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An Ingenious Scheme

The Assembly of the International Engineering Congress of 1922 and Diplomatic Relations between Brazil and McGraw-Hill

Uma trama engenhosa

A montagem do Congresso Internacional de Engenharia, em 1922, e as relações diplomáticas entre o Brasil e o grupo McGraw-Hill

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ABSTRACT In 1922, the Engineering Club of Rio de Janeiro hosted the International Engineering Congress. The organizing committee was headed by Verne Leroy Havens, editor-in-chief of the Spanish language *Ingeniería International* magazine which was published in the US by McGraw-Hill. The magazine's broad circulation was a framework through which a transnational perspective can help us to understand this organization and its social fabric as it stretched across the continent and created an enduring network of industrial relations and technical culture. For its part, the Engineering Club was compelled by court order and the Brazilian government to organize and host the event. Diplomatic and economic relations with the United States were at stake, together with those of the other major South American countries. The motives and maneuvering behind this Congress in these days before the Good Neighbor Policy can still be glimpsed.

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KEYWORDS International Engineering Congress, Engineering Club of Rio de Janeiro, transnational history

RESUMO Em 1922, o Clube de Engenharia do Rio de Janeiro tornou-se organizador do Congresso Internacional de Engenharia, idealizado por Verne Leroy Havens, editor-chefe da revista *Ingeniería Internacional*, publicação em espanhol do grupo estadunidense McGraw-Hill. Tomando esta revista como moldura analítica, conseguimos compreender, também, uma trama social que envolveu sua circulação pelo continente, pavimentando uma rota de relações profissionais e de cultura técnica em perspectiva transnacional. Ainda foi possível perscrutar as intenções que levaram à realização deste Congresso, e como o Clube de Engenharia foi demandado pelo governo brasileiro a assumir tal empreitada, de maneira que contribuísse, diplomaticamente, com os Estados Unidos e, consequentemente com os interesses comerciais daquela nação com os demais países do continente, em tempos prévios à Política da Boa Vizinhança.

PALAVRAS-CHAVE Congresso Internacional de Engenharia, Clube de Engenharia do Rio de Janeiro, história transnacional

The work of promoting good will between the Pan American countries and our own will have the enthusiastic support of South American engineers. The results of the International Engineering Congress are a foundation on which an effective and permanent organization can be built. No less than a program dedicated to the public good will form a basis for future works compatible with ideals of engineers from both continents (back-translation of author).¹

1 *The Mechanical Engineering*, vol. 45, n. 1, p.74, 1922.

This epigraph comes from the report prepared by Calvin W. Rice and published in one of the most widely read engineering magazines in the United States, and it focuses on the issues addressed in this article: an analysis of diplomatic relations between Brazil and the US, and among Latin America generally, just prior to the Good Neighbor Policy. Therefore, we have focused on a magazine: *Ingeniería Internacional*. Established in 1919 by McGraw-Hill for the Latin American market, the magazine was intended not only to disseminate technical news and advances in engineering, but also to broaden the southern market that the US had established in World War I for the sale of construction and manufacturing equipment, and especially domestic goods that were poised to reform daily life.

This article will also examine a target audience of the magazine, the Engineering Club of Rio de Janeiro. Founded in 1880, it brought together several hundred members from the fields of engineering, architecture, geography and from various industries (Marinho, 2008). These professionals played an important role in negotiating the modernization of Brazil. Also, and not surprisingly, they have been largely regarded as facilitators of foreign influences from Europe, Spanish-speaking Latin America and the US on domestic affairs (Atique, 2016).

By way of the relationship between McGraw-Hill and the Engineering Club, we will examine the ingenious scheme that led to the creation of the International Engineering Congress of 1922 held in Rio de Janeiro as part of the 100th anniversary of Brazilian Independence. We will analyze how these two organizations and the event itself were interconnected, and how professional relationships emerged that markedly affected various political, economic and professional spheres in the Americas. The authors appreciate that the subjects of this discussion are little-known and that, in addition to contributing to historical knowledge, this article is an opportunity to apply historical theory regarding, as Thomas Bender would put it, “social worlds interacting with each other” (2002, p.8).

A MAGAZINE FOR LATIN AMERICA: MOTIVES BEHIND *INTERNATIONAL INGENIERÍA*

Editors of *Ingeniería Internacional* wrote in the first issue, in April of 1919, that, “in the Philippines, Latin America and the Iberian Peninsula there are more than 100 million people whose mother tongue is Spanish or comprehend the language by their own lights.² This appeared to be motive enough for the creation of the magazine by the American publishing house McGraw-Hill. The company was formed in 1909 by James H. McGraw, who had started in the business in 1888, and John A. Hill, who had started independently in 1902.³ The company had not only created new magazines and educational materials, technical in particular, it also had acquired companies and competing titles in the US. As evidenced by their list of publications, many of their titles at this time were distributed around the globe, and already had a South American readership. In 1919 the publisher’s catalog included the magazines *Electric World*, *American Machinist*, *Power, Engineering and Mining Journal*, *Electrical Merchandising*, *Coal Age*, *Chemical and Metallurgical Engineering*, *Engineering News-Record*, *Electric Railway Journal* and *Journal of Electricity*.⁴

As shown in this quote above found in the first edition of *Ingeniería Internacional*, the publisher’s intention was to reach Spanish speaking readers. It is important to note that after World War I, US publishers, despite losses due to the conflict, had managed to continue publishing and distributing magazines at a faster rate than those of Europe in this period of reconstruction. For this publishing house there was actually, in our interpretation, an increase in the number of readers in this period. As already mentioned explicitly in the first edition of *Ingeniería Internacional*,

2 *Ingeniería Internacional*, vol. 1, n. 1, p.1, 1919

3 Wikipedia, McGraw-Hill Education. Link: https://en.wikipedia.org/wiki/McGraw-Hill_Education. 8 October 2017.

4 *Revista do Clube de Engenharia*, p.287, 1922.

the effort to produce this international publication has been great; but it has been realized thanks to the faith that the people of the United States have in the ability of their Spanish speaking friends, both near and far, and within the natural limits of the resources of their respective countries, and in the phenomenal trade development between these peoples and the United States.⁵

Many US businesses had expanded into South America since the mid-19th Century, and growth had significantly increased after 1910. North Americans understood that to continue this trend, they would have to go beyond selling mail-order products and establish partnerships with its continental neighbors. The Monroe Doctrine was already a century old, and beyond rationalizing certain territorial and political gains it had rendered little by way of economic cooperation. This understanding and its vast potential were clear to McGraw-Hill in these post-war years.

The magazine's first issue contained an article by then General Director of the Pan-American Union and former US ambassador to Panama, Colombia and Argentina, John Barrett. In it, he defined Pan-Americanism as, "the cooperation of all countries and peoples of the Americas, for their common good and, therefore, for the good of each of them separately".⁶ While he was called on to endorse the magazine's good intentions, he also alluded to the wide-open field stretching from Mexico to Argentina that was available to the American engineer:

Engineers of the United States and the interests that support them should study the Latin American field and be ready to cooperate in any way they can with their friends in Latin America in order to get the

⁵ *Ingeniería Internacional*, vol. 1, n. 1, p.1, Apr. 1919.

⁶ BARRETT, John. Engineering from the Pan-American point of view. *Ingeniería Internacional*, vol. 1, n. 1, p.5, Apr. 1919.

best results that for all involved. Consider the fact that the twenty Latin American countries occupy an area of two thousand and three hundred hectares, or roughly three times the entire area of the United States and, indeed, the development of progressive modern engineering in all these countries hardly equals what has been done in the United States. This is not a rebuke to Latin America, only the expression of their potential and opportunity.⁷

A question that emerges from reading Barrett's text is, why would a Spanish language magazine invite US engineers to consider working in the other American countries when most of them couldn't even read the language? Barrett's article reveals clearly that in addition to publicizing the news and achievements of Latin America, the *Ingeniería Internacional* sought to showcase the practices and outlook of North American engineering, and to promote their implementation via investment in other American countries. The *International Ingeniería* was a vehicle for translating and applying the engineering of American entrepreneurs to Spanish speaking countries, and especially those of Latin America. Thus, it seems there was no slip of the pen in the expression, "the interests that support them," in referring to institutions and power centers in the land of Uncle Sam. This viewpoint becomes clearer later in the same article:

If Latin America had had the advantages of situation, capital and investment that the United States has enjoyed, it could have had the same history of progress. It is only a matter of time until each Latin American country has matched their situation to each of the American Union countries.⁸

7 BARRETT, John. Engineering from the Pan-American point of view. p.5.

8 BARRETT, John. Engineering from the Pan-American point of view. p.5.

The article ends by leaving the idea of ‘reciprocity’ in doubt as it presents the US as source of capital, knowledge and interests, and Latin America as a territory to be developed and therefore also *grateful* for the knowledge that could be brought there by the United States. Barrett explained this reasoning as follows:

Latin America is so rich in various resources, low and high lands, climates, and in general of all possibilities, which is certainly a fascinating field for engineering work. In building railways, developing hydro-power, in building good roads, in the use of large areas for agriculture, timber farms and mines, no one can predict the future, except that it contains infinite attraction for the engineer and for legitimate capital invested for the benefit of the country where it is applied and for US stakeholders who send money to Latin America. In turn, engineers from Latin America and all those who are engaged in the development of engineering should enjoy the good will that they will receive for their studies from engineers, colleges and institutions in the US, and in turn, can use the experience, interests, and US engineering institutions for the true progress of relations and cooperation of Pan-American engineering. There must be a spirit of reciprocity and cooperation that is to everyone’s benefit.⁹

It is important in this revaluation of continental strategies to understand how this publication, supported by the Pan-American Union, saw the field of engineering. Barrett wrote in this same article, that engineering was, “has been and always will be one of the largest factors of Latin American development and mutual goodwill”¹⁰

9 BARRETT, John. Engineering from the Pan-American point of view. p.6

10 BARRETT, John. Engineering from the Pan-American point of view. p.5.

With this message from the director of the Pan-American Union, *International Ingenieria* began its task of forging closer ties with Latin Americans. Its editor, the engineer Verne Leroy Havens,¹¹ had been a commercial attaché at the US Embassy in Santiago, Chile, and had published at least two books in Spanish before taking this new job. His best-known book¹² at that point was *Ingenieria de Ferrocarriles, la teoria fundamental de ferrocarriles, desde la concepcion de la idea hasta la terminación del trazo*, published in New York in 1917. It was intended for Latino audiences, though a review published in the *Anales del Instituto de Ingenieros de Chile* in 1918 hinted that the work was not suitable for, “the development of theories, the discussion of principles, nor details or technical solutions.” It was, however, “a set of practical observations intended for the engineer in charge of studying a new railway.”¹³

We do not know how Havens approached the publishers,¹⁴ but we consider that his experience in the US Foreign Service and the development of large-scale projects on the continent contributed to his hiring. On the title page of his railway book, Havens introduced himself¹⁵ as

11 Verne Leroy Havens was born in Atlantic, Iowa, on June 17, 1881. He was the son of Rial Washington Havens and Fanny Elizabeth Havens. He graduated in engineering, possibly civil engineering, in 1905 from the University of Nebraska. He also studied at the University of Mexico and George Washington University. His first marriage was with Emilia Fernandez, who died in 1924. He then married Alice Holbert. He left no children. According to the obituary published by The New York Times (Aug. 14, 1944, p.15), Havens was a member of ASCE and helped build Mexico City's public transportation service.

12 Published in 1916, Havens's other work was entitled *Markets for American hardware in Chile and Bolivia*, and had been published by the United States Bureau of Foreign and Domestic Commerce in a series of similar titles. Havens' work was number 41 in the series.

13 *Anales del Instituto de Ingenieros de Chile*, n.2, a. XVIII, p. 96, Feb. 1918.

14 It was possible to find a note regarding this achievement in the journal of the University of Nebraska, in the alumni edition: *University Journal [Alumni Edition]*, vol. 15, n. 3, p.15, Jul. 1919.

15 Another publication of the group, *American Machinist*, published a brief CV of Havens: “1905 - Engineering Division, Heavy Construction in Mountains, Mexican Central Railroad. 1906 - Assistant Engineer, Mexican Light & Power Co. 1907 - Reconstruction of the “downtown” section of Havana Electric Railway. 1908-1911 - Chief Engineer, Mexico Light & Power Co., Mexico Tramways Co., Mexico Steel & Chemical Co., Pachuca Irrigation & Power Co. 1913-1914 - Consultant general of works; reports for railway financing in South America;

Member of the *American Society of Civil Engineers*; at different times an engineer of reconnaissance, planning, construction and conservation of railways in North, Central and South America. Builder of electric lines and irrigation works; commercial attaché at the American Embassy in Chile, and in charge of special studies in Argentina for the US Commerce Department.¹⁶

Verne was celebrated for supposedly mastering the language in which the magazine was published. Writing in the *Rio de Janeiro Engineering Club Journal* in 1922, Brazilian journalist Sebastião Sampaio affirmed that

Mr. Leroy Verne Havens, Director and Editor-in-Chief of “Ingenieria Internacional” is not only a renowned American journalist but also a skilled technician recognized for his competence by the high position that he occupies. This Gentleman has held diplomatic positions in Embassies and Legations of his country in Europe and South America, is quite familiar with Rio de Janeiro, and speaks Spanish so well that he can make himself understood well enough in Portuguese.¹⁷

This opinion, however, was not shared by engineer who had written the aforementioned review of Haven’s book, published in the *Annals Ingenieros del Institute de Chile* in 1918. In his words, the book had, “several poorly elaborated sections and even incorrect terms which should be excused as the author lacks a perfect knowledge of the language.” According to the reviewer, this shed doubt on, “the precise judgment required for certain ideas or concepts,” although the work had undeniable,

investigations of economic conditions. 1915-1917 - Commercial Attaché at the American Embassy, Santiago, Chile,” *American Machinist*, vol. 57, n. 14, p.2, Oct. 5, 1922.

16 HAVENS, Verne Leroy. *Railway Engineering: the fundamental theory of railroads, from the conception of the idea to the completion of the line*. New York: John Wiley & Sons, 1917.

17 SAMPAIO, Sebastião. International Engineering Congress. *Engineering Club Journal*, p.287, 1922.

“spirit and usefulness,” and should take its place in the, “library of the engineers responsible for the study of new railways.”¹⁸

In any case, McGraw-Hill considered Havens the right lead editor for the job. Ads published in their English language magazines announced, “What can Mr. Havens do for you in Brazil and Argentina?”¹⁹ and, “Export Trade can help America now,”²⁰ and the editor of *International Ingenieria* was presented as a skilled tactician in the service of the *Spanish speaking nations*. This sense is conveyed in the following long quote translated from the announcement published in *Bus Transportation* which not only lauded Havens’ qualities, as was seen in *International Ingenieria*, but also demonstrated the publisher’s motives regarding participation in the events Brazil would hold in September of 1922:

McGraw-Hill is as interested as you are in the development and expansion of American commerce. *The industrial problems of the Americas are our problems*. For this reason, Verne Leroy Havens, editor-in-chief of *Ingenieria Internacional*, will set sail on August 5 to attend the International Exhibition of Brazil’s Centennial and in the International Engineering Congress in Rio de Janeiro, which will open in September. You, as a McGraw-Hill reader and *a US businessman*, are represented by Mr. Havens through *International Ingenieria*. And skillfully represented. Mr. Havens is well-known in American industry for his significant number of achievements during his many years of supervision and economic research in South and Central America. He has conducted market research in several South American countries for the United States Commerce Department. The journey he is about to undertake will be the second made by *International Ingenieria* over a period of two years. Mr. Havens’ journey will serve to further strengthen the good neighborly ties we have created over the last three years. This trip made

18 Anales del Instituto de Ingenieros de Chile, a. XVIII, n. 2, p.96, Feb.1918

19 *Bus Transportation*, p.38, Aug. 1922.

20 *Printer’s Ink*, p.30-31, Nov. 4, 1920.

by *Engineering International* will, above all, be the means of communication between the great needs of the South American market and the US market. International goodwill and good international business for US industry will result from Mr. Havens' journey. You, as a business owner in the United States, reap the benefits of our ongoing activities in favor of American businesses in Latin America and Spain [emphasis added].²¹

This nationalist tone should be regarded in light of the strategy for launching *International Ingeniería*. As readership of the several McGraw-Hill publications varied widely, it is easy to see that editorials were strategically produced to attract Spanish language readers while at the same time procuring US advertisers for their magazines, and especially for this one.

In June of 1922, three months before the opening of the International Engineering Congress in Rio, the *International Ingeniería* editorial stated that, "the need for closer relations between all engineers [was] clear," and this was because,

the advice of many is worth more than a routine way of thinking. And one can only receive the advice of many when the best engineers from all countries can meet and get to know each other [and take advantage of the fact that] intelligence and energy are not limited by artificial borders.²²

The expression "artificial borders" used by G.B. Puga, an editor of the magazine, demonstrates a transnational ideal *avant la lettre*. However, we know that the understanding of *international* as 'without borders' was present in the magazine's title itself and was intended to help open foreign markets to the sale of US industrial goods. In an editorial published in November 1921, we understand this maneuvering:

²¹ *Bus Transportation*, vol. 1, n. 4, p.11, 1922.

²² *Ingeniería Internacional*, vol. 7, n. 6, n.p., June 1922.

We say that science has no borders, and it is commonly believed that the technical knowledge of one country is an open book to the world. This is an attractive theory, but one of the most surprising results of our visits to various countries was [the need] to confront the colossal ignorance that each of us have about the technology that is practiced in other countries. (...). No one can invent everything, for this would be as if all the world's intelligence were located a single country.²³

The above shows how the magazine insisted that knowledge was not limited by geography, and moreover, that it was believed that technical knowledge should be produced by the exchange of ideas:

The true mission of an international journal is to offer a means by which a society can communicate to others, in their own language, what they think and do in the implementation of the various human endeavors. . . . Exchanging goods of equal value with is not enough [if] the intention is aiding in progress. If I give you a dollar, and you give me a dollar, then we have both have a dollar, but if I give you one idea and you give me another, we'll both have two ideas, and in this way we will both be richer. This is, therefore, the basis of the technical magazine, and if subscribers wish, it can be the means of destroying the imaginary boundaries between the minds of engineers and builders everywhere, between all those with the duty and desire to make the world a more pleasant place to live.²⁴

This editorial showed that on the one hand, the magazine was open to publicizing outstanding Latin America achievements, and on the other, preached that connecting professionals could generate knowledge. Apparently, *Ingeniería Internacional* advocated reconciliation, mutual aid and dialogue. These were all key talking points in the magazine's

²³ *Ingeniería Internacional*, vol. 6, n.5, n.p., 1921.

²⁴ *Ingeniería Internacional*, vol. 6, n. 5, n.p., 1921.

proposal to the Brazilian government for the International Engineering Congress which it effectively helped to organize in 1922.

THE IDEALIZING NORTH WIND OF THE INTERNATIONAL ENGINEERING CONGRESS

Already in its early years, *Ingeniería Internacional* was urging the engineers of the Americas²⁵ to come together, think of solutions and coordinate their businesses while ignoring ‘artificial boundaries’. It wasn’t long before an ‘ideology of meetings’ would begin to take shape. In the editorial of July 1921, the magazine publicized the idea of an International Engineering Congress. It wrote that,

many new countries need all kinds of industries. Will this remain an unrealistic dream? Is it possible that after applying formidable [amounts of] capital we will come to find that for such countries a reasonable cost of production is impossible? These questions must be answered by the engineer. (...). It seems that the time has come in which the world’s engineers must apply their work more broadly in public affairs. *Ingeniería Internacional* is now in the preliminary stages of convening an International Engineering Conference so that they can discuss their most important problems.²⁶

Alternatively called ‘Pan-American’ and ‘international’, the ideal of this event that would be collaborative and allow for exchange at various scales permeated the editorial content of the magazine for months leading up to the Congress of 1922. In November 1921, the magazine remarked on the public reaction:

25 Although it was available in Spain and the Philippines as well, an analysis of the print run and distribution shows that more than 85% of stories focused on the Americas.

26 *Ingeniería Internacional*, vol. 6, n. 1, p.52, July 1921.

In response to our July editorial, we have received many letters from engineers, technical staff and societies, some of which are published here. There is no doubt that the meeting of an international congress will be invaluable for all countries that send delegates and also for the profession which has not [yet] taken on its appropriate share of economic and international issues. A congress such as that which is proposed cannot be the work of a single individual. Its success is dependent on the work, support and interest given by each of the engineers, technical societies and other stakeholders to the place, time and program of the congress.²⁷

The response was, in fact, quite large. As can be seen in the magazine's pages, it appeared that Latin American professionals in the technical fields yearned for a space of dialog. Engineering and Architectural societies in Mexico, Peru, Chile and Cuba sent letters welcoming the initiative. However, until early 1922, the location of the conference had not been selected and remained always "somewhere in South America". According to documents signed by Sebastião Sampaio, the commercial attaché at the Brazilian Embassy in Washington DC, *Ingeniería* had at first thought of, "convening the Engineering Congress in Lima last year [1921] to take advantage of Peru's centennial celebration, which was not undertaken due to lack of time"²⁸

With this note, Sampaio allowed us to realize that when the International Engineering Congress was first publicized in July 1921 the magazine had already tried to mount the event in another country. Failing that, Havens realized the next best date would come during the International Exhibition of Brazil's Centennial.²⁹ Planning was already underway, and it was to profit by the South American Railway Congress

27 *Ingeniería Internacional*, vol. 6, n. 5, p.294, Nov. 1921.

28 SAMPAIO, Sebastião. International Engineering Congress. *Engineering Club Journal*, p.288, 1922.

29 In the November 1921 edition, *Ingeniería Internacional* published a brief note stating that the President of the US had received a formal invitation to take part in Brazil's Centennial Exhibition. *Ingeniería Internacional*, vol. 6 n. 4, p.317, Nov. 1921.

that was scheduled at the same time in Rio de Janeiro, despite that the railway central committee was based in Argentina.³⁰ As Sampaio put it, “the choice of Rio de Janeiro is (...) final, as shown by several letters from Mr. Havens, adherents of various engineering societies and other documents sent to the Club Engineering”.³¹

The way the Engineering Club was called upon to organize and host the Congress in question deserves attention.

HOST ON-DEMAND: THE ENGINEERING CLUB OF RIO DE JANEIRO AND THE INTERNATIONAL CONGRESS

In a special edition of the Rio de Janeiro Engineering Club Journal released in 1922, activities of sibling magazine *Ingeniería International* were noted with the purpose of supporting the upcoming Congress. The Brazilian publication showed that news of the event came to the club via the Brazilian ambassador in Washington DC, Augusto de Alencar, in correspondence dated January 17, 1922. In it, the ambassador was reported to have had a meeting with Havens at the Brazilian embassy in DC when the magazine editor presented the program of the Congress that would take place in September along with the opening of Brazil’s centennial celebrations. The ambassador also reported that Havens convinced him to gain the support of the Brazilian government, and, in so doing, required that the Engineering Club take over the initiative. In the letter, the Brazilian diplomat presented his views on Havens’ request to the president of the Club of Engineering, stating,

30 In the text published in the Engineering Club Journal, Sampaio stressed that in the US it was known, “that the South American Railroad Congress was also convened for September (...) and in Rio de Janeiro. American engineers are thrilled with the idea that they can also attend this important international meeting” (SAMPAIO, Sebastião. *International Engineering Congress*, p.293).

31 SAMPAIO, Sebastião. *International Engineering Congress*, p.289.

Given the importance of the engineering magazine that has planned this project, the number and quality of supporters that, in principle, have already begun to arrive, I think it is a feasible idea, whose scope does not go unnoticed by anyone. A well-organized International Engineering Congress in Rio de Janeiro would undoubtedly be the basis of a new phase of economic prosperity for Brazil.³²

A dossier prepared by Sebastião Sampaio was attached. Referred to as a journalist, Sampaio was in the Brazilian diplomatic service in the US in an important role organizing and promoting trade relations. In 1926, according to notes on Brazilian-US diplomatic history published on the Brazilian Ministry of Foreign Affairs website, Sampaio became head of the Consulate General in New York, and, “acted both in the market and in the New York public sphere during the coffee crisis and the Great Depression of 1929”.³³ This connection with foreign trade certainly interested Havens, who had taken on the same work in the US Foreign Service. Sampaio wrote that *Ingeniería Internacional* was a, “monthly publication of 150-200 pages, large format, large circulation.” Of Havens himself, Sampaio wrote that he was, “not just an American journalist but also a skilled technician of recognized competence,” and implied that the invitation from the editor was reason enough for Engineering Club to gladly accept the “invitation” that they were to receive because,

the fact that *Ingeniería Internacional* is the only publication of the above-mentioned group [McGraw-Hill] that is published in one of the languages of Latin America, and the fact that this journal is one of the best magazines, if not the best international engineering magazine published today, are special reasons that lend great importance to the Congress to be held in Rio de Janeiro.³⁴

32 *Engineering Club Journal*, p.286, 1922.

33 Available at: <http://novayork.itamaraty.gov.br/pt-br/historia.xml>. Accessed on 08 Oct. 2017.

34 SAMPAIO, Sebastião. International Engineering Congress, p.286.

Sampaio's correspondence shows that Brazil's primary diplomatic agents in the US were prompted by Havens. There were meetings in New York between Havens, Sampaio and the consul H lio Lobo; then in DC between Sampaio, Havens and Ambassador Augusto de Alencar. Finally, in mid-January 1922, the Club was notified of the intentions of the magazine and the Brazilian embassy. The hosts were then required to play their role. Taken from a letter from Havens to Sampaio, the interesting quote below gives us an understanding of the task required of the Engineering Club:

It looks as if the best way to hold the Congress will be to present this suggestion to the Engineering Club by way of the Brazilian Embassy in Washington, and it will be up to the Club to act at their convenience to gain official permission from the Brazilian government. The Congress naturally does not involve any expense [to be paid by] the Brazilian Government. In the case of accepting the responsibility, the Engineering Club will provide the location for the Congress, its organization, delegate visits to the country's most notable engineering works, etc. Publication of the most important subjects presented in the Congress will be published with the greatest interest in *Ingenieria Internacional*, which will give this matter a major focus. Each delegate will personally account for their own expenses.³⁵

It is important to realize that the Engineering Club received this document little more than eight months before the start of the centenary celebration. We tried to find if there were any reactions against Havens and the Brazilian diplomats foisting an event of such magnitude on the Engineering Club, but to date we have not found any associated sources. It is possible that there was resistance, however, considering the way Sampaio worked to convince the club. This shows us that a refusal by

³⁵ *Engineering Club Journal*, p.286, 1922.

the organization could have led to strained relations between the US and Brazil. A climate of tension already existed between the countries due to recent military friction which Brazil, at least, sought to avoid exacerbating. This interpretation becomes more credible as Sampaio repeatedly alluded to the importance of the publishing group, the engineering magazine and the author of the invitation, and also by the way he flattered the Engineering Club, saying that the institution was internationally known and well-placed in terms of membership and organization, which in turn, “explained” the demand for their involvement. In his writing, Sampaio stressed that he, “knew the engineers of [his] country,” having, he said, lived alongside, “members of the Engineering Club,” which assured him that the organization would, “not only [act], but [act] quickly, sending telegraphed invitations to kindred societies and even more foreign delegates.” The tight deadline was described as an advantage, and although, “time is scarce, (...) the Engineering Club has a man leading it who is notable not only for his science, but for his enterprising spirit.”³⁶

We should also note that Sampaio’s exhortations passed over the fact that “the Americans” already knew of the initiative as he had received a letter from the president of the *American Society of Mechanical Engineers* (ASME) which expressed the belief that, “the Congress would provide South America with the latest techniques for the development and conservation of its natives resources,” adding further that, “such a meeting would make the people of North America think of South America and work for it.”³⁷ In the same vein, Sampaio was keen to stress that the Congress would spur Pan-American development, and for effect added the transcribed words of the Director of the Pan-American Union, L.S. Rowe, who considered the, “Congress meeting in Rio de Janeiro as an international service of first magnitude.”³⁸

36 *Engineering Club Journal*, p.297, 1922.

37 *Engineering Club Journal*, p.297, 1922.

38 SAMPAIO, Sebastião. International Engineering Congress, p.294.

With these various exhortations regarding the Congress's potential, the Engineering Club was not in a position, in our understanding, to refuse organizing the event despite that it was scheduled to take place in conjunction with the South American Railway Congress, the planning of which was already underway. In addition to this, the Club had already organized technical conferences as described by researchers including Fernanda Rodrigues (2017, p.19), Pedro Marinho (2008) and Maria Inês Turazzi (1989, p.103).

CAPITALIZING ON DEMAND: THE ENGINEERING CLUB AND AMERICAN CONTACTS

Once persuaded to organize the event, the Engineering Club addressed a letter to Verne L. Havens and the Brazilian Embassy stating that it had "accepted". Sebastião Sampaio remained active in organizing the Congress by mediating at various stages. The Club formed an Executive Committee from its members to begin their work, including the engineers Gabriel Osorio de Almeida (president), Alvaro de Niemeyer (secretary), Saturnino Gomes and Daniel Henninger. Almeida had been president of the club between 1900 and 1902, and was involved at the Brazilian Electric Company, and also was quite close with the company's competitor, the Gaffre Guinle economic group. Álvaro de Niemeyer was the son of the Engineering Club's founder, Jacob Conrado de Niemeyer, and an influential writer of new members to the Club. Daniel Henninger, son of German immigrants, taught industrial chemistry at the Polytechnic School of Rio de Janeiro.

The Commission tried to rearrange the agenda and make changes to the draft program sent by the staff of *Ingeniería Internacional*. The original proposal contained a number of subjects divided into ten topics³⁹ and

39 I. The fuel problem in general and use of natural resources; II. The best use of hydroelectric water; III. The latest advances in irrigation methods; IV. The elimination of leftovers and senseless waste through standardization and the establishment of fixed criteria in the use of materials for agricultural and material purposes; V. Coal as an industrial development material; VI. The essential points of an international railway policy; VII. The international

covering strategic and policy issues in the engineering field rather than specific technical matters, with the exception of a few railroad subjects. The Brazilian commission then reorganized the discussions into eight main sections: 1. Maritime, river, land and air travel; A Pan-American railway and practical means to achieve it; 2. Iron metallurgy; 3. Fuel; 4. Hydroelectric water, its use as a driving force; 5. Sanitation, dams and irrigation; 6. Ocean and river ports, their organization and relation with international navigation; 7. The manufacture of agricultural machinery; 8. Standardization of statistical methods in ports and railways.⁴⁰

As we can see, the themes defined by the Brazilians had a more technical and less political connotation. We interpret that this was due to fear of opportunities being “prospected” without Engineering Club members maintaining strict control over them. This interpretation is based on the studies we have undertaken on club members’ social relations.

Another point to be highlighted is that this Congress was paired the South American Railway Congress which was to take place on the same dates and at the same location: the Engineering Club headquarters on Avenida Rio Branco, 124.

According to our research, *Ingeniería Internacional* accepted the Club’s changes to the program and began to publicize the upcoming Congress, and included information for contacting US engineering societies in order to support the initiative and to personally take part in the event. Among the various societies were the four most important: the *American Society of Civil Engineers* (ASCE), the *American Society of Mechanical Engineers* (ASME), the *American Institute of Electrical Engineers* (AIEE) and the *American Institute of Chemical Engineers* (AICE). The magazine resolved to elect a representative that could personify US participation. The engineer Calvin Winsor Rice was chosen.

cooperation of engineers; VIII. Improvement of the ports; IX. Facilities at rail junctions, stations and terminals. River, sea and land transportation issues related to rail transport; X. The iron and steel industry (*Engineering Club Journal*, p.292, 1922).

⁴⁰ *Engineering Club Journal*, p.292, 1922.

“UNVEILING THE EVENT”

After graduating from MIT in 1890, Calvin W. Rice⁴¹ built his career in electrical engineering by working in various fields including copper and silver mines, high voltage electricity and invention. His career began at the *Thomson-Houston Electric Company* in Lynn, Massachusetts, and after it was acquired by *General Electric* he continued to work for the company in various subsidiaries around the US. Based in New York City in the early 1900s, he soon became involved with engineering societies. Rice joined the AIEE, and in 1900 the ASME (Compton, 1932, p.5). As pointed out by Compton, a former president of the MIT, Rice served as secretary of the ASME from 1906 until 1932, when he became an honorary member in a ceremony that consecrated him as one of the most important figures in US engineering (Compton, 1932, p.5).

Then president of MIT, Karl T. Compton, showed that since his early days, Rice had led initiatives that brought together the four major US engineering institutions (AIEE, ASME, ASCE and AICE), which gave him an active role the creation of headquarters, the expansion of societies and put him in contact with international sister organizations.⁴²

41 Born in Winchester, Massachusetts, on November 4, 1868, Calvin was the son of Edward Hyde and Lucy Staples Rice. He attended schools in his native New Haven and Boston before going to MIT. On August 6, 1904, he married Ellen M. Weibezahn with whom he had two children: Edward Winslow Rice and Marjorie Charlotte Rice. He died in his office in midtown Manhattan on October 2, 1934, from a hemorrhagic stroke (Herald Times, Oct. 3, 1934; New York Sun, Oct. 3, 1934).

42 For example, since 1897 Rice had been in contact with the *Institute of Civil Engineers* and the *Institute of Electrical Engineers* in London, and the *Verein Deutscher Ingenieure* in Germany. He was made an honorary member of other institutions in Mexico, South America and the East. *The Mechanical Engineering*, vol. 56, n. 11, p.643, Nov. 1934. Specifically, we know that Rice belonged to the *Associação Nacional de Engenharia da Argentina*; the *Koninklijk Instituut van Ingenieurs* in the Netherlands; the Engineering Club of Rio de Janeiro; the *American Society of Safety Engineers*; the *Masaryk Academy* in then Czechoslovakia, and the *Deutsches Museum* in Munich. He was also a member-correspondent of the *Instituto de Ingenieros de Chile* and the *Technisches Institute* of Vienna. In 1915, he was a jurist at the *Panama-Pacific Exposition*. In 1922, he received the gold medal at the Brazilian Centennial Exposition. *The Mechanical Engineering*, vol. 56, n. 11, p.643, Nov. 1934.

Given its breadth, Rice’s political dimension was considerable. This aspect of his professional profile was significant when he was chosen by *Ingeniería Internacional*, which was playing a major role in executing the International Engineering Congress in Brazil, and when he was approved by the many engineering societies as their chosen representative.

The US delegation sent to the centenary celebrations of Brazil’s independence was quite diverse. However, by consulting the engineering event annals published by *International Ingeniería* in December 1922, we were able to map the presence of all the countries that were represented at the event. Figure 1, below, shows these data:

Graphic 1: Number of Participants, indicating the countries, at the International Congress of Engineering, in 1922

Countries	Number of Participants
Brazil	130
USA	73
Argentina	4
Denmark	2
Bolivia	1
Chile	1
Mexico	1
Peru	1
Uruguay	1
Canada	1
France	1
Unidentified	34
Total of participants	251

Source: *Ingeniería Internacional*, v.9, n.1, p. 54-55, Jan. 1923.

Elaboration: author, 2016

It is important note that the largest number of participants, after Brazilians, were those from the US. Their arrival from various parts of their home country was largely due to notices published in several of

McGraw-Hill's magazines. This was also due to a collaborative effort with the Brazilian Embassy in Washington DC which favored US participants by facilitating their travel with visas and letters of recommendation. It should be noted that four Argentinian delegates attended the event. They also participated in the Railroad Congress since it focused on an intercontinental railroad project that would start in Argentina and be headed by American investor Percival Farquhar (Topik 1987, p.118). Bolivia, Chile, Mexico, Peru, Uruguay and even Canada sent only one delegate each, as shown in figure 1. To this point, the schedule of events for the September Congress was only released early that same year, and despite the truly difficult voyage to Rio de Janeiro, it was the the high costs and brief time left to plan the trip that discourage more international participation. Even so, as Atique noted in in his analysis of the Pan-American Congresses of Architects (2014, p.27) between 1920 and 1945 the number of university graduates was still relatively small, and professional organizations used to support themselves on membership fees or publishing the reports of the delegates they sent to congresses. This seems to be one of the plausible explanations, but it contrasts sharply with the participation of the Americans who numbered 73 in total. The most important US delegates, including Havens and Rice, traveled aboard the steamer Pan America which also brought then Secretary of State Charles Evans Hughes. As both engineers had written, the possibility of enjoying the trip aboard the same vessel allowed the start of many negotiations.⁴³

The presence of this government official also spurred the Engineering Club to look for ways to capitalize on this social capital. As noted in the US press, the Engineering Club was the only national organization to surprise the Secretary by paying homage to him in a ceremony on the 9th of September, 1922.⁴⁴ Held at the hotel where he was staying with Hughes, it was conducted by the acting club president, Arthur

43 RICE, Calvin W. Reports on South American Trip... *Mechanical Engineering*, vol. 1, n. 45, p.72, Jan. 1923.

44 *Engineering Club Journal*, p.225, 1922.

Getúlio das Neves, as Paulo de Frontin was traveling in Europe. Saluting the achievements of Americans in Brazil from a historical perspective, Neves tied the Engineering Club to the memory of the “benefactors” of the honored guest’s nation, “financiers and engineers” who forged “contributions to progress,” and revealed to the politician that the club had decided put on display the busts of several Americans in the lobby of their meeting hall which would also be flanked by busts of the most significant Brazilian politicians, engineers and industrialists. In this sentiment he sought to portray the Engineering Club as an international pantheon with strong Pan-American ties. Hughes seconded this in his reply by saying that, “before coming to Brazil knew that it would be the nation of the future if engineers continued, as they were today, to cooperate in the great work of its construction.”⁴⁵ The event was opened by Brazilian authorities on September 17 by showcasing Pires do Rio, the Minister of Communications and Public Works. In his speech, he emphasized how necessary the engineer was, because that professional was the “essence of the modern man”, able to invent and manage “progress”, which led him to consider that, “to practice engineering is to create industry”.⁴⁶ He then said that engineering was necessary for development, for the creation of wealth and, in the twentieth century in that post-war period, the engineer should provide services that would put their nations on a new route. Given this, it was odd that Pires then subtly apologized to the foreign participants because he was aware that they could not actually see real examples of the technical exhibits there in Brazil.⁴⁷

In his speech at the opening of the event, Havens explained that those present at Congress, “were not there to discuss local problems, since no progress in the art of engineering could be local. Each new step should, of course, be given in a particular place, but once given, it should

45 *Engineering Club Magazine*, p.228, 222.

46 PIRES DO RIO, José. Discurso Inaugural. *Ingeniería Internacional*, vol. 8, n. 6, p.311, Dec. 1922.

47 PIRES DO RIO, José. Discurso Inaugural, p.311.

become a starting point for all future global progress”.⁴⁸ Expanding on the reasoning that had already appeared in the magazine’s editorial, he said that it was the task of the continent’s engineers to make connections and create mutual understanding so that a permanent relationship could be established among all the of the engineering societies of the Americas. He explicitly left out the ingenious plot he had engineered to impose the great effort of this very same event on his hosts.

The Engineering Congress shared every space with the South American Railway Congress, which, from what we have found, ended up scattering the discussions around. Some facts, however, should be shown. The work behind each of the eight thematic sections noted above was directed by a president, a vice-presidents and secretaries. Presenters could register the Organizing Committee of the Club until August and were given space in the schedule during the month in which the events took place. Of the eight sections, North Americans took active roles in four as presidents: 2. Steel, C.N. Crawford; 4. Hydroelectric Water, Asa W.K. Billings; 6. Ports and Shipping, Calvin W. Rice; 8. Transportation Statistics, Verne L. Havens. In light of this, US presence cannot be seen as merely symbolic as it touches on the significant matter of knowledge of the state-of-the-art Latin American research, achievements and potential, such as were publicized in McGraw-Hill magazines. It should be no surprise that Havens and Rice were overseeing discussions that were of direct interest to US investors. We also know that Sampaio took part in the 4th section discussions, since, as the Engineering Club Journal explained, Asa W.K. Billings did not understand Portuguese despite that he had lived in Brazil since February serving as chief electrician for São Paulo Light and Power. Already known internationally, his presence at the event can be seen in two ways: as a referendum on the event, and also as an exploration of the possibility of inserting the hydroelectric businesses from the participating countries into the local context (Santos, 2009, p.46).

48 HAVENS, Verne Leroy. Problemas y deberes del ingeniero. *Ingeniería Internacional*, vol. 8, n. 6, p.312, Dec. 1922.

Moreover, there were exhibits that sought to showcase examples of engineering in the US. In the American pavilion, erected on the then-called Avenue of Nations and not far from the Engineering Club, films were displayed showing the development of US construction systems and the obtaining raw materials, which seem to have attracted wide public attention.⁴⁹

Two conclusions perhaps gained the widest media attention. One was the standardization of tools and accounting forms for railways and ports in the Americas. Used to facilitate international trade, these greatly favored the United States and opened a way to gradually decrease the British presence.⁵⁰ The other was the establishment of a permanent body for the organization of further Congresses. The agency was named the 'International Engineering Congress of the Americas', and was celebrated by McGraw-Hill as a tightening of bonds between the American countries. Curiously, it was in the closing section that Havens received a vote of thanks for having conceived of the event and having made it happen.⁵¹ The Congress was closed officially on 16 October 1922. But its effect lasted for some time, as we will see.

IMPRESSIONS AND REVIEWS: MEMORIES AND POST-EVENT REPORTS

The Engineers Club [sic] of Rio de Janeiro enjoys an influential position far superior to that of any engineering society in the United States.⁵²

This epigraph, taken from one of the reports presented by Calvin Rice to US engineering societies, was published in *The Engineering Journal* in November 1922. Rice, as has been seen, was the representative that had

49 *Ingeniería Internacional*, vol. 8, n. 4, p.242, Oct. 1922.

50 *Ingeniería Internacional*, vol. 8, n. 6, p.354, Oct. 1922.

51 *Ingeniería Internacional*, vol. 8, n. 6, p.354, Dec. 1922.

52 *The Engineering Journal*, p.565, Nov. 1922.

brought together the US engineering companies. Their reports about the event were expected by their peers. The impact of that meeting can be further investigated, but we believe we have been able to show the how movements, symmetries and asymmetries mobilized the Americas in a continental strategy effected by engineers. After the Congress, *Ingeniería International* published a copy of the declaration of appreciation issued by the heads of the delegations that had attended the Congress⁵³ and was delivered by the US delegation to the Engineering Club of Rio de Janeiro. It is clear from reading the declaration in light of the above epigraph that we chose for this section, in the words Calvin Rice, the Engineering Club was seen as a powerful entity, able to act in order to press their government to promote business and, especially, to stimulate the spread of the US presence in Brazil:

Whereas the ENGINEERING CLUB kindly accepted to bring together representatives of the profession in an International Engineering Congress not only for the presentation of theses, and in order to lay the foundations for a permanent organization designed to be a vastly useful tool for the progress of civilization; / That the Engineering Club offered the most kind hospitality for this congress in one of the most beautiful venues of any of its type in the world; / That the Club has become a symbol of gratitude of the representatives of civil associations from the various nations that have intimately attended the congress with speeches of praise for the executives of the nations that now visit the Centennial Exposition of the Brazilian Independence as well as with other important acts and graces; / Be it resolved that the recognition of all is expressed to the Engineering Club and the tireless directors of the Club and organizers of the Congress.⁵⁴

53 They were the signatories C.H. Crawford (United States), F. Mardones (Chile), E.O. Temple Piers (Canada), S. Brian (Argentina) and E.D. Garcia de Zuñiga (Uruguay).

54 *Ingeniería International*, vol. 9, n. 1, p.53, Jan. 1923.

In response, the Engineering Club sent a letter to Havens, thanking him for the document of appreciation they received and stating that,

Neither Your Excellency, nor the worthy signatories of the important document which will be transmitted to the Engineering Club at its first meeting, have to thank us for our show of cordiality that, even interpreted as deferences, fall far short of the value and the invaluable services of the illustrious American congregants who came to Brazil and brought a vast bounty of its proven competence to realize their common ideal of the progress and development of our homelands, based on the fruitful and enduring work of engineering, which is an indispensable factor for peace, order and prosperity on the American continent.⁵⁵

Signed by Arthur Getúlio das Neves, the missive demonstrated a truly Pan-American perspective of cooperation. However, the emphasis Neves gives throughout the document to the idea of “homeland” signaled that the club adhered, with reservations, to the Pan-American ideal proposed by the US, that is, that it was not willing to give up its priority of pressing strategic governmental negotiations as it had been since 1880.

Considered all together, the perspective that we demonstrate in this article places historiography itself in tension, so long as it is anchored in transnational concepts that seek only positive outcomes in relationships. As seen here, the Engineering Club was, in fact, an organization that contained not only a foreign presence in its pantheon, it also dealt intimately with demands from abroad (Marinho, 2008). It favored alliances between entrepreneurs and engineers from various origins and placed them in various businesses growing in the country. Officially, however, the Club always stressed the point that it sought the development of the “homeland”, even when this supported *laissez-faire* economic stimulus. This was not the first ingenious scheme concocted in the US that had repercussions in Brazil, but we can see that in addition to the outright domination that the Engineering Club held in its field and beyond, as

55 *Ingeniería Internacional*, vol. 9, n. 1, p.53, Jan. 1923.

host of this Congress it managed to impose its considerable agenda on political and economic spheres as well, and thus revealed the steps of a continental design.

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