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Ferreira de Almeida Júnior (1922-1939)**

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Article abstract

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Hygiene in Primary Schools: Perspectives on The Writings of Antonio Ferreira de Almeida Júnior (1922-1939)

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Abstract

The purpose of this paper is to analyze how hygiene and education were drawn together in bibliographical production and in the professional work of Antonio Ferreira de Almeida Júnior (1892-1971), a teacher, physician, and education manager who wrote teaching manuals oriented towards hygiene, childcare, and educational biology. In them, Almeida Júnior nuanced representations about the nature of the child in relation to the primary school's role in improving society's health, and assigns key importance to teachers, who were taught medical practices and instructed to measure children's height and weight, and to check teething, hair, vision, and hearing. Healthy habits were verified in order to consolidate them among children, identifying them as either healthy or ill and classifying children as "normal" and "abnormal."

Keywords: hygiene; primary school; teaching manuals; Antonio Ferreira de Almeida Júnior

Higiene para las escuelas primarias de São Paulo-Brasil: una mirada a la producción escrita de Antonio Ferreira de Almeida Júnior (1922-1939)

Resumen

La propuesta tiene como objetivo analizar la forma en que higiene y educación se articularon en la producción bibliográfica y la actuación profesional de Antonio Ferreira de Almeida Júnior (1892-1971), profesor, médico y administrador de la educación, quien escribió manuales didácticos centrados en la higiene, puericultura y la biología educativa. En estos, Almeida Júnior matizó las representaciones sobre la naturaleza del niño a la función de la escuela primaria para el saneamiento de la sociedad y atribuyó un papel crucial a los maestros. Se les enseñaron prácticas del ámbito del área médica e instrucciones sobre la inspección de los cuerpos de los niños con el fin de medir la altura, medir el peso, comprobar la dentición, las faneras, la visión y la audición. Entre la inspección y el registro, se verificarían los hábitos saludables que se buscaba consolidar en los niños, se identificaría la salud y la enfermedad, y los niños se clasificarían como "normales" y "anormales".

Palabras clave: higiene, escuela primaria, manuales didácticos, Antonio Ferreira de Almeida Júnior (1892-1971)

Hygiène dans les écoles primaires de São Paulo-Brésil: un regard sur la production écrite d'Antonio Ferreira de Almeida Júnior (1922-1939)

Résumé

Cet article a pour objectif d'analyser la manière dont hygiène et éducation étaient articulées dans la production bibliographique et le travail d'Antonio Ferreira de Almeida Júnior (1892-1971), professeur, médecin et administrateur de l'éducation, qui a écrit des manuels d'enseignement dirigés vers l'hygiène, la puériculture et la biologie éducationnelle. Almeida Júnior y a associé des représentations sur la nature de l'enfant à la fonction de l'école primaire pour l'assainissement de la société, et a attribué un rôle crucial aux professeurs. On leur a enseigné des pratiques du domaine médical et donné des instructions à propos de l'inspection des corps des enfants, afin de mesurer leur taille, évaluer leur poids et vérifier la dentition, la vue et l'audition. Entre l'inspection et l'enregistrement, ils vérifiaient les habitudes saines qu'on cherchait à consolider chez les enfants, identifiaient l'état de santé et les maladies, et classaient les enfants entre « normaux » et « anormaux ».

Mots-clés: hygiène, école primaire, manuels d'enseignement, Antonio Ferreira de Almeida Júnior

Higiene para as escolas primárias em São Paulo-Brasil: um olhar para a produção escrita de Antonio Ferreira de Almeida Júnior (1922-1939)

Resumo

A proposta tem por objetivo analisar o modo com que a higiene e a educação foram articuladas na produção bibliográfica e na atuação profissional de Antonio Ferreira de Almeida Júnior (1892-1971), professor, médico e administrador da educação que escreveu manuais de ensino voltados para higiene, puericultura e biologia educacional. Nestes, Almeida Júnior matizou representações sobre a natureza da criança à função da escola primária para o saneamento da sociedade e atribuiu papel crucial aos professores. A eles eram ensinadas práticas do escopo da área médica e instruções sobre a inspeção dos corpos infantis, a fim de medir estatura, aferir peso, verificar a dentição, fônos, visão e audição. Entre a inspeção e o registro, seriam verificados hábitos sadios que se buscavam consolidar nas crianças, identificadas saúde e doença, e as crianças seriam classificadas entre "normais" e "anormais".

Palavras-chave: higiene, escola primária, manuais de ensino, Antonio Ferreira de Almeida Júnior (1892-1971)

Improving The Nation's Health Starting at The School

In the early decades of the 20th century, medical-educational discourses designated the school as the pillar of social regeneration. Schools, through their teaching programs and the work of teachers, had the responsibility of forming healthy habits in children and of correcting the poor sanitary habits and moral vices that inhibited Brazil's social development.

Among those involved in proposing actions and programs that drew together hygiene and educational policies aimed at children and schools was Antonio Ferreira de Almeida Júnior (1892-1971), a teacher, physician, and educational administrator who, in the first decades of the 20th century, produced pedagogical materials, worked in teacher training, and contributed to the development of educational hygiene policies, whose motto was "improving society's health through school."

This article explores how this set of knowledge and discourses arising from the medical field have built practices in the primary schools of São Paulo, Brazil, by utilizing the bibliographical production and the professional work of Almeida Junior as paths to discuss this topic. From the collection of his writings, I have selected the thesis *O saneamento pela educação* [Improving Health Through Education (1922)] presented to the School of Medicine and Surgery of São Paulo, the *Cartilha de higiene* [Hygiene Primer (1923)], the book *Noções de puericultura* [Notions of Childcare (1927)], written by Almeida Júnior and Mario Mursa, the book *Elementos de anatomia e fisiologia humanas* [Elements of Anatomy and Physiology (1931)] and the book *Biologia educacional: noções fundamentais* [Educational Biology: Fundamental Notions (1939)].

Despite the divergence in the meanings and roles assigned to each of the texts mentioned above, it is worth highlighting that this selection considers a convergent perspective by means of which issues of educational and sanitary nature are intertwined. In this sense, it is possible to read the texts in an articulated manner.

Thus, in Almeida Júnior's writings, there is a set of knowledge in which representation of the child's nature is combined with conceptions involving the goals of the primary school and the work of a teacher as an enforcer of examinations of children's bodies. In this regard, teachers were taught practices from the medical field as well given instructions concerning how to measure height and weight, to check oral health, hair, vision, and hearing. Having teachers medically observe students and record the details, health and illnesses would be identified and children would be classified as either "normal" or "abnormal."

Regarding the selection of the author's bibliographical production, two items must be highlighted. First, even though in the 1920's and 1930's Almeida Júnior had also published papers for the scientific meetings he intensely participated in (Viviani & Marchan, 2006), the choice of certain written materials considers that the aforementioned texts are essential to understand the ideas that Almeida Júnior was advocating for at that time. The second point is that the analysis I have conducted seeks support on reflections about his writings, especially by Oriani (2022), Viviani (2005; 2007), Viviani and Marchan (2008), Rocha (2003a; 2003b; 2011), and Morano and Souza (2019). In general, these authors identify the strategic use of pedagogical printed materials by Almeida Júnior in order to legitimate his privileged social status as a doctor, educator, and educational manager.

To conduct the study from which this article results, methodological procedures were utilized that were compatible with historical-documental type research. Therefore, documents drawing from the writings and work of Almeida Júnior that might contribute to comprehending the relationship between hygiene and the primary school were found and analyzed. Mapping the devices utilized to materialize the sanitary precepts intended for schools was based on the level of its fertility in terms of identifying the circulation of this set of knowledge, as asserted by Carvalho (2011). Along the itineraries taken, it is possible to appreciate the ways through which such printed materials normalized school practices and, in the same direction, how the paths taken by Almeida Júnior himself place him as an agent that circulated and made knowledge circulate too.

For this reason, taking a critical and attentive look at Almeida Júnior's trajectory led to considering the micro stories that could be read and narrated, not always as representative of some phenomenon or social group but significant "in a multiplicity of social spaces and times, by the ball of thread of social relations that were created around this trajectory and which give it its meaning" (Revel, 2010).

From this point of view, I drew together the threads and the plots that intersected Almeida Júnior's actions within the social group he was part of, and the social, historical, and political context in which he lived, avoiding, however, to end up in a biography. That is why I mobilized the idea of "biographical illusion," as reflects Pierre Bourdieu (1996) when he questions the limits of thinking on biographical processes as if

they were one-way paved streets or avenues, or as though they followed the same linearity or a consistent and progressive rhythm, with a sequence of causes and effects. Thus, as argues Schwarcz (2013, p. 57), the "[. . .] notion of harmonic causality can only be achieved afterwards, based on the necessity of the individuals to assign coherent meaning to their own human actions or the actions they study."

Having presented my theoretical-methodological options and choices, this paper seeks, therefore, to contribute to the discussion on the close relations established between and among school, childhood, hygiene, and medicine. Through the analysis undertaken, I have found that in the early 20th century schools served as a space of disputes between medical and pedagogical knowledge. The former seemed to have carved out the school space by admonishing teachers to fulfill the political agenda that was being constructed for the combined purposes of education and health. In order to fulfill these objectives, teaching manuals were utilized strategically.

Almeida Júnior And The Advocacy of Hygienic Education

Born in Joanópolis in the state of São Paulo, Almeida Júnior (1892-1971) graduated as a teacher in 1909 from the normal school of *Praça da República* (the Republic Plaza) in downtown São Paulo, Brazil. He started his career as a primary teacher in 1910 and, between 1911 and 1914, he taught French at the normal school of Pirassununga, SP, where Lourenço Filho was one of his students.

In 1913, he requested a leave from the normal school and traveled to Europe after receiving part of his mother's inheritance. According to his account, the "bath of civilization" (referring to contact with a socially advanced society and culture) he had throughout his six-month trip had opened up his horizons and made him re-think his return to the city of Pirassununga. Seeking to breath new air, Almeida Júnior decided to move to the capital where he could apply to medical school.

At the age of 30, in 1921, Almeida Júnior became a physician, and the following year his was awarded a PhD by the School of Medicine and Surgery of São Paulo. His thesis, titled *O saneamento pela educação* [Improving Health Through Education (1922)] addressed the need to modify primary schools so that they could educate children in compliance with sanitary and hygienic standards, to be instilled as habits.

According to Gandini (2010), in his memoirs, Almeida Júnior reports he had been hesitant about the path he would follow after becoming a doctor. The reason was that he had established relations with doctors who were members of the public health teaching staff at the same medical school, and he also had connections with intellectuals who took positions in the educational administration.

It is interesting to observe Almeida Júnior's circulation, and the relationships he had weaved which, somehow, placed him professionally in proximity to other individuals whose work was crucial in relation to the proposition of education and health policies in São Paulo, especially in the period covered by this article. Looking at the group of intellectuals and thinkers in the field of education with whom he was in contact, one sees his proximity to Fernando de Azevedo, Lourenço Filho and to other advocates of

the *Escola Nova* (New School) movement in Brazil. It is not a coincidence that Almeida Junior was invited to take the post of teaching director in São Paulo between 1935 and 1937. Such a position is notorious for the administrative powers he was assigned in a period when different groups competed to control and implement educational models (Carvalho, 1998).

However, before exploring the ties between Almeida Júnior and other intellectuals, it is necessary to mention other actors, actions, and institutions in the context he lived in. In this specific environment, ideas about hygiene and sanitation were taking the spotlight.

In 1918, the Laboratory of Hygiene was created, a body that was aligned with the North American health model as a result of an agreement signed between the State Government of São Paulo and the International Health Board of the Rockefeller Foundation¹ (Rocha, 2003a). The agreement was meant to provide the discipline of hygiene at the School of Medicine and Surgery of São Paulo. According to Rocha (2003a), this laboratory became an institute in 1919² and played an important role in formulating health policies in the state of São Paulo at the time.

Still in 1918, a course on public hygiene was delivered to school principals throughout the state. The idea was to extensively disseminate knowledge of hygiene acquired by the principals to schools all over the countryside and the coast of the state. The course was suggested by Oscar Thompson, then director of public instruction, to Rodrigues Alves, Secretary of the Interior, who promptly accepted it.

According to Bertucci (2006), improving health in the countryside of São Paulo was a latent concern in the early decades of the 20th century, since the coffee plantations had expanded and the railways had advanced towards the west. It was necessary to enhance efforts to avoid the proliferation of mosquitoes and diseases that threatened and killed residents in the countryside.

At *Instituto Butantã* and led by its director, Vital Brazil, the course on public hygiene integrated the set of actions being developed in the state of São Paulo in order to disseminate interest in hygiene. The course was also supported by Arthur Neiva, who at the time was the director of the Sanitary Service in the same state, and by Antônio de Sampaio Dória, who would be invited to be the director of public instruction in 1920.

The Spanish influenza epidemic, which affected the Brazilian population in 1918, also reflected decisively in the functioning of the cities and everyday life. The crises generated by the epidemic exposed the fragilities and the inadequacies of the Sanitary Service in effectively meeting the demands for health care. In the state of São Paulo, the instabilities ended up with Geraldo de Paula Souza, the head of the Institute of Hygiene and the Sanitary Service of São Paulo in 1922. Having returned from his

¹ The Rockefeller Foundation was founded in the United States in 1913 with the objective of promoting stimuli to public health, research, and philanthropy abroad. It was characterized by not being governmental and utilize its own funds only to conduct actions in developing countries.

² In 1924, the Institute of Hygiene became independent from the School of Medicine and Surgery of São Paulo and, in 1969, it was turned into the School of Public Health of the University of São Paulo.

doctoral studies in Hygiene and Public Health at the Johns Hopkins University, this doctor redefined the model of sanitary policy in the state of São Paulo through the Reform of The Sanitary Code, published in 1925 (Rocha, 2003a).

Within this Institute from 1921, Almeida Júnior was awarded a scholarship by the International Health Board, maintained by the Rockefeller Foundation, which allowed him to head the Department of School Hygiene (Rocha, 2003a; Bertucci, 2013) and work together with Geraldo de Paula Souza, who had been his professor at the School of Medicine and Surgery.

As can be seen, the network being weaved at that time clearly shows the proximity between the Institute of Hygiene and the Department of Sanitary Service (Rocha, 2003a), but also between them and the Board of Public Instruction as a result of the connections Almeida Júnior had with Antônio Sampaio Dória.

From 1919 on and during the period when Sampaio Dória was the director general of teaching, Almeida Júnior was his head of office, in charge of the school census in the state and having participated regularly in the preparation of the 1920 Reform (Gandini, 2005; 2010). Among several results of the Reform, for the purpose of this article, it is worth highlighting that the disciplines of human anatomy and physiology, biology, and hygiene were combined to form integral part of the training of future teachers (Rocha, 2003a, p. 136). About such inclusion, it is important to stress the virtual influence of Almeida Júnior, since between 1920 and 1930 he also worked as a teacher at the Normal School of Braz, teaching the disciplines of educational biology and hygiene.

The debates about the importance of school hygiene in teachers' basic training gained strength and was piloted by the work of Almeida Júnior, who held positions at the Institute of Hygiene, the Normal School of Braz, and in educational management. Thus, in compliance with the Sampaio Dória Reform, Almeida Júnior prepared and applied a hygiene program for senior students at the normal school, because the 1920 Reform had granted teachers with autonomy. However, programs and teaching plans had to be approved by the institution's director.

This teaching program was presented by Almeida Junior as a proposal to address the topic of hygiene in his thesis, defended in 1922. That is why, unlike the course conducted with school principals at *Institute Butantã*, in 1918, the program now was intended for the teachers taking basic training.

Almeida Júnior's concerns with educational issues and hygiene remained intense along the 1930's. Part of his pedagogical proposals were legitimized exactly by the fact that he circulated and had strong connections with the group of educators and intellectuals who were at the front of the movement and competed in the educational arena at that moment. Additionally, he had been involved in the training of primary teachers, and this allowed him to put some of his pedagogical propositions into practice.

In 1932, Almeida Júnior, together with Fernando de Azevedo, Lourenço Filho, Anísio Teixeira and others, subscribed to the Manifest of the Pioneers of the New Education. In 1933, he was appointed head of the School Health Service of the state of São Paulo, a position he held for six months (Viviani & Marchan, 2006), and assisted Fernando de Azevedo in designing the Code of Education of São Paulo. Still in 1933, he was

transferred from the normal school of Braz to the Institute of Education Caetano de Campos, where he taught educational biology.

In 1934, he cooperated to create and institutionalize the University of São Paulo. In 1935, he was appointed director of teaching of the State of São Paulo; however, in April 1938, he dropped out the position due to the coup which led to the Vargas Dictatorship (Gandini, 2010).³

Besides the fact that the professional performance of Almeida Júnior evinces that the positions and jobs he took allowed him to circulate, his bibliographical production made his ideas circulate too. Along the 1920`s and the 1930`s, he vigorously advocated for teacher training programs based on solid knowledge of hygiene, which were associated with his representations about childhood and the role of schools in promoting healthy habits.

From this perspective, I have considered Almeida Júnior`s thesis in terms of the type of text, the purpose, as well as the readers for which it was intended. It was also the text where he theoretically substantiated his propositions concerning hygienic education as, for him, primary schools and teachers were essential to achieve that goal. They should be trained based on renewed hygiene programs and taught about the nature of children. Subsequently, the teaching manuals he wrote and published, which were intended for children and teachers in training, organize pedagogically the set of knowledge on hygiene and, therefore, contribute to the processes of "pedagogizing" such knowledge and normalizing school practices.

Thus, for the purposes of this paper, the place that hygiene and education have in the written production of Almeida Júnior is analyzed starting from two intercrossed paths: representations about childhood and schooling, and teacher training supported by renewed content and methods.

Forming Hygiene Habits and Almeida Júnior`s Writings

Working as a salaried assistant at the Institute of Hygiene since 1921, Almeida Júnior wrote a thesis addressing the improvement of health through education. His thesis provided the basis on which the defenses were underpinned and taken forward by the Institute around hygiene education, which should be more formative and conscientious and less police-like and punitive.

In 78 pages,⁴ Almeida Júnior`s thesis takes the lead in the debates that were being brought by campaigns to improve health and promote hygiene. It also materializes

³ It should be highlighted that Almeida Júnior continued working in the educational area in subsequent decades, having taken political, administrative, and teaching posts.

⁴ The thesis is organized with an introduction and six chapters, whose titles are (in Portuguese and here translated into English): "Improving health and education"; "The adult and the child"; "The primary school, axis of sanitation "; "What the primary school does presently"; "Programs and methods"; and "Teacher training" followed by a conclusion. I also inform that in the literal quotations the spelling utilized in the original documents.

some discussions that were being conducted within the institute.⁵ Assured that education was a crucial tool to fight disease, Almeida Júnior considered that primary schools brought together those in Brazil who had the psychological conditions that made them more capable of learning: the children.

Supported by the thesis that hygienic education consists of acquiring hygienic habits (Almeida Júnior, 1922, p. 46), the author argues that the future of humankind depends on people abiding by sanitary norms. Such compliance, however, was not conceived as fulfilling advice external to the individual, as by doing so this type of advice would not settle in as behaviors. Almeida Júnior defends that, by means of hygiene education capable of instilling hygienic habits, it would be possible that the next generations would not suffer the sanitary evils of the present generation.

For such purpose, children were targeted rather than adults because only a child is "truly educable" (Almeida Júnior, 1922). Concerning hygiene, the adult's intellectual maturity was a favorable condition just to "[...] understand and comply with the principle of hygiene." (Almeida Júnior, 1922, p. 19). The child, instead, was favorably predisposed to absorb habits—the plasticity of the nervous tissues.

Supported by discussions in the science of child development inspired by Herbert Spencer, Gustave Le Bon, and William James, Almeida Júnior argued on behalf of modelling behaviors by means of countless influxes that "[...] flow through the nervous paths sculpting deep and long-lasting grooves in the nervous system" (Almeida Júnior, 1922, p. 26).

Drawing from this representation of children as mouldable and adaptable agents, Almeida Junior launched his proposal of hygienic education, opposing what, according to his assessment, was being done at that time: hygiene as instruction taught by means of rules and advice. The displacement he proposed would promote a more active teaching, through which the child would investigate, find out, criticize, and act. If habits result from the "permeability of the nervous paths," it is the actions that generate such paths (Almeida Júnior, 1922, p. 45).

Such concepts about the nature of children traversed by the perspective of forming hygienic habits can be seen in the *Cartilha de higiene* [Hygiene Primer], written by Almeida Júnior and published in 1923 by Monteiro Lobato Publishing House, which then became *Companhia Editora Nacional* (National Publishing Company) in 1925. The objective of the primer, designed to be utilized in primary schools, is presented in the heading intended for the teachers: promoting education in hygiene just like it was done with the mother tongue and the numbers. One notes, therefore, that Almeida Júnior sees hygiene, literacy, and mathematics on the same level of importance; a set of knowledge that shows up as crucial elements in primary schools.⁶

⁵ Almeida Júnior's thesis has already been analyzed under the auspices of hygiene by Rocha (2003) and by Bertucci (2013).

⁶ In the inquiry conducted by Fernando Azevedo, invited by the newspaper *O Estado de S. Paulo* in 1926, Almeida Júnior would once more match the importance of the hygiene contents with the mother tongue and mathematics.

The lessons contained in *Cartilha de higiene* are illustrated and present stories narrated by *Saci* (a mischievous and well-known character of Brazilian folklore), and are converted into issues such as the importance of healthy habits (boiling milk and water, eating vegetables and fruit, using the bathroom on a regular basis, sleeping in a ventilated environment, getting physical exercise, using a lighted place to read, breathing adequately, and not drinking alcohol or smoking), personal cleanliness (washing hands, cleaning the nails, brushing teeth, taking a shower), and care with infectious diseases (tuberculosis, trachoma, malaria, typhoid).

According to Oriani (2022), the stories have a behavior-modelling tone, condemn habits considered harmful (which seem to be representative of what was common among the poor population at the time), and praise those habits considered desirable. As Rocha (2011) puts it, the material produces a narrative that utilizes images and discourses which allow people to read the primer's intended objective: to intervene politically onto the population.

Moreover, by staging what was prohibited and daily care towards oneself and the environment, the primer takes the role of a political-pedagogical device intended to discipline personal conduct. The narrative is led by means of captions that enunciate pieces of teaching, advice, and even invitations to watch closely oneself and others in relation to their bodies and behaviour. Thus, Almeida Júnior envisages his purpose of an active hygienic education, teaching self-discipline but also encouraging children to be more intervening in leading their everyday lives at home.

The concern with "healthy habits" and with the organization of hygienic school spaces was present in the *Cartilha de higiene*, but also in Almeida Júnior's thinking when he participated in meetings involving doctors and teachers. In 1926, during the Third Brazilian Congress on Hygiene, which took place in São Paulo, Almeida Júnior addressed the need to take a "catechism tone" to implement the hygienic principles so necessary in schooling. One of the basic principles of hygiene as a school practice, according to him, was, for example, to include showers in school facilities, since some children did not have a shower in their homes. Thus, the school should be re-thought from the viewpoint of its architecture to encourage the habit of taking showers (Viviani & Marchan, 2008).

Food is another topic covered by the *Cartilha de higiene*, but also in the paper "*A alimentação na idade escolar e pré-escolar*" [Food For School And Pre-school Children] presented at the 1st Brazilian Congress on Hygiene, held in Rio de Janeiro, in 1923. This paper was also published as an article in the *Boletim do Instituto de Higiene* [Institute of Hygiene newsletter], publicized in the same in volume 15. It is interesting to note the re-publication of the full text, which allows us to determine that the participation of this teacher and doctor in the educational conferences was thought as a way of positioning the achievements and the advancements of São Paulo intellectuals in relation to hygienic education, as well as to identify the place Almeida Júnior held as "spokesperson" of what was being developed within the Institute of Hygiene.

In addition to this paper, Almeida Júnior also presented "*Qual a maneira mais prática de organizar a assistência à criança, na idade escolar?*" [The Most Practical Way to

Organize Assistance to Children at School] and "*Clínicas de nutrição e merendas para escolares*" [School Meals and Nutrition Clinics for Students], during the National Conference on Childhood Protection held in São Paulo in 1933. Such essays allow us to infer that food was actually a topic Almeida Júnior had long been thinking over. This may be explained based on his finding, which he had already presented in the 1922 thesis, that the major cause of child mortality resulted from children's poor nutritional conditions.

Both in the 1923 text and in the 1933 writings, Almeida Júnior's proposition was to think about how food brought by students should be stored at the schools, the eating conditions within the school environment, and that all of it should be related to guidance around good progress of students' hygienic conditions for their health's sake.

Almeida Júnior (1923; 1933a; 1933b) explores the idea that food is an important channel in transmitting diseases; that is why inspecting food regularly, supplying adequately treated water, and combating the proliferation of flies would be of great value in school facilities. The conference papers, due to their nature and purpose, intended to present results of research based on scientific topics and, thus, the proposals presented by Almeida Júnior were endorsed by experiences conducted by researchers from other countries.

Care for food, as explored in Almeida Júnior's writings, are interpreted according to the function they performed in controlling children's growth and their influence on their development. From this point of view, together with other types of care such as personal hygiene, physical exercise, and alcohol and tobacco abuse, food would play a key role throughout childhood, bearing in mind that the most frequent cause of child mortality according to Almeida Junior was "food deviation" (Almeida Júnior, 1922, p. 14).

Drawing from these findings, Almeida Júnior casts a doubt on the representation of a neglected childhood that needs to be regenerated (by means of hygienic habits) and a "standard of normality," which should be found among students. Between the "type" and the "deviation," knowledge of hygiene becomes a political-pedagogical artifact and denotes the disciplining and sanitizing treatment given to those children who do not fit in the parameters of normality that were produced (Rocha, 2015).

It is possible to determine, therefore, that in his thesis, in the *Cartilha de higiene* [Hygiene Primer], and in the writings on hygiene produced in the 1920's and 1930's, Almeida Júnior presented a program of hygienic education that should be conducted through the formation of habits. A habit would result from content being repeatedly taught and children being constantly exposed to hygienic practices in the modelling presence of teachers. Thus, they were an integral part of combined actions to which children were submitted in the hygienic education proposal advocated by Almeida Júnior: the "search" of the school and of the classroom by the teacher; the physical examination of height, weight, oral health, and visual and auditory acuity; and the inquiry into family habits and the customs within their household environments (Almeida Júnior, 1922; 1923; 1933a; 1933b).

Such learning and the normalization of behaviors, defined as the foremost knowledge to be taught in primary schools, are mobilized in the *Cartilha de higiene*. The primer is

also utilized as a device which engages the program and provides a guide for a healthy life. It also presents—as examples—family relationships, housing, care of the body, and care of health, but, when it comes down to it, the primer also guides by exposing, with a disapproving tone, the results of a life in which there are unhealthy habits and relationships, where instead there is vice and disease.

Furthermore, it is necessary to consider that the physical examination teachers should perform at school, as proposed by Almeida Júnior, including measuring the students' weight, height, and nutritional orientation to fight diseases, demonstrates the sort of knowledge teachers should absorb within the scope of the hygienic education conceived by Almeida Junior.

Primary school teachers play a crucial role in disseminating hygiene education, and being mindful of training and absorbing specific knowledge from the areas of health, hygiene, and biology became predominant. It was, therefore, about reformulating programs, content, and methods in teacher training which would pay close attention to school children's hygiene, childcare, and to the teaching of biology.

In this thesis, Almeida Júnior (1922) contends that the primary school teacher was the driving force of education. In this regard, his proposal about forming hygienic habits is grounded in the concept that, drawing from modelling attitudes, the teacher might be a good example to her or his students in terms of behaviour. Such exemplary nature should add to forming daily hygiene habits in order to achieve healthy behaviors.

His proposal of teaching hygiene was underpinned by the organization of knowledge in normal school, which included content such as anatomy, psychology, natural history, and notions of zoology, physiology, and chemistry, and projected that hygiene would be taught in the fourth school year in two-hour weekly classes. In total, with 50 classes, Almeida Júnior considered it possible to provide the required knowledge to support normal school students on a theoretical and practical basis.

The autonomy of the teacher in charge of teaching hygiene is considered essential when planning the learning activities. As such, he thinks it is crucial to grant the conditions to follow up an official program with unity and efficiency, provided that he or she would teach hygiene for the purpose of "applying this discipline in the school and in practical life," considering the following factors:

- a. The severity, etiology, and prophylaxis of the major infectious diseases.
- b. Personal hygiene: breathing, eating, cleanliness, clothing, and exercise.
- c. Urban and rural household hygiene: location, cleanliness, ventilation, and lighting.
- d. Urban hygiene: streets, water supply, sewage, garbage.
- e. Early childhood hygiene: child care, nutrition, child development.
- f. School hygiene: the school, class schemes, students.

(Almeida Júnior, 1922, p. 59-60).

In the introduction to the *Cartilha de higiene* titled "Hygienic education," Almeida Júnior addresses the teachers and stresses the practical nature of the work that should be done for the purpose of instilling "helpful habits, regarding cleanliness, eating, exercise" in children.

However, it is in his pedagogical handbooks *Noções de puericultura* [Notions of Childcare), *Elementos de anatomia e fisiologia humanas* [Elements of Human Anatomy and Physiology] and *Biologia educacional* [Educational Biology] that hygiene knowledge is presented in order to fulfill the role announced by Almeida Júnior: supplying a "lengthy conviviality with science" to improve the "technique and provide raw materials that are substantial and pure" (Almeida Júnior, 1939/1966, p. 9). Viviani and Bueno (2006) argue that advocating for a model of teacher education based on general culture associated with scientifically solid biological content and with the "fundamentals of education," had already been a reality in the state of São Paulo since the Sampaio Dória Reform in 1920.

The book *Noções de puericultura* [Notions of Childcare] published in 1927 and co-authored by Mario Mursa, was about a doctor who was also the director of the Children's Hospital of Indianapolis—as can be read in the front page of the book—but no further information could be found. The book cover announces that it is intended for mothers and normal schools; the foreword clearly shows what the authors advocate as its ultimate goals: the zeal for the practical nature of the manual. In 193 pages, divided into 19 chapters, *Notions of Childcare* covers the anatomy and physiology of the human body, child mortality, pre-natal hygiene; care for the newborn, feeding, breastfeeding, and natural and artificial feeding; clothing; and notions of the prophylaxis of some diseases including measles, smallpox, whooping cough, helminths, tuberculosis, and rickets.

Morano and Souza (2019) say that in the early 20th century, concern with children's bodies, as socially perceived, was present in medical-educational discourses. Childcare as the intersection between hygiene and eugenics turned into the sexual health and the appraisal of motherhood with the purpose of producing habits and life-related conduct and infant care. Objectifying and placing maternity under the tutelage of the state, the medical discourse invented the "good mother" and, thus, sorted out, prescribed, and condemned the behaviours intertwining women's lives.

From this viewpoint, the learning materials may be considered pedagogical instances that disseminate some knowledge, normalize behaviours, produce desirable bodies, and construct subjectivities.

Notions of Childcare was published by the D. Anna Rosa Institute, an association created in 1874 with the purpose of promoting the protection of neglected children by means of boarding schools, but it was also a publishing house. Within the shelter for orphan children, Almeida Júnior conducted a nutritional program, which was mentioned in his article on feeding pre-school children and school students (1923).

The second edition of the book was published in 1933. I have found that, despite a higher number of pages in the second edition, both editions have the same content. The third edition of the book, published in 1938, had its title changed to *O livro das mães*:

noções de puericultura [The Book of Mommies: Notions of Childcare]. The publishing house is different too; it is now the National Publishing Company. I wasn't able to access a copy and, therefore, I cannot assert if there were modifications to the content or if the changes were merely editorial and graphical.

The *Elementos de anatomia e fisiologia humanas* [Elements of Human Anatomy and Physiology], as mentioned on its cover, was intended for middle and normal schools. Published in 1931, the book had around 400 pages and was part of the series *Livros Didáticos da Biblioteca Pedagógica* [Textbooks of The Pedagogical Collection] by the National Publishing Company. I had access to the fifth edition of the book with 11 parts that addressed the cells, the neuromuscular system, feeding, digestion, blood, circulation, breathing, glands, the nervous system, the senses, phonation and language, and personal development.

In the foreword to the first edition of the book, Almeida Júnior announces his intention for writing the book: to make it clear for youth. Having had experience with the young, he used to say he knew how to talk to them. In the foreword to the fourth edition, published in 1935 (exactly the same as the fifth edition in 1938), Almeida Júnior points out the modifications he made to the book: he excluded topics on general biology and included other topics addressing matters including motor activity, human nutrition and hygiene, and alcoholic beverages.

This manual had 37 editions, the last one dated 1973, which demonstrates its circulation over a long period of time. In this regard, it should be noted that *Noções de puericultura* circulated less and had no more than three editions—this perhaps is due to the publishing house that launched the first editions of the book. *Biologia educacional* [Educational Biology] had 22 editions, published between 1939 and 1969, reaching a total of 120,00 copies (Viviani & Bueno, 2006). This outreach of the manuals is quite representative of the use of its materials for pedagogical purposes. On no account were *Elementos de anatomia e fisiologia humanas* [Elements of Human Anatomy and Physiology] and *Biologia educacional* [Educational Biology] more consistently utilized by the programs of biological disciplines in the courses intended for teacher training.

It must be noted that both manuals were released by the National Publishing Company as an integral part of the Brazilian Pedagogical Collection. *Biologia educacional* was included in the section Pedagogical Updates and *Elementos de anatomia e fisiologia humanas* in the series textbooks. This collection, edited by Fernando de Azevedo between 1931 and 1946, articulating his political project with the commercial endeavor of the publishing house, had the purpose of providing teacher training both on professional and cultural levels (Bueno & Viviani, 2006).

According to Gandini (2010), the success of this manual may also be associated with the very status of Almeida Júnior as a teacher of educational biology at the Institute of Education Caetano de Campos. As can be noted, the printed pedagogical materials produced by him were legitimated by the positions he took. However, more than that, the group of educators he had connections with also contributed to make his ideas circulate and be editorially endorsed by intellectuals who competed in the educational arena at that time.

With 507 pages, *Biologia educacional* explores the biological factors that determine "the differences and the individual variations in the human species, and the means a teacher can utilize to work on these factors in order to achieve, for the individual, maximum health as well as physical and mental efficiency" (Almeida Júnior, 1939/1966, p. 19). It was a discipline that replaced Biology and Hygiene in the normal schools, which is why educational biology was implemented in São Paulo as a result of the 1933 Education Code, designed by Fernando de Azevedo. As mentioned previously, Almeida Júnior collaborated in the production of this reform.

Organized in five parts, the book firstly presents what is called the fundamental parts of educational biology (life and evolution, genetics, mesology, and functional activity) and, subsequently, the practical parts (eugenics and eutherics; both of them included hygiene and education).

Almeida Júnior's efforts are directed at proposing ways of optimizing the physical, mental, psychological and moral conditions of individuals by means of social, educative interventions—physical and mental exercise and life guided by eugenic and hygienic precepts. Thus, learning the importance of weighing children, measuring their height, and being able to identify symptoms of disease and how to heal them is part of the process of acquiring hygiene precepts that later on will become indispensable to the teacher's work.

From this point of view, practical learning, consolidated by solid scientific knowledge, becomes justifiable. This is so true that, also at the Institute of Hygiene, Almeida Júnior proposed activities aimed at teacher training in hygiene, in which activities, demonstrations, exercises, and notions of childcare were prevalent.

As can be noted, the hygienic project for teacher training conceived by Almeida Júnior was underpinned by scientific content that was considered fundamental to understanding education. Arguing the important role played by teachers resulted from a view that the educational "apparatus" was a capillary system through which the state distributed civilization to the population. Thus, building the teacher's capacity was equivalent to the mission of introducing hygiene in the primary school.

The proposal to circulate the knowledge of hygiene education, according to Almeida Júnior, consisted of providing conceptual and practical support that enabled primary school teachers in the normal schools and helped them with a "tool box."

School And Childhood in The Perspective of Almeida Júnior's Program

As previously presented, drawing from the professional experiences and the bibliographical production of the physician and teacher Almeida Júnior, it is possible to draw together the intersections between medicine and education as conceived by him. As I have explored, his actions are an example within a group of intellectuals and educational managers who proposed policies intended to tackle the educational and sanitary dilemmas in the early decades of the 20th century. In Almeida Júnior's case, the use of printed pedagogical materials is highlighted, as well as his work as a

physician, teacher, and educational manager in disseminating this agenda in primary schools and through teacher training, through which he advocated for the teaching of hygiene through forming hygienic habits.

Appropriating for himself the scientific discussions of child behavior and the brain's plasticity, Almeida Júnior focused on children as the destination of his hygiene program. Thus, in his teaching manuals he addressed topics in order to generate desired behaviors in children and their families. In his representations of childhood, Almeida Júnior combined his propositions about the purpose of the school and teacher education. Arguing about how to teach childcare, eugenics, and address biological fundamentals in education, he sought to adopt in his printed materials solid scientific knowledge supported by more active methodologies.

The way that knowledge of hygiene intended for primary schools was dealt with by Almeida Júnior, as well as its uses and goals and intended readership, allowed him to explore the purposes of normalizing the behaviours and pedagogical practices contained in his materials, and the goals of the primary school in his program.

In this respect, emphasis should be given to the manner in which the teacher training materials would provide teachers not only with the content required for their professional work, but also that concerning tasks related to the medical field: weighing students and measuring their height, verify hearing, oral health, hair, and administering medication. Between observing and recording children's medical data, childhood was increasingly classified using categories that expressed medical views and their derivations: normality and abnormality, the typical and the atypical.

Thus, it is possible to detect in Almeida Júnior's writings the search for forming good habits as well as the for the control and surveillance of behaviour. The school, according to this perspective, played an important role in his program of shaping healthy habits, and in this regard, teachers played a key part.

Finally, this article situated the connections and the intense professional relationship of Almeida Júnior with a group of intellectuals who occupied the educational and medical fields in the period at issue. In this place of intersection, he advocated and saw his ideas endorsed regarding the "improvement of society's health through education." (Almeida Júnior, 1922)

In this article, I have sought to shed light on specific discussions about the way Almeida Júnior mobilized areas of knowledge involving hygiene and how he organized them in the form of a teaching program for primary schools (Oriani, 2022). By presenting the relations of this individual with other intellectuals and politicians in the educational arena in São Paulo in the early 20th century, I have managed to highlight the specificities of the program on hygienic education designed by Almeida Júnior. Situated in a place of intersections, Almeida Júnior was a doctor, a teacher, an educational manager, and the author of textbooks, who argued that it was necessary to "sanitize society through education." Drawing attention to his legacy in the sphere of the history of education in the state of São Paulo, it is necessary to acknowledge that his written production and professional work made it possible for him to circulate areas of knowledge which combined hygiene and education (Oriani, 2022; Rocha, 2003b).

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