

# GLOBAL NETWORKS OF CARE: INDUSTRIAL HERITAGE ACTION-RESEARCH IN AND FROM CHILE, CONNECTING PEOPLE AND PLACES

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## 0.- Introduction.

The Fondecyt Iniciación research project no. 11230957 titled *“Luz, Poder y Progreso: La electrificación urbana alemana de América Latina en su contexto geopolítico y cultural, 1880-1920”* (Light, Power, and Progress: German urban electrification of Latin America in its geo-political and cultural context, 1880-1920), funded by the National Agency for Research and Development ANID of the Republic of Chile, was awarded in January 2023 in the Study Group of History for a three-year execution period, which started in mid-March 2023 and finalizes in mid-March 2026. Based in Valparaíso, I am the project's director and responsible researcher, with anthropologist Pamela Fuentes Pradenas in Placilla and journalist Aulikki Pollak Parada in Limache serving as co-researchers, and technical assistance being provided by Esteban Vásquez Muñoz, based in Valparaíso as well. When I postulated the project in April 2022, the Pontifical Catholic University of Valparaíso (PUCV) acted as host university, and the funding was awarded by ANID in January 2023 being one of nine projects approved in the History section. Given that I wasn't working at PUCV at that time anymore, we decided to move the project to the Department of Historical Sciences at the Universidad de Chile with the History of Technology group who were very happy to receive me. The International Heritage Center at the Bauhaus Universität Weimar acted as the project's partner institution from the beginning, with its director Prof. Dr. Hans-Rudolf Meier being my key interlocutor there; and as collaborating partners then joined in the Technical University Berlin with their Chair for the History of Technology, Prof. Dr. Heike Weber, and the Berlin Center for Industrial Culture BZI through its co-director Prof. Joseph Hoppe, among others.

Based on previous research on large-scale electrification of Valparaíso and

Santiago de Chile financed by German actors at the end of the nineteenth and the early twentieth centuries (Steiner, 2017; Steiner, 2019a; Steiner, 2019b; Steiner, 2020; Steiner, 2021; Steiner, Fuentes, 2021), the project allowed us to deepen the research we have been conducting jointly in and from Berlin and Placilla since 2014, this time opening up to a comparative perspective which allowed for including other cases of historical German urban electrification and contemporary heritageization processes in Latin America. With regards to academic disciplines, the project was defined by two primary approaches:

- 1) Anchored in the history of technology, complementary findings from economic history and global urban history were taken in to develop a critical historiography of electrification that allows to highlight the interconnected global nature of major developments in South America and beyond that were pushed forward by German actors at the end of the 19<sup>th</sup> century.
- 2) Critical industrial heritage studies were an important secondary research line that aimed at strengthening the local heritage work in Valparaíso and at creating new interconnections between the local heritage communities in Valparaíso and Berlin, in particular, thus contributing to building global awareness in Chile, but also inside Germany and Europe.

The project goals were threefold: 1) to contribute to the development of new and more critical narratives around German imperial legacies in Latin America, paying particular attention to the role of the German business elite and their global networks at the turn of the 19<sup>th</sup> to the 20<sup>th</sup> century; 2) to improve the national and international visibility of innovative local heritage actors in the Valparaíso Region, and in particular of the community museum Museo Histórico de Placilla (MUHP) as one outstanding example in Chile; and 3) to demonstrate through which kind of specific strategy, methodology, and research design academia can be at the service of local and glocal heritage communities.

These three aspects structure this article and will be explained in more detail in the main body of the text. Final conclusions at the end upscale main findings to the global level and the future work of TICCIH, The International Committee for the Conservation of Industrial Heritage, which celebrated the inauguration of a new Board at its recent World Congress in late August 2025 in Kiruna, Sweden, and is now presided by the author of this text, who had served as the institution's Secretary General from 2019 until that date.

## 1.- Critical Historiographies: Global Networks of Power.

Berlin was a leading city for electrification worldwide since the start of the electric revolution around 1880, which coincided with the unification of the German Empire only years earlier in 1871. The so-called second industrial revolution also marked the beginnings of international financial capitalism, and it was in this context that the German Empire, in permanent competition with the United States, started to challenge the British Empire's global hegemonic position. Financially supported by banks who provided the necessary capital for the growth of the new electrical industries, the two German companies AEG and Siemens, both based in Berlin, and the American companies General Electric and Westinghouse, based in different cities of the US, quickly acquired a dominant position in the world electricity markets, acting as Global Players by the turn of the 20<sup>th</sup> century.

The rise of Berlin as a major industrial metropolis on the European continent due to the new industries was intrinsically connected with the birth of new perceptions about modernity, technical infrastructures, architectural and urban development styles, and forever changed visions for urban futures. This earned the German capital its nickname "Electropolis." On the political stage, this development was mirrored by the often-overlooked fact that the city at this very moment also turned into a center of European imperial politics. It is no coincidence, for example, that the Congo Conference, or the Berlin Conference as it is called in Africa and during which major European powers divided the African continent between them, was held in the capital of imperial Germany in 1884/85.

Latin America in turn, where countries had become independent from the Spanish and Portuguese crowns in the early 19<sup>th</sup> century, was considered an economically highly attractive continent by the industrial and capitalist elites of the newly unified German Empire and thus soon became the object of sophisticated strategies to conquer their emerging electricity markets. Typical for the unequal Terms of Trade with the Global South, Latin American countries provided important raw materials for the production of the new technological systems and technical goods (think especially about the copper from Chile), while their major cities, striving for a Western-style urban modernization, became ideal clients buying monopolized end products at a much higher price.

Against this background of early globalization, major conceptual references of our research were inspired by, of course, the classical *Networks of Power* by Thomas P. Hughes (1983), who nonetheless focused on Western societies of the Global North, and the impressive *Global Electrification* by William J. Hausman, Peter Hertner and Mira Wilkins (2008), who, based on the analysis of a vast amount of archival sources, provide deep insights into *Multinational Enterprise and International Finance in the History of Light and Power from 1878 to 2007*. More recently, very interesting electrical historiographies have emerged from the Global South like *Electrifying India* by Sunila S. Kale (2014), *Electrifying Mexico* by Diana J. Montaño (2021), or *Electrifying Indonesia* by Anto Moshin (2023). These, however, focus on nationally framed cultural histories or on more recent time periods, and their post-colonial analysis doesn't discuss that much detail of the technological, scientific, or financial domination from Europe and Northern America.

This is where our research provides a complementary new perspective, as the project was defined from a multilocal view that combines technical, economic, and cultural history with additional intakes from urban and environmental geography, anthropology, and heritage studies. Focusing on the heydays of German technological, scientific, and financial imperialism, we identified a global network of "electrifying agents" who contributed to electrify Latin American cities – be they capital cities like Santiago and Mexico City, or global port cities like Valparaíso and Salvador de Bahía. This comparative analysis showed the networks, human relations, and cultural bonds that existed between key actors, and revealed the *modus operandi* of how they acted globally and locally in their economic conquest of Latin America. And, as we will see, key agents of our story are actually bankers and investors, as the design and implementation of large technological systems need a lot of money to pre-finance studies and then to actually build the systems.

Looking into archival sources from different countries and in different languages was crucial for developing a critical interpretation of the financial strategies and business methods that characterized the imperial grip of German firms on the emerging electrical markets in places of geostrategic interest around Latin America. Reading the minutes of the local city council meetings at the time<sup>1</sup> helped particularly well to understand the municipalities' view-

<sup>1</sup> See for example the minutes of the city council meetings, published at the time: MUNICIPALIDAD DE SANTIAGO (1890-1911), 25 vols., include the minutes of the meetings from 1892 to 1910; MUNICIPALIDAD DE VALPARAÍSO (1875-1908), 11 vols.,

points in key negotiation processes around urban electrification, and this was complemented from an economic history viewpoint by identifying the shareholders in electric companies. To understand the deep interconnections that exist between holding companies and the local operating companies, which for strategic reasons were often registered under an English name in anglophilic Latin America<sup>2</sup>, proved to be as key as it was to find out that some people, who had key roles in that process, have not been spotted before by Spanish-only researchers due to the misspelling of their German and English names in Spanish sources. This makes it difficult for researcher colleagues to identify that some people are actually the same, operating simultaneously in different parts around the planet and sometimes in quite varying business contexts.

Special researcher's skills, like being able to do a multi-lingual analysis of historical sources that are spread across continents, are thus needed to draw a more global picture of the individuals involved in the story of electrification, of their respective roles and networks, and of the imperial *modus operandi* of the European key actors. I highlight this in more detail in the following paragraphs, showing two examples.

### **1.1.- The modus operandi of the AEG-Deutsche Bank group in South America.**

The first joint electrical operating company founded by AEG and Deutsche Bank outside the German Empire was the Madrileña in 1889. This enterprise was made possible by the private banker and German ambassador in Madrid at the time, Arthur Gwinner (1856-1931), who was a friend with the Spanish capital's mayor and thanks to his networks succeeded to broker the licenses of the city's electrification for the AEG-Deutsche Bank-group. The Madrileña model subsequently became the blueprint for the electrification of other cities, and very soon secured AEG a dominating role in Spain's electrical sector. When Gwinner moved to Berlin a few years later, he became director of Deutsche Bank in 1894 thanks to his diplomatic skills and fluent multi-

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include the minutes of the meetings from 7.8.1872 to 19.4.1900; and MUNICIPALIDAD DE VALPARAÍSO (1902) includes the terms for public tender of electric street lighting (995-998) and electric traction (998-1010) as agreed upon at the extraordinary city council meeting of January 17, 1902.

2 See STEINER, 2019b, vol. 1, 167-168, 253, 319.

lingualism, where he worked closely with Georg Siemens, specializing in Spanish-language electrification business worldwide, but also the emerging petroleum and other new industries<sup>3</sup>. Starting with the Madrileña, further operating companies were founded for many cities around the world based on the same model, including for Latin American cities since 1898. We can find proves for Buenos Aires, Montevideo, Santiago, and Valparaíso<sup>4</sup>, and, at the same time, advances were made toward Salvador de Bahia in Brazil<sup>5</sup>, and Mexico City<sup>6</sup>. A pivotal role in this business expansion was played by holding companies that financially backed the electrification in specific continents, namely the Bank für Elektrische Unternehmungen (Bank for Electrical Enterprises), called Elektrobank, which was founded on the initiative of AEG and Deutsche Bank in Zürich in 1895 for the business in southern Europe<sup>7</sup>, and the Deutsch Ueberseeische Elektricitäts-Gesellschaft (German Overseas Electrical Company), abbreviated DUEG, which was founded by the same group in Berlin in January 1898 for South America<sup>8</sup>.

## **1.2.- The role of two German Randlords for urban electrification in Latin America.**

When taking a closer look at who were the investors in these international holding and operating companies that pushed the German electrification business in Latin America, we realize that two German Randlords from South Africa played a major role as longstanding partners of the AEG-Deutsche

3 See for example POHL, 1988, GALL, 1995, LOSCERTALES, 2002, GWINNER, 1992 [1926], and AEG, 1900 [German Museum of Technology in Berlin [hereafter SDTB], AEG Archives, sig. III.2 01465].

4 See for example AEG, 1900 [SDTB, AEG Archives, sig. III.2 01465], HAUSMAN; HERTNER; WILKINS, 2008, and STEINER, 2019b. A lot of archival sources can be found in the AEG Archives at the German Museum of Technology in Berlin and in the Historical Archives of Deutsche Bank in Frankfurt am Main, Germany.

5 See the Siemens-AEG-Agreement on the distribution of the South American electrical markets between them, dating from July 9, 1898 (Siemens Historical Archives, sig. SAA 23/Li 747; extract in POHL, 1988, 161, 260–261).

6 See HAUSMAN; HERTNER; WILKINS, 2008, 86.

7 For details see STEINER, 2019b, vol. 1, 160, and POHL, 1988, 143, 201.

8 See STEINER, 2019b, vol. 1, 161. Other key contributions to the historical research on DUEG are POHL, 1988, SEIDENZAHL, 1984 [1968], HERTNER, 2013, and HAUSMAN; HERTNER; WILKINS, 2008.

Bank-group. In 1898, Julius Wernher (1850-1912) and Alfred Beit (1853-1906) became 10% shareholders in DUEG<sup>9</sup> and 50% shareholders in the operating company for Santiago de Chile called Chilian Electric Tramways and Light Company (CET&L)<sup>10</sup>, which is probably why CET&L was registered, not in Berlin, but in London, where the headquarters of Wernher and Beit were based since the 1890s. Around the same time they also invested in the electrification of Mexico City<sup>11</sup>, and in 1896 had even received an offer from Marconi to buy the “world rights in all his wireless inventions past, present and future, except in Italy<sup>12</sup>. Further archival sources and secondary literature from a variety of disciplines provide additional information on the personal backgrounds of these two men and their activities in different parts of the world. Important sources for this study included Castillo (1994) and the personal archives of Silvia Castillo<sup>13</sup>. Despite the wrong spellings of the German names of Wernher and Beit in these sources, I was able to track them and cross-reference information that I found in German archives<sup>14</sup> and in English and German speaking secondary literature such as Albrecht (2012) and Trevelyan (2013).

In this way it became possible to understand their personal backgrounds

9 Source: DUEG syndicate agreement (SDTB, AEG Archives, sig. I.2.060 A 02343, 004-007). The syndicate agreement bears the handwritten signatures of representatives of all parties, for example Gwinner and Heinemann for Deutsche Bank; the last persons to sign it were Wernher, Beit & Co. in London, on January 31, 1898.

10 For Wernher and Beit's 10% stake in DUEG, see SEIDENZAHL, 1984, 170 [Historical Archives Deutsche Bank]; for the 50% stake in CET&L, see the minutes of the board meeting of October 9, 1897 (quoted in JACOB-WENDLER, 1984, 167, 315, 324) and the list of the consortium's founding members by Merry del Val in his memorial to the city of Santiago dated March 7, 1898, where he names Wernher, Beit & Co. in first place (SOCIEDAD CHILENA DE TRANVIAS Y ALUMBRADO ELÉCTRICOS 1898, 13). See also WESSEL, 1901, 209, and WESSEL, 1902, 231; as well as the DUEG Annual Report and Financial Statements 1900 [SDTB, AEG Archives, sig. I.2.060 A 02433].

11 Wernher, Beit & Co. also owned Mexico City's electric tramways, which they sold to the Mexican Light & Power Co. in 1906. Source: Siemens Historical Archives, sig. SAA 27/Lt 236, August 27, 1907; see also JACOB-WENDLER, 1982, 316, footnote 23.

12 TREVELYAN, 2012, 108. The offer “was turned down,” reports Trevelyan, “no doubt because of the huge investments that would be required for expansion.”

13 Personal Archives of Silvia Castillo, Pontifical Catholic University of Chile, Institute of History (Fernando Purcell), include the minutes of the meetings of the CET&L local committee and also WESSEL, 1901, 1902, among other very interesting documents.

14 See, for example, the file entitled “Directorial Activities of Rathenau at CET&L, 1904,” which covers the period from July 2, 1903, to September 30, 1905 [SDTB, AEG Archives, sig. I.2.060 A-FA 01065].

and business strategies. In fact, for Wernher and Beit, their investment in electrification worldwide was part of an entrepreneurial strategy for the global expansion and diversification of their business, which had started with diamond and gold mining in South Africa in the 1870s, and rapidly converted them into two of the richest men of their time. This capitalist success pushed them to think about investment strategies on a global scale and they then became active in a range of different economic sectors and industries<sup>15</sup>. In addition, they invested parts of their fortune in co-founding universities and art collections<sup>16</sup>. With regards to personal beliefs and convictions, the cross-referenced analysis of sources from different disciplines and in different languages also draws a clear picture of two German imperialists who were very good friends with their British counterparts, particularly in South Africa. Beit, for example, was a close friend of Cecil Rhodes and his financial advisor<sup>17</sup>, and Wernher, according to Bertrand Russell, who met him in February 1905 at a dinner in England, was:

*“a fat, good-natured, eupietic German with an equally fat gold watch-chain and a strong German accent (characteristic of all the finest types of British Imperialists), bearing very lightly the load of blood, of nations destroyed and hatreds generated, of Chinese slavery and English corruption, which, by all the old rules, ought to weigh upon him like a cope of lead.” (quoted in Trevelyan, 2013, 171)*

Sources like this one, and also travelogues and memoirs such as Wallich (1926) or Gwinner (1926) provide amazing insights into the habits and imperial beliefs of bankers in the German Empire; see also Reitmayer (1999) on the social profile and habits of German high finance. Imperial domination

15 Wernher and Beit probably came in touch with Georg Siemens from Deutsche Bank in South Africa, where they were working on huge projects in parallel and then teamed up for electrification projects worldwide (STEINER, 2019b, vol. 1, 198–199).

16 For example, Wernher and Beit co-financed the creation of the Royal School of Mines of the Imperial College in London (TREVELYAN, 2012, 64–65, 98), whose entrance is still lined with their statues today, and the foundation of the University of Hamburg (ALBRECHT, 2011, 113–122), and for the creation of their art collections, they were helped by Wilhelm Bode from Berlin (TREVELYAN, 2012, 144; ALBRECHT, 2012, 120). Gwinner in turn, when he moved to Berlin from Spain in the 1880s, he took with him the dome of the Mirador of the Torres de las Damas in the Alhambra, which he had owned for some years (GWINNER, 1926, 41–45; MCSWEENEY, 2015, 89–102).

17 See ALBRECHT, 2012 for details; he had access to the Wernher’s family archives.

was a conscientious goal at the time, clearly expressed not only in text but also visually (fig. 1). The company brand of the AEG showing the Goddess of Light, created by the German designer Ludwig Sütterlin in Berlin in 1888, is one fine example for imperial postures, as is the caricature The Rhodes Colossus, drawn by the English cartoonist Edward Linley Sambourne for the *Punch* magazine in London in late 1892. In fact, British, German, and other European imperialists shared very similar political convictions at the time, and nonetheless they ran into severe nationalist conflicts with each other shortly after.



**Figure 1. Imperial postures:** The Goddess of Light, AEG company brand 1888 (left); source: German Museum of Technology Berlin, Historical Archives. *The Rhodes Colossus*, drawn by English cartoonist Edward Linley Sambourne (right); source: *Punch* magazine (London), 10.12.1892, p. 266.

For the interpretation of emerging imperial power imbalances and changes in the hegemonic world order that would explode with the First World

War only years later, the rediscovering of long forgotten publications such as Hauser (1915), Katz (1964, 1981), or von Mentz (1982) is particularly interesting, as they allow us to see how economic history complements the history of technology and how we thus are better able to place the events within in the specific geopolitical context that conditioned global electrification at the time. Concluding on this, our research in fact tells the story of Berlin's business elite, who, from the center of the newly unified German Empire and through their Global Networks of Power, came to dominate large parts of the world's electricity markets by the turn to the twentieth century, defying the hegemonic position of British and US companies on the technological as well as the financial stage, and thus producing a new geopolitical situation full of tensions.

The results of this research analysis are socially useful to us today in at least two ways. Firstly, they enable us to create new historiographies that allow for a parallel reading of current energy transitions and a critical reflection on the associated changes in the system of international financial capitalism. Not a lot has changed since this system came into being in the late 19<sup>th</sup> century, and we can learn from the historical analysis to better interpret current day processes<sup>18</sup>. This is also why the focus on business elites is still relevant today, as it enables us to depict their *modus operandi*, identify historical and moral responsibilities on the backdrop of human rights violations and repair, and prevent positivist or "green washed" narratives. Secondly, and I go into this in more detail in a moment, these new historiographies are able to interconnect places and people who, despite their geographical distance, share similar experiences with technology, business methods, and the promise of modernization "Made in Germany."

## 2.- Sharing Industrial Heritage: Connecting People and Places.

New historiographies can translate into new narratives around people

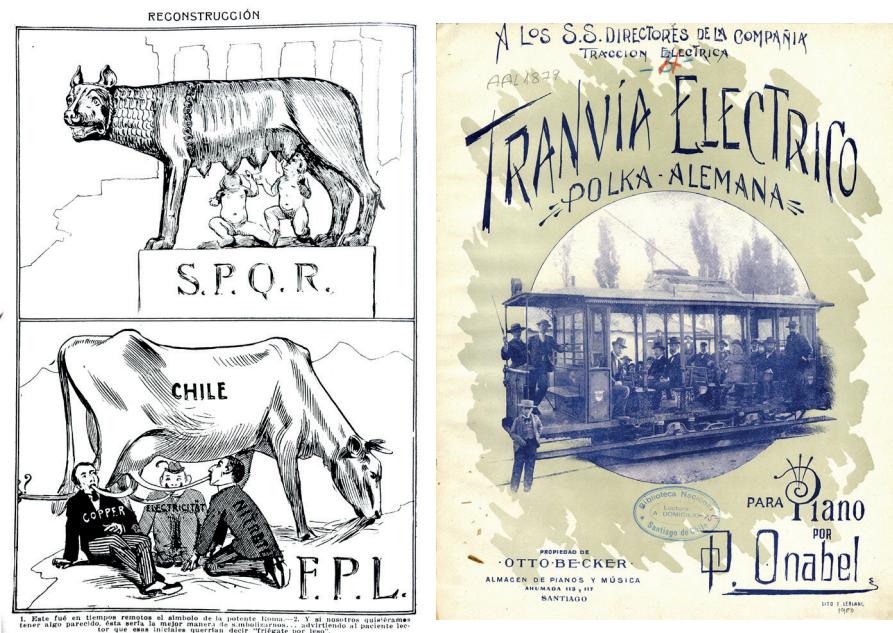
18 A great occasion to discuss this in more detail was the invitation I received to teach at the Summer School "Energy landscapes and transitions" at the Heidelberg Center for Latin America (HCLA) in Santiago de Chile in November 2024, organized by Rosa Lehmann and Johanna Höhl from the University of Heidelberg in collaboration with HCLA and the Master "Governance of Risks and Natural Resources." <http://espi.rhondda.de/escuela-de-verano-2024/>

and places, and in that way they connect directly with Heritage Studies. Critical and decolonial approaches to the social construction of industrial heritage and preservation practices (Steiner, 2025b) represent a major renewal in the field, promoting concepts like the Global Sense of Place, Situated Knowledges, and Sharing Heritage. In parallel to paradigmatic shifts in heritage theory, new methodological approaches pay tribute to the differences of real situations on the ground and thus enable to achieve more social impact.

A Global Sense of Place as described by Doreen Massey (1991) can be developed from historical research on global technological, economic, (geo) political, and cultural processes and a critical revision of the modernizing discourses that have accompanied the implementation of large-scale technological systems. The new historiographies that stem from this allow us to better understand historical interconnections that exist between places, people, and global networks of power, to develop a critical view on European technological, scientific, and financial imperialisms, and to create narratives that succeed to also include the uncomfortable parts of history instead of omitting them.

When, in our case, we are set up to interpret the patterns of the electrical conquest of Latin America by the business and financial elite of the so-called "Elektropolis Berlin," the question arises: What do we actually talk about and what do we want to talk about? Is it to tell the story of the great technology Made in Germany that brought progress and modernity to the world and fostered local urban development? This discourse would use visuals to illustrate their point like the cover of a German polka composed in 1900 on the occasion of yet another electric tram line inauguration celebration in Santiago de Chile, paying tribute to the German company directors and engineers who built the system (fig. 2, left). However, I insist that this was not their factual intention; on the contrary, their goal was to implement a business that would be profitable for them. So, there is also a very different and much more critical narrative to tell about German imperialism, as portrayed for example by a Chilean caricaturist in 1915 (fig. 2, right) who depicted the typical US American dominating the copper sector in Chile at the left, the typical English man dominating the saltpeter business at the right, and in the middle the typical German (actually a Bavarian, not a Prussian as it should be; here the local caricaturist seems to have had a little confusion between regions inside Germany) dominating the electricity sector in Chile. Note that this caricature dates from 1915, i.e. we are already in times of the First World War, which

also tells how rapidly German actors came to dominate the electrification sector in Chile since they had become active in the field in the late 1890s.



**Figure 2. Conflicting narratives:** What are we talking about? Left: Chilean caricature 1915; source: ZigZag magazine (Santiago), 30.1.1915 [Valparaíso Municipal Library "Santiago Severin"]. Right: Cover of the score of a German polka composed on the occasion of the inauguration of an electric tramway line in Santiago de Chile, 1900; source: National Library Chile, Musical Archives, sig. 34374.

But these new critical historiographies not only help us to better understand historical interconnections between places and people in the past. They also help us to build new alliances between heritage communities across the world today, who despite being half a planet away from each other, do connect through their heritage work and multiple-perspectives interpretation of the same places, and from different disciplines, which adds even more value to it. In the framework of our Fondecyt project, the key example we worked on was the former hydroelectric complex El Sauce y La Luz in Valparaíso, which is where we first met in December 2014 with Pamela Fuentes, and then it became a departure point for our joint work with the Museo Histórico de

Placilla (MUHP) in Valparaíso and the Berlin Center for Industrial Culture (BZI), connecting people, raising awareness for contested narrations, and actively creating “glocal” heritage communities.

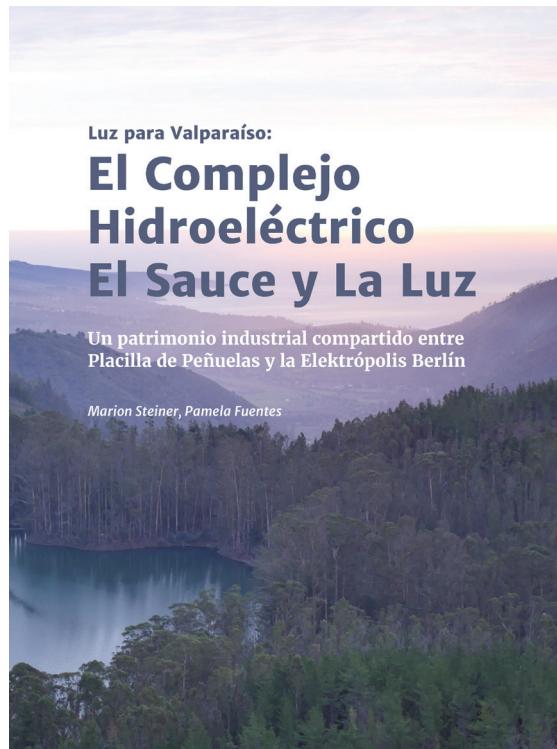
As perspectives and research interests differ, one major finding on the methodological side was to see how important it is to research in different languages, do long research stays abroad and to actively listen (Steiner, 2025b). Immersion to the field as a research method to dig into Situated Knowledges as described by Donna Haraway (1988), was fundamental to understand each other better, but it is also a frustrating experience at times because you realize that there are unknowable things that you will never be fully able to understand due to different social realities and cultural contexts, and also frequently you feel misunderstood because you learn that not necessarily what is of interest for you, is also interesting for others (Steiner, 2021, 2025b). These were key experiences already during the early work we did together since 2014, and then in particular since I moved to Chile in 2018 to work at the Pontifical Catholic University of Valparaíso (PUCV) as a geography professor<sup>19</sup>. Key highlights in that period were the work we did with students on identifying industrial heritage in the Valparaíso region (Mansilla et al., 2018), my speech on “Berlin’s Industrial Heritage from a Global Perspective” at the Eighth Berlin Forum on Industrial Culture and Society of the BZI on 3 December 2020<sup>20</sup>, the DAAD Symposium in Valdivia in January 2021 and its subsequent book publication (Steiner, 2021), and then the 2021/22 FONDART project lead by the Placilla Cultural Center<sup>21</sup> that culminated in the milestone book we authored together with Pamela (Steiner and Fuentes, 2021)<sup>22</sup>, and in which we combined historical and geographical with architectural, anthropological, and future heritage and urban planning approaches (fig. 3).

19 See STEINER, 2025b, for more details on the collaborative process across continents since 2014.

20 See STEINER, Marion (2020) “Zur Industriekultur Berlins aus globaler Perspektive” (Berlin’s industrial culture from a global perspective), Lecture at the Eighth Berlin Forum for Industrial Culture and Society, BZI, 3.12.2020. <http://espi.rhondda.de/zur-industriekultur-berlins-aus-globaler-perspektive/>. A slightly modified version of the lecture text was published in Spanish, see STEINER, 2021.

21 <http://espi.rhondda.de/complejo-hidroelectrico-el-sauce-y-la-luz/>

22 See STEINER; FUENTES, 2021, and also the book reviews by ICOHTEC Secretary General Nelson ARELLANO (2022) and Humberto MORENO MORALES (2022) from Mexico.



**Figure 3. Connecting places:** Cover of the book *Light for Valparaíso. A shared industrial heritage between Placilla de Peñuelas and Elektropolis Berlin* (STEINER; FUENTES, 2021). Cover photo: Francisco Rivero, 2021.

Thanks to the Fondecyt project funding, the moving back and forth between Berlin and Valparaíso intensified from 2023 onwards. In 2024, for example, I was invited to speak twice at the Technical University of Berlin, raising awareness for shared heritages and the necessity to actually sharing it, and I also accepted an invitation to lead a workshop at the German Museum of Technology in Berlin, which was focused on AEG in South America. Over the years and specifically in the last decade, I observe a growing sensibility for global justice topics in PhD students and museum staff in Germany<sup>23</sup>, which is a real progress that I hope will survive the current backlash against supposed “wokeness” that has recently begun to affect our working condi-

23 See for example the LWL/LVR project *Futur21*: <http://espi.rhondda.de/charla-industrial-heritage-from-the-south/>; the corresponding book publication is LANDSCHAFTSVERBAND RHEINLAND; LANDSCHAFTSVERBAND WESTFALEN-LIPP, 2022

tions. However, in 2025 it has still been going well; proofs are the most recent invitations: On October 10 I provided the first lecture titled “Global Networks of Power: Imperial legacies of German electrification in Latin America” at the annual congress of the German Society for the History of Technology and Industrial Culture (GAG) in Berlin, in whose program development I was actively involved through the GAG’s Scientific Advisory Board<sup>24</sup>; a few days later we presented the book *Grounding Berlin* (Steiner, 2025a) in the Centre Marc Bloch, organized by the Berlin-Brandenburg Colloquium for Environmental History; and another day later I intervened at the 13<sup>th</sup> Forum of the Berlin Center for Industrial Culture (BZI)<sup>25</sup>. It is important to state that not only myself as the responsible Fondecyt researcher, but also Pamela Fuentes and Aulikki Pollak from the project team have moved around nationally and internationally to promote the industrial heritage of the Valparaíso region<sup>26</sup>.

This kind of activities helps us to share our heritage gloccally and to create mutual and bidirectional global understanding. By doing so, we proactively go beyond traditional heritage definitions that tend to be restricted to national frameworks and to use criteria that focus on superlatives and on the supposed superiority of one’s own people, nation, technology, or culture. The point we want to make is that, instead, we need to change perspectives, transcend current definitions and criteria, and move on to less heroic and more horizontal and collaborative understandings. Especially with regards to UNESCO’s World Heritage program, this Fondecyt project, again, enabled us to further develop the conceptual suggestion to move on from World Heritage to Global Heritage (Meier and Steiner, 2017, 2023).

Another major challenge we engaged with from our project was to push the discussion around decolonial approaches to industrial heritage in the Latin American and the global contexts. The regional development program of the Biobío Region in southern Chile we got involved with in 2023 was one essential pillar in this (Rock et al., 2024), where we learned from the Lota

24 Congress title: “Stoffe, Räume und Prozesse: Die Einführung neuer Technologien als gesellschaftliche Herausforderung” (Materials, spaces, and processes: The introduction of new technologies as a social challenge), <https://www.georg-agricola-gesellschaft.de/tagungen.html>.

25 Thirteenth Berlin Forum for Industrial Culture and Society, BZI, 14.10.2025, <https://industriekultur.berlin/erforschen/forum-industriekultur/>.

26 Key activities were their presentations at the Lota congress in Concepción (Chile) in October 2023 (see ROCK et al., 2024) and at the TICCIH World Congress 2025 in Kiruna (Sweden).

World Heritage approach how it is conceptually and methodologically possible to include critical perspectives, negative and painful experiences, and human suffering into World Heritage nomination justifications, with the goal to ultimately build Glocal Communities of Care (Steiner, 2025b; Preite, 2025; Joshi, 2023). This is also needed in other parts of the world, as for example for Bhopal in India. In that sense, Moulshri Joshi's recent speech in Kiruna evolved from what she had presented at the INCUNA congress in 2022 (Joshi, 2023)<sup>27</sup>: given that things don't really move forward in Bhopal, she now explores potential justifications for a nomination of Bhopal as a World Heritage site<sup>28</sup>. Taking it from the human experience of suffering from industrial disasters, the Bhopal case, too, bears a global dimension that makes it possible to connect with other sites around the world where industrial(ized) activity and human catastrophes combined tragically like in Chernobyl or Auschwitz.

Concluding on this focus on Heritage Studies as a secondary pillar of our project, firstly we could see that our contribution to create global understanding is considered relevant by the national as well as the international industrial heritage communities. Secondly, we came to realize that industrial heritage as such is a particularly well-suited kind of heritage to demonstrate how interconnected and interdependent we are on each other worldwide. To remember the common fate of mankind globally also perfectly reconnects with UNESCO's founding mission "to create peace in the minds of women and men<sup>29</sup>," and thus ultimately allows us to recenter our reflections around Industrial Heritage for Peace, which has been the title of my keynote speech at

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27 JOSHI, Moulshri (2022) "Maps and Mutual Aid. How Bhopal Can Inform a Critical View of Heritage," presentation at the INCUNA Congress 2022, Gijón (Spain), 30 September 2022, <https://www.youtube.com/watch?v=6GDwAgsN6C4>.

28 JOSHI, Moulshri (2025) "Assessing the Potential for Inscription of Industrial Heritage Sites on the World Heritage List: Case of the Former Union Carbide Factory at Bhopal," presentation at the 19<sup>th</sup> TICCIH Congress, Kiruna, August 26, 2025.

29 Preamble to the UNESCO Constitution, signed in 1945, ratified in 1946, and prepared since 1942: [www.unesco.org/new/en/unesco/about-us/who-we-are/history/constitution/](http://www.unesco.org/new/en/unesco/about-us/who-we-are/history/constitution/). UNESCO was founded against the backdrop of the disastrous experiences of the Second World War and is also the responsible organization for the World Heritage Program. In the preamble to its Constitution it is stated: "Since wars begin in the minds of men, it is in the minds of men that the defenses of peace must be constructed." And it goes on to say: "a peace based exclusively upon the political and economic arrangements of governments would not be a peace which could secure the unanimous, lasting and sincere support of the peoples of the world, and [...] the peace must therefore be founded, if it is not to fail, upon the intellectual and moral solidarity of mankind."

the latest TICCIH World Congress in Kiruna, and the reflection is ongoing<sup>30</sup>.

### **3.- Making more out of it: Research to create real social impact.**

Taking advantage of the high quality international networks on which the project was built, we designed a collaborative action-research strategy for the three years of its implementation, which was deeply anchored in the local community and aimed at creating a real and lasting impact for the benefit of industrial heritage in Valparaíso<sup>31</sup>. In the following I resume key activities that certainly went far beyond the classical requirements for a Chilean Fondecyt research project. They are organized not by traditional work areas but focus on four impact-oriented recommendations drawn from best-practice experiences that might inspire others for designing and managing future projects:

1. Team up with other locals in your city region and across the country;
2. Meet the classical expectations with regards to scientific production, of course;
3. Play on international collaborations for synergies and sponsoring in kind; and
4. Implement outreach strategies to connect with the general public and raise political awareness.

#### **3.1.- Teaming up with locals, in Valparaíso regionally and across Chile.**

One fundamental decision was to work with professional local heritage actors as co-researchers in the project team, instead of solely relying on students. A key motivation for this was to help the local community to generate lasting relations with academia through the project and to create synergies with national and international colleagues whom they did not know before. This meant to empower the local communities and to create much more las-

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30 STEINER, Marion (2025) "Connecting People and Places: Industrial Heritage for Peace," Keynote at the 19<sup>th</sup> TICCIH Congress, Kiruna, August 29, 2025, <http://espi.rhondda.de/keynote-kiruna/>.

31 On the definitions and benefits of "impact-oriented project management" see for example the explanations by the German Academic Exchange Service (DAAD, 2021), as well as their website, especially: <https://www.daad.de/en/> (open access).

ting social impact in the Valparaíso region than it would have been possible to create through a project that is exclusively anchored inside academia. In addition, the project and its associated experts could thus benefit from the possibility to celebrate key events outside the university and in situ – i.e. on sites that were crucial for the project's content and goals.

Thus, together with the director of the Placilla Historical Museum Pamela Fuentes and in collaboration with the Placilla Cultural Center, we were able, for example, to organize the opening event of the project in the museum in August 2023, as a scientific symposium focused on history and geography, open to the general public, with a national expert and two graduated local students as invited speakers<sup>32</sup>. Then, in October 2023 and July 2024, we organized international cooperation visits that started at the museum and went on to discover the El Sauce waterpower plant, first for a group of international experts for the history of technology, architecture, and industrial heritage from Mexico, Spain, and India, accompanied by a couple of local students, and a year later for a larger group of national and international experts for the history of technology from Germany, Luxemburg, Spain, and different parts of Chile, in addition to some students and former students from the Valparaíso region (fig. 4). To bring national and international experts to the city outskirts and to places that are not at all typical destinations was crucial for the project, and the museum thus became a meeting point between academia and the local heritage community.



32 <http://espi.rhondda.de/lanzamiento-fondecyt/>



**Figure 4. Discovering the field:** International cooperation visits to the El Sauce waterpower plant with experts from Mexico, Spain, India, and Chile in 2023 (top) and from Germany, Luxemburg, Spain, Colombia, and Chile in 2024 (bottom). Group 2023, from left to right, front row: Miguel Ángel Álvarez Areces, Humberto Morales, Marion Steiner, Pamela Fuentes, Moulshri Joshi; back row: Sonsoles Aguilar, Suditya Sinha, Francisco Rivero, Camila Mera. Photo: Andrés Moreira. Group 2024, front row: driver Jonathan Perucich from Transportes Narváez E.I.R.L., Rosanna Pecchi, Orlando Vigouroux, Antoni Roca-Rosell, Pamela Fuentes, Victoria Barbieri, Marion Steiner, Michael Hascher, Aulikki Pollak, Stefan Krebs; back row: driver Gerardo Villarroel, Constantin Canvas, Luis Guillermo Arango, Diego Arango, Emma Suriñach, Daniel Pérez-Zapico, Cecilia Ibarra, Renato D'Alençon, Francisco Rivero. Photo: Mauricio García.

In addition to the joint organization of international cooperation visits in Valparaíso, with Pamela we also participated in field visits abroad, which gave us the opportunity to further showcase, discuss, and compare our research approaches and collaborative methodology with colleagues in Chile and Latin America. In particular, in October 2023, we visited the hydroelectric power plant Chivilingo in southern Chile, which was the first of its kind in Chile while El Sauce was the second but actually the first one for public use; and some days later we had the opportunity to visit the hydroelectric power plant Necaxa in Mexico, which was the largest in all Latin America when it started operating in 1895<sup>33</sup>.

33 <http://espi.rhondda.de/visita-necaxa/>

Teaming up even more in Chile, within the city of Valparaíso we started coordinated work between the museum, the local municipality, and my ESPI Lab for Critical Industrial Heritage Studies in order to help students from different universities and a variety of academic disciplines to research on topics that are related to the El Sauce y La Luz site and its history. Doing this from outside classical academia allowed for opening up much broader views for the students. We also created new networks between industrial heritage initiatives across the Valparaíso region, in particular between Placilla and Limache, due to the composition of the project team and their local realities on the one hand side but also due to the strong historical interconnectedness of industrial developments between the port city of Valparaíso (a World Heritage since 2003) and its hinterland, which we were able to understand and explain better by working together. The aftermath of the successful listing of some heritage sites in Limache was an interesting parallel activity to follow (Pollak, 2023), and we managed to create even more synergies by combining with contents from another research project financed by the Chilean Ministry of Culture through its FONDART program<sup>34</sup>. These crossover activities deepened the networking between local heritage communities in different parts of the Valparaíso region and also benefitted our project by enabling us to better prepare our comparative research, improve the team spirit, and plan our national and international travels.

On the national scale, more networking for comparative research was done with industrial heritage colleagues in the south of Chile, with visits in the Biobío region in October 2023 and September 2024 that focused on mining heritage and waterpower, and with visits to the Chilean Patagonia in March 2023 and March 2024 exploring oil heritage and territorial development. An exceptional opportunity for industrial heritage networking across Chile was then provided in 2023 by the Lota Congress, which was financed by the Biobío Regional Government and implemented by the local CreaSur Cultural Center (Rock et al., 2024), and in which eight Chilean industrial heritage colleagues were invited to exhibit and present their work. In events like this, our project team represented the Valparaíso region as a major hotspot for industrial herita-

<sup>34</sup> Project title: "Trabajadores de la Cía. de Cervecerías Unidas de Limache: historia, memoria y formas de habitar colectivo de la Región de Valparaíso, 1902-1993" (Workers of the United Breweries Company of Limache: history, memory, and forms of collective living in the Valparaíso Region, 1902-1993). <http://espi.rhondda.de/trabajadores-de-la-ccu/>.

ge in Chile, which improved our visibility as a group and as a region, in Chile and beyond. The synergies we succeeded to create in this way over three years are also reflected in the 2025 TICCIH National Report for Chile, which we have produced as a group of seven colleagues from the field of industrial heritage working in different parts of the country (Migone; Rock; Steiner, 2025).

### **3.2.- Meeting the classic expectations with regards to scientific production.**

Beyond field trips and excursions, coping with the classical duties of scientific production is of course fundamental for a research project to be successful. In that sense, scientific lectures and publications have been at the core of our researchers team's activities over the three years duration of the project. You can find the full list on the project's website<sup>35</sup>; here just to mention that all members of the project's research team have provided lectures, most of the lectures were on invitation and held by myself at universities and in specialized academic networks across Chile and Europe in addition to some in Asia and the Arab world, and they were key to promote the ANID Fondecyt research project as well as the heritage values of the El Sauce and La Luz hydroelectric complex on the national and international floors.

Lectures in Chile included presentations at the University of Chile (History), the University of Valparaíso (Humanities), the University of Magallanes (Architecture), the University Adolfo Ibáñez in Viña del Mar (ICOHTEC/ SHOT History of Technology International Congress), the National University Andrés Bello in Ñuñoa, Santiago (Doctorate in Applied Humanities), and the University San Sebastián in Concepción (Architecture). Lectures outside Chile included presentations in Spanish at the INCUNA Congresses 2022 and 2023 in Gijón (Spain), the TICCIH Latin America Congress 2023 in Monterrey (Mexico), the TICCIH Brazil Congress 2024 in São Paulo (Brazil), and the TICCIH Spain Congress 2025 in Motril (Spain); in English at the International Forum 2024 of the Asian Network for Industrial Heritage in Taipei (Taiwan), at the International Industrial Heritage Symposium in May 2024 in Riyadh (Saudi Arabia), and at the TICCIH World Congress 2025 in Kiruna (Sweden); in German at the TU Berlin Research Colloquium on History of Technology in May 2024, the DFG Graduate School on Identity and Heritage in May 2024

35 <http://espi.rhondda.de/luz-poder-y-progreso/>

in Berlin, the German Museum of Technology Berlin in June 2024, the Annual Congress 2025 of the German Society for the History of Technology and Industrial Culture GAG in October 2025 in Berlin, and the Centre Marc Bloch in October 2025 in Berlin; and in French at the Université de Valenciennes in September 2025.

As for publications, in line with our strategy and work plan, we published: a) an outreach article in the first year to make the project known to the international industrial heritage community via the TICCIH Bulletin and to call on interested colleagues worldwide for networking (Steiner and Fuentes, 2024); b) two international book chapters in the second year, one combining History of Technology approaches with Urban Environmental History (Steiner, 2025a) and the other one contributing from the heritage studies field to the *Routledge International Handbook of Deindustrialization Studies* (Steiner, 2025b), c) this article here, which closes the project after three years, and there will be at least one more, co-authored with Pamela Fuentes. Thanks to our committed international colleagues, we have also received two very nice open access mentions of our work in the European scientific community (Roca, 2024; Preite, 2025).

### **3.3.- Playing on international collaborations for synergies and sponsoring in kind.**

From the start, the project's work plan and budget calculation included three research stays abroad and several international congress travels for the responsible researcher, as well as cooperation visits for international colleagues to come to Chile to participate in local activities we would organize for them so that they would get to know our local realities, specific scientific debates, and industrial heritage sites. One fundamental characteristic of the project was that we had developed and implemented an international collaboration strategy that allowed us to join forces and create synergies with a series of partners from different countries and continents. This made it possible to combine key activities, which then occasionally secured us with sponsoring in kind.

In this way, with regards to the research stays, the first one was combined with invitations by partners from Saudi Arabia and Berlin, the second one with invitations by partners from Sweden and Brazil, and the third one with invitations from Sweden, France, Spain, and Germany. These research stays

included the participation in international congresses, but more congress lectures were provided in addition that were also sponsored by international partners<sup>36</sup>. The respective special thanks are acknowledged separately at the end of this article. With regards to international cooperation activities in Valparaíso, the corresponding budget was spent in the first two years of the project, generating synergies with the international industrial heritage congress in Concepción in 2023 (Rock et al., 2024) and with the ICOHTEC/SHOT world congress on the History of Technology in Viña del Mar in 2024 (Roca, 2024). In this way, we succeeded to bring experts from different continents to Valparaíso, to get to know the El Sauce y La Luz hydroelectric heritage site complex and the community museum in Placilla.

For the final year 3, again thanks to paid invitations for the project's responsible researcher that meant that less money had to be spent on her flight tickets and hotel accommodation, we planned the project budget in a way that all the three members of the project's researchers team were able to participate in TICCIH's World Congress for Industrial Heritage in Sweden in August 2025. It might not be that frequent to understand this kind of VIP invitations as a sponsoring in kind for a team's project, but in the case of our team, it is our firm conviction that the most lasting impact that an academic research project can create is to create synergies to strengthen human networks moving between the local, regional, and global floors. From that perspective, it is only just that available extra money should be used as sponsoring in kind so that co-researchers, too, could participate in events that are key for the project (fig. 5).

36 Examples are our project's presentations at the 10<sup>th</sup> Latin American TICCIH Congress in Monterrey, Mexico, in 2023: STEINER, Marion (2023) "Luz, Poder y Progreso: La electrificación urbana alemana de América Latina en su contexto geopolítico y cultural, 1880-1920" (Light, Power, and Progress: German Urban Electrification in Latin America in its Geopolitical and Cultural Context, 1880-1920), 26.10.2023, <http://espi.rhondda.de/fondcyt-monterrey/>; and FUENTES, Pamela (2023) "Registro de Memorias Obreras y Rutas de Reconocimiento del Patrimonio Industrial de Placilla de Peñuelas, Valparaíso-Chile" (Register of Workers' Memories and Routes for Recognizing the Industrial Heritage of Placilla de Peñuelas, Valparaíso, Chile), 24.10.2023.



**Figure 5. Global presence:** The project team Pamela Fuentes Pradenas, Aulikki Pollak Parada, and Marion Steiner (from left to right), with Boris Cvitanic Díaz from the University of Magallanes, at the 19<sup>th</sup> TICCIH World Congress 2025 in Kiruna, Sweden. Photo: Marion Steiner Personal Archives.

### 3.4-. Implementing strategies to connect with the general public and raise political awareness.

Another major axis of our project was the dissemination of the scientific knowledge that we produced and discussed in our high-profile academic activities to the general public. One team member, a professional journalist specialized in *science communication*, was in charge of a communication plan that covered local and national media in Chile, and she also prepared content for international outreach. In this way, we also aimed at attracting the attention of the local and national heritage authorities for our work, for the values the El Sauce and La Luz site in Valparaíso, and for the necessity of its legal protection.

A special website provided regular updates on all our project's activities and is available permanently on <http://espi.rhondda.de/luz-poder-y-progreso/>. In addition, Aulikki Pollak in her role as the project's journalist and outreach coordinator organized mentions of the project's topic in the local

and national press in Chile. We succeeded to appear in the local newspaper *El Mercurio de Valparaíso* twice (Ruiz, 2023; Arbulú, 2024) as well as in the national newspaper *El Mercurio* (de Frutos, 2024). The latter photo reportage, titled “Remains of an industrial jewel,” was placed in *El Mercurio*’s well known weekend supplement magazine *Vivienda and Diseño* and succeeded to generate local impact and discussion in Valparaíso, as we could see a few days later from an opinion text published in *El Mercurio de Valparaíso*, in which one of their editors asks why the political authorities are so absent on the matter and on heritage matters in general (Segismundo, 2024).

Another goal was to create audiovisual content at the crossroads between the international scientific community, local civil society actors, and public institutions in Chile and Germany who are in charge of the interpretation, conservation, and sustainable management of industrial heritage. With this in mind, we interviewed the experts who participated in the international collaboration visit in 2024 and recorded these on the spot at the El Sauce power plant. The eight short videos we have produced from this will be available online soon. In addition, we are editing two 90-seconds-videos (reels) that will also be published via the ESPI website and the Social Media and YouTube channels of the MUHP-Placilla Cultural Center<sup>37</sup>. A draft version of the first reel was shown as a sneak preview at the TICCIH World Congress in Sweden in August and at the GAG Annual Congress in Germany in October 2025. Both were great occasions to confirm that the narratives developed by the local Chilean team with only minor guidance from my side, as they are the ones who best know how to catch the attention of their national researchers, local authorities, and the press, work out very well for a European English speaking audience, too.

#### **4.- Conclusions and outlook.**

Our Fondecyt research project applied a broad perspective on the imperial German electrification of Latin America that allowed for a cross-disciplinary approach and enabled the discussion between disciplines, in particular between the History of Technology and Industrial Heritage Studies. With regards to History of Technology, we ultimately demonstrated that global

<sup>37</sup> <https://www.youtube.com/@centroculturalplacilla7765>

economic history is fundamental for explaining the global history of electrification, as electrification was particularly dependent from capital investments and actually a historical starting point for international financial capitalism. We came to understand that in the corresponding Global Networks of Power frequently the same people were identified as key players. From the discussions of these findings in the international scientific community, we were then able to develop new historiographies and narratives. These new narratives revealed less Eurocentric readings of the past and contributed to a reconceptualization of industrial heritage from the South. The second pillar of our project, Industrial Heritage Studies, which we implemented in parallel, enabled us to develop a Global Sense of Place for the El Sauce and La Luz hydroelectric complex built in Valparaíso in the early 20<sup>th</sup> century by German investors and firms. This included the explanation of historical contexts and present-day connections between Valparaíso and Berlin, and the development of critical narratives around German technological, scientific, and financial imperialism that have not been present in the interpretation before. This re-reading is conceptually framed by the observation that the traditional key questions in industrial heritage are currently transforming from: "What, how, and for whom?" into: "Who, how, and What for?"<sup>38</sup>

The third part of this article demonstrated how impact-oriented action-research anchored in the history of technology and industrial heritage can work from the ground and how our project contributed to the social struggle for the legal protection of the El Sauce and La Luz hydroelectric complex. Collaborative work approaches and methodologies were key in the project implementation and guided by clear strategies to join forces and create synergies on all levels. The mutual benefits between international academic research and local heritage communities teaming up showed a best practice experience that can surely be repeated. Picking up on the social need on the ground to highlight the existence, relevance, and heritage values of the El Sauce and La Luz site was essential for the success of our project, especially in the context of Valparaíso being a World Heritage site. Elements that proved well suited to enhance our work's social and political impact, was to appear in national newspapers, to have our subject accepted for presentation in high prestige international scientific congresses and books, and to receive

<sup>38</sup> This claim for a paradigm change to enable better global understanding was raised by Esperanza Rock in her public lecture at the Kiruna Municipal Library on August 27, 2025, in the framework of the TICCIH World Congress 2025.

cooperation visits of renown national and international experts to the field. Due to this, different authorities in Central Chile became aware of the topic and our work over time, and one fruit of this is that Pamela and I have been receiving invitations to meet the local municipality's heritage and urban planning teams in Valparaíso, where we talked about the necessity of further comparative research from an international perspective, the need to raise further social and political awareness for industrial heritage preservation in Valparaíso and Chile, and the possibility to call on us as experts to help preparing an official heritage listing of the El Sauce and La Luz complex through national law. Our project was thus crowned with clear public benefit.

All the synergies described here to create Global Networks of Care for industrial heritage in Valparaíso and to connect people and places in and from Chile, have been achieved thanks to major collaboration efforts by all the members of our project team. The efforts aimed at interconnecting the two fields of History of Technology and Industrial Heritage on the most local level within Chile and up to the world stage, and three events in particular were key to join forces internationally: The ICOHTEC/SHOT world congress in July 2024 in Viña del Mar, organized by Nelson Arellano, marked the first time that these two organizations celebrated a meeting in the global South;<sup>39</sup> the international congress on industrial heritage in October 2023 in Concepción, organized by Esperanza Rock and her NUDISUR network and financed by the Biobío Regional Government (Rock et al., 2024), counted with the official presence of ICOHTEC as well as of TICCIH; and the TICCIH world congress 2025 in Sweden was attended by a major delegation from Chile and included program parts that were specifically dedicated to critical reflections around the meanings of heritage in the context of industrial extractivism, which were co-produced by the author of this text and Esperanza Rock together with the congress' local organizing committee in Sweden. During the year 2025, Nelson Arellano was then elected ICOHTEC President in July, and Marion Steiner and Esperanza Rock were elected TICCIH President and Vice President, respectively, in August. It thus seems that a lot of things have been coming together in Chile lately (Roca, 2024) and also that, from Chile, we are able to initiate and foster important new developments on the world stage, such as the renewal of leading global organizations in the fields of the

<sup>39</sup> The Latin American workshop on the History of Technology at the University of Chile in November 2023 was a crucial path towards the ICOHTEC/SHOT congress in Chile: <http://espi.rhondda.de/fondecyt-taller-latam/>.

history of technology and industrial heritage studies. As for TICCIH, with the new Board inaugurated at the General Assembly on August 29, 2025, the organization is now more global, younger, and more female than ever before, and cross-disciplinary work and collaborative methodologies will surely continue to inspire the work of TICCIH as the global community for industrial heritage in the future (Steiner, 2025c).

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