



Noemy Silveira, Isaías Alves, and educational psychology: dialogs between Brazil, France, and the USA

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Abstract

This article relates the intelligence testing experiments conducted by Isaías Alves and Noemy Silveira to the broader context of how psychological concepts moved within the Brazilian educational field. Their work acts as a resource to understand how this movement occurred, indicating the different events that helped shape the understanding of this tool. The goal is to show how, even despite their similar initial interests and shared experience at Columbia University, Alves and Silveira did not use the same strategies during their work to apply these tests in schools while they both headed psychology services for the boards of education in São Paulo and Rio de Janeiro.

Keywords: intelligence tests; movement of ideas; Teachers College; Noemy Silveira (1902-1988); Isaías Alves (1888-1968).



The objective of this article is to link the intelligence testing experiments conducted by Isaías Alves and Noemy Silveira¹ to a broader context of how conceptions of psychology moved within the Brazilian field of education. Their work functions here as a resource for understanding how this movement took place, indicating the different events that helped shape understanding of this tool. To do so, this work not only recognizes the importance of foreign psychologists in Brazil and the specializations obtained by educators in the US and Europe (as suggested by the historiography on the topic), but also contributes to a debate that locates these intellectual exchanges within the more expansive context of cultural diplomacy (Suppo, Lessa, 2013). At the same time, the objective here is to show how even though these two psychologists shared similar interests and experience at Columbia University, Alves and Silveira did not use the same strategies to tackle the difficulties they encountered during their work with educational psychology (Rocha, 2016).

In this article, it is important to look at these exchanges as one way psychological theories were disseminated in Brazil. My interest lies especially in the theories addressing the development of a set of tools to measure individual mental development: intelligence tests. Consequently, both the reports detailing the implementation of these tests in schools in São Paulo and Rio de Janeiro as well the other publications by Alves and Silveira about the importance of homogenizing school classes will be used here as a way of understanding each of these researchers' translations (Bourdieu, 2002) of these tools.

Isaías Alves and Noemy Silveira: trajectories to training

Before describing the tests, let's present the main characters. Although they occupied similar positions in the early 1930s, Isaías Alves was born 14 years ahead of Noemy Silveira, in 1888. Both were born in the countryside: Silveira in Santa Rosa de Viterbo, São Paulo, and Alves in Santo Antônio de Jesus, Bahia. Alves obtained a degree in legal sciences in Bahia in 1910, while Noemy Silveira graduated in elementary education from the Brás Normal School in 1918.

Despite their different academic backgrounds, there were frequent coincidences between the professional trajectories of these researchers. Both acted as teachers before traveling to New York to further their studies: she, at the Caetano de Campos Normal School, and he at the *ginásios* of Bahia and Ipiranga. Both also conducted research in the area of educational psychology. Isaías Alves tested his first test adaptations on students at the Ipiranga *ginásio* during the 1920s. Noemy Silveira came in contact with this theory in 1925, when she became the assistant to Lourenço Filho, who chaired the department of pedagogy and psychology at the Caetano de Campos Normal School. While Isaías Alves was testing his version of the Binet scale in children at the *ginásio*, Noemy Silveira worked with Lourenço Filho on the "São Paulo" version of the scale.

When they traveled to New York, Silveira and Alves attended classes in disciplines related to educational psychology, and much of what they learned was applied in their subsequent experiments. During the second half of 1930, both attended classes at Teachers College, Columbia University. While this was Alves's first trip to the United States, Noemy Silveira was returning to Columbia on a scholarship from the Macy Student Fund. She had

previously spent time in the US studying vocational guidance as part of her activities during a trip to the country promoted by the Brazilian Education Association (ABE). In addition to this difference, it is noteworthy that even though both had an eye on the American “testing movement,” they chose different courses, perhaps because of the disciplines which were available.

These choices also indicate the plurality of points of view involved in the American educational debate, which they witnessed. Very superficially, we can say that while the discussion in Brazil focused on the question of elementary education, in the US the expansion of secondary education was being debated, reflecting on the usefulness of the traditional system of teaching for a public that was considered more heterogeneous. What was at issue was the universality of the curriculum that became known as “traditional.” This model, with its strong emphasis on teaching the humanities, was seen as crucial for students who wanted to pursue an academic career (Kliebard, 2004, p.8). However, this was not the case for students who opted for technical careers, or those who planned to conclude their studies at the secondary level. Many educators believed that the usefulness of disciplines such as Latin and Greek for these people should be considered. Furthermore, it was necessary to consider what American society, modified by its industrial economy, would gain from investing in this type of classic curriculum.

Other names besides John Dewey and William Kilpatrick (who are extensively studied in discussing these changes) are significant to understand the ideas defended by Noemy Silveira and Isaías Alves, such as Edward Thorndike and Arthur Gates. While Dewey argued for a renewal of the educational system based on reflections on the role of education in a democratic society, Thorndike and Gates pointed their response to the dilemmas within American education in another direction, which was embodied in revising the content and methods considered fundamental for the overall formation of citizens. Faced with the philosophical concept of whether disciplines were essential to school-based learning, these men tackled the problem using empirical studies, for example addressing the effects of teaching mathematics or the issues involved in learning to read. These results were then used to confirm (or deny) the usefulness of school subjects, as well as the methods employed in teaching.

During the time he taught at Columbia, Thorndike conducted extensive research on psychological testing, creating assessments which ranged from standardized tests to measure learning to intelligence tests. His statistical work served as a parameter for research in educational psychology, emphasizing the importance of quantitative work in this area. Besides this research, Thorndike published books which became references for the field, like *Educational Psychology* (1903) and *An Introduction to the Theory of Mental and Social Measurement* (1904).

Meanwhile, Arthur Gates focused his studies on teaching reading. One of his most popular books, *The Psychology of Reading and Spelling* (1922), was the result of research he performed in a New York school with 134 students; 105 students took all the tests, and 25 had some reading-related difficulty pointed out by their teachers. Gates applied a series of tests in these students, most of which were specific to each grade level or even to measure a particular skill such as visual stimulus or sensory-motor reaction. From there, he examined

the skills needed for the child to learn to read, and identified problems that could explain some of the difficulties encountered, which were related to problems with vision, hearing, or even motor coordination (Gates, 1922).

Gates's studies were especially important for Isaías Alves and Noemy Silveira because they indicated the correlations in their work between the results of intelligence tests and learning to read. In this sense, it should be noted that both researchers focused on the problem of learning during the first years of schooling, when both reading and mathematics play a fundamental role.

One of the intersections I point out between Noemy Silveira and Isaías Alves is their period of specialization at Teachers College, where Thorndike and Gates carried out their work. A closer examination of this college, and particularly the International Institute where Silveira and Alves studied, demonstrates how this experience could have differed. There was generally a basic package for foreign students who registered at the college featuring courses that introduced American culture and excursions to model schools (International..., 1939). However, the regular subjects available to students offered the possibility of specializing in a particular area (as Isaías Alves and Noemy Silveira did), or even developing a broader vision of American educational philosophy (which was the case for Anísio Teixeira).

Silveira completed her studies at Columbia in two stages. In the first, in January 1930, she participated in an educator mission organized by ABE in partnership with the Institute of International Education and the Pan-American Union, which received funding from the Carnegie Endowment. There she more deeply studied vocational guidance, and observed the American school system through the program's excursions for foreign participants. Two factors indicate her prominence in the group: first, the report she drafted on her experimental work with psychology in São Paulo, which was published in the periodical *School Life* (Silveira, 1930). Then she was named a Macy scholar, which ensured her return to the university in August 1930.

During her second trip, Noemy Silveira did not fully complete the 1930-1931 academic year. She took classes in fewer disciplines than Alves, but still came in contact with two professors who were central in the debate on American education: William Kilpatrick and Arthur Gates. Her "premature" return was compensated by her nomination as head of the São Paulo Applied Psychology Service (SPA), a post Lourenço Filho had recently created in February of 1931 (Monarcha, 2009).

Isaías Alves arrived at Teachers College in July 1930. Unlike Silveira, Alves took full advantage of the package offered by the International Institute: courses for foreign students, the summer course, regular disciplines, and excursions to schools around the country. His experience helped him consolidate his theoretical perspectives on the usefulness of psychology in the field of education, while he observed how these ideas manifested in scholastic practice.

In his report, Alves (1933) explored American education but did not neglect to think about the utility of its methods for Brazilian schools. In this sense, he made the differences between the two educational systems quite clear, highlighting the factors he believed relevant in order to adapt these methods to the reality in Brazil. Shortly after his time at Columbia, he assumed the leadership of the Tests and Scales Service, which was created

by the General Board of Public Instruction in the Federal District (at that time, Rio de Janeiro) under the direction of Anísio Teixeira in October 1931.

We can say that in Edward Thorndike and Rudolph Pintner, Isaías Alves found the underpinnings of his defense of homogeneous classes, as well as the importance placed on the development of educational psychology in Brazil to advance reforms. It is not coincidental that along with his master's degree, he returned as a certified Instructor in Psychology. Noemy Silveira's path was similar to that of Isaías Alves, applying a repertoire in her practice that came from Columbia through subjects like educational statistics with Helen Walker, which gave her work a complexity that led Isaías Alves to describe it as "perfect" (Quinta conferência..., 29 dez. 1932). Still, it is Alves that appeared in the newspapers as the specialist, and "the most knowledgeable expert on testing in Brazil" (Quinta conferência..., 29 dez. 1932).²

For both, their experience at Columbia left its mark on their practice as well as the references and instruments they used as the base of this practice, starting with intelligence tests. Here, the American dream was to organize potential and efficient classification. Democracy expresses itself in a school that can serve everyone not because the situation changes radically, but because it uses scientific means to rationalize the resources on hand. This seems to be the route chosen for the psychology departments in São Paulo and Rio de Janeiro.

The work they developed speaks to the references that precede the trip, but Teachers College had a very significant influence. The greatest contrast is seen with Noemy Silveira, whose initial bibliography of research (such as the project she presented at the Second National Education Conference) was entirely in French.³ She also later dedicated herself more specifically to the field of educational psychology, far from the workplace psychology⁴ that predominated in her initial writings. During her activities in the SPA, she also decided to use an American tool in her experiments: the Dearborn intelligence test.

Isaías Alves had already worked with American theory before the trip, as indicated in the analysis written by Rafaela Rabelo (2018) about his earlier books (Alves, 1928, 1930). Comparisons like Rabelo's permit identification of new the references that Alves incorporated into his work, such as those related to mathematics teaching (Rabelo, 2018), or even the tests chosen to apply in schools in Rio de Janeiro, like the Pintner-Cunningham assessment (Alves, 1932a). It should also be mentioned that in the 1920s, Alves chose to study Binet from Burt's London adaptation of this assessment instead of Terman's Stanford-Binet test.⁵ The work that Alves conducted after his trip shows that he expanded his range in terms of the variety of intelligence tests he was familiar with and able to work with, and also developed a more profound theoretical basis for his arguments defending homogeneous classes.

Why intelligence? Considerations on the "homogeneous classes"

The experiments conducted by Isaías Alves and Noemy Silveira in the 1930s contain a seemingly simple principle: if one of the main difficulties encountered in the school system was student heterogeneity, a system could be created to facilitate the work of the teacher

by dividing the children into groups that were not only relatively homogeneous in terms of age, but also with regard to intelligence level. From there, it was up to the teacher to develop classes that corresponded to the learning potential of these groups, which were generally classified as weak, medium, or strong.

Intelligence tests were crucial in making this organization work. The students needed to be tested periodically, and the division into classifications also demanded careful observation by the teacher in order to make adjustments, if necessary. The proponents of this idea believed that this new division was productive for everyone involved. Teachers would have a more accurate idea of the content they could teach the students, who would not waste time and energy on subjects that were beyond their cognitive level.

In contrast, the educators who criticized these tests, such as Sud Menucci, argued that in Brazil it was necessary to look for solutions to our problems, rather than “random formulas and recipes” (Comentário..., 17 jul. 1930). And Hermes Lima, in an article about Isaías Alves’s book *Os testes e a reorganização escolar* (1930), defended the quality of the work it contained as well as Alves’s experiments, but indicated that some “scholastic environments” viewed this tool with skepticism. According to Lima (15 maio 1930), “now that the initial minute of interest in the issue of tests has passed, today they are encountering the general indifference of our educators.”

While they discussed the usefulness of intelligence tests, what was really at stake was the model of expansion for the Brazilian educational system, which in turn was related to the advent of the Republic. It is in this context that the ideal for national modernization and belief in the role of education as an element to transform the country converge. Alves and Silveira both had the discourse associating science with modernity on their side, which also saw psychological knowledge as one of the ways for “science in school” to take shape. In *Teste individual de inteligência*, Isaías Alves (1932a, p.21) summarized part of this question, stating that “in light of psychological experimentation, the educator ceases to be a simple artist to become a man of science.”

Although the debate on each student’s learning potential may seem abstract against the challenge of establishing a national education system, intelligence research in Brazil responded to a very concrete problem: the high repeat rate for the early grades. According to Noemy Silveira (1931, p.3), in 1930 in São Paulo “the total number of children who reached the fourth grade of primary school did not attain 7% of overall enrollment.” Furthermore, some students repeated first grade five times. In the case of the Federal District of Rio de Janeiro, half of the school population was concentrated in the first grade in 1930 (DEDF, 1934). By repeating this grade, these students filled spots meant for other children who should have been entering the school system, which was still insufficient.

Based on these numbers, Isaías Alves and Noemy Silveira began to work on applying intelligence tests in primary schools in the Federal District and São Paulo. These tests provided the data necessary for a new distribution of students into grades according to mental level. In principle, the first “homogenized” classes would be experimental and open the way for broader application of this idea.

From special classes to collective testing: France, the US, and Brazil

Understanding the point of view of these intellectuals requires an approach involving drastically different educational systems: French, American, and Brazilian. The storyline I follow in this narrative is the establishment of compulsory education at distinct moments in history and the consequent expansion of national education systems. In France, primary education became compulsory in 1882 (Schneider, 1992). In the United States, compulsory education laws were enacted in a diffuse process beginning in Massachusetts in 1852 and ending in Mississippi in 1918 (Katz, 1976). In Brazil, the question of literacy was still the primary focus in the debate among educators, but the 1891 Constitution determined that the states were to organize their own educational systems. It was consequently the emergence of schools for the masses that established a common language among the intellectuals who were part of this debate. More than the school itself, the convergence they created around reflection on the problem of learning and its mechanisms deserves consideration. Each tried to find solutions to the challenge of student heterogeneity, which was characteristic of expanding national education systems, from knowledge that was still solidifying as a field of autonomous research: psychology.

The reference in time used to understand the separation of psychology as an autonomous discipline of philosophy is the founding of the first Experimental Psychology Laboratory in Leipzig by Wilhelm Wundt in 1879. To Saulo Araújo (2009, p.9), what matters more here than the foundation of this laboratory is to consider this institution the “first international training center for psychologists,” who founded other experimental psychology laboratories in their own respective countries after their periods of training in Germany (p.12). This empowerment is also linked to the ties that developed between this discipline and the scientific parameters of that time, which relied on the experimental paradigm as one of their supporting foundations. In this sense, the development of laboratory experiments, measurements, and production indices, as well as indications of their practical usefulness, were fundamental for this separation.

In Brazil, the first psychology laboratories were founded at the beginning of the twentieth century and linked to teacher training and hospitals (Piñeda, Jacó-Vilela, 2014, p.2.016). Notable among psychology laboratories located within educational institutions were the Pedagogium, founded in 1906 under the influence of Binet’s ideas (Campos, 2005; Gomes, 2004) and directed by Manoel Bomfim, and the psychology laboratory at the Caetano de Campos Normal School, which was inaugurated in 1914 and led by the Italian Ugo Pizzoli (Centofanti, 2006, p. 31). According to Piñeda and Jacó-Vilela (2014, p.2.022), during the 1920s “experimental devices began to be replaced by psychological tests.” It is within this context that early studies proposing the use of mental tests as a tool to homogenize school classes arose. Note that the dialog between psychology issues and the political problems faced by the educational system was also connected to the still-scarce autonomy of this system; it is important to bear this in mind as we discuss the experiments conducted by Isaías Alves and Noemy Silveira, which were clearly linked to renewal policies that were controlled by the proponents of the New School.⁶ While the leeway they received to conduct their experiments was favored by the search for innovation

in educational practice, we must add that the same can be said of the institutional contexts that permitted these experiments to flourish in other countries such as France.

The work that Alfred Binet and Theodore Simon conducted involving intelligence tests in Paris in 1904 was only possible in terms of scope and breadth after the French government established a commission to identify students with special needs, which became known as the “abnormal commission.” When he was part of this commission, Binet focused on two issues: “Diagnosis of the states of mental retardation and the education of abnormal children” (Zazzo, 2010, p.14). His test was consequently created in 1905 to address the problem of scholastic delay. To do so, he drew up a set of questions and answers intended to measure the mental development of each child, making it easier to select those who required more individual attention.

But the path from this tool meant to measure the “mental development” of Parisian children to the development of the tests that Isaías Alves and Noemy Silveira would implement in Brazil was a long one. The principle of the tests remained the same: it was up to the examiner to use a series of previously-developed questions and tasks to obtain a rating from the children’s performance that would classify and sort these children in the school environment.⁷ But while the development of psychometrics in France focused on the individual, in the US the Binet tests were directed toward a collective approach, with adaptations for large-scale applications. Within this context, intelligence was less concerned with the idea of merit or talent and more with the possibility of adapting to the school system (Carson, 2007).

This is how many Brazilian educators viewed the tests, as a tool offering the ability to direct educational resources to the right students. It was the foundation for Isaías Alves’s (1932a, p.4) statement that one of the ways to reduce education expenditures was to “increase school efficiency.” Noemy Silveira (1933, p.117) stated that with the adoption of this measure, “there would savings of public funds, thanks to the acceleration of the talented.” But the defense of homogeneous classes was not only seductive for the financial savings it offered: it also allowed individual attention to be reconciled with the massification of education. In the words of Silveira (1933, p.117):

With the system we propose there are no failures. If a student is unable to accompany the normal degree of progress, he is placed in a group with qualities similar to his own, where he would no longer be the ‘exception’ and in which individual teaching methods would permit him to enjoy adequate care.

These findings were supported by several experiments which were mostly carried out in the US and cited in these studies. There we find a convergence of ideas that resulted from a series of encounters between the French, Americans, and Brazilians. It is useful to consider these dialogs as a diffuse process without a fixed trajectory (from the US or France to Brazil) that underwent modifications along the way. Ideas like the Binet tests could be read by Brazilians through American authors, for example. Meanwhile, the books by the American William James began to circulate in Brazil in French editions, and it was in this language that educators such as Roldão Lopes de Barros and Sampaio Dória first came into contact with the thinking of this author (Warde, 2003).

So the paths taken by Alves and Silveira were different. As mentioned, Isaías Alves's early work with the Binet tests started from Cyril Burt's English adaptation. Regina Freitas, who studies the trajectory of Helena Antipoff, says that this psychologist came into contact with American functional psychology through the Swiss neurologist and psychologist Edouard Claparède, who she studied under and assisted in Geneva (Lourenço, 2013). As indicated by William Schneider (1992), even in France the Binet tests began to be seen through the lens of the American uses of this tool.

Thus, this context of intensive exchange serves as a backdrop for statements like the one by Arrigo Argelini which, in a statement to Deborah Barbosa (2011), classified foreign contributions to Brazilian psychology as "extraordinary." This assessment is confirmed by studies like the one by Marina Massimi (1993) examining exchanges between the Brazilians, French, Swiss, and Americans in the field of psychology, which asserted that these exchanges were essential for establishing it as an autonomous field of knowledge in Brazil. In analyzing the process of professionalizing psychologists in a comparative perspective between Brazil and Argentina, Piñeda and Jacó-Vilela (2014, p.2.023) indicate that between 1910 and 1930, "training in psychology was self-taught, through imported books, short trips abroad, and inviting foreign figures."

Many issues that would be discussed by our educators underwent a double translation process: thinking about the issues raised by the foreigners, from their own countries of origin, and considering domestic issues based on the solutions suggested by these reflections. It appears that the result is multiple visions within the same approach, as in the question of learning to read or applying intelligence tests. It is in this sense that comparison between Noemy Silveira and Isaías Alves's experiments becomes more prominent; analysis of the work they conducted indicates that their differences extended far beyond preferring any specific type of school organization. Even though they used similar tools, each one utilized them in a different manner.

Following Bárbara Weinstein (2013, p.17), who pointed out the "constant reformulation of ideas, proposals, and cultural practices from one context to another," the idea here is to consider "the contexts of their movement, implementation, and appropriation" rather than point out the origin of the idea itself. It is consequently important to note the reflections by Werner and Zimmerman (2003, p.95) on the viewpoint from "crossed histories," which indicate the usefulness of emphasizing the plurality of directions and the multiplicity of effects from interactions instead of focusing on a "logic of introduction, dissemination, and reception."

Intellectual exchanges and French and American cultural diplomacy

Although we can discuss knowledge that is constructed within a dialog that evokes multiple scales of analysis (Werner, Zimmermann, 2003, p.102), national interests cannot be ignored since they are also part of this interaction. It is therefore necessary to consider Paul Forman's analysis of the discourse of scientific internationalism in the German case. He believes that this discourse is strongly connected to national interests, despite being based on the notion that scientific knowledge is universal (Forman, 1973). In his analysis,

Forman (1973, p.152) demonstrates how German science was transformed into a political instrument during the Weimar Republic, “artificially multiplying bilateral ties.”

Here, where internationalism and nationalism were mixed, these assessment tools were constructed. Therefore, not only did the interwar context create and expand national education systems which solidified into “schools for the masses,” it also contributed to the convergences we discuss here. This was initially because the scientific discourse of internationalism was also driven by the idea that “international understanding” was the key to preventing another major war. Later, this same goal became the motivation for countries like France and the United States to put these closeness strategies into action, incorporating science and culture into their foreign policy.

The case of French contributions to Brazilian psychology makes this relation quite clear. Many Brazilian educators mention Henri Pierón’s visits in 1923 and 1926 as being responsible for their initial interest in child psychology. According to Monarcha (2008), the French psychologists who visited Brazil during this period “propagandized” the achievements and utility of objective psychology. This was also recognized in the 1930s by Lourenço Filho (2008), and more recently by William Gomes (2004), who wrote an article exploring the book *Tests* by Medeiros and Albuquerque, considered to be among the first Brazilian authors to address the issue of intelligence.

Like Pierón, other French psychologists visited Brazil through the Groupement des Universités et Grandes Écoles de France pour les Relations avec l’Amérique Latine, like Henri Laugier and Henri Wallon (Petitjean, 1996). While Pierón worked in the field of rationalizing work, Laugier and Wallon worked on child development and gave lectures in São Paulo and Rio de Janeiro. According to Petitjean (1996, p.91), the Groupement “was directly founded by scientists, ... and not by state initiative,” in 1907. However, its policy was related to the ideal of diffusing French culture, and after World War I this association began to work in cooperation with the French Ministry of Foreign Affairs (Suppo, 2000). The arrival of these professionals was consequently connected to the French diplomatic strategy to create closer ties, sending its intellectuals to Latin American countries to lecture or even act as visiting professors.

It should also be noted that even before incentives from the Groupement, there were significant intellectual exchanges between Brazil and France. In investigating the relationship between exchanges and the institutionalization of psychology in Brazil, Massimi (1993, p.209) highlights the arrival of “internationally prestigious French experts” who “taught courses, trained researchers [and] provided consulting in the organization of psychological services.” Many of these services were connected to the field of educational psychology, a privileged space for these professionals.

As for the US, the presence of American intellectuals in Brazil was marked by their objective to map educational conditions, as well as the possibility of establishing an exchange policy. Notable American visitors included Isaac Kandel, associate director of the International Institute at Teachers College, Heloise Brainerd, head of the intellectual division of the Pan-American Union, Laurence Duggan, who was sent by the Institute of International Education, and Stephen Duggan, director of the Institute of International Education.

Isaac Kandel's trip to Brazil was part of a project funded by the International Educational Board of the Rockefeller Foundation. After conducting research in the Philippines and China, the International Institute of Teachers College won additional funding from the foundation for a study on the educational systems in Brazil, Uruguay, Argentina, and Chile during the 1925-1926 year (Monroe, 1925). This task fell to Kandel, who visited Brazil in 1926 (A bordo... 24 jun. 1926). Heloise Brainerd also visited Brazil in 1928 (Conselho..., 3 jun. 1928). This trip was part of her itinerary of visits to schools in Latin America, which also included Uruguay, Argentina, Paraguay, Chile, Bolivia, Peru, Ecuador, Colombia, Panama, and Mexico (Brainerd, 1929).

Laurence Duggan, the son of Stephen Duggan, was sent to South America for four months to establish guidelines for the policy the Institute of International Education would define for this region (Espinosa, 1977). Finally, in 1931 Stephen Duggan visited nine countries in South America in order "to discuss or to attempt to solve some problems of cultural or educational cooperation" (IEE, 1931, p.3). While he was in Brazil, Stephen Duggan discussed the establishment of the School of Brazilian Studies, which had a summer course through an agreement between the institute he directed and the Brazilian Historical and Geographic Institute (Um grande..., 2 out. 1931).

Here it is important to emphasize the role these agents played in developing American cultural policy at the time, which was mediated by private initiative. According to Espinosa (1977), despite its encouragement of these cultural and educational exchanges, the American government was not financially involved in any of these programs. As a result, institutions such as the Carnegie and Rockefeller Foundations and the Institute of International Education, along with the Pan-American Union, coordinated the initiatives directed at this field, and are essential for understanding this dynamic. To a certain extent, they were complementary parts of the same process that culminates in what Rosenberg (1982, p.138) called a "cooperative state," when during the 1920s the government more clearly encouraged private initiative to act in accordance with the public interest.

Although in the theoretical area both the French and the Americans contributed to the reasoning that Noemy Silveira and Isaías Alves developed in their defense of the use of intelligence tests in schools, the presence of these intellectuals in Brazil can also be related to this history. Noemy Silveira attended a course on psychotechnical testing taught by Henri Pierón in 1926, and her first trip to the US was negotiated by Laurence and Stephen Duggan, both of the International Institute. Heloise Brainerd received the Brazilian teachers from the ABE mission in Washington, and Isaac Kandel advised the foreign students on the course options they would have at Teachers College.

Although these intersections can be pointed out, our intention here is not to directly relate these characters but rather to demonstrate how travel and travelers were involved in a context that facilitated these dialogs. In this sense, the rivalry between France and the United States in the realm of cultural relations with Latin America is seen here as an incentive for investments that facilitated direct contact between these educators and the foreign intellectuals who influenced them. The dispute I refer to here can be seen in statements by intellectuals involved in these policies, both French as well as American.

When Stephen Duggan recounted his 1931 trip to South America, he stated:

Up to the present time, French culture has been the dominant foreign influence in the cultural life of South America ... Now an involuntary but unavoidable competition due to the very nature of things is taking place between French and American educational and cultural influence in the South American countries. To me, at least, it seems inevitable that the contest will result in the slow supplanting of French by American influence (IIE, 1931, p.5-6).

Like Duggan, other American intellectuals identified the French cultural influence as an element to be considered by American diplomatic policy. This is generally one of the arguments supporting the defense that the US not only would host Latin American intellectuals, but also send its own scholars to this region as part of this strategy (IIE, 1929).

Meanwhile, the French did not ignore American advances in this field. This aspect is evident in Petitjean's exploration of Charles Nicolle's discourse in Mexico, also in 1931. This author recalls that after reaffirming French supremacy in the field of culture, Nicolle (quoted in Petitjean, 1996, p.99) stated: "We have only one rival from the point of view of cultural influence: the United States. It is a constant struggle that we must continue."

We therefore must think of intellectual exchanges as a necessary part of a policy to bring the countries closer. For Brazil, exchanges were undoubtedly an essential part of the process of establishing disciplines like psychology, as Massimi (1993) confirms. But the trips and visits (like the French psychologists' visits to Brazil) must be situated within a more general framework in which exchanges were favored by that era's reigning ideal of internationalization. The same can be said about the funding which the intellectuals we are studying here received for their studies at Columbia.

"Science that goes into schools:" applications by Isaías Alves and Noemy Silveira

The factors we are analyzing here are necessary to understand the experiments Noemy Silveira and Isaías Alves carried out in schools in São Paulo and Rio de Janeiro while they directed the services responsible for applying intelligence tests to students in the public schools. Even though they extensively cited American references, the French played a fundamental role in the reasoning they developed. It is important that while at Columbia they lived within a very particular intellectual environment, which not only discussed educational innovations but had the material resources to attempt to apply these theories.

As director of the Institute of Educational Research at Teachers College, Thorndike attracted generous investments from American foundations (Warde, 2002). Between 1923 and 1930, the Carnegie Corporation invested approximately 96,000 dollars solely for the research he coordinated on "intelligence measures." Studies related to educational psychology often appear on lists of donations from this foundation, along with the work by Thorndike on more general research in psychology and learning and tests and assessments (Caswell, 1954). Isaías Alves (1931) consequently emphasized that the Brazilians needed to understand and adapt the spirit of the idea, rather than repeat the experiment itself.

This difference is crucial to understand the purpose of the American tests and how they were implemented in Brazil, even considering that the experiments led by Silveira and Alves

were preliminary. Both Teachers College and the US in general worked with a notion of measurement that implied a significant volume of resources involving standardizing and applying the questions on a scale that was only possible under very favorable institutional conditions. Thus, part of the model that Teachers College wanted to disseminate was often difficult to apply in places with more limited financial resources such as Brazil.

The use and adaptation of the tests also resulted in long-term work, namely that even if they used the American tests, they needed to translate them properly and then adapt the questions to the local reality. For this reason, assessment parameters needed to be established through successive experiments with the same group of children representing the larger group that would be the object of the previously-standardized test. Later, correlations would have to be established with other tests to ensure that the instrument could be considered reliable. To provide an idea of this lengthy process, when she took over at SPA in 1931, Noemy Silveira had already worked with Lourenço Filho for six years to adapt the Binet-Simon tests (Silveira, 1931). In Recife, Ulisses Pernambuco took nearly ten years to finish his revision of the Binet-Simon-Terman scale (Jacó-Vilela, Silva, 2016).

But Isaías Alves and Noemy Silveira did not have this amount of time. Their reports express the difficulties they faced translating theory into practice, within a context of abundant enthusiasm but unfavorable material conditions. At first glance, all that was needed to put theory into practice was paper, pencils, and a trained teacher, as Lourenço Filho noted in his preface to the book by Binet and Simon. For him, since the evaluation process did not require devices, it “fully enables the schoolmaster to try psychological experimentation for himself, and through it to observe his pupils” (Lourenço Filho, 1929). In this context, psychology left the laboratories and entered the classrooms.

But these experiments faced problems which while seemingly simple, led to major differences when the time came to consolidate the results. The first was the issue of adaptation. Besides time and a reliable sample of the school population, the tests required application by a trained team that was familiar with the assessment tool. These were generally the challenges mentioned by Isaías Alves and Noemy Silveira when they spoke of standardizing the tests for the “Brazilian reality.”

They consequently faced difficulties ranging from teacher training to the lack of specialized staff to apply the tests. Moreover, not all schools cooperated as expected, resources were scarce, and much was done through student volunteers from educational institutes or even teachers on loan to applied psychology departments. The students were also hindered by the lack of familiarity with standardized tests, and the materials were not always applied according to the models.

Noemy Silveira’s work applying the Dearborn tests in schools in São Paulo and Isaías Alves’s experience with the Pintner-Cunningham tests in the Federal District clearly illustrate these issues. The two tests were classified as non-verbal tests, and consequently did not require mastery of reading and writing for good performance on the evaluation. Tests like these were the solution they found to the intense debate around the importance of language mastery in the Binet tests, which affected the outcomes of children with some special characteristic not directly linked to the level of intelligence, as in the case of deaf or foreign students (Pintner, 1923). Both Pintner and Dearborn (1928, p.71) defended the

importance of using tests with lower verbal weight that did not impair children from homes where “there was little interest in reading” or where “conversations were very limited in their scope.”

In this type of test the instructions were given by the examiner, which limited the time permitted to answer each question. The children received a test sheet containing only illustrations, and it was up to them to solve the problem after the examiner’s preliminary demonstration. The students were thus directed to “mark the most beautiful image” (Pintner, 1923, p.191) among the options on their test sheet, or “draw a circle inside the square” which was previously printed on the answer sheet (Silveira, 1935, p.103).

The examiner was essential in all the test models because his or her presence calmed the children, controlled the time taken for answers, and ensured uniform application. For both Noemy Silveira and Isaías Alves, the teachers in the assessed classes often acted voluntarily as examiners, guided by demonstrations of how the test was to be applied. This resulted in problems arising from inexperience, especially with regard to the uniformity of application.

Rather than focus on these issues, we shall reflect on how Noemy Silveira and Isaías Alves reacted differently to the same difficulties they encountered, representing the many interpretations these tests offered. A good example is the question of adaptation, which was controversial. While Noemy Silveira considered the assessment tool, making adjustments she deemed necessary for the understanding of Brazilian children prior to applying the tests, Isaías Alves tried to remain faithful to the original test format, instead thinking about changes from the indexes resulting from application. Here the meaning of translation differs greatly between the two.

Isaías Alves did not make major changes to the tests *a priori*, because he saw the preliminary application as a measure of the test’s adequacy. He believed that the examination should be as faithful as possible to the original; this can be seen in his adaptation of the Binet Burt for Brazil, when he chose to translate “print the first letter of the alphabet” as “imprima a primeira letra do alfabeto.”⁸ When the end result did not correspond to the original average, as in the case of the Pintner-Cunningham tests, instead of reconsidering the difficulty of the questions, he chose to establish a mathematical correspondence between the original index and the Rio de Janeiro index. He consequently concluded that in order to judge the performance of the children he tested, the national averages needed to be adjusted, with 86 points in Brazil corresponding to 100 points in the US (Alves, 1933, p.46). He had already done this same type of adaptation while still at Columbia, when he presented the results of his work in Salvador in the class he took with professor William McCall (Alves, 1932b).

Noemy Silveira, on the other hand, did not even wait for the first application to see the problems in the test she would apply. In her preliminary analysis, she foresaw the difficulty Brazilian children would have with the image of a diamond and modified it, using the more familiar rhombus. Noting that the São Paulo school system would test 13- and 14-year-olds, Silveira (1935, p.109) adapted a numeric sequence test for older students to answer. She believed that a precise adaptation for the public to scrutinize was more important than fidelity to the original scale. Unlike Isaías Alves, she opted not to compare the outcomes from Brazilian and American children, arguing that the test failed

in relation to rigorous timekeeping. Rather than rethinking the index, Noemy Silveira decided to rethink application, increasing the time students had to complete the test in the following application.

Final considerations

Many issues both unite and divide these two intellectuals in the field of educational psychology, and even more so when we look at their work with intelligence testing. Here our intention is to indicate that even though they had similar theoretical foundations and shared experience at Teachers College, their solutions to the problems they faced also show the interpretive strength they obtained from these tools. In this sense, we must also look at the work they conducted as part of a broad field of adaptations and reinterpretations of a single tool, in a process that adds new layers to what we call intelligence tests.

Furthermore, their own educational trajectories provide elements for us to more closely observe the dynamics of processes to create closer ties between countries like France and the US and Brazil, as well as some of the effects of these policies. In this way, even though these experiences and the international dialog they established worked to legitimize their professional practice, we should heed the warning from Mary Louise Pratt, even though this warning is directed at a different context than the one addressed herein. Pratt (2003, p.6) states, “while subjugated peoples cannot readily control what emanates from the dominant culture, they do determine to varying extents what they absorb into their own, and what they use it for.” It is from this idea that we understand the different positions of Noemy Silveira and Isaías Alves with regard to the American tests they chose to apply to Brazilian children.

Finally, we should recall that in this article we emphasized the international training of these two authors and the movement of psychological concepts in the field of education. In this sense, other aspects can be mentioned that could be used for the comparison utilized herein. One is the connections both Noemy Silveira and Isaías Alves established during their experiences, as well as the dialog they conducted with critiques of intelligence tests. These indicate that while they debated how and why the state should consider a system that organized students by intellectual capacity, both Silveira and Alves positioned themselves as part of the solution to the Brazilian educational problem. From this position they constructed a space in which they acted critically, utilizing different strategies to address the difficulties they faced as they translated and adapted the tools we have seen.

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NOTES

¹ Later, Noemy Silveira Rudolfer, after marrying Bruno Rudolfer in 1934.

² In this and other citations from the Portuguese and other non-English languages, a free translation is provided.

³ The exception is a text by Mademoiselle Ioteyko, *La ciência del trabajo e su organización*, which is a translation from the French to Spanish (Silveira, 1929, p.98).

⁴ Noemy Silveira still remains active in this area, as indicated by her participation in the Rational Work Organization Institute (IDORT). On this topic, please see Moraes (2007, 2012).

⁵ While recognizing the technical quality and broad dissemination that Terman's adaptation attained, Isaías Alves opted for Burt's version because it was shorter and consequently easier to adapt and apply in schools. Burt's adapted version contained 65 questions, versus the 90 in the Stanford-Binet test. Furthermore, Burt's modifications were also approved by Theodore Simon (Alves, 1932a, p.24).

⁶ Even though Isaías Alves did not share New School beliefs.

⁷ It is worth noting that the insertion of the "intelligence quotient" (IQ) in 1912 by the German Stern was essential to ensure the firm establishment of this organizational perspective, since it facilitated comparison of results.

⁸ Isaías Alves was unsure about whether to translate "print" as *escreva* (write) or *imprima* (print). Even though "write" was more common usage in Brazil, he opted for the word "print," believing it more faithfully represented the original difficulty of the test (Rocha, 2011, p.87).

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