read his informative booklet "*La salud del niño. Consejos a las madres para la mejor crianza de sus hijos*" (A child's health. Advice for mothers to raise their children better). I imagine

that at the end of his professional life, in 1946, he wanted to leave a simple and practical legacy for all Spanish families. He writes: *“Every mother has the duty to breastfeed her child. Every child has the right to its mother’s breast. When a mother is unable to breastfeed her child, she may be replaced by a wet nurse. If the wet nurse abandons her own child to breastfeed another, she commits an offence against motherhood... A life for a life, no innocent child should be sacrificed!”*. His sensitivity and humanity remain on the record for all time [20]. The table included on the duration of sleep, play and intellectual work for children according to age is very curious. At the age of 7 he recommends one hour of teaching and this increases annually until it reaches eight hours at the age of 14. This makes one think about the children who at early ages are wrongly labelled as being “hyperactive”, and “lacking attention”, and who over the years adapt to schooling. One might take note, instilling this wisdom in legislators, parents, teachers, professors, psychologists and doctors.

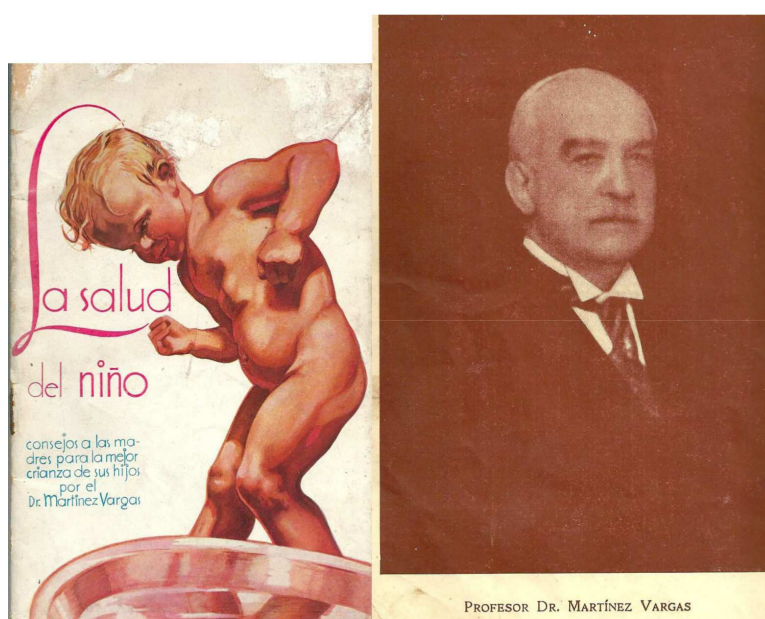


Figure 13. La salud del niño and Andrés Martínez Vargas retired. Property of author

17. Nipiological institute

I was especially impressed by the description of the *“Instituto Nipiológico”* (Nipiological Institute) in Barbastro (1916). The name comes from the word “nipios” in Greek, which means “the one who knows nothing,” referring to the early stages of a child’s life. Its founder was the Italian professor, Ernesto Cacace, in 1905. The basis of this doctrine is the need to educate parents on the basic aspects of child care, education, health and nutrition. I do not have the slightest doubt that the choice of Barbastro to found it was an offering to his beloved home town, one full of generosity. *“On 8 September 1918, the city of Barbastro (Huesca) held the third Children’s Day. Established in September 1916, it was the first organised in Spain. Infant mortality*

has decreased by half since its founding. It has involved thirty mothers awarded amounts of 50 pesetas, 40, 30, 20, 15 and less, according to their child's development and how often they attended the Institute; I saw it clearly when creating the Child Protection Policies in 1906 and experience has taught me that prize money is a very effective incentive in attracting mothers to these teaching and assistance establishments; but what I have most effectively seen in these two years at the Institute of Barbastro... The young men of the San Hipólito neighbourhood have even gone without some parties and have donated their money to help the children at this Institute and other charities. Praise be to this Institute which, in addition to protecting children, leads adolescents down the paths of moral perfection!..." This "invention", imported into Spain by Andrés, was publicised and copied in various Spanish and foreign locations [1, 7, 10].

Professor Cacace from Naples, founder of *Nipiology*, dedicated these words to him at the 3rd Spanish Congress of Paediatrics (Zaragoza, 1925): "*Andrés Martínez Vargas, the grand master of Paediatrics, the supreme apostle of Nipiology, is the leading Spanish figure in this speciality*". Quite rightly, he described him as the "*Grandfather of Spanish paediatricians and master of them all*"

Another work mentioned previously is "*Enfermedades del niño Recién Nacido*" (Diseases in the newborn child) (1941), one of the first books written specifically about the subject and considered the foundation of Spanish Neonatology.

18. Prologues in various books

He wrote the prologue for many books on different subjects. In "*La voz humana*" (The human voice), he wrote about the need for children and young people to be taught to correctly use their voices, to avoid undesirable consequences, aspects that were personally dealt with in a Course at the Faculty of Medicine. He therefore anticipated Speech Therapy. His love of music in general, and opera in particular, made him talk about three tenors who were leading stars in the nineteenth century: Enrico Tamberlick, the favourite of Queen Isabel II of Spain, Julián Gayarre and Antonio Aramburo [21]. The latter had his voice preserved in the wax cylinders of the time, once retired from the stage. However, he showed his preference for his countryman Miguel Fleta, an exceptional tenor who lived a very short life (he died at 39), but who has bequeathed various examples of unrivalled art for posterity. In another prologue [5], he congratulated the author's father, a pharmacist, for his bravery in defending the freedom of citizens to choose their pharmacy and for having founded, along with his son, some laboratories that were prestigious in their day and which freed Spain from its pharmaceutical dependence on other countries. One anecdote about his interest in music is the event involving the famous Italian tenor Mario del Mónaco in his *début* at the Gran Teatro del Liceo in Barcelona. Del Mónaco, very young at that time, did not convince his audience who started "hissing" him. Andrés, now elderly, went backstage to greet him, encouraged him and predicted a career full of triumphs due to his powerful and exceptional voice [1]. He told him that at his age he knew a lot about these situations of apparent failure and that he was sure it would serve to drive the tenor on. He was right, and Mario del Mónaco became one of the best dramatic tenors in the history of opera. His revenge was to not return to that stage for a decade. When he did return it was only as a result of a spectacular financial offer.



Figure 14. Miguel Fleta and Mario del Mónaco, tenors. Property of author

The impression one gets when looking at the work of Andrés is of his interest and curiosity about medicine, art, humanism, and sociology, his love for children and his desire to serve Spain, his wish to not only improve health care levels but also help society as a whole advance [22].

19. The 1st spanish congress of paediatrics

The 1st Spanish Congress of Paediatrics, held in April 1914 in Palma de Mallorca as a result of his initiative and under his guidance, was a success in terms of many of his professional concerns. It was attended by more than 300 specialists from around the world [7, 23-25]. With this Congress, Paediatrics was consolidated as a speciality. It dealt with various issues relating to Childcare, such as “Insufficient lactic secretion”, “Treatment of the umbilical cord”, “Breastfeeding and Milk Drops”, “The mother's code”, the latter being addressed by our protagonist. Issues relating to medicine were also addressed with, among others, the following papers: “Childhood tuberculosis”, “Vaccinations”, “Dyspepsia” and “Leishmaniosis”. Issues relating to Child Surgery were discussed, highlights including the areas of “Scoliosis”, “Congenital dislocation of the hip”, “Congenital muscular torticollis”, “Spina bifida”, “Otitis”, “Burns” and “Femur fracture”. The issue of school hygiene figured prominently in the congressional sessions. Aspects relating to physical education and mental deficiency were studied. In the inaugural speech, Martínez Vargas explained the problem of infant mortality. In Spain at that time, for every 100 deaths, 45.53% were children from nought to ten years old. Motivated by this situation he wrote: *“The preferential attention dedicated to children, the desire that exists everywhere to protect their lives, to make them healthy, strong and happy, to help them avoid cruel punishments, and to lighten the effort needed for their instruction, is a modern and surprising initiative: How have so many centuries been allowed to pass without caring for children and how have we had the indifference to see them die in numbers? In view of today's pressures, one might say that society, remorseful of the neglect of children until the end of the last century, is now hastening to make up for lost time, to recapture the abandoned beneficent trenches”*. But Martínez Vargas was also worried about the serious problem at that

time due to the reduction in the birthrate. As a result, decades before other authors, he presented a series of measures that had to be implemented for improved parenting and better education. Firstly he discussed preconception childcare and said that “one of the measures would be the medical marriage license, or in other words, eugenic marriage”. Here we see a glimpse of genetic counselling, even at the beginning of the twentieth century.

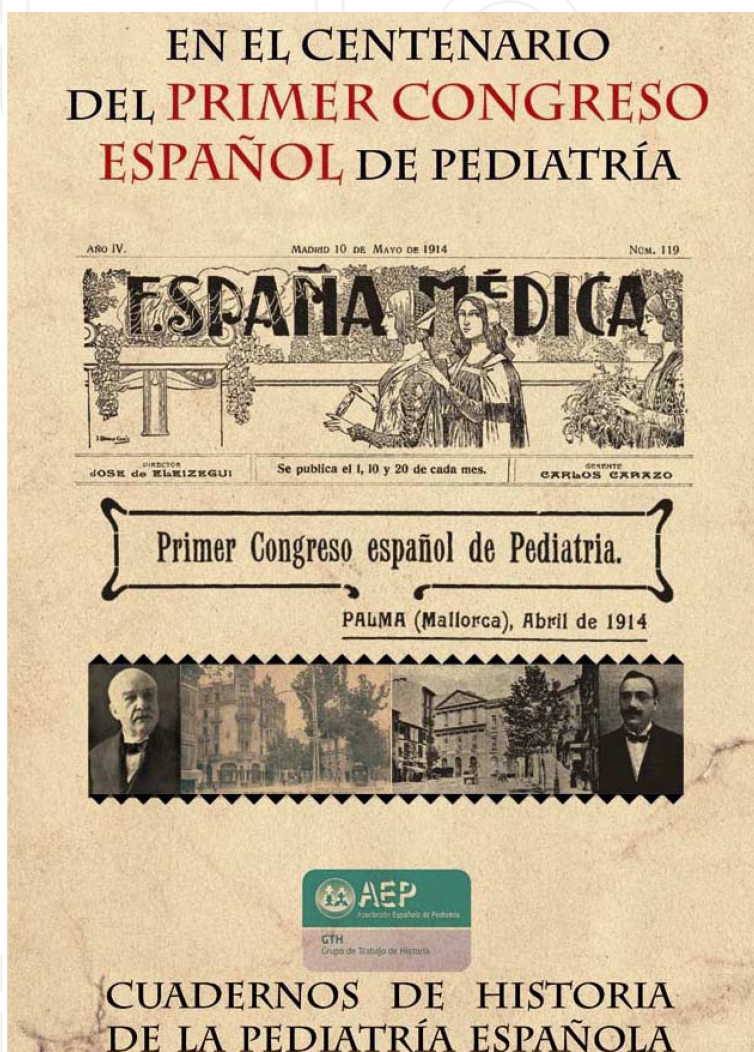


Figure 15. Cuadernos de historia de la pediatría española. Given permission from AEP

He later advocated embryonic and foetal childcare, which saw the start of Prenatal Medicine, arguing for all kinds of care that the mother should receive from the moment of conception, insisting on the need for joint medical care for the pregnant woman and the unborn child. His interest in the care of pregnant women is shown when he writes: “The working woman, who has to split the hours in the day between the factory and the home, has two great enemies to the strength and vitality of her child, namely excessive work and intoxications..., all those women who work tirelessly and are not adequately nourished give birth to children who weigh 300 grams less than others who enjoy rest and relaxation”. He was also worried about single mothers: “The helplessness of these mothers is a

frequent cause of infanticide. It would be better, instead of wasting time in boards or meetings, to organise an asylum or shelter suitable for this pressing social need, where the mother could care for her child and later it could go to a nursery or preschool and the mother could return to the heart of society without boasting and without intimidation". He insisted on the need for the government to oblige employers to install rooms in their factories where women could attend to and look after breastfeeding children, giving them the rest time needed. He anticipated current social advances by decades. He argued that before giving bottles of formula milk to children, the mother should be examined and provided with enough food to be able to breastfeed. He refused to accept that formula milk could replace a mother's milk. He rejected the idea that there were illnesses caused by children's drool, or that teething provoked fever, diarrhoea or bronchitis. The minutes and papers from the congress are a monument to the paediatrics of the day. Martínez Vargas collaborated decisively in writing the conclusions, among which the highlights include those regarding childcare and child protection by the State. He argued that this must distribute the mother's code so that its advice could be followed, prohibit contraception propaganda, promulgate the law on rest for pregnant women, giving them two months' rest, stimulate the spreading of child protection policies, encourage breastfeeding, control the industry "originated around wet nurses" and that of the manufacture of bottles, reward families with more than three living children, impose a tax on celibacy, in the Teaching Schools child care should be explained, minors should be protected through the appropriate laws..." Protect children for being the joy of every home, the comfort of old age...the vitality of the nation...Without them nations would disappear"

20. The encounter with doctor Fidel Pagés Miravé, discoverer of the epidural anaesthetic

There is a chapter of the life of our protagonist that demonstrates his future vision. After reading the article "*Anestesia Metamérica*" (Metameric Anaesthesia) by the military surgeon Fidel Pagés Miravé (1886-1923), born in Huesca, he invited him to the University of Barcelona to discuss his discovery. The aforementioned Doctor Alfredo Cebrián wrote a footnote in pencil on the Treatise by Comby: "*Yesterday, 4 March 1922, I attended, with students, physicians and surgeons, an interesting talk given by Doctor Fidel Pagés about a new form of anaesthesia. It was held in a paediatrics classroom and we attendees were very impressed, applauding enthusiastically after the speech was over. Andrés closed the brilliant event*".

Doctor Pagés described his technique in these words: "*...On performing a spinal anaesthesia, I had the idea of stopping the cannula right in the spinal canal, before going through the dura mater, and I proposed blocking the roots outside the meningeal space, before going through the intervertebral foramina, given that the tip of the needle had gone through the corresponding ligamentum flavum. I abandoned the anaesthetic that I had prepared, and in a boiled capsule I made the dissolution of three tablets of series A suprarenine novocaine (375 milligrams of novocaine) in 25 cubic centimetres of saline solution, immediately injecting it through the cannula, which was embedded between the second and third lumbar vertebrae. Exploring sensitivity, we could convince ourselves that after five minutes a hypoaesthesia began in the infra-umbilical portion of the abdomen, which extended to the anterolateral*

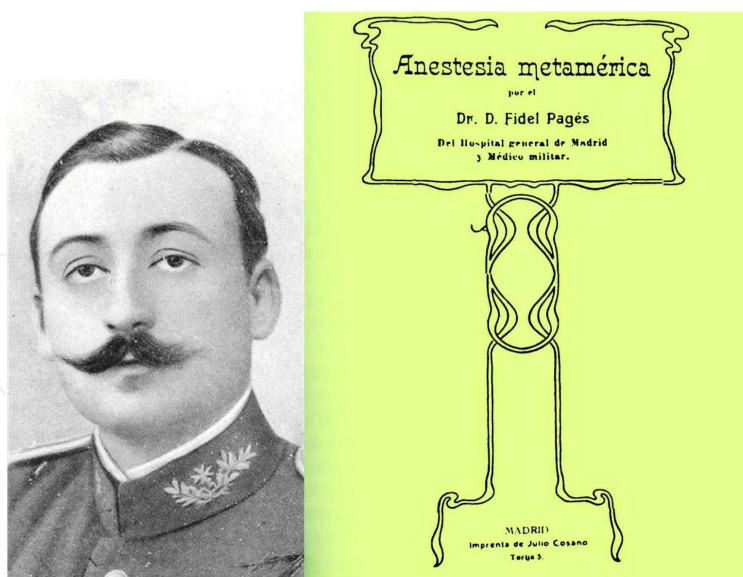


Figure 16. Dr. Fidel Pagés Miravé and the cover of his epidural anaesthesia article. Found out in Julio Comby paediatric treatise

side of the lower limbs leaving the perineum, scrotum, back side of the lower limbs and the soles of the foot on both sides untouched; the hyperaesthesia gained strength gradually, and twenty minutes after the injection had been give we judged it appropriate to start operating, performing a miracle cure of the right inguinal hernia without any discomfort to the patient. The result of this attempt encouraged us to continue studying this method, which in the clinic we call metameric anaesthesia, since it gives us the possibility of removing feeling from a segment of the body..." He then explained that his experience in this type of anaesthesia exceeded two hundred patients. His article was published in the *Revista Española de Cirugía* (Spanish Journal of Surgery) in 1921, which he had founded two years earlier. Despite his premature death, he operated on more than two thousand patients using this original anaesthetic technique.

Andrés Martínez Vargas suspected that this discovery would revolutionise the world of anaesthesiology. He also agreed with Fidel Pagés that it could be applied to women during childbirth. Today it is known as Epidural Anaesthesia. Fidel Pagés Miravé is not sufficiently recognised, either in Spain or internationally, despite his brilliance [24]. The history of his discovery, of the alleged claim by another foreign physician to have invented this technique, his short life which ended in a fatal car accident, and his scant subsequent recognition, require a specific article. Officially he is considered the discoverer of the epidural anaesthesia.

21. Conclusions

This information about Martínez Vargas, despite being the result of reading and analysing most of his work, is not exhaustive and may be supplemented.

The impression one gets when looking at the work of Martínez Vargas is of his interest and curiosity about medicine, art, humanism, sociology, his love for children, his desire to serve

Spain, and his wish to not only improve health care levels but also help society as a whole advance.

At his death the following was written [10]: *“He was extolled and widely acclaimed... He also knew what humility, intrigue, ingratitude and slander meant... A magnificent professor, an exceptional physician and a terrific man... He lived for his three great ideals, science, his homeland and children”*

I firmly believe that Andrés Martínez Vargas deserves the recognition of his countrymen and the scientific world, given the interest of his works and the wonderful complexity of his character. There is yet to be a doctoral thesis or an exhaustive study made about his passionate life and his vast works.

Acknowledgements

Professor Serafín Málaga Guerrero, President of the Spanish Paediatric Association, for his tireless work representing Spanish paediatricians; to Professor Eduardo G. Pérez-Yarza, for his friendship and work in favour of the speciality; to Professor Empar Lurbe i Ferrer, Chief Editor of “Anales de Pediatría”; to Professor Manuel Bueno Sánchez, President of Royal Academy of Medicine and Surgery of Zaragoza; to Professor Juan Rodríguez Soriano (1933-2010), eminent paediatric nephrologist, discoverer of Renal tubular acidosis, magister of several paediatricians and nephrologists; Doctor Nuria García Sánchez, president of the Aragon, La Rioja and Soria Paediatric Association, for the same reason; to Dr. Víctor García Nieto, a great paediatric nephrologist, history expert and friend; to Doctor Juan Elías, President of paediatric surgeons of Spain; to Alejandro Labay Guerrero, my little son, for his help with ofimatics.

Author details

Miguel Labay Matías*

Address all correspondence to: mlabaymatias@hotmail.com, mlabay@salud.aragon.es

University of Zaragoza, Health Sciences, University School of Nursing in Teruel, Government of Aragon, HEALTH, Spain

References

- [1] Labay Matías M. Andrés Martínez Vargas: un médico distinto nacido en Barbastro. Apuntes humanos de su vida. En: El Cruzado Aragonés. Barbastro (ed.); Agosto, 2012. p7-15.

- [2] Labay Matías M. Jerónimo Soriano y Andrés Martínez Vargas: dos pilares aragoneses de la pediatría española. En: Turia. Revista cultural. Instituto estudios turolenses, Diputación Provincial Teruel 104(ed.) Teruel; 2012. p353-362.
- [3] Labay Matías M. Pediatría, ciudadanos y políticos. *An Pediatr (Barc)*. 2010; 73 (2) 67-69.
- [4] Gómez Pano, JR, Espina Capo A, Martínez Vargas A. La oficina de farmacia española. Suplementos séptimo-duodécimo. Madrid: Baylly-Baylliere, (ed.); 1887-1895.
- [5] Martínez Vargas A. Prólogo. En: Amargós Bertrán L. Estados Unidos. Viaje de un turista curioso. Madrid: Hesperia (ed.); 1947.
- [6] Labay Matías M. Paediatrics, the people and politicians in Spain-History, development, reality and future. In: Contemporary Pediatrics, Dr. Öner Özdemir. Rijeka: In Tech. 2012. p1-24.<http://www.intechopen.com/articles/show/title/pediatrics-the-people-and-politicians-in-spain-history-development-reality-and-future> (accessed 7 July 2014).
- [7] Fleta Zaragozano J., editor. Los pediatras y la pediatría aragonesa a finales del siglo XIX y principios del XX. Su relación con el entorno social de la época. Sesión de clausura del curso 1987-88 de la Sociedad de Pediatría de Aragón, La Rioja y Soria. Zaragoza: Artes Gráficas Impr.; 1988.
- [8] Martínez Vargas A., editor. Tratado de Pediatría. Barcelona: J. Vives, Tip. Lit. (ed.); 1915.
- [9] Martínez Vargas A. El Ministerio de Sanidad en España. Real Academia de Medicina y Cirugía. Acta sesión conmemorativa del tercer cincuentenario, celebrada el 29 de diciembre de 1920. Barcelona Joaquín Horta, Impr. (ed.); 1921.
- [10] Samper Villagrasa P. Andrés Martínez Vargas: semblanza de un pediatra ilustre. Available in: Dialnet.unirioja.es/servlet/ (accessed 3 July 2014); 2004.
- [11] Martínez Vargas A. Traducción y comentarios. En: Comby J. Enfermedades de la infancia. 3ª edición. Barcelona: Salvat é hijo (ed.); 1901.
- [12] Labay Matías M, Valle Sánchez F, Reynés Muntaner J, Gómez Rivas B, Hervás Palazón J, Moros Peña M. Red de fibrina en líquido cefalorraquídeo de los niños con meningitis tuberculosa: un antiguo, olvidado y eficaz método para su diagnóstico precoz. *An Esp Pediatr* 2000; 53 (5) 502-503.
- [13] Unger L editor. Tratado de las Enfermedades de los niños. Tercera y Cuarta Edición. Barcelona: José Espasa (ed.); 1899.
- [14] Martínez Vargas, A. Botiquín escolar. Publicaciones de la escuela moderna. Segunda edición. Barcelona: Elveriziana, Borrás y Mestre, Impr (ed.); 1908.
- [15] Martínez Vargas A. Tratamiento de la Fiebre tifoidea con el Suero. Publicaciones de la Medicina de los niños. Barcelona: Jaime Vives, Establ. Tip. (ed.); 1910.

- [16] Martínez Vargas A. En defensa de la raza. Discurso. Apertura curso académico de 1918 a 1919. Universidad de Barcelona. Barcelona: La Académica de Serra y Rusell, Tip. (ed.); 1918.
- [17] García Nieto V., y Grupo de historia y documentación pediátricas de la Asociación Española de Pediatría. Historia de la Pediatría española de Martínez Vargas A. Reedición. En Crónicas de la pediatría española. Tenerife: Asociación Española de Pediatría; 2011.
- [18] Martínez Vargas A. Mi visita al frente Francés. Barcelona: J. Vives Tip. (ed.); 1919.
- [19] Soriano J. Methodo, y orden de curar las enfermedades de los niños. Prólogos de Arana Amurrio JI, Sarabia Pardo J. Facsímil. Granada: Alhulia (ed.); 2000.
- [20] Martínez Vargas A. La salud del niño. Consejos a las madres para la mejor crianza de sus hijos. Sociedad Lechera Montañesa. Barcelona: Nagsa (ed.); 1947.
- [21] O'Neill E. Prólogo de Martínez Vargas A. La voz humana. Barcelona: Maucci (ed.); 1921.
- [22] Labay Matías M. Pueribus. Finalista I Certamen nacional relatos breves. Real Academia de Medicina y Cirugía. Murcia: Org Art Gráf. Churra (ed.); 2011.
- [23] Libro-Actas I Congreso Nacional Pediatría. Palma de Mallorca: Escuela Tipográfica Provincial (ed.): 1915.
- [24] Labay Matías M. Andrés Martínez Vargas. En: Asociación Española de Pediatría (ed.) En el Centenario del Primer Congreso Español de Pediatría. Cuadernos de Historia de la Pediatría Española, número 7. Tenerife: Asociación Española de Pediatría; 2014. p20-30.
- [25] Ponte F, Zafra M, Fernández JM, Gorrotxategui P, Bassat Q, Fernández JJ, Arana JI, García Nieto V. Tal como éramos. En el centenario del Primer Congreso Español de Pediatría de Palma de Mallorca (1914-2014). *An Pediatr (Barc)*. 2014;80(6): 404.e1-408.e8. <http://dx.doi.org/10.1016/j.anapedi.2014.03.010> (accessed 7 July 2014).
- [26] Velázquez Rivera I. Aproximación a la obra científica del Comandante médico Fidel Pagés Miravé. *Sanid. Mil.* 2011; 67 (1): 193-238. http://scielo.isciii.es/scielo.php?script=sci_arttext&pid=S1887-85712011000300003&lng=es. <http://dx.doi.org/10.4321/S1887-85712011000300003> (accessed 6 July 2014)