



Teaching arithmetic at primary schools in the nineteenth century: the memoirs of Humberto de Campos

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ABSTRACT. This article focuses on the narrative of Humberto de Campos in his first volume of memoirs (1886-1900) with regard to the education of the author. The first section emphasizes the importance of autobiographical writing for research in History of Education, and especially in History of Mathematics Education. The second section is a brief presentation of Humberto de Campos as a Brazilian writer. The next part discusses the theoretical and methodological foundations adopted for the use of autobiographical sources in research. The core of the text consists of approaching the main school experiences narrated by Humberto de Campos in Parnaíba, in the interior of the state of Piauí, in the 1890s, highlighting practices that involve mathematical knowledge. The writer's school memories emphasize the material precariousness of elementary education, the simultaneous teaching of many students of different levels in schools managed by a single teacher and the teaching methods based on repetition and memorization and supported by practices of punishment and humiliation of students.

Keywords: Autobiographical writing, History of Mathematics Education, Elementary Brazilian school, late 19th century.

Ensino da aritmética na escola de primeiras letras no século XIX: as memórias de Humberto de Campos

RESUMO. Este artigo focaliza a narrativa de Humberto de Campos em seu primeiro volume de memórias (1886-1900) no que se refere à educação escolar do autor. Inicialmente, enfatiza-se a importância da escrita autobiográfica para a pesquisa em História da Educação, e especialmente para a história da educação matemática. Em seguida, apresenta-se o autor, situando-o no cenário da literatura brasileira, e discorre-se sobre os fundamentos teórico-metodológicos adotados na pesquisa com fontes memorialísticas. O núcleo do texto é composto pela abordagem das principais experiências escolares narradas por Humberto de Campos na cidade de Parnaíba, no interior do Piauí, na década de 1890, com destaque para práticas que envolvem conhecimentos matemáticos. As lembranças escolares registradas na obra do escritor maranhense ressaltam a precariedade material da instrução elementar, o ensino de muitos alunos de diferentes níveis em escolas de um só professor e os métodos de ensino, baseados na repetição e memorização e apoiados em práticas punitivas de castigos e humilhações dos estudantes.

Palavras-chaves: Escrita autobiográfica, História da educação matemática, Escolas de primeiras letras no Brasil, Final do século XIX.

Enseñanza de la aritmética en la escuela primaria en el siglo XIX: las memorias de Humberto de Campos

RESUMEN. Este artículo enfoca el relato de Humberto de Campos en su primer volumen de memorias (1886-1900) en el que se refiere a la educación escolar del autor. Inicialmente, se enfatiza la importancia de la escritura autobiográfica para la investigación en Historia de la Educación, y especialmente para la historia de la educación matemática. En seguida, se presenta al autor, ubicándolo en el escenario de la literatura brasileña, y se trata sobre los fundamentos teórico-metodológicos adoptados en la investigación con fuentes memorialísticas. El núcleo del texto es compuesto por el abordaje de las principales experiencias escolares narradas por Humberto de Campos en la ciudad de Parnaíba, en el interior de Piauí-Brasil, en la década de 1890, con destaque para prácticas que envuelven conocimientos matemáticos. Los recuerdos escolares registrados en la obra del escritor marañense resaltan la precariedad material de la educación básica, la enseñanza de muchos alumnos de diferentes niveles en escuelas de solo un profesor y los métodos de enseñanza, basados en la repetición y memorización; y apoyados en prácticas punitivas de castigos y humillaciones de los estudiantes.

Palabras clave: Escritura autobiográfica, Historia de la educación matemática, Escuelas primarias en Brasil, Final del siglo XIX.

Introduction

For some time now, literary texts, mainly autobiographical, have undeniably become an important focus of interest in the research about the history of education. Such interest, in line with historiographical research of a broader nature, has grown in connection with the field of cultural history, in which historiography is constituted by structured narratives “[...] around an argumentative plot in which the time sequence, character(s) and situations lend meaning to the statements, in the context of the argument” (Garnica, 2015, p. 182-183). An important element in the arsenal of cultural history was characterized by Pesavento (2012, p. 57): it is relevance which is acquired by sensibilities – “[...] the ways through which individuals and groups reveal themselves, manifested as a stronghold, translating reality, through emotions and senses”. In this context, the historiographic renovation movement, which has been gaining momentum since the 1970, was marked by the consideration given to traces of the past that had not previously been the focus of historians. Attention to themes such as daily routines, parties, madness, childhood, youth has led to a notable appreciation of the individual, of subjectivity, and life stories. In this scenario, autobiographical narratives, derived from first-person written and oral narratives have become highly valued.

A significant number of studies regarding the history of education have been published which turn to such sources with the objective of understanding different aspects of the past of education in our country. In order to do that, they adopt a multiplicity of perspectives. Exemplary are the works of Galvão (1998), Lacerda (2003), Bastos (2006), Melo (2008), Martins (2013), Peres & Borges (2015), as well as Neves e Galvão (2016). Our interest in literary /autobiographic works is linked to a specific historical aspect, the past of mathematical education in Brazil, in a broader sense. We intend to contemplate the study of experiences, educational and non-educational, related to the process of learning and teaching mathematics. The investigation of such processes through self-referential writings, particularly those of memorializing nature, means looking at such processes through the lenses of generations of individuals or groups, and gain insights on the perceptions, and about the experiences of students and teachers at schools, and the pedagogical practices

used at certain times. Literary sources and especially memorial literature¹ are potentially important for research about the educational practices, of both families and schools, and on conceptions related to the culture, education and teaching of different social groups (Xavier, 2008). Such aspects play an important role in understanding the past of the teaching and learning of mathematics. We believe that in order to do that, it is not enough to study pedagogical and curricular proposals, educational legislation and teaching materials.

We believe it is of paramount importance to include the point of view of students and teachers. We must not confine ourselves to the most commonly emphasized and valued discourses such as those of scholars, authors of manuals, developers of pedagogical and curricular plans, which at certain moments, have been prominent in educational environments.

In this sense, reading the memoirs of individuals from different walks of life, professions, socioeconomic and political positions, as well as the relationship with the written culture and sociocultural conceptions, among other aspects, has shown that autobiographical writings potentially represent a significant contribution to historical research on mathematics education.

It is worth mentioning that works which have taken literature as a source and / or object of research about the history of mathematical education², have already been produced in Brazil. Some examples are Gomes (2008), Brito e Oliveira (2015) and Búrigo (2015).

The present article describes similar research focused on the memoirs of the writer Humberto de Campos (1886-1934), originally published in 1933.

Humberto de Campos: an author-character and his memoirs

Humberto de Campos Veras wrote voluminous work which included chronicles, poetry, short

¹ Although some authors differentiate memoirs and autobiographies, characterizing the autobiographies as centered on the self, who recalls and narrates their lives, and the memoirs as texts which mainly focus on the outside world, in the events and characters remembered, we prefer to adopt the point of view of Viñao (2000) who states that this distinction is more academic than conceptual, as usually both dimensions are combined, and titles use one word or the other interchangeably. Thus, we indiscriminately use the two words and the corresponding adjectives. We also use the terms self-referential and first-person writing to refer to autobiographical work

² We understand the history of mathematical education as a result of a specific dialogical approach between history, education and mathematics whose "... object of historiographical investigation includes all educational practices mobilizing mathematical culture in any contexts of human activity, among them, especially academic education contexts" (Miguel, 2014, p. 29).

stories, literary criticism, feuilleton, political commentaries, humor and memoirs. He was born on October 25 1886, in the state of in Maranhão, in the city of Miritiba, later renamed after its most illustrious son. The writer died in Rio de Janeiro, on December 5 1934. He developed a significant career as a journalist, and was elected member of *Academia Brasileira de Letras* on October 30 1919, becoming the third person to occupy chair number 20. He was also elected a Congressman, representing the state of Maranhão on three occasions: 1920, 1930 and 1934. However, he only held office on the first occasion. His second term was suspended due to the coup of October 1930 and, he passed away before taking office the third time he was elected (Agra, 2014).

The memorialist genre motivated many of his works³, as his autobiographic project was extensive. However, the only one of such works published during the author's lifetime was the book *Memórias* (*Memoirs*), published in Rio de Janeiro, in 1933, by the Marisa publishing house. The book, which was later publish as *Memórias: primeira parte – 1886-1900* (*Memoirs: first part – 1886-1900*) (Campos, 1951), narrates the childhood and early adolescence of the writer in his homeland, and is the object of the present study.

In 1986, in the centennial of the birth of Humberto de Campos, a commemorative edition of the book was published, which was coordinated by Roberto Reis (Reis, 1986). On his opening commentary, Reis stated that he had accepted the invitation of Fábio Lucas, director of *Instituto Nacional do Livro*, to organize the anthology, because he believed that Brazilian literary critics should “[...] review the established corpus, and revisit writers who had been discarded by literary history” (Reis, 1986, p. 13). Another introductory text, in the same edition (Souza, 1986) indicates that one of the purposes of the volume, structured as an anthology, was to bring back to circulation the work of Humberto de Campos, in order to commemorate the centennial of his birth. The initial texts of *O miolo e o pão* (Reis, 1986) highlight the fact that Humberto de Campos had been forgotten. Nonetheless, Reis states that during his life he had been acclaimed, having once been identified as the most read writer in a poll conducted by the press of the state of São Paulo.

In an interview, originally published in *Veja* magazine, on November 19, 1980, the oblivion of Humberto de Campos was also pointed out by Carlos Drummond de Andrade. In response to the interviewer' about his concern for posterity, the

writer said:

No way, on the contrary, I couldn't care less. When I see poets, who ruled Rio de Janeiro when I first came here, and today there is no one to publish their work... There was a writer called Humberto de Campos who was fabulous - until he died. The whole country followed his illness, it caused national commotion. Everyone read his books. Today, there isn't a single soul who is interested in publishing Humberto de Campos (Ribeiro, 2011, p. 112).

In a recent work, Agra (2014) discusses the same subject: the oblivion which has befallen Humberto de Campos, since the 1950s, and the disappearance of his books from publishing houses. In the investigation regarding this forsaken writer from Maranhão, Agra paid special attention to studies dated 1950 and 1960, with the establishment of Brazilian modernism as a hegemonic model of artistic and intellectual creation, from the milestone set forth by the Modern Art Week in 1922⁴. Agra's work points out that the literary and artistic standards of the time rejected those which characterize the writings of Humberto de Campos.

Thus, Humberto's texts in the 1930s, might be accepted by the intellectuals accustomed to the sensibilities of that decade, however, they no longer fit the new context established in the 50s. His literature is considered outdated, his values conservative, and his writing inferior. New players emerge, new authors establish themselves as the new canon. Humberto, in turn, is silenced and forgotten (Agra, 2014, p. 286).

Humberto de Campos is considered a self-taught writer. Throughout his life, he attended different schools for short and discontinuous periods, and did not obtain any certificates for elementary or high school. He lost his father at age six, and was introduced to his first letters, in part, by his mother. However, he attended small elementary schools, in the interior of the state of Piauí, during the last decade of the XIX century. His *Memoirs* recount many of such early experiences, portraying teachers, and describing in detail the educational spaces and practices. Combining history and literature, this work addresses some aspects related to the achievement of mathematics education in this

³ According to Souza (1986), the titles are: *Memórias inacabadas* (*Unfinished Memoirs*), tomo I (1935); *Fragmentos de um diário* (*Fragments of a diary*) (1945); *Diário secreto* (*Secret diary*) (1954).

⁴ Micelli (2001) included Humberto de Campos in his study *Poder, sexo e letras na República Velha* (*Power, sex and letters in the Old Republic - a clinical study of Anatolians*), about writers whose work was created between 1908-1910 – the years that marked the deaths of Machado de Assis and Joaquim Nabuco – and the onset of the Modernist Movement in 1922. The author claims that this period constitutes, according to historians and literary critics, the period of premodernism, a term that characterizes the literary work that, according to the principles set by 'the rupture effected by the modernists "[...] would be outside the realm of the aesthetic line, which the political victory of modernism established as dominating" (p. 15). Micelli (2001, p. 16) points out that such authors were deprived of the acclaim received by "[...] the modernist pantheon, whose legacy remains as the ultimate source of aesthetic authority'.

context. However, first, we present a brief theoretical-methodological reflection on the participation of autobiographies in investigations in the field of history of education.

Theoretical-methodological considerations

Memoirs can be seen as constructions of the self through writing. In the case of renowned literary authors, we are faced with artistic accounts of their lives or periods of such lives. Starobinski (1970) emphasizes the importance of style, the peculiar way through which each autobiographer, identifying with the main character of their narrative, composes a certain period of time. The style of each author is constituted by the tone and manner they address the reader; by the rhythm and depth they impress upon the text; by the way the events are arranged in the narration sequence. As Starobinski emphasizes, two self-referential values intertwine in autobiographical writing: the content of narration and the singular manner of narrating the story, defined by style. Thus, written memories are planned constructions of the past which significantly differ from oral accounts. "Writing is a mediation process that allows more time to reflect, stylize, choose memories, as well as words, to reconstruct them and experience different forms of representation" (Gullestad, 2005, p. 517). From these considerations, we can identify a first important point in the interpretation of self-referential writing: the attention to the style of the author studied.

Another essential aspect to bear in mind is the inevitable coexistence of times inherent to self-referential writing: the researcher must always be aware that the memorialist, in recalling the past, performs an action in the present, in which he writes, which is a different time. As Gullestad (2005) points out, a significant part of autobiographic accounts is devoted to childhood, and the reflection afforded by writing can be viewed as a dialogue between the child the author was and the adult they became. Neves e Galvão (2016) also draw attention to the fact that adults, in reporting what they lived as children, define these lives mainly according to gender, social class, ethnicity, and geographical origin. Moreover, at the moment of writing, the sociocultural repertoire constructed by the autobiographer through their experiences reverberates mightily, so that an anachronistic dimension is inherent in the writings about the past, and such a dimension is impossible to be totally eliminated. However, rather than diminishing the interest in the autobiographical source, such characteristic can significantly contribute to the

researcher's reflections.

Recounting one's life is not merely a dialogue between writer and reader (or between storyteller and listener), but rather between the narrator and their past selves. It is precisely this aspect of reflexive dialogue that makes these narratives of life a desirable and challenging source for social sciences (Gullestad, 2005, p. 526).

Added to the foregoing considerations is also a need to take into account the different types of relationship between the autobiographer and their text. What is the nature of the author's intention in constructing their past through their work? Who is the target audience? What events does the autobiographer select, how do they present them, and what role do they play in the structure of the narrative? How do they use the social codes of their time for writing?

Another integral part of the authors' relationship with their text is that autobiographical writing mentions places, institutions, contexts, occupations, trades, positions, and people, among other elements. Such elements are not always readily recognizable to the reader/researcher, who must further their reading by studying other materials which will enable a better understanding of historical and social contexts depicted in the autobiographic work.

Dealing with autoreferential writing requires the establishment of a dialogue with other sources, however, without placing greater value on any particular type of document. In regard to research about the history of mathematics education, the knowledge of legal documents, teaching programs, teaching and school materials, as well as pedagogical forms, is as essential as reading other research work previously conducted about the topics in question.

However, the main theoretical-methodological guideline for the use of autobiographical texts lies, above all, in the presumed importance regarding the subjectivity of the author. To value this subjective dimension presupposes a notion of truth in a multiple sense, in which there is no expectation that there is a single true historical version of the facts. In this sense, as Pesavento (2012, p. 51) put it, if "[...] everything that once was, can be recounted another way [...]", the horizon of truth that the historian attempts to achieve is neither unique nor absolute: all that remains to the version constructed by each historical narrative is to aspire to some measure of plausibility and likelihood.

What is important for the historian is the point of view taken by the autobiographical record, and the ways through which the author expresses it

(Garnica, 2008). However, working under a subjective perspective does not mean being less rigorous than when there is an explicit claim of objectivity and neutrality. The investigator must be cautious not to be carried away by the impression of truthfulness transmitted to the reader; one of the constitutive elements of autobiographic writing; and always assume a critical position: the source must not be perceived as an expression of what 'truly' happened.

By synthesizing the theoretical-methodological foundations that guide our investigation, we finally illuminate the subjective, partial and fixed dimension of the reading and interpretation of autobiographical writing.

Different readers will certainly make different analyzes of the same text, based on their experiences and sociocultural selections. The very choice of self-referential materials to be explored will differ, from reader to reader, due to their peculiarities and interests. The interpretation of memoirs on any topic is therefore the result of the dialogues established between the author's past subjectivity and the present subjectivity of the researcher.

The considerations above guided the present study of Humberto de Campos' Memoirs, in which we gave special attention to mathematical education in elementary school, in Brazil, at the end of the 19th century.

Humberto de Campos and primary school in the interior of the state of Piauí

Humberto de Campos lived in his hometown, Miritiba, in the state of Maranhão, until his father's death, in 1892. Widowed at 30, his mother had to sell her husband's estate and move, about a year later, in November 1893, to the city of Parnaíba, in the state of Piauí, where some of her brothers and brothers-in-law lived. According to his own narrative, Humberto's father, Joaquim Veras, was a successful merchant, a true representative of the local oligarchy. Until his death, he had been responsible for providing a comfortable standard of living for his family, comprised by the author's mother, Ana, his younger sister, and an older half-sister by his father, fruit of a premarital relationship.

The death of his father marks a significant change in the social status of the family. They become a nucleus of "deprived relatives" to his father's brothers. The book *Memórias* recounts a childhood filled with financial hardship:

It seems I was a boy who never owned a delicate toy.
During his trips to Maranhão, my father probably

brought me some memento of this kind. But he died when I was six, and, after we lost him, my mother could not spare any amount, however small, to buy me a harmonica, a puppet or a tambourine (Campos, 1951, p. 164).

Xavier (2008) draws attention to the fact that, in the 19th-century, the moral and elementary education of children was habitually conducted by their parents. Humberto de Campos' education followed that standard, and was first undertaken by his mother. It is important to emphasize that she was, according to his own account, "[...] the daughter of a public-school teacher, and the sister of a teacher whom she had helped until she was 23, when she started her own family [...]", and "[...] had beautiful and energetic handwriting, through which she portrayed her thoughts with relative clarity and correction" (Campos, 1951, p. 39). In order to begin learning to read and write, the author claims to have studied an ABC book under his mother's supervision. He describes how he started school at age eight:

In January 1895, my mother enrolled, both my sister and me, in a public school. I had reached the end of the ABC book, and was able to read, with ease, on the last page, 'the love for God is the root of all wisdom'. My sister was beginning to learn her ABCs (Campos, 1951, p. 174, emphasis in the original).

The headmistress of this first school was Miss Raposo, described as "[...] small, gentle, gracious, with light brown skin" (Campos, 1951, p. 175). The school was in the teacher's family home and was attended by poor children. The description of the classroom tells us of a large, room with brick floors and low ceiling, furnished with "[...] a low stage where the teacher's desk was [...]" and, placed in front of it, "[...] wooden benches, narrow and tall [...]" on which sat "[...] children of both sexes, and of all the colors, of which the demographics was comprised" (Campos, 1951, p. 175). Campos mentions the basic printed materials to teach reading, writing and arithmetic, the Alphabet book and the multiplication table, in the hands of the children who "[...] yelled, with all their might, while swinging their legs in the same cadence" (Campos, 1951, p. 175, emphasis in the original), while reciting spelling exercises. This is the first reference to the practices used to teach arithmetic in the book. They are similar to those employed to teach reading and writing, which as Campos points out, were chanted by the beginners in a more somber tone:

Two and oooooone – three,
Two and twoooo – four,

Two and threeee – five,
 Two and foouuur – six,
 Two and fiiive – seven,
 Two and siiix – eight,
 Two and seeeven – nine,
 Two and eiiight – ten,
 Proof by nine, one

According to the writer, for more advanced students the chant was different, and more cheerful, though more complex:

Five ‘time’ five – twenty-five,
 proof by nine, seven.
 Carry two;
 Five ‘time’ six – thirty,
 proof by nine, three.
 Carry three.

Campos is describing a one-room schoolhouse, where a single teacher taught students at several different levels together. He emphasizes that, as the chanting went on, few students were actually looking at the ABC chart or multiplication table: they were more interested in gazing out the window, and observing the activity in the street, and that each one worked hard on “[...] screaming the loudest [...]”, so that the teacher, who often remained in another room inside the house, “[...] recognized their voice and considered them studious” (Campos, 1951, p. 177).

The school day, as Humberto recalls, lasted from 10 to 14, and as a ‘distraction’, at noon, everyone would sing *Hino ao trabalho*⁵:

Work, brethren,
 for work brings life, health and vigor,
 And from the orchestra of saw and mallet
 Spring hymns, cities and love.

The author further explains that, although he had expressed a strong desire to learn at home before, the experience of his first incursion in school was extremely disagreeable compared to learning from his mother in an environment of freedom. Campos recalls living that school shortly after joining, due to his family moving to a residence too far away from Miss Raposo’s. He claims that, in the middle of 1895, the absence of a primary school at

walking distance from home, led him to once again resume his reading and writing studies solely with his mother. In this period, he recalls studying, during the day the first and second books of reading of Hilário Ribeiro and Felisberto de Carvalho⁶, and that, in the evening, his mother would correct his reading and teach him calligraphy. The study of arithmetic is not mentioned as a domestic practice. This shows the greater importance given to reading and writing, in elementary studies.

Soon, Humberto was enrolled in another school managed by a woman, Miss Marocas Lima, which was mainly for girls, but took boys on occasion. Once again it was a one-room school at the teacher’s family home.

It was located at Duque de Caxias, in a small, high-sidewalk house, with a door and two front windows. The front room, which opened directly to the street, was dedicated to the school. Across from the door, against the wall, a single roll of twelve or fourteen chairs for the boys. On the opposite side, in two rolls sat the girls. And between these, facing the street, was the table of Miss Marocas Lima, our ‘teacher’ (Campos, 1951, p. 204, emphasis in the original).

Miss Marocas was married with no children, “[...] frail, sweet, sad and silent [...]”, “[...] who, with her silence and sorrow, exerted unyielding authority” (Campos, 1951, p. 205). The former student reminisces nostalgically as “[...] one of those devoted soldiers of elementary education, angelic but inflexible combatants in a crusade against Ignorance” (Campos, 1951, p. 207).

Campos recalls his first contact with this new teacher, during which, in order to assess the level of the new student, she asked him to read the first lesson of Hilário Ribeiro’s third book. As he had previously memorized the text, the story of a Jumping Jack, the author, deluded with the possibility of “[...] performing the most beautiful deed in the world [...]”, closed the volume and started reciting, “[...] from memory, at full speed [...]” (Campos, 1951, p. 211), which provoked the teacher’s immediate reproach. He then proceeded to read, “[...] face red and ears flushed, [...]” (Campos, 1951, p. 212), and the teacher, satisfied, assigned a more advanced lesson. However, in the book, this episode marks the first of a series of situations when the student was ridiculed in front of the 40 or 50 girls attending Miss Marocas’ school, who had rewarded his first fiasco with widespread laughter.

As a consequence of a physical dislike on the part

⁵ The Ode to Labor is a poem from the Portuguese poet António Feliciano de Castilho (1800-1875, authors translation). Cf. Portugal (2015).

⁶ These two authors are among the first to produce materials for teaching reading and writing in Brazil. The first edition of the work of Hilário Ribeiro dates from 1880 and Felisberto de Carvalho’s from 1892 (Frade, 2012).

of the girls, he was made into “[...] an object of derision and mockery [...]” of colleagues. Humberto reports that the alternatives were: accept this humiliating condition, not return to school or excel in his studies, “[...] thus dissipating the bad impression caused [...]” (Campos, 1951, p. 213, emphasis in the original), and he adopted the latter. This leads to a longer description of practices for teaching arithmetic, in *Memórias*. The author describes the conduction of an activity, on Saturdays. An examination or ‘inquiry’, during which the paddle was used, as punishment, by the colleagues themselves, on those who made mistakes.

Standing in a semicircle, students of the same class, the ‘mistress’ sat in her chair, facing them. Then, the examination, or ‘inquiry’ of the multiplication table began:

- Eight times four?

The student was supposed to answer promptly without hesitation or further thought:

- Thirty-two.

- cast out nine?

- five, as three and two equals five.

Taking advantage of the answer, and the final digit, the teacher proceeded to ask a student at the other end:

- times five?

- next... next... next... – she would say, choosing new targets, as the student hesitated.

- twenty-five.

- Cast out nine?

- seven!

- Paddle! –Miss Marocas announced.

The student who had succeeded would take the paddle, from under the table, and go around administering punishment to colleagues, who had given wrong answers, with strikes, some violent, others less so, depending on mutual friendship, or animosity, among them. (Campos, 1951, p. 214-215, emphasis in the original).

Humberto says that, in order to excel in his studies and take revenge on the girls, he quickly became “[...] reasonably knowledgeable about the multiplication table [...]” and therefore, could, “[...] with sheer delight [...]”, hold “[...] with his short and thick commoner hand, the delicate fingers of fourteen or fifteen-year-old girls, in order to give a sure and noisy strike [...]”, that “[...] on occasion, made them blush” (Campos, 1951, p. 215). Nonetheless, failures still happened, and he kept

being the target of his classmates’ mockery, and defended himself “[...] against nicknames and any other attempt of ridicule [...]”, with “[...] a good memory for the table, a heavy hand for spanking” (Campos, 1951, p. 217).

The author points out that Miss Marocas was no different from all other primary schools of her time, that is, often used rigorous and humiliating physical punishment: making the students spend the whole afternoon on their knees, or wearing cardboard hats with words like ‘lazy’, ‘stupid’, ‘spoiled’ “[...] while standing, at the doorstep, with an open book” (Campos, 1951, p. 218). He adds that he doesn’t recall ever exhibiting such a hat to passersby, but also admits that this could be modesty on the part of his memory.

Humberto minutely describes events of his school life, referring to colleagues and friends. However, after some time, the worsening of the family’s economic conditions led them to move to a fishing village, called Mariana, for more than a semester, and to the consequent withdrawal from Miss Marocas’ predominantly girl’s school. Humberto considered his stay at the fishing village was, a ‘course in mischief’, which converted him from a “[...] mere student of impishness [...]” into “[...] a doctor, magna cum laude, in all such disciplines, or rather indisciplines” (Campos, 1951, p. 259). He describes himself, at that point, in 1897, as ‘wild, insolent, rude and fearless’, fluent in a comprehensive ‘repertoire of curses’ (Campos, 1951). And, it was around that time that his mother, having lost all hope of giving him a better future, took him out of school, so he could become an apprentice. That is how Humberto started as an apprentice at a tailor shop, in the city of Parnaíba, where he worked until his well-to-do paternal uncles suggested that he went back to school, while also working as a clerk for one of them.

Commerce had been my father’s occupation, and the foundation of the wealth of his living brothers. It was preferable to sell patches, as a dealer, then to cut them, as a tailor. And it was urgent, above all, to seize my hours, to occupy every minute of my day, consecrating them to the god of Work, so as not to spare a single minute to the demon of idleness.

I thus turned to books, enrolled at ‘Externato São José’, by Professor José Serra de Miranda (Campos, 1951, pp. 275-276, emphasis in the original).

This boys’ school, another one installed in the teacher’s residence, is the penultimate attended by Humberto de Campos mentioned in the book. The author emphasizes the fact that, similarly to other

male schools in the city, it did not have any sanitary facilities. The students had to ask the master's permission to satisfy their physiological needs in a 'stream' behind the house. The furniture was precarious and uncomfortable, as the former student points out.

The furniture of 'Externato' was similar to that of any public school in the city. Narrow, long benches lined up opposite to the teacher's desk. Next to that, there was another table for the 'dictation'. There were no desks, or support for the books or arms. [...] Only some more fortunate students can (sic) bring their chair to school. In 'Externato São José' the latter were no more than eight or ten, in the front row, forming the 'staff' of the establishment (Campos, 1951, p. 278, emphasis in the original).

The school of José Serra de Miranda, frequented by the writer between 1897 and 1898, had a good reputation and, with a single teacher, simultaneously served about 80 students. The headmaster and teacher was responsible for teaching "[...] Portuguese, Latin, French, English, arithmetic, geometry, algebra, trigonometry, world history, sacred history and whatever else he saw fit" (Campos, 1951, p. 279). Education, however, consisted, according to Campos, solely in "[...] lectures and evaluating lessons [...]", "[...] rote learning" (Campos, 1951, p. 279). The parents of the students were convinced that the teacher was a great scholar by the books he demanded from them. Furthermore: "[...] in very little time, their sons would be transformed" (Campos, 1951, p. 279). Another noteworthy detail given is that high school students would teach elementary school pupils: "Those who had not learned had the right to pass on their ignorance and use the paddle at their discretion" (Campos, 1951, p. 279). For this writer from Maranhão, this instrument of punishment was considered in the 'Externato' a domestic deity which was adorned with bows and ribbons during school festivities⁷.

Campos writes about Serra de Miranda in detail, describing him as a former seminarian, who was an odd character in a city where there was only on vicar. The headmaster was quite moody, and the atmosphere at the school would vary accordingly. If he was crossed, "[...] the paddle would clap all afternoon, as if it suddenly had gone insane" (Campos, 1951, p. 284). Sometimes, he would call a

'suetus', that is a recess, and he would distract himself by throwing biscuits at the boys. Then, when the resulting chaos was installed, out came the paddle again. Despite those characteristics, Serra de Miranda had exquisite literary taste, and was the sole contributor to the only newspaper in Parnaíba, a bimonthly paper that would be printed during election time, and wrote a novel as a sequel of the book *Quo Vadis?*.

Humberto de Campos observes that the 'peculiarities' of the teacher ultimately led families to withdraw their children from his school. At the same time, another former clergyman came to Parnaíba, Antônio Saraiva Leão, who founded Colégio Saraiva, a coeducational school, with segregated classrooms. It was there, that the author took his one and only 'academic examination', taking the 'public proficiency exams' in December 1898. The headmaster, who had charged the parents in advance, in order to conduct the public examination ritual, served the students, "[...] soup, sponge cake, and a glass of Port [...]", after the examination (Campos, 1951, p. 302). Even though he had gotten questions on grammar and geography, which were not his strongest suit, Humberto claims that he obtained full passing status. He further points out that he believed the teacher did not reopen the school the following year.

The references to Colégio Saraiva represent the last academic episode narrated in the book. The account emphasizes the extreme poverty his family was enduring at this moment in his life. At age 12, Humberto left the academic environment and started to work; first in Parnaíba, where he worked successively as 'broom-clerk', at one of his uncle's shops, seamstress assistant for his mother, who manufactured socks, and as an apprentice in a printing company. Finally, in 1900, a paternal uncle, Franklin Veras, offered to take him to São Luís, and try to find him a position in the commerce of the capital of the state of Maranhão. There, the author continued to work as a typographer. The first part of *Memórias* ends with the writer as an employee of the large commercial company of a Portuguese man called José Dias de Matos. That is where he spends the last day of 1899 and witnesses the beginning of 1900, in the last chapter of the book.

Final Considerations: the common and the particular in the experience in mathematical education narrated by Humberto de Campos

Humberto de Campos attended few school spaces, but recorded many aspects of his experience in these spaces in his first memoirs. In the

⁷ Viriato Corrêa (1884-1967), another author from Maranhão, on the first pages of his book *Cazuza* (Corrêa, 1969), mentions the 'paddle party' as a common event in the 'backlands of the North', when he was a child. He claims it was an opportunity for the students to take revenge on colleagues, at the end of each academic year. As Humberto de Campos, Corrêa also describes punishment exerted at the school frequented by his character, Cazuza, mentioning kneeling on grains of corn or making the repeated offender wander the streets wearing a hat that emulated donkey's ears.

investigation of the author's memorial writing and exploration of some of such reports, elements common to other literary narratives can be identified. This is also the case of works by José Lins do Rego, studied by Galvão (1998), in her work about the daily life of the first elementary schools, in the state of Paraíba, in the period between 1890-1920.

Similarly, to that work, reading Campos' book enables us to observe single-classroom schools that operated inside teachers' homes, with classrooms comprised of students of different levels and ages, and, in some cases, segregation of boys and girls. We can see the use of improvised spaces; in general living rooms in the teachers' residences, that had only rudimentary and uncomfortable furnishings, and did not provide sanitary facilities for the students. These conditions were reported in many studies about elementary education in Brazil, before the creation of the first elementary schools, in the state of São Paulo, in 1893. Faria Filho (2003, p. 140), for instance, points out that the elementary schools in Brazil, since the colonial period, "[...]often times, operated in the residences of teachers, or, mostly in farms, in precarious spaces [...]" and followed individual teaching methods. It is precisely this picture that Humberto de Campos' narratives paint.

Regarding pedagogical work, similarly to what Ana Galvão (1998) observed in her study of schools in Paraíba, in the schools depicted by Humberto de Campos, we detect a lack of time dedicated to explanation of academic content, on the part of the teacher. The teaching described by the autobiographer consists in marking and evaluating teaching points that the student had to learn by themselves, using the ABC chart, with its spelling exercises, and arithmetic as a guide (in Campos' book, explicitly, we can find examples of addition and multiplication, followed by the 'proof by nine'). Reciting the results from the multiplication table, and making syllables by joining letters together are collective chanting practices. Similar to what occurs in societies where the oral tradition still prevails (Galvão, 1998), rote learning and memorization are still the bases of instruction.

Such teaching methods appear inexorably linked to punishment in many testimonies of former students who wrote memoirs. As Souza (2000, p. 93) points out,

There is no memory of students from that time which does not include the terrible encounter with the paddle. It could be applied to distracted or recalcitrant students, other times it resulted from the

mood of the teacher, or was used in exams, or in the fateful correction days.

In Humberto de Campos' memoirs, the paddle, a symbol of "[...] the power of the teacher, the power of school, the power to threaten and inflict pain [...]" (Galvão, 1998, p. 197), comes into play in the situations listed herein. Besides the physical punishment, brought about by the paddle, there are reports of humiliations endured by students, exposed to mockery from their peers and even strangers. Such situations are also mentioned by Ana Galvão. The book in question further shows that the use of the paddle was not a sole prerogative of the teacher, as students could at times inflict spankings on colleagues.⁸ Physical punishment and the use of humiliating 'hats' in front of colleagues and passers-by are described as natural in Campos' narrative. This shows that such practices were still very much in use, in Republican Brazil, at the end of the 19th century, despite having been prohibited⁹ by law, since the empire. Souza (2000, p. 94) points to the fact that physical punishment is consistent "[...] with the only socially recognized manifestation of authority; with the brutality of relations of domination at the time, in politics, in work, in the army, the family and between couples [...]" and "[...] an emblem of the teaching profession".

There are not many specific references to mathematical education, in the autobiographical writing by Humberto de Campos, a student who barely attended school. However, we believe that understanding the participation of mathematical knowledge in elementary schools is not possible without examining the practices developed in those scenarios, in which mathematics does not reveal itself in a remarkable or distinct way (Garnica, 2010). As we have tried to show, the school practices narrated by our autobiographer are common and have often been observed in other sources, especially other self-referential texts.

Notwithstanding, we must always remember that history is not simply the concatenation of information about dates and events. Literature, of which one manifestation is autobiographical writing, is important for our understanding of the sensitivities of an era, the values, reasons, and feelings that moved the civility and determined the atmosphere of a moment in the past. Moreover,

⁸ The habit of students spanking their colleagues with the paddle is also described in *Cazusa*. The book mentions a 'handwriting competition' at the school of Master João Ricardo, which consisted in a dispute between colleagues for the most beautiful calligraphy. Corrêa (1969, p. 50, author's emphasis) claims that the prize for the winner "[...] was to take the paddle and punish the loser with a dozen strikes.

⁹ Souza (2000) as well as other authors refer to a Decree of the Emperor forbidding the use of the paddle.

literature is fundamental for our understanding of how men represent themselves and the world (Pesavento, 2003). Along with educational / school events and practices, such aspects are worthy of study, in regard to mathematical education, at any time. It is also these aspects that distinguish the writing of the memoirs of Humberto de Campos. In relation to the author's intentions (a theoretical/methodological parameter that we have emphasized), as Agra (2014) points out, this writing is not solely motivated by the financial or economic reasons of an individual, who, at the time of production, underwent severe hardship, though had achieved public renown. The author, terminally ill, since 1928, sensing the end of his journey¹⁰, turned his gaze to the past as both a possibility of scaping his present condition, and offering a pedagogical confession to his readers. Humberto de Campos intends his narrative to be an example "[...] of an individual who ascended from total anonymity to relevant positions, overcoming the many difficulties he faced" (Agra, 2014, p. 240).

As exemplified by *Memórias*, the focus of the present work, other autobiographic narratives have shown that, as schooling is an experience that marks people's lives, and mathematical knowledge plays a significant role, from the very beginning, we often find in such texts indications of different organizational practices, teachers' behavior, and the manner through which they teach, as well as classroom environment. Therefore, it is possible to observe facets of school mathematics culture which are distinct from those offered by other documents. Autobiographical writing offers representations on mathematics and mathematics teachers, elaborated by students, and reconstructed by adults when they attempt to write about their memories.

Thus, research that uses autobiographical narratives, even if it does not provide new information about educational legislation, over time; curricular reform; teaching programs; textbooks; norms established for the various types of teacher training, for teaching mathematics; are valuable evidence of the uniqueness that could not otherwise be uncovered without such sources.

When studying the memoirs of Humberto de Campos, a writer from Maranhão, focusing on the aspects of his rather erratic school career, in the interior of Piauí, at the end of the 19th century, we

believe we have contributed to the investigation of the history of mathematical education by examining the values, reasons and emotions of an individual regarding mathematics education, at that moment in time.

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¹⁰ According to Agra (2014), the illness and its painful treatment may have significantly contributed for Humberto de Campos's fear of dying before he could finish his story and, as result devoting himself so intensely to writing it. Agra points out that, in recounting his life, Campos sought to extract lessons to offer his public. The scholar also claims that the autobiographer, then only 46 years old, "[...] felt life fading away, and was very much aware that physical death was near, and social death had already occurred" (Agra, 2014, p. 236).

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