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INDUSTRIAL HERITAGE FROM THE SOUTH

Decolonial Approaches to the Social Construction of Heritage and Preservation Practices

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*Marion Steiner**

Introduction

The experience of industrialization and deindustrialization are uneven around the world, and the same is true for the social realities that are linked to these processes on the ground. This chapter takes a closer look at the concepts and methods we need to be able to cope with the specific intellectual and political challenges that arise from deindustrialization in different places and continents with regard to the social construction of heritage and preservation practices.

First, I present some general reflections on how industrial heritage has emerged as a concept in the 1970s and 1980s in European countries that faced economic and social crises due to the translocation of industrial production to other parts of the world at the time. In the following three subsections, I present specific cases and projects from Latin America and Asia and the experiences of people who are fighting on the ground for an independent interpretation of what industrial heritage actually means for them and should mean for the common good in their respective areas.

Their critical, post and decolonial views stem from the observation that industrial heritage preservation concepts and methods have been transferred from Europe to other world regions without much questioning of whether this was (and is) at all appropriate given the traditional focus of the North on self-referential narratives of technical and economic innovations and superiority that supposedly brought progress and growth to supposedly 'underdeveloped' countries, where local development paths often came to an abrupt and too often violent end with the arrival of European-style modernity, industrialization, and the extractivist business model.

* I want to express my profound gratitude to Pamela Fuentes and Esperanza Rock in Chile, Magdalena Novoa in the US, and Moulshri Joshi in India for their inspiration over the past years. Their impressive work and example are my most fundamental motivation to keep going and keep writing even in very tough times. I also thank them for having accepted to revise this text and share their critiques and suggestions on very short notice. Our bounds are substantial, our will to explore the unknowable is unbroken, and our mission continues.

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Eventually, I want my (English-speaking) readers to understand what are the driving motivations behind the hard work that is being done in the so-called Global South, particularly by women, when it comes to the (re)interpretation of their communities' pasts and the (re)construction of their future. I also want readers to get inspired and learn from the ways these people suggest moving forward toward the collective and grounded creation of just, inclusive, and resilient industrial heritage narratives and preservation practices.

Last but not least, I hope that this account will also have some impact on the process of remaking international post-Second World War organizations such as TICCIH, ICOMOS, and UNESCO. In TICCIH in particular, with a new generation on board of professional women some of whom get quoted here, we are already, slowly but steadily, working on a revised version of the 2003 Nizhny Tagil Charter on Industrial Heritage.

Thinking Industrial Heritage From the South

To set the frame for the experiences I discuss in the main body of this chapter, I will first present three fundamental convictions that are shared by the people I introduce later on: (i) Heritage is a social construction and a political battlefield; (ii) Industrial Heritage is a Eurocentric concept that has to be decolonized; (iii) TICCIH needs to move on to become a truly global organization.

Heritage and Human Rights

There are still people who think that heritage is about the past, but it's not so at all. Heritage is about how, in our present day, human communities collectively negotiate their respective understandings of the past and visions for the future. This means that heritage is all about decisions and selections, and these depend on interests and motivations that are as different as are people, places, and things (Capel, 2014; Bogner et al., 2018; Meier and Steiner, 2018, 2023). Crucial questions in the social negotiation process on what we consider heritage or not are these: Why do we find something worth to be protected? What do we actually want to demonstrate or prove? What are the messages that we see behind historical legacies, and why and for whom would these be of any use for the future? Are our interpretations inclusive and diverse, or do they tend to be exclusive or even potentially xenophobic? Do they foster collaboration or competition? Is the collective aim to prove the supposed superiority of someone's supposedly own nation, technology, or people, or is it about creating more social peace, mutual human understanding, and solidarity?

Heritage can be an answer to real social needs and reassure collective identities in times of crisis. It is always political; it's exposed to manipulation, and it can get instrumentalized for ideological goals. Heritage will always express ideological convictions and beliefs; heritage is, in fact, a political battlefield. Homogenous master narratives obscure the fact that different people have different interpretations of the past and the future, while "agonistic" views (Berger, 2019, 2022; Berger and High, 2019) shed light on this diversity and enable us to think about more democratic ways to construct heritage. Traditionally, the focus in cultural heritage has been on the powerful and elites, and also in industrial heritage the dominant master narratives concentrate on smart white men bringing progress, technology, and welfare to the world (Meier and Steiner, 2018, 2023). Migrant stories, female voices, first nations perspectives, and others that imply conflicting interpretations of the past, evoking conflicts, suffering and political fights, are still too often, consciously, or unconsciously, omitted.

'Critical' heritage stems from the motivation to pay tribute to these people, and 'insurgent' heritage is these people themselves standing up to defend their rightful understanding of the past and the future. This reflection also leads us to a first definition of 'decolonial' heritage: fundamentally, it's about putting on the table the global power relations and hierarchies that confine the interactions between groups of people as well as between humans and nature, with the motivation to fight for and defend people, places, and things that would otherwise get omitted, oppressed, or "discarded" (Liboiron and Lepawsky, 2022). To make their voices heard, loud and clear, as a matter of human respect no matter how hard this may be, implies that heritage work can also be really dangerous, depending on the political context on the ground.

Concluding on my first point: heritage is not only a social construction, but it is also hard social and political work defending basic human cultural rights, and decolonial heritage is a fight for social justice on a local, national, and in particular on the global scale. This is particularly relevant when it comes to industrial heritage, as industrialization has been a global phenomenon since its very beginning. Deindustrialization processes also cannot fully be understood without considering global contexts, in particular the translocation of industrial production from one part of the world, or regions, or continents, to others. Despite all the ground-breaking intellectual work that has been done on concepts like the Modern World System since the 1950s (Wallerstein, 2004), this question of scale in global power relations still tends to be overlooked regularly, and this leads to my second introducing statement on industrial heritage as a Eurocentric concept.

Industrial Heritage and Decolonization

Industrial heritage as a concept emerged in the 1970s in Europe, from the specific context of the social and economic crisis in Europe and Northern America that resulted from deindustrialization processes there as a consequence of the global shifts in industrial production. In this decade, TICCIH – The International Committee for the Conservation of Industrial Heritage – was founded with the First International Congress on the Conservation of Industrial Monuments being held in 1973 in Ironbridge, UK, the second one in 1975 in Bochum, West Germany, and the third one in 1978 in Sweden,[1] with participants from different European countries and Northern America.

The urgent need for the field of industrial heritage to have its own defining documentation was, decades later, also the background to the elaboration of TICCIH's *Nizhny Tagil Charter on Industrial Heritage* (TICCIH, 2003), as there was much confusion over terminology and little in the way of an established academic approach to provide the theoretical basis to situate industrial heritage within the field of cultural heritage. Published in July 2003, the charter emerged as an initiative of TICCIH's president at the time, Eusebi Casanelles, the then-director of the National Museum for Science and Technology of Catalonia, situated in Terrassa, Spain. The draft was written by James Douet and drawn from *The Historic Scotland Guide to International Charters* (1997); it was then reviewed by the TICCIH Board, commented on by national representatives and ratified at the World Congress 2003 in Nizhny Tagil, Russia (Stuart, 2023). The same urgency motivated the elaboration of the best practice handbook *Industrial Heritage Re-Tooled: The TICCIH Guide to Industrial Heritage Conservation* (Douet, 2012), which is still a useful tool today, also for teaching worldwide.

Both the charter and the book were important to anchor industrial heritage as a specific thematic field in the canon of cultural heritage and to make clear that dealing with the legacies of (de)industrialization requires specific methods, concepts, and criteria of its own. In

that sense, the Nizhny Tagil Charter has set a precedent and was very successful throughout its 20 years of existence. It has also inspired further institutional cooperation work, for example, with ICOMOS on the *Joint ICOMOS-TICCIH Principles for the Conservation of Industrial Heritage Sites, Structures, Areas, and Landscapes* (ICOMOS and TICCIH, 2011), and the debate probably also inspired at least partially the 2013 update of the Australian *Burra Charta for Places of Cultural Significance* dating from 1979 (ICOMOS Australia, 2013).

However, both the 2003 TICCIH Charter and the 2012 handbook are very limited in geographical scope, and until today concepts, methodologies, and criteria tend to be transferred from Europe to other world regions without much questioning of whether this is (and was) at all appropriate. Unfortunately, this is also due to the often-unreflected adoption of theoretical frameworks by experts in the Global South who continue to think that all leading things come from Europe or Northern America or are still too shy to express divergent opinions and develop models that fit better with their social realities and necessities on the ground.

TICCIH and Its Global Scope

Criticisms of the TICCIH Charter, both conceptual and methodological, have existed from the beginning even within the organization's board (Stuart, 2023; Casanelles, 2012). There is awareness about the fact that the complexity and diversity of different cultural contexts, languages, and social realities around the world, very specific to each place, are not reflected in the charter or the handbook. Long-serving TICCIH officials acknowledge that there hasn't been enough time back then in the early 2000s to organize a broader discussion on the Charter draft, but we need to also consider that interactive and global communication possibilities were still very limited back then compared to today's standards. A particular side note for the younger generations: One still had to dial into the Internet over telephone landlines back then and emailing had just started, paper mail was still the rule, and there were no cellphones yet nor instant messaging, online meeting tools or live streaming platforms.

However, in the early 2010s, crucial critiques have been raised from Asia, via the declarations on industrial heritage conservation of the Modern Asian Architecture Network (mAAN, 2011) and the Asian Network for Industrial Heritage (ANIH, 2012). Also, Latin American colleagues expressed critiques; for instance, Cuban colleagues never tire to state that the global industrial business model based on domination, exploitation, and extractivism as we know it today, had actually started with the European colonization of the world and that the invention of the steam engine or the so-called Industrial Revolution are far from being so important from a global perspective as Eurocentric interpretations suggest (Steiner, 2020, 2022a; Rigol and Rojas, 2012).[2] They call on paying more attention to global power relations, the role of traditional local manufacturing as potential kick-offs for industrialization processes, and to rediscuss the definition of time range that has been imposed by Eurocentric perspectives (Contreras, 2024).

There is also a critical awareness of this in Europe, which in Germany, for example, has been repeatedly articulated through the Working Group on Theory and Education in Heritage Conservation e.V. (AKTLD) whose annual conferences provide a good opportunity for that kind of debate (Bogner et al., 2018; Meier and Steiner, 2018, 2023; see also Steiner 2022b). Similar issues have also been discussed on the international level for many years in scientific communities such as the Association for Critical Heritage Studies (ACHS) or, more recently, the DéPOT project.[3]

In this kind of forums where colleagues from the North and the South, the West and the East come together to discuss agonic heritage constructions in the context of historical

power relations and center–peripheries divides, we eventually come to understand that in fact there is no such thing as 'the Global South'; the South can be anywhere (in Sweden, e.g., the north is the south), and that the classical North–South-divide dichotomy can be misleading and should at the least be complemented by a parallel reflection on East–West relationships. The titling of my program parts at the 2022 TICCIH World Congress in Montreal as "Industrial heritage from global perspective" (session) and "Sharing industrial heritage glocally" (roundtable) was also a result from that kind of discussions.[4] However, we could think about 'the South' as a linguistic *truque*, taken from the ordinary expression 'it all went south' used by English native speakers to describe situations in which things didn't go at all as they should have gone. That is what I decided to do for this text.

Having previously tried to deepen the discussion with the 2012 World Congress in Taiwan, titled 'Post-Colonialism and Reinterpretation of Industrial Heritage,' the debate gained new momentum at the 2022 World Congress in Montréal, Canada, with a special commission having been set up by the TICCIH Board after the General Assembly, whose task consists of critically revising the Nizhny Tagil Charter (Steiner, 2022a; Stuart, 2023) from less Western viewpoints. These discussions also address "the basic problem that is inherent to the [World Heritage] concept: namely, that a World Heritage based on superlatives tends to be exclusionary and centered on elites, as well as foster competition (not least among the nation-states it is supposed to transcend)" (Meier and Steiner, 2023).

I will get back to this in the final remarks at the end on the basis of the inputs from and discussion of the experiences that compose the main body of this text.

Making Industrial Heritage From the Grounds

In the following three subsections, I explore specific professional and personal experiences that retrace the intellectual and political endeavors of five women born in the decade between 1975 (me) and 1986, who work between research and activism on industrial heritage in Germany, Chile, the US, and India. By initial formation, we have a geographer, an anthropologist, an ethno historian, an artist who then became an urban planner, and an architect, who all work moving back and forth between continents and languages, which allows for enriching switches between North–South, South–North, and South–South perspectives. The field cases I present illustrate diverse historical, (geo)political, cultural, and social realities on the ground and touch different kinds of deindustrialization and heritage related to electricity, mining, and the chemical sectors.

The selection of these places and people relies on the good insights I have into the "situated knowledges" (Haraway, 1988) of dear female colleagues I work with since years due to current and former professional contexts, right now with my ESPI Lab Valparaíso in Chile and in addition serving as TICCIH's Secretary General.

El Sauce y La Luz: Postcolonial Industrial Heritage and Glocal Communities

The first place I introduce you to is the El Sauce y La Luz hydroelectric complex that was built by Berlin firms in the first decade of the twentieth century in the outskirts of Valparaíso with the aim to provide electric street lighting and tramway systems to what was then the most important port city and financial center on South America's west coast. The El Sauce power plant was inaugurated in May 1906, and a year later constructions of the La Luz

water reservoir started, which was completed in 1910. The site as a technological system also includes former workers' houses, tunnels, aqueducts, electrical posts, and so on and was decommissioned in 1997. None of its elements counts with any legal protection as of today. The site is currently in a very poor condition and still widely unknown to the local population and authorities, also due to the power plant's remote location in the back of a valley. However, its rediscovering started around 2005, when local people from the Placilla Cultural Center came across it by coincidence and started to research and document the place. From an international comparative perspective, the site is very important in terms of historical heritage values, because being a hydroelectric system built by the AEG-Deutsche Bank group, this is the great exception from the general rule of these actors selling coal-fueled electrical systems to the world, as I was able to demonstrate in my thesis and subsequent research.[5]

I moved to Valparaíso in 2018 with the motivation to support the industrial heritage activists in Placilla and to create "glocal" historiographies that can connect the industrial heritage communities in Valparaíso and Berlin (Steiner and Fuentes, 2024). Also, I wanted to put at the local museum's service the knowledge that I had created for my PhD thesis, which is in German, and I felt that dissemination in Spanish on the spot was necessary to make it accessible for the local community. And I had a slight worry, because when we first met and went on our first field trip together in 2014 (see Figure 27.1), I had noticed a slight tendency that colonial-style narratives around brave German men contributing to local development were in

Figure 27.1 The machine hall of the El Sauce hydropower plant in the outskirts of Valparaíso, Chile. (Photo: author, 2014)

the making in Placilla, too. So my wish to help constructing more critical narratives became a lasting motivation to finalize my dissertation in which I analyzed in detail the historical power relations and the big business that were behind the Berlin electrification of Valparaíso and Santiago de Chile. Before publishing the book in 2019, I started to work as a geography professor at a local university, and from August 2018 onward, I worked with the museum people on a regular basis. For that, it was of course helpful that I knew Chile from previous visits since the 1990s and had even written my graduate thesis about urban planning in Valparaíso.[6]

The first project we did together was the creation of an exhibition and a series of fact sheets on the different elements that compose the El Sauce y La Luz hydroelectric complex with my students in 2019 (Steiner, 2023). The portrayed sites included not only the system's main technological elements in the hinterland of Valparaíso but also sites in the inner city that explain the role of international finance for the implementation of large-scale electrification, the shift from coal to water as energy source, and the use of electricity for the modernization of urban infrastructure. Also, of course, we included information on the local museum highlighting its pioneering role in the social process of local heritage construction. My interactions with the heritage activists in Placilla eventually confronted me with an intellectual challenge, as I came to understand that my own scientific knowledge interest was in fact motivated by the German industrial heritage discourse and its lack of more critical, and in particular anti-capitalist, anti-imperialist, and postcolonial aspects.

This interest determined a research focus that my MUHP friends found interesting and complementary to theirs while also stating that it was not their main interest, which was of course frustrating for me to hear in the first place. Then, I self-critically reflected that my approach was naturally conditioned by my personal background of having been engaged with the Third World Movement from a very early age, since my time at school in a region that was a hotspot of the Solidarity with Chile movement in West Germany soon after the military coup on September 11, 1973. Thus, thanks to continuous conversations with the local heritage activists, I came to understand that my approach is still Western-centered but in postcolonial terms, which also means that "the South" and "the peripheries" remain very important categories for me, because despite wanting to overcome the artificial North–South divide, I still need them to describe unfair power relations within what is called the Modern World System, which continues to be a useful concept today for that same reason (Wallerstein, 2004). At the same time, I started to explore my friends' specific local perspectives on industrial heritage and got more confident over time, as I realized that my intellectual work is indeed an important contribution, because it helps to argument historical heritage values that can make a difference in the process of attaining legal protection for the El Sauce y La Luz hydroelectric complex.

Also, I realized that, as the German Latin Americanist Olaf Kaltmeier put it: "While in Western European countries, heritage has been transformed into a depoliticized lifestyle factor, heritage in postcolonial contexts has become a battleground on the interpretation of history and its projection into the future" (Kaltmeier, 2017, p. 13). In Placilla, this starts with the fact that the MUHP is a community museum, which is very unusual in the Chilean museum context. It was founded in 2009 by the Placilla Cultural Center that was created by people from the local neighborhood in 2006 who started to rediscover their place's role in the industrialization and urban development processes of the traditional world port city of Valparaíso. The museum is financed exclusively with competitive public funds, with the sole exception of the space, which is state property, its provision with electricity and water and the very humble salary of its director, who is a municipal employee. Self-management and volunteer work from the neighborhood and the members of the cultural center are the

Figure 27.2 The Historical Museum of Placilla after its expansion. (Photo: Francisco Rivero, 2021)

basis of the museum work, which on the positive side means that it is able to operate quite independently. Even the expansion works and the construction of a new second floor in 2021 were financed with a public grant (see Figure 27.2). Apart from constantly preparing applications for public funding, the museum's main activities focus on permanent and temporal exhibitions, workshops with the neighborhood, regular walks especially for families and school children dedicated to cultural and environmental education, and research projects focused on the local history and heritage.

Thus, the museum pays particular attention to the social and environmental dimensions of heritage and on issues that might appear more intangible at first sight, like the memories of former hydroelectricity workers and their family histories, applying anthropological methodologies such as oral history and the collection and digitalization of family albums but that also translate into tangible things like Western-style industrial culture and the continuing destruction of nature by human activities. I learned a lot about my friends' distinctive reflections on human–nature relations and integrated heritage when working with Pamela on our book *Light for Valparaíso. The El Sauce y La Luz Hydroelectric Complex: A Shared Industrial Heritage Between Placilla de Peñuelas and Electropolis Berlin* (Steiner and Fuentes, 2021), which is the final result of a FONDART research project that was awarded to the Placilla Cultural Center by the Chilean Ministry for Cultures, Arts and Heritage and in which I participated as a co-researcher.[7] In four chapters, the book combines our respective research approaches and results, with the first chapter dedicated to the entangled global history of electrification in Valparaíso and chapter 3 focusing on the stories of the people who operated the system and for generations had lived in the El Sauce and La Luz sites, interviewed by CCP members.

The book project was another intellectual challenge as our research interests are different and do not necessarily come together. Wouldn't we have cared for each other, we could have walked right past each other (Steiner, 2021). To avoid this is in fact a constant effort

that represents hard care work and also 'decolonial' work, which starts with accepting that your own knowledge is limited and that there are things just impossible to understand simply because they are beyond your imaginative power coming from a different place and culture. These frontiers of knowledge are only human, and that's precisely why ethnographic methods such as 'immersion to the field' and 'active listening' are so important, as they allow to gradually extend your understanding beyond the human limitations of knowledge. The concept of "situated knowledges," as explained by Donna Haraway in 1988 and others, helps to be more patient with oneself and more open to listen closely to local people in other parts of the world.

That process of pushing the frontiers of the knowable and of intercultural understanding actually never ends. In our case, a new opportunity is now on with the FONDECYT research project that was awarded to me by the Chilean state in 2023, hosted by the University of Chile and implemented in cooperation with the Bauhaus University Weimar, the Technical University Berlin, and the Berlin Center for Industrial Heritage. The project focuses on the technical, economic, and cultural history of the German urban electrification in Metropolitan Chile in comparison with Mexico and Brazil[8] but also includes a heritage dimension that allows us to continue our efforts of constructing a 'glocal' community of care for the shared heritage of Elektropolis in Overseas from a decolonial perspective. This can be particularly interesting as it opens up important strategic opportunities for the organization of international support for our case.

Another pending research question in Valparaíso refers to the clash between different ontologies and visions of being-in-the-world in connection with Indigenous realities. The construction of hydroelectric systems as such, and hydrodaming, is also colonialism (Liboiron, 2018), and in our case it is very likely that the valleys of what is today the La Luz water reservoir have been Indigenous territories that were then occupied by a powerful group of people forcing the native people to abandon their use of these places because of flooding. Descendants of these dispossessed people may even still live close by today (see Figure 27.3).

Figure 27.3 Aerial view of the La Luz water reservoir built 1907–1910 by Berlin companies. (Photo: Francisco Rivero, 2021)

This topic is also important to better explain the ruptures that the introduction of a new industrial logic to these territories brought with it: The European-style industrialization and urbanization of lands was a modernization introduced to Chile by the national and European-born elites through the global port city of Valparaíso and from there invaded the hinterlands and pushed the borders of even the national territory ever more south and north. It's noteworthy that this type of development was not intrinsic to the local paths; it came from the outside and was too often installed violently with brutal force.

Lota: Radical Nostalgia and Insurgent Heritage

This topic of colonization in postcolonial contexts becomes even more obvious in the South of Chile, so next I take you to the Biobío Region, also called *Wallmapu* in *mapudungún*, the local native language. When Chile got independence from Spain in 1810, these were factually still Indigenous lands inhabited by *Mapuche* peoples (see Figure 27.4). During the nineteenth century, when the new Chilean Republic pushed its frontiers ever more

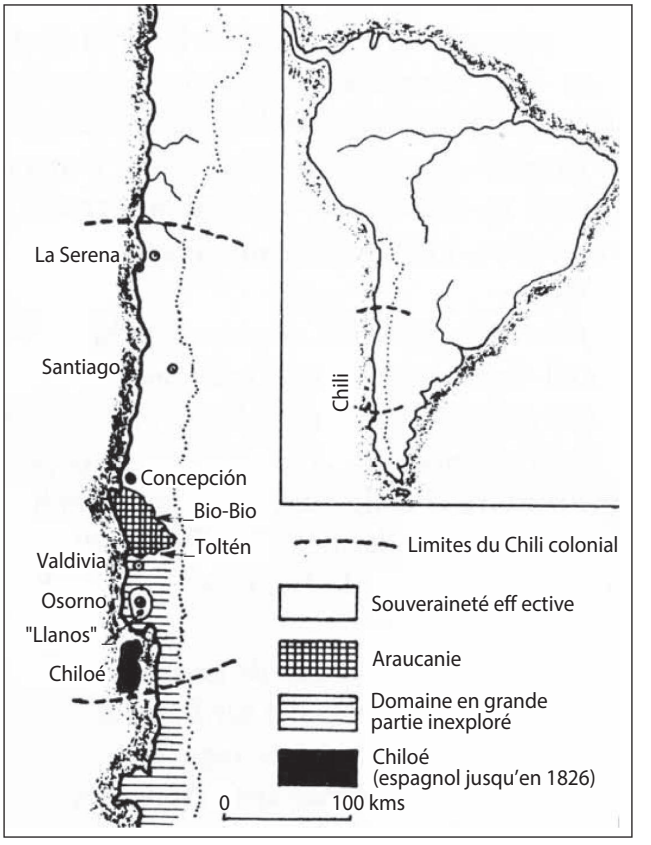

Figure 27.4 Map of Chile around 1810, before the national territory was expanded to the South and the North. (Source: Steiner, 2019, vol. 1, p. 105; taken from Blancpain, 1974, p. 4, also in Bilot, 2010, p. 7)

south and north with the ambition to integrate new areas into their national territory, railway connections were built into *Wallmapu* as a part of the state's expansion to the south. The occupation of lands resulted in any kind of possible conflict with the *Mapuche* peoples and also the neighboring state Argentina to the east (Rock, 2022a, 2022b; Novoa, 2022b).[9] Similar conflicts arose in the north, too, in territories that were claimed by Chile, Peru, and Bolivia at the same time (Steiner, 2019, vol. 1, pp. 104–114).

By the 1880s, the Chilean colonization had reached *Wallmapu*, with the Biobío River representing an important frontier and a direct interface between the native peoples' territories and their cosmologies and European-style large-scale industrialization systems that followed an extractivist logic. Local Indigenous people were involved as workforce while also bringing in settlers from abroad, especially from Southwest Germany, to cultivate the lands, forcing Indigenous people to migrate into restricted areas, dispossessing them of their lands, and cutting them off from their traditional life sources (Rock, 2022a, 2022b).[10] In San Rosendo, this is particularly well visible until today in the landscape marked by the presence of a huge railway complex on the intersection of the Biobío and Laja Rivers (see Figure 27.5; Rock and Torres, 2024). Some 100 kilometers to the west, on the Pacific Ocean's coast, Lota and Coronel became very attractive for extracting coal, to supplying huge parts of the energy the country needed for its territorial expansion, industrialization, and urbanization processes.

The closing of the Lota coal mines in 1997 caused huge parts of the local population to be set off from their traditional jobs after generations. As a result of this deindustrialization, the social and economic situation in Lota is very difficult still today. Lota is one of the poorest cities in Chile and in addition suffers from a very bad reputation. However,

Figure 27.5 Railway heritage on Indigenous lands: San Rosendo railway complex on the confluence of the Biobío and Laja Rivers. (Photo: Sebastián Orellana, CreaSur Photographical Archives, 2023)

born precisely from these difficulties and from the local community, grassroots heritage and tourism initiatives started to emerge, striving for the social recognition and rights of the working class (Novoa, 2021a, 2025) and lately also promoting the nomination of the 'Lota Mining Complex' as a UNESCO World Heritage site, which made an important step forward when it was inscribed on the Chilean tentative list in 2021. The main driving forces behind this are the women who already in the late 2000s had set up the *Mesa Ciudadana de Cultura, Patrimonio y Turismo de Lota*, the Citizens' Roundtable for Culture, Heritage, and Tourism of Lota (Novoa, 2021b, 2022a; Rock et al., 2024). In parallel, from the academic field, pioneering research on Lota and its industrial heritage was pushed forward in particular by women, including Alejandra Brito Peña, María Isabel López, and María Dolores Muñoz Rebolledo.[11] Today, doing research on Lota has become mainstream, a fact that can, at least partially, be attributed to the effects of the successful community mobilization for a future recognition by UNESCO. This is basically a good thing because there is still so much knowledge to be (re)created and good governance to be implemented. Among the researchers' experiences that exist, I want to talk here in some more detail about two female colleagues who have particularly inspired my intellectual and political reflections. They both work with specifically 'decolonial' approaches on Lota's industrial heritage, have both dedicated their PhD thesis to this, and have a strong commitment with the local community.

I first got to know Magdalena Novoa Echaurren, in July 2021 during the pandemic, as I had to review her paper proposal for the TICCIH World Congress 2022 in Canada 'Gendered nostalgia: grassroots heritage tourism and (de)industrialization in the coal region of Chile' (Novoa, 2025). I was so fascinated by her work that I invited her to join my session at the TICCIH Congress and also the one I organized at the congress of the Chilean Society of Geography SOCHIGEO in Valparaíso in October 2021.[12] Magdalena works on community development "with the unique perspective of an artist who found a pathway into planning via cultural heritage studies and historic preservation."[13] She first came in touch with Lota while she was working for the Chilean National Council of Monuments at the Chilean Ministry for Cultures, Arts and Heritage in Valparaíso for two years, given the fact that Lota counts with an extraordinary amount of listed monuments despite being socioeconomically poor. Desperate about the fact that not much could be done for Lota from the official governmental side, she decided to switch back to the academic field and started a PhD in architecture at the University of Texas at Austin, which she finalized in 2020 with her thesis titled 'Insurgent Heritage: Grassroots Movements and Citizenship in Chile.' For this research, she worked with the citizens' roundtable 'Mesa de Lota' and in particular the women in Lota, living with them for several months twice.

As she told us at the SOCHIGEO Congress, when she first arrived at Lota, her initial idea was to create a collaborative map. To her great frustration, this approach was not attractive at all for the local women she wanted to work with and who criticized it as "colonial" and even the typical kind of "academic extractivism," where no benefit would come out from for their local community (Sletto, Novoa and Vasudevan, 2023).[14] This critique of a map not being an adequate format to support the local heritage community was a particularly fascinating point to put on the table in a geography congress. During that early phase of her fieldwork, she came to understand the critiques of the Mesa women of the official heritage narratives that were constructed by the state and a private NGO in Lota since the late 1990s and that focus on celebratory narratives on capitalist development,

while the local women wanted to tell their own stories, including the painful experiences of the past and the suffering of the working class in the history of mining, and in particular the female perspective on that and the specific suffering of women from oppression and gender violence in a male-dominated industrial system. These topics cannot be represented appropriately on a map because of their intrinsic intangible dimension, so Magdalena started to look out for better formats to tell the stories the women actually wanted to tell and share with her.

Eventually, her immersion in the field by research residencies enabled Magdalena to find a more appropriate approach. Actively listening to the suggestions that came from the community, she discovered an artistic format that is deeply rooted in the local tradition. The *Arpillera Urbana* (urban burlap) was, already during the dictatorship in Chile (1973–1989), a specific tool for the Lota women to self-organize political resistance as a community, organize international support, and thus even to generate some income. Together they decided to use this particular format to talk about heritage in a series of workshops that Magdalena then organized reviving methodological skills from her earlier profession as an artist and paying for the coffee, cookies, and also the time the women spent working with her on the collective fabrication of an *Arpillera*, which ended up being called *Memorias de la Mujer Lotina* (Memories of the Lota Woman) (see Figure 27.6).[15]

Magdalena's endeavors as a researcher in the field show how important the notions of 'progressive nostalgia,' 'radical tourism,' and 'insurgent heritage' are for a reorientation of both theory and methodology. The *Arpillera* example also makes it very clear that 'decolonial' is fundamentally about *how* you do things, about how much you are able to actually

Figure 27.6 The Arpillera "Memories of the Lota Woman": presentation at the international congress in Concepción in October 2023. (Photo: Sebastián Orellana, CreaSur Photographical Archives, 2023)

listen to what local people want to talk about, want to share, and do with you. And these approaches are of course also relevant for reinventing urban planning modes that still tend to be very exclusive, particularly in countries like Chile, providing residents with critical tools to envision alternatives for the development of their cities (Sletto, Novoa and Vasudevan, 2023; Novoa, 2025).

Only months after having known Magdalena, I received an email from María Esperanza Rock Núñez at the end of February 2022, when the academic year in Chile started with great stress as we were returning to the classrooms after the pandemic. She would then just not stop calling me up on the phone at my university in Valparaíso until I contacted her back, and we met for the first time online on April 5. One outcome of this was her writing an article for the German journal *Industriekultur* (Rock, 2022a) and another one for the *TICCIH Bulletin* (Rock, 2022b). A second outcome was that I joined the Southern researchers' network NUDISUR codirected by her,[16] and a third one was that I found out that Esperanza and Magdalena did not know each other; so in July 2022, we had a first meeting online the three of us.

Esperanza had started researching on Lota with a focus on the creation of an oral history archive and is particularly intrigued by identifying persisting Indigenous traditions in the local mining and industrial culture (Rock, 2016). As a child, she had lived the impacts of deindustrialization on the local society from very close, as her father was engaged with setting up a manufacturing project in Coronel, and an important percentage of the new factory's staff with whom her family shared their lives were actually former miners who had lost their jobs when coal mining ended in Lota. It might be because of these personal experiences that she eventually became an ethnohistorian. Today, she lives with her architect husband and two kids in a small place outside the regional capital Concepción, in close contact with nature and the local Indigenous communities.

Her work impresses and inspires me because her life mission, in a similar way to my own, is to connect academic research and community work. In addition to teaching at the local university, she is an unpaid (!) director of the CreaSur Cultural Center, the arts and crafts project Casa Taller, the OTEC Cultura y Territorio that offers capacitation workshops for municipal staff and other professionals, and the aforementioned NUDISUR network.[17] Continuing the research that she had started for her PhD (Rock, 2016), in her current research project, 'Memories of Urban and Cultural Transformations of Deindustrialization in the Global North and South: A Comparative Study of the Coal Basin in Southern Chile and the Ruhr Region in Germany,' financed by Chile's National Agency for Research and Development ANID for three years (2023–2026), she continues to develop an oral history archive, now incorporating a comparative analysis of industrial heritage narratives in Lota and the Ruhr region in Germany.[18] One fundamental reflection here is that in south Chile, as in other parts of the world outside Europe, industrialization is not something that has 'naturally' evolved from the local grounds but was imposed from the outside and by outsiders, may they have been European imperialists (and North Americans from the 1920s onward) or the national Chilean elite, often exercising power and violence, and dispossessing native peoples of their lands. Despite this, however, memories, cosmogonies, and beliefs from before having survived and remain living in Lota, have mixed up with others from Palestinian, Italian, Aymara, Spanish, English ancestries in an extraordinary cultural diversity, and they all form part of the local mining culture.

It is also important to state that local *Mapuche* people not only opposed or resisted the arrival of the new industrial model to their lands, but quite some of them also appreciated the promises of modernization and progress and came to integrate the new system, thus shaping Lota as it is today (Rock, 2022a, 2023). I find this point particularly interesting because it highlights that there is, in fact, a difference between capitalism and colonialism. Max Liboiron (2018) explains this well:

> The United Nations Declaration of Rights of Indigenous Peoples (UNDRIP) clearly states that Indigenous groups have the right to development. . . . This can mean mining. It can mean aquaculture. It can mean hydrodaming. It can mean pollution and waste. Such development is an Indigenous *right*. Indigenous peoples are rightsholders, not stakeholders, on their Land. Often, this doesn't sit well with people. They want to support the rights of Indigenous peoples, but not *that* right. . . . The right for Indigenous people to pollute their own Land, should they so choose, . . . does mean that self-determination and sovereignty can and do take many forms, and that these are first and foremost the routes to anti-colonialism and decolonization.

An important connecting point between Magdalena's and Esperanza's intellectual and methodological work is the particular attention they both pay to finding horizontal, collaborative, and decolonial ways to think and make industrial heritage, living with the people whose history and memories they research on, actively learning from them, and also working *for* them, trying to find humble and supportive ways to move on, caring about giving something back to the local community, and not to fall in the pitfalls of academic extractivism. I think a lot can be learned from these approaches, in human and also in conceptual terms, when it comes to the construction of heritage and (new) narratives that allow for including all kinds of different human experiences related to industrialization and deindustrialization processes: the hopes for a better future, may they have come true or not, the suffering and the pain, and the dreadful experiences of violence, domination, and oppression.[19]

Bhopal: Toxic Heritage, Healing, and Networks of Care

The third place I take you to is Bhopal in central India, where in 1973 a chemical plant for the production of fertilizer was opened by the US company Union Carbide. This was part of the national policies for rural development India focused on after its independence from Britain in 1947, and these were often financed with multinational investments. The alpha-naphthol plant in Bhopal was "the largest of this design anywhere in the world. The factory produced agricultural pesticides with a promise of a 'greener and better India' and used hazardous chemicals like phosgene, chlorine and methyl isocyanate that lay stocked in abundance at the site" (Joshi, 2008, p. 1). Around midnight and during the first hours of December 4, 1984, a leak occurred, and the gas invaded neighborhoods and the city downhill in silence. It was not an accident; warnings have been there in the months and even days before the disaster but were ignored. This catastrophe was described as the most severe chemical disaster in human history so far, causing an unknowable number of immediate deaths that go in the thousands or tens of thousands depending on the source and perspective.[20] Today, 40 years later, "an uncertain number carry this contamination in their bodies while over half a million remain formally registered for medical support" (Joshi, 2023, p. 714).

Figure 27.7 Women survivors at Bhopal fighting for Justice and Repair in 2022, 38 years after the tragedy. (Source: International Campaign for Justice in Bhopal (ICJB), https://www.bhopal.net)

As I write, the site is still not cleaned up and "[t]he waste of the Bhopal Gas Tragedy remains the most lasting legacy of the disaster. In nasty ways," to quote my TICCIH Board colleague Moulshri Joshi, "four decades since it ceased operation, the pesticide plant continues to produce chemicals, the company continues to occupy the land and the past continues to live violently in the present" (Joshi, 2023, p. 714). The principle, to which many Europeans got used in the past decades, that who contaminates has to pay for the cleaning up of the site (in German called 'Verursacherprinzip') is not on in India nor many other parts of the South, and only in very recent times we have been seeing some cases where local NGOs start to win trials at the international courts for Human Rights against huge international companies who violate their right to live in healthy environments. In Bhopal, the local survivors and particularly women grouped together and are fighting since 40 years now for appropriate repair and justice (see Figure 27.7).

The Bhopal site can thus be considered a "dark" industrial heritage where "the old rendering plant is a visible reminder of the . . . disaster while the invisible, persistent chemicals in the soil and groundwater continue to occupy the city" (Joshi, 2023, p. 714). There is an illusion that pollution is restricted only to the inside of the site, but of course it affects a much wider area and "[t]he factory above and soils below (are in fact) connected through a toxic stream of leaching chemicals" (Joshi, 2023, p. 714). In 2005, the government organized an open competition to design a memorial at the 67-acres site with attractive prize money; a contamination map had been previously elaborated with NGOs between 1999 and 2003 (see Figure 27.8). The decision of what the memorial should be – a sculpture, a hospital, a park . . . – was left to the participating architects' imagination, as Moulshri told me, and

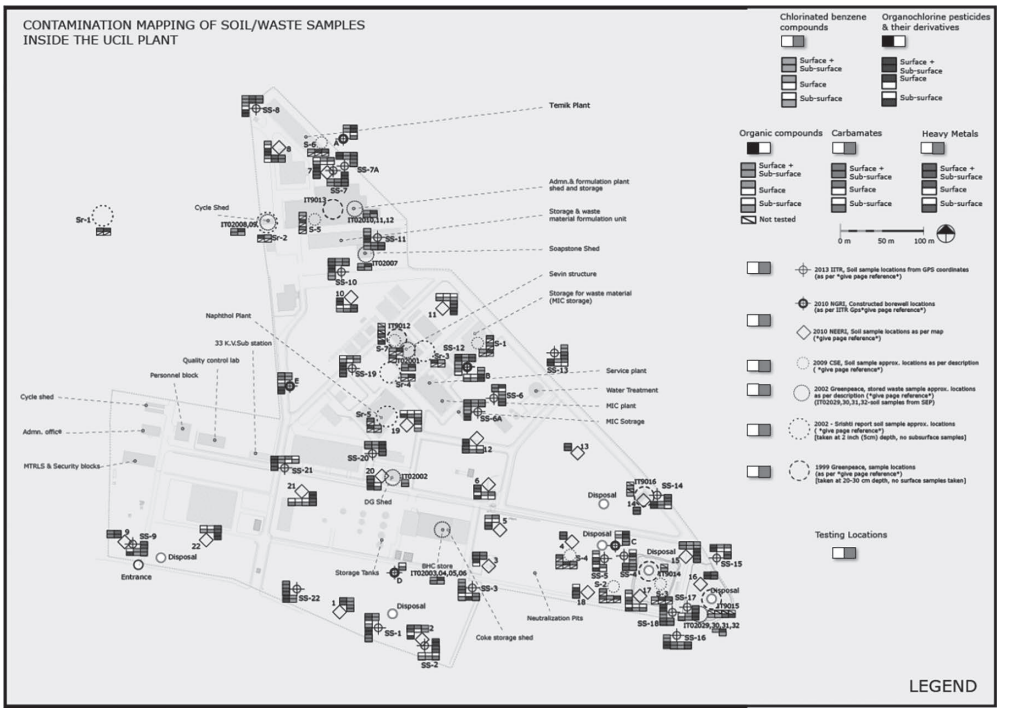

Figure 27.8 Contamination mapping of soil and waste samples at the former Union Carbide India Ltd. site in Bhopal. (Source: SpaceMatters, 2017, p. 15)

many participants suggested redeveloping the land for its large size and location, proposing institutions or even housing with a symbolic, grand "memorial."[21]

The proposal that finally won the competition was the one made by Moulshri Joshi and her team from SpaceMatters, and they were then also commissioned to be architects for implementing the project.[22] Their proposal was the only one that suggested not to tear down but to keep the old rendering plant and to make it the central icon of a memorial park. They submitted a masterplan for the site that included a landscape strategy and a cultural agenda for the revival of the contaminated land. The factory was the central iconic memorial in their scheme, preserved in its rusted state with the entire industrial landscape. This was a year or so before the team came across TICCIH's Nizhny Tagil Charter; so industrial heritage is not yet in the language of the proposal but very much there in spirit. Together with mAAN and TICCIH, SpaceMatters then started off an international workshop and symposium as an action-research initiative in Bhopal, which took place there between January 23 and February 4, 2011 and "explored the significance of the Union Carbide industrial site – its heritage as the site of the Bhopal gas tragedy, its present condition as an abandoned industrial brownfield site and its relevance as a future site for commemoration of the victims of the world's greatest industrial disaster" (Ballal et al., 2012).

In 2017, SpaceMatters mapped the existing vegetation on the site localizing the native trees, and from there on, the team developed their proposal to remediate toxic soil and water using Indigenous plants and in situ technologies, knowing that bioremediation processes use

various types of plants and microbes to move, transfer, stabilize, and/or destroy contaminants in soil and groundwater (SpaceMatters, 2017). Stemming from that basis, they concretized the landscaping strategy for the site, defining different uses for different zones: areas of public access would be cleaned to avoid contamination through the accessible food chain; in the memorial area, soils with high toxicity would be contained and stored in sealed containers for public display; in staff areas not open to the public, soils with medium toxicity would be capped under a layer of fresh soil; permeable reactive barriers would intercept and filter groundwater as it passes through the site to the low-lying areas to the east; throughout the site, control stations would monitor contamination levels in all the methods used for remediation all across the site; pumping stations would extract groundwater for analysis, as well as phytoirrigation; and with regard to phytoremediation, a number of different types of vegetation are proposed that fulfill different functions (see Figure 27.9). Today, the decontamination process is underway, and the future memorial park will be a powerful resource and asset for creating awareness, especially on issues of industry and ecology (Joshi, 2024). From its very start, the project is based on the reflection that toxic waste as a historic document is a heritage that has a tremendous potential for education. A second compelling conviction, which aligns with more recent theoretical reflections such as those formulated by Max Liboiron in *Pollution is Colonialism* (2021), is that toxic waste should be dealt with on the site instead of carrying it to other places and thus expose other communities to pollution, too (Joshi, 2022).

More general questions arise from the Bhopal case with regard to its message and legacy for the world: How to deal with toxic heritage and how to heal the wounds in human

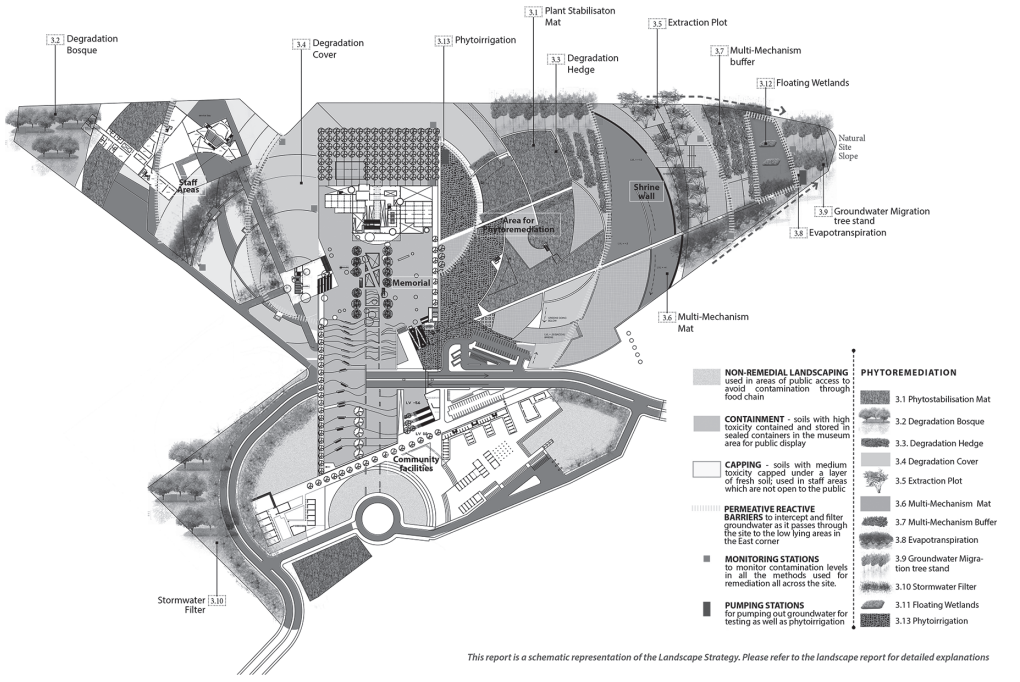

Figure 27.9 Conceptual landscape strategy for the future Bhopal memorial site. (Source: SpaceMatters, 2017, p. 64)

souls and natural environments. One key message that is at the heart of the SpaceMatters project team is that we, as humanity, have to learn how to live with the pollution that we produce and that we should cope with our moral obligation to cope with it in our own front yards instead of permanently trying to take the waste to other, generally more fragile communities and thus violate their rights to live in healthy environments. The Bhopal Memorial Site project revindicates to learn how to frame risks and become more preventive for the future. That also determines new ways of doing the work, collaboratively and caring about people and communities, and redefining policies and political frameworks and goals, because "Garbage is Infrastructure, Not Behaviour," as Liboiron put it: "The way a problem is defined forecloses on the types of solutions that make sense" (Liboiron, 2014), as we can see here.

On this ethical basis, Bhopal also connects to other sites around the world that have a tremendous educational potential for future generations building global networks of care and solidarity. Links have been made, for example, with nuclear disaster sites such as Chernobyl or Nagasaki, and Auschwitz or Buchenwald as testimonial sites of major human catastrophes of industrial scale (Ballal et al., 2012). Together, these sites represent the memories of man-made catastrophes that exist across the world and that all call on a joint human vision of a future that should be free of such disasters.

A Shared Mission: Building Decolonial Futures

The three cases I have presented here featuring a community museum, a citizens' roundtable, and survivors' NGOs as genuine 'rightsholders' can be considered action-research initiatives that explore new horizontal and collaborative ways of working together, with academics supporting organized local communities. Their specific methods include immersion in the field, active listening to the situated knowledges, and the creation of joint projects from the grounds (bottom-up) that can make a substantial contribution to structural change while in parallel sensitizing public institutions and students on how to work and address their future professional lives in less "participative" and more "decolonial" ways.[23]

Another crucial point is that all three cases challenge the classic European-centered perspectives on industrial heritage because they question the classic focus on the material conservation of the physical remains of industrialization in at least two ways. One critical point to consider is 'Heritage imperialism,' that is the fact that countries that have more money than others are more likely to be able to safeguard their material heritage, which in industrial heritage contexts poses the question of a new kind of imperialism, one that after the domination of the world by European-style development models is now repeated on the heritage conservation stage. This feels particularly bad in competitive contexts like World Heritage nominations, which follow national logics on an international stage and tend to focus on superlatives and celebratory narratives.

The second point to consider is that the basic reason why we should preserve heritage is actually not to fill up our cities and landscapes with monuments but to make people think, learn, and reflect about the processes that are behind material expressions. In industrial heritage, this means that once and for all we have to look into the details of the negative impacts of industrialization. As Moulshri Joshi put it: "We should no longer normalize disasters, erase narratives of pain and shame or fester wounds of environmental contamination, as these are not simply a side effect of development but a moral obligation" (Joshi, 2023). She urges us not to exclude "Stories of pollution and people, of pain and shame and of destruction and dispossession . . .

from the narrative of industrialization," because "perhaps for their absence, we continue to recreate the colonial paradigm in the service of the nation till date" (Joshi, 2023).

Another common point between the projects presented here seems particularly relevant to me, as the same is true for many other cases around the world: the key driving forces are women, and that is not at all a coincidence. Decolonial heritage work is about the protection and development of healthy, sustainable, and fair environments, and this requires careful communication, trustful relationships, and horizontal teamwork which is extremely time-intensive and hard social and political work that in most cases is badly paid or not paid at all. The gender care and pay gap thus also applies to heritage work, but if women don't do it, probably nobody would. We thus make a difference in nurturing local communities of care, creating networks of mutual empowerment, and building deep friendships across continents, which will last.[24] Our individual actions will of course not save the world, but they are expressions of an ethic that lead to other actions that do scale (Liboiron, 2014). However, this means very hard work without the guarantee to receive financial or academic reward for that. The volunteer work Aulikki Pollak does in Limache is a particularly impressive example for female heritage activism in the Chilean ultra neoliberal context, where a professional journalist and networker is at the core of a strong organized local community fighting against real estate speculation, misguided models of capitalist development, and the construction of high-rise buildings in historic townscapes, who won their case with an official heritage designation and even in a trial against the local mayor's team (Pollak, 2023).

On the academic side, the four women I have introduced here, we have all made the experience of being discarded in painful and unexpected ways from good and stable work positions at universities. I got set off from my university in Valparaíso after four years in an unjustified and ridiculous but traumatizing way; Moulshri has been set off from her university, too, even after having won a great prize; Esperanza struggles to be with the Chilean academic system because her priorities are on community empowerment and not on publishing indexed papers with no public access; and Magdalena left Chile for academic exile in the US, where she found better conditions to research, teach, and develop her career. Our and other experiences show that that current academic system in the South has a particularly severe problem with activist heritage women, and although new conceptualizations such as "Discard Studies" help to understand the structural problem behind that (Liboiron and Lepawsky, 2022), and although one of course always makes her way through and finds even better jobs, the decolonial work of critical industrial heritage women is hindered by an academic system that is not able to properly address real social needs.

Global Industrial Heritage: Networks of Care and Solidarity

The cases I have presented here revindicate the definition of new concepts and criteria to understand heritage and assess heritage sites and demonstrate that people able to apply horizontal, collaborative, and decolonial work methods are needed to construct (global) heritage futures from local grounds (community-led) and to create healthier, fairer, and more sustainable environments.

This has direct implications also for the work of international heritage organizations such as UNESCO and TICCIH. As for UNESCO's World Heritage program, one main point is to question the state of conservation as a Eurocentric Western criterion that is still dominating the program, which means that it should be reconsidered how relevant 'authenticity' and

'integrity' as criteria for assessing Outstanding Universal Value should still be in the future, in particular given that a new global heritage imperialism is already in the making. Many experiences from the South challenge the classic definitions of material authenticity and integrity and move toward more process-oriented criteria focused on the social dimension and meanings, affection, and collective processes to safeguard heritage. If one looks for other narratives, these social practices can be a core argument, as "the outstanding also emerges through everyday practices" (Meier and Steiner, 2023).

As for TICCIH, the process of critically revising key theory, concepts, methodology, criteria, narratives, and communication formats is officially on the way with the Commission on the Nizhny Tagil Charter having been set up after the last General Assembly in Montreal (Steiner, 2022a). In addition, TICCIH has become more global, younger, and more female in recent years, as new colleagues from different continents were elected to the board at the same Assembly in 2022.[25] By the way, five of the six new board members are women, and of course the work as TICCIH board member is an honorary unpaid work – and if you want to make a real change, remake the organization, and transform it into a more diverse, accessible, and truly global organization, and in addition you have to manage the change, then that is a really lot of work. But it is also rewarding because this is our common platform and global community where we can care for each other and share our thoughts and where we empower and support each other mutually to keep moving on. We thus even started thinking about a volume 2 of the TICCIH Handbook (Douet, 2012), which is still a good tool today but has a very limited geographic scope, and our next World Congress 2025 in Kiruna in northern Sweden will be another milestone in the process of transforming TICCIH into a truly global membership organization.[26]

Acknowledgments

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Notes

1 Note how the name "TICCIH" was evolving over this period, broadening meanings from "monuments" to "heritage" and consolidating the network from a sequence of "congresses" to "committee" (more in Douet, 2012).

2 See also our Cuban colleague Karen Sanabria's lecture 'Borrando límites: por un patrimonio regional de la producción' at the X Latin American TICCIH Congress in Monterrey, Mexico, on October 24, 2023. https://www.youtube.com/watch?v=fcxkwubJYGs

3 Website ACHS: https://www.criticalheritagestudies.org; website DéPOT: https://deindustrialization.org

4 The session presentation text can be found here: https://sites.grenadine.uqam.ca/sites/patrimoine/en/ticcih2022/home updated version will be published in the congress proceedings that are currently being edited by Lucie Morisset and Juliette Passilly and will be published before the next TICCIH World Congress 2025 in Kiruna, Sweden.

5 See Steiner (2019); Steiner and Fuentes (2021); and Steiner (2025, in print).

6 My first visit to Chile was in 1995/1996 with a scholarship from the Carl Duisberg Foundation and the Land NRW to work for three months with children in the poblaciones of Puerto Varas and Puerto Montt. My graduate thesis is Marion Steiner (2001) *Stadt am Wasser? Stadtplanerische*

Ansätze zur Revitalisierung der Waterfront in der chilenischen Hafenstadt Valparaíso (unpublished manuscript). Institute of Geography, Humboldt University of Berlin.

7 FONDART Regional research project 2020 no. 551999. http://espi.rhondda.de/complejo-hidroelectrico-el-sauce-y-la-luz/

8 ANID-FONDECYT INICIACIÓN 11230957 (2023–2026). http://espi.rhondda.de/luz-poder-y-progreso/

9 See also Novoa. (2021). *Wounded Landscapes: Race, Gender, and Grassroots Preservation in Wallmapu,* Online Lecture for the Women & Gender in Global Perspectives Program, University of Illinois, 5 November. https://wggp.illinois.edu/spotlight/event/faculty-affiliate-lecture-wounded-landscapes-race-gender-and-grassroots

10 The Chilean state even created special institutions with the declared goal to 're-educate' Indigenous people to make them 'real' citizens; the German reform of the Chilean education system at the turn to the twentieth century also played a shocking role here.

11 See, for example, the ANILLO research project 'Patrimonio industrial: formas de habitar colectivo en el sur de Chile' led by Alejandra Brito and its pioneering closing publication: (Brito et al., 2018).

12 See Novoa. (2021). *Perspectivas de género en la interpretación y construcción social del patrimonio minero de Lota, Chile.* Online Lecture for the 'Global perspectives on industrial heritage' session organized by Marion Steiner at the SOCHIGEO congress 2021, Pontifical Catholic University of Valparaíso, 22 October. http://espi.rhondda.de/mesa-coordinada-sochigeo/; https://www.youtube.com/live/fYCuNf_9XRY?feature=shared&t=10041

13 Interview with Novoa. (2021). *Educator and Change Agent: Welcome, Dr. Magdalena Novoa! University of Illinois, 21 January.* https://urban.illinois.edu/about-us/news/educator-and-change-agent-welcome-dr-magdalena-novoa/ (Accessed: 17 March 2024).

14 Interview with Novoa. (2021). *Educator and Change Agent: Welcome, Dr. Magdalena Novoa!, University of Illinois, 21 January.* https://urban.illinois.edu/about-us/news/educator-and-change-agent-welcome-dr-magdalena-novoa/ (Accessed: 17 March 2024).

15 A short video on the elaboration of the Arpillera is available here, with English subtitles: https://vimeo.com/460719545

16 Nucleo de Investigación del Sur (NUDISUR). https://nudisur.org/. NUDISUR later signed a cooperation agreement with TICCIH and together we implemented the IV International and Interdisciplinary Cultural Heritage Congress on "Industrial Heritage, Social Issues and Challenges for a New Governance" in Concepción, Chile, in October 2023 (Rock and Steiner (2023); Rock et al. (2024)).

17 CreaSur: https://creasur.cl/; Casa Taller: https://www.casa-taller.cl/; OTEC: https://www.culturayterritorio.cl/

18 ANID-FONDECYT INICIACIÓN 11230309, original title in Spanish: "Memorias de las transformaciones urbanas y culturales de desindustrialización del norte y sur global: Estudio comparado de la cuenca de carbón del sur, Chile, y región de la Ruhr, Alemania," see https://www.relatosdelcarbon.cl

19 Human emotions and in particular artists and artisans also played a key role during the international Industrial Heritage Congress in Concepción, Chile, in October 2023 (Rock et al. (2024); Bretti López (2024)).

20 See the website of the International Campaign for Justice in Bhopal (ICJB), which also contains a detailed description of what happened in Bhopal in 1984 from the survivors' perspective: https://www.bhopal.net

21 Exchange with Moulshri Joshi on WhatsApp on March 12, 2024. See also the project report by SpaceMatters (2017).

22 See their original proposal here: https://architexturez.net/doc/az-cf-122776. Read more in Joshi (2024).

23 See Rock et al. (2024), chapter 4 on the Certificate program "Collaborative Methodologies for Heritage Projects with a Critical Approach," for an inspiring example of how collaborative and decolonial methodologies can be adapted in cultural heritage projects by local municipal and other professional staff.

24 On that kind of reflection, from the Chilean context, see also Alejandra Brito's recent ANID-FONDECYT Regular research project 1200806 (2020–2023) called "Industries and women

in southern Chile. Labor inclusion and social reproduction (1940–1982);" original title in Spanish: "Industrias y mujeres en el sur de Chile. Inclusión laboral y reproducción social (1940–1982)." On the concept "cuidadoras de memoria" (memory careworkers), see Brito Peña (2023).

25 See the composition of the TICCIH board for the current period 2022–2025 here: https://ticcih.org/about/board/

26 See https://ticcih2025-kiruna.se

27 All TICCIH bulletins are available open access at https://ticcih.org/ticcih-bulletin/. All my texts are available open access on my website: www.patrimoniocritico.cl/ Publicaciones. For other texts that I know are available open access on the Internet, I provide the URL.

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