

**BETWEEN ABANDONMENT AND REAPPROPRIATION: RENEGOTIATING WITH
THE AFTERLIVES OF RUIN LANDSCAPES ON THE ISLANDS OF NAOSHIMA,
TESHIMA, AND INUJIMA**

Josée Vaillancourt

Under the supervision of Professor Vincent Mirza

Thesis submitted to the University of Ottawa in partial fulfillment of the requirements for the
Master's of Arts in Anthropology

School of Sociological and Anthropological Studies
Faculty of Social Sciences
University of Ottawa

© Josée Vaillancourt, Ottawa, Canada, 2026

ABSTRACT

This thesis follows the afterlives of industrial and demographic ruination on the islands of Naoshima, Teshima, and Inujima in Japan's Seto Inland Sea, where abandoned structures and ruin landscapes have been drawn back into use through site-specific art projects. Approaching these islands as patchy, haunted ruin landscapes shaped by overlapping histories of extraction, shrinkage, and more-than-human reoccupation, this thesis argues that maintenance work has become a central practice through which these places are reinhabited and folded into new arrangements of living. Based on ethnographic fieldwork conducted on these islands during the Setouchi Triennale 2022, I follow maintenance work as a practice of ongoing (re)negotiation between abandonment and reappropriation, between human withdrawal and more-than-human activity, and between industrial pasts and curated and imagined futures. Across industrial slag landscapes, restored rice paddies, and repurposed *akiya*, I show how maintenance work engages with the shifting relations that constitute these landscapes, shaping their afterlives and the forms of habitability that persist within them at a time of rural shrinkage and the Anthropocene.

ACKNOWLEDGMENTS

This thesis would not have been possible without the support of my supervisor, Professor Vincent Mirza, who first introduced me to the art islands of the Seto Inland Sea. Thank you for accompanying me through this long journey, for your steady encouragement, and confidence in me.

Thank you to my committee members, Professors Karine Vanthuyne and Ari Gandsman, for your patience and support. I also thank Professor Julie Laplante for these years of guidance and for showing me how exciting anthropology can be.

I am ever grateful to my entire family, the humans and the furry ones, for your unconditional love and support throughout my studies, and especially to my parents and siblings for keeping me fed and motivated along the way. A special thank you to my late grandmother, Céline Vaillancourt, whose stories of travel inspired me and gave me the courage to see the world.

My heartfelt thanks to Erin B. for supporting me through the highs and lows of this project, one chapter at a time.

Thank you to my friends from the University of Ottawa, and to my friends and colleagues at Laurier House National Historic Site. Thank you all for your guidance and support, as well as the many moments of much-needed distraction and nerdy fun.

Finally, I am grateful to the volunteers of the nonprofit organization Koebi-tai, the Fukutake Foundation staff, and the many people I had the pleasure of meeting who made my time in the Setouchi region truly memorable and inspiring. Thank you to all who shared their time, interest, and stories with me; without you, this thesis could not have existed.

TABLE OF CONTENTS

INTRODUCTION	1
THEORETICAL FRAMEWORK	15
PART I: (IN)VISIBLE SIGHTS OF INDUSTRIAL RUIN LANDSCAPES	24
CHAPTER 1 - ISLANDS HAUNTED BY INDUSTRY: A LEGACY THE COLOUR OF <i>KARAMI</i>	27
CHAPTER 2 - ISLANDS HAUNTED BY DEPOPULATION: SHORES OF DISCARD AND DESIGN	49
PART II: RUINS OF DEPOPULATION AND PRACTICES OF THEIR REINHABITION	61
CHAPTER 3 - FIELDS OF RICE AND MEMORIES: RESTORATION AND MAINTENANCE AS REMEMBRANCE	62
CHAPTER 4 - AN ILLUSORY REPOPULATION.....	86
CONCLUSION.....	104
BIBLIOGRAPHY.....	107

INTRODUCTION

From the window seat of the Nozomi bullet train, the world outside rushed past. Having left the previous stop some time ago, outside the window, towns and partially harvested fields flickered in and out of view. Closer to the tracks, blink and you will have missed half a dozen buildings before your eyes open again. Further out, forest-covered mountains strung together by tree roots below and by protruding communication towers and cables above the dense canopy lingered in view for much longer. On this cloudy autumn afternoon, a heavy fog drifted and curled along the mountainside.

Tucked away in the brush and bramble of the countryside, closer even, in the neighbouring town and sometimes closer still, on the neighbouring property, rural regions across Japan are riddled with abandoned ruin sites. Industrial facilities, schools, entertainment venues, houses, and agricultural fields among others, they are the material remains of capitalist projects and dreams. Their growing numbers over the years are largely linked to Japan's history of modernization since the late Edo period (1603-1868) (Lam 2023), namely in terms of the country's rapid industrial development and post-war economic growth, both accompanied by a consequential and ongoing rural depopulation trend now further shaped by the country's wider demographic crisis.

Public sentiments regarding these ruins are varied, ranging from seeing them as economical, socio-political and physical nuisances or hazards to something of a growing popular interest and creative resource (Matsumura 2019; Lam 2023; Platz 2024; Yao Ji 2025). I first encountered these spaces not in person but through vlog-style videos of content creators who, during the COVID-19 pandemic, filmed themselves exploring some of these more modern ruin spaces (*haikyo*, 廃墟) in the Japanese countryside, documenting their encounters with material traces left behind within the past few decades, some of them very recently abandoned. These scenes offer a glimpse into an increasingly visible, an ever-concerning reality: Japan's countryside is gradually being abandoned, and in its wake are the material traces of all too recent livelihoods.

Over the last thirty years, Japanese industrial sites that have preserved traces of the economic development of the early Meiji era (1868-1912) have attracted renewed interest and are being (re)valued as elements of Japanese heritage. This process of heritagization and reappropriation of abandoned vestige sites corresponds with a series of recent efforts in Japan to

“revitalisze”¹ its rural regions as part of a response to the current national demographic crisis (METI 2007; Hashimoto et al. 2021).

Upon arriving in Okayama City, I transferred to a southbound local line, headed towards the Seto Inland Sea (the Setouchi region), where a series of art interventions grouped under the name Benesse Art Site Naoshima (BASN), operated by Benesse Holdings, Inc. and Fukutake Foundation, have taken place over the past two and half decades. Whilst I will colour in details of these and related projects at a later point in this introduction, of immediate interest to me was that in more recent years a significant part of these efforts involved the reuse and transformation of multiple formerly abandoned industrial and post-industrial ruin sites across the neighbouring depopulating islands of Naoshima, Teshima and Inujima into site-specific artworks. It is within these reappropriated ruin landscapes that this thesis situates itself. Here, I argue that the maintenance work that gathers around these art sites has become a central practice through which these places are reinhabited and folded into new more-than-human arrangements of living. Following the everyday labour that attends to these sites materially, aesthetically, and ecologically, I trace how maintenance mediates between abandonment and revitalization, between human withdrawal and more-than-human activity, and between industrial pasts and the curated futures imagined for these islands. I approach maintenance as relational and sustaining an ongoing yet precarious (re)inhabitation of landscapes shaped by shrinkage.

I will take this opportunity to clarify that, like Sarah Ferraby (2007), I use the term “ruin site.s” to draw attention to the environment and ways of life that gather and engage with material remains, rather than simply to the ruin.s themselves. In this study, the term also accommodates an extended meaning in cases where repurposed ruins have been transformed into environmental artworks, such that “ruin site.s” can speak not only to ruins as ecological entanglements but also to the aesthetic visions and spatial reworkings that partake in making these particular spaces.

From a practical standpoint, unlike many of Japan’s ruin sites, which are often difficult if not dangerous to access, the BASN art sites are accessible, both as part of an art tourism initiative and as installations embedded within lively community areas. Their accessibility not only allowed

¹ Hashimoto et al. (2021) note the Japanese government’s recurring use of the term *kasseika* (活性化), translated into English as “revitalization”, in the articulation of its projects and policies. This terminology also appears in the project report outlining the heritage-listing of modern industrial sites across Japan (METI 2007).

for a deeper engagement with the sites, but also reflects complex historical, socio-cultural, economic and ecological dynamics that shape how these spaces are being reimagined and (re)engaged with by residents and outsiders. Rather, it is precisely this process of drawing formerly abandoned sites back into new relations, new forms of use, and new arrangements of living, that makes this case compelling to me. My initial interest in this project itself stems from a broader interest in ruined landscapes within the overlap of heritage and ecology studies, more specifically landscapes that have emerged in relation to traces and legacies (ruins) of human projects, and more-than-human relations with these lively spaces. Attending to these reappropriated ruin sites, and to the reintegration of human activity within these spaces, after periods of abandonment in which more-than-human rhythms had settled in, offers a way to follow how landscapes shaped by ruination are drawn back into forms of human attention and engagement. In turn, this thesis explores how the reappropriation of ruin landscapes in the Seto Inland Sea, caught up in processes of human abandonment and more-than-human reoccupation, participates in remaking both the physical landscape and the relationships that constitute them.

In their reappropriation, social as well as ecological relations with these ruin sites have shifted. As maintained outdoor art sites, they are also caught up in logics of capitalism, heritage and aesthetics. Thus, landscape dynamics cannot be meaningfully discussed without understanding the context in which they were abandoned and more recently reappropriated, that is in the context of rural depopulation.

Rural Depopulation in Japan

Rural population decline and aging in Japan has been a concerning demographic trend in the country for over half a century, resulting in the progressive abandonment of the country's rural regions. In recent scholarship, this trend has largely been retraced to the postwar period, where, in the wake of the baby boom peak of the late 1940s, national priorities and efforts shifted to developing the country's industries in urban areas. In turn, accompanied by an overall growing national population, ensuing labour demands saw many leave the countryside for the city. For many, urban life held promise in the wake of Japan's modernization and rapid industrial and economic growth. To illustrate, according to the United Nations, Japan's rural-urban population distribution shifted from approximately 53.4% of the country's population residing in urban areas in 1950 to 71.9% in 1970 (2015: 206). Researcher Peter Matanle and his colleagues from The

Shrinking Regions Research Group, offer further insight, clarifying that during this time, “[r]ural depopulation and its associated outcomes [...] c[a]me to be understood as unfortunate but unavoidable, or even necessary, consequences of national-read urban-success” (2011: 2). Nevertheless, rural depopulation was officially problematized in Japan by its government in the 1960s.² Despite this official acknowledgment, rural depopulation in the country persisted albeit varying in intensity in partial tandem with Japan’s changing economic situation.³ By the turn of the century, however, with 78.6% of Japan’s population residing in urban areas, migration to cities had steadily resumed once again (United Nations 2015: 206).

Rural depopulation has followed Japan into the present day, where the country faces a national demographic crisis. In addition to being an ageing nation, since 2010, Japan’s total population has been declining (United Nations 2024).⁴ In turn, rural depopulation has not only intensified⁵ but it is also manifesting in towns and cities in closer proximity to metropolitan areas (Matanle et al. 2011: 1). As of 2022, more than half of Japan’s municipalities are officially designated as depopulated areas (*kaso chiiki*, 過疎地域) (MIC 2024: 1). The seriousness of this issue at a national level is reflected in its recognition as a major factor in various matters of concern for contemporary Japan including education, healthcare, resource needs and environmental issues (Takeda and Williams 2020).

Whilst commonly associated with fertility and migration dynamics, (rural) depopulation is rarely considered solely in terms of demographic decline. In recent scholarship, rural depopulation is largely discussed in terms of “shrinkage” and “decline,” clarifying that beyond the statistical demographic fact, the phenomenon also involves sociological, economic and environmental

² The problematization of rural depopulation in Japan was formally institutionalized through the introduction of the term *kaso chiiki* (過疎地域), or “depopulated regions,” in the 1960s. Coined to describe areas facing dramatic population loss, it became central to policy discussions on rural decline. (Lützel et al. 2020: 1; Lollini 2024: 40).

³ As noted by Matanle et al., as Japan’s economic momentum slowed down following the international oil crisis in the 1970s, rural depopulation lessened somewhat, and the 1990s, a time of economic stagnation in the country, even saw a brief resurgence of migration towards the countryside (2011: 89).

⁴ The statistical decline of Japan’s population count, in part, reflects a long period of low fertility. In fact, Japan’s total fertility rate has been below the replacement rate (2.1) since the mid 1970s, and, as pointed out by Matanle et al., the shrinking population has also entailed a shrinking number of people who can conceive (2011: 425).

⁵ According to the United Nations, an estimated 90.5% of Japan’s population resides in the country’s urban areas by 2010 (2015: 207). However, as noted by Tsutsumi, such numbers are also influenced by the “Heisei municipal mergers (especially 1995–2014 ca) [which] significantly increased the urban population and decreased the county population after 2000” (2021: 22).

implications and experiences. To better understand the complexity of the phenomenon, I turn to Matanle et al. and their explanation of regional shrinkage:

shrinkage is multidimensional and is a process that normally occurs within a cumulative self-reinforcing pattern of depopulation, economic disruption, and social deterioration, the outcome of which is a renewed—if not strengthened and accelerated—cycle of the emptying of local communities, the gutting of local economies, a collapse in local reserves of social and human capital, and a decline in the quality of life experienced by those who remain. (2011: 19)

Importantly, shrinkage is not experienced uniformly (Matanle et al. 2011; Manzenreiter et al. 2020). Matanle et al. further expand this understanding of shrinkage to include not only experiences of decline but also that of responses, human and non-human.⁶ After all, “shrinkage itself is not an endpoint; something always follows” (2011: 23).

Notably (and visibly), shrinkage has an impact on local landscape dynamics; in the withdrawal of human presence and activities, the environment responds. Ecological implications of land abandonment have been more recently explored in the Japanese context through matters of wildlife encroachment (Matanle et al. 2011; Knight 2020) and loss of biodiversity following farmland abandonment (Funck and Cooper 2013; Hashimoto et al. 2019; Sasaki et al. 2021; Uchida et al. 2025). These ecological transformations are not peripheral to shrinkage but constitutive of it, reshaping the material and multispecies dynamics of rural environments.

In response to rural shrinkage, Japan has pursued a range of revitalization strategies. Earlier approaches of the late 20th century initially pursued policies which largely took the form of economically and environmentally wasteful infrastructure development. Since the early 2000s, however, more recent strategies deployed have shifted towards the decentralization of metropolitan areas in the sense that the policies and programs put in place encourage local autonomy and the migration of individuals as well as businesses to rural areas as part of broader efforts to “revitalize” them (Matanle et al. 2011). To this effect, tourism strategies have become a favoured approach (Ivy 1995; Matanle et al. 2011; Hashimoto, et al. 2021). Yet, these tourism-based strategies have been critiqued as unreliable, “unstable source[s] of income because [they are] seasonal and subject to distant and changing consumer taste” (Matanle et al. 2011: 431), and

⁶ Whilst Matanle et al. acknowledge the more-than-human implications of regional shrinkage, such as weedy overgrowth and a growing presence of wildlife (i.e. boars and monkey), they insist in their argument on the prevalence of human agency (i.e. neglect) in the process (2011: 23-24).

as broadly problematic in that limited consideration is given to the everyday lives of local residents and the ecological processes unfolding in this experience.⁷

These dynamics form the broader context in which the Seto Inland Sea islands of Inujima, Naoshima, and Teshima must be understood. These islands exemplify many of the patterns associated with rural shrinkage, while also having become sites of experimental responses to the situation. Their recent transformations through art and heritage initiatives unfold within, and in tension with, the processes of shrinkage, revitalization, and ecological change described above. It is to these regional responses that I now turn to.

Recent scholarship on Inujima, Naoshima and Teshima and their art tourism projects (and associated events) has primarily focused on the local social and economic implications of these initiatives. On the one hand, researchers have highlighted the potentials and limits of art (tourism) regarding community revitalization (Qu 2020b; Prince et al. 2021; McCormick 2022; Tu 2022), with specific attention to the collaborative efforts and forms of community engagement that accompany these projects (Müller and Miki 2011; Favell 2016; Qu 2020a; McCormick 2022; Qu et al. 2022; Jack 2023), while also noting the limited impact on local demographic shifts (Funck 2020; Tu 2022). Among these writings include accounts from key figures and commissioned artists who write about their creation process, and/or their experience in relation to the projects (Akimoto 2000; Müller and Miki 2011; Kaneshiro et al. 2013; Jack 2023). On the other hand, other studies have followed the economic opportunities and challenges that have emerged in relation to the development of art tourism on these islands, particularly in terms of economic diversification and economic sustainability (Müller and Miki 2011; OCDE 2014; Prince et al. 2021; Qu et al. 2022; Funck and Qu 2024).

While some authors have gestured towards the environmental dimensions of the art projects, sometimes even presenting them as successful, such as sustainable architecture and general claims of “harmonious” relationships with the environment (Müller and Miki 2011), the details on what this socially and ecologically entails and what has followed are often lacking. A few recent publications have begun exploring spatial relations with the art sites and landscapes

⁷ “Green tourism” and “ecotourism” are the partial exception to this later point, although, in the Japanese context the former is more so synonymous with the development of rural (experience) tourism (Funck and Cooper 2013: 188). Despite implied environmental mindfulness and conservation, in the case of ecotourism, such initiatives often face challenges due to the socio-economic motivations and pressures of the various parties involved. This dynamic is complicated by the fact that such projects remain a form of tourism with inherent economic and experiential expectations (Matanle et al. 2011; Funck and Cooper 2013).

(Suwa 2020; Prince et al. 2021; Platz 2024). Again, however, limited attention is given to ecological responses and relations with the environment. In other words, despite talk of “revitalization,” its meaning appears limited, and the *vital* and the broader ecological context, both human and non-human, are largely overlooked. My research thus responds to this gap and explores these islands as more-than-human ruin landscapes.

To clarify, in using the term “landscape,” I draw primarily on the work of anthropologist Anna Tsing and her colleagues, whose writings on Anthropocene ecologies approach landscapes as dynamic, relational formations shaped by layered histories, material traces, the interplay of human and more-than-human activity and other forms of disturbance (Tsing 2015; Tsing et al. 2017b; Tsing et al. 2019; Tsing et al. 2021; Tsing et al. 2024). Tsing’s (2015) notion of landscape draws itself inspiration from Uexküll’s concept of “*umwelt*” (bubble worlds, life worlds, similar to Berque’s notion of “*milieux*”),⁸ where she proposes her own definition of landscapes as “products of *unintentional design*, that is, the overlapping world-making activities of many agents, human and not human” (2015: 152, italics in original). Although Tsing does not isolate weather as an analytic focus, atmospheric forces are folded into the ecological processes through which landscapes take form. Anthropologist, Tim Ingold’s (2011) critique that landscape perspectives can lose sight of the sky, sea, and weather-world underscores this atmospheric dimension, though he does not take into account the writings of authors such as the Japanese philosopher Watsuji Tetsurō (Watsuji [1935] 2023), who argues that there is an interrelationship between climate and society with his concept of “*fūdo*” (human *milieu.x*). From this perspective, the ruin landscapes of these islands are dynamic environments where past projects, ecological processes, and contemporary interventions intersect. Given the case explored in this study, it is equally important to acknowledge the other common association of “landscape” with scenery (Olwig 1996). While my use of the term is grounded in an ecological and relational understanding, I remain attentive to this aesthetic dimension, particularly in relation to the artistic interventions and the maintenance work that must account for their aesthetic visions.

⁸ In his writings on “*milieus*” (1990; 1987), Berque draws heavily on Watsuji and his concept of “*fūdo*,” which Berque translates as “human *milieu.x*”, a concept that was indirectly inspired by Uexküll’s ([1934] 1957) writings and his concept of the “*umwelt*.” Other authors who have been inspired by this concept include Bruno Latour in his notion of “Gaia” (2015; Gens 2018) and Tim Ingold (2000; 2011).

Central to this approach is the role of maintenance work that follows reappropriation in relation to the art sites. How do the afterlives of industrial and demographic ruination unfold along new trajectories as ruin sites are reappropriated as art sites? Maintenance work, although it may refer to a myriad of tasks, is ultimately site-specific. As these industrial and post-industrial ruin landscapes are reimagined and rediscovered through artistic interventions, maintenance work becomes a key activity—one shared between various actors, both outsiders and residents—for (re)negotiating and sustaining relations with the landscape. The work attends to and corresponds with natural phenomena and processes, as well as ecologies that engage the physical site (remains, new structure.s, grounds), while also reflecting socio-cultural dynamics of spatiality and aesthetics. In this thesis, I examine how such work is part of broader ecological, social, and economic (art tourism) processes. In doing so, this thesis seeks to understand how these art sites and their ongoing maintenance participate in the renegotiation of more-than-human relations amid rural shrinkage and the global climate crisis. More specifically, the question guiding this research is: how does the maintenance of reappropriated ruin sites (art sites) on the depopulating islands of Inujima, Naoshima, and Teshima shape the afterlives of both these sites and the broader island post-industrial ruin landscapes of these islands, and what is maintained in the process?

Art Islands in the Seto Inland Sea

In Japan, the processes of modernization from the late 19th century through much of the 20th century propelled the country along a distinct trajectory characterized not only by “urban energies, capitalist structures of life, and mechanical and electrical forms of reproduction[, but also] [...] the problem of the nation state and its correlation with a capitalist colonialism that ensured Japan would be pulled into a global geopolitical matrix” (Ivy 1995: 4-5). In this same narrative of modernization and industrialization, the islands of Inujima, Naoshima and Teshima were absorbed into the country’s industrial ambitions shaped by the imperatives of modernization.

In turn, these islands saw their environment considerably transformed over the course of their history. Inujima and Teshima had already been shaped by centuries of quarrying, carving away at their topography. In the early twentieth century, new industrial activities layered onto these older extractive histories; copper refineries were established on Inujima and Naoshima. Although Inujima’s refinery operated for only a decade, Naoshima’s refinery remains active and was later joined by recycling facilities in the early twenty-first century. Despite having avoided

the installation of its own refinery, Teshima, became the site of a major industrial waste scandal beginning in the late 1970s, when a waste management company illegally dumped toxic materials on the island. The dumping continued until 1990, and cleanup efforts (undertaken in collaboration with Naoshima) began only in 2000 (OECD 2002: 128; Müller and Miki 2011: 297).

Industrial activities on these islands stimulated the local economy as well as population increases (Blau 2011; Yoshimoto 2011). Yet, like many rural regions in Japan, the post-war period saw these islands gradually empty. Ivy reminds us that:

Although this was a time of rapid growth and rising standards of living for most, it also witnessed the exacerbation of urban crowding and congestion, skyrocketing land prices, and notorious pollution and environmental scandals. Communities throughout rural Japan became concerned with the question of continuing existence in the face of depopulation. (1995: 111)

Between Naoshima, Inujima and Teshima, the sustained depopulation of these islands has produced ruin landscapes marked by abandoned buildings, agricultural fields, and industrial remains, material traces of both local histories and broader national processes of shrinkage.

Sharing the objective of revitalizing these islands, two major initiatives have sought to reimagine their future. The BASN project (1985-ongoing), initiated by Japanese millionaire Fukutake Soichiro,⁹ and the *Modern Industrial Heritage* project (2007-2008),¹⁰ led by the Japanese government, have sought to reintegrate this part of the region into patterns of domestic and international tourism and stimulate their local economies. In short, the Ministry of Economy, Trade and Industry's (METI) *Modern Industrial Heritage* project saw to the designation of remnants of Japan's industrial revolution, including the ruins of Inujima's copper refinery, as heritage sites. Meanwhile, BASN is an ambitious art tourism project that has focused on transforming the islands into site-specific artistic and architectural experiences. Its slogan, "using what exists to create what is to be," pulses through the many projects. Albeit mixed local reception,¹¹ these site-specific contemporary art projects have multiplied in number over the years,

⁹ The BASN project was originally conceived by Japanese millionaire Fukutake Tetsuhiko and the mayor of Naoshima, Chikatsugu Miyake, in 1985. After the death of his father in 1986, Fukutake Soichiro undertook the project and became its sponsor (Fukutake 2011; OCDE 2014: 141). Benesse Art Site Naoshima (BASN) is the collective name for the projects conducted by Benesse Holdings and the Fukutake Foundation.

¹⁰ This project is part of a wider Japanese government program which includes other projects such as "Cool Japan" to promote Japan internationally (METI n.d.-b).

¹¹ Although this topic did not emerge in my own interviews, other studies of art-based revitalization on these islands have frequently noted a mixed reception and frequent disconnect with local residents, particularly during the early years of the projects (OCDE 2014: 142; Qu 2019; Qu 2020a; Prince et al. 2021). This ambivalence has also been

and across multiple islands.¹² While many of its earlier projects, including the art museums on Naoshima (opened in 1992, 2004, 2010, and 2025), Teshima (opened in 2010), and Inujima (opened in 2008), were more focused on the art tourism industry, later projects have sought to be more collaborative with local residents, who are a key element in the revitalization of these islands (Blau 2011). Such projects include the restoration of abandoned rice fields on Naoshima and Teshima, and the transformation of vacant houses and creation of outdoor artworks in the villages on Naoshima (since 1998), Inujima (since 2010) and Teshima (since 2013) into art installations. Accompanying and complimentary to BASN since 2010, the Setouchi Triennale (initially the Setouchi Art Festival), an international art festival held in the region every three years, has further amplified these efforts. This festival was developed by Fukutake Soichiro in partnership with Kitagawa Fram (its art director), drawing on the model of the Echigo-Tsumari Art Triennale, a recurring rural art festival in Niigata Prefecture founded by Kitagawa a decade earlier.¹³ In turn, the festival brings new art sites (short- and long-term), volunteers (with the creation of the volunteer nonprofit organization Koebi-tai), as well as tourists to an increasing number of participating islands and coastal towns in the region, including Naoshima, Teshima and Inujima. To account for the art activities and installations beyond BASN and not limited to the period of the Setouchi Triennale, Art Setouchi is commonly used as a more encompassing title (Aoo 2021; Jack 2023). These interventions across their respective landscapes have earned these islands a reputation as “art islands” (Qu 2020a; Prince et al. 2021). This brief overview of the islands’ recent historical and cultural context sets the stage for a more situated inquiry, one that engages with the everyday rhythms, ecological textures, and maintenance practices that shape life on the islands of Naoshima, Teshima and Inujima.

Methodology and Roadmap

This research is grounded in ethnographic fieldwork conducted in Japan’s Seto Inland Sea region during the Setouchi Triennale 2022. I collected data primarily through the practice of participant observation coupled with drawing as an experimental form of observation. In addition,

acknowledged by participating artists reflecting on their experience (Yanagi 2018). Furthermore, in the edited volume *Insular Insights* (Müller and Miki 2011) which documents these island art interventions, a range of local voices are featured recalling early local sentiment.

¹² BASN also has a permanent installation on the neighbouring island Megijima, MECON which opened in 2013.

¹³ For a more detailed account of their shared history see Kitagawa (2015).

I consulted local publications, information panels, and tourism handouts available on-site, which provided valuable contextual and historical insights into the islands and art projects. This was further supplemented by interviews with employees of the Fukutake Foundation, island residents, and a member of the Koebi-tai volunteer organization. The resulting data was subsequently analyzed using an inductive thematic approach.

With Japan only reopening its borders to “temporary visitors”¹⁴ in early October 2022,¹⁵ some two-and-a-half years after closing itself to international travellers in response to the COVID-19 pandemic, the timing of my month-and-a-half-long stay in Japan overlapped with the final weeks of the art festival and the first weeks that followed.¹⁶ Of note, the pandemic did present an important concern for the festival. Considering the aging population of many of the participating islands and limited access to healthcare facilities given their remoteness, control measures were instilled to reduce the risk of an outbreak. During my stay, temperature checks were carried out regularly at the entrance of the ferry terminals. Once I was confirmed to be within the *healthy* range, I received one of three coloured disposable wrist bands to wear on my person (figure 1): a new day, a new wristband.



Figure 1- Setouchi Triennale 2022 wrist bands. Photograph by author.

¹⁴ This expression is used by the Japanese government to identify passport holders from countries like Canada with whom Japan has visa exemption arrangements (MOFA 2025).

¹⁵ Entry into the country was conditional as certain public health measures remained in place, namely providing proof of having received 3 doses of an approved vaccine or having tested negative within the past 72 hours.

¹⁶ The Setouchi Triennale is separated into three sessions, each corresponding with a season and lasting approximately 30 to 40 days. For the Setouchi Triennale 2022, the spring session took place between April 14 and May 18, the summer session fell between August 5 and September 4, and the fall session was from September 29 and November 6. Altogether, the art festival took place over 105 days (Setouchi Triennale Executive Committee n.d.). Not all sessions shared the same events and art installations for visiting.

This measure ceased altogether after the last day of the Triennale. Meanwhile, various signs reminded travellers to stay home if they were not feeling well, to refrain from talking when eating and when riding public transportation, to limit the risk of potential spreading. Most venues I visited were either open-air or doors were propped open to improve ventilation. Masks were also worn at all times, at least indoors and within community areas (figure 2), and hand sanitizers were often available. To my knowledge no major outbreak occurred during the festival.¹⁷ In their report of the event, the Setouchi Triennale Executive Committee cites the pandemic as the primary reason for a notable decrease in

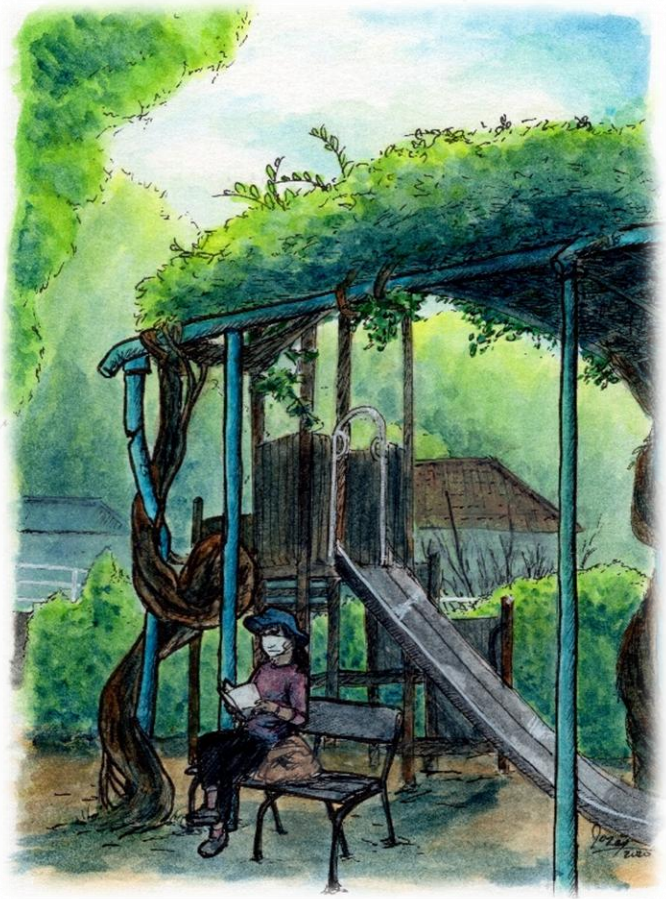


Figure 2- Tourist wearing a mask outside art installation on Naoshima. Watercolour drawing by author.

participation numbers. Between its three sessions, the turnout totalled 723,316 visitors, the reported equivalent of 61% of the turnout from the previous Setouchi Triennale held in 2019 (Setouchi Triennale Executive Committee 2022b: 1 and 4).

Although I had been to Japan on an earlier occasion (prior to the pandemic), this was my first time visiting the Setouchi region. Based at a guesthouse in the port town of Uno (in Tamano City, Okayama Prefecture), I regularly travelled to the nearby islands of Naoshima, Teshima and Inujima over the course of my stay. At the mercy of the boat services' schedule, I spent entire days on a single island, typically arriving on the earliest ferry or passenger boat and departing on one of the last. These three islands have participated in the Setouchi Triennale since its initial

¹⁷ For more information on the measures adopted, see the Setouchi Triennale Executive Committee's “瀬戸内国際芸術祭 2022: 新型コロナウイルス感染症対策の指針 [Setouchi Triennale 2022: Guidelines for Prevention of COVID-19]” document (2022a), and their event summary report for Setouchi Triennale 2022 which includes a dedicated section summarizing the guidelines (2022b).

conception.¹⁸ In addition to their shared involvement in the art festival, I chose to focus on these three islands for this study given that they each host permanent BASN installations, meaning many reappropriated sites are more consistently part of everyday life, and because of their intertwining industrial histories as discussed above.

As part of my fieldwork, I conducted participant observation, taking part in festival activities as both volunteer and tourist. This included, on the one hand, visiting many of the art installations and museums on the islands and around Uno Port. On the other hand, I volunteered with the Koebi-tai organization, working reception for two art installations and aided with the takedown of one of the temporary installations after the festival. In addition to participating in the Setouchi Triennale, I also joined a few local events, including the rice harvest festival and an island birthday party on Teshima as well as the Culture Day festival on Naoshima. Participating in these activities allowed for more social opportunities despite the art festival's smaller turnout.

In addition to informal conversations, eight participants were interviewed, including museum staff, island residents and a volunteer. Half of the interviews were with people whom I met during fieldwork. The other half was with members of staff I was connected with through the Fukutake Foundation. In accordance with everyone's preference, interviews were all conducted asynchronously and in the language of their choice. Interviews in Japanese were translated by myself. Questions and responses were exchanged using email. In the context of this project, all participants are anonymized.

Alongside participant observation, as part of my fieldwork I also practised drawing. In recent years, a growing body of scholarship (Ingold 2011; Taussig 2011; Ingold 2013; Causey 2017) has explored and promoted drawing as a legitimate medium in ethnographic research, particularly for its capacity to engage the researcher in reconnecting observation, participation, exploration, description and knowing in a relational engagement. Drawing offers an approach that develops and attunes to the field. My reasons for drawing were fourfold. First, my decision to draw was originally a practical one. As an amateur illustrator, drawing is more intuitive for me and richer in detail than I would ever be able to write in the moment or in recalling it. In

¹⁸ The art installations and facilities that participated in the Setouchi Triennale 2022 are spread out across fourteen locations including twelve islands (Naoshima, Teshima, Megijima, Ogijima, Shodoshima, Oshima, Inujima, Shamijima, Honjima, Takamijima, Awashima, and Ibukijima), as well as two port areas: Takamatsu Port and Uno Port. While Naoshima, Teshima and Inujima have been part of the Setouchi Triennale since the first one was held in 2010, Uno Port joined the list of participating venues in 2013.

turn, my drawings, a combination of ink and watercolour sketches, form part of my field notes and are included throughout this paper. Second, drawing offered a means for seeing more deeply (Causey 2017). Considering my interest in the more-than-human dynamics, I also wanted to be able to attend to traces of human and non-human histories and their legacies, in other words, past entanglements that take part in landscape dynamics observed in the present moment (Mathews 2017). To this end, the practice of drawing helped me slow down in the field and pay particular attention to humans, non-human, and their relations with the ruin sites. Third, drawing took on added relevance given the central role of art and architecture in the islands' revitalization projects. As previously mentioned, many of the ruin sites across the islands have been repurposed as art spaces. Drawing, in this context, became a way to directly engage with the aesthetic and spatial dimensions of these transformations. Fourth, considering the numerous art installations and the occasion of the art festival, drawing was also a form of participant observation. Art made for an especially relatable topic, and drawing in public spaces created informal opportunities to meet people at a time when COVID-19 prevention measures still shaped daily interaction. In this sense, drawing not only served as a method of (participant-)observation but also as a way to connect and enrich my overall fieldwork experience. Taken together, these methods shaped the situated, relational, and materially attentive approach that underpins this thesis.

With this methodological grounding in place, I now turn to the structure of this thesis and the trajectory of the argument that follows. This thesis unfolds across two parts. Part I takes interest in the industrial ruin landscapes, where I follow *karami* (銕, slag), a by-product of copper smelting, across Naoshima, Inujima, and Teshima, approaching these islands as haunted landscapes. Attending to *karami*'s dispersed presences and absences as markers of industrial haunting, chapter 1 traces how the afterlives of copper production continue to inhabit the terrain. In layers of form, texture and colour, I draw *karami*. Through this practice, I situate the islands within longer trajectories of industrialization, waste management, ruination, and more-than-human encounters, tracing how these processes have and continue to shape the environments in which the art sites are created and maintained. Chapter 2 follows *karami* into the present. Here I attend to how depopulation haunts these islands and how it has been met with the reappropriation and heritagization of these industrial remains. These responses remain haunted not only by the depopulation they address but also by the industrial histories they take up, as the afterlives of copper production continue to haunt the materials and practices through which these industrial

remains are reappropriated and become valued as heritage. I trace how *karami* is taken up, maintained, and reframed within these overlapping hauntings and shifting demographic conditions. Part II turns to the practices through which ruins of depopulation are selectively attended to and reinhabited through art projects. Chapter 3 follows the restoration and maintenance of rice fields on Naoshima and Teshima, where tasks such as weeding, infrastructure maintenance, and harvesting take on multiple meanings as agricultural, ecological, aesthetic and remembering practices. Lastly, chapter 4 turns to the residential areas to explore the reuse of abandoned buildings as art installations and the maintenance of these art sites as embedded within inhabited neighbourhoods. I also consider how these practices contribute towards an appearance of repopulation even as demographic decline continues. Together, these chapters trace how maintenance becomes a mode of reinhabiting ruin landscapes, (re)negotiating their afterlives and the relations (human and more-than-human) that persist within and as part of them.

THEORETICAL FRAMEWORK

At a time of climate crisis, rural exodus, and an aging population, the reappropriation of abandoned ruin structures and landscapes, largely ruins of industry and those of depopulation, has become increasingly employed as part of a tourism strategy to revitalize Japan's depopulating rural regions (Hashimoto and Telfer 2010; Kitagawa 2015; Hashimoto et al. 2021; Qu and Cheer 2021; Platz 2024). The repurposing of these spaces is intertwined with matters of community relations, rural tourism, artistic visions, heritage conservation, and environmental concerns. Where the withdrawal of human activity and presence once characterized these spaces, their repurposing, brings people back into landscapes already reinhabited through more-than-human gatherings and activity. As Bubandt and Tsing write,

[b]ecause human projects matter from the perspectives of other creatures, landscapes change; human infrastructures created for one kind of purpose are deformed and transformed by other uses. Humans are offered landscapes of their own making—but hardly recognizable to their original plans. (2018: 5)

In this return, the reappropriation of these sites into art spaces introduces new forms of human disturbances, including renovation, restoration, visitor circulation, and maintenance work.

Maintenance, as I approach it in this thesis, refers to the forms of labour and attention through which reappropriated ruin sites are kept usable, legible, and open to visitors and residents

alike. Such work navigates the shifting conditions produced by industrial residues, demographic decline, and more-than-human activity. Maintenance is, therefore, less a technical task than a mode of (re)inhabiting landscapes; it is a practice of regular (re)negotiation of more-than-human living arrangements. Understanding maintenance in this sense and to make sense of this layered interplay requires a theoretical orientation attentive to how ruins are sites of more-than-human activity, how emergent ecologies are unsettled again through heritage and art interventions, and how ruination in Japan carries its own historical and spatial specificities. The following framework brings several bodies of scholarship into conversation to better understand the conditions under which maintenance work unfolds and how I approach maintenance in this thesis.

Naoshima, Teshima and Inujima's ruin landscapes are caught up in processes of human abandonment and more-than-human reappropriation, two movements that unfold within the Anthropocene. The Anthropocene refers to the current geological event,¹⁹ characterized by human activity and its consequences, "in which humans have become the major force determining the continuing livability of the earth" (Gan et al. 2017: G1). It controversially proposes rethinking humanity's actions, particularly capitalist and industrial activities in the pursuit of modernization, in a manner comparable to that of other geological forces transforming the world on a planetary scale (Steffen et al. 2015; Tsing 2015; Tsing et al. 2017b; Bubandt and Tsing 2018; Tsing et al. 2019). It is in this context that Tsing and her colleagues put forward that living in the Anthropocene requires learning to live amid and with the ruins of capitalism (Tsing 2015; Tsing et al. 2017b; Latour et al. 2018). To do so, she continues, it "begins with a practice at once humble and difficult: noticing the worlds around us" (Swanson et al. 2017: M7).

Since its introduction at the beginning of the 21st century as a geological concept, the Anthropocene has been the subject of considerable criticism. Among the most notable are an obsession with periodizing it, the concept's tendency to globalize, simplify and homogenize the phenomena observed and the human histories involved, as well as a gross exaggeration of human power (Haraway et al. 2016). Despite these criticisms, Tsing and many other scholars including the International Union of Geological Sciences defend its usefulness (Swanson et al. 2015; Haraway et al. 2016; Tsing et al. 2019; Witze 2024). The Anthropocene, they argue, remains an inspiring contradiction (with humans framed as both the problem and the solution) and a promising

¹⁹ In March of 2024, the Anthropocene was declared an "event" rather than an epoch by the International Union of Geological Sciences (Witze 2024).

thought experiment. However, one criticism that Tsing insists on concerns about the use of the prefix “anthropo-” (Tsing 2015; Haraway et al. 2016).²⁰ Tsing points out a crucial ignorance that stems from the exclusive use of this prefix, namely that

despite the prefix ‘anthropo-’, that is, human, the mess is not a result of our species biology. [...] Imagining the human since the rise of capitalism entangles us with ideas of progress and with the spread of techniques of alienation that turn both humans and other beings into resources. Such techniques have segregated humans and policed identities, obscuring collaborative survival. (2015: 19)

In other words, living in the Anthropocene requires us to rethink our relationships with humans and non-human for the sake of sustainable alliances. This requires context-specific responses.

To this end, Bubandt and Tsing argue that it is all the more necessary to “know how the actions and reactions of living and nonliving things change the landscape” (2018: 1). It is in this spirit that Tsing and her colleagues propose thinking the Anthropocene as patchy (Tsing et al. 2019; Tsing et al. 2021; Tsing et al. 2024). To elaborate, the concept of the “patchy Anthropocene” focuses on “the uneven conditions of more-than-human livability in landscapes increasingly dominated by industrial forms” (Tsing et al. 2019: S186). It emphasizes the importance and necessity of paying attention to specificity, observing a situation in its own more-than-human socio-geo-historical context as well as in relation to other patches (Tsing et al. 2019). After all, “patches *make* the Anthropocene, including its planetary forms” (Tsing et al. 2024: 1, italics in original). Patches themselves are described as “includ[ing] human designed spaces such as suburbs and malls, as well as spaces stemming from human activities but not designed by humans, such as plastic gyres in the ocean” (Tsing et al. 2024: 15). They can take various forms of places and corridors and vary greatly in scale, Tsing et al. (2024) explain, but to identify a patch, that occurs through field observations. In *A Field Guide to the Patchy Anthropocene*, Tsing et al. defend that bringing attention to non-humans offers valuable insight into human concerns and experiences, as their stories are entangled with one another (2024: 27). Scholarship on the Anthropocene and its patchy expressions offers a way of attending to the uneven ecologies that form around industrial

²⁰ In this line of thinking, other anthropologists have proposed alternative neologisms to describe this era, notably: Capitalocene (Moore 2016), Plantationocene (Haraway et al. 2016; Latour et al. 2018), Cthulucene (Haraway 2017) and Cynanocene (Sagan 2017).

and demographic decline and to the particular ways ruin landscapes in the Seto Inland Sea are (re)made and (re)inhabited in the afterlives of industrial and demographic decline.

Of great interest and relevance to this thesis is the figure of “ghosts,” as explored by Tsing et al. in *Arts of Living on a Damaged Planet* (2017b). These ghosts are described as “the traces of more-than-human histories through which ecologies are made and unmade” (Gan et al. 2017: G1). Ghosts are proposed and explored within the volume as a tool for noticing within the Anthropocene, drawing attention to (in)visible presences and absences of pasts (often denied and/or forgotten) that persist and remain still very much entangled with the present. In this framing, landscapes are described as “overlaid arrangements of human and non-human living spaces” (Gan et al. 2017: G1), placing greater emphasis on ways of life and livelihoods as relational practices through which human and non-human activities make and remake these places. In this sense, approaching these landscapes as “haunted by histories and made through multiple temporalities” (Tsing et al. 2017a) reframes maintenance work tending to ruin-sites-turned-art-sites as work that also attends to and engages with ghosts. Indeed, across Naoshima, Teshima and Inujima, this approach is relevant for understanding and contextualizing the ruin landscapes and sites explored in this thesis in relation to their transformative industrial pasts and transformative artistic presents in response to demographic decline.

In scholarship on rural depopulation in Japan, Marilyn Ivy’s (1995) notion of “vanishing” offers another way of thinking about lingering traces, albeit in a different sense. She writes of what is “suspended between presence and absence, located at a point that both is and is not here in the repetitive process of absenting” (1995: 20, italics in original) without disappearing. For Ivy, such vanishing is tied more closely with humans and their national cultural imaginaries in the form of practices and stories, marking a different register from the ghostly presences discussed above.

Within the Anthropocene, the nature-culture dichotomy has been heavily challenged. Seen from this angle, heritage has become a domain unsettled by the kinds of presences the Anthropocene makes unavoidable; the Anthropocene exposes the limits of treating nature and culture as separable domains for heritage. This unsettlement becomes particularly evident in sites where human and non-human agencies remain densely entangled. Wadbled (2022) points to urban ruins as hybrid environments where human and non-human agencies remain entangled in ways that existing heritage regimes—built on the presumption that culture must be protected from nature, and nature from culture—cannot easily accommodate. In their feral textures, they make perceptible

how climate crisis conditions are already reworking the grounds on which heritage has been defined, and pushing it towards ecologies where maintenance, abandonment, and more-than-human inhabitation coexist rather than resolve. This matter is also taken up more explicitly in heritage theory.

Bangstad and Pétursdóttir (2022) make the argument that in the context of the Anthropocene, the relevance for an ecological approach in heritage studies is all the more critical. Echoing scholars David Harvey and Jim Perry's (2015) argument on needing to think "natural processes" and "cultural context" together, they justify this push for an ecological thinking within heritage studies "because the rigid distinction between human history and natural history is becoming ever more blurred and impossible to maintain" (2022: 9). A related emphasis appears in studies that reconsider heritage narratives in light of more-than-human entanglements. In their study of the Port Arthur Historic Site, a penal settlement in Tasmania, Australia, Waterton and Saul (2021) argue for a heritage practice attentive to more-than-human dynamics, underscoring the often forgotten more-than-human relations that also make and shape these places. They look to the trees on site whose lives and injuries record colonial violence, industrial extraction, and ecological change to reframe the site and its narrative: "[t]raumatized trees come to haunt Port Arthur as ghosts, having also embroiled themselves in the monstrous misdeeds of both convict and captor" (2021: 367). Waterton and Saul show how human and non-human histories are intertwined, bringing into view traces that unsettle how heritage is imagined and approached.

Understanding heritage as multispecies and ecologically entangled also shifts how the work of conservation can be understood, drawing attention to the ways in which heritage practices themselves unfold within ecological relations. In relation to heritage conservation work, Bangstad and Pétursdóttir underscore the entangled nature of heritage phenomena:

[h]eritage management and preservation involve a brigade of technologies and agents to keep things at bay, as an ecology of forces is at all times involved in the subtle transformation of sites, things and places. [...] [B]y attending to the work of non-human agents like moss, weed, limestone, concrete, acid rain, mushrooms, rust, geese, black mould and mud, we may begin to recognize the multifarious nature of sites and the contribution of the other-than-human world in the materialization of memory and heritage. (2022: 17-19)

At the same time, these entanglements draw attention to the uncertain futures of recognized heritage sites (and objects). In material-heritage conservation, the Anthropocene forcibly imposes

a shift in approach, unsettling long-held assumptions about prediction, stability, and controlled intervention (DeSilvey 2017; Bangstad and Pétursdóttir 2022). As environmental conditions become unpredictable and grow more volatile, conservation regimes premised on a logic of preservation confront “a tremendous challenge [...] where human intervention is based on prediction and an aim for balance and stability” (Bangstad and Pétursdóttir 2022: 7). These circumstances force a deeper reconsideration of what conservation can secure, and of how heritage might be sustained under conditions that demand a fundamental rethinking of its guiding logics (DeSilvey 2017; Bangstad and Pétursdóttir 2022). DeSilvey’s account offers a useful entry point here: heritage as “the complex of practices and policies that structure our relationship to the material past,” a relationship that “does not assume that [it] must, by definition, involve acts of physical stabilization.” This orientation sits closely with the pressures the Anthropocene places on conservation’s predictive and stabilizing logics, and with the kinds of ruin landscapes considered in this thesis, where material pasts persist less as objects to be secured than as conditions that are worked with—through selective stabilization, repurposing, and maintenance—in the ongoing reimagining of these landscapes at a time of depopulation.

A similar pressure is felt in the realm of aesthetics. Portera (2023) questions whether aesthetic categories forged around ideals of natural beauty can remain meaningful in the Anthropocene’s anthropogenic landscapes, where the very conditions of perception are shaped by ecological crisis. Saito’s work on the power of aesthetics underscores what is at stake in this shift: aesthetics do carry environmental weight in terms of its significance and consequence as “our prevalent scenic landscape aesthetics has consequences not only regarding the fate of unscenic lands but also regarding our protection and management of scenic lands” (Saito 2007: 65). In this sense, the Anthropocene unsettles not only heritage’s conceptual foundations but also the aesthetic frameworks through which landscapes are imagined, valued, and acted upon.

Following this line of unsettlement, the very notion of heritage is also being problematized; heritage becomes less a matter of value and designation than one of inheritance. What (will) persists, what (will) accumulates, and what (ghosts) must be lived with? As Bangstad and Pétursdóttir write,

[i]n the age of the Anthropocene, we no longer have the privilege of a practice of simply selecting the heritage we want or of naming, systematizing and isolating the components that we endorse or take responsibility for while ignoring how human creations are always

enfolded in relations which yield results we can hardly comprehend, let alone predict. (2022: 22)

In this sense, heritage more closely resonates with the concept of “ghosts” of the Anthropocene (Tsing et al. 2017b).²¹ In my own approach to heritage within this thesis, I do not limit my use of the term to objects, sites, landscape or people who have received a formal designation.

In Japan, the notion of “heritage” as separate from that of “culture” is comparatively recent. Jimura remarks on how the two terms are understood in practice:

‘culture’ is much more familiar notion for the Japanese than ‘heritage’. This means that most Japanese people would see multiple phenomena [...] as culture but only small part of them would view them as heritage. This would be due to the difference in the degree of their familiarity of the words, *bunka* (culture) and *isan* (heritage), amongst Japanese people. Recently, the idea of *isan* (heritage) has been increasingly recognized by Japanese people mainly through the [World Heritage] initiative by UNESCO and partly via the Japan Heritage (JH) system established in 2015 by the Agency for Cultural Affairs (ACA). (Jimura 2021: 3)

Heritage, here, has also become of great interest to Japan’s tourism industry. Within this context of tourism, Jimura explains that “everything excursionists or tourists perceive as heritage can be treated as heritage,” in other words, heritage (as resource) can also be created (2021: 16). The “[c]reation of new [cultural heritage attractions] can be understood as a spatial transformation and tends to be part of an extensive regeneration plan,” he continues (2021: 9). In this sense, heritage becomes part of the broader spatial strategies through which rural regions seek to *revitalize* themselves, including the reuse of sites shaped by abandonment and decline.

From here, it is important to consider the notion of (contemporary) “ruin.s” itself. In *The Mushroom at the End of the World*, Tsing’s interest in what she terms “ruins of capitalism,” that is, “spaces of abandonment for asset production [produced by simplification for alienation]” (2015: 6), opens the category of ruin beyond built structures. Her account of matsutake mushrooms in Japan’s ruined industrial forests makes this expansion tangible, showing how ruination unfolds across ecological as well as architectural terrains. Elsewhere, based on his work in Argentina, Gordillo (2014) conceptualizes “ruins” as objects that can be endowed with an afterlife. Drawing from Walter Benjamin’s concept of “afterlife” and from Heidegger’s argument that places gather

²¹ Wadbled, for his part argues for a heritage of the Anthropocene, underscoring the environmental education opportunity it offers (2022: 7).

relations rather than simply contain them, Gordillo writes that debris can be thought of as having an afterlife through their history and social relationships (2014: 20-22). In other words, the life of a ruin is perceived and revived through its social relations with humans. In this sense, he writes, ruins and debris physically isolated for their heritage value become “tightly managed places where visitors pay to contemplate a relic that they are ordered to photograph but not to touch. These ruins are objects without afterlife: dead things from a dead past, whose value originates far in time” (Gordillo 2014: 9). This notion of vitality of ruins, I argue, is problematic. On the one hand, it remains largely anthropocentric in its dependence on relationships with humans. Why not take into account a ruin’s relationships with non-human? Rather, as alluded to earlier, it must! Even in cases of isolation, heritage sites and objects are ever in relations with non-human and natural processes, giving purpose to practices of preservation, and yet, even such practices are not foolproof. In his contribution to *Feral Atlas*, Keck (2021) explores the world of insect activity in museums, underlying their persistence despite the many control systems in place to isolate the collection. To further complexify this idea of ruin vitality and liveliness, I turn to Ingold (2013). Ingold blurs the distinctions between organisms and artefacts, further expanding our understanding of non-human vitalities. In discussing the vitality of materials, he establishes that “if organisms grow, so too do artefacts. And if artefacts are made, so too are organisms” (2013: 22). He demonstrates that materials are active through their movements and their continuous correspondence with the things and flows around them.

In Japan, the notion of ruin carries its own nuances. Scholarship on ruins in Japan emphasizes the distinct temporalities, cultural logics, and spatial practices through which abandoned structures and their afterlives are understood. Murielle Hladik (2017), architect and scholar, describes Japanese ruins as fundamentally ephemeral. Their temporality is cyclical, marked by processes of destruction and reconstruction. Berkhout (2019) similarly argues that value in the Japanese built environment often resides less in the permanence of structures than in the rituals, practices, and aesthetic sensibilities that sustain them, a dynamic exemplified—also in Hladik’s (2017) account—by the repeatedly rebuilt Ise Shrine. In a country where limited habitable land has historically required the continual reuse of space, Japanese architect Isozaki Arata (1991), reflecting on postwar reconstruction make this dynamic explicit: “*les ruines sont la base de la ‘ville du futur’ (mirai no toshi)*” (Isozaki 1991, cited in Hladik 2017: para. 5). This understanding extends beyond wartime destruction to the many natural disasters that have repeatedly reshaped

the archipelago. It is worth underscoring that some of these ruins have escaped this cycle, particularly in cases of commemoration²² and abandonment.

Yet this scholarship largely emerges from and speaks to urban contexts, where cycles of demolition and rebuilding are frequent and spatial pressure is high.²³ As Berkhout notes, these dynamics do not translate seamlessly to rural regions, where depopulation has produced a different material and temporal condition: buildings are not rapidly cleared nor rebuilt, but left to linger, decay, and occasionally reappropriated (2019: 127). Industrial remains and ruins of depopulation often persist outside the dominant cycle, accumulating new meanings through abandonment, and selective reappropriation. These divergent trajectories underscore that ruination in Japan is not a singular condition but a culturally and historically situated process, one that unfolds differently in depopulating rural landscapes such as those of the Seto Inland Sea.

In the contemporary Japanese context, it is worth clarifying the terminology used to refer to ruins. As Hladik notes, a range of older notions approximate the idea of ruin through the passage of time rather than through material decay; they “*relèvent de la non-substantialité, de l’immatérialité et finalement de l’impermanence (mujō, 無常). Elles traduisent une manière éphémère d’habiter en ce monde*” (2010: 3). The term *haikyo* (廃墟), a relatively recent addition,²⁴ refers to abandoned sites and buildings in a state of ruin. It is widely used in the context of *modern* ruins, and its meaning encompasses the now popular activity of (il)legally exploring these abandoned spaces (Somhegyi 2014: 114). Curiously, when it comes to describing industrial ruins, more formal Japanese writings tend to use the term *ikou* (遺構), meaning ‘archaeological remains.’ This is the case with the ruins of Inujima (BASN n.d.-b; METI 2007). On the ground, another term that frequently appears is *akiya* (空き家), or “vacant house,” which points less to ruination as such than to the condition of long-term abandonment common in depopulating regions (chapter 4). Taken together, these terms underscore that there is no single, straightforward equivalent to “ruin” in Japanese; different words foreground different temporal, material, and social dimensions of

²² Examples include the Genbaku Dome in Hiroshima, now designated as a peace memorial following the atomic bombing tragedy and as a UNESCO World Heritage Site, and the Ruins of the Great East Japan Earthquake Kesennuma City Memorial Museum in Kesennuma, preserved following the 2011 earthquake and tsunami on the Pacific coast of Tōhoku.

²³ Worrall remarks that in Tokyo the average person is older than the average building, which tends to get torn down and something built in its place (2019: 150).

²⁴ The architect Katsuhiro Miyamoto comments on this increasingly common use of the term as a relatively recent phenomenon (in Hladik 2017).

abandonment. In this thesis, I therefore use “ruin” as an umbrella term to encompass the varied forms and spaces of abandonment (reappropriated and not) on the islands of Inujima, Naoshima and Teshima, notably the architectural remains of copper production operations, the remains of residences and (former) rice fields, many of which have been restored in the present day.

The relationship between language and environmental relations in ruin landscapes has been discussed elsewhere (Gordillo 2014; Mathews 2017), and in the Japanese context by geographer, philosopher and Japanologist, Augustin Berque (1982; Moreau 2012). As Moreau notes in his account of Berque’s work, concepts used to express Japanese spatiality are also aesthetics. Attending to these linguistic and aesthetic inflections is relevant here, as the ruin landscapes of the Seto Inland Sea are not only shaped by abandonment and reappropriation but also by the ways those who work with them (residents and outsiders alike) participate in their ongoing (re)making, such as through maintenance work.

In this sense, maintenance becomes the practice through which these shifting conditions are (re)negotiated. As DeSilvey notes, those responsible for caring for material pasts “often manage not recuperation but change, working with remnant ecologies and materials to produce conditions that draw on past precedents but move forward into new forms” (2017: 20). What follows in the chapters ahead attends to how these conditions are worked with in practice, that is, how maintenance navigates, adjusts, and responds to the shifting forms of ruination and reappropriation that shape the islands today.

PART I: (IN)VISIBLE SIGHTS OF INDUSTRIAL RUIN LANDSCAPES

After a full day of travel from Tokyo, I opted to spend my first day in the Setouchi region at Uno Port, my main access point for the three islands I planned to visit. I walked over to the dock East of the ferry terminal. The air smelled unpleasantly of salt, cigarettes and exhaust gas. Along the dock a few people appeared to be casually fishing, their lines cast, waiting for a bite. I looked to the terminal where the ferry bound for Naoshima approached. Outside the ticket office, a line of maybe two dozen people waiting to board had already formed, and a staff member was walking down the line confirming their boarding tickets. I found myself a spot on the edge of the dock to take in the view. Looking out to sea, I saw the island of Naoshima for the first time, and to my initial surprise it was a very industrial sight (figure 3).



Figure 3 - View of Naoshima from Uno Port. Watercolour drawing by author.

Along the northern side of the island, significant patches of exposed rock mark where vegetation struggles to grow after more than a century of industrial activity and pollution. Beyond, the hills across the island are capped with greenery and towers connected by cables. A pair of large pipes runs up the mountainside before disappearing on the far side, and a dense column of smoke rises from behind another hill, escaping into the air. Elsewhere, a black hill stands out among the green, seemingly composed of a large deposit of granulated slag, with a few large trucks climbing a road along its slope. Just out of sight, the Mitsubishi Materials Corporation's (MMC) Naoshima Smelter and Refinery, occupying the island's northern shoreline, carries on with its operations.

In March of 1934, the Seto Inland Sea was designated as one of Japan's first national parks under the 1931 National Parks Act.²⁵ This designation, at the time, "understood national parks to be magnificent landscapes of nature which represent landscapes of Japan" (National Parks Investigation Committee 1931, cited in Nishimura 2023: 38). This understanding was developed in tense dialogue with industrial modernization. As Nishimura Takahiro details in his historical

²⁵ The National Parks Act (*Kokuritsu kouen hou*, 国立公園法) was replaced in 1957 with the Natural Parks Act (*Shizen kouen hou*, 自然公園法).

examination of Japan's national parks system, the proposal for the system was largely framed by nationalist and economic rationales of nature conservation. Amid a period of rapid modernization, when industrial development and expansion were government priorities, the idea of nature conservation stood in tension with industrial use and logics of resource extraction and exploitation required to develop Japan's economy. To reconcile this, advocates strategically aligned environmental conservation with economic interests, emphasizing the potential profitability of these natural areas, particularly through international tourism. This profit-oriented rationale made for a key argument in convincingly justifying the creation of the national parks system and, by extension, the *protection* of selected landscapes. Ultimately, the 1931 Act came to focus on protecting landscapes deemed aesthetically valuable. However, as stressed by Murakushi (2005) and Haven (2011), it provided limited regulatory power. Although the act introduced the category of "special areas" which carried regulations,²⁶ designation under this category more specifically focused on what was visible to visitors (Haven 2011; Nishimura 2023). In turn, the act still allowed for significant land use and development projects. This emphasis on visibility also raises questions about what was intended to be excluded from view, particularly landscapes bearing the marks of industrial activity.

This tension between (aesthetic) visibility and industrial activity is nowhere more apparent than in the Seto Inland Sea itself, a region celebrated for its picturesque scenery, while also the site of a long history of extensive industrial activity. As Japan transitioned into a post-industrial era, traces of its industrial past not only linger materially but have also been increasingly made visible, recontextualized and reimagined as elements of heritage and art tourism on Naoshima, Teshima and Inujima, reframed within the ongoing efforts towards regional revitalization.

In this first part of this thesis, I turn to the industrial ruin landscapes of Naoshima, Teshima, and Inujima, where I follow *karami* (slag) as a guiding thread between ruin and reappropriation, exploring how extractive industry (chapter 1) and depopulation (chapter 2) haunt not only the islands but also the reinhabiting (transformation and maintenance) of ruin sites. Embedded in the land as physical residue and repurposed material, *karami* speaks not only to the legacies of extractive industry but also to the ways these remnants are drawn forward in response to shifting cultural, demographic, and ecological imagined futures. In this sense, tracing *karami* allows me to

²⁶ Murakushi points out that within the act, it was left to the discretion of the Minister of Home Affairs to intervene in the practice of otherwise restricted activities, if deemed necessary (2005: 162).

attend to both the material and spectral transformations shaping the post-industrial landscapes in this part of Japan's Seto Inland Sea.



CHAPTER 1 - ISLANDS HAUNTED BY INDUSTRY: A LEGACY THE COLOUR OF *KARAMI*

Approaching Inujima's shores by passenger boat, there is no mistaking the island as it comes into view: a silhouette dominated by six smokestacks. These structural remnants of a once-active copper refinery tower above the tree canopy on the eastern side of the island. Inujima is a small island, 0.54km², compared to Naoshima's 14.22km² and Teshima's 14.5km² (BASN n.d.-a). Nevertheless, Inujima's topography is saturated with traces of extractive industries: granite quarries and cut blocks, on the one hand, and, on the other, partially collapsed red-brick structures of the former copper refinery, as well as an abundance of copper slag, *karami*. The refinery ruins, in particular, have become reframed as scenic features of the island's landscape, now a tourist destination: a heritage site of industrial modernization, and an integral part of the Inujima Seirenscho Art Museum since its opening in 2008. These material remains of industrial pasts that once received crowds of workers and a significant resident population in its heyday, once again receives crowds of people onto the island, if only for a brief visit to wander through.

Karami's story extends far beyond Inujima's shores. In the interest of following *karami* in this region (and alongside the art projects), this chapter at times travels between islands: to both Inujima and Naoshima, where *karami* has been produced, used, and remains visibly present and drawn into cultural narratives through art interventions and their revaluation as forms of heritage, and to Teshima, where its absence is equally part of the story. Where relevant and resonant, Teshima's own industrial past will surface, altogether highlighting the uneven effects of extractive industries and their ghosts across these islands.

Drawing from Tsing et al. (2017b), I approach these islands landscapes as haunted, spaces shared with ghosts, "the vestiges and signs of past ways of life still charged in the present" (Gan et al. 2017: G1). Attending to these ghosts reframes ruin sites as sites of entanglement of multiple temporalities, making visible the lingering traces and effects, the more-than-human histories, that shape contemporary reappropriation across Inujima, Naoshima and Teshima. These ruin

landscapes are haunted not only by industrial pasts but also by futures once imagined: visions of progress, development, and revitalization inherited from prior economic paradigms. As Gan et al. write, “[a]nthropogenic landscapes are also haunted by imagined futures. We are willing to turn things into rubble, destroy atmospheres, sell out companion species in exchange for dreamworlds of progress” (2017: G2). These earlier dreamworlds remain inscribed in the material residues of industry and ecological effects, shaping how these ruin sites are encountered and reappropriated today. While this chapter focuses on the material and ecological afterlives of industry and the imagined futures that accompanied its rise, the next chapter turns to a second mode of haunting: the contemporary imagined futures that emerge amid demographic decline and uncertainty.

This chapter unfolds in a series of movements, across islands, histories, and thick pieces of watercolour paper with art supplies. First, I attend to the *karami* landscapes of Inujima and Naoshima: former and ongoing copper-smelting sites where *karami*, shaped and reframed through discard and design, is found in many forms. I then stay with the *karami* blocks themselves, bringing technical detail into conversation with on-site encounter through the practice of drawing, an attempt to read the stories inscribed onto the ghostly material. From there, I follow *karami* into the past, retracing the history of the industry responsible for its production on these islands: the development of the copper industry in modern Japan as an important national industry at the time, including the ambiguous beginnings of *karami* block production in the country and how the industry came to haunt itself through its own legacy of pollution resulting in its expansion into the Setouchi region. Lastly, I return to the present-day where I explore the material legacies of extractive industries and certain ecological relations that have reinhabited these spaces, moving through and responding to the remains that continue to haunt the islands’ landscapes.

Landscapes Coloured by *Karami*: Finding *Karami* Across Inujima and Naoshima

Across the world, where smelting took place, deposits of slag remain, whether discarded or taken up again in repurposed forms. As an inevitable by-product of smelting, slag trails the practice. In his review of the history of slag use around the world, Langwagen notes that with the increase in production so too the volumes of slag generated, necessitating more creative forms of waste management (Langwagen 2019: 13).

In the Setouchi region, the presence and forms of *karami* materialize the islands’ industrial past of copper smelting. Yet here, *karami* catches the eye beyond technical familiarity. Dark yet

iridescent, it unsettles; it is waste and pollutant, yet it has been creatively repurposed into more practical material forms. Under shifting conditions, *karami* has been used as building material, product, art material, and scenic feature. Keeping an eye out, across both islands, *karami* is found in various forms: cast shapes, broken fragments and granular sand, clustered and scattered.

On Inujima, exiting the ticket centre on the northeastern end of the island, I stepped out and onto the grassy plateau behind the building and into a strong sea breeze. Ahead, a breakwater made of granite blocks lines the edge of the plateau, beyond which lies the sea. Below, the shoreline, composed of large granite stones, drops sharply into depths I could not see. To the left of the granite wall, a secondary plateau descends towards a beach of alternating rows of light and dark sand (figure 4). The contrast is striking. The pale sand, likely composed of granite fragments and other mineral particles, forms one row; the next is a deep ebony, subtly shimmering in the sun. This dark sand is “*karami zuna*” also known as slag sand. According to local memory, the beach was once entirely black in colour, blanketed in *karami zuna* (Setouchibito Co., Ltd. 2019). Much of this layer has since been removed, partly sold to salt farmers on other islands and partly carried away by the tide and into the sea (Hirofumi 2011: 64-65). In the present day, the pattern repeats, rippling inland along the shore. These alternating rows trace rhythms of wind and tides, energies that brush against the island. In the process, its shore is eroded, reshaped and re-layered.



Figure 4 - Karami sand beach on Inujima. Watercolour drawing by author.

Beyond the shoreline, not outward towards the sea, but inward, into the folds of the island, *karami* colours its post-industrial landscapes (figure 5). *Karami* largely colours the eastern side of the island, concentrated around the museum and former industrial complex. Stepping into the museum courtyard, visitors are surrounded by structures built from *karami* blocks (*karami renga*, 鋳煉瓦).²⁷ Cast blocks have been used to build up the nearby shore and pave the ground here, remnants of the former operational complex, while others remain embedded in surviving industrial structures, and, more recently, have been carried forward into the museum's architecture. Behind the museum also lies an old deposit site, an area covered in a solid coating of *karami* a few metres across. A handful of *karami* blocks can also be found scattered around the nearby residential area, embedded within an outdoor art installation and installed along the occasional ditch.



Figure 5 - Sights of *karami* around Inujima. Photographs and watercolour drawings by author.

²⁷ On site, information panels and other writings often translate *karami renga* to slag/*karami* brick, however slag/*karami* block would be a more accurate translation. In his thesis on the use of slag as a building material as a global phenomena, researcher Simon Langwagen clarifies the distinction between slag blocks and slag bricks (in English) as they refer to different products: while slag blocks refers to cast molten slag, slag bricks are produced using granulated slag and a binding agent like cement (Langwagen 2019: vii).

Elsewhere, on Naoshima, with the industrial compound still in operation, visible antique forms of *karami* remain largely integrated within the nearby villages of Miyanoura and Honmura (figure 6). *Karami* blocks produced for a brief period in the 1950s are found integrated into buildings and street foundations, as well as the occasional property wall and garden bed. A rarer sight, cast roof tiles and floor tiles also colour the neighbourhood making for a distinct visual accent.



Figure 6 - Sights of *karami* blocks and roof tiles around Naoshima. Photographs by author.

Karami marks both islands' topography and infrastructure. To follow and observe *karami* is to see how industrial residue has not only sedimented, reshaping the islands but has also been taken up into residential landscapes, a material that has been reimagined as sediment, building resource, art medium, and even commercial product, all the while bearing marks itself. What Mathews (2017) calls ghostly forms, that is forms and textures that emerge from histories of encounters and bear the traces of those relations, offers a way of attending to these surfaces. Through drawing, I return to these textures and the stories they tell.

Drawing *Karami*

My more intimate encounters with *karami* unfolded with gestures across thick paper with pen and paintbrush in hand: outlining uneven edges and cavities with a fine-tip black pen, I returned to the forms and textures I observed, and painting across these lines with layers of pigments, I moved through its chromatic complexity. To draw *karami* is to notice its layered histories, its ghostly forms. Its surfaces hold traces of industrial processes and labour, environmental entanglements, and human reuse. In attending to these surfaces, I am also tracing the landscape they colour and that colours them. In various scattered, shaped, and residual forms

of discard and design, *karami* is part of the island topography, marking everyday infrastructures and shorelines.

On Inujima, I took a seat near one of the karami block walls, the remains of a former storage space within the compound, and retrieved a thick sheet of paper from my supply bag as well as an ink pen with a very thin tip. On paper, I roughly outlined the larger shapes, blocking out the forms of karami blocks and the space they occupy in relation to their surroundings.

The presence of *karami*, and a substantial one at that, makes unmistakable the scale and intensity of the industrial operations that once unfolded here. In its details, *karami* registers the extractive and metallurgical processes of site-specific smelting operations—raw materials, smelting technologies, cooling processes, and waste-management practices—and their entanglement with the surrounding environment. As such, *karami* from different production sites carries subtle if not pronounced differences.

Consider again the different forms previously observed in which *karami* is found across these islands: cast (whole and broken) and granular. These produced forms have lent themselves to creatively repurposing the by-product. Liquid slag quenched in water cools and solidifies in a granular form, a type still widely produced and used today. Whereas, when poured into moulds, the same material takes on other shapes, giving rise to the cast blocks found across the islands, and cast tiles found only on Naoshima. Inside the Inujima Seirenscho Art Museum’s gift shop, a sign on a nearby table offers some information about Inujima’s *karami* blocks and some insight into the smelting and casting process: “[w]hen copper ore is thrown into a smelting furnace, it melts and separates into ‘heavy copper’ and ‘light slag (*karami*).’ The workers at the time manually poured this liquid slag, which reached as high as 1,500 °C, with ladles into moulds to make blocks (my translation)”²⁸ (Inujima Seirenscho Art Museum n.d.). These blocks were immediately repurposed as building material into further developing the compound. These same structures make up part of the present-day ruins. A site’s moulds tend to differ from one another, resulting in cast forms of different shape and size. Whilst Inujima’s *karami* blocks have no distinct pattern, *karami* blocks from Naoshima are not only larger but also bear a convex crisscross pattern imprinted across their broad faces. The mould not only determined the shape and imprinted

²⁸ Original: “銅鉱石を溶鉱炉に放り込むと、「比重の重い銅」と「比重の軽い鍔(からみ)」に分離して溶けます。当時働いていた人々は、1500°Cにもなるこの鍔溶液を、手びしゃくで鋳型に入れて煉瓦を作りました。”

textures of the cast slag, but, through its orientation, also determined which surface remained exposed as the material cooled and solidified, producing additional distinct textures.

Hovering in and around the previously sketched outlines, I proceeded to draw short, uneven lines beginning to hint at the surface textures: outlining shadows of differently sized cavities and clusters of wrinkles (figure 7). These details are the fossilized traces of molten movement. Imagine the liquid slag as it was poured into casting moulds, flowing, rippling and as gas bubbles pushed through the slag as it cooled, solidifying. Movement stilled, fossilized.

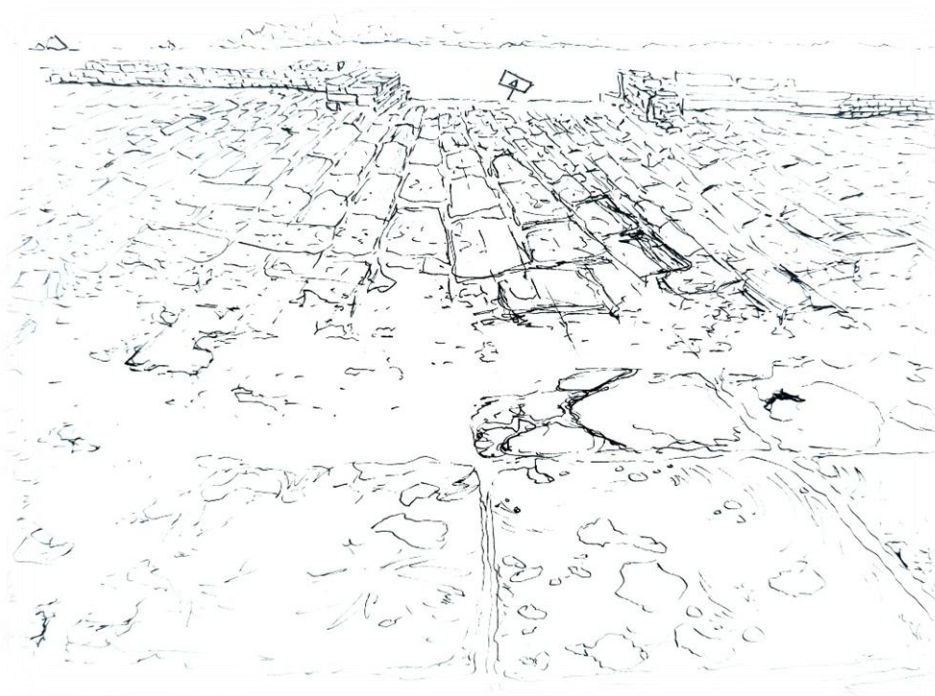


Figure 7 - Weathered industrial shoreline on Inujima, outlined. Watercolour drawing by author.

After capping my pen, I opened my watercolour kit. With a wet brush, I swirled the tip into a combination of small watercolour paint blocks (maroon, navy blue, purple and brown) to lift the pigment. Atop my early ink drawing, I apply heavy, uneven strokes of a dark murky mix of purplish maroon and brownish blue, in the likeness of the karami's distinct colouration. I dragged more maroon, purple and navy blue into the mix; I moved back and forth between paint and paper, pushing the pigments around. The new pigment partially blends into the existing colour, giving greater complexity to the colouration (figure 8). This palette, like karami, is the result of elements colliding, reacting, and settling into a layered, unpredictable composition.

Karami is primarily composed of iron compounds and silicates and owes its dark hues to these base elements. On Inujima, the average *karami* block contains roughly 60% iron and 35%

glass and weighs about 22 kg (Inujima Seirenscho Art Museum n.d.). Still, as Langwagen notes, slag colouration varies with geological context and residual elements. As an example, he underscores copper slag blocks found in Falun, Sweden, which bear yellow spots from remaining sulphur traces, while slag in Japan, he points out, tends to be redder in colour (2019: 16). Further complicating the matter, the smelting process itself and the chemical reactions that occur may also influence colouration. Under the right conditions (e.g., temperature), oxidation of iron can result in the formation of hematite (Fe_2O_3), and this presence of hematite in the final product gives the material a reddish-brown tint (Zheng et al. 2021: 5). *While painting, I thought of the molten copper slag: the various materials and concentrations of heavy metals as they would have once moved around in liquid form. On paper the different coloured pigments swirl, partially blending with one another before setting, only to be partially re-engaged with the next layer of paint. Karami's base colouration reflects the composition of the raw material used and the site-specific conditions and processes of smelting and cooling. Yet, its visual intrigue extends beyond its initial formation, with new layers of history accumulating over time.*

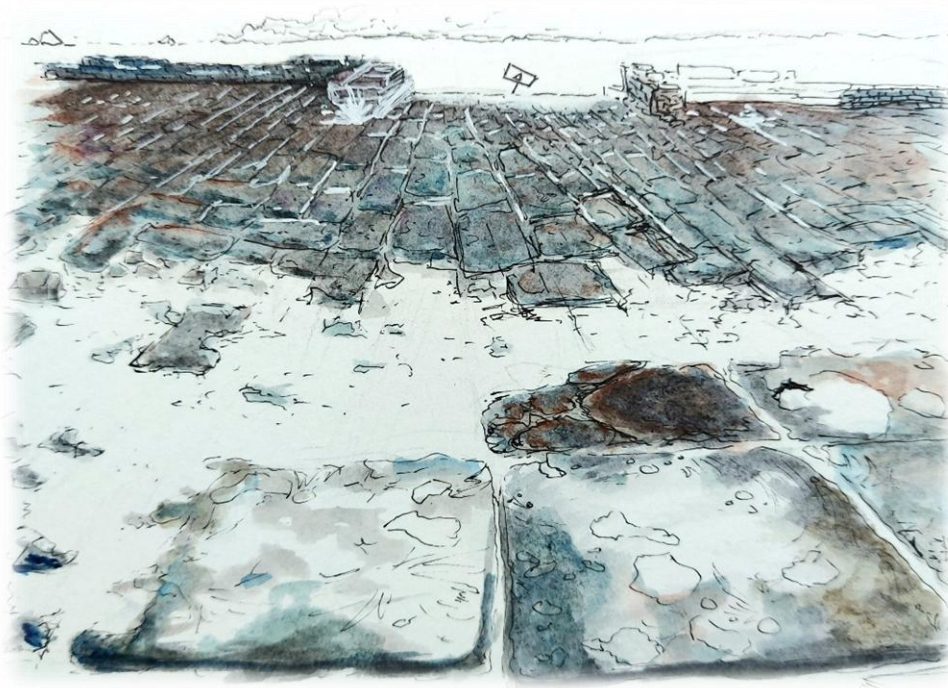


Figure 8 - Weathered industrial shoreline on Inujima, with base colours. Watercolour drawing by author.

After the paint for the base colour dried, so as to preserve the vibrancy of the colours, I returned to the paper with some heavily pigmented layers of vivid hues: alternating between an

orange-brown, a red, a greenish blue and a bluish green. Between layering and subtle blending, the result yielded delicate transitions, at times giving the impression of an iridescent shimmer.

Over time, new colours and textures emerge across the surface of *karami* forms in response to environmental encounters. Residual elements within the slag on exposed surfaces may react to human activity and repurposing, weedy plant growth, salty winds and waters, shifting temperatures and weather conditions, among others; *karami* experiences subtle and dramatic transformations. For instance, weather exposes these bricks to salty winds and rain, resulting in various small-scale chemical reactions with the material. Remnant traces of metals such as copper and iron oxidize, producing vibrant teal greens and rusty browns that shimmer across and wear at the surface. On Inujima, especially near the water's edge, *karami* blocks (particularly those underfoot where water pools) appear notably more yellow and orange, that is rustier in colour. These variations reflect not only the uneven process of smelting but also the dynamic relationship between *karami* and its surroundings, making for individually unique blocks.

With my brush, I attempted to hint at this chromatic complexity, each stroke a gesture hinting towards the unpredictable chemistry that gives karami its vivid and eye-catching mottled surface (figure 9). I returned to the drawing with a pair of pens. I touched up edges and corners with a few highlights using a white gel pen and the deepest shadows with a black ink pen once again.



Figure 9 - Weathered industrial shoreline on Inujima, coloured through encounters. Watercolour drawing by author.

Among the *karami* blocks, some surfaces have grown smoother over time, worn down by erosion perhaps, but also by over a century of foot traffic: industry workers, residents, and now crowds of tourists. In response to different forms of pressure (including weather, climbing weeds, human activity, and gravity), *karami* blocks may fracture, exposing new surfaces to the elements and encounters with the more-than-human world.

Karami tells stories. Not in words, but in layers of colour, texture, and form. Each block speaks to stories of industrial ambition, (creative) waste management, and environmental transformation. Its mottled surface speaks of heat and pressure, of human hands and geological time, of environmental encounters, of processes of nation-building and waste-making (and managing). In its fractured edges and iridescent hues, the ghostly forms of *karami* stand as products and witnesses to capitalism's material excesses and the ecological entanglements they set in motion. To draw *karami* forms is to move through layered histories of industrial labour, repurposing, weather, growth and decay, to encounter a material that has become part of the landscape and partakes in its ongoing remaking and reimagining.

(Re)Tracing *Karami*: Japan's Copper Industry

To follow *karami* across these island landscapes is to trace not only the residues of industrial activity but the transnational flows of knowledge and technology that enabled them. The practice of casting slag blocks, introduced to Japan through foreign expertise during its industrial modernization, marks a moment when waste management became an increasingly visible part of national development. These cast forms are material trace of Japan's efforts to redevelop its mineral industry and assert its place in a global industrial order, along with the environmental burdens that such expansion produced. In this sense, the landscapes they populate are haunted by both the ambitions and the afterlives of modernization. The following section turns to the development of Japan's modern copper industry to contextualize these haunted terrains and the reappropriation of their ruins.

Redevelopment of a State-Supported Industry

Patricia Sippel, Professor at the University of Tōyō, offers a sketch of the history of the copper industry in Japan specifically since the Meiji Revolution (1868). Drawing on the writings of industry professionals published in the Journal of the Mining Institute of Japan (1885-1953),

she highlights the intimate relationship between the copper industry and the country's interests in this period of major national development, underscoring the industry and its development as an economically vital national enterprise (2022: 227).

The Iwakura mission of 1871 proved an inspiration to Japanese officials. The scale, the technology, the capital! Having witnessed impressive and lucrative operations abroad, the Meiji government was more motivated than ever to reinvest in the exploitation of its own mineral resources,²⁹ considered a key sector for all industrial powers (Sippel 2022: 226). Sippel places the intentions of Japanese leaders at the time in the wider context of global power dynamics. Seeking to position itself among the economic and military (imperial) powers that dominated the world stage, the Meiji government embarked on an ambitious mission of “modernization” (2022: 225).

With the intention of drastically reforming its mining industry, the new Meiji government assumed ownership of the country's mines. After involving foreign consultants, it opted to concentrate on a select number of sites. Ultimately, the government retained ownership of only a few large silver, gold and copper mines (Yoshiki 1980: 10; Sippel 2022: 227-228). The others were sold to private Japanese operators or abandoned altogether. In turn, the Obie copper mine, located in Kurashiki (Okayama Prefecture), reopened in 1872 (Satou 2007: 26), and the Yoshioka copper mine, located near Takahashi (Okayama Prefecture), was sold to the Mitsubishi Group in 1873 (MMC 2021). For the many mines across the country that reopened, the government-run mines served as practical models for improving efficiency. One of Japan's largest copper mines, the Besshi Copper Mine (Ehime Prefecture), operated by the Sumitomo family (since 1891), was quick to follow their lead. They employed their own foreign advisers and proceeded to introduce new imported technologies and create new transport routes to improve their production (Sippel 2022; Sumitomo Group Public Affairs Committee 2024). Although literature on copper slag blocks in Japan is limited, it is believed that along with imported technologies, knowledge of slag repurposed into blocks also arrived in Japan (Ichihara 2018: 42; Langwagen 2019: 68).

²⁹ Prior to the Meiji revolution (1868), Japan's copper industry operated largely within the framework of the Tokugawa Shogunate's national policies, notably its seclusion policy, which heavily regulated foreign trade in the interests of the nation's economy. In the early Edo period (1603-1868), silver was a key export. The ensuing decline of silver mines prompted rapid growth in copper production and its exportation (Imai 2016: 20). In order to replace domestic use of Chinese currency, a copper embargo imposed between 1635 and 1645 enabled the country to redirect much of its production to minting coins. In the late 1660s, the Shogunate introduced a silver embargo, which spurred a significant rise in copper exports (particularly to China and Korea, where it was needed for minting) and compelled local authorities to further develop copper mining. By the end of the seventeenth century, Japan had become one of the world's leading copper producers and exporters, maintaining this position until China surpassed it in 1739 (Izawa 2013: 16-18).

Throughout the 1870s, changes within the industry were rapid and aggressive; “modernization addressed every aspect of mining operations, including processing, energy, and transportation” (Sippel 2022: 229). However, modernizing an industry was a costly undertaking. Sippel points out that, unlike large companies who possessed funds, many mines owned by smaller groups found “the costs of modernization [to be] insurmountable, and their businesses could not survive” (2022: 229). During the 1880s, certain measures were taken to alleviate some of the financial pressures. For instance, foreign advisers were replaced by newly trained Japanese professionals, and government mines were sold off to become private property (Sippel 2022: 229-230). This was the case of the Kosaka silver mine, located in Kosaka (Akita Prefecture), which was sold to the founder of the Fujita-Gumi Company, Kuhara Shōzaburō (1840-1908) in 1884.

In the meantime, copper mines gradually increased their output as a result of technological improvements to their facilities and operations. This notable increase is all the more significant as Japan’s silver and gold mines had become exhausted, limiting exports. Attention therefore turned to coal and copper as more profitable resources. With the exception of copper used for minting, domestic electrification, and military use, the majority was exported (Sippel 2022: 229; Pitteloud 2023: 55). The copper industry thus emerged as a vital and increasingly prosperous sector of the Japanese economy, with strong prospects for further development.

Towards the Seto Inland Sea

In the early 20th century, Japan’s big operators within the copper industry set their sights on the coastal areas and islands of the Seto Inland Sea. Sippel explains that this next step for many companies stemmed from a need to expand to curb ongoing financial burdens and accommodate technological needs all the while responding to local environmental concerns and complaints (2022: 232-233). Correspondingly, copper smelting operations were expanded upon with the construction of new large-capacity facilities around the Seto Inland Sea.

On the one hand, the Seto Inland Sea has historically served as an important route for the country in terms of both domestic and international trade (Yoshimi 2011: 245). The accessibility of these islands made for incredibly practical locations for the circulation of raw and refined materials, while also creating opportunities for new business, namely in processing ores from other copper mines (Sippel 2022: 233). This, in turn, contributed to greater efficiency and profitability in Japan’s copper production.

On the other hand, the islands in the Seto Inland Sea were a fair distance from the mainland and relocated operations also meant the relocation of major sources of pollution. As anthropologist Hannah Appel (2019) observes in her discussion of offshore infrastructures, “distancing” is a key strategy in the project of capitalism. The “offshore,” she argues, is not only a spatial metaphor but “an infrastructural choice intended to minimize the political risks of visible, accessible production” (2019: 39). In this light, the decision to move polluting industries away from mainland populations and into marginal island communities mirrors a broader pattern of apparent disentanglement: distancing environmental harm while maintaining the continuity of extractive operations. As Appel notes, “offshore infrastructure [...] enabl[es] certain forms of *continuity*. Practices that had been met with increasing resistance onshore [...] can be newly naturalized in offshore work” (2019: 20, italics in original). The copper industry has a significant environmental impact on the sites it occupies and their neighbouring areas. The air, earth, water, and consequently local life are all affected. Contamination not only lingers but it also moves around, and continuous exposure is destructive. In rural Japan, livelihoods in the form of farmlands are incredibly susceptible to pollution.

To further elaborate, Sippel refers to the construction of a refinery on Shisakajima by the Sumitomo group in 1905 as an example: “[s]eparating smelting from extraction was Sumitomo’s response to complaints by Besshi farm communities of sulphur dioxide pollution, which had emerged as an issue first at [the] Ashio [Copper Mine] and then at large-scale mines across Japan” (2022: 233). While the Ashio Copper Mine case is remembered today as the first major industrial pollution incident in Japan,³⁰ and remains an iconic case of pollution disaster in the history of Japan’s copper industry, it was a notable incident, both in terms of disaster and socio-political conflict spanning decades, one of national interest at the time. During this period of state support for the industry, the Ashio Copper Mine was one of Japan’s most prominent mines. After its purchase in 1877 by Furukawa Ichibei and its rapid modernization, along with the discovery of a new rich vein, the Ashio Copper Mine was Japan’s top producing mine by 1884 and into the new century (Sippel 2022: 230). Consequential to its increased production, however, was the intensification of generated pollution leaching into the nearby (farm)lands and nearby Watarase and Tone rivers who were prone to flooding. Local deforestation, with trees cut to fuel mining

³⁰ The case has since been extensively discussed in scholarship, especially within environmental studies, see Stolz (2014).

operations, further heightened this risk. Under these conditions, the situation in Ashio dramatically worsened following a series of floods in 1890 and again in 1896. The latter spread mining pollution across multiple prefectural borders including parts of Tokyo. The greater scale of the affected areas was reflected in the protest movement (which had initially emerged in 1890) and forced the government to intervene. As Sippel explains, “[ca]ught up in the demands of rapid modernization, the Meiji Government was not immediately willing to restrict mine activities” (2006: 10).³¹ Further complicating the matter, investigations into the damage reflected a great deal of scientific uncertainty around the correlation between the mining pollutants and environmental damage as well as health issues (Stolz 2014: 41-42; Pitteloud 2023: 59). When first sought out by local protesters in 1890, the government had instead urged for local resolution not wanting to be further involved. An agreement was signed: compensation was allocated, and the mine implemented some pollution preventative technologies. However, as the situation escalated, the government was forced to formally establish its stance; it concluded that Furukawa, the mine’s operator, bore partial responsibility for the pollution. This led to the 1897 Pollution Prevention Order, which required Furukawa to further invest in prevention technologies to contain the pollution. Thus, the case set a legal and industrial precedent; the case became a ghost in itself, haunting the industry. For mining operators, it clarified the government’s position and limits in its support towards the industry in terms of protection from liability for pollution. Indeed, sociologist Yoshimi Shunya affirms that the Ashio Copper Mine case was an important motivator for relocating copper refineries away from the mainland (2011: 242).

Following a similar narrative to that of the Besshi Mine, in the case of the Obie Mine, Sakamoto Kinya (a politician and businessman who purchased the mine in 1891) went on to have a refinery built on Inujima which opened in 1909. Like other sites of copper smelting, operations produced a significant amount of slag waste. On Inujima, slag was at least in part cast into blocks and engineered structures; not only reincorporating the waste into operations but also enabling its expansion on site. This remains visible today in the built-up shoreline and the storage spaces that stand among the ruins. This refinery was later sold to the Fujita-Gumi Company in 1913 (Satou 2007: 28).

³¹ Pitteloud also points out that informing the government’s priorities was its military ambitions; the timing of the Ashio Copper Mine Incident overlapped with two wars Japan partook in, the Sino-Japanese War (1894-1895) and the Russo-Japanese War (1904-1905) (2023: 55).

A few years later, Mitsubishi sought to open its own refinery on a nearby island, Teshima. Its topography and supply of fresh water made for an ideal choice location within the region for smelting operations. The project, however, haunted by the industry itself and the ecological devastation that would surely if not certainly follow, was turned away. Quarrying and rice farming already provided the island with a stable economy, and the island's previously highlighted features were considered vital. The island's inhabitants, especially the farmers, refused to risk their fields and livelihoods for certain damage resulting from refinery pollution (The Shikoku Shimbun 2000: part 3.1; Yoshimi 2011: 244). Meanwhile, Naoshima was struggling and facing financial collapse; poor harvests and disease outbreaks put tremendous pressure on the economy. Life on the island had become all the more precarious and people began to look elsewhere, some leaving altogether. What could be done? Mitsubishi, having been turned down by Teshima, had their refinery built on Naoshima in 1917. For the latter, the refinery "held the promise of new development" (Yoshimi 2011: 244). In other words, it offered the potential for the socio-economic revitalization on the island, a future that seemed more viable than the uncertainty of continued decline. Still, concerned by pollution [and its effects], the project's approval was conditional: "a major priority for the town was employing cutting-edge technology to prevent smoke and other environmental pollution" (MMC 2023). Naoshima's acceptance of the refinery reflected a locally situated response to a broader industrial expansion.

At the time, the establishment of the copper industry on these islands was seen as a means for local development (especially for Naoshima), a new possible future compared to that previously imagined. While a federal vision emphasized development and progress, the island's decision was shaped more by immediate concerns of survival and economic relief. However, such local decisions were never truly isolated. As Japan's copper industry grew in strategic importance, even small islands like Naoshima and Inujima became entangled in a larger national project, one in which private enterprise and state ambition increasingly aligned, leaving behind residues that continue to mark the island's landscape and memory.

A National Enterprise

With the start of the First World War, copper demands abroad, namely in Europe, increased significantly and Japanese companies were more than willing to supply. This further motivated the expansion and optimization of the country's copper industry operations; the industry had become

one of national importance. Sippel reaffirms the shared perspective at the time by the Mining Institute of Japan and the government: “that—though mining was conducted by private companies—in goals and benefits it was essentially a national enterprise” (2022: 234). Export profits amounted to substantial investments into important and national development in heavy industry and the country’s military. By 1915, Japan was the second-largest copper producer in the world behind the United States (Sippel 2022: 233).³²

This period of rapid industrial and market success was short-lived. As the war came to an end, so too did Japan’s top-tier standing within the international market. Enthusiasm for an industry that had only just been thriving was replaced with fear for its survival. Copper’s value plummeted drastically immediately after the reintroduction of military reserves onto the market along with inflation (Yoshimoto 2011: 296; Sippel 2022: 236). Many copper mines and refineries in Japan shut down. Among them, the refinery on Inujima closed and was sold to the Sumitomo Group (Satou 2007: 29). Japanese copper simply could not compete on the international market and struggled within the domestic market against cheaper American imports.

The 1920s were a race to recover and stabilize the postwar market within the country. This was achieved namely via the creation of cartels to oversee and regulate the market, tariff revisions implemented by the government, diversification of operations, and a renewed effort to further mechanize the industry and adopt new technologies to boost production efficiency. Towards the end of the decade, reports painted a clear picture: despite the return of production numbers comparable to those of the boom experienced during the First World War, Japan could not compete with the global market (Sippel 2022: 240). In the 1930s, Japan pursued its imperial expansion³³ and domestic demand for copper was on the rise to meet growing military needs (Sippel 2022: 242). Unable to satisfy these needs with copper sourced from within Imperial Japan, domestic supply was supplemented namely with American imports.

Since the post-war era, Japan’s copper industry has come to recalibrate its focus. Where once domestic extraction had driven growth, the post-war period marked a shift towards processing raw materials sourced from abroad. Today, Japan stands as the second-largest importer of copper

³² Japan, committed to its mission of modernization to secure its place as an independent power, was also growing as an imperial power. In terms of industrial opportunities, Japan’s leaders could exploit resources including raw materials from occupied lands. By 1910, Japan was including figures from mineral extraction operations located in its colonies. Copper ores were primarily mined in Taiwan and Korean, amounting to a small percentage of the empire’s total production numbers (Sippel 2022: 235).

³³ Japan annexes Manchuria in 1931, establishing Manchukuo in 1932.

ore and concentrate, and its copper smelting output ranks second globally, after China (ICSG 2024: 20 and 29). Japan's refined copper output also places fourth internationally (ICSG 2024: 25). Notably, this industrial pivot finds enduring physical expression in Naoshima's refinery, originally a gamble for survival, now a symbol of sustained modernization. Unlike the refinery on Inujima, Naoshima's smelter endured through waves of technological renewal and diversification of operations. The 1974 integration of the Mitsubishi Continuous Copper Smelting Process marked a critical evolution in its operations, which later expanded to include precious metal processing in 1989 and a thermal recycling business in the early 2000s. In fact, in response to the discovery of illegal dumping on Teshima, the Naoshima refinery provided means and manpower to assist and process the waste (MMC 2023).

This history of expansion, relocation, and industrial ambition left their marks across the islands, traces that haunt the terrain in the present. With this context in place, the next section turns to select remaining traces and observed ecological relations through which their persistence has become entangled.

Material Legacies

The displacement of smelting and refinery operations to the Seto Inland Sea saw the relocation of problematic facilities, relocating future contamination that would leak to quieter island margins sparing the mainland its immediate consequences. In turn, Inujima and Naoshima saw their island landscape gradually transformed by and in more-than-human responses to industrial processes and traces. Among the most enduring material residues of their industrial past, *karami* makes for a distinctly visible trace of the sedimented layers and long-lasting effects of copper production, a layer that both rests upon and has long integrated itself as part of the island's landscape.

Sculpted by Extractive Industries

On Inujima, the topography of the island has been reshaped and textured by its extractive industrial pasts. Indeed, to discuss the lasting impacts of extractive industry on Inujima, it is to acknowledge the multiple ways the island has been sculpted: a landscape of removed granite and new layers of *karami*.

Before the arrival of the copper industry in the area, Inujima and its neighbouring island Inunojima's physical forms have been largely carved out by over 400 years of stone quarrying (Arimoto, cited in Müller and Miki 2011: 386). Most notably, over time, quarrying activity dug out its mountains. In their place, large holes, some as deep as 40 metres (Sambuichi 2018: 123), soon filled with rain and sea water accompanied by new life arrangements. "The many ponds on the island are the remains of these quarries," describes Arimoto Keika, island resident, author and representative of the Association of Inujima Rediscovery (cited in Setouchibito Co., Ltd. 2018). One such pond, west of the port, opens to the sea. This pond was once Mt. Gyonyama, whose quarrying began in 1897 (Arimoto, cited in Setouchibito Co. Ltd. 2018). In its footprint, sea life settled in. The pond has since served as a site for fishing, swimming and even briefly a few decades ago it was even used to farm pufferfish until a typhoon released them into open water (Arimoto 2007: 54). Published accounts of local history, such as those by Arimoto, trace aspects of these transformations and offer insight into how industrial activity has reshaped the island's landscape and continues to inform its present-day uses.

During the Meiji era, granite quarrying was an important industry in the Seto Inland Sea area. Inujima, Teshima, and many other islands (like Shodoshima, Honjima and the Bisan islands), were also quarried for stone. Like Inujima, Teshima has been carved out for its own stone industry, while its topography has additionally been sculpted into rice terraces (chapter 3). Inujima's mined granite has been used for various projects across Japan, including shrines, monuments and various castles such as Okayama Castle, Osaka Castle and even Edo Castle (Association of Inujima Rediscovery et al. n.d.; Arimoto 2007: 42). The stone industry on Inujima was at its busiest in the late 19th century when supplying stone for the construction of Osaka Port (Arimoto 2007: 28). Although quarrying here has since significantly decreased, the remaining quarry has been commissioned in recent years for the occasional building project and heritage restoration work (Arimoto 2007: 42-45). More recently, the island's granite has found new life in artistic contexts, namely the sculptures on the beach, and as part of the Inujima Seirenscho Art Museum which now houses a monolithic granite piece sourced directly from the island.

Walking along Inujima's shores reveals a patchy terrain, textured by the aftermath of extraction. Sandy stretches alternate with scatterings of granite blocks and intricately stacked stone seawalls, testaments to the island's quarrying history. Along the eastern side of the island, nearest to the site of the old refinery, however, its shores are distinctly dual toned: a combination of granite

and *karami*, of natural and industrial materials in various forms, engineered block structures and scattered debris (figure 10). A decade of copper smelting operations quite literally overlaid and built-up part of the island with *karami*. These remains of industry have sedimented into the island's landscape.

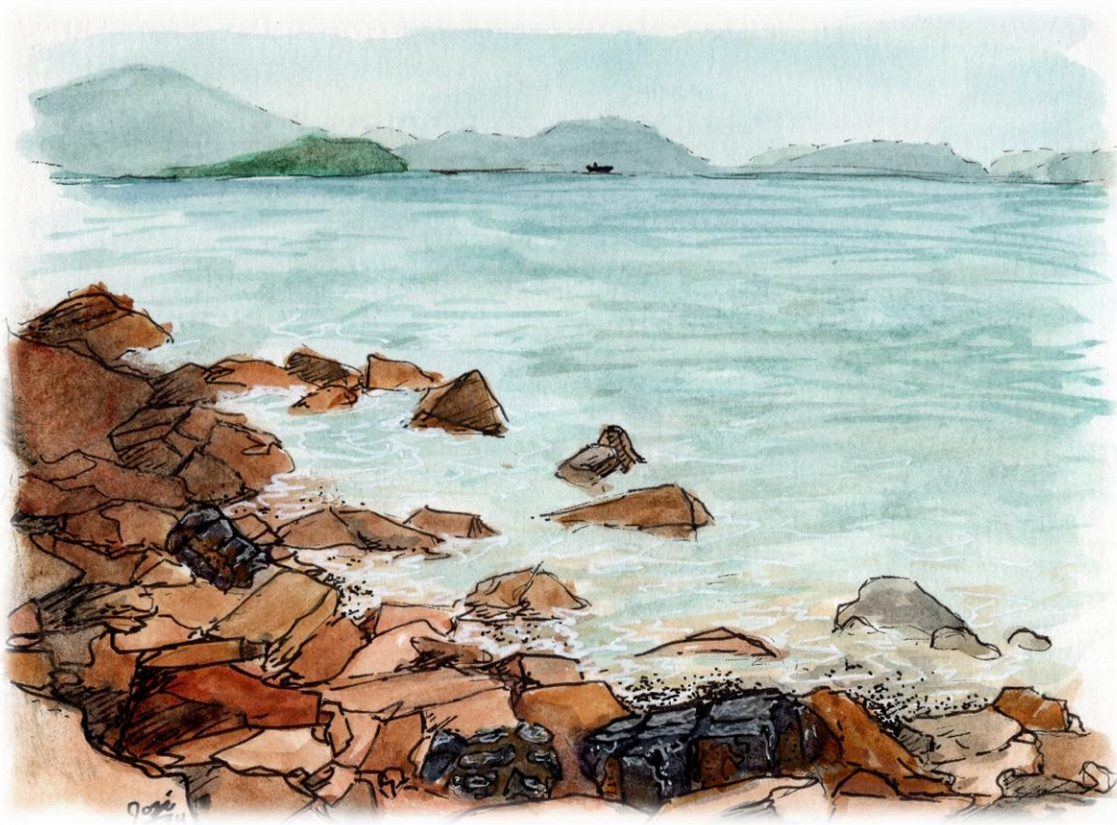


Figure 10 - Shore of granite and karami blocks on Inujima. Watercolour drawing by author.

Karami's impact on the surrounding environment remains discreet, and its extent is unclear. Despite being a relatively stable material, copper slag contains traces of heavy metals and toxic elements that can leach into the environment. Importantly, the smelting technologies used during Inujima's brief industrial peak lacked the filtration and efficiency standards of today. The environmental cost of extraction, while sedimented into the landscape, remains only partially understood and notably absent from the site's interpretation as a heritage landscape and museum.

In contrast, modern perspectives on copper slag, specifically in granulated form, frame it as an environmentally sustainable material. Internationally, copper slag has been formally characterized as non-hazardous waste since the early 1990s,³⁴ suffice that the produced slag

³⁴ In 1991 by the US and in 1996 by the Basel convention (Dhir et al. 2017: 63).

complies with nationally established regulations. In Japan the standards for the quality and use of copper slag (the JIS A 5011-3), established in 1997, notably specify content and leaching criteria based on the intended use: distinguishing between general use and port use. In an article by one of MMC's members of staff, Asami (2016) clarifies that in the case of general use, there are content (specifically cadmium, lead, hexavalent chromium, arsenic, mercury, selenium, fluorine, and boron) and leaching standards to abide, whereas port use only has specified leaching standards (Asami 2016: 764). The revised 2016 guidelines place responsibility on manufacturers to conduct environmental safety tests. Asami goes on to explain that, in practice, for general use, copper slag is required to be combined with natural aggregate to offset excessive levels of arsenic and lead (Asami 2016: 765).

In turn, copper slag finds many uses today, namely “as an alternative natural source in many applications, particularly in the construction industry” (Dhir et al. 2017: 63). Current studies point to the environmental potential of using copper slag, albeit its main benefits are in reducing the quantities of materials it substitutes (namely sand and Portland clinker) (Dhir et al. 2017: 68). Still, conditions such as acidic environments have been shown to accelerate the leaching of metals like copper and zinc, which are not typically included in routine testing (Dhir et al. 2017: 64). Asami (2016) ultimately advocates for increasing domestic use of copper slag, noting that the majority is exported abroad; local reuse, he argues, could curb transportation-related emissions and reduce costs, offering a more regionally grounded approach to sustainability (Asami 2016: 765). Yet these forward-facing perspectives remain at odds with the ambiguous legacies of slag already sedimented into place. Regulatory precision cannot retroactively insulate older slag deposits from scrutiny. On Inujima (and likewise Naoshima) copper slag lingers, embedded in the landscape, resisting simple classification between contaminant, artefact, geography, and resource. These traces haunt the landscape not through overt hazard, but through quiet persistence, an environmental presence that resists legibility.

The refinery has left behind an impressive collection of brick structures, some built with *karami* blocks (the plateau area by the water, and former storage spaces). Moving through these spaces, my focus shifts from the physical remains to the ecologies that have taken root and unfolded within them. Ruin sites are lifeworlds. Indeed, in her chapter on ruin site ecologies, Sarah Ferraby (2007) draws attention to the environment and ways of life that engage with ruins. In the context of ruin conservation practices, she highlights different ways in which the ecologies of ruin

sites have changed in relation to the physical presence of ruins. She illustrates how the materials and textures that make up different ruins, for example, offer means for future points of coordination and entanglement for humans and non-human.

During my first visit to Inujima, I spent most of the day in and around the refinery ruins. From the designated path, I would lean to the side and more often crouch down to glimpse every nook and cranny. My first impressions included a notably limited presence of weeds on the block structures, aside from a few vines of ivy, weeds and the plants between structures. Perhaps due to a combination of weeding and effect of the well-over century old slag surfaces, I wondered. A favourite find of mine lay on the underside of a red brick arch along the designated path on the middle level of the refinery ruin. Crouching down to see them, a pair of what appeared to be gecko eggshells was anchored into a gap between bricks.



Figure 11 - Reptile, bird, spider and plant life living with industrial ruins on Inujima. Photographs and watercolour drawings by author.

Meanwhile, black kites (*tonbi*), a bird of prey and scavenger species, are a common sight around Japan. They ride thermal winds to soar as they survey from the sky. On Inujima, these same birds can be seen around the island, using the winds channelled upwards by the smokestacks to glide. The same currents that now lift black kites into effortless flight once carried less forgiving payloads. During its decade of operation, the refinery's smokestacks, carefully oriented to harness the easterly winds, channelled clouds of smelting emissions into the atmosphere (Sambuichi 2018: 131). What now moves birds and breezes once moved pollutants, dispersing particulates and gases far beyond the boundaries of the site.

Suffocated by SO₂

The pollutant of greatest concern, or at least the most publicly discussed during the refinery's operations, was smoke pollution: visible, pungent, and far-reaching in its impact. On Inujima, the damages were made partially tolerable for its human residents at the time by monetary compensation (Satou 2007: 28). Meanwhile, soot and repugnant sulphur dioxide gas (SO₂) released into the air by this process were breathed in by the nearby environment and soil, and when in contact with water molecules it produced sulphurous acid (H₂SO₃), creating conditions that can accelerate heavy metal leaching, as previously noted. Among the documented consequences, Inujima saw its trees and other vegetation suffocate, and the island's future vegetal life struggled. Island elders recall the partially denuded island landscape from their youth (Yoshida 2021: 6). A partial technological response came in the 1930s, when desulphurization equipment was introduced to aid and somewhat improve conditions (Arimoto 2007: 29; Yoshimoto 2011: 296-297). In her published collection of island stories, Arimoto shares that "after the war, *yashabushi* [(alder)] trees, resistant to smoke pollution were planted and the greenery did gradually increase" (2007: 26).³⁵ Walking around the ruins today, many Japanese alders are visible along the marked path.

Elsewhere, Naoshima saw its own share of environmental damage and vegetal loss (rotting vegetable and rice crops and tree loss) from smoke and sulphur dioxide pollution released by its own refinery. Even now, parts of the island remain barren (the northern zone around the refinery), a sight visible from Uno Port as previously described. Smoke pollution complaints followed the winds that carried the released gases across the islands and beyond its shores towards the city of Tamano, thus alerting the prefecture to the matter in the mid-1960s (The Shikoku Shimbun 2000: part 3.9). Over time, technological and process improvements have curbed pollution expelled from the facility. Today the Mitsubishi process used at the Naoshima facility (installed in 1974) boast limited spillage of pollutants and the reuse of most of the by-products; the Mitsubishi process prides itself on its drastically reduced quantities (reportedly over 99%) of sulphur dioxide gas that escape from its system (MMC 2004: 9).

In both cases, island recovery and regrowth have been a gradual and uneven process, with regrowth efforts persisting to this day. In a series published by the Shikoku Shimbun (2000), its authors recall the Naoshima smelter's own efforts. The many regrowth initiatives point to the

³⁵ Original: "戦後「やしゃぶし」という煙害に強い木を植えそれから緑が徐々に増えていきました。"

reality that the island is still recovering from the effects of industry; those effects do not end when smokestacks go cold, they sediment into soil and memory.

Conclusion

Across these islands, the histories of extractive industries and their environmental disturbances have settled into the terrain as persisting and lingering traces, ghosts that remain entangled with the islands. These material and ecological afterlives of industrial ruination form part of the conditions within which contemporary engagements with the ruins now unfold. In other words, artistic reappropriation and maintenance emerge as practices that necessarily work with these industrial ghosts. Yet, alongside these material and ecological afterlives, the islands are also shaped by another form of haunting, one emerging from present-day demographic decline and the futures imagined within it. With this broader landscape of haunting in view, the next chapter turns to the reappropriation of industrial remains and the ways these sites are taken up within the pressures and apprehensions that accompany rural depopulation and ongoing revitalization initiatives.

CHAPTER 2 - ISLANDS HAUNTED BY DEPOPULATION: SHORES OF DISCARD AND DESIGN

Today, the islands of Inujima, Naoshima, and Teshima are not only haunted by their industrial pasts but also by the pressures of demographic decline. Demographic uncertainty has become part of the reality through which these islands are lived and imagined, prompting efforts to reimagine their futures through cultural tourism, artistic intervention, and the revaluation of industrial remains. Revitalization emerges here as a response to haunting imagined (if not anticipated) futures of depopulation, an attempt to sustain liveliness amid the anticipation of loss. What follows explores how industrial remains, *karami* in particular, become entangled in this tension between narratives of past prosperity and imaginaries of a *revitalized* future.

Between Narratives of the Past and Imaginaries of the Future

The introduction of the copper industry in the region transformed not only the ecological landscape, but also the socio-economic situation on the islands. On both Inujima and Naoshima, the arrival of the copper industry in the early twentieth century is remembered as a time of socio-

economic and demographic prosperity. Industrial operations transformed island life, bringing population growth, economic activity, and new infrastructures of health, education, and recreation (Yoshimi 2011: 243; Yoshimoto 2011: 296). Inujima, for instance, counted nearly 6,000 residents at the height of its industrial activity around 1910 (Yoshimoto 2011: 297); Naoshima's population rose from approximately 2,000 in 1910 to 7,800 by 1960 (Yoshimoto 2011: 296). Teshima's own stone industry similarly supported a population of roughly 5,000 at its busiest, declining to around 2,700 before the Second World War (Müller and Miki 2011: 360).

Since this latest period of industrial boom, the demographic trajectories of these islands have shifted dramatically. By 2011, Inujima counted approximately fifty residents (Müller and Miki 2011: 380), Naoshima just over 3,200 (Müller and Miki 2011: 254), and Teshima just over 1,000 (Müller and Miki 2011: 360). More recent figures published in a local newspaper reflect a continued downward trend: as of June 2022, Inujima counted forty residents, Naoshima counted 2,966, and Teshima counted 777 (Ritoukeizai Shinbunsha 2022: 3-4). These shrinking populations are also ageing, a condition that adds another layer to the islands' present demographic precarity. The contrast between remembered prosperity and present-day demographic decline offers a notable parallel: industry once drew people to these islands, and its reappropriated forms are now enlisted again to attract visitors amid local depopulation. Contemporary reappropriation moves within this temporal layering, attentive to the traces of what once was and the uncertainties of what may come. In other words, it is within this interplay between narratives of the past and present-day imaginaries of the future, that industrial remains, and *karami* in particular, are revalued, reworked, and drawn into contemporary projects of revitalization. This next section returns to the island of Inujima, where the reappropriation of industrial ruins into art sites remains entangled with ghosts of industry.

Art Interventions and Ghosts of Industry on Inujima

On Inujima, industrial legacies haunt how reappropriation has taken shape, as artists work with a ruined landscape marked by past modernization ambitions, environmental degradation, and uneven regrowth. These projects navigate the ruined landscape and rework relations with it. This is exemplified by the Inujima Seirenscho Art Museum and the *Inujima Life Garden*, two projects that directly engage with the ghosts of the island's industrial past through the island's ruined

landscape. Notably, this section does not seek to critique the artworks themselves, rather it considers the relations these projects establish with their surrounding environment.

The Inujima Seirenscho Art Museum is the result of a multi-year endeavour, shaped from the outset by consideration of Inujima's industrial past and its ecological legacy, alongside broader critiques of modernization in Japan. These reflections contributed to the development of the current museum and its characteristic energy system, conceived in careful response to the refinery's legacy of pollution and waste. At the same time, as contemporary artist Yanagi Yukinori recounts, the project was also imagined as a way of holding open a different future for the island, countering proposals to turn Inujima into dumping grounds for industrial waste (Tomii 2010: 46; Yanagi 2018). It was in this context that Fukutake Soichiro purchased the site in 2001. Reflecting on the project, he writes:

I wanted to send a message to the world about environmentally friendly architectural structures from the islands of the Seto Inland Sea, including Inujima, which are the sites of a 'negative heritage.' [...] It was in 2006 that the intentions of the artist and architect became unified and the plans for the present Inujima Art Project were finally ready for execution. (Fukutake 2010: 125)

The museum does not merely address the past; it is shaped by its persistence, operating within and through the industrial ruins it incorporates. Completed in 2008, the museum is built directly within the surviving industrial structures; its layout follows the original architecture's orientation towards the prevailing winds, allowing it to operate without conventional electricity and rely instead on natural energy systems. The collaboration between architect Sambuichi Hiroshi and artist Yanagi Yukinori focused not only on reclamation but regeneration: using wind, light, and the thermal properties of local *karami* blocks as material to create a system attuned to the island's natural rhythms and future tourism. As Sambuichi explains: "visitors here do not just experience the art, architecture, and nature. They also contribute to nature. I want them to understand that people are part of the moving materials of the Earth" (2018: 153). In this way, the museum brings the island's industrial ghosts into the rhythms of its operation, offering one way of moving with the traces that persist.

If the Inujima Seirenscho Art Museum engages with the industrial past through architectural reuse of material remains, the *Inujima Life Garden* turns its attention to ecological recovery on the island's ruined landscape. Opened to the public in 2010, the garden is a collaborative effort to regrow the island in the aftermath of industrial pollution and demographic decline. In an interview

with Sanyo Shimbun, Hashizume Atsuo, a key figure in the realization of this project describes how the island's vegetation had suffered from both smoke pollution and the abandonment of landscape maintenance, with invasive vines, bamboo, and other weeds overrunning spaces hindering the growth of other plants and reducing local biodiversity (Shimawata 2025). Developed not simply as an art installation but as a gradual regrowth initiative for the island, the garden invites residents and visitors alike to take part in the process and its unfolding. Visitors experience this uneven terrain as a space where degradation and growth are folded into one another, inviting embodied reflection on what remains and what may live through the damage. Traces of invasive species, soil fatigue, and the absence of human caretaking are not simply obstacles but reminders of a landscape that is still very much entangled with its past.

These art interventions work within a materially and ecologically altered landscape. They bring into view the island's industrial past in the present. Through reuse and regrowth, they participate in an ongoing renegotiation of relations with the ruined terrain, (re)inhabiting its persistence. This renegotiation continues through heritagization, where the same remains are approached through practices of rediscovery and revitalization.

Heritagization of *Karami*

Cast forms of *karami* remain embedded in the built landscape on both Inujima and Naoshima, material traces of the period of industrial operations that produced them,³⁶ now persisting within (ruined) industrial compounds and residential areas. Following *karami* across the islands reveals how it has come to be taken up as part of local culture and, in different ways, drawn into contemporary practices of heritagization.

Inujima: Attending to Ruins as Heritage

On Inujima, the refinery site, and by extension, its material remains, was federally designated a heritage site of industrial modernization in 2007 by Japan's Ministry of Economy, Trade, and Industry, framing it within a narrative of national progress and modernization. Meanwhile, on Naoshima, the heritagization of cast forms of *karami* emerged through a

³⁶ Langwagen estimates that slag block production around the world gradually discontinued between the 1920s and 1950s (2019: 20). This would make the blocks produced on Naoshima to be among the last or most recently produced. The proposed theory as to why this might have been the case, lies in the development of new and more efficient technologies for extracting materials. The resulting slag is no longer capable of being cast into reliable forms.

collaborative art initiative, developed in dialogue with local residents as part of a long-term project commissioned by BASN, aimed at rediscovering the island's landscape for both residents and visitors. While distinct in scope and origin, both projects respond to the realities of demographic decline, reframing industrial remnants within contemporary revitalization efforts.

Internationally, industrial heritage has emerged as a distinct category within cultural heritage discourse. Yet, as Jimura cautions, the meaning and intent behind this designation can vary across national contexts (2021: 130). In Japan, federal recognition of industrial heritage is institutionalized through two national programs: the ACA's *Kindaika Isan* (近代化遺産, Heritage of Modernization) since the 1990s, and METI's *Kindaika Sangyo Isan* (近代化産業遺産, Heritage of Industrial Modernization) since 2007. Jimura points out that in the Japanese context, the term "modernization heritage" more accurately captures the intent behind these programs (2021: 133). This is reflected in the shared use of *kindaika* (modernization) in both program titles, which he notes carries greater historical and symbolic weight than *sangyo* (industrial). As Jimura explains,

That is because; *kindaika* (modernization) was Japan's primary goal under the Meiji Restoration after Japan's national system utterly changed in 1868. [...] Thus, the term *kindaika* (modernization) is more meaningful than the word *sangyo* (industrial) in terms of the role they played in the turning point of [...] Japan's history. It must also be noted that traditionally modernization means 'westernisation' for Japan. (2021: 133)

Between the two programs, Jimura highlights a key divergence in purpose: while the ACA emphasizes cultural value, METI's program is explicitly geared towards regional revitalization through tourism (Jimura 2021: 133). In the context of its own program, METI describes industrial heritage sites as latent economic assets, that is "seeds" for regional development (2007: 1). A desired outcome specified by METI as part of their heritage project was to put these remnants of Japan's industrial revolution on the map of the country. Ultimately, in 2007, over 450 locations dating from the Edo to early Shōwa periods were designated and grouped into 33 "constellations," each centred on a narrative of a region's contribution to Japan's industrial development. These constellations, in linking together different sites, emphasize shared histories and their individual role(s) and value(s) as part of a wider regional network and national development (METI 2007: 2).

On Inujima, towards the end of the industrial ruin site's transformation into a modern art museum, the island's refinery ruins were designated as part of METI's 30th constellation, a

grouping titled “Modern industrial heritage sites that tell the story of the Seto Inland Sea copper mines, which supported copper production in Japan while maintaining diverse relationships with the local community (my translation)”³⁷ (METI 2007: 100). In practice, the designation applies to “the site of the former Inujima smelting works, comprising the chimneys, power station, and *karami* blocks, as a single property (my translation),”³⁸ as explained to me by Emiko-san, a member of the museum’s operations department and who is closely involved in the site’s day-to-day management.

Importantly, this designation, however, carries no prescribed responsibility towards the site, as it is intended by METI as a practical tool for developing tourism potential in the context of regional revitalization. On Inujima, this absence of obligation was also noted in conversation with Isamu-san, who was involved with the project in its early years and remains familiar with the site’s operational history. As Isamu-san explained to me, “at the time of designation (and subsequently), ‘there was no assistance or guidance,’ and ‘there were no standards or regulations for maintenance’ (my translation)”³⁹ (interview with Isamu-san). With no support and formal guidance attached to the designation, the work of maintaining the site and its *karami* brickwork continues through the Fukutake Foundation.



Figure 12 - Standing remains of *karami* block walls on Inujima. Watercolour drawing by author.

³⁷Original: “地域と様々な関わりを持ちながら我が国の銅生産を支えた瀬戸内の銅山の歩みを物語る近代化産業遺産”

³⁸ Original: “煙突、発電所、カラミ煉瓦を含む不動産としての犬島製錬所跡地です。”

³⁹ Original: “指定当時（それ以降も）「援助や指導は無い」、また、「維持する基準、規制も無い」”

Maintenance work has become key to how the ruins are lived with and are kept open as both heritage site and art museum. The reappropriation of the industrial compound has reconfigured the site with tourism in mind; that is to say that it has partially reshaped the relations around the ruins, from the ways residents live alongside them to more curated forms of engagement that now gather around the site. As Emiko-san describes,

Before the museum [on Inujima] was built, the remains were a playground and a place of relaxation for the islanders. With the designation as a heritage site and the construction of the museum, I believe it is no longer a place that islanders casually visit. (However, islanders are free to enter the museum if they wish.)⁴⁰ (Interview with Emiko-san)

This points to a significant reorientation in how the ruins are engaged with by residents and visitors: once a fairly casual, everyday space, now reframed and mediated through maintenance activities, safety protocols, and curated access. These shifts sit largely at the level of human engagement; the site otherwise remains open to the other-than-human rhythms and forces that continue to move through it (chapter 1).

Alongside this ongoing more-than-human activity, new rhythms of care as part of regular operation have become part of the site's everyday life. In the absence of formal guidelines, the museum has developed its own approach to care for the site: incremental, responsive, collaborative, and grounded in the rhythms of daily work. For museum staff, maintenance work is embedded in daily routines. In Emiko-san's account, a typical morning begins with:

My work starts at 8:00, one hour before the museum opens. Upon arrival, I first perform cleaning tasks inside the museum and check the condition of the artworks. This includes cleaning restrooms and floors, removing fingerprints and dust from artworks, confirming the safety of walking routes around the ruins, and pruning plants to maintain pathways (my translation).⁴¹ (Interview with Emiko-san)

These tasks keep the site looking tidy and accessible, but maintenance is not the work of museum staff alone. Residents also assist with weeding and overgrowth management. These efforts help prevent damage from vegetation, which Langwagen notes can “dislodg[e] slag blocks from its

⁴⁰Original: “美術館ができる以前、遺構は島の人々の遊び場であり、憩いの場所でした。遺産指定され、美術館が建設されたことで、島の人が気軽に足を運ぶ場所ではなくなったとは思いますが。（ただし島民は鑑賞料無料なので、遊びに行こうと思えば、自由に立入できます。）”

⁴¹Original: “出勤時間は8:00、美術館開館の1時間前です。出勤すると、まず館内の清掃や作品の状態確認を行います。お手洗いや床といった館内清掃のほか、作品に付着した指紋や埃の除去、遺構の散策ルートの安全性の確認と植物の剪定を行い道を整備します。”

original settings” (2019: 68). As Emiko-san comments, “[p]reventative measures are taken to ensure that the *karami* block structures do not suffer damage or collapse. This is because they are an important element displaying traces that hint at the scale of the former large-scale smelting operations (my translation)”⁴² (interview with Emiko-san). Such efforts are not only practical responses to environmental wear, they are also forms of situated attention, attuned to a landscape shaped and unsettled by industrial pasts and a present-day logic of tourism. Together, these practices hold the ruins in a state of ongoing negotiation, attentive to the shifting material conditions that continue to shape the site.

This attentiveness also extends to the vulnerabilities of the structures themselves, where questions of safety shape how the ruins can be approached. As Emiko-san emphasizes,

maintenance is a high priority from a safety perspective. In particular, the chimneys on site are at risk of collapse, so guests are not allowed to enter zones where chimney collapse damage is anticipated. In addition, any abnormalities on site must be detected and responded to at an early stage, so the premises are checked twice daily (morning and evening) on the days when the Inujima Seirenscho Museum is open (my translation).⁴³ (Interview with Emiko-san)

Past the museum entrance, visiting the refinery ruins means adhering to a designated path, cleared of vegetation and outlined by a series of knee-high rusting looped metal rods strung together with two lines of metal wire ropes on either side. Along the path signs warn of unstable structure in both English and Japanese. As Isamu-san put it, “[f]undamentally, we operate the museum with the aim of preserving as much as possible. Where there are hazardous areas, access is restricted and the site is left as it is (my translation)”⁴⁴ (interview with Isamu-san). The reuse of *karami* blocks for the Inujima Seirenscho Art Museum, however, seemingly complicates this approach of preservation and non-intervention. After all, the *karami* blocks are not only remnants of the smelter but active materials in the island’s reimagining. As Isamu-san explained it, even prior to the heritage designation, preservation of the ruins was considered important:

⁴²Original: “カラミ煉瓦造りの構築物は、損壊、倒壊がないよう、予防的に対処しています。それはかつての大規模な精錬事業の姿を伺わせる痕跡を示す重要な要素であるためです。”

⁴³Original: “安全性の観点から、維持管理の優先順位は高くなります。特に敷地内の煙突群は、倒壊の危険があるため、煙突崩落の被害想定区域には、ゲストの立ち入りを禁止しています。また、敷地内の異変は、早期に発見し対応する必要があるため、犬島精錬所美術館の開館日には毎日2回（朝・夕）敷地内のチェックを行っています。”

⁴⁴Original: “基本的にはあるものを極力残す方向で美術館運用をしています。危険個所については、立ち入り禁止として現状を残しています。”

Our approach has been ‘to use what exists to create what is to be.’ We have always sought to respect what is already there and preserve it in its existing form as much as possible. Furthermore, as our considerations took into account the site’s history as a smelter, we did not base our thinking specifically on the fact that the ruins had been designated as a heritage site; however, I would say that, for better or worse, this designation had little impact on our approach (my translation).⁴⁵ (Interview with Isamu-san)

Maintenance work does not merely preserve what was; it partakes in shaping what might be, attending to the material and historical dynamics of the ruin landscape. As DeSilvey reminds us, caring for material pasts often means working with not only persistence but also with the changes already underway and through which new forms can emerge (2017: 20). On Inujima, then, *karami*’s afterlives take shape through this ongoing negotiation of preservation, care, and material change. Altogether, it is a mode of engagement distinct from, yet resonant with, the forms of heritagization that have emerged on Naoshima.

Naoshima: Mapping Local Heritage

Meanwhile, on Naoshima, its own *karami* landscape has been the focus of a recent art project, the Setouchi “*Slag Landscape*” Archive.⁴⁶ Based at Gallery 6 in Miyanoura, this project documented and mapped the presence and uses of *karami* in various forms across the island, led by the Naoshima Slag Landscape Laboratory. During their research, the laboratory noted the local circulation and reuse of slag blocks and tiles: “in recent years, the slag bricks and roofing tiles from the [Mitsubishi] company housing have been relocated to other sites around the island and have moreover begun being reused as stylish architectural accents in new homes and shops” (Shitamichi 2022). The project resulted in a local exhibition held at Gallery 6 in 2021 and the creation of the *Naoshima Karami Landscape Map*, a printed map of the island identifying locations where *karami* blocks and tiles have been found, now sold at a few locations around the island (figure 13). “It is our hope that, for visitors to the island, this map will serve as a new Naoshima Guidebook that will give a sense of the links between [the] island’s modern industry and the islanders’ lived landscape,” shares Shitamichi (2022) in the exhibition handout.

⁴⁵Original: “我々の考え方として「在るものを活かし、無いものを創る」ということがあるのですが、もともと「在るもの」を尊重し、できる限り在るかたちで残そうとしていましたし、製錬所としての歴史も踏まえたうえで検討していたので、遺産指定された遺構であることを前提として考えていたわけでは無いですが、良くも悪くもあまり影響が無かったといえると思います。”

⁴⁶ The third themed exhibition of the ongoing Setouchi “ ” Archive project.



Figure 13 – “Naoshima Karami Landscape Map” available for purchase at a gift shop. Photograph by author.

During one of my visits to Naoshima, using this same map, I followed *karami* around Miyanoura (figure 14). During this pseudo-scamper hunt, I met Tanaka-san, a senior resident on the island. I introduced myself and shared that I was looking for *karami*. He beckoned me over and pointed towards a tall property wall made of *karami* bricks visible from the street, then to a pile of *karami* roof tiles on the ground behind a neighbour’s house. He picked one up and handed it to me. My arms dipped under its weight. “It’s heavy, isn’t it,” he laughed. A little further along the street, he paused again at a wall now built in red brick and explained that it had once been made entirely of *karami* blocks before collapsing. This exchange stayed with me as I learned more about *karami* and how the material surfaces through everyday textures and local memories on the island.



Figure 14 - Traces of *karami* found around Miyanoura on Naoshima. Watercolour drawings by author.

In the context of the project, *karami*'s emergence as a heritage material sits alongside a noticeable shift in local sentiment. Writing from his own experience as a member of the Naoshima Slag Landscape Laboratory, researcher, Andrew McCormick describes how local knowledge and memory proved to be incredibly insightful in bringing *karami* into view and opening new ways of understanding. He also notes a change in local sentiments around *karami*: “[o]lder locals who were initially hesitant to focus on a material they’d long viewed as simply a waste product were surprised and ultimately pleased with our team’s enthusiasm, particularly after an outside researcher sent us examples of heritage slag-block architecture in Europe” (McCormick 2022: 54-55). The project’s emphasis on local knowledge and memory points to *karami* as a material entangled in local histories of industrial labour, creative reuse, and emerging forms of cultural appreciation. Alongside this project, Shitamichi has also followed *karami* forms beyond Naoshima and Inujima, connecting the islands’ slag story to a broader constellation of sites coloured with *karami* across the country. As mentioned by McCormick, the project has even connected with historic slag forms found in Europe, reframing *karami* not as isolated waste, but as part of a global material legacy.

Yet it is on Naoshima, through community-centred events and everyday encounters, that this reframing becomes most immediate. The reframing of *karami* as part of Naoshima’s cultural heritage came into sharp focus during the island’s Culture Day festival. When I visited the community centre that morning, the grounds were already lively with families moving between outdoor stalls set up near the entrance and indoors where a mix of locals and visitors were circulating around the exhibits. Inside, the event featured a range of displays, including a table hosted by Gallery 6 which neatly displayed sample pieces of *karami* cast into different forms from across Japan, some binders showcasing hundreds of photographs of *karami* found all over the island and beyond, a few research articles and copies of the *Naoshima Karami Landscape Map* (figure 15). Throughout the event, some residents approached the table, commenting aloud on how nostalgic these blocks were for them. On one occasion, an elderly gentleman paused in front of a large round disk made of *karami* and talked about how *karami* was the best for making delicious *tsukemono* (pickles). His comment stayed with me as an example of the material’s embeddedness in everyday life and memory.



Figure 15 - Karami table hosted by Gallery 6 for Culture Day festival. Photograph by author.

On Naoshima, what emerged is not a formal heritage program but a gradual rediscovery of the local through the material itself, as *karami* becomes a way of noticing and learning of the island's industrial past within and as part of the textures of everyday life. In this sense, Naoshima's *karami* landscape is less a curated inheritance than an unfolding attentiveness, shaped through community memory, material circulation, creative reuse, and the eye-catching iridescence of *karami* forms long embedded in the island.

Conclusion

Across Inujima and Naoshima, *karami*'s contemporary life emerges through divergent yet resonant practices responding to the islands' post-industrial conditions, as well as pressures and imaginaries of demographic decline. On Inujima, *karami* is seen drawn into the reappropriation of industrial ruins as art sites, and attended to within the negotiated work of maintenance, safety, and material change. *Karami*'s heritagization, here, not only reflects a cultural revaluation of industrial remains, but also a shifting relationship with these ruined landscapes. On Naoshima, it surfaces through community encounters, local memory, and collaborative mapping. Taken together, these trajectories show how *karami*'s reappropriation as art and heritage is not a single process but a set of situated engagements, ways of living with industrial remains that open the past to the present in different registers. In these post-industrial island landscapes, heritage emerges as a practice of attending to what persists, and of rediscovering the local through the material traces that continue to inhabit futures shaped by depopulation.

PART II: RUINS OF DEPOPULATION AND PRACTICES OF THEIR REINHABITION

Depopulation is leaving a different kind of ruin landscape across Naoshima, Teshima, and Inujima. While material traces of industrial activity on these islands are being made newly visible through art (tourism) and heritagization projects, more recently abandoned material remains of depopulation are being drawn back into use through their restoration, repurposing, and renewed ongoing work of maintenance. As previously established, Japan's countryside has been profoundly and visibly affected by outmigration, aging local populations, and economic centralization. Matanle et al. describe depopulation as a visual phenomenon, evident in the material deterioration of built environments and in ecological responses to changes in land use following the withdrawal of agrarian-human presence (2011: 21). Artistic interventions further complicate this field, transforming former dwellings and fallow fields into artworks that fold the material remains of decline into curated aesthetic experiences.

Walking around the islands of Naoshima, Teshima, and Inujima, depopulation visibly manifests through a patchwork of shifting uses, conditions and temporalities, some subtle and others unmistakable. Each island is home to its own demographic history, architectural character, site-specific art interventions, and particular experience of decline, and these differences are observable in their built (agrarian and residential) environments. Yet, the experience of walking through these residential areas, especially as a visitor, often produces a sense of continuity.



Figure 16 - Patchy townscape scenes from across Naoshima, Inujima and Teshima. Watercolour drawing by author.

Agrarian and residential areas unfold as patchworks of different temporalities and uses (figure 16). Fallow fields grow alongside cultivated plots and restored rice paddies; their differing conditions reflect the uneven withdrawal and selective return of agricultural labour. In residential areas, a similar patchiness unfolds. Lived-in old houses stand next to newly built modern ones, and renovated *akiya* have become not only homes once again but also repurposed into cafés, ateliers, guesthouses, and (short- and long-term) art installations. Others remain shuttered, roofs sagging under the weight of ivy, windows boarded and covered with dust. Without local knowledge, it can be difficult to distinguish a lived-in old house from one quietly slipping into disuse. Signs of life surface unevenly. In autumn, strings of persimmons hang beneath house eaves to dry in the sun. Meanwhile, neighbourhood cats have settled into the shed of a house whose owner recently passed away, making use of a space whose future remains uncertain. These repurposed dwellings also sit alongside unmistakable *haikyo*. On Inujima, collapsed roofs and ivy-covered facades appear along the main roads, their entrances half-submerged in brush. Along one stretch of road, a low granite wall gives way to shallow recesses where stone steps once led to houses that have since been absorbed into vegetation. Near one set of steps, a bundled stack of heavily weathered and illegible newspapers, still bound in its original plastic strap and now entangled in ivy, rests atop the wall.

In this second part of this thesis, I turn to these ruin landscapes of depopulation, asking how agricultural and residential abandonment produces a different kind of ruin landscape, and how practices of maintenance (collaborative, cyclical, and precarious) reinhabit them. To understand this, I explore how formerly abandoned rice paddies (*tanada*) (chapter 3) and vacant buildings (*akiya*) (chapter 4) have been reappropriated through art-led revitalization initiatives, and how these lively spaces are not only remnants of island histories and demographic decline, but also sites of ongoing (re)negotiation between residents, outsiders, more-than-human landscapes, and institutions such as the Fukutake Foundation, where memory, materiality, and habitability are continually reimagined.

CHAPTER 3 - FIELDS OF RICE AND MEMORIES: RESTORATION AND MAINTENANCE AS REMEMBRANCE

Teshima's and Naoshima's rice paddies are remembered as cultivated landscapes within living memory; among senior residents, many recall the planting, tending, and the gradual

abandonment of many of these fields. Once a vibrant part of life on these islands, rice fields have become increasingly vulnerable to demographic decline and the labour-intensive demands of their upkeep. Yet they persist, not only as part of the islands' histories but as terrains where past cultivation still remains evident in the present. In recent years, art-led revitalization initiatives have returned to these ruined agrarian landscapes, restoring select paddies and reintroducing cultivation practices. In these projects, remembrance is enacted through both restoration and the renewed rhythms of maintenance practices (clearing overgrowth, repairing terraces, tracing irrigation lines, planting and harvesting) that re-enter landscapes already shaped by past labour and more-than-human succession. Approaching these fields as ecologies of memory, this chapter traces how restoration and maintenance work negotiates between different forms of remembering: human recollections of agricultural work, ecological memories embedded in succession and regrowth, and the material memory observed in residual infrastructures, as well as the aesthetic visions and tourism logics of the art projects they are a part of. These layered processes reveal a multi-temporal ecology in which different memories and aesthetic imaginaries coexist, intersect, and continually renegotiate space. While this chapter discusses the restoration of rice fields on both Naoshima and Teshima, I follow these dynamics most closely in Teshima's Karato terraces, where the project's visibility, accessibility, community involvement, and an opportune rice harvesting festival offered a particularly rich site for participant-observation.

Rice Fields in Japan and Their Decline

Irrigated rice cultivation has long shaped the Japanese landscape, not only as a dominating form of agriculture,⁴⁷ but, as a foundational mode of inhabiting the land. As Berque writes,

La rizière a très longtemps été, au Japon, l'emblème de l'habitabilité de la terre (l'écoumène), le prisme du sentiment de la nature, l'étalon du territoire et des richesses qu'il porte, l'assise des structures économiques—bref, la marque de la japonité telle que l'ont faite ses deux millénaires d'histoire, et au-delà. (2014: 474)

The rice paddy, in this view, is not merely agricultural infrastructure; it is a generative space, a site where nature and culture co-compose the terrain of Japanese habitability. This co-composition

⁴⁷ Rice cultivation makes for a significant if not dominant part of Japan's agricultural history and arable land. Berque and Sauzet describes how the proliferation of rice cultivation in Japanese history saw the marginalization of other crops, “soit dans l'espace – en les rejetant vers les hauteurs –, soit dans le temps – en les dégradant au rang de culture d'hiver” and even in some case their partial if not complete abandonment (2004: 66).

extends beyond human rhythms; rice farming also sustains a range of ecological functions, including water regulation, hazard and climate mitigation, and habitat provision as a seasonal wetland,⁴⁸ supporting species whose presence depends on disturbance routines in and around the paddies (Lawler 2001; Yamada et al. 2007; Fujioka et al. 2010; Natuhara 2013; Usio 2014; Koshida and Katayama 2018). These functions emerge through the seasonal work of disturbance (irrigation and maintenance) that shape the paddies as a living landscape. In present-day Japan, paddy fields makeup around 54% of cultivated land (Statistics Department 2023: 332).

While irrigated rice cultivation has a long and labour-intensive history, its visibility in the landscape continues to evoke powerful associations with tradition, seasonality, and national identity (Tobin and Kelly 1992). In the postwar period, a time of intense urbanization, rice paddies became emblematic of the rural *furusato* (故郷), the nostalgic “old hometown” remembered and imagined as the locus of authentic Japaneseness (Robertson 1988; Iwata et al. 2011). In his work *Becoming a Farmer in Contemporary Japan* (2024), Niccolò Lollini explains that “for Japanese born in metropolitan areas, the agrarian landscape represents the repository of the soul of the country, a nostalgic ideal of what has been lost in contemporary industrialised society” (2024: 48). This revaluation of rural heritage has been mobilized through tourism campaigns, cultural policy, and the aestheticization of agrarian life, even as farming communities face aging populations, labour shortages, and economic precarity (Ivy 1995).

Today, rice fields occupy a paradoxical position: they are celebrated as archetypal features of the Japanese countryside yet increasingly fall into disuse. As Lollini observes, in his study following new-entry farmers and the challenges they encounter in rural Japan, “[f]armland abandonment is a visible sign of rural depopulation and the cause of numerous problems in water management, forest stewardship, and pest control” (2024: 75). While his analysis addresses farmland more broadly, rice paddies are particularly vulnerable due to their infrastructural complexity and the labour-intensive nature of their use and upkeep. Their abandonment not only disrupts irrigation systems and local economies but also undermines the ecological functions they

⁴⁸ Despite occupying only a small fraction of Japan’s land area (approximately 6.6%), irrigated rice paddies represent a disproportionately large share of the country’s wetland-like environments, far surpassing the extent of remaining natural wetlands (Natuhara 2013: 97). These fields have come to function as substitute habitats for aquatic and semi-aquatic species, including those displaced by the loss of floodplains and estuaries (Lawler 2001: 513; Fujioka et al. 2010: 10).

sustain as previously described.⁴⁹ Recent studies have drawn attention to the ecological implications of this decline, most notably biodiversity loss (Lawler 2001; Yamada et al. 2007; Fujioka et al. 2010; Natuhara 2013; Usio 2014; Koshida and Katayama 2018). Species once sustained by the patterned disturbance of cultivation begin to vanish, and with them, the provisional wetland habitats that had come to substitute those long lost.⁵⁰ In this sense, the decline of rice paddies signals not only a demographic or economic shift, but a transformation in the terms of multispecies cohabitation. These localized effects, infrastructural, economic, and ecological, are increasingly recognized as part of a broader national concern.

Since the 1990s, Japan has faced a growing farmland crisis, stemming from a convergence of demographic decline, economic speculation, shifting land policy, and socially embedded norms (Hashiguchi 2014; Lollini 2024). Postwar reforms encouraged farmers to own the land they cultivated, but as land values rose during the period of rapid economic growth, many owners began holding farmland as a speculative asset rather than working it (Hashiguchi 2014: 6; Lollini 2024: 55). Subsequent policy revisions promoted leasing as a more flexible mode of land transfer, yet, as Lollini notes, “farmland transfer has been limited by disincentives derived from social norms, poor regulations of farmland use, and ambiguous tenancy rights” (2024: 55). Rice paddies, Lollini continues, with their reliance on shared water systems and coordinated labour, exemplify these challenges: the interdependence required by paddy field agriculture has historically reinforced norms of trust and inheritance, making land succession especially fraught (2024: 55-56).⁵¹ For farmers and farm successors, with little economic incentive and/or means to maintain farmland, abandonment became increasingly common (2024: 75).

In the decades since, the agricultural sector has continued to contract, and the question of how to respond to widespread farmland abandonment, particularly in rice paddy regions, has become increasingly urgent. Responses to the crisis have largely focused on measures to prevent further abandonment, and others aimed towards the socio-ecological recovery of abandoned fields (Hashiguchi 2014; Usio and Miyashita 2014). For instance, rice paddies have been reimagined

⁴⁹ In addition to farmland abandonment, the intensification and modernization of agricultural activities in other rice paddies to enhance their rice production as well as urbanization have been cited as major factors threatening rice paddy ecologies (Yamada et al. 2007: 88-89; Miyashita et al. 2014: 54-55; Natuhara 2013: 101-2).

⁵⁰ As Natuhara reminds us, the development of Japan’s rice paddy landscape also saw the destruction of wetlands (2013: 100).

⁵¹ Policies such as the 1970 *Gen-tan* policy, introduced to curb rice overproduction in favour of other crops, further contributed to shifts away from paddy cultivation, though these changes unfolded unevenly across regions (Hashiguchi 2014: 6-7).

within sustainability frameworks such as the Satoyama Initiative, which emphasizes the ecological and cultural value of traditional land-use arrangements. The restoration of rice paddies, whether through farming, tourism, or art, thus becomes entangled with broader questions of rural futures, inherited landscapes, and the aesthetics of maintenance. In the following section, I turn to the islands of Naoshima and Teshima, where rice fields have been partially recovered through art-led revitalization initiatives.

Fields of Bounty and Disuse: Naoshima and Teshima's Rice Paddies

Across the Setouchi region, island agrarian landscapes have long been shaped by the differing natural endowments of each island and the region's gentle yet fairly dry climate.⁵² Within this setting, Naoshima and Teshima chart markedly different paths. On Naoshima, rice cultivation was modest compared to fishing, ship building, salt production, and later copper refinery work (The Committee of Naoshima Insight Guide 2013). In contrast, Teshima stands out for its long and bountiful history of farming, including rice cultivation sustained by the island's terrain and plentiful spring water, which allowed rice production to flourish despite the region's limited rainfall (Tai 2020: 14-15). Today, Teshima remains home to diverse agricultural practices.

At Ieura Port on the northwest end of Teshima, there is a gift shop run by the Teshima Tourism Association. Outside its entrance, a bilingual display introduces the island via its agricultural landscape. The display features a pair of maps indicating what crops are grown where (figure 17).

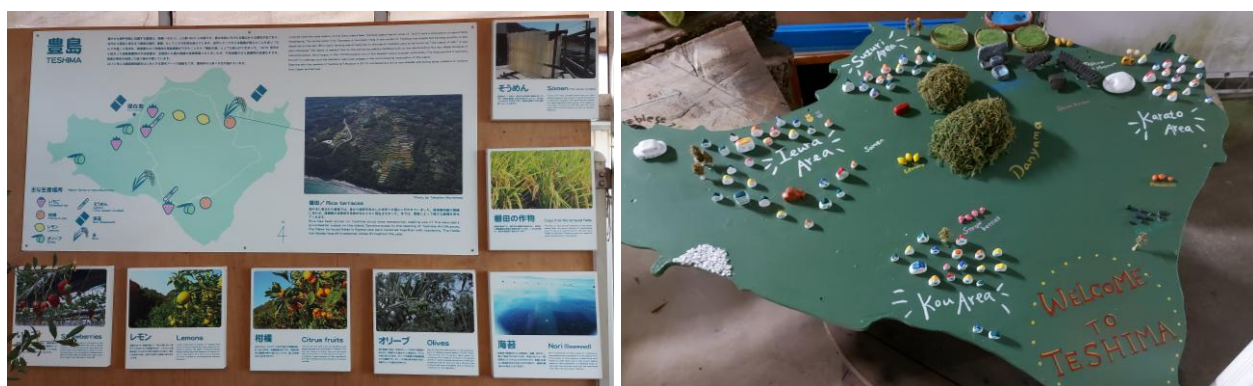


Figure 17 - Maps of Teshima's agricultural landscape. Photographs by author.

⁵² The Seto Inland Sea region, shielded by the Chūgoku and Shikoku mountain ranges, experiences an annual precipitation which typically ranges from 1,000 to 1,600 mm, with average annual temperatures around 16 °C (JMA 2021; MOE n.d.), having increased by 1 °C over the past two decades (JMA 2005, in Ohta and Nakagoshi 2011).

Together, they highlight the island's seasonal bounty: strawberries, citrus fruits, olives, seaweed, rice, and *sōmen* noodles. In front of the maps, sits a halved tree trunk painted with a harvest calendar offering a visual guide to seasonal rhythms on the island for figs, lemons, rice, olives, strawberries, vegetables and mandarins, indicating the duration of their respective harvest periods each traced across the months (August through July).



Figure 18 - Harvest calendar for Teshima's fields. Photograph by author.

For instance, with my visit taking place in late October it overlapped with the end of fig and lemon seasons and the start of rice, olive and mandarin orange seasons. Together, the maps and harvest calendar present Teshima as an agricultural island, foregrounding the crops and seasonal rhythms that continue to inform its reputation.

Walking around the island at this time of the year, Teshima's agricultural landscape felt especially vibrant given the overlap of various crops ready for harvesting. This abundance is rooted within a much longer history in which the island's terrain and agricultural practices have shaped one another. The island's central peak, Mt. Danyama, rising 330 metres above sea level, acts as a natural reservoir, captures rainfall that percolates through the mountain and resurfaces as reliable water sources for irrigation. Meanwhile, the island's sloping hillsides made for ideal bases for farmers to establish rice cultivation in terraced paddies. These terraces are not naturally formed; they require a great deal of labour by farmers to carve and reshape the hillsides, framing and containing the terrain through stonework, creating paddies connected by irrigation channels and

footpaths. Such infrastructure layered into the hillsides, reshaped the island as much as they relied on it. Moving into the early twentieth century, many of these same topographical features that supported terracing once made Teshima an attractive candidate for a copper refinery, a plan ultimately rejected in favour of protecting its agricultural industry (chapter 1). Visiting the island today, Teshima's topography is undeniably marked by its history of quarrying, the absence of the copper industry and the patchwork presence of terraced fields, some still cultivated, though many remain overgrown.

Indeed, despite this agricultural vitality, on Teshima, as well as on Naoshima, as fields became fallow, rice cultivation has been notably declining since the 1960s-1970s ('Information Panel "Teshima Tanada Project"' n.d.; Inoue 2016a: 11; BASN 2017a). This mirrors broader national trends shaped by depopulation and an aging farming population. The labour-intensive nature of rice farming, coupled with diminishing generational succession, has made it increasingly difficult to sustain. In Naoshima's case, the retreat from agriculture is part of a longer trajectory, unfolding alongside the island's industrial turn (chapter 1). Since then, in addition to residential development, industrial pollution has posed a persistent challenge for local crops, and postwar industrial pollution further contributed to the decline of local agriculture (Yoshimoto 2011: 301).

In recent years, however, across Naoshima and Teshima, efforts to recover local abandoned paddies have emerged through art-led revitalization initiatives. As the following sections explore, these restoration efforts mark a re-engagement in the present day with landscapes whose past cultivation remains within local living memory, now reimaged through art-led revitalization and sustainability frameworks. They are not simply agricultural, they are social, aesthetic, and deeply entangled with questions of memory, maintenance, and regional revitalization.

Restoration Projects on Naoshima and Teshima

The restoration of rice paddies on Naoshima and Teshima began in the late 2000s as part of broader art-led revitalization efforts in the area, the BASN project. These initiatives, supported by the Fukutake Foundation and multiple local collaborators, sought not only to recover abandoned agricultural lands and a return of cultivation work in these spaces, but also to reimagine them as a site of aesthetic and socio-ecological engagement. In what follows, I offer a brief overview of the two projects of interest: the *Naoshima Rice-Growing Project* (直島コメづくりプロジェクト), and the *Teshima Tanada Project* (豊島棚田プロジェクト). Both have been documented through

publicly available publications, project reports, and blog posts, which offer insight into their development and reception.

Naoshima Rice-Growing Project (直島コメづくりプロジェクト)

The *Naoshima Rice-Growing Project* was initiated in 2006 as part of the *Naoshima Standard 2* exhibition, restoring approximately 4.2 hectares⁵³ of fallow fields in the Tsumu'ura district. The latter is located on the eastern side of the island, between the Honmura district, home to several *Art House Projects*, and *Benesse House*. Of the recovered area, 0.3 hectares were used to grow rice (Inoue 2016a: 11). Since then, the rice cultivation area has expanded, and by 2016, rice was planted across 0.452 hectares of rice paddies with both non-glutinous and glutinous varieties (BASN 2016). The fields are cultivated through a combination of mechanized and manual labour, involving local residents, volunteers, and project staff. On Naoshima, three recurring events mark the rice cultivation calendar: rice planting in spring, harvesting in autumn, and mochi pounding at the year's end.

Teshima Tanada Project (豊島棚田プロジェクト)

On Teshima, the restoration of the Karato terraced rice fields, known as the *Teshima Tanada Project*, emerged alongside the Teshima Art Museum in the Karato district. In 2009, as part of the museum project's development, the nearby landscape of abandoned terraced fields became the focus of a restoration initiative. Crucially, Fukutake Soichiro recognized that long-term maintenance would depend on active local participation (Kaneshiro et al. 2013: 200). Thus, the project was organized through a collaboration between several organizations including the Teshima "Food Project" Promotion Council and the Karato Tanada Preservation Society (唐櫃棚田保存会), itself comprised of a group of local farmers (both established in 2009), alongside the town of Tonosho and the Fukutake Foundation, which operates the museum.

Between 2009 and 2010, approximately 6.2 hectares of fields (around 250 paddies) were restored (Kaneshiro et al. 2013: 200; Inoue 2016b: 11; Teshima 'Food Projects' Promotion Council 2019). Since then, annual rice planting and harvesting events, along with other seasonal

⁵³ In the original works cited, the quantity of field recovered is measured in *tan* (反) which is roughly 1000m² or 1/10 of an hectare (Inoue 2016a: 11; BASN 2017a). For the sake of consistency across this paper, these numbers have been converted into hectares.

agricultural experiences are organized in and around these fields. These activities not only help maintain the fields but also invite residents and outsiders into a participatory relationship with the landscape. A study by Qu further underscores the prominence of the restored terraces: on Teshima, the art museum and its neighbouring rice fields are the most frequently recommended sites to visit. As Qu notes, “local people thought the restored landscape was important because farmland embodies local people’s memories and their community’s connection to agriculture” (2019: 30). This observation reflects how the project has come to stand not only for revitalization, but for the island’s ongoing relationship to its agricultural past and the landscape itself.

In recent years, the Karato rice fields have received formal recognition: in 2022, they were awarded the *Tsunagu Tanada Isan* (つなぐ棚田遺産) certificate by Japan’s Ministry of Agriculture, Forestry and Fisheries, and the *Sanuki Tanada Award* (さぬき棚田アワード) by Kagawa Prefecture⁵⁴ (Teshima ‘Food Project’ Promotion Council 2021). These honours mark not only the success of the restoration, but also the integration of agricultural heritage into a broader vision of cultural and ecological rural revitalization.

Restored Rice Fields, an Ecology of Memory

Perched above the Karato rice fields is a small *sōmen* shop, its rear framed by a field of fig plants. In front of the shop, a covered area with benches offers a view of the terraces and out to the sea (figure 19). On one of the nearby wooden posts hangs a bilingual sign that reads: “[w]ide sea lies below your eyes, and refreshing breeze blows through farms and rice field. This place, full of natural beauty, helps you to imagine how original scenery of Japan used to be.” In its appeal to an “original scenery,” the sign invites viewers into a remembered landscape, one shaped as much by nostalgia and imagination as by restoration work. Yet the terraces below show how remembering also unfolds through change, through the gradual more-than-human reshaping of the fields and through the renewed practice of labour that enters into relations with it.

⁵⁴ The *Tsunagu Tanada Isan* certification, launched by Japan’s Ministry of Agriculture in 2021, recognizes exemplary efforts to revitalize rice terrace regions and promote their ecological, cultural, and community functions. As of 2025, 271 sites nationwide have received this designation. The *Sanuki Tanada Award*, granted by the Kagawa Prefecture, highlights 20 outstanding terraces within the region to foster local pride, attract external support, and encourage conservation-led revitalization (MAFF n.d.; Kagawa Prefectural Government 2022).



Figure 19 - View of the Karato terraced rice fields and the sea. Watercolour drawing by author.

It is important to understand that the restoration of the rice fields on Naoshima and Teshima unfolds within landscapes that have remained lively. During the years in the absence of cultivation work, the abandoned fields continued to shift materially, partially eroding and collapsing as well as thickening with new arrangements of life. Combinations of weedy flora, such as bamboo, trees and other organisms, spread across the terraces, tangling around and over one another reaching for soil and sunlight. Their roots carved new paths through the terrain, undermining old channels. By the time the restoration projects roll around some years and even decades later, the work that followed encountered landscapes largely shaped by past cultivation and its material remnants, as well as human abandonment and more-than-human reoccupation that had since settled in. This persistence of activity complicates any notion of restoration as a simple return. As I expand on in this chapter, it suggests not only a landscape remembered by those who recall their cultivation, but also a landscape that remembers through accumulated disturbances and transformations.

Drawing on the writings of geographer Caitlin DeSilvey (2017) and environmental historian Timothy LeCain (2022), I approach these restored rice fields through what both describe

as an “ecology of memory.” The term points towards an understanding of memory as ecological: distributed across human and non-human, across time, materials, and environments that are themselves dynamic. In their respective works, both authors reconceptualize memory as a dynamic, more-than-human process grounded in ecological entanglements, unfolding through processes of material transformation, erosion, growth, persistence, and decay. I propose that this perspective offers a framework for understanding the restoration of Naoshima and Teshima’s rice paddies as a practice of re-engagement with a landscape already dense with its own forms of remembering, and, crucially, as a form of remembering in itself.

In *Curated Decay* (2017), DeSilvey introduces her approach through her work with heritage sites characterized by ruination and material transformation. Writing from the perspective of heritage conservation, she challenges preservationist impulses that seek to arrest change, suggesting instead that memory also emerges through flux and transformation. She writes: “decay reveals itself not (only) as erasure but as a process that can be generative of a different kind of knowledge” (2017: 28). Weathering, plant growth, and material breakdown are not simply forces of loss but participants in a work of remembering (2017: 31). To care for such places, in DeSilvey’s terms, is to attend to their ongoing transformations, “to let the processes run and pay attention to what happens on the way” (2017: 30). Her emphasis on the generativity of change and the relational unfolding of memory highlights how heritage practices can engage with change, rather than attempting to restore sites to a fixed past. This remains particularly relevant for understanding culturally valued landscapes like Naoshima and Teshima’s terraces, where abandonment, ecological succession, and human intervention intersect.

In *Heritage Ecologies* (2022), LeCain extends his use of the “ecology of memory” concept more specifically into the realm of industrial and post-industrial landscapes. Central to his argument is the idea that remembering in itself is ecological:

memory must be understood as extensive with the material environment, suggesting that we think and remember *through* material things. In this sense, to remember is literally to *re-member* our extended selves by reincorporating the scattered material pieces of our individual and societal past being. (2022: 208, following Olsen 2003)

Anthropogenic landscapes, in his account, are not inert remnants but active sites of ecological and historical entanglement. As LeCain writes,

anthropogenic structures, land forms, and remains are constantly changing as they interact with the broader ecology and various human attempts to remediate or preserve what are sometimes viewed as historically significant sites. Visitors to such places thus experience what might aptly be termed an ‘ecology of memory’, in which human memory, history, and identity are deeply entangled with non-human ecological processes. (2022: 209)

This emphasis on visitor experience of remembering is especially relevant in the case of the restored rice fields, where the act of walking through terraced landscapes, shaped by past uses, abandonment and reuse, invites encounters with layered histories, material persistence, and ongoing ecological transformation.

LeCain’s framing complements DeSilvey’s attention to ruination and transformation. Together, both thinkers offer valuable provocations on the persistence of memory as a dynamic and relational process, offering a way to understand both the terraces themselves and the human practices through which they are remembered. Approaching the rice fields as memory ecologies allows us to see restoration as a negotiation with layered histories, human and more-than-human. It foregrounds the role of restoration and maintenance as a practice of ongoing re-engagement with what remains and emerges. This comes into view in tracing the work of returning to the fields and the (ongoing) practices that follow.

Photographic documentation taken during the initial phases of the restoration work on the idle rice paddies shows people cutting through weeds and trees towering well above your average person (BASN 2017a). Restoring hectares of fallow fields required clearing layers of overgrowth, and even so, that is just the beginning. As Yoshimoto reminds us, “[i]t takes several years to restore the cultivation of once abandoned rice fields” (2011: 305). Following the removal of these layers of overgrowth, restoration of these fields continued with the recovery of persisting forms and material traces of past rice cultivation activities to serve as foundations once again for a new practice of rice cultivation.

Consider past agricultural practices and the landscapes reshaped into terraces, and the irrigation system unique to its topography. As noted earlier, the irrigation of fields on Teshima are shaped and made to take advantage of the mountain’s spring water supply and gravity. Likewise, the irrigation of the restored rice paddies on Naoshima is adapted to its own topography. In a blog post discussing the project on Naoshima, the author reflects on the early days of the restoration:

When the rice cultivation project began, we thought we would be ‘reviving rice cultivation from scratch’ on such land. However, the rice paddies in Tsumu’ura, which had fallen into disuse, still bore traces of the rice cultivation practised by our ancestors of over hundreds,

even thousands, of years ago. For example, there are the reservoirs commonly found on Naoshima, the irrigation channels connecting them, and the rice paddies where water collects. Although Naoshima has no large mountains and no rivers to draw water from, the islanders devised ingenious ways to use reservoirs and create irrigation channels to deliver water to the paddies. Some of the waterways surrounding the rice fields have complex layouts, with water flowing from one field into another. It may seem like a small detail, but I feel I can glimpse how our ancestors created these waterways through trial and error. We now take it for granted that water flows from the reservoirs to the rice fields to grow our rice, but I am reminded once again that our present situation is the result of much hard work over a long period of time (my translation).⁵⁵ (BASN 2018)

These inherited infrastructures, recovered and reintegrated into cycles of maintenance work, made it in part possible to grow rice again. However, the clearing of formerly fallow and abandoned rice fields does not guarantee the return of rice cultivation for a paddy. Past farmwork is not the only type of activity to consider. After years of invasive and assertive more-than-human activity, the overgrowth that settled, anchored and grew into these spaces have also left their own traces, transforming the fields in the process. Cut back, these weeds reveal terrain altered to support their expansion, and the remnants of earlier cultivation infrastructure appear only partially, not all of it recoverable. This becomes particularly evident in the restoration of Teshima's Karato terraces.

Following the restoration of the Karato terraced rice fields more closely reveals paddies in markedly different conditions. After all, not all rice paddies recovered here were abandoned at the same time. In other words, the duration of human abandonment can significantly affect what recovering these paddies entails and its patchy results. For instance, some paddies, abandoned only briefly, still hold the shape of their former channels, while others, left fallow for decades, bear the marks of deeper collapse:

[e]ven once the grass has been cut and the bamboo and trees felled, it is not the case that rice cultivation can resume in every single paddy field. In areas where trees and bamboo have grown for a long time, the irrigation channels and slopes have eroded, making it

⁵⁵Original: “コメづくりプロジェクト発足時、私たちはそんな土地で「0からコメづくりを復活させる」と思っていました。しかし耕作放棄地になってしまった積浦の田んぼには、何百、何千と繰り返されてきた先人たちの稲作の痕跡が残っていたのです。例えば直島に多く見られるため池やそこから繋がる水路、水が溜まる田んぼ。直島は大きな山がなく、また水を引く川もありますが、ため池を使い水路を作り、田んぼへと水を送る工夫を行ってきました。田んぼの周りの水路には、一つの田んぼに水が入ってから違う田んぼに水が行くような複雑な形をしている所もあります。小さなことですが、先人たちが、試行錯誤しながらこの水路を作ったことが垣間見える気がします。私たちは当たり前のようにため池から田んぼへ水を送り、お米を育てていますが、長い時間の中で沢山の苦労があって今があることを改めて感じています。”

impossible to grow rice there (my translation).”⁵⁶ (‘Information Panel “Teshima Tanada Project”’ n.d.)

As a result, restoration has taken different forms. The work proceeds with the altered material conditions of each field. In DeSilvey’s (2017) terms, this is a mode of remembrance that works with the rice field’s shifting materiality, moving with what the landscape has become. Where possible, rice cultivation has been reintroduced in part of the fields. Others now support vegetables and fruit trees. As for what exactly is grown from these fields in addition to rice, I asked Fuyuki-san, a staff member from the nearby Teshima Art Museum and who is actively involved with the management of the fields. He explained that crop choices respond both to ecological constraints and to local needs:

every year we must grow some particular kinds of vegetables, such as carrot, pumpkin, sweet potato, because they are used [at the] cafe at Teshima Art Museum. [...] Other vegetables were chosen by considering some natural conditions or food custom[s] of Teshima. We sell our [products] for residents or restaurants in Teshima. (However, we sometimes try to grow vegetables unpopular for Japanese, only because of our individual interests. For example, now I’m growing kohlrabi.) (Interview with Fuyuki-san)

Elsewhere, the remaining recovered fields are maintained as pastures to keep weedy species in check. Goats and cows graze across these plots, contributing to the ongoing work of curbing overgrowth. A few terraces have even been planted with flowers, adding to the aesthetic landscape surrounding the museum. Taken together, these varied uses reflect a form of restoration that remembers through diversification, a practice that acknowledges the uneven legacies of abandonment and the new possibilities that emerge from them.

This uneven terrain demands ongoing attention: restoration does not end with clearing and planting, it continues through seasonal cycles of growth and care. In the following section, I turn to the rhythms of maintenance, where memory is enacted not only through landscape, but through the embodied labour of those who sustain it.

Rhythms of Maintenance and Agricultural Memory

The restoration of the Karato Rice Fields and those in the Tsumu’ura area do not end with clearing the fields, nor with the first year’s harvest. It is an ongoing process in rhythmic

⁵⁶ Original: “草刈りや竹、樹木の伐採が終わってもすべての田んぼで再び稲作が行えるわけでは ありません。長い間、木や竹が生えていたところは水路や斜面が崩れ、稲作を行うことはできません。”

correspondence with various processes, including weather, seasons, plant life cycles (namely rice, grown fruits and vegetables, and weeds), and the human life cycle. In turn, the work is recurring, cyclical even; however, it is not uniform as every year will have its nuances.

Rice Field Maintenance and Farmwork, Practising Remembrance through Transience

The curation of the landscape foregrounds these rhythms of cultivation. Near the top of the hill, by an entrance into the Karato rice fields, there are two information panels which present the *Teshima Tanada Project*. These panels offer some information about the initial restoration work that took place to recover the terraced rice fields ahead. Along with the background of the project, the panels include a timeline that spans a typical year centred on the cultivation of rice on Teshima. Beginning in May, when seedlings are germinated, the beginning of field preparation for rice growing commences: waterways are cleared and the grass is cut. In June, the fields are hydrated, tilled, and levelled, and seedlings are planted by hand (as part of a rice-planting event) and machine. July sees the separation of rice plants to multiply yield, alongside intensive weeding and water level monitoring. In August, the fields are drained to let the soil breathe, and the rice begins to bloom. In late October, the rice is harvested (again by hand and with the help of machines) and dried in the sun using *hazakake* (稲架掛け), a traditional rack-drying method, before being polished and prepared for consumption.

Between clearing waterways, weeding, grass cutting, etc., maintenance work largely follows the seasonal rhythms of rice cultivation, as well as attends to less predictable movements as they emerge. Maintenance, in this sense, is not simply technical upkeep. It is a form of remembering that works with landscape temporalities, ecological processes as they unfold, growth and decay, emergence and retreat, the continual reworking of the fields by more-than-human forces. This ongoing work resonates with what DeSilvey (2017) describes as a mode of remembrance that embraces transience. As she writes, “[i]t is possible to perform remembrance through transience, although this may require a willingness to find value in alternative material forms” (2017: 5). The restoration and maintenance of the rice fields echo this orientation; remembrance is enacted by staying with its changes, working with what has persisted, what has returned, and what has taken root in the years of abandonment. In this sense, maintenance becomes a practice of remembering with the landscape. In this way, the rhythms of maintenance are not only seasonal but relational, negotiated among people, tools, terrain, and ecological conditions. The work unfolds through these

shifting arrangements, and each year is met with new combinations of labour, improvisation, and care.

Here, remembrance moves with the landscape's ongoing transformations, acknowledging that what is being tended is not only rice, but the shifting relations (human and non-human) that make cultivation possible at all. Seasonality, with its cycles of emergence and decline, becomes part of this practice: a temporal register through which the fields are encountered, worked, and remembered.

Rice Field Maintenance and Farmwork, a Practice of Remembrance through Embodied Knowledge at a Rice Harvesting Event

The return of cultivation in the rice fields also brings back forms of knowledge that are carried in bodies as much as in tools or techniques. On Teshima and Naoshima, the work of maintaining the fields draws on experienced gestures that aging local farmers once performed if not still perform. In cultivating the restored fields, embodied knowledge resurfaces as acts of remembrance that are not only co-produced between the landscape and body but also shared between individuals.

Today, rice field maintenance work is distributed across a network of people. On Naoshima, the work is largely managed by project staff, with occasional assistance from museum staff and the support from locals. On Teshima, the work is largely shared between the Karato Tanada Preservation Society, museum staff (Fukutake Foundation), Tonosho town hall staff and other local farmers. More recently, The *Teshima Tanada Project* has invited broader participation through the Teshima Karato Tanada Support Team, offering islanders and visitors the chance to participate and/or assist with events and some maintenance work for a small annual fee. What's more, as previously mentioned, since the initial restoration of the rice fields, to the beat of the crops grown, a handful of public events centred on rice cultivation are organized throughout the year. These agricultural experiences are celebrated as increasingly community events, with returning participation (BASN 2017b). On this, Fuyuki-san comments that

[t]he fact that many people visit the event and are pleased with the event itself is a motivating factor for us. It would also be great if those who are interested in the rice terraces because of the event eventually become involved in a deeper way, including farm work. (Interview with Fuyuki-san)

Since its first few years, the events hosted have also come to welcome tourists including participants from abroad, doubling as a tourist experience (Teshima 'Food Project' Promotion Council 2018). On Teshima, while most of the planting and harvest work is done these days with the assistance of machines, these public events return to doing this work by hand, emphasizing the embodied and communal dimensions of cultivation (BASN 2016). Planting and harvesting days also become occasions where agricultural knowledge and techniques are shared (demonstrated, imitated, and learned) with other participants who come to the fields with different relationships to agriculture. In this sense, maintenance becomes a living form of heritage, sustained not through preservation but through the ongoing, collaborative labour of keeping the rice fields in use.

Towards the end of my first day on Teshima, I stopped by the gift shop at Ieura Port while waiting for the ferry. There I was handed a flyer for the upcoming harvest festival in the Karato rice fields which included a rice harvesting event in the morning and a cotton-picking activity organized for the afternoon. Luckily, the weather for the week was looking to be quite sunny, as I later learned that since the rice is left to dry outdoors, harvesting requires a few days of dry weather. Unfortunately (and this has been the case on both Naoshima and Teshima), in the event of rainy weather, the harvesting festival has been cancelled in the past.

The next morning, I rode the 6:45a.m. ferry for Teshima and arrived at the Karato-oka Port around 9:10a.m. With enough time, I opted to walk up to the fields rather than take the bus. Approaching the terraced slope, many paddies were covered in golden rice plants rustling in the wind, while some paddies had already been harvested. Along the wider paths that follow the terraces were market stalls and food trucks for the occasion of this harvest festival. Near the entrance to the fields, I approached the registration table. There I was given the green light to participate in both harvesting activities. My name was taken down, and I handed the 500-yen participation fee for the rice harvesting activity.⁵⁷ I was then assigned to one of two groups, each would be harvesting a different paddy. Among those present, there was museum staff, local farmers, members of the local rice field preservation society, families with kids and even a television crew who would be filming this year's event. At 9:30a.m., a welcome ceremony marked the start of the festival.

⁵⁷ The year 2017 saw the introduction of a participation fee for agricultural experiences, which has seemingly been well received (Teshima 'Food Project' Promotion Council 2017). In practice this has been typically 500-yen per adult while youths are free.

At the far end of the Karato rice fields, a tent had been set up with a tarp on the ground for folks to change into boots and store their bags. There, I was handed a pair of rubber boots, a pair of garden gloves, and a small serrated sickle. Before entering the paddy, an older gentleman dressed in a bright orange cap, a member of the Karato Rice Field Preservation Society, offered a demonstration to the group. Bending down, he leaned and swiftly cut through clusters of stems and gathered them into his other hand. The cut plants were then placed aside to be bundled later. Walking onto the paddy ground, the mud was thick and gloopy. I had to be careful not to lose my boots. Soon I was joined by Fuyuki-san, who offered additional advice for harvesting the rice plants. For a cleaner, easier and quicker cut, I was instructed to grab and lightly twist the stems before cutting through them with the sickle, and then to quickly move on to the next few clusters before coming up again. Once I had four to six clusters in hand, I turned around to lay them with the others behind me. After a few back-and-forths, I had already built up a sweat, and my back was starting to feel sore from not squatting deep enough. Looking up, I soon spotted a pair of black *tonbi* riding the late morning winds. These cool sea breezes were all the more welcome.

Bending down to harvest the rice plants revealed a lively though seemingly terror driven scene beneath the leaves. The bugs and many spiders dwelling within the gaps of the base of the plants, having lost their shelter, were quickly fleeing. I was most startled when a rodent scurried by, running between plants for shelter of its own (figure 20).



Figure 20 - View of ground in drained rice paddy. Watercolour drawing by author.

Then, a little over half a field later, it was time for a short break. Some of the kids were already complaining about being tired. It was getting hot, despite the breeze. After the break, I was assigned to help with tying harvested plants into bundles for drying. This time, one of the local farmers demonstrated the steps to follow a few times before watching over my first attempts. Grouping two to three smaller handfuls together, I used a piece or two of stray stem (as its fibres are sturdy yet pliable) collected from the ground and used it to wrap and tie the rice plants together around the stems (figure 21). Having trouble maintaining tension as I went, it took me a few tries to get the hang of it. After all, it was important for the bundles to not fall apart.



Figure 21 - Bundling rice and rice bundles drying on a drying rack. Photographs and watercolour drawing by author.

Once tied, these larger bundles were then temporarily piled along the edge of the terrace. Then came time for a lunch break. Back at the tent, food was handed out: wrapped in cling wrap, a salted rice ball made with rice harvested from these very same fields, and a bottle of green tea. Standing there, hot and sweaty from the work, I carefully unwrapped the rice ball and took a bite. Goodness, it was unbelievably delicious! Meanwhile, museum staff and farmers began setting up the rice-drying rack: hammering wooden tripods into the mud and then placing a longer beam across them. I returned to help finish tying up the remaining bundles as others began packing them onto the rack.

Participating in the harvest was nothing less than a memorable experience. It also made visible how maintenance unfolds through bodies in motion, through gestures learned, repeated, and shared. What returns and is maintained in these moments is a way of working with the fields that is continually renegotiated in practice. In this sense, remembrance is carried out not only in the restoration itself but also in the ongoing labour that keeps the terraces agriculturally active.

Precarious Future of the Rice Fields

Tending to the rice fields from year to year, the short-term vision for these projects is clear enough, but their long-term future is far less certain. As previously noted, restoration is essentially never-ending; the fields require continual engagement. How long such work can be sustained remains an open question. The demographic situation these islands face is ever a factor in the future of these fields. In this sense the fields also follow human life rhythms. This becomes most apparent when considering a recurring concern for the maintenance of these fields and the continuation of the project overall: the decreasing number of people involved, particularly with the aging of those who farm them and the turnover among staff (Teshima ‘Food Project’ Promotion Council 2015; Teshima ‘Food Project’ Promotion Council 2016).

On the one hand, many of the farmers who tend to these terraces are growing older, and participation changes as bodies age and capacities shift. This situation concerns Fuyuki-san. As he explained to me,

[b]asic farm work such as weeding and plowing is divided up among everyone as needed. For rice cultivation and operation of some machinery, the person in charge will be decided according to his/her skills. Three times a year, the farmers who share the waterways get together to clean the waterways. (Those who farm their own land outside of the Terraced Rice Paddies Project also participate in the cleaning of the waterways.) [...] In rice terraces, the aging of the population and lack of manpower is more serious problem than anything else. Various organizations are involved and there are some young people, but the number of people involved in the terraced rice paddies on a long-term is decreasing year by year. (Interview with Fuyuki-san)

In the context of depopulation, the mechanization of certain tasks offers a practical response to labour shortages. Machines allow smaller teams to manage work that once depended on extended family or community networks (BASN 2016). Yet, in the case of Teshima, the area’s topography limits this option. As Fuyuki-san describes, “the topography of the rice terraces prevents the use of large machinery. Therefore, more manpower is needed to manage the area, but due to the

shortage of manpower, there is not enough to manage it” (interview with Fuyuki-san). These constraints make it clear that the future of the terraces is tied not only to ecological rhythms but also to the availability of people able to work with them. The arrangements that sustain the fields (including labour, tools, and shared knowledge) are themselves precarious, vulnerable to demographic shifts and the gradual thinning of community networks.

On the other hand, staff turnover adds another strain to the matter; as people move on to other work, new staff must be trained, a recurring effort that folds into the ongoing demands of maintaining the terraces (BASN 2017a). The future of the terraces rests on arrangements that are, by their nature, unstable. In her discussion on the derelict condition of a long-abandoned homestead and the ecological processes that have unfolded since, DeSilvey remarks that “[h]uman labor introduced temporary arrangements [...] But these arrangements are unstable” (2017: 31). If the work can no longer be sustained, the terraces shift as new arrangements settle in one again. In this sense, the precarity of these fields is also a reminder that these landscapes have always been shaped through transience, human and other-than-human, and will continue to be so.

Teshima’s Aesthetic Landscape

The Seto Inland Sea has long been appreciated for its scenic qualities, often through the eyes of visitors. Early Japanese texts praised select sites within the region, and, from the nineteenth century onward, foreign travellers likewise admired its calm seas, island vistas, and terraced rice fields. These descriptions helped consolidate a modern sense of the area as a distinctive landscape, one in which rice fields were already recognized as part of its scenic character (Ohta and Nakagoshi 2011: 171). At the same time, rice fields hold a deep place within Japanese aesthetic tradition more broadly, associated with seasonality, rural authenticity, and national identity (Ohnuki-Tierney 2024). Taken together, these histories position rice fields as both locally admired and culturally resonant elements of the landscape.

On Teshima, the restored rice fields must be understood not only as agricultural spaces but also as part of the BASN art project that has made their restoration and ongoing maintenance possible. From the outset, then, the fields have been framed within the conceptual and institutional orbit of the museum: positioned to be seen, interpreted, and experienced as part of the broader aesthetic and curatorial logic of the “art island.” This framing is reinforced through a range of practices that shape how visitors encounter the landscape. Inside the Teshima Art Museum, it is at

its most explicit, as the oval opening directs the gaze outward and draws the terraces into the artwork itself. This framed view recalls a longer aesthetic tradition in Japanese art, in which stages of rice cultivation have served as familiar temporal markers, from *ukiyo-e* landscapes to contemporary imagery. In Ohnuki-Tierney's words, "these cycles of rice growth became markers of the seasons for all Japanese. For urbanites, fishermen, and all other non-agrarian people, their lives were marked by rice and its growth" (2024: 6). From the museum, this aesthetic orientation carries outward towards the fields themselves. When leaving the museum for the rice fields, I was handed a map marked with viewpoints and seasonal photographs. The handout translates the museum's framed view into a set of curated vantage points, inviting visitors into the fields along designated paths to appreciate the transient beauty of the fields.

Within this aesthetic logic, Fuyuki-san explains that while maintenance work performed here is indeed practical agriculture work, it is also done with an additional purpose in mind, the aesthetic needs of the museum:

[f]irstly, we consider mowing weed heavily [for] two reasons: 1. Agriculture [...], weeds absorb nutrients from soil and prevent vegetables from growing. 2. Landscape, unlike in other rice terraces [the] preservation society stood up with [the] Teshima Art Museum, and now still acts based on the co-operation with the museum. So we need to keep the harmony [between the] rice ter[race] an[d the] museum, [in] conceptual and visual aspects. (Interview with Fuyuki-san)

These practices align with a broader discourse across BASN and related initiatives (namely the Echigo-Tsumari Art Triennale), in which rice cultivation is conceptually framed as "a creative act," in other words, as art (Müller and Miki 2011: 112; Kitagawa 2015: 59). In this context, the Karato rice fields are curated as a tourism experience that is at once agricultural and artistic, positioned to be encountered as part of the island's aesthetic and experiential landscape as both "food island" and "art island."

These fields are not only aesthetically framed and agriculturally worked; they are also economically instrumentalized within a revitalization project that depends on their dual identity. The restoration of the rice fields aligns with broader regional development goals that position agriculture and art as mutually reinforcing attractions. The maintenance work for these fields is partially supported through annual grants dedicated to regional development through art, which frame the fields as a tourism resource (in terms of products and experiences) (Teshima 'Food Project' Promotion Council 2015). In their renewed production of food, the Karato fields have

been folded back into the island's economic life: the rice and vegetables grown are also sold on the island. As Müller and Miki note, "the revival of farming has restored the area's distinctive scenery and the rice that is harvested locally on the island is eaten locally, creating a cycle of local production and consumption" (2011: 112). In this sense, the fields participate simultaneously in an art-led revitalization project and in the practical and ongoing work of sustaining the island.

These efforts to position the rice fields within a project of island revitalization also take on particular significance when viewed against Teshima's recent history as the site of a major industrial-waste scandal. For years, media coverage of the scandal resulted in the island becoming associated with garbage, "the island of industrial waste," a reputation that shaped how outsiders imagined the place and weighed heavily on residents (Kaneshiro et al. 2013: 200; Qu 2020a: 150). The emergence of Teshima as an 'art island' thus functioned not only as a cultural initiative but an opportunity for reimagining the island. As Yoshimoto notes, "[t]he fact that tourists recognized the true beauty of their island, whose reputation suffered from the industrial waste controversy, restored the confidence of local residents" (2011: 305).

The aestheticization of the restored rice fields also raises questions about how agricultural labour is framed within contemporary art projects. With rice cultivation being described as art, this framing sits alongside the everyday practices through which farmers engage with their fields. Similar gestures appear elsewhere. In the case of the Echigo-Tsumari Art Triennale's *The Rice Field*, the Triennale's director Fram Kitagawa underlines rice harvesting as cultural work, an art of soil and terrace making shaped by inherited techniques of past generations (Kitagawa 2015: 59). Meanwhile, on Naoshima, the *Naoshima Rice-Growing Project* reframes rice cultivation as a contemporary creative practice, one that draws on inherited knowledge while exploring ways of living in the present (BASN 2016). In each case, cultivation is reframed without losing its grounding in everyday work, a dynamic that echoes in how the terraces on Teshima are approached.

Saito Yuriko's (2007) distinction between art aesthetics and everyday aesthetics is helpful here to clarify the different registers at play in these framings of rice cultivation. This becomes clearer when considering that most BASN art projects can be reasonably described as environmental art works, that is art which includes its surrounding environment as part of the art and tends to embrace natural processes. More accurate still, they are intentionally site-specific artworks. Saito notes that in some environmental artworks the aesthetic and the practical are inseparable. She foregrounds the aesthetic richness of one's everyday life beyond the scope of fine

arts, drawing attention to what she describes as “everyday aesthetics,” the aesthetic dimension of the everyday life, which she frames as a complimentary contrast to the contemplation-oriented art experience (2007: 4-5). Whilst environmental art challenges conventional art, Saito maintains that it remains distinct from that of everyday aesthetics. Her example of Agnes Denes’s *Wheatfield* is instructive: although the work involves the cultivation of wheat, it differs from a farmer’s cultivation of a wheat field. As Saito writes,

[t]hough sharing the same farming or planting practice, the resultant landscape, and the care for, the environment, Denes’s [...] activities, situated at the forefront of the artworld, also carry the connotation of defiance, subversiveness, and unorthodoxy, features which are absent from the farmer’s [...] identical activities. (Saito 2007: 36)

She also emphasizes that this distinction does not mean that farmers lack a richly aesthetic life. Saito explains that farmers regularly encounter moments of aesthetic experience and judgment woven through the ordinary activities of daily life and community engagement (2007: 37). To further underline this point, she turns to Japanese ethnologist Yanagita Kunio’s observation that “‘though the farmers clearly experience the beauty of the soybean field, they do not have a need to describe this experience in detail because their whole community share this feeling in the first place’ often expressed in songs to accompany work and folklore” (Kunio 1942, cited in Saito 2007: 37). These reflections sketch a terrain where agricultural work and aesthetic experience remain closely entangled.

In this light, the restored rice fields on Teshima and Naoshima occupy an ambiguous position between everyday agricultural practice and the artistic frame that enabled their return and continues to enable their maintenance as it unfolds across both modes of engagement. Held in this space, the terraces remain shaped by the forces that brought them back into use and continue to gather around them.

Conclusion

Across Naoshima and Teshima, the restored rice fields return as places where relations with the landscape are renegotiated. Their restoration unfolds within the aesthetic and economic frames of art-led revitalization, yet the work of re-entering these terraces also engages the material and ecological traces of past cultivation, the memories of those who tended them, and the more-than-human growth that settled in their absence. These projects do not simply revive

agriculture or curate scenery; they draw contemporary revitalization efforts into contact with landscapes already dense with their own histories, requiring forms of maintenance that navigate between inherited infrastructures, altered terrains, and new expectations of visibility and value. In this sense, restoration and maintenance work are practices of remembrance and re-engagement, one that reworks socio-agricultural relations while also participating in the aesthetic and economic logics through which the islands are being reimagined. The terraces' present (after)life emerges in this ongoing negotiation, a dynamic that, in different ways, also shapes the reappropriation of *akiya*, where maintenance activities similarly become a means of re-inhabiting and reconfiguring relations with the built landscape on depopulating islands.

CHAPTER 4 - AN ILLUSORY REPOPULATION

Returning from the agricultural landscapes into the residential areas of Naoshima, Teshima, and Inujima, where, in the weeks of the Setouchi Triennale, their streets are decorated with tall blue flags marking the entrances to different artworks and many blue signs pointing towards different art areas around the islands (figure 22). Walking through these neighbourhoods, it is easy to follow these markers from one installation to the next, many of them housed in former *akiya*.



Figure 22 - Signs and banners set up for the Setouchi Triennale 2022. Photographs by author.

Across these islands, former dwellings have been transformed into various short-term and long-term art installations, including the BASN *Art House Projects* and the many works produced for the Setouchi Triennale. These interventions fold themselves into the everyday spaces of the

neighbourhoods, drawing on the material remains of old houses and the textures of the surrounding townscape. In these settings, *akiya* are not only signs of demographic change but are also means through which residents, newcomers, and art interventions attempt to reorient the appearance and experience of depopulating neighbourhoods.

Alongside residents and staff, volunteers from Koebi-tai, a nonprofit organization dedicated to the support of the Setouchi Triennale as well as other local events, work across the islands. Their presence and involvement are woven into the processes of art production, installation takedowns, and maintenance. Established in 2009, Koebi-tai gathers volunteers from across Japan and abroad to assist with a myriad of activities across various participating islands and port areas throughout the year, including between art festivals. Ever responding to where they're needed, Koebi-tai's primary activities include promotion work, working at restaurants and cafés, helping with local events, and assisting with the art installations (including site clearance, installation, visitor reception, maintenance and disassembly). Their movements through the islands form part of the social texture within which *akiya* reuse unfolds, contributing to a floating population that is visible in the streets, ports, and community spaces throughout the year.

In this chapter, I explore the shifting afterlives of repurposed *akiya* and consider how these structures are transformed and maintained as art installations. I maintain, here, that the reuse and maintenance of *akiya* contribute to an illusory semblance of repopulation. These practices introduce forms of practical and aesthetic labour that mitigate the visible and more-than-human signs of depopulation, fashioning an attractive “art island” landscape that is both curated and lived-in. At the same time, the rhythms of maintenance work generate a social presence (staff, artists, volunteers, and visitors) whose circulation and activity contributes towards a sense of liveliness without demographic reversal. Here, repurposed *akiya* stand as markers of both creative reuse and demographic fragility.

The Visibility of Vacancy and the Appearance of *Akiya*

Across Japan, the growing presence of *akiya*, has become a persisting societal concern. Japan's “*akiya* (empty house) problem” refers to the rising number of dwellings not in regular use, a figure that exceeded eight million nationwide in 2018 and is expected to continue increasing (MIC 2019, cited in Lollini 2024: 76). The appearance of *akiya* has become one of the most widely cited expressions of rural shrinkage (Matanle et al. 2011; Lollini 2024; Platz 2024). While this

proliferation is shaped by “features of Japan’s real estate market, construction industry, and patterns of urban development,” rural depopulation plays a decisive role in the emergence and persistence of *akiya* (Lollini 2024: 76). As Lollini emphasizes, demographic decline means that “millions of second houses and houses for sale/rent are likely to remain empty and deteriorate in the forthcoming years” (2024: 76). In many cases, this leads to properties slipping into abandonment, a process shaped not only from demographic trends but also from economic, cultural, administrative, and personal contexts.⁵⁸

What becomes visible in the landscape, however, is not vacancy alone, but the material traces of gradual withdrawal of human presence and everyday maintenance activities:

[i]nsofar as residential areas still appear well looked after, visitors passing through may erroneously assume that the society of the area or the village is not experiencing severe depopulation. However, as the number of residents in these villages decreases and as extended families are separated by work and marriage, houses increasingly remain uninhabited year round without anybody to maintain them. (Matanle et al. 2011: 156)

The visual manifestation of demographic change is seasonal and incremental, as non-human living arrangements stir and re-anchor themselves in and around where “activity gaps” have manifested (Knight 2020). Weeds such as pampas grass (*susuki*, ススキ), goldenrod (*awadachisō*, アワダチソウ), and kudzu (*kuzu*, 葛) thrive, for instance, in the absence of cutting, and open spaces narrow as vegetation encroaches (Matanle et al. 2011: 159). Insects and small animals also move in. In this sense, the *appearance* of *akiya* registers demographic change twice: first in their growing numbers, and second in the gradual material and ecological transformations that follow their abandonment. Although often treated as a straightforward indicator of depopulation, the term itself is broad.

⁵⁸ Scholarship on *akiya* points to a tangle of factors behind long-term vacancy. Among the more commonly cited reasons is that demolition is costly; under the current real-estate tax system it is often cheaper to leave a deteriorating structure standing than to clear the lot. In turn, owners tend to wait to demolish until a buyer is found, though selling is not always viable, especially in inconvenient locations or in urbanization control areas (Platz 2024; Lollini 2024). Recent revisions to the Vacant House Act seek to further address this by applying earlier pressure on homeowners to address vacant properties (Hirabayashi 2023). Cultural and social expectations also matter; inherited houses, particularly those containing family altars or objects tied to ancestral memory, carry obligations. Platz adds that for some, “a house can be left vacant for meaningful purposes as well: leaving the house to decay “naturally” is also thought to be an appropriate alternative way for demonstrating reverence to the ancestors when other solutions are not considered acceptable” (2024: 45). Administrative and legal complications add another layer; across Japan, many properties remain registered to deceased owners, with titles never updated. This results in unknown ownership and fragmented ownership among numerous heirs (Lollini 2024: 83). In such cases, decisions about sale, demolition, or renovation become nearly impossible.

Akiya as Category and Presence Amid Imaginaries of Decline

The term *akiya* requires closer attention, not only because it is used so widely in public discourse, but because its breadth obscures nuances that matter in practice. Although *akiya* literally translates to “vacant house,” it is a comprehensive term; it refers to any unoccupied building, regardless of architecture style, age, condition, and is not necessarily limited to houses nor limited to the building itself.⁵⁹ In other words, *akiya* as a category captures vacancy but not the temporal, material or environmental processes through which a house slips from disuse into deterioration. As Platz remarks, “[t]he line between vacant and abandoned is also a nuanced issue for municipalities” (2024: 45). In other words, the term does not register the gradualness of decline.

Local understandings, however, more readily acknowledge these nuances. *Akiya* are typically perceived rather negatively in relation to the varied implications and concerns regarding their disuse. Vacant houses are frequently described as burdensome (economically, aesthetically, and socially) for both owners and the surrounding community. Danely remarks that empty houses can also carry an unsettling emotional weight, becoming “potent reminders of the limits of dwelling [...] messy, disruptive, and dangerous; they are difficult to mourn” (2019: 228). Concerns about safety are also common, as Lollini writes, “[e]mpty houses quickly become a haven for pests and can turn into illegal dumping areas. They also pose a health hazard due to risks of fire or collapse” (2024: 79). In turn, they are also said to depress surrounding property values (Danely 2019; Lollini 2024; Platz 2024). In depopulating areas, these anxieties are often heightened, as vacant houses accumulate and the capacity to manage them diminishes.

On Naoshima, Teshima, and Inujima, these broader concerns intersect with the lived realities of small, aging communities and the presence of art tourism, which aestheticizes the islands’ aging built landscape. *Akiya* are reminders of demographic decline and the difficulty of attracting newcomers. In this sense, *akiya* are not only material traces of past lives but also obstacles to repopulation efforts and sources of ongoing concern for those who remain. Yet, here,

⁵⁹ In the Act on Special Measures for Promoting Countermeasures against Vacant Houses etc. (*Akiya-tō taisaku no suishin ni kansuru tokubetsu sochi-hō*, 空家等対策の推進に関する特別措置法), the Japanese government considers an *akiya* to be: “a building or any structure attached thereto which is not normally occupied or otherwise in use, together with the land on which it stands (including trees and other objects fixed to the land [...]). However, this excludes those owned or managed by the State or a local authority (my translation)” (Japan 2014: art. 2, para. 1). Original: “この法律において「空家等」とは、建築物又はこれに附属する工作物であつて居住その他の使用がなされていないことが常態であるもの及びその敷地（立木その他の土地に定着する物を含む。[...]）をいう。ただし、国又は地方公共団体が所有し、又は管理するものを除く。”

perceptions of *akiya* are not uniformly negative. Despite the challenges they pose, some residents and newcomers express attachment or appreciation for older homes, valuing them as traces of local memory and history. During fieldwork, several people I spoke with (particularly newcomers and visitors) described feelings of “preciousness” towards (repurposed) *akiya*. Among them were Jason and Natsuko-san who have been living and working on Naoshima for a few years, having established their own small creative practice in a repurposed *akiya* on the island. Both spoke with affection about older houses. As Jason remarked,

I brought a lot of preciousness about old things with me to Japan, and it is still amazing to me how little of that people here have. Not to generalize, as there are certainly people here who love old things and want to preserve them, but we are easily outnumbered by people who see old buildings as inconvenient or hazardous or financially problematic or whatever. (Interview with Jason)

Natsuko-san similarly expressed sadness at the demolition of older structures: “I love old houses but some people who buy *akiya* tend to demolish them and build new ones. So sadly the landscape has changed and is going to change” (interview with Natsuko-san). These sentiments do not negate the difficulties associated with *akiya*, but they reveal a parallel imaginary in which older houses hold aesthetic, cultural, or affective value.

Meanwhile, as observed during fieldwork, different terms are used to describe the shifting conditions of buildings. A repurposed building, including those transformed into an art installation, is no longer considered an *akiya*. On this, Natsuko-san explained: “[f]rom my experience, I wouldn’t call [it an] *akiya* if it’s turned into any *ātosakuhin* [(アート作品)] or [art] venues because it became something that [is] more activated” (interview with Natsuko-san).⁶⁰ Conversely, at some point in their degradation and disuse, it becomes more appropriate to refer to a building as a *haikyo*. As Natsuko-san put it: “I describe *akiya* as abandoned houses that still repairable and *haikyo* as ruins or derelict buildings that looks like haunted. Basically, *haikyo* is categorized into *akiya* but it’s more destroyed and uninhabitable” (interview with Natsuko-san). In this sense, *akiya* implies a lingering potential, a hope for reuse, whereas *haikyo* signals the perceived loss of that possibility. These distinctions reflect a temporal sensibility, that is how people read the temporal drift of buildings and their conditions. Attention to these linguistic distinctions is not merely descriptive.

⁶⁰ This distinction is reflected in official BASN descriptions as well. Repurposed *akiya* are rarely presented as former *akiya*; instead, they are more often framed through architectural style and/or former function. The emphasis falls on the building’s architectural qualities and past uses rather than its period of disuse.

Mathews suggests that observing the use of terms not only informs us about past histories, but also how it “produces different visions of livable futures” (2017: G153). In the post-industrial depopulating landscapes of the Seto Inland Sea, the ways people differentiate between *akiya*, *haikyo*, and *ātosakuhin*, offers insight into how decline and vacant buildings are interpreted, and the kinds of futures considered possible.

In this way, the notion of *akiya* obscures as much as it reveals. Here, *akiya* are at once burdens and resources; they are reminders of demographic decline and objects of aesthetic appreciation, markers of loss and sites of potential. This ambiguity is central to understanding how repurposing efforts take shape and how maintenance practices around art sites begin to reshape the appearance (and perception) of vacancy on the islands. This is the setting into which the art projects (and other forms of *akiya* reuse) intervene.

Repurposing *Akiya* through Art Interventions

In Japan, it is common practice to remove one’s shoes in the *genkan* (玄関, vestibule) before entering a house. The *genkan* is described within scholarship on Japanese spatiality as a liminal space, a transition, mediator, intermediate space separating *uchi* (内, inside) from *soto* (外, outside).⁶¹ Berque and Sauzet further clarify that though the *genkan* may be already inside the building, it is not yet inside the house proper (2004: 90). When these authors emphasize that the *genkan* serves to effectively define the interior “*car il oblige à des détours, par les discontinuités qu’il introduit*” (2004: 90-91), this not only applies to people, but also points to the material stakes of that detour. In this sense, the removal of outdoor footwear in this space is part of the everyday gestures that draws a deliberate distinction between the inside and the outside; “[*q*]uand on vient du dehors, on ôte ses socques (*geta*) ou ses souliers dans le vestibule (*genkan*), ce qui distingue très nettement l’intérieur de l’extérieur” (Watsuji [1935] 2023: 259). This gesture also makes visible the practical and symbolic importance attached to keeping the interior clean (Ohnuki-Tierney 1984; Bourdier 2014). That said, when I began visiting former *akiya* turned art installations, I did not think twice about removing my shoes at the entrance and moving through

⁶¹ Beyond the scale of the homestead, Berque and his colleagues have written much about these fundamental notions of Japanese spatiality as they are lived and how they “*structure[nt] non seulement l’espace habité mais également les relations sociales, la langue, la pensée, de manière première et non seulement métaphorique*” (Bonnin and Nishida 2014: 517).

the area in socks. What surprised me was the first time I was invited to enter one of these art houses with my shoes on.

Consider again walking into an art house and you step into the *genkan*. Shoes on or shoes off; what makes the difference? I finally asked about it while volunteering with Koebi-tai. On back-to-back days in late October, I worked reception for two temporary installations: the *Kimiko Nishimoto Photo Exhibition* hosted in an old Japanese-style residential house in Karato-oka, Teshima and, *The Red House Wants Communication* set up in an over 80-year-old house in Uno (figure 23). In the former, visitors were required to take off their outdoor footwear before stepping inside, whereas in the case of the house in Uno, they were not. One of the Koebi-tai volunteers explained to me that it depends on the condition of the building: for some you keep your shoes on, whilst for others you must take them off. For me, this reframed the gesture entirely. In a former *akiya*, the expectation to remove one's shoes signalled that a stricter standard of cleanliness evidently still applied, and its physical condition was still worth maintaining, that an effort to hold open its future potential was quietly underway.

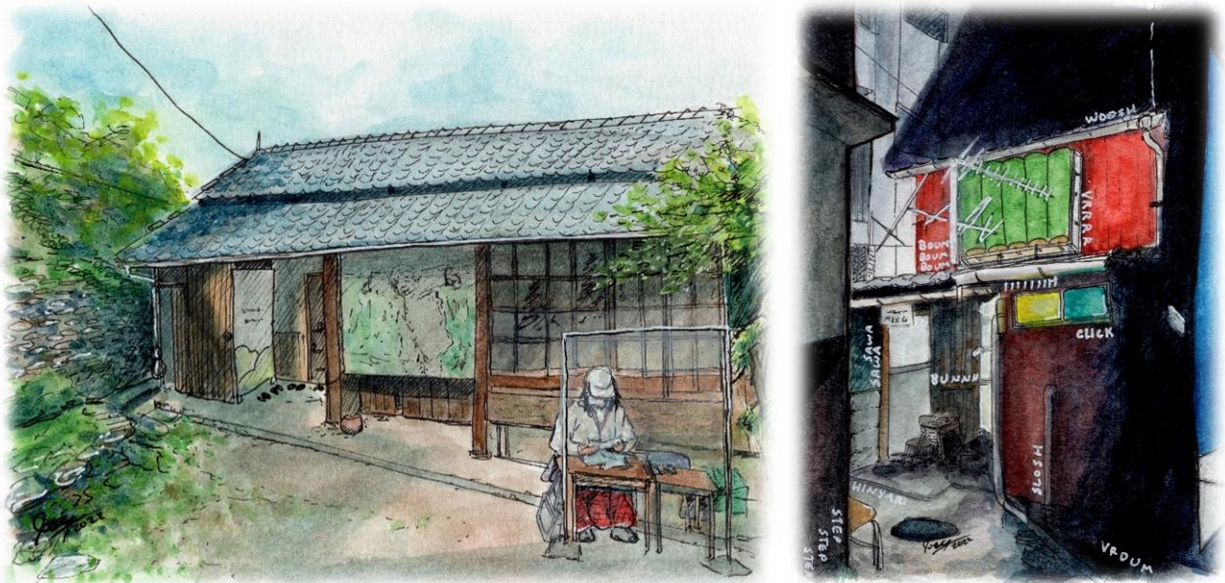


Figure 23 - Entrances to art installations in old houses. Watercolour drawings by author.

Across Naoshima, Teshima, and Inujima, their residential neighbourhoods are increasingly populated with various art sites inhabiting former *akiya*. Among them, the BASN's *Art House Projects* (the *Art House Project* on Naoshima, since 1998, and the *Inujima "Art House Project,"* since 2010) saw to the transformation of *akiya* into permanent, site-specific installations embedded within residential areas. To varying degrees of success, they were conceived as revitalization

projects that integrated with and emerge from the space's history and surrounding everyday life, “underscoring Japanese tradition and aesthetic” (Müller and Miki 2011: 60). As Blau writes, “[t]he Art Houses engage the social as well as the natural ecology of the island districts in which they are located. High art and the quotidian spaces of daily life enter into a new relationship of reciprocity” (Blau 2011: 179). The Setouchi Triennale extends this approach across many of these islands, repurposing *akiya* and outdoor spaces for a collection of short-term and long-term works. This artistic reuse of *akiya* folds intervention directly into the everyday social lives and spaces of these neighbourhoods, embracing the patchwork townscape as part of the aesthetic and architectural experiential encounter of these “art islands.” As Saito notes about environmental art and outdoor art, “[t]he environment surrounding and accentuated by each constructed object is equally part of these artworks” (2007: 29). In this setting, *akiya* are not only signs of demographic change but also a resource to revitalize depopulating neighbourhoods visually, socially, and economically. In turn, the townscapes have become an entanglement of remains and reappropriation, where renovation and regular upkeep respond to the material shifts of depopulation, and (re)introduce forms of maintenance, activity, and care into emptying streets.

The possibilities for reuse, however, are shaped by various constraints that make these interventions selective and uneven. A recurring theme in conversations during fieldwork was the paradox of availability: although empty houses are numerous, very few are easily accessible for reuse. Many *akiya* are never placed on the market,⁶² and access to them often depends on social networks. Hiromi-san, a volunteer with Koebi-tai for many years, explains that volunteers like herself have come to assist with the search for venues: “I looked for a place in the Uno area where we can exhibit new artwork, and negotiated with the owner. (Searching for a location and negotiating is the job of the executive committee, but there are some areas that the executive committee cannot find on their own, so we will help)” (interview with Hiromi-san). Access and repurposing of *akiya*, in this sense, is shaped as much by the relations surrounding a building as by the building's condition. Ownership complications including multiple heirs, off-island relatives, or properties still registered to deceased owners further limit what can be repurposed. Regulatory constraints make some *akiya* all the more difficult to repurpose. Inujima, for example, falls within an urbanization control area (*shigaika chōsei kuiki*, 市街化調整区域), where both new

⁶² Based on the results of a housing and land survey performed by the Japanese government, of the over 8 million *akiya* recorded, over 41% are neither on the market nor considered used as a second dwelling (MIC 2019: 3).

construction and reconstruction are fairly restricted (Hosoda 2019; Tu 2022). Material conditions and cost also shape what is possible when repurposing an *akiya*. Reuse, in this sense, is not simply a matter of availability but of relational, administrative, and material possibilities.

When reuse does occur, it carries meanings that extend beyond renovation. Across my interviews, among those involved in or attentive to repurposing, renovated *akiya* tend to be read as meaningful engagement with the deteriorating built environment and preserving local history in new yet familiar forms. Fukutake Foundation staff member, Haruno-san, described this most directly, noting that

[b]uildings deteriorate further if they are not used, so using them is also beneficial in terms of preserving them. It is also desirable in terms of consideration for local residents and preservation of history that the history and memories of the past can be passed on by renovating existing buildings while retaining them. [...] I think this is one way in which the traditional Japanese house will continue to exist for decades and centuries to come (my translation).⁶³ (Interview with Haruno-san)

Chieko-san, also from the Fukutake Foundation and whose work has taken her across all three islands, extends this sentiment towards the future, seeing reuse as a way of keeping older houses involved in island life: “[m]ost of [our] facilities including our office owned by us in Inujima are transformed or renovated from a ruin or abandoned houses. I believe prior activities by corporations eventually change the situations and open possibility to keep or even raise the population” (interview with Chieko-san). Here, staff describe reuse as a way of attending to and mitigating further decay, but also as a gesture towards continuity: a means of keeping histories and memories materially present while also imagining a future for the islands.

In the Japanese context, where new construction is often preferred, choosing to restore an old house stands out (Platz 2024). On the islands, where the townscape has become an object of attention within art tourism, these renovations draw attention from visitors and locals alike. In this sense, Natsuko-san expressed a similar appreciation for the efforts to keep old houses in use:

I have seen many abandoned houses that have decayed to the point of being uninhabitable. I feel the charm of old houses, so I think it is a shame that demolishing empty houses and

⁶³ Original: “建物は使用していないと老朽化が更に進行するので、使用することは建物を保存する上でもメリットがあると思う。また、既存の建物を残しながらリノベーションすることで過去の歴史や記憶も引き継がれることは地域住民への配慮や歴史の保存という面でも望ましいと思う。[...]さらに何十年・何百年民家がそんざいし続けるひとつの手法になっていると思った。”

building new ones will change the landscape of the town. I think it's a good thing if they can be put back to use in any way that makes them worthwhile again (my translation).⁶⁴ (Interview with Natsuko-san)

These reflections point to a shared sense, that reuse and renovation of *akiya* help maintain a sense of familiarity within the townscape. They keep older buildings actively present and involved in island life, even as their uses shift and accumulate new layers of meaning. However, while these encounters point to the kinds of value that renovation can hold for some residents, they do not capture the full range of responses to art-related reuse on the islands. As Qu's research on Teshima and Inujima shows, local responses to art-related reuse are varied. His findings revealed that for many residents some installations felt less connected to local histories or everyday concerns; local appreciation tended to be strongest where reuse resonated with existing attachments to landscape or memory (Qu 2019). Such findings do not contradict the sentiments expressed by those engaged in repurposing, but they do underscore that the cultural and social value of *akiya* reuse is not uniformly felt across island communities.

Altogether, what emerges here is a residential landscape in which former *akiya* become points of intervention in the visual and social experience of depopulation. They remain so not only through acts of reuse but through the ongoing work that keeps them materially and socially involved in neighbourhood life.

Maintenance of Art Sites within Residential Areas

If the transformation of an *akiya* into an art site is only the first gesture, the work that follows is the continued (re)negotiation of relations with the site. On islands shaped by long trajectories of depopulation, the art projects introduce a different rhythm of attention. As these artistically transformed *akiya* and other outdoor spaces take on new roles within community life and the itineraries of visitors, they become sites of regular maintenance activities, sites where more-than-human living arrangements are regularly (re)negotiated in relation to artistic visions and the practical demands of residential areas.

⁶⁴ Original: “空き家対策活動をしていきて、住めなくなるまで朽ちていった空き家をたくさん見てきました。昔の民家に魅力を感じているので、空き家を壊して新しい建物を建てることで町の風景を変えてしまうことにもなるのはとても残念だと思っています。どういう形であれ、活用されることで再び利用価値を得られるなら私は良いことだと思います。”

As environmental artworks, their surroundings form part of the visual and experiential field of the work itself. The maintenance of the art sites across these islands thus not only includes the installation or structure itself but its environmental surroundings as well. Maintenance becomes a way of staying in step with the liveliness of the site, responding to the particular conditions that gather around and traverse each location, and unfolds across a wider terrain, attending to the shifting ecologies that further shape each site and to the aesthetic coherence through which the islands are encountered as “art islands.” In this sense, practical labour and aesthetic labour fold into one another: tending to weeds or repairing a facade is both ecological negotiation and the curation of a desired visual form. These gestures mitigate the emerging signs of depopulation while fashioning an environment that remains legible, navigable, and visually compelling.

Environmental Entanglement and Aesthetic Coherence

Located outdoors, these art installations are open to the shifting conditions and liveliness that move across the islands. This exposure has been described to me by museum staff as both an aesthetic condition, where, for instance, movements of weather, light, and seasons are folded into the encounter, and as a recurring challenge in maintaining these installations. Having worked on Inujima across multiple seasons, Emiko-san noted how this openness “allows you to see the changes in artworks over the course of a day up close. This is especially interesting for outdoor artworks, such as house projects, as they change with the seasons and the passage of time, and you can notice new aspects of the artworks’ appeal” (interview with Emiko-san).⁶⁵ Yet this same openness draws these art installations into relations with the forces and presences that act on them. Among the museum staff I spoke with, many who work to maintain these art installations described this exposure as something they worked with regularly. As Isamu-san put it, “[s]ome of the works are not mechanically air-conditioned and are installed outdoors, so there are difficulties in managing the works against the effects of sunlight, temperature and humidity (my translation)”⁶⁶ (interview with Isamu-san). Emiko-san echoed this:

⁶⁵Original: “美術館で働いていると、1日における作品の変化を間近で見ることができます。特に家プロジェクトなどの屋外作品は、季節や時間の移り変わりによって表情が変わるので、新たに作品の魅力に気づくこともあります。”

⁶⁶Original: “機械的な空調がされておらず、屋外のような場所に設置された作品もあるので、日光や温湿度などの影響に対する作品管理の難しさがあります。”

outdoor works are very difficult to maintain. They are exposed to wind and rain, which can damage them easily, and they can also be infested by insects. We are constantly striving to ensure that all our works, including outdoor works, remain in the beautiful condition in which they were when they were first exhibited (my translation).⁶⁷ (Interview with Emiko-san)

As part of BASN's philosophy, "[a]rt is not the main focus. The island and the people who live there are the main focus, and art is something that brings out the charm of the island" (BASN n.d.-c). Considering this, preserving the material structures of the installations is therefore also a way of sustaining the visual relations they create with their surroundings, relations shaped by the ecological, architectural and lived textures of the villages they reside in. Additional insight into this sensibility might be found in the maintenance work of Japanese gardens and its employment of "the Japanese aesthetic tradition [...] noted for its respect and appreciation for the quintessential characters of objects" (Saito 2007: 111). Scholars of Japanese aesthetics note that the nature traditionally valued in Japanese garden design is a highly cultivated one, an idealized form where natural forms and characteristics are appreciated and enhanced through intentional yet invisible labour. "In Japanese gardens, the human touch is supposed to be absent. Gardeners do all kinds of work and maintenance, of course, but the result does not have this artificial look" (Takashina 2018: 50). Saito describes how natural materials are guided so that their inherent characteristics can appear more articulated to the effect "of creating a *scenic effect* of a landscape" (2007: 112). The point is not to arrest natural processes but to work with them so that certain qualities can remain legible. Something of this selective attention resonates in the maintenance of the outdoor artworks, where caring for their material structures is also a way of sustaining the aesthetic coherence through which the surrounding environment—natural, architectural, and lived—is meant to be brought into view. Maintenance, in this sense, becomes a way of staying in step with these processes, tending to the liveliness of the sites while sustaining the aesthetic forms that anchor the installations within the larger artwork.

The tasks themselves vary considerably, ranging from responding to emerging developments to carrying out forms of preventive care. They include cleaning and clearing in preparation for new artwork, condition checks, surface cleaning (removing dust, fingerprints, etc.),

⁶⁷Original: "一方で、屋外作品はメンテナンスがとても大変です。風雨の中に晒されているので傷みやすく、また虫の侵入等もあります。私たちは、屋外作品を含め、全ての作品が公開当時の美しい状態を保てるよう、常に努力を続けています。"

clearing accumulated debris, (re)application of paint or stain, artwork repair work, weeding, and landscaping among others. These activities unfold in relation to the seasons and to the rhythms of plant growth, weather, and material wear. Some tasks are performed daily, others are performed monthly or seasonally, and some are performed only once every few years. Hiromi-san describes that Koebi-tai has become increasingly involved with art site maintenance over the years:

[m]aintenance of works varies from seasonal to once every three years. At first, most of us [coordinated with the Art Front Gallery Co., Ltd. which has been commissioned by the executive committee to coordinate the production of the works], but we are gradually shifting [to coordinating directly with the Setouchi Triennale Executive Committee] for things we can do responsibly. We are on site daily, so we know the condition of the artwork in detail. We also gained more experience in maintenance work. (Interview with Hiromi-san)

Here, practical labour and aesthetic labour fold into one another: clearing weeds is both ecological negotiation and the curation towards a desired visual form.

This spatial openness takes on another dimension in residential areas, where the boundaries between art site and lived space are blurry. Because these sites dwell within inhabited community areas, the work of maintaining them inevitably folds into the practical and aesthetic work of maintaining the villages themselves; in tending to the art sites, the community area is tended to as well. Cutting back overgrowth, clearing paths, repairing small structures, and keeping the surroundings in good condition all contribute to the everyday appearance of villages otherwise gradually shaped by depopulation. Footpaths, for example, that would gradually be overtaken by growth remain safe and navigable for residents and visitors alike. Through these recurring, site-specific tasks, maintenance becomes a way of keeping certain forms of movement and presence, and appearance possible within landscapes where other forms of activity have receded. Hiromi-san captured this sensibility directly:

[a]s for me, the most important thing is to maintain the environment by removing weeds around the work. Old houses can quickly deteriorate if left unattended. Grass will continue to invade. Just by keeping the area around your work in beautiful condition, your attachment to it will increase. If you take care of it with love, you can preserve it until the next art festival. (Interview with Hiromi-san)

The maintenance of the art sites thus becomes part of the maintenance of community areas, mitigating some of the visible symptoms of decline while also sustaining the islands' identity as

an art destination, where the townscapes are understood as part of the experience. Across these movements, maintenance appears as a recurring, situated (re)negotiation within landscapes marked both by demographic contraction and by the artistic interventions that seek to reorient their futures. People performing maintenance respond to the liveliness of the sites, to weather, growth, decay, and the shifting rhythms of human presence, while also sustaining the aesthetic visions attached to the installations. The work is practical and aesthetic at once, informed by the material conditions of the islands and by the aesthetic present and hope-oriented future imaginaries the art sites convey.

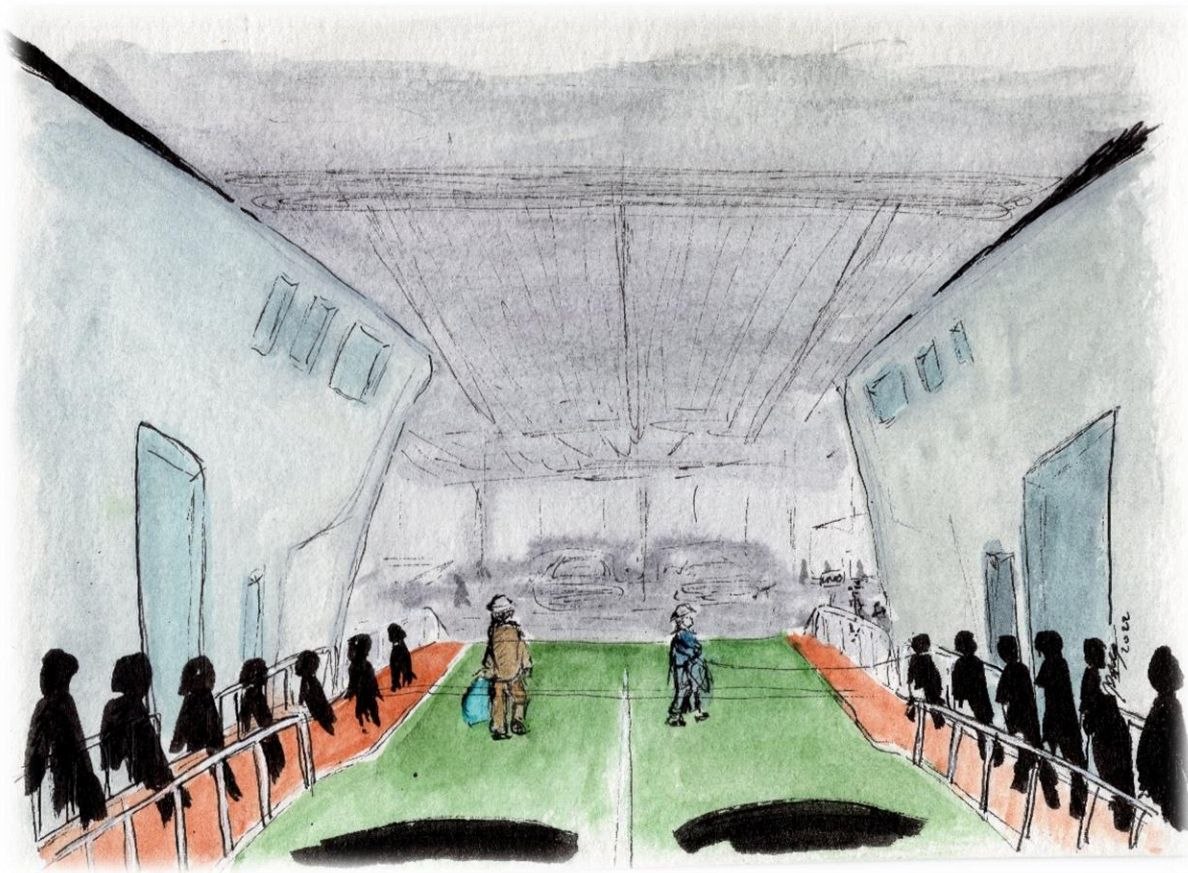
(A Semblance of) Repopulating Depopulation on Islands in the Seto Inland Sea

Despite the visible transformations introduced by the art projects, demographic decline continues across the islands. Recent scholarship focused on the demographic outcomes and the social effects of these contemporary art interventions underscores this point: while the initiatives within the Setouchi region have become highly successful art tourism destinations, drawing hundreds of thousands of visitors and generating new forms of economic activity, their demographic effects remain limited and uneven (Funck and Chang 2018; Qu 2019; Funck 2020; Aoo 2021; Prince et al. 2021; Tu 2022; Funck and Qu 2024). Some islands, such as Naoshima and Teshima, have seen modest in-migration, particularly among younger people seeking creative or entrepreneurial opportunities afforded by the islands becoming art-tourism destinations with permanent installations (Funck and Chang 2018; Qu 2019; Funck 2020; Aoo 2021; Prince et al. 2021; Tu 2022; Funck and Qu 2024). Tourism is also credited with motivating certain structural improvements, particularly those that support visitor mobility and comfort, such as improved ferry services (also of great benefit to commuting staff and residents) and the emergence of new small businesses (Qu 2020a; Aoo 2021).

At the same time, these authors underscore numerous structural obstacles that continue to constrain permanent settlement: limited housing availability, uneven access to services and facilities, limited work opportunities, the uneven distribution of the art sites and permanent art museums, and the challenge of working around tourism seasons that peak every three years at the time of the Setouchi Triennale (Funck and Chang 2018; Funck 2020; Prince et al. 2021; Tu 2022). These constraints further shape the unevenness of demographic outcomes across the islands hosting art sites. Finally, Tu cautions against overemphasizing the contribution of art to regional

revitalization, noting that the islands' demographic futures remain uncertain and that the benefits of tourism are unevenly distributed (2022: 36).

What emerges instead is the attraction of an interactive “floating population” (Favell 2016: 112). Tourists form a large part of this circulation. Teshima, for instance, typically welcomes tens of thousands of visitors annually, surpassing one hundred thousand during Triennale seasons (Qu 2020a), while Naoshima receives even larger flows, having surpassed one hundred thousand visitors as early as 2004 with the opening of the Chichu Art Museum (Yoshimoto 2011: 302; Funck 2020: 188). These numbers describe only part of the picture.⁶⁸



*Figure 24 – Tourists and more disembarking the ferry at Miyaura Port, with lines of cars and people waiting to get on.
Watercolour drawing by author.*

Alongside tourists riding the ferries and passenger boats to the islands are those whose presence is more sustained, such as commissioned artists, Fukutake Foundation staff, and Koebi-tai volunteers (including volunteer-tourists) who travel to these islands regularly and may

⁶⁸ These figures, however, reflect conditions primarily on islands with year-round art installations and facilities, rather than the region as a whole.

share a comparatively more intimate relation with the islands. Their (recurring) presence further animates the islands, contributing towards a sense of activity and social liveliness that is not tied to permanent residence. The contrast became especially apparent during the pandemic, with the disappearance of international visitors first, followed by the vanishing of tourist crowds altogether, and even some locals choosing to spend the pandemic elsewhere, leaving the islands unusually quiet (McCormick 2020). For some, this even recalled an atmosphere preceding the art interventions.

Maintenance Work as Social Presence

While management of the art installations is shared between various groups,⁶⁹ much of the labour involved in maintaining the art sites is carried out through a distributed effort. This includes contributions from Fukutake Foundation staff, commissioned artists, Koebi-tai members, local associations, residents, and tourists, drawing together people from the islands and beyond.

Given the nature of the art installations, the work itself is visible in ways that matter. As discussed previously, the work serves practical and aesthetic functions in neighbourhoods shaped by depopulation and art tourism. However, in its visibility, and in often taking place within community areas, maintenance work also animates these spaces. Art sites are places of gathering not only in the sense of previously mentioned tourist-resident relations, but also in the sense where their maintenance creates opportunities for meaningful encounters, be it brief conversations in passing, shared tasks, or even larger events like that of the harvest festival in the restored rice paddies (chapter 3). As Chieko-san put it, “[t]he fact residents can explain more or less about the works for visitors makes the whole village a museum. Some of the residents work with us to keep those gardens of the galleries maintained” (interview with Chieko-san). Meanwhile, Hiromi-san emphasizes the importance of conversing with residents as part of the artwork maintenance experience: “[w]e may have a chance to talk to the locals when we work outside. It is the most important thing to communicate with local residents” (interview with Hiromi-san). Maintenance becomes a form of neighbourliness, a way of being present and participant in the community even without residing there. I also encountered this through my own involvement with Koebi-tai.

In the week following the end of the Setouchi Triennale 2022, I volunteered again with Koebi-tai to assist with the takedown of the temporary installation *Based on True Story* hosted in an old hospital. Our group spent the first day doing yard work for the inner courtyard (*tsuboniwa*,

坪庭). Equipped with garden gloves, a handful of yard-waste bags, a ladder and some sheers, together we pulled out weeds, trimmed back overgrowth, collected dead brush, and altogether tidied up the garden (figure 25).



Figure 25 - Tidying of the old hospital's inner courtyard. Photographs by author.

While filling up the yard-waste bags, I asked one of the other volunteers about the work we were doing. They explained to me that this work was a gesture of gratitude to the building owner for lending the space for the art installation. On the second day, we proceeded with dismantling the art installation inside. The day was spent removing displays, packing up borrowed equipment, and resetting the rooms that had been emptied for the art installation (figure 26). On our way out, I helped wipe down the floors one last time, before slipping back into my outdoor shoes in the *genkan*.

In this way, maintenance contributes to a sense of social liveliness in these neighbourhoods. It produces recurring and distributed forms of presence that matter for those who remain. Scholars writing of the BASN and Art Setouchi projects have emphasized the sociality generated by artworks, their creation processes, and other



Figure 26 - Clearing out dismantled art installation from old hospital. Watercolour drawing by author.

events that gather residents and visitors (Qu 2020a; Aoo 2021; Jack 2023). After all, these art projects were designed to generate opportunities for interaction between residents and outsiders (Müller and Miki 2011). Drawing from Klien (2010), Qu explains that “[a]rt plays its role as a medium to attract an interactive population, [...] reducing the feelings of desolation of depopulation [...], especially for the island elderly” (Qu 2020a: 262). The art sites gather people both as the works take shape—when artists are encouraged to work with local communities—and again in the aftermath of their completion as an (art) tourist destination, where residents may guide visitors and share stories. Around these sites, cafés, guesthouses, bike rentals, and other small businesses have appeared, creating further points of encounter between locals and outsiders. Yet, the everyday practices that sustain these art sites remain largely unexplored. Maintenance work, visible and routine, brings staff, volunteers, and residents into contact with one another, creating moments of exchange that sit alongside the more formal sociality of the art projects. These encounters do not reverse demographic decline, but they alter how it is lived. They introduce rhythms of activity that soften the stillness of depopulation, and, in this sense, maintenance contributes to a partial semblance of repopulation.

Conclusion

Across this chapter, repurposed *akiya* emerge as sites that register demographic contraction while also anchoring new forms of attention and presence. Their reuse disturbs emerging signs of vacancy, preserves elements of the familiar townscape, and opens space for new uses and future possibilities. Yet, it is the ongoing work of maintenance that most clearly shapes the sense of renewed activity. Practical and aesthetic labour sustain the visual coherence of the “art island” landscape and keep certain forms of movement and presence possible in neighbourhoods marked by population decline. Maintenance also generates a social presence that exceeds the islands’ resident population. Staff, artists, volunteers, and visitors circulate through and engage with these spaces, contributing towards a social liveliness. In this way, reuse and maintenance contribute to an illusory form of repopulation, an atmosphere of activity and care that partially offsets the sense of ongoing demographic decline. At the same time, repurposed *akiya* become markers of possibility. Their continued use, upkeep, and visibility signal that older houses can remain involved in island life, carrying traces of the past while holding open the prospect of future

habitation. In this sense, they stand at the intersection of fragility and hope; they are reminders of demographic uncertainty, yet they are also anchors for imagining possible futures.

CONCLUSION

What comes into view is not a resolved account of post-industrial ruin landscapes but their ongoing, shifting, and patchy conditions—encountered through wandering, conversations, drawing, and participating in maintenance activities. The islands of Naoshima, Teshima, and Inujima remain shaped by an entanglement of abandonment and reappropriation, an interplay of shrinkage, art-tourism visions, and more-than-human rhythms, where maintenance work traces the tensions and fragile arrangements through which these places, and relations with them, are continually reworked.

Turning back to the questions that guided this project, this thesis has explored how the afterlives of industrial and demographic ruination shift as ruin sites are reimagined into artworks, how recurring maintenance of reappropriated ruin sites becomes a means of renegotiating more-than-human relations with the landscapes, and what is maintained in the process. While scholarship on the region and the art projects has largely focused on tourism, the artworks themselves, and demographic and economic outcomes, far less attention has been given to the ongoing labour—material, social, ecological, symbolic, and aesthetic—that not only keeps these sites in relation but folds them into new arrangements of living. By following maintenance work across sites of industrial ruins, restored rice fields, and renovated *akiya*, I have traced how both the work itself and what is maintained vary from site to site, yet in each case the work holds open an active engagement with landscapes whose afterlives were previously marked by human withdrawal and the lingering traces of earlier ways of living. Maintenance, in this sense, becomes part of the ruin ecology itself: a recurring (re)negotiation that keeps these places legible, accessible, and inhabitable, even as they remain unsettled by the forces that produced their ruination. Through this work, imagined futures for these islands are kept open as fragile possibilities held in place through ongoing, situated effort.

From here, the chapters followed how these (re)negotiations take shape across different ruin sites encountered on the islands, each shaped by its own histories of abandonment and reappropriation and the particular maintenance practices that gather around them yet remain

interrelated. The first half of the thesis moves through sites of industrial remains, approaching Naoshima, Teshima, and Inujima as islands whose present conditions remain haunted by ghosts of extractive industries and imagined futures shaped by their present depopulation. In Chapter 1, the islands are presented as haunted by their industrial pasts. While extractive industry once transformed these islands, their (im)material traces persist and remain entangled with the everyday life and landscape of these islands. These very same landscapes are today experiencing demographic decline, and as part of a response to this, artistic reappropriation unfolds within these industrial afterlives, and maintenance of art sites becomes a practice that necessarily engages with these ghosts, responding to the material and ecological conditions they continue to generate. Chapter 2 extends this sense of haunting into the demographic present. Following *karami* into the present reveals how the islands are also haunted by depopulation; it shows how demographic decline reshapes the visibility and meaning of industrial remains, creating conditions in which these materials are taken up, reframed, and selectively stabilized through artistic and architectural interventions. This chapter demonstrates that reappropriation unfolds within overlapping hauntings of industry and shrinkage, and that imagined futures for the islands (whether of continued decline or tentative revitalization) shape how these remains are reimagined and attended to in the present. Following *karami* here reveals that, in their revaluation and heritagization, maintenance works with the changes already underway in the ruin landscape. It engages material remnants and ecologies as the grounds from which new forms emerge. The second part of the thesis turns to the reappropriation of sites of ruination in the wake of depopulation, sites whose activity are more likely to be remembered by the remaining population. In chapter 3, the restoration of abandoned rice fields draws agricultural, ecological, and aesthetic practices into the same terrain. In these fields, restoration is less a return than a renewed ongoing negotiation with the landscape's shifting conditions. Maintenance here becomes a form of remembrance and reinhabitation, renegotiating the rice paddies' cultivation by working with the ecological and historical processes already underway. Through this work, though precarious in the context of depopulation, the fields remain open to future use. In chapter 4, the reappropriation of formerly abandoned houses, an iconic visual sign of depopulation, reframes their appearance into aesthetic and architectural experiences. Maintenance of these art sites contributes to an impression of liveliness through visible maintenance activities, and in contributing to a greater social and interactive presence on the islands. Maintenance here also becomes a way of keeping demographic hope if not possibility

alive, working with the houses' material vulnerabilities and demographic precarity to hold open forms of inhabitation that are never guaranteed. Through this ongoing care, (repurposed) *akiya* remain part of the island's present as art tourism destinations as well as sites of potential and tentative futures.

Maintenance work, then, is a central activity through which the material, social and ecological tensions of abandonment and reappropriation are (re)negotiated in practice. Attending to maintenance reveals how art-led revitalization is not only a matter of architectural transformation or cultural programming but of ongoing and situated labour that responds to the shifting conditions of the islands themselves, mitigating the withdrawal of human presence and activity through which depopulation is partially experienced.

At the same time, this focus necessarily brackets other questions that have shaped discussions of the art projects, particularly those concerning territorialization, external influence, and the broader social effects of the “art island” identity. Some studies express concerns about the growing influence of external actors, the pressures of international tourism, and the ways the “art island” identity can overshadow local histories and ways of life (Funck and Chang 2018; Qu 2020a; Qu 2020b; Aoo 2021; Prince et al. 2021; Tu 2022). As Prince et al. observe, for many long-term residents the contemporary art projects have contributed to “a loss of identity—an identity that relates to the rural as a lived space” (2021: 246). These discussions point to tensions around representation, authority, and the uneven distribution of benefits and burdens. Although I do not explore these tensions in greater detail here, drawing from Tsing et al. (2024), I maintain that attending to maintenance work can make such frictions visible, as more-than-human dynamics do not erase human inequalities but interact with them. My attention to maintenance in the scope of this thesis offers only a partial view of how the islands and their resident populations are being re-engaged in the present.

This partiality is also shaped by the conditions of the research. The limited duration of fieldwork, the constraints of the pandemic, and the reliance on translation all shaped what could be observed and how it could be understood. My conversations were also primarily with newcomers and those involved in the creation and upkeep of art sites. Speaking more extensively with long-term residents engaged in maintenance activities would have offered further insight into how these practices intersect with island life, local histories, and community perceptions of change.

These limitations do not diminish the argument but mark the situatedness of the account offered here.

What this thesis ultimately argues is that maintenance is not simply an afterthought to reappropriation or revitalization, but a practice of (re)inhabiting landscapes shaped by ruination and is worthy of further inquiry. It is a way of living with the afterlives of industrial and demographic ruination, working with what persists, and holding open fragile possibilities for the future. In attending to maintenance, we see how the islands' landscapes are continually reworked—not through grand visions alone, but through the quiet, recurring efforts that keep these places accessible, legible, and capable of being lived with again.

BIBLIOGRAPHY

- Akimoto, Yuji. 2000. 'The Art House Project in Naoshima Objective'. In *Remain in Naoshima*, edited by Yuji Akimoto, Kumiko Ehara, and Hemmi, Yoko, 30–32. Okayama, Japan: Benesse Corporation Corporate Communication Office.
- Aoo, Ken. 2021. 'The Role of Civil Society Sector in the Development of Art-Driven Regional Social Innovation: The Case of Benesse Art Site Naoshima and Art Setouchi'. *Sustainability* 13 (24): 14061. <https://doi.org/10.3390/su132414061>.
- Appel, Hannah. 2019. *The Licit Life of Capitalism: US Oil in Equatorial Guinea*. Durham and London: Duke University Press.
- Arimoto, Keiko. 2007. 犬島ものがたり: あーとの島の昨日・今日・明日 [*Tales of Inujima - Yesterday, Today and Tomorrow on the Art Island*]. 福武教育文化叢書 (1) [Fukutake Education and Culture Series (1)]. Japan: Kibito Publishing.
- Asami, Makoto. 2016. 'Current Status and Issues of the Copper Slag'. *Journal of the Society of Materials Science, Japan* 65 (11): 761–66. <https://doi.org/10.2472/jsms.65.761>.
- Association of Inujima Rediscovery, Keiko Arimoto, and Yoko Chikada. n.d. '石の嫁ぎ先年代別に見る [Stone's Marriage Destinations by Era]'. <https://www.city.okayama.jp/museum/inujima-story/history.htm>.
- Bangstad, Torgeir Rinke, and Þóra Pétursdóttir. 2022. 'An Ecological Approach to Heritage'. In *Heritage Ecologies*, edited by Torgeir Rinke Bangstad and Þóra Pétursdóttir, 3–27. London: Routledge.
- BASN (Benesse Art Site Naoshima). 2016. 直島コメづくりプロジェクト連載—1: 11年目のコメづくり [*Naoshima Rice-Growing Project Series — Part 1 Year 11 of Rice-Growing*]. 30 November 2016. <https://benesse-artsite.jp/story/20161130-743.html>.

- . 2017a. 直島コメづくりプロジェクト連載—2: これまでの歩み [Naoshima Rice-Growing Project Series — Part 2: The Journey So Far]. 12 May 2017. <https://benesse-artsite.jp/story/20170512-827.html>.
- . 2017b. 直島コメづくりプロジェクト連載—3: 地域とともに [Naoshima Rice-Growing Project Series — Part 3: Working with the Local Community]. 13 June 2017. <https://benesse-artsite.jp/story/20170613-849.html>.
- . 2018. 直島コメづくりプロジェクト—今私たちが感じること— [The Naoshima Rice-Growing Project—Our Current Impressions]. 3 October 2018. <https://benesse-artsite.jp/story/20181003-1076.html>.
- . n.d.-a. ‘About the Islands’. Benesse Art Site Naoshima <https://benesse-artsite.jp/en/about/island.html>.
- . n.d.-b. ‘Inujima Seirenscho Art Museum’. Benesse Art Site Naoshima <https://benesse-artsite.jp/en/art/seirenscho.html>.
- . n.d.-c. ‘Philosophy’. Benesse Art Site Naoshima. <https://benesse-artsite.jp/en/about/>.
- Berkhout, Joris. 2019. ‘City Beyond Time’. In *Tokyo Totem*, edited by Edwin Gardner and Christiaan Fruneaux, 124–27. Tokyo, Japan: Flick Studio.
- Berque, Augustin. 1982. *Vivre l’espace au Japon*. Espace et Liberté. Paris: Presses Universitaires de France.
- . 1987. *Écoumène: Introduction à l’étude Des Milieux Humains*. Paris: Éditions Belin.
- . 1990. *Médiance de Milieux En Paysages*. Montpellier: Géographiques Reclus.
- . 2014. ‘Ta 田: la rizière’. In *Vocabulaire de la spatialité japonaise*, edited by Philippe Bonnin, Nishida Masatsuga, and Inaga Shigemi, 473–75. Paris: CNRS Éditions.
- Berque, Augustin, and Maurice Sauzet. 2004. *Le Sens de l’espace Au Japon - Vivre, Penser, Bâtir*. Paris: Arguments. <https://www.quae.com/produit/64/9782909109305/le-sens-de-l-espace-au-japon>.
- Blau, Eva. 2011. ‘Architecture as Instrument’. In *Insular Insight: Where Art and Architecture Conspire with Nature*, edited by Lars Müller and Akiko Miki, with Hiroshi Kagayama, 175–95. Baden: Fukutake Foundation et Lars Müller Publishers.
- Bonnin, Philippe, and Masatsugu Nishida. 2014. ‘Uchi/Soto 内/外: le deand/le dehors’. In *Vocabulaire de la spatialité japonaise*, edited by Philippe Bonnin, Nishida Masatsuga, and Inaga Shigemi, 517–18. Paris: CNRS Éditions.
- Bourdier, Marc. 2014. ‘Mokuzô Kenchiku 木造建築: la constuction en bois’. In *Vocabulaire de la spatialité japonaise*, edited by Philippe Bonnin, Nishida Masatsuga, and Inaga Shigemi, 343–46. Paris: CNRS Éditions.

- Bubandt, Nils, and Anna Tsing. 2018. 'Feral Dynamics of Post-Industrial Ruin: An Introduction'. *Journal of Ethnobiology* 38 (1): 1–7. <https://doi.org/10.2993/0278-0771-38.1.001>.
- Causey, Andrew. 2017. *Drawn to See: Using Line Drawing as an Ethnographic Method*. Toronto, Ontario: University of Toronto Press. <https://books.scholarsportal.info/uri/ebooks/ebooks3/utpress/2018-04-11/1/9781442636675>.
- Danely, Jason. 2019. 'The Limits of Dwelling and the Unwitnessed Death'. *Cultural Anthropology* 34 (2): 213–39. <https://doi.org/10.14506/ca34.2.03>.
- DeSilvey, Caitlin. 2017. *Curated Decay*. Minneapolis and London: University of Minnesota Press.
- Dhir, Ravindra K., Jorge de Brito, Raman Mangabhai, and Chao Qun Lye. 2017. *Sustainable Construction Materials: Copper Slag*. Duxford, U.K.: Woodhead Publishing. <https://doi.org/10.1016/C2015-0-00465-8>.
- Favell, Adrian. 2016. 'Islands for Life: Artistic Responses to Remote Social Polarization and Population Decline in Japan'. In *Sustainability in Contemporary Rural Japan: Challenges And Opportunities*, edited by Stephanie Assmann, 109–24. London and New York: Routledge.
- Ferraby, Sara. 2007. 'The Ecology of Ruin Sites'. In *Conservation of Ruins*, edited by John Ashurst, 195–212. London: Routledge. <https://doi.org/10.4324/9780080466910>.
- Fujioka, Masahiro, Sang Don Lee, Masayuki Kurechi, and Hoshiko Yoshida. 2010. 'Bird Use of Rice Fields in Korea and Japan'. *Waterbirds: The International Journal of Waterbird Biology* 33 (2010): 8–29. <https://doi.org/https://www.jstor.org/stable/40891064>.
- Fukutake, Soichiro. 2010. 'History of the Inujima Art Project'. In *Inujima Note*, by Yukinori Yanagi, 124–25. Japan: Miyake Fine Art.
- . 2011. 'My Vision of the Seto Inland Sea: Why I Brought Contemporary Art to Naoshima'. In *Insular Insight: Where Art and Architecture Conspire with Nature*, edited by Lars Müller and Akiko Miki, with Hiroshi Kagayama, 23–32. Baden: Fukutake Foundation et Lars Müller Publishers.
- Funck, Carolin. 2020. 'Has the Island Lure Reached Japan?: Remote Islands Between Tourism Boom, New Residents, and Fatal Depopulation'. In *Japan's New Ruralities: Coping with Decline in the Periphery*, edited by Wolfram Manzenreiter, Ralph Lützel, and Sebastian Polak-Rottmann, 177–95. London: Routledge. <https://doi.org/10.4324/9780429331268>.
- Funck, Carolin, and Nan Chang. 2018. 'Island in Transition: Tourists, Volunteers and Migrants Attracted by an Art-Based Revitalization Project in the Seto Inland Sea'. In *Tourism in Transitions*, 81–96. Springer, Cham. https://doi.org/10.1007/978-3-319-64325-0_5.

- Funck, Carolin, and Malcolm Cooper, eds. 2013. *Japanese Tourism: Spaces, Places, and Structures*. New York: Berghahn Books.
<http://archive.org/details/japanesetourisms0000unse>.
- Funck, Carolin, and Meng Qu. 2024. 'Art Tourism and Paradigms of Island Revitalization in Japan'. *Contemporary Japan* 36 (1): 20–40.
<https://doi.org/10.1080/18692729.2024.2306112>.
- Gan, Elaine, Anna Tsing, Heather Swanson, and Nils Bubandt. 2017. 'Introduction: Haunted Landscapes of the Anthropocene'. In *Arts of Living on a Damaged Planet*, edited by Anna Tsing, Heather Swanson, Elaine Gan, and Nils Bubandt, G1–16. Minneapolis and London: University of Minnesota Press.
- Gens, Jean-Claude. 2018. 'La nature, Umwelt et Gaïa'. *Alter. Revue de phénoménologie*, no. 26 (2018): 26. <https://doi.org/10.4000/alter.618>.
- Gordillo, Gastón R. 2014. *Rubble: The Afterlife of Destruction*. Durham and London: Duke University Press.
- Haraway, Donna. 2017. 'Symbiogenesis, Symptoiesis, and Art Science Activisms for Staying with the Trouble'. In *Arts of Living on a Damaged Planet*, edited by Anna Tsing, Heather Swanson, Elaine Gan, and Nils Bubandt, M25–50. Minneapolis and London: University of Minnesota Press.
- Haraway, Donna, Noboru Ishikawa, Scott F. Gilbert, Kenneth Olwig, Anna L. Tsing, and Nils Bubandt. 2016. 'Anthropologists Are Talking – About the Anthropocene'. *Ethnos* 81 (3): 535–64. <https://doi.org/10.1080/00141844.2015.1105838>.
- Harvey, David, and Jim Perry. 2015. 'Heritage and Climate Change: The Future Is Not the Past'. In *The Future of Heritage as Climates Change: Loss, Adaptation and Creativity*, edited by David Harvey and Jim Perry, 3–21. London: Routledge.
- Hashiguchi, Takuya. 2014. 'Japan's Agricultural Policies After World War II: Agricultural Land Use Policies and Problems'. In *Social-Ecological Restoration in Paddy-Dominated Landscapes*, edited by Nisikawa Usio and Tadashi Miyashita, 3–16. Ecological Research Monographs. Tokyo: Springer Japan. <https://doi.org/10.1007/978-4-431-55330-4>.
- Hashimoto, Atsuko, and David J. Telfer. 2010. 'Developing Sustainable Partnerships in Rural Tourism: The Case of Oita, Japan'. *Journal of Policy Research in Tourism, Leisure and Events* 2 (2): 165–83. <https://doi.org/10.1080/19407963.2010.482276>.
- Hashimoto, Atsuko, David J. Telfer, and Sakura Telfer. 2021. 'Life beyond Growth? Rural Depopulation Becoming the Attraction in Nagoro, Japan's Scarecrow Village'. *Journal of Heritage Tourism* (Abingdon, United Kingdom) 16 (5): 493–512.
<https://doi.org/http://dx.doi.org/10.1080/1743873X.2020.1807556>.
- Hashimoto, Shizuka, Rajarshi DasGupta, Kei Kabaya, Takanori Matsui, Chihiro Haga, Osamu Saito, and Kazuhiko Takeuchi. 2019. 'Scenario Analysis of Land-Use and Ecosystem

- Services of Socioecological Landscapes: Implications of Alternative Development Pathways under Declining Population in the Noto Peninsula, Japan'. *Sustainability Science* 14 (1): 53075. <https://doi.org/https://doi.org/10.1007/s11625-018-0626-6>.
- Havens, Thomas R. H. 2011. *Parkscapes: Green Spaces in Modern Japan*. Honolulu: University of Hawai'i Press.
- Hirabayashi, Daisuke. 2023. 'Revised Law Takes Effect to Reduce "Akiya" Vacant Homes'. *The Asahi Shimbun* (Japan), 13 December 2023. <https://www.asahi.com/ajw/articles/15082632>.
- Hirofumi, Makino. 2011. *The Buried History of Inujima*. Okayama: Hirofumi Makino.
- Hladik, Murielle. 2010. *Habiter Le Temps, Ou La Poétique Des Ruines*. 2010, 1–9. <https://kwansei.repo.nii.ac.jp/record/17329/files/20100427-4-11.pdf>.
- . 2017. 'Figure(s) de La Ruine et de l'absence au Japon'. In *La Ruine et Le Geste Architectural*, edited by Pierre Hyppolite, 233–46. Nanterre: Presses universitaires de Paris Nanterre. <http://books.openedition.org/pupo/6491>.
- Hosoda, Migiwa. 2019. 'Project of Renovated Vacant House Workshop Program in Inushima Island, Higashi Ward, Okayama City'. *Journal of the Faculty of Human Life Studies* 6 (2019): 95–100. <https://hju.repo.nii.ac.jp/record/381/files/ningenseikatsu6hosoda.pdf>.
- Ichihara, Takeshi. 2018. 'Study of Comparing Iron Slag Brick and Copper Slag Stone, and Other Brick-like Materials'. *Journal of Japan Industrial Archaeology Society* 155 (2018): 41–48.
- ICSG (The International Copper Study Group). 2024. *The World Copper Factbook 2024*. Lisbon, Portugal: The International Copper Study Group. <https://icsg.org/copper-factbook/>.
- Imai, Noriko. 2016. 'Copper in Edo-Period Japan'. In *Copper in the Early Modern Sino-Japanese Trade*, edited by Keiko Nagase-Reimer, 10–31. Copper in the Early Modern Sino-Japanese Trade 7. Leiden, The Netherlands: Brill.
- 'Information Panel "Teshima Tanada Project"'. n.d. Information Panel. Teshima, Japan: Teshima Art Museum.
- Ingold, Tim. 2000. *The Perception of the Environment: Essays on Livelihood, Dwelling and Skill*. London and New York: Routledge.
- . 2011. *Being Alive: Essays on Movement, Knowledge and Description*. London and New York: Routledge.
- . 2013. *Making: Anthropology, Archaeology, Art and Architecture*. London and New York: Routledge.

- Inoue, Naoko. 2016a. 'The Islanders Vol. 3: Sachiko Nishioka'. *Naoshima Note: New Work on Teshima by Shinro Ohtake Setouchi Triennale 2016* (Japan), January. <https://www.benesse-artsite.jp/en/about/ebook/201601/index.html>
- . 2016b. 'The Islanders Vol. 5: Haruji Soga'. *Naoshima Note: The Setouchi Triennale 2016 and People's Involvements* (Japan), October. <https://www.benesse-artsite.jp/en/about/ebook/201610/index.html>.
- Inujima Seirenscho Art Museum. n.d. 'Karami Renga 鍛煉瓦 [Slag Blocks]'. Information Panel. Inujima Seirenscho Art Museum.
- Ivy, Marilyn. 1995. *Discourses of the Vanishing: Modernity, Phantasm, Japan*. Chicago: University of Chicago Press.
- Iwata, Yuuki, Katsue Fukamachi, and Yukihiro Morimoto. 2011. 'Public Perception of the Cultural Value of Satoyama Landscape Types in Japan'. *Landscape Ecol Eng* 7 (2): 173–84. <https://doi.org/DOI%2010.1007/s11355-010-0128-x>.
- Izawa, Eiji. 2013. 'Developments in Japanese Copper Metallurgy for Coinage and Foreign Trade in the Early Edo Period'. In *Mining, Monies, and Culture in Early Modern Societies: East Asian and Global Perspectives*, edited by Nanny Kim and Keiko Nagase-Reimer, vol. 4, edited by Vogel. *Monies, Markets, and Finance in East Asia, 1600-1900*. Leiden and Boston: Brill.
- Jack, James. 2023. 'The Art of Upcycling in the Seto Inland Sea'. In *Introducing Japanese Popular Culture*, Second edition., edited by Alisa Freedman, 463–74. Abingdon, Oxon: Routledge.
- Japan. 空家等対策の推進に関する特別措置法 [Act on Special Measures for Promoting Countermeasures against Vacant Houses], Act No. 127 of 2014. <https://laws.e-gov.go.jp/law/426AC1000000127>.
- Jimura, Takamitsu. 2021. *Cultural Heritage and Tourism in Japan*. London: Routledge. <https://doi.org/10.4324/9780429019173>.
- JMA (Japan Meteorological Agency). 2021. '中国地方の天候 [Weather in the Chugoku Region]'. Japan Meteorological Agency https://www.data.jma.go.jp/cpd/j_climate/chugoku/main.html.
- Kagawa Prefectural Government. 2022. '「さぬきの棚田 20 選」について [About “Top 20 Sanuki Rice Terraces”]'. 香川県 [Kagawa Prefecture]. https://www.pref.kagawa.lg.jp/nosonseibi/tanada/tanada_award_tanada.html.
- Kaneshiro, Kenjiro, Kiyomi Waki, and Yoko Hemmi, eds. 2013. *Becoming: Benesse Art Site Naoshima*. Naoshima, Japan: Fukutake Foundation.

- Keck, Frédéric. 2021. 'Museum Visitors Carry Clouds of Insects'. In *Feral Atlas: The More-Than-Human Anthropocene*, edited by Anna Lowenhaupt Tsing, Jennifer Deger, Alder Keleman Saxena, and Feifei Zhou. Redwood City: Stanford University Press. <https://doi.org/DOI%2010.21627/2020fa>.
- Kitagawa, Fram. 2015. *Art Place Japan: The Echigo-Tsumari Art Triennial and the Vision to Reconnect Art and Nature*. Translated by Amiko Matsuo and Brad Monsma. New York: Princeton Architectural Press.
- Klien, Susanne. 2010. 'Contemporary Art and Regional Revitalisation: Selected Artworks in the Echigo-Tsumari Art Triennial 2000–6'. *Japan Forum* 22 (3–4): 513–43. <https://doi.org/10.1080/09555803.2010.533641>.
- Knight, John. 2020. 'Environmental Activity Gaps and How to Fill Them: Rural Depopulation and Wildlife Encroachment in Japan'. In *Japan's New Ruralities: Coping with Decline in the Periphery*, edited by Wolfram Manzenreiter, Ralph Lützeler, and Sebastian Polak-Rottmann, 276–94. London: Routledge. <https://doi.org/10.4324/9780429331268>.
- Koshida, Chieko, and Naoki Katayama. 2018. 'Meta-Analysis of the Effects of Rice-Field Abandonment on Biodiversity in Japan'. *Conservation Biology* 32 (6): 1392–402. <https://doi.org/10.1111/cobi.13156>.
- Lam, Tong. 2023. 'Japan Lost and Found: Modern Ruins as Debris of the Economic Miracle'. In *Introducing Japanese Popular Culture*, Second edition., edited by Alisa Freedman, 401–12. Abingdon, Oxon: Routledge.
- Langwagen, Set Simon. 2019. 'Slag Blocks: The Rudimentary History of a Forgotten Building Material'. Uppsala University. <https://doi.org/10.13140/RG.2.2.23314.40649>.
- Latour, Bruno. 2015. *Face à Gaïa: Huit Conférences Sur Le Nouveau Régime Climatique*. Paris: Éditions La Découverte.
- Latour, Bruno, Isabelle Stengers, Anna Tsing, and Nils Bubandt. 2018. 'Anthropologists Are Talking – About Capitalism, Ecology, and Apocalypse'. *Ethnos* 83 (3): 587–606. <https://doi.org/10.1080/00141844.2018.1457703>.
- Lawler. 2001. 'Rice Fields as Temporary Wetlands: A Review'. *Israel Journal of Zoology* 47 (4): 513–28. <https://doi.org/10.1560/X7K3-9JG8-MH2J-XGX1>.
- LeCain, Timothy J. 2022. 'The Remembrance of Things: The Industrial Heritage of Mining and the Ecology of Memory'. In *Heritage Ecologies*, 208–21. London and New York: Routledge.
- Lollini, Niccolò. 2024. *Becoming a Farmer in Contemporary Japan*. London: Routledge. <https://doi.org/10.4324/9781003390374>.
- Lützeler, Ralph, Wolfram Manzenreiter, and Sebastian Polak-Rottmann. 2020. 'Introduction: Japan's New Ruralities'. In *Japan's New Ruralities: Coping with Decline in the*

- Periphery*, edited by Wolfram Manzenreiter, Ralph Lützel, and Sebastian Polak-Rottmann, 1–24. London: Routledge. <https://doi.org/10.4324/9780429331268>.
- MAFF (Ministry of Agriculture, Forestry and Fisheries). n.d. ‘つなぐ棚田遺産～ふるさとの誇りを未来へ～（ポスト棚田百選）の実施について [Regarding the Designation of “Connecting Terraced Rice Field Heritage: Passing on the Pride of Our Hometown to Future Generations”]’. <https://www.maff.go.jp/j/nousin/tanada/nintei.html>.
- Manzenreiter, Wolfram, Ralph Lützel, and Sebastian Polak-Rottmann, eds. 2020. *Japan’s New Ruralities: Coping with Decline in the Periphery*. London: Routledge. <https://doi.org/10.4324/9780429331268>.
- Matanle, Peter, Anthony S. Rausch, and Shrinking Regions Research Group, eds. 2011. *Japan’s Shrinking Regions in the 21st Century: Contemporary Responses to Depopulation and Socioeconomic Decline*. Amherst, New York: Cambria Press.
- Mathews, Andrew S. 2017. ‘Ghostly Forms and Forest Histories’. In *Arts of Living on a Damaged Planet*, edited by Anna Tsing, Heather Swanson, Elaine Gan, and Nils Bubandt, 6145–56. Minneapolis and London: University of Minnesota Press.
- Matsumura, Shuichi. 2019. *Open Architecture for the People: Housing Development in Post-War Japan*. London: Routledge. <https://doi.org/10.4324/9781351116107>.
- McCormick, Andrew. D. 2020. ‘The Island Without Tourists’. *Medium*, 2020. <https://admmccormick.medium.com/the-island-without-tourists-39783c75c774>.
- . 2022. ‘Augmenting Small-Island Heritage through Site-Specific Art: A View from Naoshima’. *Okinawan Journal of Island Studies* 3 (1): 41–60.
- METI (Ministry of Economy, Trade and Industry). 2007. ‘33 Heritage Constellations of Industrial Modernization’. Ministry of Economy, Trade and Industry. https://www.meti.go.jp/policy/mono_info_service/mono/creative/kindaikasangyoisan/pdf/isangun.pdf.
- . n.d. ‘クールジャパン／クリエイティブ産業 [Cool Japan / Creative Industries]’. Ministry of Economy, Trade and Industry. https://www.meti.go.jp/policy/mono_info_service/mono/creative/index.html.
- MIC (Ministry of Internal Affairs and Communications). 2019. 平成30年住宅・土地統計調査: 住宅及び世帯に関する基本集計 - 結果の概要 [2018 Housing and Land Survey: Basic tabulation of houses and households - Summary of Results]. Japan. <https://www.stat.go.jp/data/jyutaku/2018/tyousake.html>.

- . 2024. 令和4年度版 過疎対策の現況: 概要版 [*Current Status of 2022 Depopulation Measures: Summary*]. Japan. https://www.soumu.go.jp/main_content/000944362.pdf.
- Miyashita, Tadashi, Miyu Yamanaka, and Masaru H. Tsutsui. 2014. 'Distribution and Abundance of Organisms in Paddy-Dominated Landscapes with Implications for Wildlife-Friendly Farming'. In *Social-Ecological Restoration in Paddy-Dominated Landscapes*, edited by Nisikawa Usio and Tadashi Miyashita, 45–65. Ecological Research Monographs. Tokyo: Springer Japan. <https://doi.org/10.1007/978-4-431-55330-4>.
- MMC (Mitsubishi Materials Corporation). 2004. 'The Mitsubishi Process: Copper Smelting for the 21st Century'. Mitsubishi Materials Corporation, June 30. https://www.mmc.co.jp/sren/MI_Brochure.pdf.
- (Mitsubishi Materials). 2021. 'Metals and Resource Circulation Business'. <https://www.mmc.co.jp/corporate/en/business/metals/>.
- . 2023. 'Mitsubishi Materials Corporation Naoshima Smelter & Refinery'. *MMC Magazine*, 6 December 2023. https://www.mmc-carbide.com/es/download/magazine/vol10/his_vol10.
- MOE (Ministry of the Environment). n.d. 'Weather'. setouchi Net. https://www.env.go.jp/water/heisa/heisa_net/setouchiNet/seto/g2/g2cat01/kishou/index.html.
- MOFA (Ministry of Foreign Affairs). 2025. 'Visa Exemption Arrangements for Diplomatic and Official Passport Holders'. Ministry of Foreign Affairs of Japan. May 12. https://www.mofa.go.jp/ca/fna/page22e_000692.html.
- Moore, Jason W., ed. 2016. *Anthropocene or Capitalocene?: Nature, History, and the Crisis of Capitalism*. Oakland: PM Press.
- Moreau, Yoann. 2012. 'Mésologiques: La Spatialité Nipponne à l'index / A. Berque'. *Mésologiques*, mai 2012. <https://ecoumene.blogspot.com/2012/05/la-spatialite-nipponne-lindex-berque.html>.
- Müller, Lars, and Akiko Miki, eds. 2011. *Insular Insight: Where Art and Architecture Conspire with Nature*. With Hiroshi Kagayama. Baden: Fukutake Foundation et Lars Müller Publishers.
- Murakushi, Nisaburō. 2005. 国立公園成立史の研究：開発と自然保護の確執を中心に [*Study of the History of the Establishment of the National Parks System*]. Kindle Edition. Tokyo, Japan: Hosei University Press.
- Natuhara, Yoshihiro. 2013. 'Ecosystem Services by Paddy Fields as Substitutes of Natural Wetlands in Japan'. *Ecological Engineering, Bringing Together Science and Policy to*

- Protect and Enhance Wetland Ecosystem Services in Agriculture, vol. 56 (2013): 97–106. <https://doi.org/10.1016/j.ecoleng.2012.04.026>.
- Nishimura, Takahiro. 2023. 'National Parks, Nature Conservation, War: The Development of the National Parks System in Japan, 1907–1945'. In *Environmental History in Japan*, edited by Tatsushi Fujihara, 34–50. Amsterdam: Amsterdam University Press.
- OCDE (Organisation de coopération et de développement économiques). 2014. *Le tourisme et l'économie créative*. Paris: Éditions OCDE. <http://dx.doi.org/10.1787/9789264222175-fr>.
- OECD (Organization for Economic Co-operation and Development). 2002. *OECD Environmental Performance Reviews: Japan 2002*. OECD Environmental Performance Reviews. Paris: OECD Publishing. <https://doi.org/10.1787/9789264175334-en>.
- Ohnuki-Tierney, Emiko. 1984. *Illness and Culture in Contemporary Japan: An Anthropological View*. Cambridge University Press.
- . 2024. 'Rice as Self: Japanese Identities Through Time'. *Association for Asian Studies* 9 (3). <https://www.asianstudies.org/publications/aaa/archives/rice-as-self-japanese-identities-through-time/>.
- Ohta, Yoko, and Nobukazu Nakagoshi. 2011. 'Analysis of Factors Affecting the Landscape Dynamics of Islands in Western Japan'. In *Landscape Ecology in Asian Cultures*, 1st ed. 2011., edited by Sun-Kee Hong, Jae-Eun Kim, Wu Jianguo, and Nobukazu Nakagoshi. Ecological Research Monographs, edited by Iwasa. New York: Springer. <https://doi.org/10.1007/978-4-431-87799-8>.
- Olwig, Kenneth R. 1996. 'Recovering the Substantive Nature of Landscape'. *Annals of the Association of American Geographers* 86 (4): 630–53.
- Pitteloud, Cyrian. 2023. 'The Ashio Affair: The Emergence of Industrial Pollution as a Social, Political and Environmental Issue (19th–20th Centuries)'. In *Environmental History in Japan*, edited by Tatsushi Fujihara, 53–69. Amsterdam: Amsterdam University Press.
- Platz, Anemone. 2024. 'From Social Issue to Art Site and beyond – Reassessing Rural Akiya Kominka'. *Contemporary Japan (Berlin, Germany)* (Berlin) 36 (1): 41–56. <https://doi.org/10.1080/18692729.2024.2314331>.
- Portera, Mariagrazia. 2023. 'Aesthetics'. In *Handbook of the Anthropocene: Humans between Heritage and Future*, edited by Nathanaël Wallenhorst and Christoph Wulf, 857–62. Cham: Springer International Publishing. <https://doi.org/10.1007/978-3-031-25910-4>.
- Prince, Solène, Meng Qu, and Simona Zollet. 2021. 'The Making of Art Islands: A Comparative Analysis of Translocal Assemblages of Contemporary Art and Tourism'. *Island Studies Journal* 16 (1): 235–54. <https://doi.org/https://doi.org/10.24043/isj.175>.
- Qu, Meng. 2019. 'Art Interventions on Japanese Islands: The Promise and Pitfalls of Artistic Interpretations of Community'. *The International Journal of Social, Political and*

- Community Agendas in the Arts* 14 (3): 19–38.
<https://doi.org/https://doi.org/10.18848/2326-9960/CGP/v14i03/19-38>.
- . 2020. *Teshima - from Island Art to the Art Island: Art on/for a Previously Declining Japanese Inland Sea Island*. 14 (2): 251–65. <https://doi.org/10.21463/shima.14.2.16>.
- . 2020a. ‘Finding “Revitalization” in an Island Art Festival’. *Art Island Center アート島センター*, 2020a. <https://artisland.jp/blogs/notebook/what-does-revitalization-mean-for-an-island-art-festival>.
- Qu, Meng, and Joseph M. Cheer. 2021. ‘Community Art Festivals and Sustainable Rural Revitalisation’. *Journal of Sustainable Tourism* (Clevedon) 29 (11–12): 1756–75. <https://doi.org/10.1080/09669582.2020.1856858>.
- Qu, Meng, A. D. McCormick, and Carolin Funck. 2022. ‘Community Resourcefulness and Partnerships in Rural Tourism’. *Journal of Sustainable Tourism* 30 (10): 2371–90. <https://doi.org/10.1080/09669582.2020.1849233>.
- Ritoukeizai Shinbunsha. 2022. ‘データでみつめる日本の島々：有人離島の人口動態 [Japanese Islands Through the Lens of Data: Demographics of Inhabited Remote Islands.]’. *Ritokei* (Tokyo, Japan), 25 August 2022.
- Robertson, Jennifer. 1988. ‘Furusato Japan: The Culture and Politics of Nostalgia’. *International Journal of Politics, Culture, and Society* 1 (4): 494–518. <https://www.jstor.org/stable/20006871>.
- Sagan, Dorion. 2017. ‘Coda. Beautiful Monsters: Terra in the Cyanocene’. In *Arts of Living on a Damaged Planet*, edited by Anna Tsing, Heather Swanson, Elaine Gan, and Nils Bubandt, M169–174. Minneapolis and London: University of Minnesota Press.
- Saito, Yuriko. 2007. *Everyday Aesthetics*. Oxford; Oxford University Press.
- Sambuichi, Hiroshi. 2018. *Sambuichi and the Inland Sea*. Third Edition. Edited by Jens H. Jensen. Japan: Toru Koto.
- Sasaki, Keiko, Stefan Hotes, Tomohiro Ichinose, Tomoko Doko, and Volkmar Wolters. 2021. ‘Hotspots of Agricultural Ecosystem Services and Farmland Biodiversity Overlap with Areas at Risk of Land Abandonment in Japan’. *Land* 10 (10): 10. <https://doi.org/10.3390/land10101031>.
- Satou, Hidetatsu. 2007. *藤田組のメタル・ビジネス [The Fujita Group's Metal Business]*. Nagoya, Japan: 三恵社 [Sankeisha]. https://www.google.ca/books/edition/%E8%97%A4%E7%94%B0%E7%B5%84%E3%81%AE%E3%83%A1%E3%82%BF%E3%83%AB_%E3%83%93%E3%82%B8%E3%83%8D%E3%82%B9/gjITVbuTNP4C?hl=fr&gbpv=1&dq=%E4%BD%8F%E5%8F%8B%E3%80%80%E7%8A%AC%E5%B3%B6&pg=PA26&printsec=frontcover.

- Setouchi Triennale Executive Committee. n.d. ‘瀬戸内国際芸術祭 2022 [Setouchi Triennale 2022]’. Setouchi Triennale. <https://setouchi-artfest.jp/archive/2022>.
- . 2022a. ‘瀬戸内国際芸術祭 2022: 新型コロナウイルス感染症対策の指針 [Setouchi Triennale 2022: Guidelines for Prevention of COVID-19]’. Setouchi Triennale Executive Committee. https://setouchi-artfest.jp/files/download/en/NewsI18n/news_blocks/66dc30ca-16f3-47e8-bc4c-6acd69f2f6ff/value01/value02#ext=.pdf.
- . 2022b. 瀬戸内国際芸術祭 2022: 総括報告 [Setouchi Triennale 2022: Summary Report]. Japan. <https://setouchi-artfest.jp/assets/files/about/archive/report2022.pdf>.
- Setouchibito Co., Ltd. 2018. ‘The Traveling Stones of Inujima’. *Setouchi Triennale 2025*, 7 December 2018. <https://setouchi-artfest.jp/en/blogs/detail/dcc4ada0-3b1b-4782-9dec-45ccf5a2f9a1>.
- Shimawata. 2025. 島の記録編 児島湾・犬島諸島編① 自然破壊の島を植物とアートの島へ カヤックで巡る旅 [Island Records Section Kojima Bay and the Inujima Islands (1) Kayaking Trip from an Island of Nature Destruction to an Island of Plants and Art]. The Sanyo Shimbun. 11:04. <https://www.youtube.com/watch?v=bf1mCdNFMtS>.
- Shitamichi, Motoyuki. 2022. ‘Setouchi “Slag Landscape” Archive’. Setouchi “ ” Archive.
- Sippel, Patricia. 2006. ‘Technology and Change in Japan’s Modern Copper Mining Industry’. In *Institutional and Technological Change in Japan’s Economy: Past and Present*, edited by Janet Hunter and Cornelia Storz. Florence, UNITED STATES: Routledge. <http://ebookcentral.proquest.com/lib/ottawa/detail.action?docID=261325>.
- . 2022. ‘The Copper Industry as National Enterprise in Modern Japan’. In *Born with a Copper Spoon: A Global History of Copper, 1830-1980*, edited by Robrecht Declercq, Duncan Money, and Hans Otto Frøland, 225–52. Vancouver: UBC Press. <https://books-scholarsportal-info.proxy.bib.uottawa.ca/uri/ebooks/ebooks7/upress7/2022-11-24/1/9780774864855>.
- Somhegyi, Zoltán. 2014. ‘Ruines contemporaines’. *Nouvelle revue d’esthétique* n° 13 (1): 111–19. <https://doi-org.proxy.bib.uottawa.ca/10.3917/nre.013.0111>.
- Statistics Department. 2023. *The 96th Statistical Yearbook of Ministry of Agriculture, Forestry and Fisheries: MAFF*. Japan: MAFF (Ministry of Agriculture, Forestry and Fisheries). <https://www.maff.go.jp/e/data/stat/96th/index.html#6>.
- Steffen, Will, Wendy Broadgate, Lisa Deutsch, Owen Gaffney, and Cornelia Ludwig. 2015. ‘The Trajectory of the Anthropocene: The Great Acceleration’. *The Anthropocene Review* 2 (1): 81–98. <https://doi.org/10.1177/2053019614564785>.

- Stolz, Robert. 2014. *Bad Water: Nature, Pollution, and Politics in Japan, 1870-1950*. Durham: Duke University Press. <https://muse.jhu.edu/book/69511>.
- Sumitomo Group Public Affairs Committee. 2024. 'Besshi Copper Mines: Heritage of Industrial Modernization'. Sumitomo Corporation. <https://www.sumitomo.gr.jp/english/history/besshidouzan/>.
- Suwa, Junichiro. 2020. 'A Rejoinder to Meng Qu's "Teshima - From Island Art to the Art Island: Art on/for a Previously Declining Japanese Inland Sea Island"'. *Shima* 14 (2): 298–300. <https://doi.org/DOI:%2010.21463/shima.14.2.19>.
- Swanson, Heather, Nils Bubandt, and Anna Tsing. 2015. 'Less Than One But More Than Many: Anthropocene as Science Fiction and Scholarship-in-the-Making'. *Environment and Society: Advances in Research* 6 (September 2015): 149–66. <https://doi.org/10.3167/ares.2015.060109>.
- Swanson, Heather, Anna Tsing, Nils Bubandt, and Elaine Gan. 2017. 'Introduction: Bodies Tumbled into Bodies'. In *Arts of Living on a Damaged Planet*, M1–12. Minneapolis and London: University of Minnesota Press.
- Tai, Yoshiaki. 2020. 'Old Tools Speak of Modern Life on Teshima Island'. *Benesse Art Site Naoshima Periodical Magazine: Art and Community*, October 2020. https://www.benesse-artsite.jp/en/uploads/about/magazine/magazine_202010.pdf
- Takashina, Shūji. 2018. *The Japanese Sense of Beauty*. English Ed. Translated by Matt Treyvaud. Japan Publishing Industry Foundation for Culture.
- Takeda, Hiroko, and Mark Williams, eds. 2020. *Routledge Handbook of Contemporary Japan*. London: Routledge. <https://doi.org/10.4324/9781315544748>.
- Taussig, Michael. 2011. *I Swear I Saw This: Drawings in Fieldwork Notebooks, Namely My Own*. Chicago and London: University of Chicago Press.
- Teshima 'Food Project' Promotion Council. 2015. **【自主・共催助成】豊島唐櫃 棚田プロジェクト** [Self-organized/Co-organized] Teshima Karato Rice Terrace Project]. アートによる地域振興助成 [Regional development through art]. Kagawa Prefecture. https://fukutake-grant.jp/archive_search/?detail=1739.
- . 2016. **【自主・共催助成】豊島唐櫃 棚田プロジェクト** [Self-Organized/Co-Organized] Teshima Karato Rice Terrace Project]. アートによる地域振興助成 [Regional Development Through Art]. Kagawa Prefecture. https://fukutake-grant.jp/archive_search/?detail=1728.
- . 2017. **【自主・共催助成】豊島唐櫃 棚田プロジェクト** [Self-Organized/Co-Organized] Teshima Karato Rice Terrace Project]. アートによる地域振興助成 [Regional Development Through Art]. Kagawa Prefecture. https://fukutake-grant.jp/archive_search/?detail=1690.

- . 2018. **【自主・共催助成】豊島唐櫃 棚田プロジェクト** *[[Self-Organized/Co-Organized] Teshima Karato Rice Terrace Project]*. アートによる地域振興助成 [Regional Development Through Art]. Kagawa Prefecture. https://fukutake-grant.jp/archive_search/?detail=2038.
- . 2021. **【自主・共催】豊島「食プロジェクト」推進事業** *[[Self-Organized/Co-Organized] Teshima 'Food Project' Promotion Project]*. アートによる地域振興助成 [Regional Development Through Art]. Kagawa Prefecture. https://fukutake-grant.jp/archive_search/?detail=3276.
- Teshima 'Food Projects' Promotion Council. 2019. '豊島唐櫃の棚田散歩道マップ - Teshima Karato Rice Terrace Promenade Map'.
- The Committee of Naoshima Insight Guide. 2013. *Naoshima Insight Guide: 50 Keywords About Naoshima*. Edited by Takao Narita, Yuji Iwasaki, Hidenobu Miyazawa, Sumiko Inoue, and Seishi Isozaki. Insight Guide 3. Japan: Okamoto Issen Visual Communicators' Office and Kodansha BC.
- The Shikoku Shimbun. 2000. '島びと 20 世紀 [Islanders in the 20th Century]'. Special Feature No. 3. *四国新聞 [Shikoku Shimbun]* (Kagawa, Japan), 1 January 2000. <https://www.shikoku-np.co.jp/feature/shimabito/>.
- Tobin, Joseph Jay, and William Kelly, eds. 1992. 'Tractors, Television, and Telephones: Reach Out and Touch Someone in Rural Japan'. In *Re-Made in Japan: Everyday Life and Consumer Taste in a Changing Society*. New Haven: Yale University Press.
- Tomii, Reiko. 2010. 'Yanagi Yukinori and Inujima Art Project: A New Potential for 21st-Century Art'. In *Inujima Note*, by Yukinori Yanagi, 44–57. Japan: Miyake Fine Art.
- Tsing, Anna Lowenhaupt. 2015. *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins*. Princeton: Princeton University Press. <http://ebookcentral.proquest.com/lib/ottawa/detail.action?docID=2028320>.
- Tsing, Anna L., Jennifer Deger, Alder Keleman Saxena, and Feifei Zhou, eds. 2021. *Feral Atlas: The More-Than-Human Anthropocene*. Redwood City: Stanford University Press. <https://doi.org/DOI%2010.21627/2020fa>.
- , eds. 2024. *Field Guide to the Patch Anthropocene: The New Nature*. Stanford, California: Stanford University Press.
- Tsing, Anna Lowenhaupt, Andrew S. Mathews, and Nils Bubandt. 2019. 'Patchy Anthropocene: Landscape Structure, Multispecies History, and the Retooling of Anthropology: An Introduction to Supplement 20'. *Current Anthropology* 60 (S20): S186–97. <https://doi.org/10.1086/703391>.

- Tsing, Anna, Heather Swanson, Elaine Gan, and Nils Bubandt. 2017a. 'How Humans Can Be Better Neighbors'. Interview by Amy Brady. <https://chireviewofbooks.com/2017/08/07/arts-of-living-on-a-damaged-planet-interview/>.
- Tsing, Anna, Heather Swanson, Elaine Gan, and Nils Bubandt, eds. 2017b. *Arts of Living on a Damaged Planet*. Minneapolis and London: University of Minnesota Press.
- Tsutsumi, Kenji. 2021. *Depopulation, Aging, and Living Environments*. Singapour: Springer. <https://books-scholarsportal-info.proxy.bib.uottawa.ca/en/read?id=/ebooks/ebooks6/springer6/2021-06-13/4/9789811590429#page=1>.
- Tu, Shiu Hong Simon. 2022. 'Island Revitalization and the Setouchi Triennale: Ethnographic Reflection on Three Local Events'. *Okinawan Journal of Island Studies* 3 (1): 21–40.
- Uchida, Kei, Peter Matanle, Yang Li, Taku Fujita, and Masayoshi K. Hiraiwa. 2025. 'Biodiversity Change under Human Depopulation in Japan'. *Nature Sustainability* 8 (8): 883–93. <https://doi.org/10.1038/s41893-025-01578-w>.
- Uexküll, Jakob von. 1934 [1957]. 'A Stroll Through the Worlds of Animals and Men: A Picture Book of Invisible Worlds'. In *Instinctive Behavior: The Development of a Modern Concept*, edited and translated by Claire H. Schiller, 5–80. New York: International University Press.
- United Nations. 2024. *World Population Prospects 2024: Summary of Results*. UN DESA/POP/2024/TR/NO. 9. New York: United Nations. https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/files/documents/2024/Jul/wpp2024_summary_of_results_final_web.pdf.
- United Nations, Department of Economic and Social Affairs, Population Division. 2015. *World Urbanization Prospects: The 2014 Revision*. ST/ESA/SER.A/366. New York: United Nations. <https://population.un.org/wup/assets/WUP2014-Report.pdf>.
- Usio, Nisikawa. 2014. 'Environmentally Friendly Farming in Japan: Introduction'. In *Social-Ecological Restoration in Paddy-Dominated Landscapes*, edited by Tadashi Miyashita and Nisikawa Usio, 69–86. Ecological Research Monographs. Tokyo: Springer Japan. <https://doi.org/10.1007/978-4-431-55330-4>.
- Usio, Nisikawa, and Tadashi Miyashita, eds. 2014. *Social-Ecological Restoration in Paddy-Dominated Landscapes*. Ecological Research Monographs. Tokyo: Springer Japan. <https://doi.org/10.1007/978-4-431-55330-4>.
- Wadbled, Nathanaël. 2022. 'L'intérêt environnemental des ruines urbaines : la présence de l'anthropocène au-delà des patrimoines culturels et naturels'. *Territoire en mouvement Revue de géographie et aménagement. Territory in movement Journal of geography and planning*, nos 53–54 (2022). <https://doi.org/10.4000/tem.8645>.

- Waterton, Emma, and Hayley Saul. 2021. 'Ghosts of the Anthropocene: Spectral Accretions at the Port Arthur Historic Site'. *Landscape Research* 46 (3): 362–76. <https://doi.org/10.1080/01426397.2020.1808957>.
- Watsuji, Tetsurō. 1935 [2023]. *Fūdo, le milieu humain*. Translated by Augustin Barque. Japan, 1935. Reprint, Paris: CNRS Éditions. <https://www.cnrseditions.fr/catalogue/philosophie-et-histoire-des-idees/fudo-le-milieu-humain/>.
- Witze, Alexandra. 2024. 'It's Final: The Anthropocene Is Not an Epoch, despite Protest over Vote'. *Nature*, ahead of print, 20 March 2024. <https://doi.org/10.1038/d41586-024-00868-1>.
- Worrall, Julian. 2019. 'Time in the City of Temporal Monuments'. In *Tokyo Totem*, edited by Edwin Gardner and Christiaan Fruneaux, 150–51. Tokyo, Japan: Flick Studio.
- Yamada, Susumu, Satoru Okubo, Yoshiko Kitagawa, and Kazuhiko Takeuchi. 2007. 'Restoration of Weed Communities in Abandoned Rice Paddy Fields in the Tama Hills, Central Japan'. *Agriculture, Ecosystems & Environment* (Amsterdam) 119 (1): 88–102. <https://doi.org/10.1016/j.agee.2006.06.011>.
- Yanagi Yukinori (Japan Foundation Asia Center). 2018. 'Making Art and Environments in Regional Areas that Critique | Features'. Translated by Shibahara Satoko. <https://jfac.jp/en/culture/features/f-ah-icf2016-yukinori-yanagi-2/>.
- Yao Ji, Nancy. 2025. 'Do-It-Yourself Heritage: Collective Vacant House Renovation in Japan'. In *Alternative Economies of Heritage*, 1st ed, 1:177–90. Routledge. <https://doi.org/10.4324/9781003290810-18>.
- Yoshida, Haruka. 2021. 'Inujima Seirenscho Art Museum "Heritage of Industrial Modernization Tour"'. *Benesse Art Site Naoshima Periodical Magazine: Benesse Art Site Naoshima's Art Appreciation Programs*, October 2021.
- Yoshiki, Fumio. 1980. 'How Japan's Metal Mining Industries Modernized'. The United Nations University. https://d-arch.ide.go.jp/je_archive/pdf/workingpaper/je_unu23.pdf.
- Yoshimi, Shunya. 2011. 'The Seto Inland Sea: An Asian Archipelago'. In *Insular Insight: Where Art and Architecture Conspire with Nature*, edited by Lars Müller and Akiko Miki, with Hiroshi Kagayama, 239–53. Baden: Fukutake Foundation et Lars Müller Publishers.
- Yoshimoto, Mitsuhiro. 2011. 'Islands Enlivened by Art: Seeking an Unknown Future Community From the Past'. In *Insular Insight: Where Art and Architecture Conspire with Nature*, edited by Lars Müller and Akiko Miki, with Hiroshi Kagayama, 292–313. Baden: Fukutake Foundation et Lars Müller Publishers.
- Zheng, Wukui, Diyang He, Yachen Wang, Jiani Chen, Meiqi Xue, and Hui Li. 2021. 'Preparation of Cement-Based Color Facing Mortar by Copper Pyrometallurgical Slag Modification: Efficient Utilization of High-Iron-Content Slag'. *Journal of Environmental Chemical Engineering* 9 (5): 105888. <https://doi.org/10.1016/j.jece.2021.105888>.