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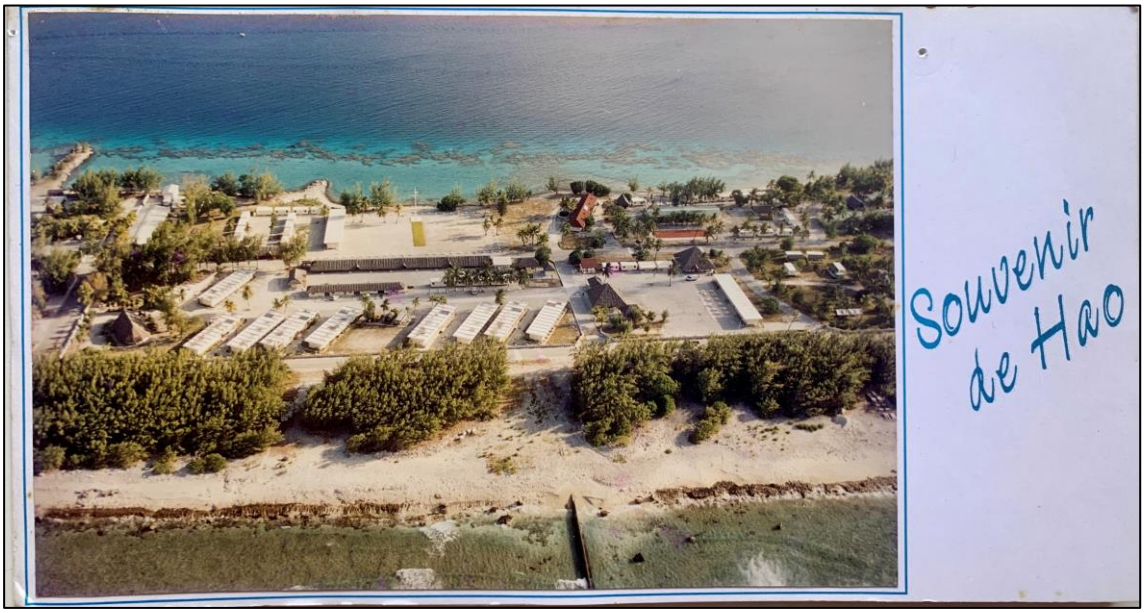
Nuclear Nostalgia

Remembering the Nuclear Age on the Hao Atoll, French Polynesia

PhD Thesis



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Cover photo: The former military zone on a postcard from CEP Hao © Lis Kayser

ABSTRACT

Based on 6 months of fieldwork in French Polynesia, this thesis chronicles the lived experiences of the nuclear afterlife on the Hao atoll. It explores how different groups of people, including former CEP workers, property owners, non-binary gender subjects, and members of the post-CEP generation, make sense of the past, present, and future by internalizing colonial imaginaries of sexual desire, institutionalizing collective memory of the island's CEP history, and by dwelling in abandoned military buildings while hoping for the return of the past in the future. This study contributes to the nuclear humanities by introducing the theoretical notion of "nuclear nostalgia" to analyze the nuclear aftermath in the Pacific. What cultural work does nostalgia perform to ignore the exploitative nature of the colonial relationship between the military and the civil society on Hao? How are narratives of the nuclear past (re)made through contemporary experiences of abandonment?

From 1966 until 1996, the French Defense Ministry's Centre for Experimentation in the Pacific (CEP) tested 193 nuclear devices on the Moruroa and Fangataufa atolls in French Polynesia. Roughly 450 kilometers north from Moruroa lies the Hao atoll, which the CEP transformed into a military hub and support base for nuclear testing. The military base on Hao had three functions: to store and assemble nuclear devices, to decontaminate military personnel and aircrafts flying into radioactive mushroom clouds to retrieve gas samples, and to examine these gas samples in the local laboratories of the French Atomic Energy Commission (CEA).

When nuclear testing activities ceased in 1996, the French military dumped nuclear waste and military equipment into Hao's lagoon and buried smaller military debris in the soil. The French nuclear testing program has faced both local and global criticism since. Yet, I spoke to many of the 1,000 Hao residents who express nostalgia for Hao's nuclear military past. Across generations, the nuclear testing era is commonly perceived as Hao's "*âge d'or*," the golden age. The CEP represents an agent of positive change for my respondents on Hao: it turned Hao into a socio-economic hub in the wider archipelagic region by introducing lucrative job opportunities, economic advancement, infrastructural development, and a vibrant island life with bars, leisure activities, and French Polynesia's first-ever cinema.

This thesis argues that nuclear nostalgia structures everyday experiences and expectations on the Hao atoll. For that reason alone, nostalgia must be seriously examined rather than being labeled as false consciousness. The thesis further argues that the transformation of Hao into a militarized, yet seemingly inclusive and empowering space through the introduction of the privileges and splendors of nuclear modernity camouflaged the inequalities between the French military and the Polynesian people and the exploitative nature of colonialization of the Hao atoll. The military base allowed the civilian population living near the base a newfound sense of freedom and importance, as the lines between mutual relationship and abuse, cooperation and exploitation, and feelings of belonging and abandonment became blurred. This made it difficult for the local population to recognize the power imbalances that were in play during the 30 years of military presence, and which have shaped and disrupted life on Hao since. At the same time, this thesis argues that nuclear nostalgia also constitutes an empowering local counter-narrative to Polynesian mainstream narrative about Hao as a polluted, radioactive atoll.

RESUMÉ

Baseret på seks måneders feltarbejde i Fransk Polynesien skildrer denne afhandling de levede erfaringer med nukleart efterliv i Stillehavsregionen. Den undersøger, hvordan forskellige grupperinger, herunder tidligere CEP-medarbejdere, ejendomsbesiddere, non-binære kønssubjekter og medlemmer af generationen efter CEP, forstår fortiden, nutiden og fremtiden ved at internalisere koloniale forestillinger om seksuel lyst, institutionalisere kollektive erindringer om øens historie med CEP, og ved at bosætte sig i efterladte militærbygninger, mens de håber på, at fortiden vender tilbage i fremtiden. Dette studie bidrager til nuklear humaniora ved at introducere begrebet "nuklear nostalgi" i analysen af det nukleare efterspil på Hao-atollen. Hvilket kulturelt arbejde udøver nostalgi i forsømmelsen af koloniale udbytningsrelationer mellem militæret og civilsamfundet? Hvordan bliver narrativer om den nukleare fortid (gen)skabt gennem nutidige oplevelser af svigt?

Fra år 1966 til 1996 testede det Franske Forsvarsministeriums Centre for Experimentation in the Pacific (CEP) 193 kerneenheder på Moruroa- og Fangataufa-atollerne i Fransk Polynesien. Omkring 450 kilometer nord for Moruroa ligger Hao-atollen, som CEP transformerede til et militært knudepunkt og støttebase for test af kernevåben. Militærbasen havde tre funktioner: at opbevare og samle kerneenheder, at rense militært personel og fly, der fløj ind i radioaktive paddehatteskyer for at opsamle gasprøver, og at undersøge disse gasprøver i den Franske Atomenergikommissions (CEA) laboratorier.

Da testaktiviteterne ophørte i 1996, dumpede det franske militært kerneaffald og militært udstyr ned i Haos lagune og nedgravede militære rester i jorden. Det Franske testprogram har fået kritik både lokalt og globalt. Alligevel udtrykker mange de af Haos 1.000 beboere, jeg har snakket med, nostalgi for Haos nuklear, militær fortid. På tværs af generationer bliver testperioden generelt opfattet som Haos "âge d'or", den gyldne tidsalder. CEP repræsenterer en positiv forandringsagent for mine respondenter på Hao: det gjorde Hao til et socioøkonomisk knudepunkt i et udstrakt øhavsområde ved at introducere lukrative jobmuligheder, økonomisk fremskridt, infrastrukturel udvikling, et pulserende øliv med barer, fritidsaktiviteter samt Fransk Polynesiens første og eneste biograf.

Denne afhandling argumenterer for, at nuklear nostalgi strukturer erfaringer og forventninger i hverdagen på Hao-atollen. Alene af den grund skal nostalgi studeres alvorligt frem for at blive stemplet som falsk bevidsthed. Afhandlingen argumenterer desuden for, at forvandlingen af Hao til et militariseret men tilsyneladende inkluderende og frigørende rum, gennem introduktionen af den nukleare modernitets privilegier og pragt, camouflerede ulighederne mellem det franske militær og det polynesiske folk samt den udbytning, der karakteriserede koloniseringen af Hao-atollen. For den civile befolkning, der boede tæt på basen, skabte militærbasen en ny fornemmelse af frihed og betydning, mens grænserne mellem gensidighed og misbrug, mellem samarbejde og udbytning og mellem følelser af tilhør og svigt, blev udvasket. Dette gjorde det svært for den lokale befolkning at genkende de magtuligheder, der var i spil i løbet af 30 års militær tilstedeværelse og som har formet og forstyrret livet på Hao lige siden. Samtidig argumenterer denne afhandling for, at nuklear nostalgi også konstituerer et frigørende, lokalt mod-narrativ til det polynesiske mainstream-narrativ om Hao som en forurenet, radioaktiv atol.

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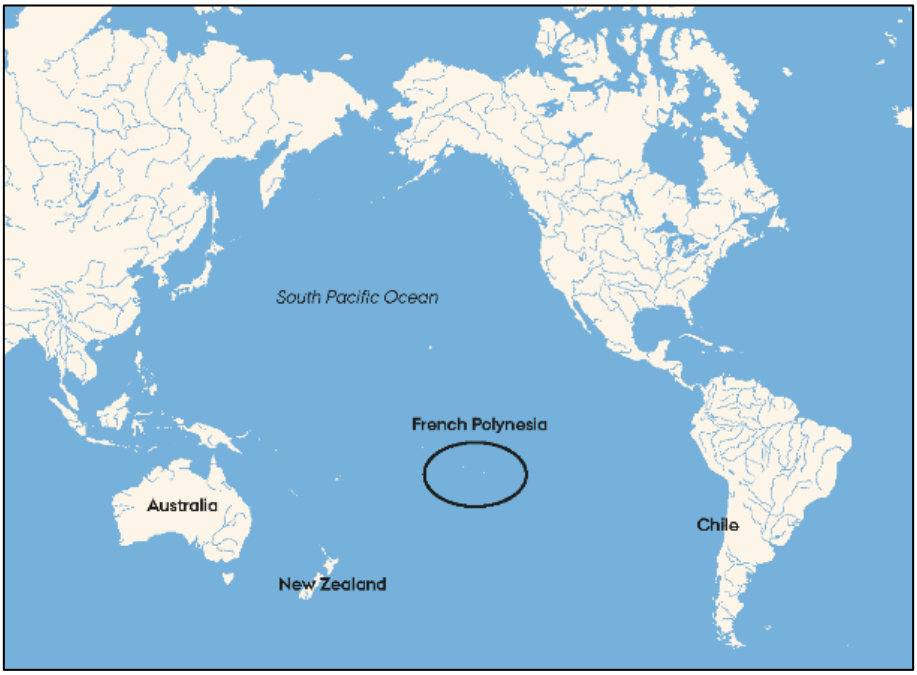
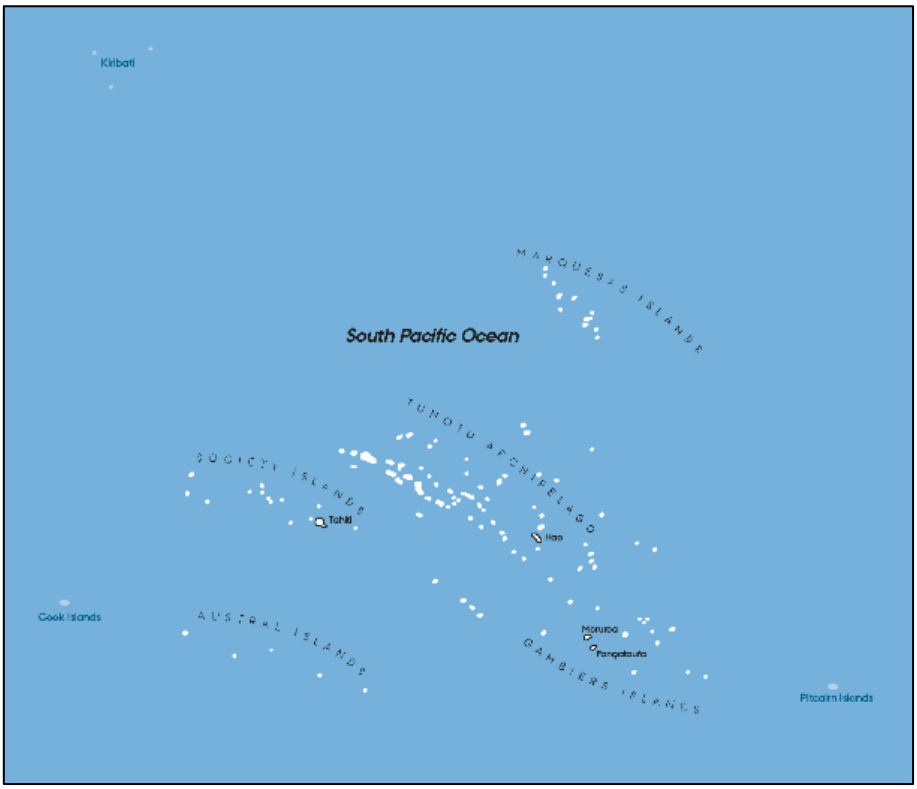
GLOSSARY

CEA	*Commissariat à l'Énergie Atomique*
CEP	*Centre d'Expérimentation du Pacifique*
CIVEN	*Comité d'Indemnisation des Victimes des Essais Nucléaires*
CRIIRAD	*Commission de Recherche et d'Information Indépendante sur la Radioactivité*
CTG	*Circonscription des Îles Tuamotu-Gambier*
DID	*Direction d'Infrastructure de la Défense*
DIRCEN	*Direction des Centres d'Expérimentations Nucléaires*
DSCEN	*Délégation Polynésienne pour le Suivi des Conséquences des Essais Nucléaires*
EFO	*Établissement Français de l'Océanie*
IAEA	International Atomic Energy Agency
IRSN	*Institut de Radioprotection et de Sûreté Nucléaires*
LMS	London Missionary Society
OBSARM	*Observatoire des Armements*
SAITG	*Subdivision Administratives des Îles Tuamotu-Gambier*
SMCB	*Service Mixte de Contrôle Biologique*
SMSR	*Service Mixte de Sécurité Radiologique*
TOM	*Territoire d'Outre-Mer*

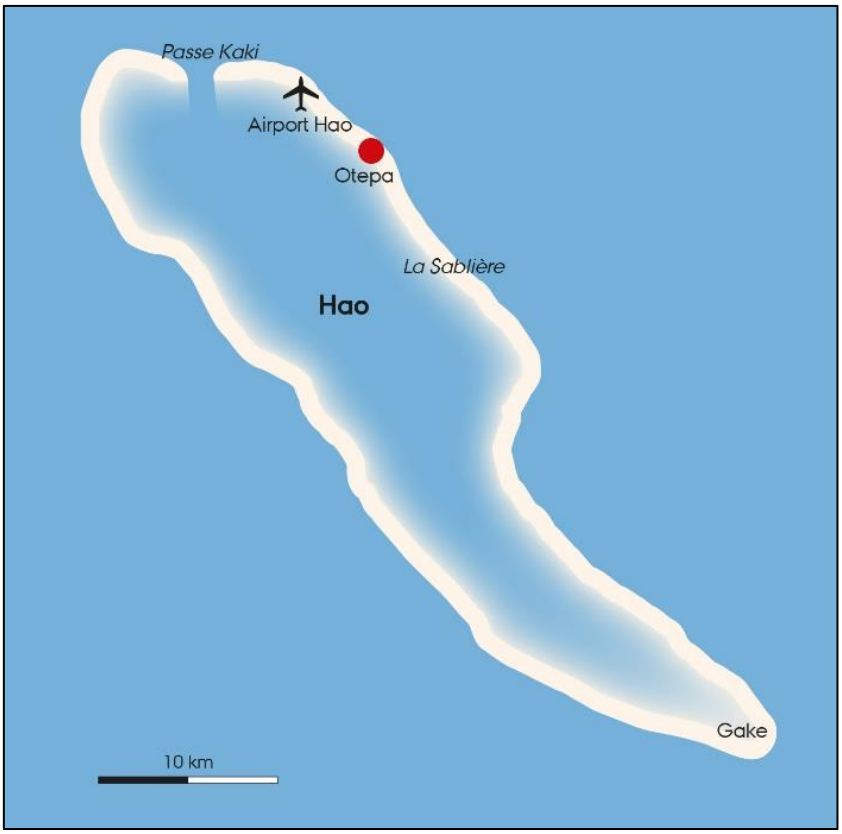
MAPS



Map 1: French Polynesia on the world map © Graphic department, Moesgaard Museum



Map 2: The five archipelagos of French Polynesia © Graphic department, Moesgaard Museum



Map 3: The Hao Atoll © Graphic department, Moesgaard Museum

PHOTOGRAPHS

CHAPTER 1. INTRODUCTION

1.1. Arrival

It was an early morning in late October 2019. I was flying from French Polynesia's main island of Tahiti to the Hao atoll, located approximately 920 kilometers to the east in the Tuamotu archipelago.[1] I would stay on this island of 1,000 inhabitants for the next two months; it would become the field of research for my doctoral thesis on life after Cold War nuclear weapons testing in French Polynesia.

The airplane landed on the narrow airstrip on the north end of the atoll next to the *passe Kaki*, the only navigable passage between the South Pacific Ocean and Hao's lagoon. The atoll is a 200-meter-wide coral ribbon: it stretches in a curved fashion for 50 kilometers and lies less than three meters above sea level. From the air, it seemed as if the airstrip was floating on the water that separated the atoll's 14-kilometer-wide lagoon from the Pacific Ocean. The runway (an impressive 3.38 kilometers long) was the first sign that reminded me of the atoll's nuclear past.

Between 1966 and 1996, France tested 193 atomic and thermonuclear devices, 46 of them above ground, on the uninhabited atolls of Moruroa and Fangataufa, located approximately 500 kilometers south of Hao.[2]

[1] French Polynesia lies in the middle of the South Pacific and is part of the Polynesian triangle delineated by Hawaii, the Easter Islands, and New Zealand. The 118 islands of French Polynesia are scattered over almost five million square kilometers, which is almost the size of Europe. French Polynesia is composed of five archipelagos. The Tuamotu archipelago constitutes the largest chain of atolls in the world, extending over an area approximately the size of Western Europe. Almost 80 of the 118 atolls and islands of French Polynesia comprise the Tuamotu archipelago. Only few of them are inhabited by approximately 16,000 Tuamotu islanders. Except for the island of Makatea, the Tuamotu islands are all atoll islands consisting of a multitude of *motus* (small islets) and sandbars that encircle the central lagoon (Bonvallot et al. 1994). In some maps of the first European explorers in the Pacific, the east central Tuamotuan atoll of Hao or Haoroagai, the "sky of the surroundings" in Pa'umotu (the language group of the Tuamotus), is also called "Bow Island" or "Harp Island" due to its curved shape (Cook 1893; Bougainville 1772: 182; Young 1899; Tahiti Heritage 2021).

[2] The largest atmospheric test in French Polynesia was the explosion of France's first thermonuclear bomb, codenamed Canopus, on 24 August 1968. It exploded with an energy of approximately 2,600 kilotons (the atomic bomb dropped over Hiroshima in 1945 had a yield range of 15 kilotons) (Norris, Burrows & Fieldhouse 1994: 6). France tested a total of 147 nuclear devices underground. An average of 3.8 kg of plutonium was used per underground test,

After World War II, France solidified its imperial position in its overseas territories by launching a nuclear weapons testing program and constructing military bases to support it. After Algeria became independent in July 1962, the French Defense Ministry moved its nuclear testing program from Algeria to French Polynesia, France's largest overseas territory.[3] In the early 1960s, more than 20,000 French military and technical personnel settled on the island of Tahiti (population: 45,000) and on the Tuamotu-Gambier islands and atolls (population: a few hundred) to work on the construction of military bases and infrastructure support, including the construction of the Faa'a International Airport in Tahiti, hospitals, schools, housing for the military and technical personnel, road infrastructure, and sewer and electrical grid systems (Rallu 1991: 183; Henningham 1992: 129f). This influx led to an increase in French Polynesia's population by 250 percent in 30 years (81,000 in 1961 to 202,000 in 1991) (Assemblée de la Polynésie Française 2009).

The relocation of the French nuclear weapons testing program to French Polynesia marked a turning point in the history of the Hao atoll. Hao and the wider archipelagic region had experienced other colonization waves before the arrival of the French military in the early 1960s; the development of the French Defense Ministry's Centre for Experimentation in the Pacific (CEP) ushered in a new phase of French colonialism.[4] In 1962, prior to the arrival of French CEP personnel, the total population of Hao was 194 (Morschel 2013: 64). Lagoon and pelagic fishing, copra harvesting (i.e., the dried white flesh of the coconut), and the cultivation of pearls were the major sources of livelihood (Tahiti Heritage 2021). In 1963, the CEP, in charge of the implementation and execution of France's vast testing program in the Pacific, began to transform

10 percent of which remained in the subsoil of Moruroa and Fangataufa after the explosions. This results in approximately 600 kg of plutonium that is still buried underground on the testing atolls (IAEA 1998; see also Philippe & Statius 2021: 79).

[3] In 1946, the French colony *Établissement Français de l'Océanie* (EFO) became the more autonomous *Territoire d'Outre-Mer* (TOM), i.e., French Overseas Territory. The Territorial Assembly was created at this time, and Polynesians became French citizens, which gave them the right to participate in the elections for the French National Assembly. Since 2003, French Polynesia has had the unique status of a French overseas collectivity.

[4] Hao, and French Polynesia in general, experienced different colonial waves prior to the beginning of nearby nuclear testing. For the history of French colonial occupation of French Polynesia, see S. Henningham's 1992 work *France and the South Pacific: A contemporary history* (Vol. 3) and B. Saura's 2017 *Histoire et mémoire des temps coloniaux en Polynésie française* (History and Memory of the Colonial Era in French Polynesia). Also, Hao (and many other Tuamotuan atolls) was introduced to European diet, clothing and other goods by missionaries and European schooners, long before the arrival of the CEP (Emory 1934, 1975).

the 35-square kilometer area around Hao's main village of Otepa into *the* major military support base for nearby nuclear weapons testing.

In less than three years, between 1963 and 1966, hundreds of French military and technical personnel settled around the main village of Otepa and transformed the area into a military boomtown. They built military-civilian support facilities on indigenous (mā'ohi)[5] land in four different zones in the northern part of the atoll: the naval air base (*base aéronavale*) between the airstrip and the *passe Kaki* in the north; the base camp of the CEP (*base vie*) between the airstrip and the village of Otepa (with barracks for over 1,200 soldiers of different military branches and ranks); the technical center of the French Atomic Energy Commission (CEA) south of the Otepa village (*zone CEA*); and a land plot that was transformed into an open waste pit (*dépotoir*).[6] The CEA facilities and the waste pit were in the area south of the Otepa village, called *la Sablière* (the French word for sandpit) (Meyer & Meltz 2020).

The military base on Hao had the threefold function to store and assemble nuclear devices, decontaminate military personnel and aircrafts that flew through radioactive clouds to retrieve gas samples, and examine these gas samples in the CEA laboratories in the strictly prohibited zone of *la Sablière* until nuclear testing was translocated underground in 1974.

In this military zone, the French miliary built paved roads, a water sewage system, a cargo port, a military hospital, and the largest airstrip in the South Pacific. In between the military-industrial facilities, the CEP installed many leisure facilities, including bars, tennis courts, a bowling center, a

[5] Mā'ohi is a Polynesian word that is used by a variety of culture groups throughout Polynesia. It is spelled differently ("mā'ohi" or "Maori," for example) depending on the respective language that is spoken. The term is used in all archipelagos of French Polynesia for example to denote an indigene of these groups of islands (see Stevenson 1992: 135; Saura 2004).

[6] In 1945, President Charles de Gaulle created the CEA, which was in charge of developing atomic energy "in the fields of science, industry and national defense" (Norris, Burrows & Fieldhouse 1994: 182). The CEA became the world's first civilian organization that tackled the use of nuclear fission (Davis 1988: 7). The Ministry of Defense and the CEA were grouped together under the entity *Centre d'Expérimentation du Pacifique* (CEP), in charge of the organization and execution of the nuclear military program.
In 1964, the *Direction des Centres d'Expérimentations Nucléaires* [the Directorate of the Centers for Nuclear Experimentations] (DIRCEN) was created to coordinate some of the strategic actions of the Ministry of Defense and the CEA. This joint body was directly linked to the Ministry of Defense. Two security departments that brought together specialists from both the Defense Ministry and the CEA were attached to the DIRCEN and worked in the CEA zone on Hao: The *Service Mixte de Sécurité Radiologique* [Joint Radiological Security Service] (SMSR) was responsible for the measurements of the external dosimetry of military and civilian personnel, and the analysis of the measurements provided by the French radiological measurement stations throughout French Polynesia. The *Service Mixte de Contrôle Biologique* [Joint Biological Control Service] (SMCB) was in charge of the radiological monitoring of the biosphere (land and marine environment, and natural food products) (Ministère de la Défense 2006: 248f).

water sports club, and French Polynesia's first outdoor cinema. These facilities were used by both the French military personnel and the Polynesian CEP workers.

The CEP transformed Hao into a metropolitan, almost urban center: it was similar to Papeete but located in the Tuamotu islands. With its infrastructure expansion and the construction and subsequent administration of its military base on Hao, the CEP strengthened the Hao atoll's capitalist market economy and created salaried employment for the wider archipelagic region. The CEP program was the biggest employer in French Polynesia for 30 years and Hao enjoyed almost full employment during that time.[7] Hundreds of Polynesian islanders from all five archipelagos moved to Hao to work either directly for the CEP or for one of its subcontracting companies. The population in and around the main village of Otepa increased from 194 inhabitants in 1962 to 1,412 in 1996 (Morschel 2013: 64; *Flags of the World* 2016). Hao's residents experienced drastic social and economic change that altered their local subsistence patterns, diets, and everyday life.

On the day of my arrival, I landed safely on the former military airstrip. I heard a voice calling to me: "Lis, you made it!"[8] and turned around to see a woman approaching me with a big smile and a flower necklace – the traditional Polynesian welcome gift. This was Mohea, the mayor's wife, who was sent to welcome me.[9] A few days prior to my flight to Hao, I had asked the mayor, *tavana* Théodore, the most powerful political figure on Hao, if I could come to Hao for my ethnographic work on the nuclear aftermath in French Polynesia. He told me that he would be happy to welcome me on "their [the Hao residents] atoll." I was relieved when I saw his wife Mohea. I had only talked to her on the phone before, but I recognized her calm, strong voice. She gently put the necklace around my neck and gave me two kisses on my cheeks: "*Maëva* - welcome to Hao!"

Mohea loaded my backpack into the municipal van, along with a pile of the weekly mails that had arrived on my plane and a half-dozen islanders coming home. We drove over the six-kilometer-long paved road – *la route pacifique* or *la route océan*, as the residents called it – that

[7] The CEP employed (directly or indirectly) over 60 percent of the active population of French Polynesia (CEROM 2007: 12).
[8] All the statements of the French-speaking informants have been translated into English by the author of this thesis.
[9] I chose pseudonyms in order to protect the integrity of my interview partners. I decided to anonymize them, except Mamie Blue (see Chapter 2) since she is a prominent figure in French Polynesia, and people in public positions (mayors, government representatives, politicians).

connects the airport and the village of Otepa. On our ten-minute ride to the village, we passed by an area with a lot of decaying, weed-infested buildings. Mohea noticed my fixed gaze: “This is what we call *la zone CEP*, the former site of the military base.”

After we dropped off each passenger at their homes, Mohea and I drove to the place where I would stay for the next two months. In the heart of Otepa is a long, single-story house divided into three apartments where the municipality houses guests who stay on Hao for short periods of time. I would stay with Terava and her 10-year-old son Louis. Terava was born on the Anaa atoll in the western Tuamotus but works on Tahiti as a health auxiliary. Her workplace on Tahiti transferred her to Hao to help the two nurses at the atoll’s infirmary.

Thomas and Manahere, two friends of Mohea and her husband Théodore, came over to the apartment to introduce themselves to me, the newly arrived *anthropologue*, as many people I met on Hao would call me throughout my fieldwork. I introduced myself and explained that I would like to explore how life on Hao is shaped by and has responded to the three decades of nuclear testing. Manahere, who was born and raised on Hao and was employed by the municipality at that time, responded immediately: “Well, you know, all I can say is that now, we have no jobs. But with the CEP, we used to have a lot of jobs.” Thomas was born on another Polynesian island. Nevertheless, he introduced himself as a Hao local since he grew up on Hao when his parents moved here to work for the CEP. Thomas was working as the mayor’s right hand during my first stay on Hao. He offered me a visit to the former CEP zone in the afternoon. Thomas would become one of my key informants on Hao.

Touring post-CEP Hao

That afternoon, Thomas and I started our tour by driving through what looked to me like an abandoned neighborhood, with lots of empty, crumbling buildings overgrown with ivy and invaded by wild grasses. A paved street ends in the woods. I noticed people cooking over a fireplace in front of one of the deteriorating houses. Thomas explained: “This was the neighborhood of the military officers [*le quartier des officiers*] of the military base camp [*base vie*]. It did not look like this before. It was not dead. There was life in this neighborhood when the military was here.”

In the first days of my fieldwork, I met Claude, a French veteran who did his military service on Moruroa and then stayed on Hao with his wife, a Hao native, ever since his military service

ended in the early 1990s. Claude explained the lively atmosphere around Otepa village during the French nuclear testing program by comparing Hao to the Moruroa atoll. The CEP used Hao as a retreat-and-recreation atoll for the French military and civilian workers on the two test sites. During their days off, they would fly from Moruroa and Fangataufa to Hao and enjoy the water sports, bars, and restaurants. Claude assured me that Hao, like Moruroa, was a Club-Med-experience[10], with champagne after each nuclear test, football tournaments on the beach, and windsurfing in the lagoon. However, Hao seemed to have been a much better-equipped Club Med. While the CEP transformed Moruroa into a militarized zone (*une zone militaire*) that was closed to the public, Hao was transformed into a living zone (*une zone vie*) for the French military and the Polynesian CEP workers and their families. According to Claude, there were fewer social boundaries between the French military and the Polynesian islanders on Hao than on the Moruroa test site.

Photo 1: Windsurfing in Hao's lagoon during the CEP era
© Inès & Marc[11]

[10] Club Med SAS (previously known as Club Méditerranée SA) is a French travel and tourism operator that specializes in all-inclusive holidays. Claude, the French veteran, compares the Club Med's reputation for the complete holiday experience to the lifestyle that the CEP provided on both Moruroa and Hao.
[11] Inès is a middle-aged woman from Hao who is married to Mark, one of the few French military men who decided to stay on the atoll after their military service ended. Many of the old photographs from CEP Hao that are included in this thesis come from Inès's and Marc's family album.

Photo 2: Children of the Polynesian CEP workers and French military men dancing on CEP Hao © Inès & Marc

Photo 3: Party (la bringue) *on CEP Hao © Inès & Marc*

When French nuclear testing activities ceased in 1996, the CEP shut down the military base on Hao and demolished most of the support facilities. During our tour, Thomas told me that, although most of the military buildings and the leisure facilities had been closed by the French before they

left in 2000, there are still some that have been re-inhabited by members of local landholding families. Most of these buildings are in the *quartier des officiers*, including the former military canteen, the navy bar, and the laundry facilities.

Photo 4: The former military canteen in the quartier des officiers*, former CEP zone, October 2021*
© Laurent Sturm

Thomas and I continued driving north on the *route océan* to what he referred to as *la dalle Vautour*, a concrete slab located at the end of the airstrip. During France's atmospheric testing in the Pacific, military aircrafts – the *Vautours*[12] – flew into radioactive mushroom clouds created by nuclear explosions to retrieve radioactive gas samples. They then flew to Hao where Polynesian CEP workers decontaminated the aircrafts with sea water on the southern fringe of the military airstrip. The gas samples were then examined in the CEA laboratories at the *Sablière*.

Today, an unknown amount of radioactive plutonium is still stored under the concrete slab at the former decontamination site. The French Armed Forces placed this slab on top of the contaminated soil to prevent it from leaking into the environment. Hao lies in a cyclone-prone area. A massive storm could damage the slab, releasing the stored plutonium into the ocean, if plutonium has not already leaked through the coral basalt (CRIIRAD 2006). Nevertheless, according to the 2014 study of the French Institute for Radiation Protection and Nuclear Safety

[12] *Le Vautour II* is a French bomber, interceptor, and attack aircraft used by the French Air Force (*Armée de l'Air*). *Vautour* is the French word for vulture.

(*Institut de Radioprotection et de Sûreté Nucléaire*, IRSN), there are no alarming amounts of residual radiation on Hao: the measured doses are no greater than the maximum regulatory doses authorized by the French government (IRSN 2015: 38f).[13]

Photo 5: La dalle Vautour*, former CEP zone, December 2019 © Lis Kayser*

However, residual contamination from the military debris dumped by the French military at the end of the testing program pose the greater health and environmental risk on Hao. Thomas guided me towards a fenced patch of flat land next to the concrete slab, which is covered with black foil: "This is an experimental pilot project of the French Army." During the dismantling of the military base in the late 1990s/early 2000s, the French military dumped 532 tons of military waste

[13] In 2006, the Polynesian General Assembly drew on the expertise of independent French nuclear experts and commissioned the *Commission de Recherche et d'Information Indépendante sur la Radioactivité* [Commission for Independent Research and Information on Radioactivity] (CRIIRAD), a French independent research institute for the study of radioactivity, to conduct a radiological study on the islands of Mangareva and Hao in the Tuamotu-Gambier Islands group (Assemblée de la Polynésie Française 2006). Nuclear physicists from CRIIRAD also concluded, just as the IRSN did, that there are no alarming amounts of residual radioactive contamination on Hao. Nevertheless, by linking their collected data with information from former classified documents disclosed by the *Observatoire des Armements* [Arms Monitoring Center] (OBSARM) in 2005, CRIIRAD further concluded that every atmospheric test between 1966 and 1974 produced nuclear fallout that spread to *all* the inhabited archipelagos of French Polynesia (ibid: 10; see also CRIIRAD 2006). In 2021, a group of researchers and investigative journalists re-examined the declassified documents as part of their independent investigation on French atmospheric testing in French Polynesia (Philippe & Statius 2021). They confirmed the results from CRIIRAD and concluded that the CEA severely underestimated the Polynesian populations' exposure to radioactive contamination.

into Hao's lagoon and buried smaller military debris, including scrap metal, cables, and car batteries, in the soil (ANDRA 2017). In 2009, French Armed Forces' *Direction d'Infrastructure de la Défense* (DID) began a rehabilitation program on Hao to demolish the remaining military infrastructure and clean up the areas that remained contaminated with pollutants of buried military waste, including hydrocarbons, polychlorinated biphenyl (PCB), and heavy metals.[14]

Photo 6: The pilot project of the French army, former CEP zone, October 2021 © Laurent Sturm

Thomas and I made one last stop next to Hao's airport where military hangars had been removed as part of the rehabilitation program. Here, the CEP had stored mechanical appliances, military aircrafts, and the nuclear bombs before they were transported to the test sites (Meyer & Meltz 2020). A dozen construction workers had flattened the ground of a 32-hectare area for the installation of the land infrastructure of a proposed $300-million Chinese fish farm. With a projection of 50,000 tons of cultured fish per year, the fish farm project would become the largest in the Pacific. (This project is discussed in greater detail in Chapter 5). Thomas told me that the area needs to be decontaminated before construction work of the fish farm could begin. I asked myself why any company would choose an island that needs to be decontaminated from nuclear waste and heavy metals to accommodate a fish farm. But Thomas has high expectations for the

[14] Contaminated soil is treated in the four-meter-deep pit of the rehabilitation program's pilot project, covered by a geotextile, and enriched with bacteria that would decompose the pollutants. Later, the cleaned soil will be taken out of this pit and put back where the CEP had once buried military waste. The rehabilitation program had not been finished by the end of my PhD project.

fish farm: “It will bring new jobs, new perspectives to Hao, new life! Sometimes, it reminds me of the CEP.”

I asked Thomas to what extent the farm reminds him of the CEP and what life on Hao was like when the CEP was still there. Thomas replied excitedly:

> *We had jobs! We ate* steak frites *[French fries and steaks] every day! We had a comfortable life, with running tap water, free access to electricity. Life on Hao is hard now that the military is gone. You can see it. We have been abandoned by the French. We had to readapt to the new, after-CEP situation. […] We had to go back to catching our meal in the ocean, instead of going to the supermarket. It was not easy, this transition. Anyhow, it was the golden age. Hao was special during that time. And it was way cleaner when the French were there. We still mourn after the CEP epoch.*

My tour with Thomas through Hao’s former military zone and his statement above certainly showed me that Hao was indeed “special” during its *époque CEP,* as the 30-year era of the CEP is known by the Hao residents. The arrival of the CEP and the transition of the atoll into a major advanced military base for the French nuclear testing program gave Hao a specific *raison d’être* and a unique centrality, both in France’s race for global nuclear domination and in French Polynesia’s labor market and overall economy.

But despite Hao’s past specialness and the prosperity of the CEP program, the residents were continually exposed to radioactive fallout from French atmospheric testing (CRIIRAD 2006; see also Philippe & Statius 2021). Local families with inherited land use rights had to sell or rent ancestral land to the French military. Yet despite the risk of contamination and land expropriation, Thomas looks back to the CEP era with profound feelings of nostalgia. He said that the past was “better” than the present, even “cleaner,” a statement he made while he was showing me the *dalle Vautour* and other evidence of the CEP’s nuclear and military pollution on the atoll.

When I first arrived on Hao, I found myself thinking about the current unanimous condemnation of the CEP project in contemporary Polynesian society.[15] I was aware that France’s

[15] Anthropologist Bruno Saura (2015) argues that the wider Polynesian society has not found consensus on how French Polynesia’s collective colonial past should be remembered but claims that the 30 years of French nuclear testing is nearly unanimously condemned.

nuclear testing policy had faced strong domestic and global criticism.[16] During my short stay on Tahiti prior to my first fieldtrip to Hao, I noticed that 25 years after the last nuclear test, this anti-nuclear attitude was common on Tahiti (where approximately 70 percent of the Polynesian population lives), especially among pro-independence politicians, anti-nuclear associations, and people suffering from radiation-induced illnesses.

With this in mind, I initially thought that the nostalgia about the nuclear military past expressed by Thomas, Manahere, the mayor and his wife Mohea, and Claude, the French veteran, is a distorted picture of Hao's nuclear history. Somewhat naively, perhaps, at the beginning of my fieldwork on Hao, I categorized this nostalgia for the CEP era as an aberration not worth digging into. I jumped to the conclusion that the few people I met in the first days of fieldwork are nostalgic for the CEP because they are part of the local elite that I was introduced to by the mayor: a minority that benefitted most, both economically and politically, from the CEP program. Most of them, including Claude and Thomas's and the mayor's families, moved to Hao during the nuclear testing era to work for the CEP. So, their identity and their reason for residence on Hao are inextricably linked to the CEP period.

Yet, I soon observed that ever more people that I talked to on Hao speak fondly about their happy memories of the nuclear military past, including elderly people *from* Hao who had to sell or rent their ancestors' land to the French military for the drastic transition of their home island into a military base for nearby nuclear testing. I met five Polynesian women on Hao who all had scars on the lower part of their throats, which meant that they had been treated for thyroid cancer.[17]

[16] France decided to continue atmospheric tests until 1974 instead of signing the treaty with all the other nuclear superpowers in 1963 to ban atmospheric testing, i.e., three years before testing began in French Polynesia. Decades of claiming that the French nuclear tests would be "clean" and pose no threat to the environment and human health, the blocking of independent investigations and studies on environmental and health impacts of radioactive fallout, and the French secret service's attack of Greenpeace's *Rainbow Warrior* vessel in 1985, led to local anti-nuclear demonstrations as well as to worldwide protests the late 1980s and early 1990s. A boycott of French cheese and wine across the globe occurred at the same time.

[17] Although residual contamination in contemporary French Polynesia is very low and does not lead to significant radiation exposure anymore (Chareyron 2016: 1), exposure to radionuclides during atmospheric testing (1966-1974) might have caused genetic mutation among the Polynesian population. This may have led to an increased risk of diseases such as different forms of cancer, miscarriage, infertility, and weakened immune systems. Whether this is the case remains a controversial topic in French Polynesia, France and beyond. Nevertheless, the cancer rate in French Polynesia is extraordinarily high, especially among women. Between 1998 and 2002, French Polynesia had the highest rates in the world for thyroid cancer and Acute Myloid Leukemia (AML) (*Deutschlandfunk Kultur* 2016). Between 1985 and 1995, 13.9 women and 20.9 men per 100,000 inhabitants in French Polynesia suffered from leukemia (Le Vu et al. 2000), compared to 2 to 4 per 100,000 among the global population. The risk for thyroid cancer, which may be induced by exposure to radiation, is higher for women (de Vathaire et al. 2010).

These women also express nostalgia for the nuclear testing era. I asked them if their cancer might be linked to nearby nuclear testing. The women told me that they do not know (three of them said "maybe" ("*peut-être*")), that their cancer could have also been induced by any other outside factor, an unhealthy diet, for example.

Although many of the islanders I talked to are now aware of the negative effects of nearby nuclear testing on human health and the environment, nuclear nostalgia, i.e., nostalgia for the age of French nuclear weapons testing in the Pacific, is the most prominent prism through which most of my informants assess not just the past, but also the present and future. Across all social classes and generations, including those who were born after the CEP had left the atoll in 2000, the nuclear testing era is still seen as Hao's "golden age."

The Hao residents' accounts of the CEP period certainly challenged my presumption that the local population would be resentful about this past and its lingering effects on the environment and human health. I realized that I would need to take their nostalgia for the nuclear past seriously, as it continues to define and influence the present and the future.

Obviously, nuclear nostalgia is not felt by everyone with the same intensity on Hao. People with a stable income, for example, or non-Polynesian people who moved to Hao after the departure of the CEP in 2000, did not express purely nostalgic feelings for the CEP era during our conversations. As we shall see in later chapters, those with land use rights (the occupants of the former CEP buildings) and those who benefitted from having a salaried job at the CEP are more nostalgic than, for example, those who continued to rely on subsistence fishing and copra harvesting during the CEP presence on Hao. Also, people with more education or a close connection to Tahiti, where political opposition to the French presence is strongest (see Chapter 4), are less likely to express strong feelings of nostalgia for the CEP. Yet, a remarkably large portion of Hao's community that I spoke with assesses the CEP era as "better than today." This is primarily because Hao's unemployment rate has been high in recent years with very few people having a fixed-term contract (for a maximum of one year) with the municipality or the schools.[18]

Also, after meeting more people who live on post-CEP Hao, I found out that today's Hao community is in general highly mixed: many people originally came from other Polynesian islands

[18] The current primary employers on Hao are two boarding schools, the primary school, and the municipality. Many residents make a living from subsistence fishing and copra harvesting.

or from mainland France and moved to Hao *because* of the CEP program. As such, Hao's social relations are complex and multidirectional. Many inhabitants I talked to, such as Thomas, are from outside but "feel" like locals. This relational island, where outsiders feel like locals, is an effect of the CEP epoch. Many people I met have benefitted in one form or another (through employment, land compensation, housing, and status) from the CEP program.

This thesis is an analysis of how nuclear nostalgia structures the present in complex and somewhat ambivalent ways and informs both memories of the nuclear military past and aspirations for the future of places formerly colonized for the testing of nuclear weapons.

I ask three interrelated questions in this dissertation. First, I ask how nuclear nostalgia is cultivated and maintained through asymmetrical power relations between the French military and the Polynesian population on the Hao atoll. Second, I explore what cultural work nostalgia performs to ignore or forget the exploitative nature of the colonial relation between the military and the civil society. Third, I examine how narratives of the past are (re)made through contemporary experiences of abandonment and rejection and how they influence future island development.

Based on a total of six months of fieldwork in French Polynesia, I developed three arguments that build on one another in order to answer these questions.

First, I argue that nuclear nostalgia on Hao is a social as well as an individual phenomenon. The sentiment of nuclear nostalgia is shared among the majority of the local residents that I met. Yet, this sentiment is multiple and expressed in different ways by different groups of people because of their different positions in Hao's society and the atoll's specific nuclear history. They feel empowered in different ways that relate to these positions, which allowed them to feel included in this new military and socio-economic hub in the Tuamotus. This thesis demonstrates how nuclear nostalgia underlies the many benefits and privileges the different groups of people received from the CEP in terms of limitless access to land, housing, sexual empowerment, public cleanliness and security, and French economic development.

As we shall see in Chapter 2, the nuclear nostalgia of Polynesian women and non-binary gender subjects is connected to the many parties and close, intimate, seemingly equal relationships with the French military men. Chapter 3 demonstrates that the nostalgia of the occupants of the former military buildings is linked to their being prioritized in the CEP's re-

distribution of formerly rented ancestral land. They express nostalgia for the time when an outside (colonial) power seemed to allow them to be better Tuamotuan people (due to increased communal solidarity and the abundance of sharing of (French) food), while also enjoying a "modern," i.e., French lifestyle. Chapter 4 discusses nostalgia for regional centrality among members of Hao's municipal council. The nuclear nostalgia of the small entrepreneurs and unemployed youth described in Chapter 5 is connected to salaried employment.

My second argument (which attends to my second research question) is that nuclear nostalgia on Hao was conditioned by the camouflage of colonialism. Nostalgia as a particular form of memory requires active remembering, but it also entails active forgetting or ignoring of some parts of history. I argue that the transformation of Hao into a militarized, yet seemingly inclusive and empowering hub for the nuclear testing program masked the nuclear realities of ruination, marginalization, and abuse. This shaped a collective memory that leaves little to no room for recognizing the power imbalances and the exploitative nature of nuclear colonialism on the Hao atoll.

Finally, I claim that nuclear nostalgia is a relational phenomenon. It constitutes an opportunity to explore the relationality or connectedness of islands to other islands and to the mainland. Polynesians' nostalgia for the nuclear age helps explore the extent to which this island relationality is rooted in (nuclear) colonialism.

Hao was first made relational via mainland France in the 18th century through French impingement on the kingdoms of the Tuamotu archipelago that allowed the French to expand their power. In this hierarchy, Hao was at the margin of French colonialism. The CEP period, which transformed Hao into a military, socio-economic retreat-and-recreation site of interracial sociality and relative prosperity in the shadow of nuclear testing, intensified Hao's relationship with mainland France and also made it, as I describe throughout the thesis, into a relational hub in the wider archipelagic region.

Therefore, nuclear nostalgia is a means by which to examine how islanders empower and re-position themselves against not only mainland empires, but also against other islands. Returning to my first research question, I argue that nuclear nostalgia has not just been cultivated by seemingly equal, yet deeply colonial relationships between Hao and the French military. It has also been cultivated and maintained by the local residents themselves who developed their own

counter-narrative to contemporary accounts of nuclear history in French Polynesia. I attend to my third question when I argue that nostalgia for Hao's relationality and its central, socio-economic positionality during the CEP period informs both people's fears and hopes for future island development.

1.2. Theoretical Framework: Nuclear Nostalgia

My thesis on nuclear nostalgia on the Hao atoll is situated in the growing field of nuclear humanities, a term that describes a broad range of scholarship that applies interdisciplinary approaches to study the legacies of nuclear weapons (Taylor & Jacobs 2017). Three trends in nuclear humanities in particular are important in my study: 1) The focus on the mundane, the everyday, rather than on nuclear exceptionalism,[19] 2) the study of everyday life *after* nuclear weapons testing of communities that exist on the fringes of nuclear empires, and 3) the question of memory.

In this section, I show how I contribute to and expand on these three trends in nuclear humanities through my study on nuclear nostalgia. I identify nuclear nostalgia as the key concept that frames my research theoretically. I link nuclear nostalgia to the concepts of camouflage and relationality, i.e., the connectedness of people and places that do not exist in isolation, to further unpack my ethnography.

At the end of the Cold War, there was a movement in nuclear humanities literature toward the study of the mundane or the everyday of people and places that were exposed to radiation and continue to be affected by it well after the moment of exposure. These people often exist on the periphery of nuclear military industrial complexes and have generally been among the most marginal populations in societies. They include communities living near nuclear waste storage sites (Kuletz 1998, 2001; Endres 2012), workers in uranium mines (Hecht 2012; Malin 2015), populations living close to former nuclear test sites (Stawkowski 2014, 2016; Johnston & Barker

[19] Nuclear exceptionalism refers to the moment when the creation of the bomb was portrayed as a never-before encountered phenomenon, which was either linked with power, prestige, and total salvation, or with unprecedented threat and the total incarnation of depravity (see Hecht 2006: 321).

2008; Danielsson & Danielsson 1986), as well as survivors of nuclear accidents and attacks (Brown 2019; Taylor & Jacobs 2017; Jacobs 2022).

I contribute to this larger group of nuclear humanities studies on people and places at the nuclear periphery by introducing the notion of nuclear nostalgia. While none of the studies on nuclear peripheries examine or observe nostalgia for the nuclear age, my study on the Hao atoll shows that nuclear nostalgia continues to structure the everyday life of people who have lived on the fringe of the French nuclear empire. In doing so, I build on Lindsey Freeman's (2015) work on atomic nostalgia in the secret atomic US city of Oak Ridge, Tennessee. Her pioneering work on atomic nostalgia offers an important starting point for my own theorization of nostalgia. The theoretical aim of my research, then, is to put nostalgia more firmly on the research agenda of the nuclear humanities. Nostalgia offers new perspectives on how people make sense of their nuclear past, present, and future and how their sense-making is conditioned by the efforts of nuclear powers to camouflage decades of nuclear colonialism. Nostalgia must be taken seriously as a particular form of memory and should be used to decolonize Western or Eurocentric narratives of nuclear history (see Biswas 2014).

Scholars of the nuclear humanities are now turning to the ethnographic study of the everyday life of nuclear communities on lesser-known places of the nuclear empires, such as mainland deserts (Stawkowski 2014; Kuletz 1998; Endres 2012) and islands in the Pacific (DeLoughrey 2013; Johnston 2007; Barker 2004; Johnston & Barker 2008; Danielsson & Danielsson 1986). Common to these studies is the analysis of how such places have been portrayed by mainland nuclear powers as remote or isolated in order to justify nuclear weapons development and use and the storage of nuclear waste. They also focus on local strategies of resistance to this form of colonialism of people living in these "desert places" (Endres 2009, 2012).

The question of islands is of particular importance because most Cold War nuclear test bombs have been detonated on Pacific islands. Most ethnographies on nuclear weapons testing in the Pacific focus on the social consequences of the U.S. nuclear testing program on the American island colonies of Micronesia. They document the forced resettlement of Marshall Islanders (Kiste 1974) and their experiences of environmental injustice and human rights abuse at the hands of the U.S. government, which justified its use of the Marshall Islanders as subjects for secret human radiation experiments during its nuclear testing program by the idea of the "biological isolate"

(DeLoughrey 2013; Johnston & Barker 2008; see also Johnston 1994, 2007; Barker 2004). The book *Poisoned Reign: French Nuclear Colonialism in the Pacific* (1986) by anthropologist Bengt Danielsson and his wife Marie-Thérèse Danielsson offers one of the earliest ethnographic studies of victimhood and nuclear harm of the *French* nuclear testing program in French Polynesia, especially on Tahiti. I add to their work by zooming in on the Hao atoll and focusing on feelings of nostalgia for (rather than feelings of resentment against) the nuclear testing era.

However, nostalgia in these studies rarely figures as a specific way of remembering the nuclear past. What are the reasons for this omission? A part of the answer is that scholars in the humanities and social sciences assume that nostalgia is sentimental or "fake history:" because nostalgia lacks objectivity, it is unworthy of academic attention (Bissell 2005: 224). While history is defined as the representation of the "real" past, nostalgia has been – and sometimes still is – perceived as a selective construction that idealizes some past events while downplaying or neglecting others (Palmberger 2008: 358f; Cashman 2006). While nostalgia indeed involves selections, the downplaying of nostalgia as false memory overlooks the fact that other forms of memory suffer from similar distortions. In that sense, nostalgia is no different from other forms of remembering. In addition, nostalgia is not just about the selection of positive memories. As I demonstrate below, it entails complex rearrangements of the past, present, and future. Nostalgia structures everyday experiences and expectations on the Hao atoll, and for that reason alone, an ethnographic account of life on Hao must be seriously examined rather than being labeled as false consciousness.

Another reason for the neglect of nostalgia in the French Polynesian context may be that Hao has so far been absent from ethnographic studies. In-depth ethnographic and sociological studies on the memory of former CEP workers and Polynesian islanders of Tahiti, Mangareva, Tureia and other atolls that were transformed into military bases for the CEP program exist, yet there is little focus on nostalgia (Greenpeace New Zealand 1990; De Vries & Seur 1997; Barrillot & Villierme & Hudelot 2013; Meltz & Vrignon 2022). Instead, they document the anti-nuclear movement, especially on Tahiti, and other forms of resistance against the French imperial narratives about nuclear weapons testing and its risks for human health and the environment (see Danielsson & Danielsson 1986; Regnault 1993, 2003; Peu 2003; Spitz 2007; Barrillot 2010, 2012;

Saura 2015). More recent studies, which focus more directly on Hao, rarely mention nostalgia or only do so in passing (Meltz & Vrignon 2022; Meyer 2022; Philippe & Statius 2021).[20]

A third evident reason for the neglect of nostalgia in the studies on French Polynesia's nuclear aftermath may be that questions of nostalgia cannot be easily translated into a politics of recognition and compensation, which has been the most dominant way to confront the harm done by nuclear weapons (see Johnston & Barker 2008). Such accounts sit uneasily with expressions of nostalgia and may lend further support to the view that nostalgia should not be taken seriously other than as a docile adoption of the highly contested French position that the nuclear testing program was a "gift" for the Polynesian people, leading to socio-economic development.

Anthropologist Bruno Saura (2015) argues that the wider Polynesian society condemns nearly unanimously the 30 years of French nuclear testing. According to Saura, the Polynesian society is currently in the third phase of remembrance of the nuclear fact, i.e., the phase of official acceptance by and financial compensation from the French State. They have moved on from an initial phase of denial of the dangers of nuclear testing (from the 1960s until the 1990s) and a second phase of the struggle for memorial recognition of the nuclear colonial fact by the French State (late 1990s and early 2000s).

Yet, my ethnography on Hao tells a different and perhaps unexpected story. Most of the people I talked to on Hao do not condemn the French nuclear testing program. They rarely claim that France did something wrong, except for leaving their island in 2000, an abandonment many of my respondents talked about as a traumatic turning point. I found that Saura's list of phases leaves little to no room for the evident nostalgia for the CEP on Hao. Hence, Hao is difficult to plot into Saura's three-stage-model: in the case of the nuclear past, there are more multilayered and ambivalent narratives of nuclear memory.

In her monograph *Longing for the Bomb: Oak Ridge and Atomic Nostalgia* (2015), Freeman combines historiography and ethnography to make sense of the (post-)nuclear present by highlighting the complex (hi)story of the American city of Oak Ridge. Oak Ridge was one of the three top-secret locations created by the U.S. government in the 1940s for the purpose of

[20] Sébastien Philippe and Thomas Statius, for example, briefly discuss nuclear nostalgia among former CEP workers who live on Tahiti in their book *Toxique* (2021: Chapter 12).

producing atomic bombs as part of the Manhattan Project. The end of the Manhattan Project in August 1945 marked the end of the city's *raison d'être*. Freeman shows the atomic community's "trajectory from atomic utopianism to atomic nostalgia" (ibid: xv). She calls the military-industrial-scientific vision of a lost utopia and the wallowing in memories of the beginning of the Atomic Age "atomic nostalgia," i.e., a "shared disposition experienced in the post-nuclear present that focuses longingly on the Atomic Age" (ibid: 11).

Freeman's ideas about nostalgia are helpful to understand how people I spoke to on Hao cope with the gloomy, post-CEP present and relate their aspirations for the future. The CEP program became the point of reference for future development projects in French Polynesia. Many Hao residents I met, as well as other Polynesian citizens and politicians, link economic development, and, consequently, social well-being, to the French nuclear testing program. In line with studies on Cold War/colonial/post-socialist nostalgia (Boym 2001; Nadkarni & Shevchenko 2004), Freeman argues that collective nuclear nostalgia reveals a community's disappointment with the present times of uncertainty, and people's realization that their community is no longer what it had been in the past (Freeman 2015: 5ff). In her book *The Future of Nostalgia* (2001), Svetlana Boym studies nostalgia in post-communist cities (St. Petersburg, Moscow, Berlin, Prague) and concludes that "nostalgia is not so much about the past as [it is] about the vanishing present" (ibid: 351).

Yet, nostalgia for Freeman and Boym does not necessarily keep people "stuck" in the present; it does not prevent them from imagining a promising future. Nostalgia can also be stabilizing and progressive; it can allow a society to claim its agency and imagine a future that is *better* than the present (Freeman 2015: 9).

Nevertheless, the nostalgia for the CEP period on the Hao atoll also differs from Freeman's conceptualization of atomic nostalgia. First, the historical context is significantly different. Hao's nostalgia for the period of French nuclear testing is better defined as *nuclear* nostalgia, rather than *atomic* nostalgia. The nostalgia of the people I talked to on Hao is not a longing for the beginning of the Atomic Age but for the age of Cold War nuclear weapons testing. Given that the thermonuclear age was characterized by public debate about the harms of nuclear testing and that Hao was close to one of the test sites, makes this nostalgia a more puzzling phenomenon than in the case of Oak Ridge.

The citizens of Oak Ridge were nostalgically longing for the Atomic Age, i.e., the period of using nuclear technology to develop the first atomic bomb that was detonated at the Trinity Test in New Mexico as part of the Manhattan Project and the ensuing bombings of Hiroshima and Nagasaki that ended World War II and led to a display of national pride in the U.S. The Cold War had not begun yet, the nuclear arms race was still in the future, and widespread nuclear testing had yet to take place. Only few atomic bombs had been built by mid-1945, and they were not as powerful as the later ones tested during the Cold War. Although there were fears about atomic war, the facts about harm related to nuclear fallout were unknown to the public and would only become a matter of global debate in the mid-1950s, after the U.S. Castle Bravo test in 1954 (see van Munster & Sylvest 2016). The Atomic Age was an ambivalent period: it was not clear what kind of age would emerge afterwards. Would the development of the atomic bomb, a technological milestone, usher in profound sociopolitical tensions and biological destruction or would it lead to world peace and total salvation?

Moreover, the atomic city of Oak Ridge was a top-secret place and was created for the sole purpose of developing the atomic bomb as part of the Manhattan Project. It was also home to the scientific elite of the American nuclear testing program.[21] People in Oak Ridge were proud of their "atomic glow" (Freeman 2015: 7), their special identity as a utopian place of the future that developed the atomic bomb with which the United States won the Second World War. The residents of Oak Ridge felt that they had contributed to the restoration of world peace. The atomic nostalgia felt in Oak Ridge was a longing for this self-made prestige and this utopian vision of the future that quickly disappeared after the end of World War II.

Hao's place in the French nuclear testing program was different. France tested its atomic and thermonuclear bombs in French Polynesia in a different age, almost 20 years after the attacks on Hiroshima and Nagasaki. In 1963, three years before the French military began its atmospheric testing program in the Pacific, awareness about the negative effects of fallout had led the U.S. and the two other nuclear superpowers at the time, the Soviet Union and Great Britain, to sign the

[21] A great number of ethnographies in nuclear humanities focus on the accounts of people living near the "official" nuclear sites and "elite" places such as the three US atomic cities of Oak Ridge, Tennessee, Hanford, Washington, and Los Alamos, New Mexico (ex.: Hales 1997; Masco 2006, 2015; Brown 2013; Kiernan 2013). Kate Brown's book *Plutopia: Nuclear Families, Atomic Cities, and the Great Soviet and American Plutonium Disasters* (2013), for example, is a comparative study on the Cold War history of two top-secret plutonium manufacturing cities in the USA and the Soviet Union. Brown demonstrates that years of economic prosperity in both countries in the 1950s helped to prevent social uprisings against serious plutonium contamination that impacts citizens and their environment.

Partial Nuclear Test Ban Treaty, which prohibited to test nuclear weapons in the atmosphere. The biological and environmental consequences of atmospheric testing were already a major cause of concern when France began its Pacific testing.

The military base on Hao was built for the top-secret program of French nuclear weapons testing, but Hao was not a secret place. Hao existed prior to the nuclear testing program, but it was the CEP that transformed Hao into a socio-economic hub in the wider archipelagic region. Polynesian people from all five archipelagos moved to Hao to work for the CEP. The nuclear age was a time in French foreign policy when French Polynesia, and Hao in particular, mattered.

Nevertheless, Hao was much more marginal to the French endeavor than Oak Ridge was for the Manhattan Project, even though it was not experienced as such by the Polynesian people who lived on Hao during the CEP era. The indigenous community was forced to rent or sell their ancestors' land to the French military for the construction of its support base for the Moruroa and Fangataufa test sites. At the end of the nuclear testing program, the French military used the island as a dumpsite for its nuclear waste and military equipment. Nuclear nostalgia on Hao is much more a *colonial* nostalgia, in the sense that the nostalgia expressed by Hao's residents was conditioned by the seemingly close relationship with the colonial power and the fact that some people long for the return of this colonial power in the future.

In a way, nuclear nostalgia on Hao is even more surprising than the atomic nostalgia that Freeman studied, given the historical context of Hao's position in the French nuclear testing program and its close location to the nuclear test sites. However, the different forms of nostalgia for the CEP expressed by Hao's residents become more understandable when one considers how Hao's position in French Polynesia and the relationship with the French military were experienced and are now remembered by the different groups of people living on Hao today and what aspects of the CEP period have been made forgotten and *how*.

The aspects of forgetting, or the failure to consider, and selective remembering are not absent in Freeman's work.[22] She alludes implicitly to the camouflaging work that atomic nostalgia does, referring for example to "[t]he fog under the happy mushroom cloud" that smothers critical thoughts about nuclear realities (Freeman 2015: 10). I extend Freeman's framing of nostalgia by

[22] For further information on memory being both collective and selective, see the seminal work of M. Halbwachs *Les cadres sociaux de la mémoire [The social frameworks of memory]* (2010).

making the aspects of forgetting and selective remembering more explicit. I analyze in particular the influence of French imperial nuclear narratives on the local residents' forgetting about nuclear realities of ruination, violence, and oppression through the concept of camouflage.

Camouflage of normalcy and nostalgia for relationality

Memory always also entails forgetting (Ricoeur 2000: 582; see also Saura 2015: 353f). The aim of my thesis is to highlight what is remembered in post-CEP Hao, but also recognize what is left out of local memories. I am utilizing Cynthia Enloe's concept of the "camouflage of normalcy" (2014: 132) to analyze the aspect of forgetting and selective remembering on the Hao atoll. Enloe's work helps me develop my argument that nuclear nostalgia on Hao (in contrast to atomic nostalgia in the city of Oak Ridge) is an effect of French colonialism that is conditioned by the camouflage or concealment of the power imbalances between the French military and the Polynesian people living around the military base. Her work also helps me develop the third argument of my thesis: that nostalgia for the CEP is cultivated by the seemingly equal, yet colonial relationships between Hao and the French military and by the current relationship between Hao and Tahiti.

Enloe's book, *Bananas, Beaches and Bases: Making Feminist Sense of International Politics* (2014), is a feminist analysis of the international politics of both masculinities and femininities. She explores gender and power dynamics on and around western empires' military bases in overseas territories and the military's strategy of preventing any protests against them by the local population. Enloe discusses how gendered exercises of militarized power are "camouflaged so they do not even look like power" to the local community (Enloe 2014: 8) and argues that military bases drape themselves in the "camouflage of normalcy" (ibid: 132), which means that they try to fit into the daily lives of the nearby communities. In this process, military personnel begin to manage as many public sectors as possible, including public administration, education, public infrastructure expansion, mobility, economy, and security. She explains that the daily interactions between (military) men and local women are controlled and manipulated (with the military in charge of many aspects of the public sector) so that the actions of the military are regarded as normal by the local community. The local community, in turn, begins to take the presence of the military for granted and forgets or ignores the actual role of the military base (ibid: 129ff).

So far, nuclear nostalgia and "camouflage" have not been put together by nuclear humanities scholars. No one on Hao described this process of forgetting or ignoring to me as "camouflage." But while reading Enloe, it made sense to me to frame the forgetting or ignoring of some aspects of the nuclear past as the placing of the militarized power under the camouflage of something that is perceived as normal or a *new* normal on Hao.

I expand on Enloe's work on the infiltration of the military into the normal life of local communities by exploring throughout the thesis how the different layers of the militarized power imbalance were camouflaged by the CEP, how this camouflage work helped the CEP to create a new normalcy that had never existed before, and also how this conditioned a strong sense of nostalgia for the CEP period on post-CEP Hao.[23] The militarized power of the CEP over the Polynesian people was expressed primarily through sexual exploitation, land expropriation, military waste disposal, radioactive contamination, and the creation of socio-economic dependence. The French military camouflaged these *abuses* of power by creating a new cultural authenticity that was characterized by the creation of new sexual identities, constant partying, infrastructural development, obligation-free gift giving, and a socio-economic centrality for Hao in the wider archipelagic region.

On Hao, the power abuses of the French military could only be camouflaged because of the particular relationship that the military created with the Polynesian population. During Hao's CEP era, the French military created an unequal relationship with the Polynesian civil society: The French had always had the power to decide how to use Hao (for example, as a dumpsite for its military equipment) and when to end its relationship with Hao. However, I met many people on Hao who did not experience their relationship with the French military as exploitative or unequal, but as reciprocal and equal. They express nostalgia for relationality. This relationality takes different forms for different groups of people, but I argue that it is commonly experienced as empowering and inclusive because of the French military's camouflaging work.

[23] France also tried to camouflage the cruelties of nuclear testing in French Polynesia on a national scale: The CEP changed the name of the *Moruroa* testing atoll, which means "little lies" in Tahitian, into *Mururoa*, which has no Polynesian meaning (see Kahn 2000). In order to obscure the intensity of its nuclear testing preparations, including the massive infrastructural expansion on Tahiti, France boosted the local tourism industry at the same time as they started the construction works for the testing program (ibid: 14). Furthermore, France downplayed the devastating scope of atmospheric testing when it claimed that the French tests would be "clean" and pose no threat to ecosystems and human health (*Comité Interministériel pour l'Information* [Interdepartmental Committee for Information] 1973: 4).

So, nuclear nostalgia on Hao is triggered by the military's camouflage work. The French concealed its military, colonial intentions and distracted the Polynesian population by maintaining secrecy about its nuclear program. It fostered prosperity for Hao's residents, and forged close, often personal relationships with the Polynesian population.

Nevertheless, nostalgia is *also*, if not principally, people's very own way to remember their past and imagine their future. I critically expand on Enloe's work on the camouflage of normalcy when I argue that the camouflage work of the French military and the nostalgia for the nuclear age of the people of Hao are not just hiding the militarized power imbalances, but that they also enable the Hao residents to shape the narrative about their nuclear past that circulates on the local and national level. A critical analysis of the relationship between Hao and the French military as well as between Hao and the main island of Tahiti helps us understand that nuclear nostalgia is not just a naïve acceptance of French imperial nuclear narratives. Nostalgia also serves as an empowering local counter-narrative to Polynesian mainstream discourses about Hao as a radioactive, forgotten atoll. The people on Hao who spoke with me about the island's CEP period have developed their very own knowledge about their nuclear past. But when one examines how these perspectives have been influenced by nuclear narratives from outside actors, then their nuclear nostalgia becomes more nuanced and understandable and less of a distorted, one-dimensional picture of a deeply colonial chapter in French Polynesia's history.

1.3. Methodology

I draw on ethnography as my primary methodology, as it is the privileged methodology to empirically study the mundane of the nuclear complex from the perspective of the affected communities. As part of my ethnography, I made two fieldtrips to French Polynesia, one from October 2019 until January 2020 and the other from September until December 2021. My research findings stem from over 60 qualitative interviews and countless informal conversations that were conducted during these two fieldtrips. I have used the statements of 54 people that I met on Hao in the thesis.

While otherwise preparing for my first ethnographic fieldtrip to French Polynesia, I performed archival work in the archives of the French Ministry of Defence (*Service Historique de la Défense*, SHD) and the Atomic Energy Commission (*Commissatiat à l'Énergie Atomique*, CEA). This complemented my literature search earlier in my research.

These French State archives, however, tell the story of the nuclear complex from the perspective of the colonial power, which claimed for decades that the nuclear bombs detonated in French Polynesia would be "clean" and more moderate and limited in numbers than the many nuclear tests by the US and the Soviet Union, which carried out over 85 percent of all nuclear bombs detonated between 1945 and 1995 (see Comité Interministériel pour l'Information 1973: 4). In addition, the data stored in these nuclear archives is rather incomplete and has been proven partially false: the data either provides misleading information on the effects of radiation or is not accessible because it is classified as "*secret défense*" (military secret).[24]

Historian Kate Brown (2009) has spoken about the need to compensate history (archival work) with anthropology (ethnography). She emphasizes the importance of conducting ethnographic fieldwork in marginalized places that have been exploited by the nuclear military industrial complex. Ethnography takes seriously those most affected by (nuclear) colonialism and makes data accessible for people living in places that nuclear powers have dubbed "no places,"

[24] In the 2007 report on radiological aspects of French nuclear testing on Moruroa and Fangataufa, the CEA claims that "except for" a group of pilots who had to fly into the radioactive clouds right after the explosions, "nobody" registered a contamination rate above the international standards for safety (CEA 2007: 443). In the footnote added to this claim, the CEA states another exception: that during the first nuclear test in 1966 the inhabitants of the Gambier Islands received radiation doses that were approximately 10 percent above the international norms (ibid). Moreover, the CEP had stated that nuclear bombs would only be detonated above ground when winds were blowing to the south, as there are no islands in that direction that could be exposed to radioactive substances.
Yet, we now know that the detonations produced radioactive clouds that were moved by prevailing winds, dispersing radionuclides hundreds of kilometers away from the ground zeros (Norris, Burrows & Fieldhouse 1994: 205f). Since meteorological forecasts are not always accurate, the local population living on nearby islands, including Hao and the Gambier Islands, were regularly exposed to external (through penetrating y-rays radiated by radionuclides on the ground) and internal (from contaminated food and water consumption) irradiation leading to increased health risks (De Vathaire et al. 2010: 1115; Chareyron 2016).
In 2005, the journal *Damoclès* of the *Observatoire des Armements* [Arms Monitoring Center] (OBSARM), an independent French center on peace and conflict, disclosed previously classified documents of the SMCB, which was in charge of the collection and analysis of biological samples during and after nuclear explosions. Those official documents reveal that a few weeks after the first nuclear test in 1966, the amounts of radiation in examined soil from Mangareva were 50 times the normal amount. For example, leafy vegetables that were tested registered 666 times and drinking water six times more radiation than usual (*Damoclès* 2005: 16). Radiation levels at the Gambier Islands were in general a thousand times higher on the day of the first nuclear weapons test than in France after clouds from the Chernobyl accident passed by over western Europe in 1986 (Chareyron 2016: 1). These numbers are not consistent with the claims the CEA made in its 2007 report.

i.e., remote or deserted places (ibid). Listening to local communities' oral (hi)stories constitutes a crucial puzzle to absorb in order to understand the bigger story of nuclear testing found in classical archives (see Maclellan 2017).

Fieldwork 1

I applied for the PhD position in the research program titled "Radioactive Ruins: Security in the Age of the Anthropocene"[25] (RADIANT) in late October 2018 because of my interest in toxic legacies and waste colonialism. I wanted to document how marginalized communities in French Polynesia deal with the colonial legacies of the French nuclear testing program. Thinking of Cold War nuclear weapons testing, I pictured a 20th-century nightmare: My thoughts circled – and sometimes still continue to circle – around disturbing images of frightening mushroom clouds shooting up into the sky, innocent Polynesian people suffering from thyroid cancer and other radiation-induced diseases, and dead fish floating on the surface of the lagoons of the two atolls used for testing.

For my proposed research on the nuclear afterlife in French Polynesia, I travelled first to the main island of Tahiti and spoke to a dozen French state and Polynesian government representatives, anthropologists and historians, French military representatives, pro-independence politicians, and members of anti-nuclear organizations. I asked them for their advice as to the feasibility of my research project and which Polynesian islands they would suggest for ethnographic fieldwork.

Some government authorities and members of the anti-nuclear organization did not understand why I even considered Hao as my field of research. The French State representative for the Tuamotu archipelago, for example, had a presentiment about my considering doing ethnographic research on Hao's nuclear afterlife: "You will be very lonely. There is nothing to do. You might be bored after a while. It's so far away and you know, it is still polluted." One anti-

[25] The Age of the Anthropocene is an unofficial geological time period used to describe the most recent period in the planet's history. It marks the beginning of a "fundamental change in the relationship between humans and the Earth" (Lewis & Maslin 2015: 171). The Anthropocene is the "human-centered geological period" when human activity began to have a significant impact on the Earth's ecosystems and climate (Erle et al. 2016: 192). When the Anthropocene began is highly debated among geologists and social scientists. Some scholars, including many nuclear humanities scholars, define the testing of the first atomic bomb and the dropping of the bombs over Hiroshima and Nagasaki in 1945 as the beginning of the Anthropocene, when radioactive particles began to be detected in soil samples globally.

nuclear NGO worker warned me that "people on Hao are tough to work with" in terms of the NGO's fight for financial compensation, their demanding archival declassification of medical files by the French state and an official apology for decades of colonial exploitation and environmental injustice. Two informants even tried to convince me to choose another atoll for my fieldwork; one whose population was more severely contaminated with radioactive fallout, such as Tureia or Mangareva.

I was fired up by their dismissive attitude toward Hao. How can they say "there is nothing" when Hao played a crucial role in the French nuclear testing program as *the* major military support base? This attitude aroused my curiosity about Hao even more: I wanted to explore the extent to which the nuclear military past still reverberates in the present. I also asked myself if the Hao islanders had also had to sacrifice the land of their ancestors to the French testing program to the same extent as the indigenous people from Mangareva, Tureia or Tahiti did.

A Polynesian anthropology professor on Tahiti recommended that before I travelled to Hao, I should ask Hao's mayor, *tavana* Théodore, if he would agree to my living in the village for months and to do ethnographic research about their nuclear past. The professor said:

> *Here in French Polynesia, the nuclear past is still a delicate topic to talk about. Some people on Hao might not want to talk to you about it. Call the* tavana *to see what he thinks about your fieldwork plans. He's a friend of mine, I can give you his phone number. The* tavana*, almost like the chiefs in pre-colonial times, take up a powerful position in contemporary Polynesian society.*

I told the professor that I had already written half dozen emails to the mayor but had never received an answer. The professor remarked: "You don't write emails here! Polynesians prefer to talk on the phone." I followed his advice and called Hao's *tavana*, who answered his phone after the second beep: "Lis, we are already waiting for you! Please, come! You will arrive next week, right? My wife Mohea will pick you up at the airport."

According to the 2017 census, 1.027 people live on approximately 35 square kilometers in and around the main village of Otepa on Hao (ISPF 2017).[26] During the approximately six months I spent on Hao between 2019 and 2021, I talked to 143 of these people. I spoke with 52 of them

[26] *Tavana* Théodore told me in 2019 that less than a dozen Polynesians live on *motus* (little islets) outside this area around the Otepa village. Here, they make a living by copra harvesting and fishing. Most of them live in the old village of Vainono on the southern tip of the atoll.

more than once. 15 of the 143 people that I met did not live there permanently, including Terava, the health auxiliary and my roommate during my first stay. I conducted 59 qualitative interviews and longer, informal conversations, 20 of which were group discussions.

After a few days on the Hao atoll, I discarded my expectations that it would be difficult to talk about the nuclear past with self-proclaimed victims of French nuclear testing, since doing so might evoke trauma and unpleasant feelings of anger and resentment towards the French military. In fact, most of the residents I met during the first week of my stay had nostalgic, warm memories of the nuclear testing era.

The warnings that I received on Tahiti somehow made me want to go to Hao. The Hao's residents' nostalgia for the nuclear age made me want to stay there. This nuclear-related nostalgia is puzzling: I was attracted to it. I wanted to find out how nostalgia structures everyday life. I wanted to make sense of it, as it was not at all what I expected to find. I began to realize that nuclear nostalgia adds a new layer to the question of how people of places most affected by nuclear weapons testing experienced and make sense of the nuclear past.

It should be noted that the nostalgia expressed on Hao is a Polynesian nostalgia that is expressed in a colonized language.[27] I only know a few words in Pa'umotu (the language group of the Tuamotu archipelago), but since virtually all the people I met and talked to on Hao (except one 80-year-old man) are fluent in French, as I am, we communicated in French. The Polynesian residents used French words to express nostalgia and to describe their very Polynesian or Pa'umotu way of longing for the French CEP era.

Nostalgia for the nuclear age is a social phenomenon on Hao: it is shared among most people I met during my fieldwork. I gradually came to understand that it is also an individual phenomenon: it is expressed differently by different people depending on their position in Hao's society and their link to the CEP. Those who spoke most fondly of the CEP benefitted most from the nuclear testing program by, for example, housing compensation, salaried employment, social status, and political power. Approximately 1/3 of the people I met were either born on Hao and/or belonged to a local landholding family. This group of people benefitted from the financial compensation they received from the military for leasing or selling their ancestors' land to them.

[27] The Latin alphabet was introduced in French Polynesia by the first British missionaries of the London Missionary Society (LMS) in the early 19th century.

Since hundreds of Polynesian people moved to Hao to work for the CEP and remained after the CEP closed down, the majority of the current population is not originally from Hao in the sense of being born there or having inherited land use rights. A total of 2/3 of my Polynesian informants is not originally from Hao. Nevertheless, many of them, such as my key informant Thomas, consider themselves "from Hao," meaning from CEP Hao, the period when they or their family had moved to the island. They benefitted from the nuclear testing period in that the CEP gave them access to salaried employment, a French modern lifestyle, housing (on a narrow atoll with scarce land), and a shared CEP-linked communal identity. The CEP made these outsiders feel like true insiders in this newly created Club-Med-like, all-inclusive place, despite – or for this very reason – having only recently moved to Hao from all five archipelagos of French Polynesia to work for the CEP program. Most of these CEP-made locals are still well integrated into the local community and are accepted or even much appreciated by those members of landholding families that I met during my fieldwork. Yet, some Hao residents with land use rights criticized then *tavana* Théodore for supporting the proposed installation of the Chinese fish farm in Hao's lagoon, arguing that since he is not originally from Hao, he should not be the one to decide what big business should be implemented on the island.

Around two dozen villagers I spoke with are *demis*, who are considered Polynesians who have one Polynesian parent and one non-Polynesian, usually a French, parent. They constituted 17 percent of the total Polynesian population in 2014 (Kuwahara 2014: 95). An unknown number of *demis* were born on Hao during the CEP era when several hundred French military men spent months isolated on an atoll while populated by only few dozen Polynesian women who lived in the village next to the military base. Since "[e]mployment, […] and status differences tend to operate along racial lines" in French Polynesia, the *demis* often hold "prestigious jobs of high visibility in politics, finance, and the tourist industry" (Henningham 1992: 131). The *demis* on Hao are socially accepted by and well-integrated in the local community. Some of them are admired for their fishing skills or respected for working at the police department, the town hall, or in the grocery shops. Since most military men went back to mainland France at the end of their military service, most *demis* on Hao grew up without their biological father. Some *demis* who spoke with me are proud about their fathers' crucial role in the French nuclear testing program and in Hao's recent history. At the same time, they feel abandoned, rootless.

I met a few dozen *popa'a* (Tahitian for Europeans or white people) who live temporarily on Hao. All of them are from mainland France. Half dozen *popa'a* worked in the *collège* as teachers or librarians and generally stay for a period of 2-4 years. I also met around a dozen French veterans who had lived on Hao since their military service ended on the two testing sites or on Hao. These former *farāni militaires* (French military men) fell in love with the calm island life and/or with a local woman and decided to stay on Hao and enjoy spending their military pension.

Fortunately, I could throw overboard my initial worries that the people living on Hao might not be interested in talking to a stranger about their personal experiences of the nuclear past and present. Many of my informants saw my ethnographic research as an opportunity not just to disseminate their local knowledge about Hao's CEP history, but also to emphasize a counter-narrative to the Polynesian mainstream narrative about Hao as a "radioactive," forgotten atoll. I was regularly invited to Sunday barbecues and afternoon-coffees where people would wallow in positive memories about the CEP era and show me pictures or other "souvenirs" from that era, including old postcards from CEP Hao, military uniforms, and furniture recovered from the abandoned military buildings. I returned the favor by inviting them for traditional Luxembourgish dishes at my place.

During my first period of fieldwork, when I was confronted with my own Eurocentric idea of nostalgia, I learnt that nostalgia can become a reflective and methodological tool for the anthropologist. Analyzing people's nostalgic feelings towards their (nuclear) past can lead the anthropologist to question his or her own assessment of both the atomic age and the definition of nostalgia. It would be too simplistic to conclude that nostalgia only represents a romantic longing for pre-modern times. This is certainly not what I found on the Hao atoll. These encounters with Hao's residents made me aware that my research entailed its own kind of nostalgia and spurred me to question my Eurocentric idea of nostalgia as a romantic longing for pre-modernity or the pre-nuclear (see Angé & Berliner 2014).

Fieldwork 2

In September 2021, after the peak of the global Covid-19 pandemic had subsided, I was ready to return to Hao. When I prepared for my second fieldwork visit, I had the ethical responsibility to not do any harm to the people with whom I work in the field. I took all the

precautionary measures that were necessary to keep the risk of my getting and spreading the virus as low as possible. For my first fieldtrip to Hao, I had packed sun cream, a Geiger counter, mosquito repellent, and a first aid kit to protect me from the many dangers that lurked on Hao, such as dengue mosquitos, a glaring sun, and residual radioactive contamination. For my second fieldtrip, I packed medical masks, disinfecting gel, and Covid-19 quick tests, and left the Geiger counter and mosquito repellent at home. This second time, *I* had become the invisible threat.

I underestimated what it would mean to come back to the field a second time for my research in terms of access to the field and my positionality as the ethnographer. The fact that I returned to Hao confirmed for many residents that I take their individual and collective (hi)stories seriously. During this second period of fieldwork, I became even fonder of the Hao atoll and its residents.

I was accompanied this time by my boyfriend Laurent. Suddenly, I was acknowledged as a "married" *popa'a* (white) woman, rather than an unfamiliar girl travelling to the other side of the world by herself. I, together with Laurent, was invited more often to people's homes, not just because they began to see me as a friend, but also because they felt more comfortable inviting a *popa'a* couple instead of one female stranger. (The latter might have provoked the spread of gossip in the village.) In addition, Laurent's presence on Hao and his relationships with many male islanders made me aware of my limitations in terms of access to male-dominated labor practices or leisure activities (i.e., pelagic fishing, gardening, rowing, etc.).

The major limitation I experienced in 2019 was my close relationship with the then mayor. The *tavana* introduced me primarily to people who were his political adherents or his friends and family. This limitation was largely absent in 2021 when the new mayor, *tavana* Yseult (elected in 2020), welcomed me on Hao, and her assistant, Linus, introduced me to different people than Thomas (the former mayor's assistant) did, many of whom are *his* friends and family.

In 2021, I spoke with 68 new people whom I did not meet during the first trip or whom I already met but was unable to talk to back then. People living in the Tuamotu archipelago (and in French Polynesia in general) are very mobile: they travel to the neighboring islands to harvest copra on their family's land, to catch or sell fish, or to visit relatives. Most of the local residents that I met for the first time in 2021 were on Tahiti the last time I was on their home atoll, because

they were visiting relatives, receiving vocational training or higher education, or spending some time in the hospital.

During my second stay in French Polynesia, I made a short fieldtrip (2.5 weeks) to the Gambier Islands, located some 800 kilometers south of Hao and 400 kilometers east of the two testing atolls. In 1967, Totegegie, a small islet of the Gambiers, was transformed into a military base for the atmospheric testing period (Assemblée de la Polynésie Française 2009). I spent most of my time on the main island of Mangareva where the majority of the local population lives. I talked to approximately two dozen people there. Qualitative interviews were conducted with ten men and nine women.

The reason I went to Mangareva was to check Hao's uniqueness in terms of its collective memory of the nuclear past. I wanted to better understand why there is so much nuclear nostalgia on Hao but not on Mangareva. According to the literature on French nuclear testing in the Pacific, there is a strong anti-nuclear discourse among the local population about Mangareva's CEP history (Greenpeace New Zealand 1990; De Vries & Seur 1997; Barrillot & Villierme & Hudelot 2013). The founding members of one of the three Polynesian anti-nuclear associations are originally from Mangareva. My conversations with Mangareva residents confirmed my initial assumption that nuclear nostalgia on Hao was conditioned, *inter alia*, by the unique relationship between the Polynesian community and the French military who camouflaged this relationship as one of equality and unity through its introduction of parties, gaiety, economic prosperity, and a modern French lifestyle that was in fact deeply exploitative and unequal.

On Hao, the CEP era is nostalgically remembered as the time when Hao had a unique *raison d'être* and CEP-linked identity as the retreat-and-recreation atoll for the testing program and sported many bars, nightclubs, sports facilities, and a cinema. In contrast, the military base in the Gambiers was on an uninhabited islet; it hosted fewer military personnel and was active for a shorter period of time than the base on Hao. Members of the generation born in the 1960s and 1970s, i.e., "*les enfants de la bombe*" ("the children of the bomb"), who grew up during the presence of the French military, remember having a close, almost amicable, and seemingly equal relationship with the French military despite the division of the Hao atoll into separate military and village zones. The French military made the Polynesian CEP workers who moved to Hao with their families feel included in the newly developed CEP-community, including inviting them to the

military zone for barbecues on Sundays. The CEP gave them privileges that one could get nowhere else at that time, except perhaps on the main island of Tahiti. As Thomas, my key informant, mentioned, these privileges included salaried jobs, excessive parties in the many bars and nightclubs and access to French food like *steak frites*.

Most people I spoke with on Mangareva, however, displayed bitterness, anger, and sometimes even boredom talking about the nuclear past. Many "children of the bomb" are annoyed about talking, again, to yet another *anthropologue* about their memories of the nuclear past. One man in his late sixties said: "Our testimonies are out! Researchers have written about us, our stories. But nothing happened! The governments won't do anything. They don't give much financial compensation."[28]

While the Gambier Islands were exposed to nuclear fallout from the nearby atmospheric tests and French military officials were aware of the doses received by the island and their effects on human health and the environment, they kept it secret.[29] Many Mangareva people I met, who either experienced the CEP era themselves or whose parents did, mentioned the military hangar made from metal sheets where the local population sought shelter during atmospheric testing. The French military hid in a shelter on the other side of the island (which was less exposed to the winds coming from the test sites) that was made from concrete, i.e., a more radiation-resistant material. These residents deplored the fact that the French military did not inform the islanders about their exposure to radioactive fallout.

I met the doctor on Mangareva, a Tahitian. He had only worked here for a year but was astonished by the high rate of thyroid cancer: "In the French city where I worked for over 40 years,

[28] Under the stewardship of Defense Minister Hervé Morin, a compensation law, *la Loi Morin*, for French nuclear test victims was passed in 2010. Applicants can receive monetary compensation when they submit to the *Comité d'Indemnisation des Victimes des Essais Nucléaires* [Compensation Committee for Victims of Nuclear Tests] (CIVEN) their medical records on their diseases that may be radiation-induced, and documents proving that they lived or worked in the designated radiation-exposed areas during atmospheric testing (which are limited to the Gambier Islands, Tureia, Reao, Pukarua, and a part of Tahiti. On Hao, only the decontamination area at the *dalle Vautour* is recognized by the Morin Law). Nevertheless, many applicants cannot prove that they lived nearby or worked for nuclear-related facilities. Moreover, if a person's radiation exposure is considered low or if the correlation between radiation exposure and the person's disease cannot be identified, the person's application can easily be dismissed. In its annual report in 2020, CIVEN noted that of the 1,747 cases registered since 2010, only 356 have come from the Polynesian population. So far, 197 Polynesian cases have been approved for compensation. Since 2010, 584 people in total received financial compensation of between €10,000 and 90,000 per person from CIVEN (CIVEN 2020; see also Philippe & Statius 2021: 18, 141ff).

[29] This withholding of information by the military was made public in 1998 by journalist Vincent Jauvert (1998). In 2006, the French government acknowledged that French military officials knew about the effects of radioactive fallout of some of its atmospheric tests on human health and ecosystems (*New Zealand Herald* 2006).

I may have diagnosed two thyroid cancers. Here, I diagnose people with [this] cancer all the time. There have been thyroid cancer cases in every family. It's not a taboo to talk about it." Indeed, people of all ages told me immediately that they either had or now have thyroid cancer or that one of their close family members was affected.

Although Hao was also contaminated with radioactive fallout from French atmospheric testing (Philippe & Statius 2021), none of my informants mentioned their parents' or grandparents' medical history and less than half a dozen people told me they had thyroid cancer, but they do not know what induced their cancer. In fact, Polynesian residents of Hao repeatedly told me that they felt protected and cared for by the CEP. After all, the CEP built a military hospital and provided regular health checkups to the civil population. Moreover, many Polynesian people who live on Hao mentioned the selfless support of the military in re-building the village of Otepa after the devastating *cyclone Nano* hit the atoll in 1983.

On Hao, development today is perceived to be directly linked to the CEP program and its consequences. In the Gambier Islands, pearl farming began to boom in the 1980s and helped many islanders become independent of the CEP. Life on Mangareva after the departure of the CEP in the 1980s is remembered as less traumatizing, sudden, and all-encompassing than on Hao. Mangareva enjoys almost full employment today because of its pearl farming. Hao, on the other hand, still struggles and seems to be excluded from the national economy. The CEP past on Hao seems to be worth talking about, unlike the present, post-CEP "sadness" that is – to my initial surprise – not linked to colonial atrocities of nearby French nuclear testing and the militarization of their atoll, but to the fact that the French had left Hao.

1.4. Thesis Outline

Throughout this dissertation, I unfold the Hao islanders' shared nuclear nostalgia by focusing on different expressions and nuances of it. Each ethnographic chapter centers on different groups of people, events, and material legacies of the CEP, which help me tell the many different, somewhat ambivalent stories that lead me to explore the shared senses of nuclear nostalgia and abandonment on the Hao atoll.

Chapter 2, “Sea, Sun, and Sexual Desire: The Age of Mamie Blue International,” focuses primarily on the nostalgia of the elderly, mostly female Hao generation that had moved to Hao for the testing program and who felt sexually desired and socio-economically empowered by the CEP. Inspired by Enloe’s (2014) concept of “camouflage of normalcy,” I argue that the military’s transformation of Hao into a socially inclusive space of sexual desire and parties (*les bringues*) was a strategy to camouflage the uneven nature of its colonial (sexual) relationship with the Polynesian (female) islanders. To tell this story, I introduce Mamie Blue, who owned the famous *Bar Mamie Blue International* during the CEP era and is one of the Polynesian immigrants who was “made” a Hao local by the CEP. Mamie Blue’s sexual identity as a *raerae*, i.e., a Polynesian gender subject who is born into a male body but who identifies and dresses as female, was “created” by and is inextricably linked to the French CEP on Hao. In fact, I argue that Mamie Blue embodies colonial sexual desire. Yet, she does not feel exploited by the French for imposing colonial sexual subjectivity on her. She found sexual freedom and social empowerment in French nuclear colonialism.

Chapter 3, “Land, Housing, and other Gifts of Modernity: The House of the Former Military Doctor,” focuses on different members of landholding families who now live in the former military buildings in the CEP zone. I unpack the material component of their nostalgia that is manifested in inhabiting the remaining CEP buildings when I explore how access to ancestral land and former CEP houses matters in their sense of the CEP past. I expand on the social theory of gift exchange of anthropologist Marcel Mauss (1925) and on literature on the politics of infrastructure to analyze how the CEP managed to make the new residents perceive the physical remnants of colonial land exploitation as “gifts of modernity” that seem to be free of any obligatory politics of reciprocity. Thereby, the occupants of the CEP houses forget that the remaining infrastructures are relics of colonial exploitation of indigenous land. I argue that their nostalgia for “authentic” CEP infrastructures underlies the local politics of land rights. At the end of the CEP program, the French military ignored the internal politics of the collective land tenure system by simply distributing the formerly leased land and its military buildings to individual people who claimed to have land rights.

In Chapter 4, “The Memory Room: Remembering, Preserving, and Cherishing the Nuclear Past as Cultural Heritage,” I focus on the classroom in Hao’s primary school that a delegation of the

municipality, the Academy of Culture (*l'Académie Culturelle*), dedicated to remembering and paying tribute to Hao's nuclear past. This chapter discusses Hao's positioning in post-CEP French Polynesia. Hao does not live on in the memory of French Polynesia's nuclear past as cultural heritage of France's race to global nuclear domination, but as a burial ground for nuclear and military waste. The Memory Room is a window we can use to explore nuclear nostalgia through the prism of nuclear cultural heritage making. Nostalgia serves as a local counter-narrative to mainstream Polynesian narratives that should be transmitted to future generations as cultural heritage in The Memory Room. The chapter also addresses the enduring power of colonial nuclear narratives when analyzing the interplay between the selective remembering of Hao as a "clean" nuclear military hub and the active forgetting of its marginalization and radioactive contamination.

In Chapter 5, "The Past in the Future: The Chinese Fish Farm Project," I argue that nostalgia is not just turned towards the past, but also towards the future. I expand on the works of anthropologists and social scientists exploring the multidimensional experiences of time to explore this future-oriented dimension of nostalgia. Nostalgia and contemporary experiences of abandonment inform both the Hao islanders' hope for and fear of the future. In 2012, Chinese investors decided to implement a $300-million fish farm project in Hao's lagoon. Nine years later, French President Emmanuel Macron announced the return of the French military branch called the Adapted Military Services Regiment (RSMA) to Hao. Some people, such as unemployed youngsters and small entrepreneurs, see the fish farm project as a unique opportunity to escape the gloomy present and hope that the project will bring back a CEP-like socio-economic centrality. Most people I spoke with on Hao, however, are afraid of an after-CEP-like crisis once the fish farm project ends and their atoll gets abandoned, again. They prefer to wait for the return of the French RSMA. I claim that their hope for the return of the French military is a colonial effect of the CEP period.

In the Conclusion, I summarize how colonial relationships of the nuclear testing period inform the collective and individual memories of different groups of people on Hao and their aspirations for the future. I critically reflect about islands' relationality with mainland empires and how my findings on nuclear nostalgia are relevant to the anthropological and social scientific study of islands. I argue that the ruins of nuclear empires are the material and mental prelude for new future empires to be installed on Pacific islands.

CHAPTER 2. SEA, SUN, AND SEXUAL DESIRE: THE AGE OF MAMIE BLUE INTERNATIONAL

2.1. Introduction

Her house we shared upon the hill (Oh, mamy)
Seems lifeless but is standing still (Oh, mamy)
and mem'ries of my childhood fill, (Oh, mamy)
my mind. (Blue), oh, mamy, mamy, mamy.

I've been through all the walks of life. (Oh, mamy)
Seen tired days and lonely nights (Oh, mamy)
and now without you by my side, (Oh, mamy)
I'm lost, (Blue) how will I survive?

Oh, mamy
Oh, mamy, mamy blue
Oh, mamy blue (Oh, mamy, mamy).

("Mamy Blue," Riviera, 1970, song performed by Nicoletta, written by Hubert Giraud, translated by Trim Phil, 1971)

A few days after my arrival on the Hao atoll in October 2019, I went to the *Magasin Amélie*, one of the island's three grocery stores. Some villagers were standing in a circle next to the shop. They were listening to a person who was standing in the middle of the circle, talking loudly, gesticulating vividly. I approached the crowd and stood in front of the person who was talking. Without ever having met her, I knew right away that it was Mamie Blue.[30]

Mamie Blue's bleached, chin-length hair framed her wrinkled, serene face. She wore colorful plastic flipflops and a *pāreu*, a Polynesian wraparound skirt patterned with Polynesian flowers, which most Polynesian women wear every day. Unlike most Polynesian women I had met on Hao, however, Mamie Blue wore heavy makeup. She had a mischievous smile on her face and

[30] I chose the French spelling *Mamie* Blue instead of the English *Mamy* Blue (used in the song) because this is how the word Mamie (French for grandmother or an elderly woman) is commonly written in French. Mamie Blue herself wrote her name either with or without the letter "e" (Mamie Blue or Mami Blue).

her frequent laughter gave the impression of a carefree being, despite her dependence on a walking aid because of a diabetic foot. Mamie Blue is loud and vibrant.

When she saw me standing in the back row of the small crowd, she instantly stretched out her hand and screamed: "You must be the anthropologist [*l'anthropologue*]! You came to learn more about our golden age [*la belle époque*], right? When do you intend to visit me?" I assured her that I would come by her house the following day.

The golden age that Mamie Blue was referring to was the period between the early 1960s and the year 2000 when the French Centre for Experimentation in the Pacific (CEP) transformed the area around Hao's main village of Otepa into a major military support base for nuclear weapons testing. During most of Hao's CEP epoch, Mamie Blue was the owner and namesake of the atoll's renowned Bar Mamie Blue International. When I asked her what the International stood for, she said: "Well, I am popular here on Hao, and everyone knows me in Tahiti, on the other islands. And the French, the military men, they know me too. They all came to my bar, dancing with the beautiful girls." (Mamie Blue was named after the 1970 song of French singer Hubert Giraud, *Oh Mamy Blue*, which is about a man sorely missing his departed mother and his childhood memories in general.)

During the CEP era, Mamie Blue was widely acclaimed as Hao's "queen of the night" not only because she ran the popular bar, but also because she engaged in many sexual relations between French military men and Polynesian CEP workers. A French veteran, who had stayed on the atoll after his military service for the French CEP program ended in the early 1990s, told me that during the CEP epoch, it was said, in the double sense, that "if a French military man, or any other person from outside, comes to visit Hao and this person does not visit Mamie Blue in her bar, then this person had never really been to Hao."

Mamie Blue, symbol of the CEP

When I came to Hao 19 years after the departure of the CEP, it seemed that this prerequisite for having properly visited Hao was still valid, especially if an outsider wanted to hear stories about Hao's *époque CEP*. There is no way around Mamie Blue: almost every person I met on Hao during the first days of my fieldwork insisted that I should talk to her about my research. Some of them had already heard prior to my arrival that I, *l'anthropologue*, as islanders would call

me before knowing my name, would be staying on their atoll to do research on Hao's nuclear condition ("*sur le nucléaire*"). They all agreed that the best person for me to talk to about the nuclear past is Mamie Blue. One could only study and write about Hao and its nuclear military past if one talks to Mamie Blue.

Mamie Blue became the key informal representative of those men and women who had settled on Hao during the CEP era to work on and around the French military base. These people felt socially, economically, and sexually empowered by the CEP program and nostalgically remember CEP Hao as a socially integrative space of excessive partying and (colonial) sexual desire. Some islanders on Hao over fifty years of age even refer to the CEP era as "the age of Mamie Blue" (*le temps de Mamie Blue*), i.e., the heyday of the legendary parties in her bar. Mamie Blue embodies CEP-cultural authenticity, that is the new identity of Hao where the mixed Polynesian community could continue to adhere to Polynesian values (for example, generosity and communal solidarity) while also enjoying a modern (French) lifestyle that was introduced by the CEP. Her socio-economic identity as a renowned barwoman who moved to Hao to work for the CEP and her sexual identity as a *raerae* were "created" by and are inextricably linked to the French CEP.

The Tahitian neologism *raerae* refers to a Polynesian gender subject who is born into a male body but who identifies and dresses as female. Historical accounts of *raerae* agree that the emergence of this gender category overlaps with and is directly linked to the implementation of the French nuclear weapons testing program in French Polynesia and its associated influx of thousands of largely young, male French military personnel (Bauer 2002: 95). The *raerae* wore hyperfeminine clothes and heavy makeup to fulfill the colonial sexual desire of the foreign military men, to whom they offered sexual services in exchange for money.[31]

Raerae were and continue to be tolerated, but not wholly accepted by mainstream Polynesian society because of their engagement in male prostitution and their explicit link to French nuclear colonialism. Yet, the *raerae* on Hao, headed by Mamie Blue, are gladly accepted and are even seen as an integral part of the local community, precisely *because* of their close link to the CEP. I learned from my many conversations with Mamie Blue that the CEP program made her feel empowered and valued for the colonial sexual desire she embodied and fulfilled.

[31] Female prostitution is a rarity in French Polynesia.

In this chapter, I use Mamie Blue's life history and her stories of coming into her identification as a *raerae* and the "queen of the night" during the CEP era as a window to examine the overall question of this thesis, i.e., the nostalgia for colonial relationality that existed between the French CEP and the people of Hao through the prism of colonial sexual desire. I ask how colonial sexual relationships created and cultivated the deeply felt nostalgia for the past nuclear military presence on the Hao atoll that is expressed today on Hao.

The chapter explores how Mamie Blue became an emblematic figure of a generation of Hao residents who came to the island during the CEP period and helped make it into a regional hub. It is this generation of people who experienced the heyday of Hao's CEP epoch and who reminisce about it most strongly today as Hao's golden age. They see the sexual relationships between Polynesian women (and a few *raerae* like Mamie Blue) and the French as equal, even though they were in fact deeply asymmetric: the French military, for example, objectified the Polynesian body.

Throughout my work on this thesis, I am inspired by Cynthia Enloe's (2014: 132) analysis of military bases that drape themselves in the "camouflage of normalcy" and incorporate this attitude into its relationship with the people who live around the bases. I argue that the transformation of Hao into a militarized but seemingly inclusive and empowering space of social inclusion, boisterous parties, and (colonial) sexual desire was a strategy of the French CEP to camouflage, or obscure, the program's expression of nuclear colonialism. By giving Polynesian CEP workers who came to Hao from outside the feeling of being desired and of belonging to this place, the CEP camouflaged the Hao atoll as a military party hub. This was the cultural work of the French military to make the people living on Hao forget about sexual exploitation and the unevenness of this colonial relationality.

The following analysis depicts Mamie Blue's story in order to explore the social perceptions of *raerae* like Mamie Blue on Hao and among the French military men and compare these perceptions to the general position of *raerae* among mainstream Polynesian society. The analysis then discusses the alterations and adaptation of the non-binary gender concept to French colonial politics of sex and gender within the context of the French nuclear weapons testing program. It explores how colonial sexual relationality was experienced as equal, cheerful, even empowering, although it was deeply uneven thanks to the French military's capacity to successfully camouflage

nuclear colonialism through the creation of a new normal. This chapter ends with a discussion of how Mamie Blue's identity as a *raerae* and her internalization of colonial desire symbolize the discrepancy between empowerment and feelings of belonging and the existence of deeply structured (sexual) colonial gazes and abandonment.

Photo 7: Mamie Blue in her living room, Hao, October 2019 © Lis Kayser[32]

2.2. Becoming Mamie Blue: *Raerae*, Colonial Desire, and CEP-Cultural Authenticity

I certainly took to heart the many suggestions that I meet Mamie Blue soon; she was the "must-see" person ("*une incontournable*") to meet if I wanted the full story of the CEP past.

Mamie Blue lives somewhat away from the village center, close to the beginning of the *Sablière*. The day after our first encounter at the grocery store, I borrowed my neighbor's bike and drove to the house that she had described as "the smallest but by far best house, as it belongs to me, Mamie Blue." The house was a few meters off the sandy road in the middle of a palm grove. Colorful, billowing curtains peeked out of the windows and added a touch of brightness to the

[32] Mamie Blue gave me permission to include this photograph of her in my thesis.

crumbling façade. As I approached the front door, I heard her voice: “Lis, is it you? Come, come inside! I have been waiting for you all morning!”

Mamie Blue’s one-story house is divided into one big living room on one side, a smaller access room with a make-up table and the kitchen in between, and her bedroom at the other end. She greeted me cheerfully, explaining that she spent a lot of time that morning dressing up nicely for me in the hope I would take pictures of her. She wore colorful, glittery make-up, her hair was freshly bleached, and her long fingernails were beautifully painted in very bright red. The scent of the nail polish filled the air.

Once Mamie Blue had invited me to sit down at her dining table, she showed me old photographs of her during the CEP era. Mamie Blue described them: “That’s when I was still young! I did not need to bleach my hair back then. The French [military men] adored me!” She repeatedly affirmed that she used to be so pretty, with her long, black hair and her beautiful French dresses.

Photo 8: Mamie Blue and her date in a bar on CEP Hao
© Mamie Blue

I first asked Mamie Blue how she became the emblematic figure of Hao’s CEP epoch. “Well, it’s a long story,” she said, and paused a few seconds before adding: “with ups and downs.” During

this first interview, Mamie Blue focused first and foremost on the "ups," the more cheerful stories of her past life, forgetting about or ignoring the "downs" of her and Hao's nuclear military past that I speculated might have touched on sexual exploitation and abandonment.

Mamie Blue was born in July 1958 on Vairaatea, another east-central atoll of the Tuamotu archipelago located approximately 300 kilometers southeast of Hao. She grew up with adoptive parents and an adoptive brother.[33] In 1967, Mamie Blue moved to the Hao atoll with her parents to provide schooling for the children and a job at the CEP gas station behind the airport for her father. Mamie Blue's earliest memory of Hao was her first day at school; she was the first one in her adoptive family to be sent to school.

Like Mamie Blue's family, hundreds of Polynesian islanders moved to Hao to work for the CEP program. But despite Mamie Blue's not being originally from Hao, which also means she had no family that owned land inherited from local ancestors, she was and is considered a true Hao original precisely *because* she had moved to Hao for the CEP program during Hao's golden age.

Non-binary gender categories in French Polynesia

Mamie Blue was born into a male body, but she had identified and dressed as a female since early adolescence and therefore preferred to be called by the gender-specific pronouns typically used to refer to girls or women: "she"/"her"/"hers." Many societies in the Pacific region and beyond acknowledge and respect genders beyond the biological categories of male and female, including the Sāmoan *fa'afāfine* (Mageo 1992; Tcherkézoff 2003; Schmidt 2003), the Tongan *fakaleitī* or *fakafefine* (Besnier 1997), and the *laelae* of the Cook Island (Alexeyeff 2000), among others (see also Besnier 2000; Dvorak et al. 2018: 31ff).

In French Polynesia, there are two categories of "third gender" people: *māhū* and *raerae*.[34] The *māhū* is commonly translated by French Polynesians as "half-man, half-woman," which is

[33] The (often informal) adoption of children by foster parents, called *fa'a'amura'a* in Tahitian, is a prevalent Polynesian kinship form. A child is usually adopted by a close relative, like a grandmother, aunt or uncle, or a family's close friend (Hooper 1970; see also Kuwahara 2014: 109).

[34] It is important to note that the characterization of Polynesian non-binary gender categories as "transgender," "third gender," or "third sex" are Western categories that do not fully capture the complexity and liminality of gender subjectivity and sexuality of the Polynesian *raerae* and *māhū* (Kuwahara 2014: 97; Besnier 1994). I have tried to avoid such terminologies in this work and instead use the Polynesian terms *raerae* and *māhū*.

usually a biological male who lives as a woman.[35] A male-bodied *māhū* is a third gender subject in whom the feminine nature predominates, but who wears masculine-coded or gender-neutral clothing (pants or shorts and shirts) and whose sexual desire can be directed toward the same sex but does not necessarily entail or require it (Levy 1971: 15; Levy 1973: 133, 140; Elliston 2014). *Māhū* is primarily a gender category, with labor practice or work being "[t]he only consistent and necessary marker of *māhū* gender identification as *māhū"* (Elliston 2014: 46; see also Besnier 1994). This means that male-bodied *māhū* have usually engaged in labor practices that are coded as feminine, such as childcare, sewing, craft-making, and service work since the second half of the 20th century, with the development of the tourism sector's restaurants and hotels (see Elliston 2014: 35; Besnier 1994: 296).

Māhū as a gender category has been presented as "indigenous" to French Polynesia and as a legitimate and contributory part of ancient Polynesian society and culture (Levy 1971: 12; see also Stip 2015). *Māhū* subjectivity appears naturally at a very young age, with the male-bodied child behaving and gesturing in a feminine manner. *Māhū* also prefer helping the mother with traditionally female household-related activities, including house cleaning, braiding, and cooking rather than helping the father with outdoor tasks such as subsistence gardening (making the *faʻaʻapu*) or harvesting copra.

As a child, Mamie Blue always dressed like a boy, wearing shorts and shirts, and she had short hair. The villagers noticed that she "felt" more like a girl: she used feminine gestures and preferred to help her adoptive mother with housework rather than fishing and making the *faʻaʻapu* with her adoptive father. Nevertheless, Mamie Blue does not identify as a *māhū* (at least not in my presence). She is called and identifies herself as *raerae*, the other Polynesian non-binary gender category that comes from the category of *māhū*. She introduced herself during our first interview with the words: "Let me tell you the truth, and nothing but the truth, *anthropologue*. I am actually a *raerae*, but a beautiful one. I am a *raerae* who dresses up nicely, with beautiful

[35] Female-bodied *māhū* also exist in French Polynesia. Biological women who identify as third gender masculine tend to be less frequent and less acknowledged in most Pacific societies than biological men who identify as third gender feminine (see Elliston 2014; Dvorak et al. 2018: 34; Besnier 1994: 288). I only encountered *male*-bodied *māhū* who behave in the manner of women in French Polynesia.

gowns from France." I asked her "What is a *raerae*?" She replied: "A transvestite! You might have met some of us already. There might be half a dozen of us here on the atoll."[36]

In contrast to the *māhū*, the *raerae* is in the majority of cases a male-bodied subject who sexually desires men and wears make-up and feminine clothing in public (*pāreu*, for example). The psychoanalytically trained anthropologist Robert Levy (1971; 1973) was the first to conduct a detailed ethnographic study in the early 1960s on the established place of *māhū* and *raerae* in two Tahitian-speaking villages in French Polynesia. He describes the *raerae*, in contrast to the *māhū*, as "somebody who does not perform a female's village role" and who "indulges in exclusive or preferred sexual behavior with other men" (Levy 1973: 140). Levy's seminal work was critiqued in particular for his functionalist approach to the social role of the *māhū,* which he used to highlight the gender differentiation of certain labor forms, and his positivist theory that in *every* Polynesian village one would find at least one, but not more than one *māhū* (Levy 1971: 12). Critics argue that both Levy's approaches fail to capture the socio-cultural complexity of their gender identity and attributes, an opinion shared by many scholars studying gender and sexuality in French Polynesia who agree with Levy on the changing or fluid nature of the two gender categories.

Levy also observed that *māhū*, after having lived as *māhū* for a while, sometimes "turn back into men" (Levy 1973: 133). Approximately 50 years after Levy's fieldwork in French Polynesia, anthropologist Deborah Elliston (2014: 43) also met some *raerae* and *māhū* during her fieldwork on the French Polynesian Society Islands who had turned back to their male identity by the next time she visited them, married women and bore children.

Raerae and *māhū* are not fixed identities: they can be used to describe a broad spectrum of people and practices. Some *raerae* and *māhū* are viewed and view themselves as both women and men, others as women in male bodies, and yet others define them(selves) as belonging to a distinct gender category, i.e., neither men nor women. Philippe Lacombe (2008: 186) uses the concept of "continuum" to describe the lack of strict categorization of their identifications as *māhū* or *raerae*. Emmanuel Stip (2015), Julia Pacifico (2019: 20, 22), and Bruno Saura (2021: 123) later picked up Lacombe's continuum concept to further highlight the decrease in distinction

[36] Besides Mamie Blue, I met four people on Hao whom the villagers introduced to me as *raerae* or transvestites (*les travesties*) because of the feminine clothes they wore (For the use of the term transvestites to characterize both *māhū* and *raerae*, see also Saura 2021; Besnier 2000; and Levy 1971). The term *raerae* is used synonymously with transvestites on Hao. Mamie Blue was the only *raerae* who experienced Hao's CEP era. Two of them moved to Hao only after the CEP had closed.

between the two categories in contemporary mainstream Polynesian society. Niko Besnier (1994) prefers the expression of "gender liminality" to describe the fluid and flexible nature of gender subjectivity and sexuality of the Polynesian *raerae* and *māhū*. Inspired by Arnold van Gennep's (1909) notion of liminality, Besnier argues that the term "liminality" captures best "the many attributes of intermediate-gender status in Polynesia" and gender liminal people's "betwixt and between" loci (Besnier 1994: 287). Some people not only switch gender identity from time to time, they also use different attributes that are culturally associated more with women (make-up, *pāreu*, flower crown) or men (shorts and shirts and short hair) than others. Besnier further explains that "liminality is best viewed as a borrowing process rather than as a role or identity, it does give rise secondarily to a rather loosely defined identity" (ibid: 327).

Raerae- and *māhū*-like men on Hao do not necessarily, or at least not openly sexually desire men, and not all queer men are classified as *raerae* or *māhū*, which highlights the liminality and continuum between the two different gender fluid categories and their sexual orientation.[37] Also, the nature and number of female attributes differs individually among *māhū*-like men and *raerae* subjects.[38] Homosexuality is not an identity marker for men to be called *raerae*. They are called and call themselves *raerae* primarily because like Mamie Blue, they wear feminine clothing and make-up on occasion.

Mamie Blue was 16 years old in 1974 when her female cousin dressed her like a woman for the first time and people started to call her Mamie Blue. "You know, like that song!" Mamie Blue said to me. She then started singing the refrain of Hubert Giraud's song *Oh Mamy Blue*.

In that same year, Mamie Blue quit school, jobbed for a while as a nanny (*nounou*), taking care of the children of Polynesian parents who worked for the CEP program, before she started to

[37] I did not find out if all the *raerae* that I met on Hao were in sexual relationships with men. Homosexuality remains a taboo in French Polynesia and was thus not spoken of to me on Hao. There were also three men on Hao who would fall under the gender category of *māhū* because of their embodied feminine gender performances and the feminine-coded tasks they undertook within the community, but they were not presented to me as *māhū*. On both Hao and Mangareva, I encountered a *māhū*-like man who performed the task of organizing village festivities and the cultural program of official Polynesian government or French state visits. He was the mayor's right-hand man on Hao, and he was respected by the entire village, or at least by the official political followers/supporters of the then mayor. When a new mayor was elected in 2020 between my two stays, he was replaced by another *māhū*-like man. I did not encounter any *raerae* during my two-week-stay on Mangareva.

[38] Two of the *raerae* living on Hao sometimes dressed as women in public, sometimes as men. Adam, for example, a forty-something-year-old *raerae* who was born in Tahiti but had moved to Hao (his mother's home island), switched gender-specific clothing and accessories (earrings, make-up, floral wreaths) from time to time. During my first stay on Hao in 2019, I only saw Adam wearing feminine clothing. In 2021, I almost did not recognize him as the *raerae* who strolled around in the streets of the Otepa village, suddenly wearing masculine clothes (shorts and a t-shirt).

work as a barwoman in two different bars in the village. She then opened *Bar Mamie Blue International*. From the late 1970s until the 1990s, Mamie Blue's bar was a well-frequented nightclub where French military and civilian personnel, Polynesian CEP workers who had immigrated to Hao, and island natives all met and mingled with each other, enjoying long, boisterous nights with lots of alcohol. Young, Polynesian women working in her bar served and seduced the male customers, including the foreign French military men living in the CEP zone. "I only hired beautiful women. The ugly ones would not get any tips. I would not make a lot of money with them. Oh, they were so beautiful! And beautifully dressed too. That's what attracted the legionnaires," she sighed.

None of the bars of the CEP era remain today. But Mamie Blue retains her identity as a *raerae* and Hao's (former) queen of the night which is inextricably linked to the CEP. This CEP-linked identity gave Mamie Blue economic power and social prestige during the French nuclear testing era.

Mamie Blue's link to the CEP

The transformation from the teenage boy from Vairaatea into Mamie Blue, the *raerae*, queen of Hao's nightlife, reflects a particular moment in French Polynesia's colonial history. Her becoming Mamie Blue marked the moment when French nuclear modernity informed not only the new name she was given by the villagers. Her whole sexuality and gender subjectivity were also imposed by and explicitly linked to the implementation of the French nuclear testing program in French Polynesia. Throughout French Polynesia's post-European-contact history, non-binary gender roles, identities, and categories have continually changed and adapted to outside forces such as European explorations, missionary activities, colonization, modernization. These roles, activities, and events can only be understood within the broader contexts of culture and the colonial politics of sex and gender (Besnier 1994: 304; Dvorak et al. 2018: 30; Bauer 2002; Elliston 2014; Lacombe 2008).

Scholars studying the history of gender and sexuality of French Polynesia agree that *raerae* emerged in the early 1960s from the third gender category *māhū*, and that this emergence was explicitly linked to the arrival of the French nuclear weapons testing program in the South Pacific (Bauer 2002; Elliston 2014: 39f; see also Kuwahara 2014: 93f; Lacombe 2008; Saura 2021). *Raerae*

as a new, westernized and more feminine gender sub-category of male-bodied *māhū* emerged primarily in Tahiti's urban center around the port of the capital Papeete when foreign, mainly French, military men and technical employees from mainland France flocked in the twenty-thousands to the island of Tahiti (population 45,000) and to some of the Tuamotu-Gambier islands and atolls (Rallu 1991: 183; Henningham 1992: 129f; see also Lacombe 2008: 185; Stip 2015: 194; Saura 2021: 116). The installation of the French military program and the associated influx of several thousand personnel, the majority of whom were young men, increased the commercial sex trade, particularly *male* prostitution offered by *raerae* (Bauer 2002: 95; see also Elliston 2014: 40f).

Although not all of today's *raerae* are sex workers, most of them have at some point engaged in sex work, not only but primarily around the military bases of the French nuclear testing program (see Elliston 2014: 43). Cynthia Enloe argues in her work on the military expansion of mainland empires that the military personnel's sexualized relations with civilian women on and around the bases are assumed to go hand-in-hand, especially through prostitution (Enloe 2014: 156; see also Rafael 2014; Sturdevant & Stoltzfus 1992). In French Polynesia, it was the *raerae,* i.e., male-bodied subjects, who worked in prostitution on and around the French military bases, because of the lack of available Polynesian women for the thousands of newly arrived foreign men, and because female prostitution is a rarity in French Polynesia. Although Polynesian women have a long history of sexual relationships with foreign men, they traded sex with (foreign) men for goods or other services, not for money in the Maussian sense of the reciprocal exchange of gifts (Lacombe 2008: 181; see also Levy 1973: 316).[39] In general, women would prefer to start a love relationship with foreign men, rather than having sex with them for money (Elliston 2014: 41).

In his book *Raerae de Tahiti*, François Bauer (2002: 97) argues that the *māhū* began sex work in French Polynesia's capital of Papeete because they were a suitable alternative for French military men, who did not want to build love relationships with Polynesian women. Long before the massive arrival of French military men, *māhū* performed sexual services for young, single Polynesian men in their neighborhood or village. Before a man found a girlfriend or his future wife,

[39] I refer here to the work of French sociologist and anthropologist Marcel Mauss (1872-1950) on the reciprocal exchange of gifts (1925).

they would turn to the village's *māhū* to fulfill their sexual needs (Levy 1971: 12; Elliston 2014: 38ff).

Nevertheless, these men as well as the *māhū*, the Polynesian "half-man, half-woman," were not perceived as homosexuals in Polynesian society. They were seen instead as "a convenient, pleasurable, relatively pressure-free alternative to women for the release of sexual tension" (Besnier 1994: 301; see also Levy 1973). Anthropologist Deborah Elliston terms the Polynesians' understanding of sexual desires as always oriented towards one's opposite gender, as the "Polynesian heterosexual matrix" (Elliston 2014: 39). While homosexuality remains a taboo in French Polynesian society, Elliston suggests that "the cultural logic of (male-bodied) *māhū* sexual desire for men is founded in the part of *māhū* that is 'half-woman'" (ibid). A young man visiting a male-bodied *māhū* was thus said to sexually desire the feminine side of the *māhū*, more than his masculine side.

Māhū who performed sexual services for French foreign military men for money in the early 1960s were understood by Polynesians at the time as an effect of French socio-economic modernization of its overseas territory that was introduced by the CEP and its nuclear weapons testing program (Elliston 2014: 41). Given that the *māhū* gender performance entails both masculine and feminine elements, e.g., masculine clothing but feminine posture, the new Polynesian sex workers were not easily recognizable as such for French military men. It is said that the more the *māhū* "feminized" themselves or their gender performances, which means cross-dressing, wearing their hair long, putting on make-up, and eventually, in some cases, undergoing cosmetic or gender reassignment surgery, the more they were meeting the (hetero)sexualized expectations of their foreign male soldier clients (ibid; see also Stip 2015; Hwang & Puccini 1989).

Given this context, the Tahitian neologism *raerae* is said to have emerged as the term to identify the new, more feminized, men desiring non-binary gender subjects from the regular, "traditional" *māhū* (Elliston 2014: 42). *Raerae* was itself a national index of French modernity. French colonial desire for feminine Polynesian sexual subjects had pushed the *māhū* to embody hyper-femininity, and to decide to be either masculine or feminine. This does not conform to the centuries-long Polynesian understanding of non-binary gender.

So it was that the CEP program made gender liminal subjects embody Polynesian (hyper)femininity to fulfill French desire for exotic and traditional Polynesian sexuality. Ironically,

this construct of authentic, traditional Polynesian sexuality has its roots in colonialism, more precisely, in the travel narratives of the first European explorers.[40] With the first gendered encounters between European male voyagers and Polynesian people, the politics of sex and gender in French Polynesia had become inextricably intertwined with the politics of colonialism (Besnier 1994: 290; see also Boellstorff 2005).

For early explorers leaving the post-Enlightenment Romanticism of Europe and heading towards the Pacific for colonial expansion, Polynesia embodied a paradise of pre-civilized harmony between humankind and nature. One of the most significant features of this human-nature harmony was the straightforwardness with which islanders approached sexuality (ibid: 288ff). The early, mostly male, overseas intruders described in detail their romanticized encounters with female and male-bodied but femininity-performing islanders in their travel reports, which provided the groundwork for the colonial myth of unconstrained Polynesian sexuality. These reports infer that the young Polynesian women and *māhū* in particular were easily charmed by their foreign occupiers (Lacombe 2008, see also Tcherkézoff 2001). The Western sense of Polynesian sexuality and gender were further shaped by subsequent phases of colonization, missionary activities, globalization, modernization, and French militarization.

2.3. *La Bringue* (The Party) as Military Strategy

The CEP added a new layer to the colonial imagination of Polynesian femininity and sexuality through the *raerae*. These colonial sexual subjects were objectified, exploited, and used to fulfill French military's colonial sexual desire for authentic Polynesian (hyper-)femininity. Mamie

[40] The first European explorers and missionaries of the 18th century, including Admiral Louis Antoine de Bougainville, Captain William Bligh, Lieutenant Georges Mortimer, and the missionary James Wilson, expressed both fascination and contempt (the latter especially on the part of missionaries) for the sexual openness and social integration of the *māhū* (Bougainville 1772; Bligh [1789] 1792, 2; Mortimer 1791; Wilson 1799; for detailed analysis of their literature see also Besnier 1994: 289f; Saura 2021: 113; Stip 2015: 201f). In the 19th century, French painter Paul Gauguin did not explicitly mention the *māhū* in his writing, but it is assumed that he repeatedly painted them, further aestheticizing the *māhū* and strengthening the colonial myth of insouciant sexuality (Stip 2015: 202). In the 20th century, early anthropologists' (including Robert Levy's) ethnographic accounts of the *māhū* contributed to some extent to the further aestheticization and mythification of the *māhū* (Elliston 2014: 37). For more information on the anthropological construction of the exotic "Other," see M. di Leonardo's 1998 book *Exotics at Home: Anthropologies, Others, American Modernity*.

Blue embodies the colonial fantasy of Polynesians living out their sexuality freely and the French military's sexual desire for Polynesian womanhood and femininity. Mamie Blue remembers the sexual relationships she had with the French military men being mutual and highly even, rather than unequal and exploitative. She seemed to neither accuse nor blame the CEP for imposing colonial sexual subjectivity on her. In fact, Mamie Blue felt nostalgic about the time the French CEP made her into this ultimate form of objectification, this colonial sexual subject, which she experienced as liberating and empowering, rather than restraining or dismissive. During our first interview, Mamie Blue excitedly described Hao's glory days:

> *Ah, it was the golden age [*la belle époque*]! Before, it was magnificent! We painted the town red all the time [*On faisait la bringue tout le temps*]. After I closed my bar, we would take a beer case and a guitar, and we would go to my friend's house where the party continued, Friday, Saturday, until the next morning. Every weekend! The military men partied with us. They went to* Magasin Amélie *to get us some chicken legs, more beer. Barbecues! That's the golden age! Ah, nothing but happiness [*que du bonheur*]!" […] You meet people at the bar, we say to each other "come join me for a drink, let's have a drink." […] Sometimes, there was a party at the CEP [zone]. I got invited by the colonel, the commanders, the captains. There were a lot of officers too. […] I went with them. They were good people, very good people. […] You see, I am nostalgic. Today people are unhappy. […] But the golden age, I will tell you… ah la la! I'm nostalgic! I'm gonna cry, because I will remember all the good times, my lovers, my first love, my first "flirt" as we say. […] Another chéri, he was a Basque, a beautiful Basque. His name was Juan. I didn't forget him. And there was Alain, a French. […] And they put 5.000 francs on my pillow and say: "Chérie, that's for you, go buy you something beautiful in the supermarket!" You see, it's just happiness [*que du bonheur*]!*

Photo 9: Mamie Blue sitting on the lap of a French soldier, CEP Hao © Mamie Blue

Mamie Blue's stories about the CEP era are rich with detail. What she shows here is that she judges the CEP era as Hao's golden age, *inter alia*, by the sexual relationships she had with foreign, mostly French, military men and CEP workers she met at the many parties either in the many bars in the village or in the military zone. She associates Hao's *époque CEP* with these parties and with the abundance of foreign, handsome, and generous men she met there. And, of course, Mamie Blue now misses entertaining, flirting, and partying with the military men. She misses being adored, perhaps even loved by them, reveling in their attention, the money, and fulfilling their colonial sexual desire. "I was a beautiful *raerae,*" Mamie Blue repeatedly assured me during our first interview, "and the legionnaires adored me!"

While Mamie Blue wallowed in nostalgia during our interview, I noticed an old, white, slightly rusty military cap (*képi blanc*) hanging on the wall right above the bench by her dining table. Mamie Blue saw me staring at this souvenir of times gone by: "Oh, this is a gift. I got it from one of my lovers, a *legionnaire,* right before they all left." She also said that she preferred her French military clients over the Tahitian men:

> *They are not the same, the Tahitians and the French. Tahitian men don't like that you are a man when you dress as a woman. But the French… they put some food in your mouth, they feed you, they take my hand. […] I prefer the French. They pay well, the legionnaires. And the Tahitians, they don't know how to make love […] It's just not the same. I prefer the French!*

Mamie Blue remembers the French military personnel as attentive, charming, and very generous men who endowed her with gifts, even dresses from France, who invited her over to the CEP zone for lunch or dinner, for more drinks, and who exchanged money for her sexual services. The French military men, in contrast to the Polynesian men, seemed to not mind her, a biological man, being dressed like a woman. In fact, they desired her for who she was and what she, the *raerae*, embodied, namely the French colonial fantasy of Polynesian sexuality and (hyper-)femininity. They made her feel included in this military party hub. They made her the *queen* of the night. Mamie Blue found sexual freedom and desire in French nuclear colonialism.

*Photo 10: The military cap (*képi blanc*) in Mamie Blue's living room, November 2010 © Lis Kayser*

But she did not just feel accepted, even adored, by the French military. She also felt socially included and accepted by the local community on Hao. This can not to be taken for granted in French Polynesia, at a time when the Polynesian society viewed the invasion of thousands of French men and the CEP program as problematic in terms of Polynesia's autonomy, let alone independence. Most scholars empirically studying sexuality and gender identity in French Polynesia agree that the imposed gender binarism of the French military men and the hyper-feminine gender performances of the *raerae* (and the fact that the *raerae* made money from the French colonizers through their homosexuality) caused the *raerae* to be negatively stereotyped and less accepted than, for example, the culturally authentic *māhū* (unless the latter were openly homosexual) by mainstream Polynesian society (Bauer 2002; Lacombe 2008; Elliston 2014; Kuwahara 2014; Pacifico 2019; Saura 2021).

Roughly 20 years after the end of the French nuclear weapons testing program in French Polynesia, *raerae* on Tahiti continue to be marginalized by society for their link to and for profiting from French nuclear colonialism. They are also perceived as culturally inauthentic compared to the traditional and more original *māhū* (Kuwahara 2014: 94). *Raerae* on other Polynesian islands are gladly accepted *if* they are not explicitly associated with nuclear testing anymore. Anthropologist Makiko Kuwahara (2014) wrote a comparative study of the different identities and social positions of *māhū* and *raerae* on Tahiti and Bora Bora. She observes that on Tahiti, the military center of French Polynesia, *raerae* are still seen as fulfilling the *colonial* sexual desire of foreign, mostly French, men in exchange for money and are therefore frowned upon. By contrast, the *raerae* that

Kuwahara met during her ethnographic fieldwork on Bora Bora are associated with the island's primary identity as a place of high-end international tourism rather than with the CEP's past military activities on nearby Polynesian islands. They are well integrated and valued in the local tourism industry, working as hotel receptionists, waiters/waitresses in the (hotel) restaurants, in bars, and nightlife in general, and also as sex workers.

Raerae on contemporary Hao seem to be accepted by the Hao community as well, with some of them working, for instance, in socially recognized economic sectors, including the education sector and gastronomy. However, in contrast to the *raerae* with whom Kuwahara spoke on Bora Bora, the *raerae* on Hao, headed by Mamie Blue, are still very much linked to the atoll's CEP era and its CEP-linked identity as the French military's retreat-and-recreation atoll. I argue that on Hao, Mamie Blue, a *raerae,* was and is socially accepted, even appreciated, by both the French military men and the local community precisely *because* of her close intertwining with Hao's CEP history and her embodiment of colonial sexual desire.

Kuwahara argues that gender and sexual identity, including *raerae*, "are intertwined with national and island identity, and people's political and economic positions within a global system inform their intimate experiences," and that international and neocolonial relations (in her case with international tourists and the French military) play a role in the socio-cultural construction of non-binary gender categories (Kuwahara 2014: 95). The *raerae* she met on Bora Bora, for example, who engage in sex work with foreign male tourists are "not framed within exploitative neocolonial relations as on Tahiti, but as part of a cosmopolitan economy of pleasure" (ibid: 111). When Kuwahara's observations in Bora Bora are compared to Hao, the position of the Hao population towards the French CEP program has been positive, an attitude that informs the community's attitude towards the *raerae*. Mamie Blue's identity as a *raerae* is not primarily intertwined with the island's identity as the former military support base for nearby nuclear testing, but with the island's identity as the military's party hub.

Aligning with Kuwahara's argument of the influence of neo-colonial relations on the social construction of non-binary gender categories, including *raerae*, the general acceptance of Mamie Blue on post-CEP Hao and the fact that she is acknowledged as the key figure of the CEP era can be explained by the fact that people on Hao who experienced the atoll's CEP era had a different socio-economic, neocolonial relationship with the French military than, for example, Polynesian

islanders living on Tahiti at that time. The close, intimate, partially sexual relations were experienced on Hao as mutual and equal; the Hao islanders do not condemn the French military for (neo)colonial exploitation. Above all, they want to "thank" them for all they did for Hao in its golden age, especially for having transformed Hao into a party hub and a seemingly safe, inclusive, even empowering, space of free sexual relationality. This safe space applied not only to *raerae* like Mamie Blue, but to the entire Polynesian population living and working on and around the military base.

A politician in Tahiti used the following alliteration to describe the most pleasant of the French military base's crucial functions for both the French military men and for the Polynesian people living and working there:

> *For them, Hao was all about sea, sun, and sex. It was a real Club Med. It was like an all-inclusive-stay on a beautiful island where you could learn windsurfing, play tennis, watch a movie in the outdoor cinema, or go out dancing with the beautiful Polynesian barwomen. You would have plenty of time to get to know the Polynesian girls.*

Matahi, an elderly man who moved to Hao from a Tuamotu atoll to work for one of the subcontracting companies of the CEP, repeatedly wallowed in positive memories of the "many beautiful women" Hao used to accommodate during the CEP era. Arnaud, a middle-aged Polynesian musician from Hao with long hair and a greying beard, misses the "wide choice of beautiful women of which to choose your girlfriend."

Heimata, who was born on Hao in the early 1970s, married Philippe, another Hao native, and had six children, said: "We were living the dream! Life was a big party, not just on Christmas or during Easter. It was a year-round party." Poko, a 36-year-old man from Hao who lives in the former CEP zone, remembers that "there were year-round parties for the whole families. The festivities at the end of the year were the most grandiose ones. And the 14th of July! On the 14th of July, you had the impression you would be in France!" Roger, an elderly man from the Marquesas Islands who moved to Hao when he was 18 years old to work for one of the CEP's subcontracting companies, also mentioned that on national holidays the CEP flew in famous French singers like Johnny Hallyday and Dalida to play for both the French and Hao locals.

For people of the CEP generation like Matahi, Poko, Heimata, and Mamie Blue, Hao was a *party* hub first before it was a *military* hub for nuclear weapons testing.

Photo 11: La bringue *on CEP Hao © Inès & Marc*

In her book *Bananas, Beaches and Bases: Making Feminist Sense of International Politics* (2014), Cynthia Enloe explores how military bases infiltrate themselves into the daily lives of nearby communities, with soldiers taking charge of (or controlling) public administration, public infrastructure expansion, education, economic opportunities, and security. The local people meet and interact with the soldiers inside as well as outside the base. The presence of the military might be assessed to be good for the well-being of the community. They become colleagues, neighbors, friends, and lovers. Actually, the actual role of the military base begins to become "politically invisible" to the civil society (ibid: 8). Its original *raison d'être* is rendered forgotten when it is camouflaged by the creation of normalcy.

As with many other European empires' military bases in overseas territories, the military support base "managed to slip into the daily lives of the nearby community" (see Enloe 2014: 132). The new normalcy the French military created on Hao was also marked by constant partying and new sexual identities (*raerae*).

Inspired by Enloe, I argue that the seemingly equal and mutual sexual relationality the French military men created with Hao natives and Polynesian CEP workers during the boisterous

parties, *les bringues*, was a military strategy to further conceal the inequalities and exploitative nature of Hao's nuclear colonialization and militarization. Although the Hao islanders I talked to who experienced the CEP presence spent almost every night with the French military men in the numerous bars in the village, they did not know what exactly the French were working on in the CEP zone north of Otepa and in the laboratories in the strictly prohibited zone of the Centre for Atomic Energy (CEA) south of the village. They knew they were there because of nearby nuclear testing ("*à cause du nucléaire*"), but they did not know any more than that. Some members of Hao's CEP generation told me that they only found out after the atmospheric testing ceased that the radioactive particles removed from the *Vautour* aircrafts during the decontamination process could in fact pose a threat to their environment and to their own health.

During the CEP program, the Polynesian people were not allowed to ask too many questions. Léa, a middle-aged Hao native who has lived in the former military's laundry facilities since the CEP left, said: "During the CEP epoch, it was taboo to talk about the testing program." Because of the almost daily parties and the general distraction of the village's bars, there was no reason and no time for the Polynesian islanders to question the actual reason for the presence of the French military and its activities. Asked about military pollution, social inequality, and the colonial nature of the CEP program in general, Mamie Blue succinctly said: "I cannot pay attention to this when I'm doing *la bringue*!"

In the end, the CEP distracted its Polynesian workers and their families from "seeing" social inequality, exploitation, and (sexual) violence expressed by the many parties, the resulting sexual interactions, and the overall freedom of French nuclear modernity. The CEP made it easy for the people of Hao to forget about or to ignore the "downs" of the CEP era, as Mamie Blue would call the realities of sexual violence, exploitation, and abuse. Why? Because they were blinded by the "many stars in their eyes" – to use Poko's words – by the parties and sexual desire, which all seemed normal and authentic to this place, this (military) party hub. They remember primarily the happy, glorious, utopian essence of the nuclear testing era since critical thoughts of nuclear realities were smothered by "[t]he fog under the happy mushroom cloud," as sociologist Lindsey Freeman wrote in *Longing for the bomb: Oak Ridge and atomic nostalgia* (2015: 10), her book on atomic nostalgia in the former atomic city of Oak Ridge, Tennessee.

CEP Hao was experienced and is now remembered as a big party. For Mamie Blue, this was Hao "as it really was." CEP Hao was the authentic cultural identity of Hao. In Enloe's work, the military tries to fit into the normal lives of the local society. On Hao, however, the CEP created a *new* normal that had never existed before, and which was marked by new sexual identities and the many parties (*les bringues*) at Mamie Blue's.

Mamie Blue's atypicality made typical

Thanks to the French CEP and her CEP-linked position as Hao's "queen of the night," Mamie Blue is still able to be whoever she wants to be on post-CEP Hao. She told me that she did not want to go back to her home atoll Vairaatea after the military base closed since there would be no space or tolerance for people like her, meaning *raerae*: "There are no *popa'a* [Tahitian term referring to foreigners or to white people living in French Polynesia] over there. It's not the same. There are more people here. Here, you can put on some makeup. […] Over there, there is no black eyeliner [*crayon noir*]." After the CEP closed, *raerae* from other Polynesian islands continued to leave their home island to move to the urban and semi-urban centers on the more touristic Society Islands like Tahiti, Moorea, and Bora Bora where they could find jobs in the (sex) tourism industry and Papeete's nightlife, and where they could also find like-minded people (see Kuwahara 2014). Mamie Blue could just stay on Hao. She did not need to move to Tahiti to find like-minded people that would give her the feeling of being normal.[41]

Approximately 20 years after the exodus of hundreds of French military men and Polynesian civilian workers and Hao's deep social and economic decline after the CEP closed, Hao is still richly populated compared to other Tuamotu atolls, with 1,027 people living in and around the Otepa village in 2017. Hao remains a hub in the region primarily because of its airport and the boarding school, and one can still find some *raerae*. Mamie Blue continues wearing makeup and feminine clothing; she continues to be respected, even valued, for her special identity as Hao's former "queen of the night," and as a symbol of colonial sexual subjectivity. She was created by and is still linked to the CEP era; on CEP Hao, Mamie Blue is somebody, a true Hao character.

Mamie Blue's atypicality, that is her identity as a *raerae*, could only exist and make sense on Hao in relation to the atoll's CEP-identity and the very close sexual relationality between the

[41] Some *raerae* even settled on the Hao atoll *after* the departure of the CEP.

French military and the Polynesian population. The CEP broke cultural taboos such as the *raerae* phenomenon and male prostitution, and created a safe, inclusive, and liberating space for *raerae* like Mamie Blue. Mamie Blue was more than just socially accepted on Hao: she was recognized as culturally authentic *vis-à-vis* the cultural wave of French nuclear modernity that the CEP brought to Hao. Compared to *raerae* on Tahiti, Mamie Blue did not remind people on Hao of neo-colonial violence and exploitation and nuclear testing; she reminded them of sexual freedom and night-long parties at her bar, which became the local arena for the colonial yet seemingly equal sexual relationality between the French military and the Polynesian people.

2.4. The End of the CEP Era: Abandonment, Cultural Unmaking, and "*Nothing but Tears*"

Once the CEP program closed, Mamie Blue was nostalgic for the time when her sexual relationships with the French made her feel sexually empowered and special, even though she also regularly experienced abandonment and alienation during both the CEP- and post-CEP eras.

This relational unevenness became visible every time one of her French military lovers was transferred to another military base or went back to mainland France. Both her nostalgia for sexual freedom and her feeling of abandonment are far from exceptional. In fact, Mamie Blue's nostalgia for the CEP past and her feeling of abandonment are representative of other people's feelings. During the CEP era, many women moved to Hao from rural islands across French Polynesia to find a salaried job, and perhaps a husband at the CEP. In this section, I explore how the colonial sexual relationality experienced by these Polynesian women was not just empowering on different levels (kinship, society, economics, and sexuality), but unequal and asymmetrical once the French men had left.

The feeling of abandonment that Mamie Blue and the women experienced regularly throughout the CEP era every time one of their French military lovers left for another post became universal in 2000 when the CEP shut down and the French personnel left the island. The people left behind began to realize that the French military had always had the power to decide when to cut off these colonial relations, leave the island, and end Hao's overall identity as a military party

hub. Yet, despite the realization of the unevenness of these (sexual) relations, the Polynesian people who decided to stay on Hao after the shutdown of the military base remained special. My interlocutors, both female and male, who emphasized the glory and freedom of the CEP era, did not mention the (sexual) exploitation and abuse. I return to Enloe's "camouflaging of normalcy" when I argue that Hao's people remain nostalgic despite the traumatic experience of the sudden departure of the CEP and the universal feeling of abandonment because of the decades-long concealment of colonialism through parties and sexual desire. Moreover, I suggest that, as years went by, because the CEP lasted as long as it did, these residents internalized the colonial discourse of masculinity and femininity, and did not recognize, at least overtly, the gendered power imbalances of the CEP era.

Polynesian women who were middle-aged when I interviewed them during my fieldwork on Hao largely share Mamie Blue's desire for and attraction to French military men. But they experienced sexual relationality with their French lovers, boyfriends, or spouses differently. Their sexualized relationships with military men included befriending, dating, marrying, and engaging in sex, and the lines that separated these different forms of relations were often blurred (see Enloe 2014: 156).[42] For Polynesian women, French military bases such as Hao's were very suitable places for finding a boyfriend or future husband. A French researcher who lives in Papeete told me that his friends, former French military men who settled on Tahiti after the end of their service in the nuclear testing program, told him that because of the high proportion of male soldiers and CEP workers, the military base on Moruroa, one of France's two testing atolls in the Pacific, was commonly referred to in French Polynesia as "the atoll of the last chance" ("*l'atoll de la dernière chance"*) for young Polynesian women who hoped to find a husband among the many military men.

On Hao, women met military men either in the military zone through their CEP-related job, or outside the CEP zone in the village's many bars and restaurants. Victoire, a woman from Hao in her mid-forties, told me that most Polynesian women found their lovers, boyfriends, or future husbands in the *Vaiata Bar* or at *Mamie Blue'*s. With the installation of the CEP program in French Polynesia and the massive influx of young, male personnel, Polynesian women suddenly had more options from which to choose a sexual partner, in part because on Hao and other Polynesian

[42] I did not hear of any form of female prostitution on the Hao atoll during the CEP presence.

islands, local islanders were "all related to each other [*ici, tout le monde est famille*]." The arrival of these Frenchmen, as well as Polynesians who moved to Hao to work for the CEP, was a practical way to avoid inter-family marriages in the sparsely populated islands.

Some Polynesian women I talked to said that their relationships with the foreign, mostly French men were not just beneficial in terms of kinship ties, they also benefitted their socio-economic status. Being married to a French man gave Polynesian women material and financial privileges. Inès, a middle-aged woman married to Mark, one of the few French military men who decided to stay on the atoll after their military service ended, regards her marriage with Mark, a *farāni militaire* working in the CEP zone, as enabling:

> *The two of us [were] a CEP couple. Because my husband worked for a subcontracting company of the CEP, we could go to the grocery stores in the CEP zone where groceries were cheaper than in the stores in the village. And there was the sailing club, the diving club, tennis… everything you want! I could go there [to the CEP zone] whenever I wanted. I could do whatever I wanted, every day!*

For many Polynesian women, the decision to marry a French man profoundly affected the rest of their lives. Louise, a woman in her early sixties who had a child out of wedlock with a French military man, expressed the colonial mentality of French male supremacy well by counting herself "lucky" to have found a French military man who was willing to marry her, after the French father of her child refused to marry her and abandoned them. Louise and three other Polynesian women I met returned to Hao after they broke up with their French husbands or after their husbands died. All four women I talked to who moved with their French military husbands to France, as well as most other Polynesian women who had been or are still married to French men, are many years younger than their *popa'a* spouses, which may also indicate the uneven nature of these relationships.

Some of the Polynesian women of Hao's CEP generation who began sexual relationships with French military men told me that they are aware of what they embodied for their French lovers: During the CEP era, they were young Polynesian *vahiné* (Tahitian for women) with soft skin and thick, long, black hair, who expressed their sexuality freely. They were aware at the time that these gentle foreign men admired them for their Polynesian "otherness" and open sexuality.

I came to realize that besides their internalizing the colonial desire discourse on Polynesian feminine beauty as defined by the French military men, some of these women also internalized the politics of colonial *masculinity*. They remember the French men now as more sensitive, empathetic, and gentler than the Polynesian men. Remember that Mamie Blue also thought the French were better lovers than the Polynesians: "I prefer the French […] the Tahitians, they don't know how to make love." Louise remembers the French as "better than the Polynesian men:" they were charming, eloquent, sophisticated, and polite and knew "how to talk to a woman." They made the women (and *raerae*) feel special, offering them presents and drinks and were also less aggressive than Polynesian men when they were drinking. All in all, they were better company.

For the Polynesian women, many of whom had not met any white men before the CEP program began on Hao in the early 1960s, these *popa'a* men were exotic strangers, intimidating and sublime at the same time. Polynesian women who internalized the politics of colonial masculinity also internalized the French ideology of white man being the "better" husband, the gentleman, the white savior. This Polynesian exoticism of the French male occupiers also included the colonial idea of the French taking care of their general well-being and giving them a sense of security. The Polynesian women misperceived the French military men, as much as the French men misperceived the Polynesian women: They both culturally stereotyped and exoticized the respective Other (see Hwang & Puccini 1989).

Decades of constant partying and celebrating and seemingly mutual and balanced relationships made the Polynesians think that their connections to the French military were mutual, symmetrical, even empowering. In fact, despite the superficial pleasant interactions, these relations were never symmetrical. They were always asymmetrical and unequal: the French had the power to decide when to cut off these colonial relations. Mamie Blue expressed this unevenness of the French imperial power relations with the Polynesian islanders on Hao in her own particular way when she recited a poem she wrote about one of her French lovers who left her shortly after they met:

> *You know, I once wrote a poem for my chéri: "I would like to be a tear that runs down your cheek, slowly, before it ends on your lips. I love you!" But then I said to them, my lovers: "I gave you everything! What have you given me? Nothing but tears (que des larmes)!" Many tears. I gave everything, to the military, the Tahitians. They all left.*

Mamie Blue alludes here to the constant coming and going of the French military men. Most of them only stayed on Hao for a few months before they were transferred to one of the two testing atolls, to another military base in French Polynesia, or back home to mainland France. Every time one of her lovers left Hao, she felt abandoned, left behind with sadness and "nothing but tears."

Like Mamie Blue, some women of Hao's CEP generation I spoke with regularly experienced this same feeling of abandonment and the unevenness of French nuclear colonialism in the sexual relationships they had with the French military men, with their French lovers coming and leaving, when there was nothing the women could do to prevent their departure.

Louise told me that some men assured the women that they would come back, but they never did, leaving not only the women behind, but in some cases also the children they had had with these women. "You know, many of us got pregnant. We had many babies with the French [men]. Haven't you noticed that there are a lot of *demis* on our island?" Louise asked me.

Demis are of mixed Polynesian and European or Chinese descent and constituted 17 percent of the total French Polynesian population in 2014 (Kuwahara 2014: 95). During France's nuclear weapons testing program in the Pacific, an unknown number of *demis* children were born of French military fathers and Polynesian mothers; many of them grew up without (knowing) their military fathers. Mamie Blue also remembers the many mothers and their *demis* children whom the French men abandoned: "There were a lot of *demis* born during the CEP. But it is a pity that they were not recognized by their fathers. Their fathers only did some '*tak tak tak*' with their mothers and then they left." In French Polynesia, where kinship and descent are inextricably intertwined with politics of land rights and are important elements of a person's identity, it is difficult to bear if a *demi* had not been recognized by his or her biological (French) father.

Abandonment has always been woven into colonial structures, with French military men rotating in and out of the French military bases on all the Polynesian islands. But in the year 2000, when the CEP closed its military base on Hao permanently and caused a massive exodus of French military men from Hao, Mamie Blue's and other female-identifying Polynesian islanders' feeling of abandonment became universal. Suddenly, the French CEP abandoned the whole Hao community. Hao's primary – if not only – employer and community administrator was gone, and with it, all the good and fun features of life on Hao. In effect, Mamie Blue, the Polynesian women who sought

out relationships with the French military men, and the CEP program itself were culturally unmade by the final departure of the CEP.

Once the French CEP left and the CEP party ended, the everyday distractions were gone and the uneven power relations that had existed throughout the life of the CEP became visible to Hao's residents. Never had the power of the French in determining so much in the lives of Hao's people been more evident as when it had disappeared.

The fact that the people of Hao elevated Mamie Blue to legendary heights in post-CEP Hao should come as no surprise. Her identity as Hao's former queen of the night, the *raerae*, condenses the tension between the community's nostalgia for having once belonged to CEP Hao and the forgetting of having been exploited and abandoned by the CEP. Nostalgically remembering having belonged to CEP Hao and suppressing the memories of abandonment are in this case two reinforcing imaginaries. Mamie Blue's identity highlights both the empowerment she experienced through nuclear colonialism and her existence as deeply structured by sexual colonial gazes. Mamie Blue and the other people of Hao's CEP generation nostalgically remember their relationships with the French CEP as equal and still think that the French did nothing wrong, except perhaps for having abandoned them. The fact that they actively forget about the (sexual) abuses, exploitation, and withdrawal of Hao's *raison d'être* is one of the cruel legacies of the French nuclear weapons testing program on the Hao atoll.

2.5. Conclusion

This chapter explores the gendered colonial realities and relationalities on and around the French CEP's nuclear military base on the Hao atoll. I use Mamie Blue as a vehicle to tell the complex, ambivalent story of nostalgia for the colonial relationality through the prism of colonial sexual desire. The presence of thousands of French military men over a period of three decades shaped Polynesian islanders' gendered understandings of sexual desire, femininity, and masculinity. Mamie Blue's sexuality and gender identity as *raerae* and as Hao's queen of the night are inextricably intertwined with the French militarization of Polynesian culture and everyday social life.

Mamie Blue represents a generation of Hao residents who came to the island from the five different archipelagos of French Polynesia to work for the CEP and its related businesses and who remained after the nuclear testing program ended. They personally experienced and now nostalgically remember Hao's CEP epoch as its golden age, which was marked by excessive partying, sexual desire, and socio-economic freedom. They hold on to CEP Hao as the golden age because they remember sexual desire first and foremost. Today, Mamie Blue reminds her "CEP neighbors" of the sexual relationalities that were experienced as symmetrical, mutual, modern, even though they were in fact deeply uneven, colonial.

Despite these highly unequal interactions, with the French having had the power to decide when to cut-off these imperial relations, Mamie Blue and many others prefer to remember their sexual relationships with the French military men and Polynesian CEP workers as existing in the intimate realm of individual desire and attraction. This memory seems to be immune to recognition of any form of outside colonial manipulation, such as the shutdown of the base and the final departure of CEP personnel (see Enloe 2014: 8). I argue that the many *bringues* that the Polynesian islanders celebrated with the French military personnel were a CEP strategy to make the civilian population believe that what the CEP provided the Polynesian residents was wholly positive with no negative downside. Mamie Blue and her compatriots accepted wholeheartedly that the CEP, along with the parties, the gaiety, and the free sex, *was* the authentic cultural identity of Hao.

Today, this is gone. Mamie Blue misses the times of the CEP when she was somebody, with her famous *Bar Mamie Blue International*. The French were very successful in making the people on Hao think that these relations were normal, enabling, and symmetrical. Hao's residents did the rest of the work by internalizing colonial imaginaries of sexuality and forget or ignore the exploitative nature of these colonial relations. The lines between evenness and unevenness, cooperation and exploitation, mutual sexual relationality and sexual abuse, affection and abandonment became very blurred on the Hao atoll, making it difficult for people to "see" the power imbalances and the unfair exchanges that were at stake for over three decades.

This chapter shows how nuclear nostalgia is evident in gendered forms of subjectivity and colonially inflicted ideas of sexuality. The chapter argues that the French military camouflaged

sexual exploitation through the creation of a new CEP-linked normalcy, i.e., new sexual identities and desires and rollicking parties at Mamie Blue's.

The next chapter focuses on the nuclear nostalgia of members of landholding families and discusses how their nostalgia is evident in the colonial infrastructure of the CEP that they inhabit. The chapter explores the CEP's distribution of land rights and military buildings to these members of landholding families and how these houses and many other goods the CEP offered them are perceived as "gifts of modernity". I argue that their nostalgia for CEP infrastructure underlies the local politics of the collective land tenure system and that the CEP's gift giving camouflaged decades of land exploitation and socio-economic dependence.

CHAPTER 3. LAND, HOUSING, AND OTHER GIFTS OF MODERNITY: THE MILITARY DOCTOR'S HOUSE

3.1. Introduction

The same Hao resident who told me that I *must* meet Mamie Blue, also told me of an older, unwritten law: "Here on Hao, it has always been said that if a person from outside comes to visit Hao, this person *must* go to Gaké. […] Otherwise, this person is not allowed to claim to have ever visited Hao."

Gaké is the area around Hao's ancient village of *Vainono*, located at the southern tip of the atoll. The area is a one-hour boat ride south from the main village of Otepa. For visiting outsiders to also say they have truly visited Hao, they have to visit the grave of King Munanui near Vainono.

In 17th-century Hao, King Munanui, or *le roi Munanui*, protected his chiefdom from outside aggressors who wanted to take possession of the atoll and subordinate the local islanders to their chiefdom. People from Hao loved to tell me stories about King Munanui, their greatest chief, that have been transmitted orally from generation to generation.

In French Polynesia, the main responsibilities of traditional chiefs were to defend the political and economic interests of the indigenous family groups and to protect them from external threats. The chief had full control over the sharing and giving of assistance and material goods, particularly food and land. He served as the land's custodian and decided who got access to how much land, and as the primary redistributor of harvested or captured food (Nolet 2007: 125ff, 130).

Apart from the chief's mission to assure the protection and continuity of the group, he (or she, in some rare cases) also attempted to expand the realm through alliances or military conquest (ibid; see also Sahlins 1958). Members of landholding families on Hao today admire their ancient king for his wise tricks to defeat unwelcomed intruders who wanted to take control of their atoll. Legend has it that warriors from across French Polynesia competed against the powerful king to take over his atoll, but were never able to defeat him, "because of his great strength and his evil spirits" (Tahiti Heritage 2020; see also Longstaff 1996). Hao's era of chiefly managers ended in the

18th century when the Tuamotu Islands were subordinated first to the Pomare Kingdom of Tahiti and later to the French colony.

It was not until my second stay in late 2021 that I finally managed to visit Gaké. My neighbors Manua and Monica invited me for a weekend boat trip with their sons to their cabin on the lagoon side of Gaké. As the boat took us further south, homes became sparser on the little islets (*motu*) between the Pacific Ocean and Hao's lagoon. Monica showed me the shelters on the land plots that belonged to other landholding families.

Manua's maternal family have land rights in Gaké. His father was a Danish soldier for the French foreign legion who met his Polynesian wife during his military service on Hao in the early 1960s. When we arrived at Gaké, Monica and one of her sons gave me a guided tour of the Vainono while the other men went net fishing in the lagoon. We walked through scrubland for over two hours until we arrived at the 4.50-meter-long tomb of the giant King Munanui. I had finally arrived on Hao!

Photo 12: The grave of King Munanui, Gaké, October 2021 © Laurent Sturm

People on Hao with genealogical links to Gaké are attached to the region around King Munanui's grave. For them, King Munanui's past is a pivotal element of Hao's cultural identity: it is "authentically Hao." Paradoxically, the remaining CEP buildings as well as Mamie Blue and everyone else who reminds the local population of Hao's recent CEP past are also perceived as

"authentically Hao." These modern buildings have come to convey for Hao's residents, especially for landholding families, almost as much cultural authenticity as the grave of King Munanui: both historic sites contribute to Hao's contemporary image of itself.

Landholding families on Hao love and cherish their ancient king in the same way they cherish the French CEP. Members of landholding families express nostalgia for the powerful, chief-like leadership of the French CEP that administered everyday life on Hao during the nuclear testing program. In this chapter, I argue that their pride of and attachment to Gaké and the grave of King Munanui as well as to the decaying CEP buildings that some of them inhabit underlie the local politics of land rights. Claims of authenticity of both places legitimize people's rights to use the land.

Access to scarce, collectively owned land in the atoll islands of the Tuamotu archipelago is very exclusive. To claim land rights, one must either be a descendant of or marry into a local landholding family or get the permission of all entitled beneficiaries (the landowners of record, i.e., members of a descent group who can trace their genealogies to ancestral settlers of the atoll) of an undivided land parcel to buy or rent a plot of land.

Possessing land rights in both the area around the old village of Vainono and in or around the main village of Otepa as Manua's family does, is linked to socio-economic privileges. At the end of the French nuclear weapons testing program, the CEP returned hundreds of land parcels that it had rented from landholding families in order to build support facilities for the nuclear testing program. Yet, instead of returning the land parcels to *all* the entitled beneficiaries of the collectively owned land parcels, the CEP distributed the land and some of its military buildings to selected individual beneficiaries or to people who claimed to have land rights. In both cases, the CEP ignored the internal politics of the collective land tenure system.

I use the remaining, re-inhabited CEP buildings in Hao's former military zone as a window to examine Hao's nostalgia for the nuclear colonialism era through the prism of property and the idea of gift giving. I focus on the nuclear nostalgia of members of local families with land use right who got compensation from the CEP for leasing or selling their land to the military, and especially on the 28 families who now live in some of the architectural relics of the CEP in the former military zone. I ask how their nostalgia for chief-like leadership and infrastructural authenticity (in the CEP sense) was cultivated through the seemingly fair and mutual exchange relationship between their

families and their French military neighbors. I claim that they are nostalgic for the CEP era because they are among those residents who gained most from the CEP, i.e., financial compensation and/or exclusive access to undivided land and robust housing.

During and even after its long occupancy on the island, the CEP camouflaged itself as authentically Hao as King Munanui, if in a more modern way. It made its arrival look like the arrival of a new chiefly administrator of the atoll, a new protector of the island from outside forces. The occupants of the remaining CEP buildings perceive their houses as "sacred" sites that are worth preserving, just like Gaké and the grave of King Munanui. These people who now live in the former military zone were granted privileges by this new custodian of the land which they would otherwise not have had, both in terms of housing and access to scarce, undivided land. For them, the CEP expanded Hao's realm through its transformation into an inclusive French hub of modernity in the wider archipelagic region with a unique CEP-linked identity. Suddenly, both Hao locals *and* outsiders, including extended family members, could get access to land and to many more socio-economic privileges like a French diet and free access to electricity, tap water, and many leisure facilities.

The CEP is now remembered to have provided limitless access to modern, French development. This includes the remaining CEP buildings that the military returned to few Hao residents. French development, I argue, is perceived by the occupants of these buildings and many other people on Hao as a "gift of modernity" that made them not just French and modern themselves, but which also enabled them to continue to adhere to Pa'umotu values such as generosity and communal solidarity, which are commonly expressed through the giving and sharing of goods. They express nostalgia for the decades-long presence of the CEP, the seemingly generous gift giver, even if they or their families were also exploited most by the CEP for their ancestral land.

In making this observation, I draw inspiration from the social theory of reciprocity and gift exchange of French anthropologist Marcel Mauss (1925) and link this to literature on the politics of infrastructure. In his social theory, Mauss suggests that the practice of exchanging goods or services through gifts between social groups constitutes an obligatory act of mutual reciprocity that has crucial political and socio-economic implications. The Polynesian islanders who live on former CEP land on Hao express nostalgia for the time when French modernity enabled them to

live a much more lighthearted Pa'umotu life marked by an abundance of sharing, gift giving, and seemingly free access to scarce land and housing. However, in contrast to what Mauss observed in his studies on the reciprocal exchange of goods, Polynesians accepted these gifts, including some military buildings, from the French *without* any obligating politics of reciprocity.

Nevertheless, the occupants of the former CEP buildings forget that the "authentic" CEP hub and their privileges in terms of access to land rest on decades of colonial exploitation of indigenous land and social marginalization. Moreover, they forget that this "new normal," this CEP authenticity, was an idealized version of the colonial past that is free of any obligatory politics of reciprocity.

Developing Enloe's (2014) concept of the "camouflage of normalcy," the previous chapter focuses on the extent to which *les bringues* (the parties) at Mamie Blue's famous bar, camouflaged the French military's colonial sexual exploitation on Hao. This chapter extends the discussion by exploring how the French military's repression of the traditional politics of land use, the transfer of the military infrastructures to individual Hao residents, and the seemingly fair exchange relationship between the military and the Polynesian residents in general camouflaged the decades-long colonial exploitation of land and an increasing individualization (living a life of one's own, because of the increased dissolving of old social ties) of the local society. This chapter focuses primarily on the infrastructural remains of the CEP, which its residents still perceive as "authentic" in the CEP sense and worthy of preservation, because they are the last "gifts" of the seemingly generous French CEP.

The word "gift" can also mean "poison" in many Germanic languages. With this linguistic nuance in mind, I further argue that the obligation-free gift of modernity of the CEP was in fact true poison for Hao's Polynesian population. Yet, this poison, which in the case of the old CEP infrastructure refers primarily to asbestos found in the remaining CEP buildings and to the colonial land exploitation that these buildings symbolize, continues to be camouflaged through the many privileges which the occupants of these CEP buildings still enjoy on Hao today. The occupants of these buildings choose to ignore this poison because of their privileged access to scarce land and robust housing.

The chapter illustrates how the installation of the French CEP base fundamentally disrupted Hao's traditional land tenure system. It discusses the family history of Jacques and Tania, the

residents of the former house of the French military doctor (Jacques is from a local landholding family), which helps explain how land tenure systems changed throughout French Polynesia's pre-European history. Exploring many of the other re-inhabited CEP houses in the former military zone begs the question of how the transfer of the CEP buildings to only few individuals cultivated their nostalgia for CEP authenticity. These CEP buildings symbolize the discrepancy between the privileges they give to their occupants and the existence of colonial structures of the CEP on which their privileges rest. The chapter concludes by exploring how, paradoxically, the CEP contributed to the residents' loyalty to traditional Pa'umotu codes of conduct and analyzes how the CEP successfully managed to prevent the local population from realizing that the CEP had repressed internal politics of sharing and reciprocity.

3.2. The CEP's Rental and Return of Collectively Owned Land

Shortly after I arrived on Hao, Thomas introduced me to his friend Tania, who lives with her husband Jacques in the former house of the military doctor in the CEP zone at the northern edge of the Otepa village. Tania was in her late forties; she had moved to Hao from her home island Tahiti in the late 1980s. Everybody I met on Hao loves Tania: she is full of positive energy and highly entertaining, and her laughter is hearty and contagious. On the day we met, she was delighted to meet me and invited me to a barbecue lunch at their home. She predicted that I would get along very well with her husband Jacques.

Jacques was born and raised on Hao in the 1970s. He currently works as an electrician for the atoll's municipality. During the nuclear testing program, he worked as an electrician on Hao and Moruroa for one of the subcontracting companies of the French military. Tania and Jacques had met in the late 1980s when she was participating in a multisport tournament on Hao. Tania decided to stay with Jacques and began to work for a subcontracting company of the CEP that was in charge of the military's canteen.

I arrived at Tania's and Jacques's home on the appointed day to see Jacques standing over a coconut wood campfire in the backyard garden and grilling a colorful parrot fish that he had caught with his harpoon the night before. Tania flitted around in the open-air kitchen preparing

the famous Polynesian p*oisson cru*, raw fish, in coconut sauce with green papaya, and *ipo*, a typical Polynesian side dish made of flour, eggs, and water that is cooked in boiling water.

Tania and Jacques live in this former house of the military doctor with their two teenage children. Before lunch, Tania gave me a tour of their house, which is different from others I had visited in the village: The two bedrooms and the open kitchen/living room had PVC flooring, built-in wooden cupboards, beds, sofas, and other furniture from the 1960s. To the left of the house, Tania and Jacques had built an outdoor living and dining area where the family spends most of their time. Tania said that they use the former doctor's house only for sleeping and using the bathroom (which no longer has running water).

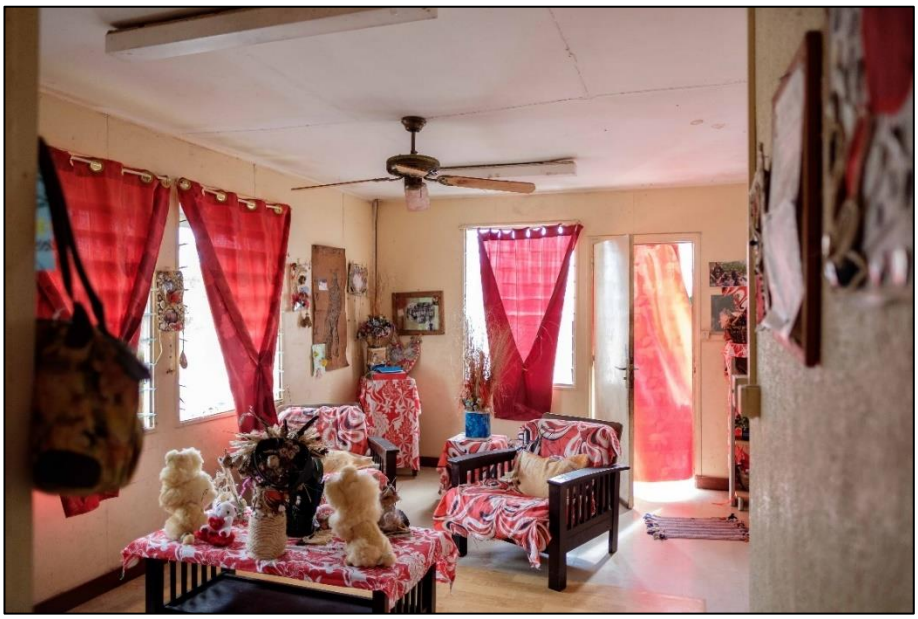


Photo 13: The living room in the former house of the military doctor, former CEP zone, October 2021 © Laurent Sturm

The large plot of land on which the CEP had built this house had belonged to Jacques's maternal family. His maternal family had land claims on Hao derive from ancestral inheritance rights. Jacques told me that his maternal family rented the property to the French military for over 30 years. While the CEP rented the family's land, Jacques (and later Tania as well) and his parents and siblings stayed with some other family members on another parcel of collectively owned land in the Otepa village.

Even before the CEP arrived and expropriated vast land areas from local families for the construction of the CEP's base, land policy on Hao, like on most atolls of the east central

Tuamotus, had undergone constant changes. At the time of European contact in the 17th century, land in the Tuamotus was collectively claimed by descent groups, known in the Pa'umotu language as *´ati* (Bonvallot et al. 1994: 83). Every individual family of mother, father, and children was part of a larger *´ati* who could trace their genealogies to ancestral settlers of the atoll (Rapaport 1996: 34). A descent group could include all descendants of the paternal and maternal lineage of a given ancestor, whether male or female. Islanders of the Tuamotu archipelago could claim land rights from different *´ati*, affiliating with one's mother's or father's group (Nolet, Conte & Molle 2015: 53). Both kinship and residence were preconditions for the rights to use and inhabit ancestral land (Ottino 1972).

The joint requirements of descent and residence of the traditional land tenure system privileged indigenous descendants from ambilineal descent groups (affiliation to either one's father or mother's group) over outsiders. Outsiders could only acquire land access if they were adopted by or married into a descent group (Rapaport 1996: 34).[43] A person who moved away and married into a family on another island, for example, could eventually lose land rights on his or her home island. Yet, the rights could also be reactivated if the person who had migrated decided to return (ibid). Because the different descent groups practiced compulsory exogamy (marriage outside a clan, community, or island) among themselves, marriage alliances were made between members of different *´ati* (Bonvallot et al. 1994: 83).

Within the local stratified social system in pre-European contact times, *´ati* and their access to land were differentiated by a system of rank. Land on French Polynesian islands was owned either by the class of the kings and high chiefs (*ariki* in Pa'umotu or *ari´i* in Tahitian), who owned land that included religious sites, *marae*, or by the class of royal servants (*ra´atira*) who owned large parcels of land granted to them by the *ariki* or obtained by conquest.[44] The third, lower class (*manahune*) did not own land but lived on allocated land for which they paid with harvested food they cultivated on it (Kahn 2000: 10; Saura 1993: 33; de Bovis 1978: 30ff). In pre-European contact times, when the French Polynesian islands were ruled by the local chief(s), individuals and their

[43] Informal adoption continues to play an important role in land access and the use of land across Oceania. But usually, adoptive parents privilege their biological children over their adopted children when allocating their land use rights to their children (Silk 1980: 816).
[44] In the Tuamotus, female chiefs could also act as heads of the *´ati* (see Nolet 2007).

households had the right to access, live on, and use the land, but the chiefs served as custodians of this land (Sahlins 1958; see also Nolet 2007; Joralemon 1983: 96).

In the late 18th century and first half of the 19th century, under the increasing political-economic influence of European traders, the London Missionary Society (LMS), and the Pomare Kingdom of Tahiti, traditional land tenure systems in the Tuamotu archipelago were weakened and the power of the chiefs as custodial stewards of the land eroded. Christian missionaries completely reorganized the social, political, and regional structures of the Tuamotus through its forced introduction of a coconut monoculture, that is, forcing residents to grow only one cash crop (Bonvallot et al. 1994: 90). The introduction of cash cropping increased the Tuamotuans contact with European traders, and islanders with debt increasingly sold their land to outsiders.

In 1788, King Pomare I founded the Kingdom of Tahiti of the Pomare dynasty, which came originally from the Tuamotuan atoll of Fakarava. With the aid of the LMS, the Pomare dynasty subordinated most of the Society Islands, the Austral Islands, and the Tuamotu archipelago. His son and heir, King Pomare II, became the only king (*ariki*) and substituted the hereditary *ariki* of his dependencies by elected, less powerful *tavana*, district managers (or mayors, since the establishment of municipalities in the early 1970s) (Nolet 2007: 132; Saura 1993: 39). King Pomare's advisors at the LMS helped him expand his family's power over French Polynesia by prohibiting indigenous islanders to sell or rent their land. This was less to prevent indigenous people's disconnection from their ancestors' land than to guarantee the king's political power over the outer islands (Rapaport 1996: 35; Saura 1993: 38f).

In 1843, the Pomare Kingdom of Tahiti and all its dependencies was declared a French Protectorate. In 1880, it became a French colony under the name of *Etablissements français de l'Océanie* (EFO, French Establishments in Oceania). The Tuamotus became part of the colony in the same year.

At the end of the 19th century, the French colonial empire proclaimed its *Code Civil* and enforced an individual land tenure system to facilitate agricultural development for its newly introduced colonial trade economy (Ravault 1988: 112). The cultivation of plantations for exportable crops, including coffee, vanilla, and coconuts, encouraged the establishment of the new legal land tenure system and the official registration of landholders in the French overseas territory.

Polynesians with cash needs opted for individual ownership of land that they could cultivate with colonial export crops (ibid: 115). In 1845, indigenous beneficiaries were allowed to transfer land in exchange for money, after administrative approval. Many indigenous descendants lost their land rights because they either missed the deadline for private registration of their land (which became mandatory in 1847) or because land was registered and sold without the approval of all the entitled beneficiaries (Rapaport 1996: 35f). Because territorial space was considered a commodity in the colonial land tenure system, outsiders received the same opportunities to acquire land rights as indigenous people, which severely weakened traditional land policy linked to kinship and residence (ibid: 39). Land in the Tuamotus only began to be registered in 1918 (Hatanaka 1971: 326).

After World War II, France allowed its overseas territory increased local autonomy. Some of its legislative and administrative competencies were transferred to the Tahitian government, including the registration and division of land. During that time, the population increased, and the rural economy collapsed. With the rise of a service economy, land has been sold increasingly to investors of the new Polynesian middle-class (civil servants, entrepreneurs, and self-employed individuals). Investors bought land in the (semi-) urban centers and suburbs of the capital of Papeete on Tahiti in particular and on other Society Islands, such as Bora Bora, Moorea, Taha'a, and Raiatea, that were experiencing an expansion of tourism infrastructure.

In some of the outer, less tourist-oriented islands of French Polynesia (including most parts of the Austral Islands, the Gambier Islands, and the eastern Tuamotu Islands, which also include Hao), the individual land tenure code imposed over a century ago by the French colonial administration had never been completely accepted by the indigenous people (Rapaport 1996: 34). Here, indivision, or collective land tenure, which means the joint ownership and use of the land by an extended family group, has endured, and remains the dominant land tenure system to this day.

Even though some people registered and claimed land in their name at the turn of the 20th century, which led to a parceling up of land, many of the individually owned properties were not subdivided by the following generations but transferred as a jointly owned property to the heirs of the beneficiary of the original deed of land allocation. Subsequent land use rights were generally allocated from parent of either sex to a child. Parents privileged those children who resided on the

atoll and needed the most space in terms of family size and land use for cultivation (Rapaport 1996: 40).

The French, and later the Tahitian administration, considered not dividing the land to be an obstacle to economic production. Yet for indigenous families, collective land tenure ensured the continuation of their rights to territorial settlement and land control. This was a local reaction to an economy in crisis and an increasing population. It was also a reaction to the expropriation of scarce and highly valued land by outsiders and colonial transformations in general (ibid: 40; see also Ravault 1988: 117).

This changed when the French nuclear weapons testing program was established in the Tuamotu-Gambier Islands. The CEP's annexation of land to establish military bases in the islands and atolls of the Tuamotu-Gambier group had a massive impact on the local land tenure system and subsequently on the socio-economic relations between different family households.

During the CEP construction work on Hao from 1964 and 1966, indigenous families living in the allocated CEP and CEA zones were prompted by the military officials to sell their ancestors' land or to sign vaguely worded lease contracts. The French military bought 170 hectares of land north of Otepa village for the naval air base and the CEP base camp. Some 139 hectares of land in the four different zones were rented from local beneficiaries by the French military. The lease contracts were written in French, at a time when most people of the Tuamotu islands were not yet capable of speaking or writing French. In these contracts, the local signatory agreed on behalf of all other beneficiaries of the undivided parcel of land to rent out their inherited land to the CEP for a minimum of 30 years (Meyer & Meltz 2020).

Both the sale and the rental of land were advantageous to descent groups. For example, the indigenous families who were forced to move from the 23 parcels of undivided land, which were annexed by the CEP to build the 3.4-kilometer-long military airstrip, were paid 20 million Pacific Francs (approximately 167,000 Euros).

The rented land, which represented less than 1/10th of the atoll's land area, brought the local families the equivalent of the sum produced by the sale of copra harvested from the *entire* atoll. (Copra is the main, if not only, source of cash income for most villagers on Hao.) The rented land was divided into a multitude of land parcels (one to nine hectares per parcel). Each parcel of land belonged to one or more branches of a family tree. All members of the specific family branch were

entitled beneficiaries and thus should have received their due portion of the rent. However, only few of the entitled beneficiaries, i.e., the specific individuals with whom the military signed the contracts, received the monthly lease payment by the CEP. In addition, the high lease payments attracted legal beneficiaries who had been living on other islands and had suddenly decided to move back to Hao, not just to work for the CEP program, but also to claim their share of the highly profitable rent (Meyer & Meltz 2020).

When nuclear testing activities ceased and the military base on Hao was shut down, the French military abandoned or demolished military infrastructure, administrative buildings, and leisure facilities such as the cinema and the tennis courts. They returned the rented properties and some military buildings to the individuals with whom they had signed contracts originally, or, in the event of death or simply absence at the transfer of rented land parcels, to some of the descendants of the original signatories or to people who pretended to be entitled beneficiaries. The CEP disregarded, again, the local, pre-CEP politics of land tenure, which stipulates that land is undivided and collectively owned by descendants of an initial beneficiary of a deed of allocation or of an ancestral settler of the atoll.

The random distribution of undivided land to individuals and not to entire family branches that collectively owned these properties caused families to drift apart and negatively affected communal solidarity. Henriette, a middle-aged woman from Hao, told me that the general problem of collective land tenure in French Polynesia was certainly exacerbated on Hao through the lengthy presence of the CEP and its renting of land. In her opinion, the problem with the collective land tenure system was that many people have stayed on the island ever since they stopped working for the CEP. Many of them were not born on Hao but claimed their land use rights there because they could prove that they belonged to a local family that could trace their genealogy to a local ancestor. “There are too many people for the little number of coconuts that we have on Hao,” Henriette said.

In short, there were simply too many people coming from outside and settling on an atoll where less than 200 people had shared the land before the CEP arrived. Before the CEP, the local population was 194 in 1962. It then steadily increased to 1,412 in 1996 before it stabilized to roughly 1,000 people recorded in the 2012 census (Morschel 2013: 64; *Flags of the World* 2016). Many beneficiaries in French Polynesia do not have any written confirmation of their land rights

(Ravault 1988). Hence, it is difficult to establish who owns land rights through genealogy, i.e., those who would therefore be legally allowed to settle on the former CEP properties that in fact belong to *all* the beneficiaries of a given estate.

Determining an accurate division of land takes time. To this day, 58 genealogical trees have been established for the land parcels that were rented to the CEP. This has led to the return of 36 land parcels to *all* the entitled beneficiaries. The CEP rented a total of 270 land parcels (Meyer & Meltz 2020). Meanwhile, beneficiaries of jointly owned land are still fighting over who gets how many parcels of land in which area of the atoll.

The following section demonstrates how people like Jacques and Tania, who have lived in the former CEP zone and re-inhabited the concrete housing of a CEP military official since the CEP ended, do not see the rental contracts and the transformation of their atoll into a military base as a violation of their sense of place. Nor do they see the changes that the CEP wrought on Hao as a disruption of the atoll's social organization. Despite the social tensions that arose through the CEP's transfer of collectively owned land to a few individuals, the CEP is nostalgically missed, and the establishment of the military base on indigenous land and the subsequent return of that land to local occupants is remembered as culturally enabling, rather than socio-culturally disrupting. The remaining military houses are manifestations of the many privileges they received from the CEP at the end of the testing program in terms of land tenure on an atoll with scarce land and an exponentially increased population.

3.3. "*This is Authentic*": The Colonial Privileges of Re-inhabiting the Former CEP Buildings

According to the administrative subdivision of the French State for the Tuamotu-Gambier Islands (*subdivision administrative des îles Tuamotu-Gambier*, or SAITG), there are 28 families (about 110 of the approximately 1,200 individuals currently living on Hao) who now live in the former CEP zone. Jacques's family is one of very few landholding families whose different heirs could agree on who can live on which parcel of formerly leased land and re-inhabit the remaining military houses.

Jacques's sister Margot lives with her husband, a former *farāni militaire* (French military), and two teenage sons on the estate right behind Jacques's and Tania's house. It was one of the three housing facilities of the non-commissioned officers (*les sous-officiers*) of the French Air Force. Margot's and Jacques's cousin, who is also a beneficiary of the collectively owned family estate in the former CEP zone, lives in the house next to Jacques.

Instead of spending money to build a new home on the family estate, most families were glad to take over the military buildings the CEP left them, especially the housing facilities in the "*quartier des officiers*" and to move into the architectural remains of the CEP. Some of the tenants simply adjusted the buildings to their daily needs and the Pa'umotu lifestyle, for example, by building an open-air kitchen in their backyards as Margot and her brother Jacques did.

Behind the old Navy bar on the shores of the lagoon is the former building of the chief of staff or *la maison du chef d'état-major* where Léonie and other members of her paternal family, one of Hao's biggest landholding families, now live. Léonie told me: "We have not really changed anything in the house. Some things have been adapted to our daily lives. For example, we use the mailboxes of the military staff on this wall as a kitchen cupboard."

Photo 14: The former building of the état-major*, former CEP zone, November 2021 © Laurent Sturm*

Governmental responses to residual pollution by the military program

Both the administrative subdivision of the French State for the Tuamotu-Gambier Islands (SAITG) and the administrative representation of the territorial government (*circonscription Tuamotu-Gambier*, CTG) planned to demolish the remaining CEP buildings as part of a rehabilitation program on Hao launched in 2009 and carried out by the French Armed Forces' *Direction d'infrastructure de la défense* (DID). The rehabilitation program began with comprehensive studies of the presence of toxic substances, including asbestos, lead, hydrocarbons, and polychlorinated bisphenyl (PCBs) left by the CEP (Haut-commissariat de la Polynésie Française 2011).

The French State representative of the Tuamotu-Gambier Islands told me that once this rehabilitation program is finished, the undivided land in the former CEP area will finally be divided among *all* the legal beneficiaries: "Entitled beneficiaries of the land plots could finally get back their land rights. They could finally move on and build a new, asbestos-free house on their ancestors' land."

All the approximately 20 occupants of the remaining CEP buildings that talked to me know that their houses might be contaminated with asbestos. They also know that the French had buried military waste in the soil on some of their properties. However, the head of the SAITG told me during a meeting in Papeete in 2021 that most of the 28 families who currently live in the *zone CEP* do not want to cooperate with the French state and Polynesian government authorities in the demolition of the former CEP houses. Most of them prefer to stay in these decaying, asbestos-contaminated buildings because they do not see their homes as toxic ruins of the nuclear military past. Instead, they consider these remains of the French military as "the last souvenirs" of the CEP, as Tania put it during our barbecue lunch: the physical reminders of Hao's golden age. They prefer to keep this infrastructure because it continues to give them privileges in terms of access to land and housing.

Anthropologists of infrastructure who contributed to the edited volume *The Promise of Infrastructure* (2018) by Nikhil Anand, Akhil Gupta, and Hannah Appel argue that infrastructures, such as roads, electricity lines, and water pipes, entail promises of modernity and development. Large, state-run infrastructures can be the political promises of state regimes to facilitate everyday life of the local society. Once these infrastructures are demolished or collapse and eventually turn

into ruins, the downsides of modernity, progress, and economic growth become visible, including power inequalities and environmental degradation.

On Hao, the old, decaying military infrastructure in the former CEP zone do not entail ruination for the people who live in the former military buildings. For them, the remaining CEP infrastructure continues to entail the CEP's past promises of French modernity, privileged access to scarce land and housing, and environmental (thanks to solid infrastructure made of concrete) safety.

Tania and Léonie, in fact, most of the residents of former CEP houses are proud to own and live in this CEP architectural heritage, and to show me, *l'anthropologue*, around their properties. During her tour through her premises, Léonie hit her fist against the wall, assuring me that "this, *this* is authentic! And it lasts forever!" She explained that the house is much more robust and solid than any house they could afford: "It would be stupid to take down this solid house to build a less solid house of wood and braided palm leaves instead. This one can protect us from cyclones!"

Margot also enthused about the spaciousness of the former house(s) of the non-commissioned officers: "We have four bedrooms, showers, and toilets. All my sons have their own space. We have everything! Not all of us here on the island live such a privileged life as we do. Usually, we don't have the means to own houses as pretty ["*belles*"] as these ones."

The new residents of these architectural relics of the CEP era value these buildings for being culturally "authentic" in the modern, CEP sense; their attitude toward their homes is another iteration of their nostalgia for the authentic cultural identity of the atoll's past, a yearning for both the old times of King Munanui and the more recent times of the CEP. Both the grave of King Munanui and the military infrastructure in the former CEP zone are infrastructural promises of Hao's exception from colonial subjugation. King Munanui was Hao's greatest king, protecting the atoll from outside threats. Nevertheless, the Tuamotus, including Hao, became part of the colonially backed Pomare Kingdom. The CEP buildings are symbols of the time when the French military was perceived as giving everybody equal access to land, housing, and socio-economic status, even though Hao was colonially overdetermined. This infrastructure is the apparatus of colonial land exploitation. The CEP expropriated indigenous people of their ancestors' land and use this land for its military activities.

Yet for Margot, Léonie, Tania, and Jacques and their neighbors, the CEP buildings are Hao "as it really was," just like the parties at Mamie Blue's had once been. Their living in these houses helps preserve the powerful cultural identity expressed by CEP authenticity.

Nostalgia for exclusive centrality

Yet, this nostalgia for CEP authenticity is also embedded in the colonial history of the abolition of local chiefdoms and its impact on the islanders' connection to their ancestral land. In pre-European contact times, the Hao atoll was its very own center: it was a vibrant cultural entity in the wider region that maintained socio-economic relations with other kingdom-islands. In the 19th century, Hao was not just the fourth biggest atoll of the Tuamotu archipelago in size, but also in population. It maintained a relatively large population of 400 of the 3,500 Pa'umotu islanders (Avalle 1866: 632, 640).

When the Pomare Kingdom of Tahiti abolished traditional chiefdom and the Tuamotus were subordinated to the Tahitian Kingdom (with the aid of the London Missionary Society) in the late 19th century, Hao was pushed to the margins of the new kingdom, with no powerful king or chief to protect its centrality as a kingdom. Hao was not excluded from inter-island relationality and continued to maintain close social and economic relations with Tahiti and its surrounding islands (including its neighboring atoll of Amanu mentioned above) through kinship ties and trade. Nevertheless, Hao had become a simple node in the wider archipelago in the vast sea of many subordinated islands.

This changed when the French CEP installed the military base for nuclear weapons testing on the Hao atoll. In French Polynesia, if outsiders come with good, peaceful intentions or even extend privileges and prestige to the local population, then these outsiders will be openly welcomed (see Chesneaux and Maclellan 1992: 18). But when the French first arrived to establish the CEP, the indigenous population of Hao viewed these French strangers critically, since they did not know yet what their request for the rental or sale of ancestral land to them would mean for the general well-being of the island's residents.

I learned during my fieldwork that some local residents initially refused to entrust their land to the French. Philippe, for example, a member of a big landholding family with land rights both on the *Sablière* and in the former CEP zone, told me that his father was skeptical when he

saw the French military men arriving on Hao for the first time. The strangers asked the father to sign a lease contract with them in which he would give them the permission to install an open waste pit (*dépotoir*) on their family's land. He was skeptical at first, but finally gave his consent to the exchange of his ancestors' land for money.

Two French researchers, geographer Teva Meyer and historian Renaud Meltz (2020), found an official document of the French Overseas Ministry from 1963 in the archives of the history department of the French Ministry of Defense (*Service Historique de la Défense*, or SHD). The document threatens that "[i]f no amicable agreement can be reached with the proprietaries, expropriation for urgent military work will be ordered."[45] Philippe's father, like all other indigenous islanders, had no other choice but to rent or sell their ancestors' land to the CEP.

The installation of the French nuclear weapons testing program in the Tuamotu archipelago and the construction of the base on Hao did not spark a measurable local outcry. This lack of resistance against the arrival of new European settlers in the 1960s becomes more understandable when one looks at the Tuamotu archipelago's history of European encounters and the indigenous remembrance of the (colonial) past. Anthropologist Bruno Saura (2015) notes that the arrival and evangelical work of European missionaries in the 19th century is generally remembered positively in French Polynesia. Evangelical conversions of the indigenous population were more or less voluntary and occurred without much political pressure by the French (Saura 2015: 341f). On Hao, for example, where the majority of the population is Catholic, the conversion to Catholicism by French missionaries around 1850 (Hao's Saint-Pierre parish was founded in 1852) is remembered as a meaningful, not traumatic, event (see Archidiocèse de Papeete 2021).

Soon after the program arrived on Hao, the CEP convinced the local population that they had come to Hao with good intentions only. In exchange for the rented land plots, the CEP gave some of the residents more money than they could have ever made with copra. In addition, they transformed Hao into a new hub in the wider region and introduced many lucrative job opportunities and infrastructural development that attracted Polynesians from other islands. The CEP gave back a unique, exclusive identity and centrality to Hao. The island stopped being a simple

[45] This is a liberal translation from French into English by the author of this thesis. The original French citation is: "*En cas d'impossibilité d'accord amiable avec les propriétaires, l'expropriation pour travaux militaires urgents sera prononcée*." (SHD GR 1 R 212, le MON au MA le 13 août 1963, à l'issue d'une RIM, du 25 juillet 1963, as cited in Meyer & Meltz 2020).

node in the wider sea of islands and became a cultural entity again, a hub with a unique CEP-linked identity and *raison d'être*.

Given the undeniable benefits to Hao's residents that the CEP provided for decades, it is no surprise, then, that the new residents of the former military facilities felt proud of their connection to CEP's history, claiming that their housing cemented their position in the community and "proved" that they are authentically Hao. I argue that, by doing so, these residents demonstrate that they have internalized the colonial gaze of the CEP epoch. They have accepted the military, socio-economic centrality created by the CEP program as the new normal, the new identity of Hao, the new cultural authenticity. The CEP successfully managed to present itself to Hao as a modern version of King Munanui: as the island's protector and as culturally authentic. While Hao's residents remember King Munanui as having protected his kingdom and his islanders from warriors from other islands trying to take possession of Hao, the nuclear testing program is remembered as having transformed Hao into a hub in the wider archipelagic region, building infrastructure that protected and continues to protect people living on Hao from cyclones and other outside forces.

In addition, the presence of the French military and its control over the land and everyday life gave Hao's people numerous privileges, some of which still give them access to rights they would not have elsewhere in French Polynesia. For example, for the occupants of the former CEP houses, their living in former military buildings is considered a privilege, not just because the houses protect them from natural forces and exceed their financial and material reach, but also because the former CEP buildings give them access to scarce, undivided land on an atoll that now hosts around six times more residents than it had when the CEP was established.

Léa, for example, a woman born on Hao in the 1970s, is one of the privileged beneficiaries who were permitted by the CEP to settle on former military land and now inhabits one of the robust, spacious CEP buildings. She, her husband, and teenage son took over her maternal family's estate, which is located near Jacques's and Tania's home, including the former laundry facilities that the CEP built on it. Léa as well as the rest of Hao continue to call the oblong, one-story building "*la buanderie"* (the laundry room).

Léa told me that she is proud to re-inhabit the former military area, because, after all, "this is *our* land, this belongs to us, to my family, our ancestors. We *have* to use it!" Unlike most

residents in the former CEP zone who spoke with me about the future of their particular houses, Léa and her husband are thinking of demolishing the *buanderie* and building a new house: "I know that the *buanderie* is one of the last souvenirs of the CEP epoch, but it's too big for the three of us, and it needs a lot of maintenance. It's in decay!" The couple wants to demolish their home and let the nine hectares of land around the *buanderie* be divided by a magistrate among the nine family branches that are beneficiaries of the property. They would then build a new house on the parcel of land allocated to her and her husband. In the end, she said that she does not want to fight with her extended family anymore about the jointly owned land of their ancestors.

Photo 15: The former laundry building of the military, former CEP zone, October 2021 © Laurent Sturm

Some of the occupants who talked to me about such plans to demolish some of these houses argue that they feel too connected to the land on which their homes stand to demolish the house, let alone to risk being resettled to another place on the atoll.

In French Polynesia, as well as in most other societies in the Pacific and beyond, people feel strongly attached to their ancestors' land, as the area of Gaké exemplifies. Land connects individuals to their ancestors and constitutes the very foundation of extended family structures. Jacques told me that ancestral land in the former CEP zone still provides entitled beneficiaries, including his family, with feelings of identity and connection to their ancestral family, i.e., their kinship.

Late 20th century scholars in the social sciences and humanities who study collective land tenure in the Pacific Islands and people's attachment to land identify this inextricable link between land, sociality, and power (see for example Panoff 1970; Ottino 1972; Robineau 1984; Crocombe & Arutangai 1987; Ravault 1988; Ward & Kingdon 1995). The more land a family has, the more social, economic, and political power they possess on the respective island. Ethnologist Paul Ottino (1972), for example, refers to his study on the Rangiroa atoll of the western Tuamotus when he argues that kinship in itself, without any reference to land or specific properties, is meaningless. Property has a social value. It preserves the social organization of a community (see also Ravault 1988: 120). Land connects individuals with family history and influences everyday social life. It is through land that individuals affirm their belonging to their kin and thus affirm their sense of themselves.[46]

However, by returning collectively owned land to few individuals, the CEP repressed this inextricable link between strong kinship ties and access to land, this idea that access to land is subordinated to the internal politics of residence and descent. Land did not stay in the hands of an entire family and connections to ancestral land were interrupted. Suddenly, anyone, even outsiders, could get access to land in this seemingly "inclusive" space, this hub of the French CEP. By randomly distributing the land parcels it rented for several decades to some individuals, the CEP granted these individuals privileges they would otherwise not have had, both in terms of housing and of access to land.

Léa's intentions to demolish the *buanderie* and invoke administrative procedures to properly divide the property among all the entitled beneficiaries made me realize that the fact that some residents of the former *zone CEP* are holding fast to the military buildings and the land they inhabit is embedded in the local politics of land rights.

However, most residents (Léa is an exception) prefer to stay in the decaying, asbestos-contaminated buildings not only because they cannot afford a new house as solid and spacious as the CEP house, but because, most importantly, they would risk losing their privileges in terms of access to the land they live on. If the land was to be divided among *all* the beneficiaries,

[46] Not all people on Hao have such close connections to land since many of them do not own land. Many people only settled on Hao in the three decades of the *époque CEP* to work for the CEP. As a result of their outsider status, they do not have legal access to land because they are not the direct heirs of local landholders with whom the CEP signed the lease contracts. In effect, they are squatting on land that is owned by other people.

individuals would not be able to sub-lease the vast properties on which they currently live to the proposed Chinese fish farm investors or to the *Régiment du Service Militaire Adapté* (RSMA) that may be coming to Hao soon. (I discuss the issues of both the Chinese fish farm project and the return of the RSMA on Hao in Chapter 5).

By giving outsiders access to scarce land, the CEP enabled them to create a new, CEP-linked connection to land. The CEP made them feel privileged, included, and empowered. Yet, I contend that the occupants of the former CEP buildings forget or ignore that the authentic CEP past and their privileges relating to access to land actually rest on decades of colonial exploitation of indigenous land. In essence, the re-inhabited military buildings are manifestations of the colonial, exploitative past. When it returned the land to the local population under the camouflage of cultural authenticity, the CEP managed to obfuscate its expropriation and pollution of ancestral land and the actual purpose of these buildings as support facilities for nuclear testing. Most importantly, it ignored the age-old internal politics of the island's collective land tenure system.

The following section further explores the extent to which these residents remember the many privileges the French military generously gave them during the CEP epoch. These were culturally authentic "gifts" that strengthened social relationality and kinship ties and people's access to land. However, these same residents do not recognize the colonial nature of the exchange relationship between the Polynesian Hao dwellers and the French military.

3.4. Obligation-free Gifts and the Poison of the CEP Program

The French CEP introduced an unprecedented lifestyle and consumer culture to the Polynesian people who lived on Hao during the CEP era. The creation of many salaried jobs and the subsequent boost of the economy enabled the Polynesian population to afford this privileged lifestyle. Many Polynesian people, including landholding families and also newly arrived people from other French Polynesian islands, consider this newly created Tuamotuan hub an inclusive space where *anyone*, both locals and outsiders, could have access to land and socio-economic privileges.

People from Hao who moved back to undivided land in the former CEP zone told me that they did not see their land rights as being curtailed by the leasing of family-owned properties to the French military. In fact, this infrastructure expansion of the French nuclear testing program and the modern lifestyle gave them a new sense of freedom in terms of *access* to land as well as their connection to other Polynesian islands.

During Hao's CEP era, land in the military zone remained generally accessible to civilians. Once the CEP took over their families' properties and installed its military base, residents were still allowed to move around in the CEP zone relatively freely. However, civilians were required to wear a staff badge to enter the CEP zone on the northern end of the Otepa village.

Hiro worked for the CEP on both Moruroa and Hao and now lives with his wife, son, and daughter-in-law in the premises of the former water sports club. He proudly showed me his entry badge during one of our many outdoor kitchen table talks, which he had to show to the guards in order to enter the military zone. Since the vast majority of the local population worked for the CEP or knew a family member who had an entry badge, residents could borrow the badge and enjoyed almost boundless access to the splendid leisure facilities that the CEP built on the residents' former properties.

The CEP also built paved roads from the village to the *passe Kaki* up north, an international airfield, and introduced new means of transportation, including cars, motorboats, and regular flights to Tahiti and other Polynesian islands that had airstrips. Roger, the elderly man from the Marquesas Islands who moved to Hao when he was 18 years old to work for one of the CEP's subcontractors, proudly told me how the car he was given for his job gave his family extra comfort in their daily lives: "My family used to live outside the village at the *Sablière*. But every morning, I could just drive my kids to school in my beautiful car."

The construction of the international airfield and the expansion of Hao's only *passe* to the lagoon improved Hao's connection to the wider world, because bigger cargo ships could now arrive in Hao and supply the residents with whatever globalization and modernity has to offer.

During our barbecue lunch, Tania remembers the time the CEP offered its Polynesian civilian workers cheap plane tickets to Tahiti. "Jacques and I sometimes took a flight to Tahiti on a Friday afternoon to go out in Papeete, and we flew back on Sunday evening. It was so much fun!"

Salaried employment introduced by the CEP facilitated the local islanders' maintenance of their connections to more remote family-owned land plots on the atoll. Heimata, Philippe's wife, remembers that during the CEP era, when most adult members of her extended family worked for the CEP, she could go on a *motu* (islet) on the other side of the lagoon where her family has some land use rights whenever she wanted to escape the busy village: "Our family could go to our motu by boat any day of the week. We went there for fishing or harvesting copra, or just for a little picknic. Sometimes we invited the French military men to join us, and we had a big barbecue over there." Furthermore, the new means of transportation enabled local families to strengthen their connection to the pre-CEP past by visiting the tomb of King Munanui on the southern end of the atoll whenever they wanted.

The new grocery shops, the *magasins d'approvisionnement* of the military located in the military officers' neighborhood, introduced Hao's Polynesian civil society to French food products that profoundly changed their diet. The French military personnel and all CEP employees could buy rare goods from far-away France. Tera and her husband Simon excitedly told me about their experiences shopping at the *magasins d'approvisionnement* and the affordable French products they could buy there. "I remember the grocery store in the CEP zone where my mum would take me after school. Everything was cheaper in the grocery store over here than in those in the village, and it had a larger selection of products, products from France," Tera said.

Jérémie, a young Hao resident in his mid-twenties, also links the CEP past to memories of specific, French food habits: "When I think of the CEP era, I think of the many people in my family who worked for the CEP: My parents, uncles, even my aunts were working for the CEP. I remember eating a lot of cake. We ate cake almost every day, because my aunts worked at the restaurant in the CEP zone." Heimana, the deputy mayor of Hao, remembers the CEP era as a time when residents could eat *steak frites* (beef steak and French fries) every day. With a mother from Tahiti and a father from the Marquesas who both moved to Hao to work for the CEP, Heimana identifies himself as an "*enfant du CEP,"* a "child of the CEP": "We [these children of the CEP] did not know any other diet than eating *steak frites* and drinking cow milk all the time."

In addition to what they could buy themselves, such as the French products in the military grocery shops, cheap plane tickets, and drinks at Mamie Blue's and the other bars in the village, the CEP treated the Polynesian islanders with goods and public services and infrastructure free of

charge. These included health care services provided by the fully equipped military hospital, the water system, the electricity grid, and the many leisure activities in the CEP zone.

Poko, a young man who lives in a newly built house on his family's land parcel in the former CEP zone, summarizes Hao's new infrastructural equipment as "the all-inclusive package" that they got "like a gift" from the French CEP. Jacques remembers that whenever the local population needed something from the French military, they just had to ask. "They even brought the municipality a tractor when they asked for it. Can you imagine? A tractor! Via plane" Jacques said. Poko, along with Tania, Jacques and many other local residents, mentioned the water system and electricity wires the CEP laid throughout the military zone and the village. When the CEP left Hao in 2000, the electric generators of the CEP were taken over by the Tahitian company EDT-ELECTRA. Suddenly, the Hao residents had to pay the costs themselves if they wanted to stay connected to the power supply. A smaller infirmary was built in the village after the CEP demolished the fully equipped military hospital. A dentist and two nurses provide primary medical care. A doctor based on Tahiti visits the atoll every few weeks.

The children also felt that they were spoiled by the French, especially at Christmas. Alice, a 47-year-old resident who has lived on Hao since the 1980s, remembers being given many gifts by the military. "At the end of every year, me and my friends would get so many presents from the military: dolls, cars, teddys, everything. You see, we all benefited from the army, even the children."

It seems that the CEP's money supply was never turned off on Hao. Even the late years of the CEP era did not seem to be any less spectacular and "marvelous," as Alice put it. Poko remembers these late years of the CEP: "Life on Hao was beautiful. We had many stars in our eyes – everything was so shiny and beautiful, and everything was free of charge." According to Poko and his wife Herenui, Father Christmas (*Papa Noël*) did not arrive on the traditional, reindeer-driven sled ride. "On Hao, *Papa Noël* arrived via helicopter, a military helicopter!"

I gradually came to understand that these developments and gifts were, in effect, "gifts of modernity" to the local population. For the local families who lived on Hao when the CEP arrived in the early 1960s, these strangers are remembered as having come with good, peaceful intentions, and they did not come empty handed. Not only did their budget provide lavish lifestyle "gifts," the French provided the solid military buildings that they left to locals once the nuclear

testing program ended. The CEP is not perceived as a dangerous outsider from which King Munanui would have tried to protect his island. It is not remembered as a colonial superpower dropping atomic and thermonuclear bombs on ancestral land. Here, the CEP was dropping *Papa Noël* and Christmas presents out of a helicopter. For the Polynesian people who experienced the atoll's CEP era, the nuclear military program transformed Hao into a modernity hub in the wider Tuamotu region, giving it a new, privileged status, new prestige. It brought modern mainland France to Hao through regular passenger flights, *steak frites*, the French dresses of Mamie Blue, and the celebration of the 14th of July, which, as noted above, was celebrated even more lavishly on Hao than in some parts of France.

The CEP epoch is characterized by the beneficiaries of indigenous land in particular as a give-and-take relationship between the French military personnel and the Polynesian population. The Polynesian people on Hao provided usable land, a labor force, and sex and colonial desire. In return, the French military gave them salaried employment, entertainment, Christmas presents, year-round festivities, and free access to tap water, electricity, and their leisure facilities. It all seemed to be a "fair" exchange based on symmetrical, equal, relationships between Polynesians and the French military. At the end of the French nuclear testing program, the military gave its final gift to a certain number of people on Hao when it returned the leased land parcels to individual members of landholding families, including some of the military buildings.

Gift giving and its implications for island politics

In his book "The Gift" (1925), Mauss studied the practice of exchanging goods or services – property, food, labor, armed protection, and women – through gifts shared with indigenous groups in regions of Polynesia, Melanesia, and North America.

The act of gift giving may seem like a voluntary act, but Mauss argues that the exchanges are in fact obligatory and have important political, economic, religious, and kinship implications. Mauss explored the socio-political function of the gift in the gift-giving economy called "potlatch" among indigenous groups of the Pacific Northwest Coast of the United States and Canada. Potlatch refers to the act of gift exchange in social legal systems characterized by "total prestations" ("*systéme des prestations totales*"), which refers to the fact that these transfers of gifts are made between entire groups rather than between individuals (Mauss 1925).

Mauss argues that the reciprocal exchange of gifts between competing groups creates strong bonds between the individuals of the respective groups. The giver and the receiver are linked to each other through the gift (Mauss 1997: 29). This also implies that the receiver needs to fulfill the obligation of giving back to the giver in the form of another gift in order to maintain peace between the giving and receiving groups. If a gift is not given back or accepted, this implies the rejection and subsequent end of the peaceful relations and interactions, which in earlier times could eventually lead to war.

In French Polynesia, the relationships between indigenous people and their land and between the societies of the different islands and atolls and different chiefdoms (during the time of King Munanui, for example) have also been subject to the politics of kinship and descent, which, as we have seen, sometimes led to conflicts. We have also noted that that there were also internal politics attached to the exchange of gifts between the people of Hao and the CEP. Local politics were linked to the final gift of former military buildings, for example, with regard to who has the right to get access to and re-inhabit these valued relics of CEP times. These gifts were never free.

Yet, the politics of these issues was repressed by the French military both during and after the testing program, when land parcels were returned to only a few individuals, disregarding the traditional island politics of regulating land use and social relationality. Unlike the societies that Mauss studied, people on Hao thought of the gifts they received from the CEP both during and at the end of the CEP era as pure gifts that did not imply the expectation of reciprocation. Despite the CEP dividing the atoll into military and village zones, there seemed to be no politics regulating or controlling housing, fishing, and access to land. There were no prohibited “no entry” zones for the villagers, except for the CEA zone in the southern end of the village; CEA workers were highly respected and perceived as the smart elite that was conducting scientific analyses.

In fact, I argue that the repression of internal politics of relationality (including the sharing of land and food) caused many Hao residents, especially those living in the former military buildings and enjoying exclusive privileges in terms of land use, to remember the CEP’s gifts of modernity as having further strengthened social relations between the islanders. These strengthened bonds enabled people to be even more “Pa’umotu,” in the sense of adhering to regional codes of conduct that involve the giving and sharing of goods and assistance without being bound to any socio-political restrictions or obligations.

Generosity, hospitality, and communal solidarity are considered central values of Polynesian culture (Kuwahara 2014: 98; Saura 2009; Stevenson 1992). They are often expressed through the sharing and giving of assistance and goods, particularly food and land. I refer here to Richard Feinberg (1981) and Allan Hanson (1970) and other anthropologists who suggest that in Polynesian cultures, the compliance with a code of conduct that includes the sharing and giving of support and material goods such as food and land is as significant to the definition of group structures and a person's kin-membership as genealogies. Feinberg studied the behavior *aropa*, i.e., the positive affect expressed through the giving and sharing of goods and services among the Anutan of the Eastern Solomon Islands. A person is expected to manifest *aropa* toward people to whom this person is related through blood or marriage. Outsiders with no genealogical connection to the kinship system may also be incorporated into this kinship system through *aropa*. *Aropa* is thus a way to express emotional attachment to people who are perceived as members of one's social structure unit (Feinberg 1981: 116).

Hanson studied corporate group membership and the conjunction of genealogies and codes of conduct that includes the sharing of food on Rapa in the Austral Islands of French Polynesia. Here, food is "a concept of pervasive significance" (Hanson 1970: 62). It is a symbol of close relationships and a way to express love and affection for both members of the kin and people outside the kin. If two persons share food, they are not strangers anymore: they have become friends.

On Hao, the French military's material gift giving and regular invitations for meals or drinks at the many bars are remembered by residents as having strengthened the seemingly familial social relationships between the French military and the Polynesian population. Alice, the Polynesian woman who moved to Hao in the 1980s, also measures the close relationships between the French CEP personnel and the Polynesian villagers by her family's many invitations by the French: "The village and the French army lived in very good cohesion. The French did not only invite the CEP workers for lunch or dinner, but their whole family! We *all* got invited." Temana, the Hao local who took over the former navy bar in the CEP zone, remembers: "We simply had a good relationship with them [*une bonne entente avec eux*], the population and the CEP."

During the 30 years of CEP, it was common that at least one member of the local families to work for one of the subcontracting companies of the French military. Tania, having worked for one of these companies in the past herself, told me that these jobs were enormously well paid: one

employed family member could easily provide for the rest of a family clan. Since many local families could afford the modern, wealthy, almost lavish lifestyle on CEP Hao, the reciprocal invitation of people and the sharing of food and other goods could be practiced abundantly. Jacques, for example, claims that "when the French were here, everybody would just say: 'Come in and eat!' ['*Viens manger!*'] In the Tuamotu islands, we say *'hare mai te ma'a'*. We have always done this here. The CEP brought welfare to us [*Le CEP nous a donné du bien*]." Hanson found the same tradition on Rapa: "the epitome of hospitality" would also be "to call out to someone walking by the house, 'Come in and eat!'" (ibid: 63). This was done all the time during the CEP program.

In effect, everyone, both local landholding families and Polynesian CEP workers from other islands, received a piece of the CEP cake. There seemed to be enough for all, be it food, land, or salaried jobs. French nuclear modernity is remembered today as having enabled residents to be devoted, caring family members, as well as generous and hospitable neighbors to both their Polynesian neighbors and the French military. The CEP program and the conspicuous consumption of its gifts of modernity made everyone feel included in the newly emerged middle-class society.[47] In contrast to what Feinberg and Hanson observed on other Polynesian islands, i.e., codes of conduct that are as important as genealogies for group membership, I suggest that on CEP Hao, group membership was defined *primarily* by the sharing, giving, and consumption of goods or gifts of the CEP, and not so much by genealogies. Even Polynesians from other islands who worked for the CEP program felt like Hao 'locals', like 'children of the CEP' as Heimana defines it, not just merely friends of the local islanders.

However, gift giving and sharing always come with politics attached. The gifts of modernity and the authentic CEP past that Hao residents experienced were embedded in the colonial politics of French modernity. The relationships the CEP built with the local families and Polynesian CEP-workers who moved to Hao from other islands, were never equal and the exchange of land for military dependence was not fair. The close, seemingly equal relationships between the French military and Polynesian islanders were deeply colonial, which allowed the French to eventually exploit and pollute the land seemingly at will. The CEP always had the power to decide which land

[47] Conspicuous consumption refers to the consumption and display of extravagant goods "that aim to indicate membership to a superior social class" and "to make stable categories of culture" (Patsiaouras & Fitchett 2012: 1-3; see also Mauss 1925).

parcels had to be rented or sold to them. The CEP also had the power to decide whether the lease contracts should be prolonged and when to annul these contracts. The military program and the gifts of modernity were, if anything, culturally "unmaking" Hao rather than the reflection of local values like hospitality and generosity through sharing.

Post-CEP Hao: The return of politics of land rights

The transition from the traditional economy (a subsistence system) to the new conditions of forced wage employment (a monetary system) when the CEP was implemented had massive impacts on the local land tenure system, and subsequently on the socio-economic relations among the different households on Hao (see Robineau 1984). Since the dismantling of the CEP, however, primary economic activities have been difficult to re-launch because life had become more individualized with the introduction of French nuclear modernity. Philippe, the Hao local who lives with his family in the former CEA zone on his forebears' land remembers that "The CEP organized everyday life. We didn't need to rely on the extended family nor on our neighbors anymore."

Social functions of sharing or land usage were suspended for decades when people only needed to rely on the salaried employments of the CEP program to afford a life without the mutual support of a community or strong kinship ties.

When the CEP closed in 2000, the monthly salaries suddenly ended and employment became scarce, and fishing and copra harvest became again a means to survive in the harsh environment of the Tuamotu archipelago. But the local population realized that they had forgotten how to live a Pa'umotu life of fishing and copra harvest that is based fundamentally on reciprocal relationships within and among different families. Hao's Polynesians had to readapt to the new, post-CEP situation and recognize and honor again the local politics of land rights, kinship, and communal solidarity. Manua, Hao's chief police officer and a passionate fisherman who invited me to his family's weekend getaway to Gaké, put it regretfully:

> *People on Hao were used to let their neighbors harvest coconuts on their land. People shared land. People shared the fish they herded into a fish trap.*[48] *Regarding the fish traps, the problem these days is that if you put a fish trap in*

[48] Fish traps (*parcs* or *pièges à poisson*) are installed in the lagoon near the passe and refer to a communal fishing method where fish gets trapped in an underwater stone labyrinth. Fish is then held captive until consumed (see Blanchet & Caillaud & Paoaafaite 1985).

> *the lagoon in front of your property, it is theoretically yours. If one person has no land close to the lagoon and wants to use yours, you could ask a lot of money. It is simply not very profitable. Thus, everyone goes fishing on their own. There is no sharing anymore. Today, it's everyone for himself [*chacun pour soi*].*

Land that was considered individually owned property on post-CEP Hao made it difficult for local residents to maintain social relations based on sharing within and between families. It was difficult to return to pre-CEP politics on an atoll where most people had only moved there within the last few decades and did not know anything but the golden CEP age. Thomas once compared this re-start of Hao's way of life with traditional dances they had to re-learn after having danced a different (CEP) dance for so long: "Once you stop practicing, you easily forget the different steps. We had to relearn how to dance the traditional dance!" Hao's people had to re-learn how to provide for themselves as a community and how to use the resources they had at hand in a collective way. Without the well-paid jobs, *steak frites* and French cheese became unaffordable and were relegated to fond memories of the CEP past. Thomas assured me that "it is hard to return to a fish diet when you were used to eat imported and much pricier red meat and chicken almost every day."

Considering the unequal distribution of CEP gifts, such as access to land and the individualization of society that the CEP fostered, I argue that the gift of the decades-long presence of the CEP became instead a kind of poison, a toxin that affected the relationships between the people living on Hao, between people and their land, and as an actual poison for the land itself in the form of contaminated military and nuclear waste.[49] The people who received this free, but poisoned gift, i.e., the houses and their nostalgic promises of spacious gayness, robustness, and CEP-authenticity, were the once most nostalgic about the CEP. After all, they were the once who gained most in terms of property and housing, even if they were also among the most exploited by the CEP (here: expropriation and pollution of ancestral land).

[49] I refer here to Mauss' analysis of the spirit of the gift, *hau*, in Maori societies. In *The gift: forms and functions of exchange in archaic societies* (1925), Mauss raises a central question: "In primitive or archaic types of society what […] force is there in the thing given which compels the recipient to make a return?" (Mauss 1925: 1). Mauss claims that in Samoa, for example, all gifts have a spirit (*hau*). The *hau* can be cursing or benefitting. Fears about the cursing, destructive spirit of the gift is what drives people to return the gift. If a gift is returned, the *hau* benefits the giver and a strong bond is created between the giver and receiver. If a gift is not returned and the circulation of wealth is annulled, the spirit of the gift may curse the person who is not returning any gift. The giver wields power over the recipient until the recipient made a counter-gift (ibid: 7ff).

During the CEP era, the local population had returned a counter-gift to the CEP's gift of modernity: they had surrendered their land rights and their socio-economic independence in exchange for the CEP gift of living in a hub of modernity. However, the spirit of the gift they received from the CEP came at a high price: the gift made them marginalized, exploited subjects. I interpret the spirit of the gift which the Hao population received from the CEP and the reciprocity of French colonial relations on Hao in general as literally toxic, because it negatively affected family and neighborhood relations on Hao by creating land expropriation and socio-economic dependence. In fact, it was not just the spirit of the CEP gift that was toxic: the entire gift was poisonous, colonial.

Yet, on post-CEP Hao, especially among entitled occupants and squatters in former CEP buildings, the poisonous spirit of the colonial gift of the CEP has for the most part been forgotten or ignored. The CEP is remembered as a benefit that gave the local population many privileges. Residents remember the CEP program as culturally enabling and think that communal solidarity had been actually strengthened by the CEP. Hao's residents also conveniently forget the negative effects of the nuclear weapons testing program, including residual pollution, further complication of the collective land tenure system, the loss of their land rights, and families torn apart.

3.5. Conclusion

This chapter's ethnographic material demonstrates that there is a difference between what the French CEP thought they were giving to the Polynesian Hao islanders and what the Polynesian islanders thought they received from the CEP. Despite the building of many CEP infrastructure projects that connected Hao with other islands, the CEP did not specifically intend to improve the local islanders' connection to the outside world. Yet, given the lifestyle that the French generously gave the local population, Hao residents saw this largesse as a generous gift of modernity.

The French military provided Hao with seemingly pure, obligation-free gift of an inclusive modernity hub that included not only gift exchanges and an abundance of sharing but also an identity that strengthened community bonds.

The CEP even continued to give privileges to some people long after the French military left the island by handing over valuable housing to a select group of islanders. Even today, these decaying military buildings in the former CEP zone are considered the last authentic souvenirs of the golden CEP era that remind their occupants of the time when the CEP gave all islanders boundless access to the French modernity hub.

However, the occupants' attachment to the former CEP houses and their land-use privileges are rooted in the CEP's colonial exploitation of indigenous land. The exploitative nature of the seemingly equal exchange relationship between these Polynesian islanders and the French military was camouflaged by the decades-long obligation-free gift giving. The occupants of the CEP buildings are not unaware of the marginal position they or their ancestors once occupied in the deeply colonial relationship with the French CEP. But they choose to ignore this, because of the privileges these houses still give them.

Once the CEP left and pre-CEP land tenure policies needed to return in order to organize everyday life, tensions arouse about the CEP's expropriation and pollution of land, and its individualization of the indigenous society. The gift of the CEP turned out to be poisonous which destroyed social cohesion and people's connection to ancestral land. Moreover, the CEP dumping of military waste into Hao's lagoon and the as yet unknown level of residual radiation under the *dalle Vautour* fueled mainstream Polynesian narratives about Hao as a contaminated, "radioactive" island.

The next chapter explores how nuclear nostalgia on Hao serves as a local counter-narrative to the mainstream Polynesian narrative by analyzing Hao's "Memory Room," i.e., a room in the island's primary school that pays tribute to Hao's nuclear military era. I argue that The Memory Room distributes nostalgia across different generations when it shows how the nuclear military past should be remembered by the island's future generations. I also point out that nuclear nostalgia should not be classified as a naive embrace of the highly contested French position that nuclear tests were "clean" and radioactive fallout never reached Hao.

CHAPTER 4. THE MEMORY ROOM: REMEMBERING, PRESERVING, AND CHERISHING THE NUCLEAR PAST AS CULTURAL HERITAGE

4.1. Introduction

The golden age of Hao's CEP era came to an end when the CEP finally left the island in 2000. The French nuclear testing program had ended in 1996 after the last underground test on Fangataufa, and with it, Hao lost its *raison d'être* as the major military support base for nearby nuclear testing. Before their final departure, the French military buried nuclear and para-nuclear[50] waste underground and dumped larger military debris in Hao's lagoon. With the shutdown of the military base and the departure of the CEP, Hao's primary employer, many Polynesian people left the island because of the lack of job opportunities.

Since then, Hao has often been depicted by government authorities, anti-nuclear NGO's, commercial investors, and by Polynesian mainstream society as the "polluted," "lost" atoll where the local population seems to be stuck in the nuclear military past. Many Hao residents wondered why the French State and "Tahiti," a metonym used on Hao to refer to the Polynesian administration based in the capital of Papeete on Tahiti, and to the Polynesian society in general, did not give Hao more recognition for its crucial role in the testing program by, for example, finishing the rehabilitation program on Hao that should demolish and clean up the former sites of the CEP and CEA. The abandonment by the CEP, the changed nuclear image of the Hao atoll or its changed "nuclearity" (Hecht 2012), from being the major military support base and socio-economic hub in the wider archipelagic region to the marginalized atoll where residual radioactive and military pollution hampers any form of socio-economic development, has caused the Polynesian people on Hao to suffer from the *fiu*, a Polynesian term describing the sentiment of severe and profound weariness and boredom.

[50] Becky Alexis-Martin (2018) coined the term "para-nuclear wastes," which she describes as "incidental by-products of the nuclear military industrial complex."

Yet, in 2020, as a reaction to the Ministry of Education's project to further include the Polynesian history of French nuclear testing in school curricula, members of Hao's *Académie Culturelle*, the Academy of Culture that is in charge of further cultivating Hao's cultural heritage, decided to claim their agency and to establish how their home island's CEP period, its golden age, should be remembered by future generations. It creating The Memory Room (*La Salle de Mémoire*). Heimana, the initiator of Hao's *Académie Culturelle*, told me that the dozen members of the *Académie* functions as cultural advisors for both the culture committee (*commission de culture*) of the municipality as well as for the primary school and their Memory Room project.

The Memory Room, which is located in Hao's primary school, is dedicated to the two most memorable eras in Hao's history: the times of King Munanui (in the 17th century) as well as the atoll's nuclear military era (1963 – 2000). By establishing a timeline from the early 1960s until 2020 that highlights the most decisive events of the testing era and displaying photographs of Hao's CEP epoch on the wall, The Memory Room has established a *local* representation of Hao's nuclear past. Along with Mamie Blue and the remaining CEP buildings, The Memory Room is another medium that says something about "life as it really was" during the CEP era.

In this chapter, I discuss how nuclear cultural heritage is made through The Memory Room. The international research networking project Nuclear Cultural Heritage (2018 – 2022, based at Kingston University in London), which studies the world-wide collection, interpretation, and governance of nuclear cultural heritage sites, defines nuclear cultural heritage as "anything that has come into contact with nuclear science and technology: a vast hybrid field, including, but not limited to, nuclear power reactors, research reactors, nuclear weapons, […]" (Rindzevičiūtė 2019: 4).[51] The research project defines nuclear cultural heritage not as a mere assembly of things called "nuclear," but a selective, social process and "a form of constructing society" (Rindzevičiūtė 2022: 12). Nuclear cultural heritage making, i.e., the preserving, collecting, and interpreting of the nuclear past, can help societies "to cope with difficult and complex problems" (ibid: 10).

[51] The research project refers to the 1972 UNESCO definition of cultural heritage and the 2003 definition of industrial heritage of the International Committee for the Conservation of the Industrial Heritage (TICCIH). UNESCO defines cultural heritage as "the legacy of physical artefacts and intangible attributes of a group or society that are inherited from past generations, maintained in the present and bestowed for the benefit of future generations" (1972). The TICCIH defines industrial heritage as "the remains of industrial culture which are of historical, technological, social, architectural or scientific value" (2003).

Photo 16: The timeline in Hao's Memory Room, November 2021 ©Lis Kayser

Cultural heritage-making actions, such as the selective collecting and exhibiting of nuclear material culture in museums, would "smooth the transitioning" of communities of mono-industrial atomic towns that lost their *raison d'être* through the shutdown of nuclear facilities. Such projects merge local nuclear histories "into new social and economic realities, facilitating a change that requires […] remaking of the community's identity" (ibid: 15). Nuclear cultural heritage making is an important component of a community's definition of itself and can help the community to articulate a counter-narrative to mainstream or elite narratives of nuclear realities (ibid: 10; see also Jacobs 2022). This would also help avoid valuable forms of material culture and historical knowledge being lost in the dismantling process of former nuclear facilities.

The Memory Room on Hao is a means of the local community to deal with the abandonment by the CEP, the loss of the CEP-linked identity, and the contemporary image of Hao among mainstream Polynesian society as nothing but a forgotten atoll contaminated with radioactivity and other pollutants caused by past military activities. The Memory Room is a manifestation of nostalgia created by the municipal council and its Academy of Culture to highlight Hao's positive nuclearity and socio-economic centrality during the CEP period. I argue that the Memory Room helps remake both Hao's nuclear history and CEP-linked identity. It helps create the perception of Hao as more than just nothing but a polluted atoll by preserving and cherishing Hao's rich nuclear

history. It also ensures that nuclear nostalgia is distributed across generations as nuclear cultural heritage.

There was not just the risk of Hao's local history being lost in the wake of the CEP's departure and the rehabilitation process. There was the risk of a different version of local history being told instead, i.e., Tahiti's version, if the former military site is not properly cleaned-up and residual pollution is not adequately monitored. I thus point out that nuclear cultural heritage making on Hao does not just merely accept the highly contested French position that nuclear tests were clean and radioactive fallout never reached Hao. By critically analyzing not just the relationality between Hao and the CEP but also between Hao and French Polynesia, I argue that nuclear nostalgia serves as an important local counter-narrative to Polynesian mainstream narratives about Hao as a remote, polluted, and dirty island.

This chapter focuses primarily on the collective memory of the members of the Academy of Culture who are members of the older CEP generation. It also highlights what members of Hao's younger generations, who did not personally experience the CEP epoch, imagine about this epoch and how it continues to affect Hao's post-CEP present.

I first describe The Memory Room in more detail and explore how members of the older CEP generation, especially the Academy of Culture, understand the nuclear past and what historical knowledge should be passed on to future generations. I then examine the narrative to which the Academy reacted when it created the counter-narrative about Hao that is articulated in The Memory Room. I explore how the outstanding governance of residual radioactive and military waste on Hao affects Hao's nuclearity, i.e., the outsiders' perception of the atoll as nothing but radioactive (see Hecht 2012). I discuss how this narrative has not just been fueled by the CEP's exploitation and drastic transformation of the Hao atoll but how it is also rooted in colonial, pre-CEP history. Afterwards, I return to The Memory Room to examine how Hao's changed nuclearity causes many residents of Hao to suffer from the *fiu*. Despite the reality of this overwhelming sadness and ennui, the *fiu* does not paralyze the entire community. It has pushed some of them, primarily the members of the Academy, to create The Memory Room that tells Hao's CEP history from a *local* perspective, a counter-narrative to the mainstream narrative about Hao as a forgotten, polluted place of nothingness.

4.2. Re-making Nuclear History through The Memory Room: Representation of the Past from Within

On 25 March 2021, school personnel, students, the municipal council, as well as members of Hao's Academy of Culture (*Académie Culturelle*) officially inaugurated The Memory Room in Hao's primary school. Students and teachers had worked for over a year on the reappraisal of the two most memorial periods in Hao's history: the times of King Munanui and the period of the French nuclear tests. The students' work of remembrance is expressed in the graphical representation of time periods, artistic works, photographs and illustrations, and the exhibition of artefacts. They had found most of the photographs online, but some of them were given to them by the elders of the atoll, "*les anciens de l'île,*" including members of the *Académie* and some former military men who stayed on Hao after the military base closed. They also interviewed these men to record first-hand, personal stories about the CEP era. One of the French veterans also lent his military uniform – a true symbol of Hao's material CEP culture – to the school where it was exhibited in the *Salle de Mémoire* for a while.

Henriette, one of the founding members of the *Académie*, helped the students compile historical information about both the times of King Munanui and the CEP. Henriette is commonly known on Hao for her spearheading of the preservation of historical consciousness on Hao prior to The Memory Room and her personal archive about the history of the Hao atoll. This archive includes artefacts, maps, and books about Hao's history that document both eras. Henriette also collected a lot of souvenirs from the CEP era, including an entrance badge of a former CEP worker for the CEP zone and postcards depicting Hao's military base with the words "*Souvenir de Hao.*"

Photo 17: Postcards from CEP Hao, November 2021 © Laurent Sturm

In October 2021, I met with Julie, the principal of Hao's primary school, for a guided tour of The Memory Room. One side of the room is decorated with a drawing of King Munanui and some exhibits of Hao's material culture of pre-CEP times, including half a dozen ukuleles made of coconuts and a replica of a traditional Tuamotuan house made of braided pandanus leaves. The other side of the room is dedicated to the atoll's CEP history. The students and teachers have lavishly illustrated Hao's CEP-history by setting up a timeline of the most decisive events between the early 1960s until 2020 (the year the Memory Room project began) and placing photographs of CEP Hao and the island's five last mayors (*tavana*) around the timeline.

The photographs of Hao's nuclear history give the visitors an idea of the reason for the installation of the French military on the Hao atoll, i.e., nearby nuclear weapons testing. One photograph shows President Charles de Gaulle on his arrival on Tahiti in 1966 prior to the first atmospheric test in French Polynesia. Another is of a radioactive mushroom cloud shooting up above one of the two testing atolls. A third photograph shows the underground detonation of a bomb in the lagoon of one of the test sites.

Photo 18: The section of The Memory Room depicting the times of King Munanui, November 2021 © Laurent Sturm

Photo 19: Close-up of the CEP timeline in The Memory Room, November 2021 © Laurent Sturm

Photo 20: The Otepa village (the hospital, the cinema, the Catholic church, the former town hall, and the village days after the cyclone Nano), The Memory Room, November 2021 © Lis Kayser

Most photographs show what life on Hao was like during the 30-year presence of the French military. They depict the extent to which the CEP program and its infrastructural expansion shaped the townscape of the Otepa village and determined everyday life on the Hao atoll. Half a dozen photographs show Hao from above and illustrate the Otepa village, the military zone, and the military hangars up north of the airport. One photograph shows the arrival of the Concorde on Hao. Some photographs depict the *Vautour* aircrafts being decontaminated with seawater at the military airstrip. Other photographs show the cargo port in the heart of the Otepa village, the 3.38 kilometers long airstrip, the imposing military buildings and leisure facilities in the CEP zone, such as the hospital and the cinema, the unloading of military vehicles from the cargo ships, and military parades passing by the Catholic church.

The Memory Room displays half a dozen photographs of Otepa's townscape, with the former town hall, the cyclone emergency shelter, and some houses along Otepa's main road (*la route principale*). Most people I spoke with describe Hao's townscape during the CEP period as "nicer" and "cleaner" than today. Another half a dozen photographs show the destruction of the village after the devastating cyclone Nano in 1983.

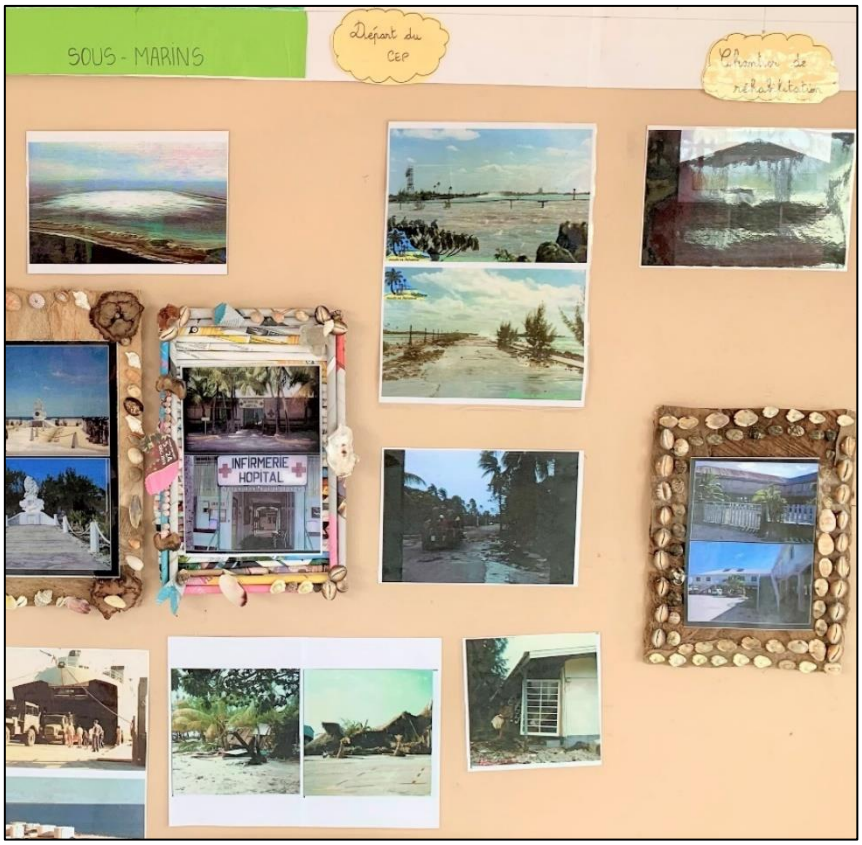


Photo 21: Photographs of the cyclone Nano, The Memory Room, November 2021 © Lis Kayser

The Memory Room pays tribute to the French CEP for having made the Polynesian people living on Hao feel protected and important. It also pays tribute to the time when the nuclear colonial superpower offered its civilian workers and the rest of the Hao community protection from natural catastrophes, such as cyclones and ocean swells, diseases, and visible pollution. When they talk about why they miss the French army, almost every person I talked to referred to the cyclone Nano that devastated the island in 1983. Trees were ripped out of the ground and roofing collapsed. Many houses were completely destroyed. But despite the damage, people remember how the French saved Hao when the military rebuilt the village after the cyclone.

Alice, for example, a Polynesian woman who moved to Hao in the year of the cyclone Nano, referred to the post-cyclone reconstruction work of the CEP when she explained that "We had it all when the French were here":

> *The French came to help us when we lost everything during the cyclone Nano. They came to clean up the atoll and rebuilt the village. They even protected us from mosquitos! They sprayed an anti-repellent spray through the whole village.*

> *Today, there are mosquitos everywhere! There is dengue! The CEP was our main security measure [protecting the people from natural disasters].*

The French did not just protect the Polynesian people from natural disasters, they also cleaned up the visible pollution in the streets. Many local residents vaguely mention "*la pollution,*" when they are referring to the residual pollution left by the CEP: "Hao used to be way cleaner" ("*Hao était beaucoup plus propre*"), they say. Jacques, who lives in the former house of the French military doctor, regrets that Hao is not clean anymore: "It was very clean, the streets, everything. But now, everything is dirty! We don't have to follow any rules on the atoll anymore. People just do whatever they want." According to Tania, Jacques's wife, it was not like that during the CEP era when everybody had to follow the military's rules. Jacques added: "This is why the village was less dirty during that time. The military took care of our household waste. And we had to keep our front yards clean."

The CEP also made some Polynesians, like Bianca, the retired nurse from Hao, feel taken care of and protected from (new) diseases. As illustrated in The Memory Room, the CEP built a fully equipped hospital that offered regular health check-ups to its military and civilian workers and their families. Bianca told me about her work in the military hospital:

> *The French medical personnel were all so perfectly trained. We even had surgeons on Hao. We had maternity care: you could give birth on your mother island. You did not need to be flown to a hospital on Tahiti. Only in some very severe cases, people had to be transferred to a Tahitian hospital. And the French took good care of everyone. They did regular health-checkups. We should thank the French army for taking good care of our health.*

Based on the photographs exhibited in The Memory Room, I suggest that the CEP is admired for what I call its "chiefly manners." In a way, the French military is perceived as the local population might perceive a traditional chief, although it was an intrusive chief that came from outside. Similar to the sphere of influence of traditional chiefs like King Munanui in pre-colonial French Polynesia (as described in the previous chapter), the military took on a comprehensive protective role reminiscent of the traditional, paternal chief of yore.

Besides the material gifts that the French military bestowed on Hao, the CEP also gave its residents something that money cannot buy: the feeling of complete protection from outside danger. Jacques's wife Tania told me that she and many other villagers felt protected by the French: "The relationship that we shared with the CEP could be compared to that of a protector and his protégés. The military was our protector. We were its protégés. They protected us from hurricanes. They protected us from getting sick. They made sure that our atoll was nice and clean."

As Jacques mentioned above, Hao's residents had to follow the rules of the military and maintain order and cleanliness, yet these rules had no restricting effects on their everyday life. In fact, they are perceived by the CEP generation as enabling; the rules made Hao even more attractive for CEP workers and their families who were new to Hao, thereby expanding the atoll's presence and reputation in the region.

For many people I talked to from Hao's CEP generation, the CEP helped them survive in this harsh, cyclone-prone region. It also changed Hao's colonial image as "the Dangerous Island." Thanks to its transition into a military base, the creation of numerous salaried jobs, and the construction of the military airstrip that is pictured in The Memory Room, the Hao atoll also stopped being an "isolated island." The Memory Room presents Hao as a socio-economic hub in the wider Tuamotu region, where life was not harsh, but pleasant, thanks to the seemingly equal, amicable relationship between French military and the Polynesian civil society.

The camouflage of invisible pollution

The Memory Room contains a disturbing echo of the traditional colonial narrative. Drawing again on Cynthia Enloe's (2014) concept of "camouflage of normalcy," I argue that The Memory Room is, besides the many *bringues* at Mamie Blue's and the gifts of modernity such as the remaining CEP buildings, yet another manifestation of the French military's capacity to camouflage nuclear, military colonialism through normalcy. The Memory Room demonstrates that the military successfully managed to obscure Hao's "invisible" harm, i.e., contamination by radioactive fallout and military waste with its protection of the island from "visible" harm by fostering a well-managed, vibrant community and providing protection from natural forces like cyclones. The CEP

draped itself with the mantel of a chief-like authority, and when the chief tells the people that the nuclear tests are clean, then the people believe their chief.

In addition to good public cleanliness management and effective clean-up after the cyclone Nano, the CEP distracted the Polynesian population on Hao from "seeing" pollution, nuclear colonialism, and their own marginal position in their relationship with the French military through the maintenance of public cleanliness and, most importantly, through a shared CEP-linked identity and nation-wide importance. A woman from Hao who lives in the former canteen of the French military in Hao's CEP zone put it concisely: "You know, life was good! And the thing with pollution is that we only saw the money! And we didn't know anything about pollution. Now we know of it, we have the 'No Entry' signs. But in fact, Hao was much cleaner during the CEP era."

The villagers tolerated the intangible, invisible, and unpredictable adverse effects the nuclear testing program might have had on their lives as long as the CEP was giving them modernity, conviviality, security, welfare, clean streets, and general distraction in return. Herenui, the primary school teacher who lives with her husband Poko in the former CEP zone, is disappointed that Hao's residents were not informed about the effects of nearby nuclear testing on people's health and their natural environment. "Yes, it was way cleaner," Herenui said, "at least in front of your eyes!" To some extent, she continued Jacques's comparison of the end of the CEP era with a standing-in-the-dark-moment by referring instead to the period immediately after the departure of the CEP as the moment when the lights went on and people could finally *see* again. But things were not at all the way it was before the standing-in-the-dark moment: "It felt like a hangover. As if people woke up in the morning, after a big, fat party they hosted and which everyone enjoyed, but then the lights go on… and what did they see? Well, all the chaos and mess the invited party guests [the CEP] had left behind!"

The village was visibly clean during the CEP era. The military swept the streets, trimmed trees and bushes, kept critical infrastructure intact (like the desalinization system, electricity, and water pipes) and managed household, nuclear, and military waste. Yet, when the French were gone and the "lights went on," the people of Hao realized that they had paid a high price for the CEP's all-inclusive package. This high price included complete socio-economic dependence, (neo)colonial exploitation, and contaminated land. All that was made forgotten and was thus not visible during the 30 years of parties and good jobs suddenly became visible after the departure of the CEP,

including pollution of land and lagoon, families torn apart due to unfair distribution of formerly rented land, and the consequences of heretofore complete socio-economic dependence from an outside power that suddenly left.

Nevertheless, nuclear nostalgia articulated in The Memory Room should not be classified as a naïve embrace of French nuclear colonialism. I argue that when one looks at Hao's positionality in post-CEP French Polynesia, nuclear nostalgia is in fact an empowering act of Hao's residents who re-position themselves and their atoll within the contemporary mainstream narrative about French Polynesia's nuclear history.

Julie, the school's principal, told me during our tour of The Memory Room that the goal of this room is to establish and institutionalize *local* remembrance of both the national and local past of French Polynesia's nuclear testing era and to ensure that this collective memory is transmitted to future generations. She added that there are now discussions between the school's personnel and the municipality about the transfer of the collected heritage in The Memory Room into the former town hall: "Initially, an empty classroom was converted into The Memory Room, but we want to give it a permanent location where both future generations and people from outside who come to Hao could learn about Hao's military past." The Memory Room would mark the beginning of the permanent preservation of the collective memory and knowledge of Hao's CEP era.

According to Henriette and Heimana of the Academy of Culture, with the latter calling himself "a child of the CEP" ("*un enfant du CEP*") with a mother from Tahiti and a father from the Marquesas who moved to Hao to work for the CEP, the CEP past should be as much a part of Hao's cultural heritage as King Munanui. The CEP would have helped Hao to change its image. Heimana said: "Hao went from Bow Island to Boom Island. One cannot forget this epoch on Hao. It was the golden age [*la belle époque*]. We had some good years. The CEP did some great work. We could eat *steak frites* every day. And they rebuilt the village after the cyclone Nano." The Memory Room would show Hao's greatness ("*grandeur*") during the nuclear testing era. Heimana added: "The children who were born after the CEP [era], they hear us talking, but they don't show any interest in the CEP, nor in King Munanui." According to Henriette, the younger generations should know their history and cultural heritage. Therefore, Henriette, Heimana and all the other members of the *Académie* highly supported the plans to establish The Memory Room to value Hao's complex history as a cultural heritage that is worthy of preservation for future generations.

Principal Julie told me that the school personnel and members of Hao's Academy of Culture developed the project of The Memory Room, after the Ministry of Education announced that it intended to include French Polynesia's nuclear history in school curricula at both primary and secondary school levels. Julie told me that The Memory Room should provide the students on Hao with a new, more nuanced discourse about the nuclear fact, one that has not yet been reflected in Polynesian schoolbooks. The students are surprised to learn that "all this" — the rich CEP history that resides in The Memory Room —happened on their atoll only a few decades ago. "It was a great discovery for them," Julie said.

The Élysée Agreement: Teaching the nuclear fact in Polynesian schools

In the 2017 Élysée Agreement, the French State officially acknowledged *le fait nucléaire*, the nuclear fact, which constituted the basis for a new strategy by which to build the future of French Polynesia. Under this Agreement, the State plans to support the treatment of radiation-induced pathologies and to ensure the radiological surveillance of the two test sites, Moruroa and Fangataufa. Furthermore, the Agreement calls for institutionalizing a collective Polynesian memory, one that would acknowledge the nuclear past and built "with lucidity, thoroughness and objectivity." As a first step towards the creation of an objective collective memory, the French State and the Polynesian Government agreed on the establishment of a *Centre de Mémoire*, a Memory Center in the capital Papeete on Tahiti. This Memory Center has not been built yet, but it will be dedicated to the archiving and documentation of the Polynesian history of the French nuclear weapons testing program (DSCEN 2021: 11).

The Élysée Agreement also led to negotiations to further include the national nuclear history in school curricula. Together with teachers, historians, and social scientists, the Polynesian Ministry of Education has worked for some years on the development of additional chapters on French Polynesia's nuclear history tailored to different subjects, including history, geography, arts, and the economics. One goal of this project is to supply the primary and secondary school teachers with pedagogic material to teach the nuclear fact through a critical, objective, and comparative approach to a multitude of resources (Direction Générale de l'Éducation et des Enseignements 2019). Since 2021, training courses have been offered to teachers where they learn how to best transmit the history of the CEP (*TNTV* 2022).

The history of the French nuclear military complex was taught in Polynesian schools prior to this project, but only briefly and from a French perspective. In the primary school grade CM2, for example, only one double-page of the history book is dedicated to France's nuclear testing program in French Polynesia, while in grade CM1 a third of the history book deals with the history of the French kings. In 1984, French Polynesia became autonomous in terms of the national primary and secondary education curricula, yet the curricula underwent both a French inspection as well as an inspection by the territorial government. Roughly 20 years after the end of French nuclear testing in French Polynesia, teachers are still very careful when teaching "*le fait nucléaire*" in Polynesian schools since it continues to be a highly politicized issue. Teachers of the nuclear history of French Polynesia risk being labelled independentists, while those who decide not to include it in their curriculum might be considered adherents of the French doctrine (*Slate.fr* 2018).

The Memory Room on Hao is the local response to the Élysée Agreement. According to principal Julie, the goal of Hao's Memory Room is to offer the younger generations of the island an alternative or counter-narrative to the one that might be disseminated in both the schoolbooks and the planned Memory Center in Papeete. It is certainly possible that schoolbooks and the future Memory Center on Tahiti might represent the Polynesian mainstream narrative about French Polynesia's nuclear history that condemns the nuclear testing program and remembers primarily the negative effects of French nuclear testing on Polynesians' health and their environment. Hao risks being presented as one of the many polluted, "radioactive" islands of the Tuamotu archipelago whose golden times are not just over but maybe even forgotten. Instead of risking that Tahiti might reduce Hao's nuclear (hi)story to a current afterthought, Hao's educational and political leaders have created a powerful counter-narrative to the Polynesian mainstream narrative about Hao as a polluted, forgotten atoll. The following section discusses this mainstream narrative about post-CEP Hao in more detail.

4.3. The Land of "Atomic" Fish and Honey: The Polynesian Mainstream Narrative About Post-CEP Hao

The French State representative for the Tuamotu archipelago told me that in the past, Hao benefitted from its nuclearity, i.e., its nuclear-related image, "when French Polynesia considered Hao the socio-economic Disneyland or the Club Med of the nuclear testing program." During the testing program, Hao was recognized as the epicenter for salaried jobs in French Polynesia. The French State representative regretted that 20 years after its "CEP-doomsday," Hao is perceived instead as a "political and socio-economic conundrum" ("*un casse tête au niveau politique, économique, et social"*) where economic development and "moving on" seem impossible. He said that it would be impossible to turn the page of Hao's nuclear past and to get rid of its nuclear image as long as residual military and nuclear waste of the French CEP has not been cleaned up or properly monitored.

As mentioned in the Introduction of this thesis, I was warned on Tahiti not just against Hao's residual pollution, but also against its "nothingness." Hao was described to me by some people on Tahiti not just as a "polluted" atoll (*atoll pollué*) because of residual military and nuclear pollution, but also as a "lost" or "forgotten" atoll (*atoll oublié*) that used to play a key role in France's nuclear testing program, but whose glorious times were over and its present and future remain uncertain. The French State representative for the Tuamotus was worried that I will be very bored on Hao, because "there is nothing to do." Roughly 20 years after the shutdown of the military base, the message I received was clear: Hao is a place that one should avoid.

Some Hao residents who talked to me have noticed that many actors on Tahiti and beyond — the French State and Polynesian Government authorities, anti-nuclear NGOs, commercial investors, and civil society — continue to define Hao's very existence by its nuclearity. Yet, its once positive nuclear- or CEP-related image has changed since the end of the nuclear testing program. Now, Hao's existence is defined solely by what the CEP has left, namely decaying military infrastructure and residual pollution. Poko, who lives in the former CEP zone with his wife Herenui, regrets that "with the nuclear [*avec le nucléaire*], nobody wants to invest in Hao." Herenui thinks that Hao would not necessarily need outside investors to spearhead its economic development. For example, local fishermen could export fish from Hao's fish-filled lagoon, on a much larger

scale, “but with this image, well, many people don’t want to buy fish simply because it comes from Hao [*parce que ça vient de Hao*],” she said. Nobody outside Hao would be interested in buying fish from Hao because it could still be contaminated from nearby atmospheric testing of the 1960s and 1970s.

Many reader comments in an online article published by *Tahiti Infos* which the newspaper posted on its Facebook page in October 2022 confirmed Poko’s, Herenui’s, and many other villagers’ impression that people from other Polynesian islands define Hao through *le nucléaire*. According to the article, hundreds of dead *ature*, a fish from the horse mackerel family, had been found floating on the surface of the water near Hao’s *passe Kaki*. In this area of the *passe*, the lagoon water does not circulate much. The article says that some inhabitants of the Hao atoll noticed that the two days prior to this incident were particularly hot, which led to an increased water temperature. Because the water may have been not sufficiently oxygenated, asphyxiation of the fish could occur (*Tahiti Infos* 2022). Over one hundred heated comments to the article were exchanged between Hao residents and Polynesians from other islands. Some non-Hao commenters were convinced that the widespread death of fish was “due to radioactive fallout” and “radioactive waste” buried in the soil near the *passe*, or “all the sh—that the Army dumped into the ocean before leaving Hao.” However, some Hao residents, mainly male members of the CEP generation, reported having already observed this type of rare phenomenon in the same area of the *passe* and claimed that it could have been triggered by asphyxiation and the heat of the previous days, *not* by residual pollution of the nuclear testing program.

After Herenui mentioned the difficulty of the local fishermen selling their fish off-island, Poko added: “The same goes for honey. We produce so much honey, but nobody is going to buy the honey, because they will think that it is full of radioactivity [*plein de radioactivité*].” During my fieldwork in 2021, some villagers were amused that Jérémie, a young fisherman from Hao and the son of Richard, the fisherman and apiculturist, posted a billboard in front of his house that boasted in large letters: “ATOMIC HONEY.” He was later forced by representatives of the territorial Agriculture and Lagoon Fishing Chamber (*Chambre de l’Agriculture et de la Pêche Lagonaire*, CAPL) to take down the billboard. I asked Jérémie about his billboard: “Oh, this was just a funny joke,” Jérémie laughed, “but they [representatives of the Chamber] didn’t find it so funny.” But many residents liked his billboard; “they did not take it as seriously as Tahiti did.”

Despite the humorous tone of Jérémie's billboard, Hao's residents came to understand that they need to avoid contributing to the national image of Hao as a radioactive atoll. However, Hao's image of a radioactive island continues to be utilized for political purposes by actors outside Hao.

In 2016, for example, the Association 193, one of the three rival associations in French Polynesia that advocate the recognition of the consequences of the French nuclear tests on human health and ecosystems, criticized the transfer of "radioactive" gravel from Hao to Mangareva, the main island of the Gambier Islands, for the renovation of the island's ring road.[52]

In its condemnation of the gravel transfer, representatives of Association 193, an ally of left-wing parties, accused the mayor of the Gambier Islands and the Polynesian government of exposing the local community to radioactive rubble and organized demonstrations against the gravel transfer in both Mangareva and Tahiti. Polynesian President Edouard Fritch, a right-wing politician in favor of keeping French Polynesia in France, assured that the rubble from the demolition of Hao's former military base had been analyzed in 2011 by the Laboratory for Environmental Studies and Monitoring (*Laboratoire d'Étude et de Surveillance de l'Environnement*, LESE). Although LESE concluded that no abnormal levels of artificial radioactivity were detected in the samples, Association 193 questioned the study results, depicting the institute as an arm of the French State, which always represented its tests as clean (Association 193 2016; see also Meyer 2022; Meyer & Meltz 2020; *Tahiti Infos* 2016a). Despite their being non-radioactive, gravel transfer from Hao to Mangareva was stopped because of their perceived "nuclearity" (Hecht 2012).

The fact that fish, honey, and rubble from Hao are assessed differently on Hao and Tahiti highlights that Hao's nuclearity has not only changed over time, but that it has also been different at different places for different groups of people. The case of the radioactive gravel highlights that Hao's representation as a nuclear atoll was a sociopolitical construction of Association 193 in order to confirm its allegations that the French government would continue to claim that its atmospheric tests were clean. Hao's changed nuclearity, i.e., its image of being nothing but a dumpsite for nuclear and para-nuclear waste, is the result of political positioning to win the

[52] The demolishing of 61 abandoned military buildings and other decaying infrastructure of the CEP on Hao by the rehabilitation program produced approximately 12,000 cubic meters of rubble. Part of the gravel was used as backfill to provide protection from ocean swells.

argument. In any case, allegations of the anti-nuclear association and the Facebook comments mentioned above damaged the Hao community.

Nevertheless, it is not without reason that both the territorial government and Polynesian mainstream society have created this narrative about Hao being exploited by the CEP for the construction of its military base and the subsequent burial of military waste and being an abandoned island where there is nothing but residual radioactivity and military waste. The final shutdown of the military base on Hao and the buried nuclear and military waste discussed below have fueled this narrative about post-CEP Hao in French Polynesia.

The end of Hao's exceptionalism and its transition into a military ghost town

When French nuclear testing stopped in 1996, Hao's military base lost its *raison d'être*. There was no need for the French military to keep its military presence intact, so they shut the base down. The shutdown led to the abrupt ending of Hao's demographic and modern capitalist economic boom era and the beginning of the bust cycle: the local economy crashed, people were suddenly jobless, salaried jobs became scarce in general, and new (foreign) investors stayed away. Hao's golden age was over.

Many of Hao's people who talked to me described the departure of the CEP as completely unexpected. Jacques, the owner of the former military doctor's house who worked as an electrician for the CEP, repeatedly used the metaphor of darkness to describe how the local residents experienced this decisive moment of departure in 2000. He remembers the day the CEP left as someone having turned off the lights on Hao:

> *When the CEP left, Hao was standing in the dark – literally! They decided to cut off electricity just before they left the island by plane. I was so afraid when bicycling home from work and all of a sudden, I couldn't see the road anymore. There was a real blackout. And I mean, we continued standing in the dark the next day and the day after and so on, because we [the people of Hao] didn't know what to do without the CEP.*

The departure of the CEP and the associated economic collapse caused an unprecedented population exodus, not just of French military and technical personnel of the CEP, but also of

Polynesian islanders who had only moved to Hao to work for the nuclear testing program. In 1996, 1,412 people resided on Hao, plus approximately 3,000 military and technical personnel housed at the military base. Almost a third of the population had left by 2012. Since then, the population has stabilized to roughly a thousand people (Morschel 2013: 64; URL2). In addition, young Hao villagers who did not want to stay on their home island when the job market collapsed, tried to find work elsewhere, for example, on Tahiti or in the army in mainland France.

Despite many families moving into some of the abandoned French military houses, some military facilities remained empty and started to decay, since the respective land parcels have not been divided among the entitled beneficiaries yet. In addition, many shops, restaurants, and bars, including Mamie Blue's, had to close since there were not enough clients left, particularly no clients with enough cash. The area around the Otepa village slowly transformed into a military ghost town.

This sudden shift from Hao functioning as France's support base for nuclear testing that provided jobs for the entire Tuamotu region to becoming a post-military ghost town was relational. The end of nuclear testing and the CEP's departure marked the end of the mutual, seemingly equal relationship between the French military and the Polynesian residents on the Hao atoll. The ever-present power imbalances suddenly became apparent.

Photo 22: Abandoned military containers in the village of Otepa, October 2021 © Laurent Sturm

Many members of the wider Polynesian community who decided to stay on Hao after the end of the nuclear testing program were proud to have participated in and contributed to this military hub by having provided both the primary source of employees and inherited land for the CEP program. Yet, some of them expressed their disappointment in the CEP for not publicly recognizing the value of the work of its Polynesian employees and for not preparing the villagers for the drastic transformation from CEP- to post-CEP times. Poko said that the departure of the CEP felt like an abandonment: "We, the Hao residents, we have been living right next to the *farāni* [the French, in this case the French military] during all these years of the CEP epoch. When the French left in 2000, we suddenly became the very last ones in the row, like left behind by the CEP."

The end of the CEP era implied that Hao's exceptionalism as the socio-economic, military hub in the wider archipelagic region and its islanders' shared identity associated with nuclear testing and 30 years of military presence were suddenly unmade. This changed not only Hao's relationality with the CEP, but also with the wider Tuamotu region. Hao continued to be a hub in the archipelagic region: the *collège* and the smaller boarding school contracted by the French Polynesian Ministry of Agriculture (*Maison Familiale Rurale*, MFR) still hosted hundreds of teenagers from dozens of smaller Tuamotu islands and atolls, and Hao's airport which many Tuamotu islanders is still in use. And yes, Hao's current centrality is possible due in large part to the infrastructural remains of the CEP. But while this infrastructure remained, the "superstructure" of entertainment, salaried employment, festivities, gaiety, and free gifts were gone. Hao had lost both its nuclear military centrality for the CEP program and its socio-economic centrality on the national level. Hao has never been the same bright, socio-economic hub it used to be during the CEP era.

The people on Hao who talked to me about their experience of the departure of the CEP said that they feel displaced to the edge of the French nuclear empire. They gradually began to understand that they no longer stand side-by-side next to the French CEP as long-standing partners. In fact, the Polynesian population on the Hao atoll and beyond had never been equal with the French CEP; they had *always* been on the fringes of the French nuclear empire. Hao had played a central, crucial role in the CEP program and its residents believed that they had stood in

close, intimate, even familial relationship with the French military. Since the shutdown of the military base, Hao has been placed on the periphery of French Polynesia. Hao is no longer a socio-economic hub on the national level. It became a military ghost town where people have moved away.

"Nothing" but residual pollution

Right before the CEP left the atoll permanently, they dumped military equipment into Hao's lagoon and buried smaller military debris into the soil.

In 2006, the Polynesian Assembly's Commission of Inquiry on the French Nuclear Tests (August 2005- February 2006) drew political and media attention to the need for environmental rehabilitation measures on islands near Moruroa and Fangataufa, which were transformed into military bases for the French nuclear testing program. In November of the same year, the French Ministry of Defense launched a rehabilitation program. This program is executed by the French Defense Ministry's *Direction d'Infrastructure de la Défense* (DID) and was established to demolish and clean up the abandoned military sites on the Tuamotu atolls of Pukarua, Reao, Tureia, and Hao, as well as on the Gambier Islands (including Mangareva). Once the rehabilitation program is finished, local communities should be free of decaying military buildings and other material legacies of the nuclear past that may continue to pollute the local environment or impede the division of collectively owned land. Some of these military sites had been left untouched by the CEP for over 20 years (Assemblée de la Polynésie Française 2009; see also COSCEN 2007).

On Hao, the €30-million rehabilitation began in January 2009 and involved the demolition of the remaining asbestos-contaminated CEP buildings to move forward the division of collective land tenure. The clean-up also aimed to strengthen the local economy through the increase in tourism, and copra and vanilla production. Yet, as explained in the previous chapter, this step in the rehabilitation program has not made much progress since many of the current occupants refuse to leave these houses because they do not want to lose the privilege of living alone on undivided land.

In 2009, the DID, together with the French Polynesian research institute *Pae Tai Pae Uta* and the independent French engineering company *Artelia*, located the land areas that were contaminated with PCBs, hydrocarbons, and heavy metals from past military activities and buried

military waste.[53] The rehabilitation team identified in total 5.9 hectares (around 150,500 cubic meters) of soil contaminated with such toxins. However, by 2019, less than 10 percent (14,500 cubic meters) of the contaminated soil had been treated in the bacteria-enriched pit.[54]

Environmental diagnostics have demonstrated that more than 96.8 percent of the soils on Hao are free of pollutants. Yet, thousands of cubic meters of soils contaminated with heavy metals still wait for a proper management solution.

In response to the partial failure of the rehabilitation project, the French Ministry of Defense suggested storing the contaminated soil permanently on Hao. Yet, both the community of Hao and the Polynesian government are against this permanent storage of heavy metal waste on the Hao atoll. They demand that the contaminated soil is transferred to the atolls of Moruroa or Fangataufa, which are considered official territories of the French State. The French government does not agree with this proposed solution.[55]

In addition to the buried waste of the CEP, there remains the concrete decontamination slab (*la dalle Vautour*) under which unknown amounts of plutonium are still stored. According to a 2014 study of the Institute for Radiation Protection and Nuclear Safety (*Institut de Radioprotection et de Sûreté Nucléaire*, IRSN), there is no alarming amount of residual radiation on Hao as the measured doses were below the maximum regulatory doses authorized by the French government. Only small traces of cesium 137 were found in Hao's soil and plutonium levels were below 1 Bq/kg, "except for the *Vautour* zone" (IRSN 2015: 20). Representatives of the IRSN have suggested that it would be best to "not touch the concrete slab," that is, to open the slab and clean up the remaining amount of plutonium (*Tahiti Infos* 2015).

An additional €5 million was provided by the French State for the retrieval of military debris that was dumped into Hao's lagoon. The Polynesian government representative of the Tuamotu archipelago told me that between March 2014 and March 2016, the lagoon got "cleaned up" – while he drew quotation marks in the air. He added that the French military excavated 547 tons (25,000 cubic meters) of military waste, including batteries, vehicle scraps, military tanks, and

[53] Contaminated soil should be treated in a 4-meter-deep pit covered by a geotextile and enriched with bacteria that should decompose the pollutants. After a while, cleaned soil would be taken out of this bacteria-enriched pit and put back to where it was once buried by the French military. This is a pilot project of the DID.
[54] Interview with the Polynesian government representative of the Tuamotu islands group, 16 October 2019.
[55] Ibid.

glass bottles. He is convinced that more waste would remain in Hao's lagoon than the hundreds of tons of debris the military had already fished out.

Regarding the military debris that the military dumped into the lagoon and then excavated, Thomas told me on the day we met in 2019 that military waste dumped into the lagoon would occasionally wash up on shore. (He lives with his mother on the shores of the lagoon at the southern end of the Otepa village.) A few days later, Thomas showed me the debris they had recently fished out of the water in front of their house, which included cables, scrap metal, and rusty bars.

During my first visit to Hao, I spotted a dozen "No Entry" signs of the French military at different spots in the former CEP and CEA zones around the Otepa village. These signs mark areas that are contaminated with pollutants. The "No Entry" signs do not keep people from entering the contaminated areas. During my first stay on Hao in 2019, one sign's pillar was converted into a prop to stack dried coconuts. Right in front of this same sign, on the narrow, stony beach facing the ocean, a young man was trying to catch some fish.

One of the "No Entry" signs protrudes from the stony ground of Philippe's land parcel, the man from Hao who lives with his family in the former CEA zone on his ancestors' land that the CEP used as an open waste pit ("*dépotoir*"). When the cyclone Nano hit the ocean side of the atoll in 1983, the dumpsite was destroyed. "Their waste was everywhere," Philippe remembers. After the storm, the French military buried its waste in the soil. Neither Philippe nor his wife Heimata know exactly why these signs are there and what kind of waste the military buried there. "We still wait for the military to remove its rubbish. It's not good for our atoll, for our children, for our image, you know," Philippe said.

Some Hao residents worry that the territorial government of Tahiti would announce that Hao's lagoon is "clean" (*propre*) again only to keep the clean-up money from the French State for themselves. They feel betrayed by the Polynesian government for withholding this final "gift" of the French to the people of Hao.

The departure of the CEP and the military's burial of nuclear and military waste marked the end of Hao's golden age and the beginning of the contemporary post-CEP era, or, as my local collaborators refer to the present, *l'époque après-CEP*, the after-CEP epoch. It marked the beginning of the transition from a stable past to an unstable present. It was the beginning of what

anthropologist Stefaan Jansen (2015, 2016) calls the "meantime," the beginning of the "now," which he considers as the time in between the longed-for past (i.e., socialist Yugoslavia in his work and the CEP era on Hao in this thesis), and the distant, abstract future.

On Hao, the "meantime" is the "*après*" that Hao's people use to describe the after-CEP *tristesse* (sadness). It is marked by a state of nothingness and nostalgia for the past golden age in which they had had everything. In recent years, people living on Hao have begun to internalize the narrative about the state of nothingness of their home island on the periphery of French Polynesia. One of Jacques's neighbors that I met in 2021 paraphrased French singer Édith Piaf to describe the commonly perceived state of nothingness: "We really had *la vie en rose* [we saw the world through rose-tinted glasses] with the CEP. But then afterwards, until today? Well, *rien de rien* [absolutely nothing]!"

Different groups of people refer to different forms of nothingness in their conversations with me. Mamie Blue, for instance, claimed that "*aujourd'hui, il n'y a plus rien*" ("today, there is nothing left"), meaning no parties, no *Bar Mamie Blue International*, and no French military clients or lovers. Since then, nothing would happen on Hao now and the village is dead ("*ca ne bouge plus!*") compared to the splendid parties and festivities that Mamie Blue and many other children of the CEP had once enjoyed. Josette who was married to a French military man and who owns a little corner store in Otepa village, assured me that Hao used to be a very rich island during the CEP epoch: "just like the Makemo atoll during its phosphate mining era. We had unlimited access to alcohol and red meat. Red meat for everyone! But Hao is not rich anymore. And I really miss the life I had when Hao had *everything*."

When I asked a woman from Hao who was working at the municipality what contemporary life is like on Hao, she immediately responded: "Well, there is nothing [*il n'y a rien*]! All I can say is that now, there are no jobs on this island." Some of the people I spoke with on Hao long for the return of the powerful, chief-like CEP because they would then have "everything" again. Temana, for example, the occupant of the former navy bar, is convinced that "we would have no problems if the CEP would still be here." In fact, this shared feeling of not knowing what to do without the CEP, of being "nothing" without Hao's close connection to the CEP and the wider Polynesian region, is colonially rooted.

The colonial roots of Hao's post-CEP image

The demeaning picture of Hao and the Tuamotu Islands in general as remote and dangerous, where "there is nothing to do," has its roots in colonialism. European explorers of the 17th and 18th centuries, who embarked on their journeys of discovery of the Pacific for colonial expansion and who spotted the islands of the Tuamotu archipelago, developed a common narrative of the Tuamotus that was fundamentally different from that of Tahiti and its surrounding islands. While other Polynesian islands, particularly Tahiti, embodied a paradise of "pre-civilized" harmony and represented the Polynesian myth, the Tuamotus were described as "the Dangerous Islands" that are unsafe, barely accessible, and home to primitive cannibals who had to survive the harsh living conditions on the low-lying islands where access to fresh water and arable land is scarce (Bougainville 1772: 178ff).[56]

In the 19th century, Catholic missionaries further shaped the colonial imagination of the Tuamotus as dangerous when they justified the evangelization of the indigenous people of the Tuamotu islands by claiming that the "islanders' souls" needed to be saved. Tuamotuan traditions were described as "less fine" than Tahitian traditions. These missionaries certainly believed that Christianity would help establish order in the Tuamotu islands, and end cannibalism and the many, long-lasting wars between different islands (Nolet 2020: 243f).

As the administrative center of French Polynesia both during and after French colonial rule, Tahiti was considered superior to the Tuamotu islands not just because of its indigenous islanders' more subtle traditions, but also because of its political dominance over the Tuamotu archipelago. Restrictive policies regarding access to land and lagoon in the Tuamotus initiated by the French colonial administration were taken over by the Tahitian administration after World War II. However, the territorial administration has denied indigenous land and lagoon rights both in the past and today (Rapaport 1995). The Tuamotu Island group was depicted, first by the French colonial administration and later by the Tahitian administration, as an ocean desert, but (as described in Chapter 3) was also deemed suitable for the cultivation and exploitation of natural

[56] On his voyage around the world (1766-1769), French admiral and explorer Louis Antoine de Bougainville saw the islands of the Tuamotu group which he named "the Dangerous Islands" ("les Îles Dangereuses"), primarily because of the difficulty navigating through the island group (Bougainville 1772: 178ff). Bougainville also saw the Hao atoll, which he named "Harp Island" ("*Île de la Harpe*") because of its curved shape (ibid: 182). He expressed both fascination and incomprehension for the indigenous people of this "inaccessible" island who live "without any fear ["*sans inquiétude"*] on these narrow sand strips which a hurricane could bury in the ocean at any time" (ibid).

resources, including mother of pearl, black pearls, copra, and (later) phosphate for the territorial trade economy. The Tuamotus' exploitation of natural resources was governed and controlled by the entrepreneurial and political elite in Tahiti (see ibid: 52; Nolet 2020: 239, 242).

In 1950, the indigenous people of the Tuamotus reacted to the oppression imposed by Tahiti, meaning both the former French colonial and the subsequent, more autonomous territorial administration. They accused the French government of naming their islands incorrectly, i.e., "Paumotu Islands," without a glottal. Pa'umotu derives from *pa'u* in Tahitian or *paku* in Tuamotuan, meaning black cloud on the horizon, and from *motu*, meaning island(s). Yet, *pau* in the Tahitian language means "conquered." The Tuamotus did not want to be called "the Conquered Islands" by either administration and requested the French government to officially name their islands "Tuamotu Islands," meaning "Distant" or "Outer" instead of "Paumotu Islands" and to use a glottal when referring to its Pa'umotu people (Emory 1975). In the end, the Tahitian administration accepted this suggestion, but the misnomer issue further strengthened Tahiti's negative image and its suppression of the Tuamotu people.

In more recent times, much like the colonially embedded image of Polynesian sexuality and non-binary gender subjects discussed in Chapter 2, the CEP added a new layer to the colonial imagination of the Tuamotu islands being remote, isolated, and sometimes dangerous islands. Some of the Tuamotu-Gambier Islands, including Hao, Mangareva, Tureia, as well as Moruroa and Fangataufa, were exploited for the French nuclear weapons testing program. The CEP justified the decision to exploit these islands for its nuclear military activities by repeating the colonially embedded narrative of the Tuamotu-Gambiers being remote, isolated, and almost uninhabited islands where almost nothing lives anyway (Comité interministériel pour l'information 1973: 5; see also Bonvallot et al. 1994: 83).

Once the French nuclear testing program ended, the former military sites in the Tuamotus were neglected and decaying, and some islands, including Hao and the testing atolls, were used by the French military as dumpsites for nuclear and military waste. This neglect and the littering of land and sea resulted in part from the age-old narrative of the islands as remote, possibly dangerous, and not worth noting in the first place, a narrative that the CEP easily adopted as its own.

Roughly 25 years after the last French underground test, the Tuamotus are still, or again, generally depicted as dangerous by contemporary French Polynesian society, but this time the danger refers to the health and environmental exposure to residual radiation and military pollution caused by the 30 years of French nuclear weapons testing.

Meanwhile, Hao no longer lives on in French Polynesian memory as a nuclear cultural heritage of France's race to achieve global nuclear domination. It lives on as a forgotten, lost burial ground for nuclear and para-nuclear waste that remains on the edge of the French nuclear empire and of French Polynesia's nuclear history. This narrative, that there is nothing left but residual pollution since the end of the CEP era, has been internalized, no doubt unconsciously, by some of the people who currently live on Hao.

4.4. The Nuclear Counter-Narrative: "*The Way it Was*"

Hao's abandonment by the CEP, its changed nuclearity, and loss of CEP-linked importance in French Polynesia make many Hao residents say "*J'ai le* fiu!" ("I have the *fiu*!"). *Fiu* is a common Tahitian term specific to its culture and is defined in the *Larousse* dictionary as "being plagued by a great weariness; having had enough" (Larousse 2016). In contemporary French Polynesia, it is frequently used to express severe fatigue. "*J'ai le* fiu!" is a statement commonly made when talking about not knowing what to do with oneself, the feeling of being frustrated and bored, but unable to change this feeling.

Chesneaux and Maclellan (1992: 129) argue that *le fiu* summarizes the overall sense of powerlessness among the Polynesian population *during* the 30 years of CEP presence, because of the impacts the CEP program had on the local society, including an increase in alcohol consumption and alcohol-related crime, unemployment, and obesity due to the change in diet. However, I argue that on Hao, *fiu* is rather representative of the post-CEP *present*. During my fieldwork, I could see that it is omnipresent: it can be found in any age group and appears equally amongst men and women.

Madame Bertrand, an English teacher who worked in Hao's *collège* during my first stay on Hao in 2019, said that she had taught on many different Polynesian islands before coming to Hao, but that she had never experienced such a distinct *fiu* mindset as on Hao. *Fiu* exists everywhere in French Polynesia, but on Hao, it seems to be more than mere boredom, tiredness or island laziness. Madame Bertrand believes that on Hao, it has reached extreme dimensions as a sort of paralyzing depression.

Madame Bertrand suggested it would also seem like an "angry *fiu,*" on Hao, as if local islanders are blaming the CEP and its departure for their *fiu*. Residual pollution left by the CEP and Hao's nuclear reputation thereof have certainly exacerbated their *fiu*.

I argue that the *fiu* is directly related to the local community's general disappointment with the post-CEP present. Most people who spoke with me about this shared feeling said that they have the *fiu* because the CEP abandoned them without preparing the villagers for the drastic transformation from a CEP- to a post-CEP community. Some of them are *fiu* about the French military not cleaning up the contaminated areas on their home island, not because of the health risks involved, but more importantly because it produces Hao's bad post-CEP image among Polynesian mainstream society. This hampers socio-economic development and keeps the wider Polynesian society from "seeing" that Hao is more than just a lost, polluted island.

At the same time, as mentioned earlier, this historically embedded narrative about Hao's nothingness without the French CEP has been adopted by residents of Hao themselves. Even the younger generations, who did not personally experience the presence of the CEP on Hao, have begun to repeat this national but also local discourse about Hao's state of nothingness. I talked to approximately 40 high school students of Hao's *collège* during three different classes about how they experience everyday life on post-CEP Hao. Many of these students come from another Tuamotu Island but moved to Hao to attend the boarding school (the *collège*). Around a dozen students claimed that, compared to their home island or to what their parents or grandparents told them about life on Hao during the CEP period, Hao is (meanwhile) "less pretty," that "the village is completely dead," that the island is "polluted because of the CEP," and that the remaining CEP buildings are "ugly."

Yet, this is not how the local municipality and its Academy of Culture want Hao to be perceived today nor how they want the island's military past, its "golden age," and the CEP in general to be

remembered by mainstream Polynesian society. They reacted to these external (and partly internal) narratives about Hao's nuclear past and present by creating a counter-narrative. This counter-narrative to the mainstream narratives about Hao as nothing but polluted is influenced by their nostalgia for the golden age of French nuclear testing, for the time when Hao "used to be clean" and "protected" by the CEP from outside forces. The Memory Room articulates this nuclear nostalgia and distributes it to future generations. It should help people both on Hao and abroad to acknowledge that there is more than just "nothing" on Hao: there is the rich nuclear history of Hao's golden CEP age that needs to be cherished and remembered.[57]

So, the *fiu* may be omnipresent on Hao and it is perhaps experienced more intensely than anywhere else in French Polynesia. Yet, it does not necessarily paralyze the local community. The demeaning narrative about Hao as one of the triggers of the islanders' *fiu,* has in fact pushed some residents, such as the members of the *Académie Culturelle*, to claim their agency by creating their own narrative about their home island.

Heimana of the *Académie* said that with The Memory Room, the Academy wants to nuance the narrative about Hao and the CEP: "Yes, there is a lot of pollution left. But we should also be thankful for what the military did to us, to our atoll, and to the Tuamotus. Hao used to be clean. The CEP actually kept Hao clean, and they protected us, from cyclones for example – just go to The Memory Room, you will see!"

With its Memory Room, Hao has created a monument to itself. This educational project institutionalizes Hao's CEP era as an integral part of the atoll's cultural heritage. Hao's past is presented here "as it really was," according to the organizers of The Memory Room, and is based on *local* narratives of the nuclear past. Heimana is convinced that The Memory Room will also help the younger generations of Hao get a better, more nuanced visual understanding of the historical "greatness" of Hao. The Memory Room pushes the younger generations to also remember Hao's glory and the many "gifts" of the CEP past, instead of thinking of their home atoll as nothing but a polluted island. They should finally recognize that there is at least something to be proud of, that Hao is more than just a polluted, exploited island on the edge of both mainland France and French Polynesia.

[57] For further reading on "nothing" as a cultural feeling and how nothing can also be "something," for example the acceptance of the meaningless and the boredom, see M. D. Frederiksen's book *An Anthropology of Nothing in Particular* (2018).

4.5. Conclusion

This chapter analyzes how the Hao residents experienced and make sense of a past moment of both abandonment and the post-CEP, nostalgia-producing times of socio-economic instability. The Polynesian people of Hao suffer from the *fiu*, because the French military as well as the CEP-linked centrality are gone, Tahiti has distanced itself from Hao, and none of the glory of the CEP era has been left behind. Neither the territorial government of French Polynesia nor the French State see the point of Hao's existence, except as a dumpsite for military and nuclear waste.

Hao's Polynesian people, who are members of both the CEP and post-CEP generations, have internalized the "nothingness narrative" about the Pa'umotu people and about post-CEP Hao.

It took the people living on post-CEP Hao almost two decades to realize that they have at least something in the post-CEP present to be proud of, such as the rich history of both King Munanui and the CEP. They began to realize that at least once in the past they had had everything. The positive memories and objects and artefacts of the glorious CEP epoch and Hao's past centrality are worth remembering, preserving, and cherishing as nuclear cultural heritage both in people's houses as well as in the island's Memory Room. The Memory Room on Hao is an identification of nuclear cultural heritage where a *local* narrative makes sense of Hao's past and present. This narrative is informed by nostalgia for the time when a generous, all-encompassing mainland power came to Hao and protected the Polynesian people from outside forces such as cyclones and (new) diseases and endowed them with a unique military-linked identity and a positive image as the major military base for nuclear testing. This nostalgic narrative articulated in The Memory Room informs the nuclear narrative of future generations. Nuclear nostalgia is materially sustained in The Memory Room, as is the realization that the testing program exposing the Hao community to environmental pollution and health hazards that were successfully camouflaged by the CEP.

Nevertheless, when one looks at the relationship between Hao and French Polynesia's main island of Tahiti, one notices that this nostalgic narrative depicted in The Memory Room is not just a naïve embrace of French nuclear colonialism, but a means to re-position the Hao atoll within contemporary mainstream narratives about French Polynesia's nuclear past.

In recent years, a new outside actor has expressed interest in launching a new enterprise that would help Hao restore its state of exception in the global political economy. Hao became the center of attention of both the territorial and the French governments in 2012 when a group of Chinese investors proposed a $300 million fish farm project to be built on Hao to the Polynesian government. The following and final chapter of the thesis discusses how both hope for and fear about the Chinese fish farm project is influenced by the local community's nostalgia for the CEP past and its *fiu* over the abandonment by the CEP and the dull, stringent, and depressing after-CEP present.

CHAPTER 5. THE PAST IN THE FUTURE: THE CHINESE FISH FARM PROJECT

5.1. Introduction: "*Hopefully, the Fish Farm Will Be Different*"

One afternoon in early December 2019, I visited Hiro and Mariette at their property on the beach of the lagoon outside Otepa village, in the former CEP zone. They live with their son, Simon, their daughter-in-law Tera, and their three-year-old grandson in the facilities of the former water sports club of the French military. The property is owned by Mariette's family.

Hiro, a man in his late fifties with thick silvery hair, was born on another Tuamotuan island and came to Hao to work for the CEP. He invited me over because he wanted to tell me about his work in some of the "no entry" zones of the nuclear testing program, such as the CEA zone on Hao, located at the *Sablière,* and on the two testing atolls of Moruroa and Fangataufa. He worked for the CEP until it closed. Since then, Hiro has been working as the janitor of Hao's *collège*, which the CEP built, some said, to replace many CEP-related jobs through a few jobs at the *collège*.

Hiro was sitting on a wooden chair under a big shady *Kahaia* tree[58] next to his house, strumming on his ukulele while listening to French *chansons* that sounded from his boom box. When he saw me arriving, still playing his ukulele, he looked up, smiled at me, and pointed with his head to the shaky wooden chair next to his. Still not saying any word, he then pointed with his head at the little table in front of us, urging me to drink out of the fresh coconut he had opened prior to my arrival.

After he told me that he used to work for the CEP, he said wistfully:

> *Nothing is like it was before. There is no work, no jobs anymore. The only things left are fish and coconuts. […] There is the fish farm, but I heard in the radio that it will most likely not be built. […] They would build it in the lagoon, but then we can't go to the motus [little islets of the atoll] anymore.*

[58] The *Kahaia* is a native tree of the Tuamotu archipelago.

Hiro's wife, Mariette, came out of their house and walked up to us, obviously curious about what we were talking about. Without waiting for me to ask, she offered her own opinion:

> *Well, we are a bit lost you know! After the CEP, we were lost because at the age of the CEP, it was all so brilliant. I was born here; I grew up here. […] And then, when the CEP left in the year 2000, well, it all started to go down little by little. […] Hao became an abandoned atoll. […] Life is hard today. No jobs! And we quarrel over a couple of coconuts. We don't have that way of living anymore, you know, this sharing and telling our neighbors: 'Come in and eat!' […] We had to tighten our belts when the CEP left. Hopefully the fish farm will be different.*

I asked her why she would hope that the fish farm will be different. Mariette replied:

> *The Chinese, how many fish will they collect? So, there are people who said that Hao does not think about its future. It's a bit like with the military, with the CEP. Because like the CEP, the French who came here for the nuclear [*pour le nucléaire*]. What did they leave? Nothing! One can say that Hao fed the Pacific once already. And then in 2000, Hao became a desert! And then now there is the fish farm, to feed the world with fish from Hao. Once they leave… and then what [*et après*]?*

Mariette's comments speak for many people living on Hao whose memories of the CEP past inform both their hopes for as well as their unease about the planned construction of a Chinese fish farm in Hao's lagoon. With the promise of 50,000 tons of farmed fish per year and hundreds of new jobs created, the $300 million Chinese fish farm, just like the nuclear weapons testing program of the French CEP, might increase Hao's centrality in the world by turning it into a socio-economic hub for aquaculture.

The implementation of the fish farm is currently one of the most debated topics in French Polynesia. It is ecologically questionable, because large amounts of fish waste as a by-product of intensive industrial fishing might lead to poor water and sediment quality and overfishing will damage the marine ecosystem. But it is an economically promising project for the lagoon of the Hao atoll, where the French CEP dumped tons of military waste shortly before shutting down its military base. Many French state and Polynesian government officials and environmental scientists I met in Tahiti prior to my first research stay on Hao worry that the Chinese fish farm might (just

like the nuclear testing program) pollute the lagoon where people rely on fishing as a source of food and income.

However, the biggest concern that Hao's residents have about the installation of the fish farm, which is informed by the abandonment of Hao by the CEP, is the fear over a second abandonment by another big development project and a new post-CEP-like aftermath. But despite this concern, some people of the Hao community, including Mariette, still hope for the (CEP)past to repeat itself, and are waiting with some anticipation for the fish farm to be installed.

In July 2021, two months prior to my second, three-month-period of fieldwork in French Polynesia, French President Emmanuel Macron publicly announced during his official visit to Tahiti that the Adapted Military Services Regiment (*Régiment des Services Militaires Adaptés,* RSMA) would return to Hao in the following year. This military branch had already been on Hao from 1993 until 2010.[59] The RSMA is managed by the French Overseas Ministry but executed by the Ministry of French Armed Forces. It will come back to Hao to provide educational and vocational training to young Polynesians from Hao and the surrounding Tuamotuan islands. Most people I talked to in 2021, who were in favor of the fish farm when I spoke with them in 2019 now said that they would rather go with the RSMA project than the fish farm, because of its lower impact on the marine environment and, most importantly, because the RSMA, unlike the fish farm, is a *French* endeavor.

This chapter addresses the future-oriented dimension of nostalgia and explores how the contradictory memories of the nuclear military past nurture aspirations for the future and become meaningful for Hao's future development. It focuses on the different nostalgias, hopes, and concerns of a varied group of residents of the Hao atoll, especially young, job-seeking Polynesian islanders and their families, local fishermen and non-native small businessowners, whose memories of the nuclear military past have been triggered by the two new projects. I argue that their different nostalgias for the CEP period inform both their fears and hopes for the future.

The chapter also analyzes Hao's place in the global fishery trade and the public discussion about the assets and drawbacks of the project. I contextualize the community's sense of the fish farm as a poor alternative to the CEP by exploring the French colonial gaze that the local

[59] The RSMA program ended on Hao in 2010 due to lack of demand by young Tuamotuan people (Interview with a representative of the RSMA, Tahiti, September 2021).

population has internalized and now uses to judge future development projects. I come back to the RSMA and discuss how local residents' hope for the return of the French military is a colonial effect of the CEP.

By engaging with the works of anthropologists and social scientists on the future-oriented character of nostalgia, I analyze how the CEP continues to inform local economies and set new standards for a colonial policy of large-scale architectural, infrastructural, and development projects (*politique de grands travaux*). While the previous chapter discussed the nostalgias and promises transferred via the remaining infrastructures of the CEP, this chapter explores how infrastructures of new economic projects generate hope for the return of the nostalgic past in the future. Exploring the local islanders' fear about a second "after-fish-farm epoch," I ask how narratives of the past have been (re)made through contemporary experiences of abandonment.

5.2. The Chinese Fish Farm Project on Hao

The closing of the CEP not only polluted the Hao atoll. It also caused a precipitous rise in its unemployment rate to one of the highest in French Polynesia. Since then, the Polynesian government has been trying to attract foreign investors to Hao. For example, in 2000, the government advertised Hao as a tax haven for foreign state-owned and private corporations in *The Economist* (2000) magazine (see also Maclellan 2021: 215).

But in 2012, the Chinese corporation Tianrui Group Co. Ltd. proposed a $300 million fish farm project to then Polynesian President Oscar Temaru. Two years after this proposal, Tianrui's local subsidiary Tahiti Nui Ocean Foods, together with the Polynesian government under President Gaston Flosse, agreed to install the fisheries project in the 720-square kilometer lagoon of the Hao atoll (*Tahiti Infos* 2019). In 2018 then, the government under President Édouard Fritch passed legislation to exempt Tahiti Nui Ocean Foods from any tax for 30 years on the importing of construction materials and fuel for transportation (Journal Officiel de la Polynésie Française 2018). Approximately 35 hectares of state-owned land located in the former CEP zone around Hao's airport were made available for the fish farm project, also for 30 years.

The fisheries project is led by Wang Cheng, the CEO of Tahiti Nui Ocean Foods. According to Mara, the manager of Marama Development and Management (MDM), the local proxy for Tahiti Nui Ocean Foods, Cheng owns 58 percent of the global market of farmed fish after having bought small aquaculture enterprises all over the world, including in the Nordic countries and the US.[60] I met Mara in October 2021 at the company's headquarters outside Papeete to hear first-hand about the current developments in the lengthy implementation process of the project and why Tahiti Nui Ocean Foods chose Hao as the site of their project.

Mara answered this latter question with a small joke: "Well, 'hăo' means 'good' in Mandarin, and who in China would not want to buy fish coming from the 'good atoll'?!" He added that Tahiti Nui Ocean Foods chose Hao not only because of the aforementioned fiscal incentives and the atoll's name, but also, if not principally, for geographic and infrastructural reasons.

> *The weather is stable year-round. The atoll has the fourth largest lagoon in French Polynesia, which will be big enough to host several hundreds of floating basins. The only passe in and out of the lagoon at the northern tip of the atoll lets strong currents in yet makes the lagoon an almost closed ecosystem. And the farmed fish can be exported directly to China, without a detour over the international airport of Tahiti.*

This ease of transport is also enhanced thanks to Hao's international airstrip that was built by the French CEP. Other facilities left behind by the CEP would also be repurposed by the fisheries project, including a deep-water port and two abandoned military hangars, which constitute adequate infrastructural conditions for transforming Hao into a "hub for China's new Silk Road."[61]

Over the past 25 years, China has become one of French Polynesia's main trade partners. Nevertheless, this new fisheries project on Hao would herald a new era in which the Polynesian government and businesses seek to improve economic relations with China through trade and Chinese tourism, while Chinese state-owned and private corporations show economic interest in French Polynesia's natural resources and aquaculture projects (Maclellan 2021: 197; *The Diplomat*

[60] Interview with Mara, manager of Marama Development and Management (MDM), proxy of Tahiti Nui Ocean Foods, 01 October 2021.
[61] Ibid.

2017).[62] Since the Polynesian government is certainly concerned about the territory's economic dependence on financial transfers from France, its new economic focus on Chinese fisheries investments indicates the government's interest in mitigating the territory's trade deficit and diversifying the local economy. (The local economy is currently dominated by pearl culturing, which represents more than two-thirds of French Polynesia's exports.)

Early prognoses by the fisheries project investors predict that up to 10,000 jobs would be created by the project over the course of 10 years, which would certainly help decrease the territory's high unemployment rate, which was 21.8 percent in 2012 (the year of the project's initiation) and an even larger 35.1 percent on the Hao atoll (*The Diplomat* 2017; ISPF 2017). With the production of 50,000 tons of cultured fish per year, primarily camouflage groupers (epinephelus polyphekadion) and the endangered humphead wrasses (cheilinus undulatus) that would be exported directly to the Chinese market, the project on Hao would constitute the biggest fish farm in the Pacific and the first Chinese aquaculture project in French Polynesia.

From an economic point of view, the fisheries project seems promising and sustainable. Both species of fish are expensive and considered luxury seafood in China and Hong Kong (IUCN 2013; *National Geographic* 2020). The farm would be an economic boost to the Hao population and also provide new work opportunities for Tuamotuan jobseekers. It would allow people to stay in the Tuamotu archipelago instead of moving to Tahiti or abroad for work. Moreover, Tahiti Nui Ocean Foods has promised to prioritize the Hao population for 70 percent of the farm's employment positions.

MDM manager Mara also assured me that, according to the contract signed between Wang Cheng and the former Polynesian President Gaston Flosse, the Chinese company would hire no more than 40 Chinese engineers who would train French Polynesians to make the project self-sufficient over time. In addition, the entire fish production would be exported abroad in order not to jeopardize the local, small-scale fisheries market.[63]

Even from an ecological perspective, the Chinese fish farm project seems promising: the Chinese investors want to turn the fish farm project on Hao into a pilot project for sustainable,

[62] By 2018, China was French Polynesia's main export destination, with 14.2 percent of its trade. Most local exports go to Hong Kong in the form of cultured pearls. China ranked third at 7.9 percent in the import of foreign goods to French Polynesia, following France at 25.2 percent and the US at 20.6 percent (ISPF 2019; see also Maclellan 2021: 208).
[63] Interview with Mara, manager of Marama Development and Management (MDM), proxy of Tahiti Nui Ocean Foods, October 1, 2021.

large-scale fisheries. The aquaculture operations would meet international Marine Stewardship Council (MSC) standards for sustainable fishing (*Tahiti Infos* 2016b; *Outremers360* 2017). Heremoana Maamaatuaiahutapu, the French Polynesian Minister of Culture, Environment, Youth, Sports, and Craftmanship, told me during our meeting in September 2021:

> *I must confess, the Chinese investors introduced some interesting new, innovative, and sustainable aquaculture techniques. We were worried that the fish farm would produce a lot of marine pollution through the production of enormous amounts of fish waste that would lead to poor water quality. Nevertheless, the investors assured us that all the fish waste would be used in the process, even the fish scales. They even thought of the naturally high ciguatera incidence rate in Hao's lagoon.*[64] *They assured us that their cultivated fish would be free from ciguatera as they will use their own fish food which does not come from Hao's coral reefs. This is a huge asset of the Chinese aquaculture project.*

In addition, the aquaculture project advances the goal of the French Defense Ministry to clean up contaminated soil of the approximately 36 hectares of land in the former *zone CEP* that are earmarked for the installation of the project's infrastructure. This would include hatchery rooms, fish processing rooms, food manufacturing plants, and the treatment of wastewater (see Meyer & Meltz 2020). The Chinese company has already implemented safety measures such as constructing dykes to protect the land-based infrastructure from high tides (*Outremers360* 2017).

[64] Ciguatera fish poisoning is a foodborne disease related to the consumption of tropical and subtropical reef fish that contain toxins produced by microalgae growing on coral reefs. It is common only in the Pacific and Indian Oceans and in the Caribbean Sea. The consumption of fish that is ciguatoxic causes nausea, vomiting, dizziness, numbness, and other symptoms. The toxins develop due to anthropogenic disturbances of the marine environment, including infrastructure expansion and military activities (Ruff 1989, 1990).

Photo 23: Architectural drawing of the land infrastructure of the proposed Chinese fish farm project, Hao, December 2019 © Lis Kayser

Even though the fish farm is considered a huge opportunity by Polynesian officials, the economic viability of this gigantic project, its environmental impact on the water and sediment quality, and the lack of transparency of the investors about the sustainable technologies they would use have been widely questioned. Since the launch of the project, these unknowns have raised suspicions and concern among local politicians, environmental organizations, marine scientists, and civil society. In part because of these concerns, the project has been scaled down several times and delayed for almost a decade. In addition, the aforementioned evidence of asbestos and other toxins on the site of the project's land-based infrastructure has led environmental groups to question whether Hao is a suitable site for such a large-scale fish farming project (see Maclellan 2021: 215).

Mireille Chinain, a marine scientist and head of the laboratory for toxic micro-algae at the Institut Louis Malardé (ILM) in Papeete is concerned about the impact of the fish farm project on Hao's marine environment and on the health of people working and living on Hao who will continue eating fish from the lagoon that has not been farmed in the aquaculture project. Having

spearheaded regional research efforts on ciguatera poisoning over the last two decades, Chinain is worried that the Chinese fish farm project could increase the risk of a new increase in ciguatera in lagoon fish, despite the project leaders' plans to feed their fish farmed in cages with their own fish food, which would not come in contact with the toxic microalgae of the surrounding coral reefs. Chinain said to me:

> *I am still worried that the massive construction works of the project will increase the risk of microalgae blooms which are toxic to humans. And I could imagine that the risk of local islanders suffering from ciguatera fish poisoning might increase, as the Polynesian population on Hao might just continue eating reef fish which they catch themselves in the lagoon.*[65]

Such concerns about the consequences of large-scale fish farming on the atoll's environment has led to numerous delays of the beginning of construction work of the project. Mara, the manager of MDM, which is in charge of technical decision-making and the implementation and supervision of the renovation and construction works of the project, justified the delay of the work by citing plan modifications and bureaucratic delays of the three construction permits, which the company finally received in July 2021.

Another reason for the delay is the complex situation of the aforementioned joint land tenure system on Hao. A total of 18 hectares of the land that the Chinese fish farm needs for its land-based infrastructure has remained undivided. Construction cannot begin until the difficult and time-consuming genealogical search for the land's beneficiaries is completed. Only then could the beneficiaries decide whether they want to sell or sublet their land to the Chinese investors (Meyer & Meltz 2020).

Concerns and criticism about the project's economic viability and ecological impacts will continue. In addition, public debates and speculation continue about the extent to which China as a global superpower would be using or taking advantage of French Polynesia's and specifically Hao's economic vulnerability to expand their own economic and geopolitical agendas (see

[65] In the 1960s, Doctor Raymond Bagnis (1969) observed an exponential increase in ciguatera fish poisoning incidences on the Hao atoll. The first serious cases emerged in 1966, only months after the first testing of a nuclear bomb in the Tuamotu region and the finalization of the construction works of the military base on Hao (see also Ruff 1989, 1990).

Maclellan 2021).[66] A portion of the public believes that the objective of the project would not be economic but rather strategic. Ultimately, people say, the Chinese presence on Hao would interfere with the maritime space of French Polynesia, which covers an exclusive economic zone (EEZ) of approximately 4.5 million square kilometers (*The Diplomat* 2022).

Nevertheless, MDM manager Mara assured me that Tahiti Nui Oceans Foods would remain committed to the three building permits the project has been granted and would launch the construction of the project before the permits expire in 2022.

5.3. The Colonial Embeddedness of the Critical Voices on Hao

The people from landholding families on Hao are strongly attached to the land and the atoll's marine environment. The implementation of an ecologically questionable large-scale investment project like the Chinese fish farm on their home island has raised understandable local suspicion and concern about the possible environmental risks and the infringement of their land rights that such a project may imply.

These concerns are felt in particular by the many fishermen and their families who live on the shores of the lagoon: the fish they catch in the lagoon form a substantial part of their diet and daily income. Gabriel, a young fisherman who comes from a big family of fishermen from Hao, believes the project itself might be "a good idea in terms of the jobs" it creates, but he is worried that the environmental damage of the project will be an unacceptable cost to pay for economic well-being.

I also spoke with Gabriel's father, Richard, a passionate fisherman, beekeeper, and farmer. Richard is a founding member of the local environmental association "Protecting Hao" ("*Association Protéger Hao*" in French or "*Pāruru ia Haoroagai*" in Tahitian). Protecting Hao has publicly criticized the installation of the Chinese fish farm. Richard told me:

> *We count a dozen of members [of "Protecting Hao"] here on Hao. You must know that we have never been against the implementation of a large-scale*

[66] For more information on Chinese economic and geopolitical influence in the Pacific, see for example Vandendyck 2018; Maclellan 2021.

> *aquaculture project in our lagoon, but we have been against any risks of ecological degradation of the lagoon. We stood up actively against the Chinese project with posters saying no to expropriation and pollution etcetera.*

"After all, *this*," Richard said, pointing to the lagoon, "is our natural pantry [*garde à manger*]." The association also regrets the lack of transparency about the environmental consequences of the installation of thousands of fish breeding cages in Hao's lagoon and the inevitable conflicts of interest with local fishermen who fish in the lagoon daily (see *TNTV* 2018).

Another common, ecologically founded fear is that the marine ecosystem will most likely be damaged by overfishing and will impact the local diet and fishing habits. As Gabriel put it, "China is such a big country where billions of citizens need to be fed." With the fish farm exporting all the farmed fish to China, Gabriel is afraid that "there won't be any fish left for the Hao population."

Iris, who is in her late thirties, said that "on Hao, everyone is a fisherman, and we all want to keep our fish. The Chinese investors must understand that here, we want to eat real fish, no canned sardines!" Although canned meat and frozen chicken have become national dishes in French Polynesia, including in the Tuamotu Islands, locals still eat a great deal of freshly caught fish.

Gabriel's older brother Jérémie, who is a fisherman himself and works part-time for Hao's municipality, is afraid that a fisheries project of this magnitude "will for sure pollute the lagoon." He added: "In addition [*En plus*], if you work for the Chinese, you must work every day, also during weekends and when it rains. No more one-hour-breaks whenever you want!"

Some of the criticism of the project uses cultural imageries and stereotypes about China that some people living on Hao believe, particularly the stereotypical Chinese work culture that the fish farm project leaders might impose on its local employees. Temana, who lives in the former bar of the French navy on the shores of the lagoon, discussed with me the possibility of the Chinese fish farm introducing new salaried jobs to the active population of Hao. He was very pessimistic about a future cooperation between Chinese employers and French Polynesian employees:

> *I don't believe our youngsters will find work at the fish farm. To work for the aquaculture project, well, you really must work. Otherwise, you will be sent home! The Chinese want hard workers. I guess they will bring their own, Chinese, personnel who will work twenty-four hours a day. Here, we have never worked*

twenty-four hours a day. During the CEP epoch, some of us might have worked eight hours a day, but this was rare.

The Chinese community in French Polynesia

French Polynesia is home to a sizeable Chinese community: 5 to 10 percent of the total population (15,000 to 30,000 people) is of Chinese origin. Chinese immigrants to French Polynesia contribute to the local economy; they are perceived generally as a hardworking minority of merchants and traders that is part of the local elite (*The Diplomat* 2017; Saura 2002).

This local image of the Chinese community is rooted in French colonialism. Chinese migration to the Pacific started at the end of the 18th century because of the increased demand for a cheap and hardworking labor force for colonial resource exploitation. These mostly male immigrants came to the Pacific Islands to work as contract laborers at the fur-trading stations of the plantation economies (mostly sugar and cotton), and later in the valuable metal ores industry (Willmott 2004). The first Chinese migration wave to French Polynesia in the 1860s was sparked by the cotton crisis in the US in the wake of the American Civil War. When the price of cotton rose, western entrepreneurs started to grow cotton in the South Pacific.

In 1865, Irish entrepreneur William Stewart managed to gain the French colonial administration's permission to establish a cotton plantation on Tahiti. With the support of the French administration, Stewart organized the immigration of 1,000 plantation workers from China (Vognin 1995: 142f; Saura 2002: 16; Dupon et al. 1993: 73f). The indentured laborers, most of whom were Hakka, were recruited in Hong Kong (Coppenrath 1967: 32).[67] When Stewart's cotton plantation went bankrupt in 1873 following the drastic fall of the cotton price in 1869 and the abolition of the indenture system in French Polynesia in 1872, many of the Chinese workers returned to China. Those remaining in Tahiti began to work around the port of Papeete as market-gardeners, retailers, or hawkers (Willmott 2004: 167f).

Chinese indentured labor for cotton farming forged a permanent Chinese settlement in French Polynesia. According to the 1892 census, 275 Chinese were living in Tahiti and 45 on other French

[67] The Hakka are a Han Chinese subgroup whose chiefly ancestral homes are in the Hakka-speaking provincial areas in South China and in Taiwan.

Polynesian islands (Coppenrath 1967: 47; see also Willmott 2004: 168). In 1907, 369 Chinese were counted in Tahiti, with 90 more on other islands (Dupon et al. 1993: 73f).

A second migration wave began in the beginning of the 20th century when the political situation in China worsened (Dupon et al. 1993: 73f). At the same time, many Chinese immigrants fled from the racist towns of the US state of California to the more favorable social environment of Tahiti (Vognin 1995: 145f). After a sharp decline between 1915 and 1920 because of World War I, Chinese immigration began to rise again in the 1920s. This immigration wave differed from the organized migration of Chinese contract workers in the previous century, because it included, *inter alia,* a growing proportion of women (Dupon et al. 1993: 73f). European, especially French, residents in the French colony began to worry about the new Chinese or Asian "invasion" of the 1920s, which appeared to the residents to jeopardize their economic and political interests.

During the 1920, Chinese immigrants and their descendants increasingly stopped being agricultural laborers and became more independent, skillful entrepreneurs who started to control crucial areas of the local economy (Saura 2002: 16, 99-102; Burns 2000: 33). In the Tuamotu archipelago, for example, the number of Chinese copra traders and schooners rapidly increased (Danielsson 1952: 199).

The period between the 1920s and the end of World War II was marked by an anti-Chinese campaign in French Polynesia. In the 1920s the French administration imposed socio-economic discrimination on the Chinese and ceased to allow Chinese immigration. In 1923, a residence tax was imposed on all foreigners who had settled in the colony for more than six months, and they were excluded from land ownership (Burns 2000: 32; see also Cheung 1998). In 1929, a new immigration policy regulated the admission of foreigners to the colony by a required payment of a considerable tax of 4.500 francs per immigrant. A decree of 1932 essentially halted another international immigration wave by authorizing the colonial administration to deny access to and prohibit a stay on the islands of the *Établissement Français de l'Océanie* (EFO) of any non-indigenous person or non-French citizen. From that time on, the Chinese community grew naturally on its own. Some of them married Polynesian women and gradually assimilated into the local population (Saura 2002: 101f; Dupon et al. 1993: 73f).[68]

[68] Many historians provide us with ample information about the history of the Chinese community in French Polynesia. This includes a history of Chinese indentured labor work on cotton farms, Chinese discrimination in the first half of the

In my many interviews with Hao's residents, I had become accustomed to hearing about fears about the colonially produced hard-working image of the Chinese and the possible risk of marine pollution of by the large-scale fishery, including a recent increase in ciguatera fish poisoning. But I also repeatedly encountered people who are generally suspicious of any Chinese large-scale investments outside China.

During my second stay on Hao in 2021, some people with access to television and the internet told me that they had seen a documentary or read online that "the Chinese had already polluted other regions with their multi-million-dollar fish farms," as Lucas, who had worked for the CEP but never gave up fishing in Hao's lagoon, complained to me. Poko and Herenui, the young couple who lives on the shores of the lagoon in the former military zone, are afraid that the worldwide image of Chinese fish farm projects will not help Hao rid itself of its post-CEP image of being the "polluted atoll."

Hao's fishermen also worry that the Chinese project leaders will refuse them free use of the lagoon. Maël, for instance, a fisherman from a local landholding family, shares Hiro's concern about free mobility in the lagoon: "We can't go to our *motu* on the other side of the lagoon when the lagoon will be overfilled with hundreds or thousands of big floating basins. I sometimes go fishing over there with my boat" (looking at the lagoon and pointing to the other side of it), "my family owns land on this *motu*. It does not look like we could go there whenever we want when the Chinese arrive."

Gabriel also fears, as do many other active fishermen, that he might no longer be allowed to fish wherever he wants: "With all these cages in our lagoon, we might be subordinated to a strict fishing plan with a restricted fishing zone and prescribed fishing hours. It [the lagoon] won't be a public zone anymore."

In contemporary French Polynesia, lagoons of the Tuamotu atolls are claimed by the Tahitian government as part of the public domain. But Tuamotuan islanders do not have exclusive control of the lagoons. In pre-colonial times, traditional lagoon rights were claimed exclusively by the indigenous inhabitants of the respective Tuamotuan atolls (Rapaport 1996: 34f). In 1890, despite vigorous, sometimes violent protests by the people of the Tuamotus (see Rapaport 1995), the

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20th century, the integration of the Chinese community in local politics and society, and the revival of Chinese culture at the end of the 20th century. See for example Coppenrath 1967; Vognin 1995; Cheung 1998; Burns 2000; and Saura 1985, 2002.

French colonial administration eroded traditional lagoon rights by issuing a decree of public domain that brought the Tuamotuan lagoons under its exclusive control. Suddenly, any French citizen had the right to exploit and commercialize the lagoons (Rapaport 1996: 37). Lagoon concessions could be allocated to French oyster farmers who commercialized the shell and pearl of the black-lipped pearl oyster, one of the most valuable commercial resources of the Tuamotu archipelago at that time (Rapaport 1995).

After the depression of the mother-of-pearl production in the 1960s, the rise of the lucrative black pearl farming industry in the 1980s attracted French, Chinese, and Tahitian entrepreneurs to the Tuamotus. In some cases, the non-native entrepreneurs were not even residents on the atolls. In effect, as a result of the lagoon policies initiated by the French colonial administration, the livelihood of the indigenous islanders of the Tuamotus had become threatened by external entrepreneurs (ibid: 48f, 52).

People living on Hao today feel they have been spared so far from external control and commercial exploitation of their lagoon. The decades-long presence of the French CEP is not remembered as having restricted their lagoon rights. Some people fear that they will lose their freedom to visit the islets on the other side of the lagoon whenever they want. Ranitea, a woman who lives at the *Sablière* on the shores of the lagoon, explained: “People here fear that it will be worse than with the CEP. During the CEP epoch, we had this freedom to go to the motus, to fish, to harvest copra whenever we wanted. Now, the Chinese will occupy our land!” Temana shares this opinion: “I prefer the age of the CEP, because during the age of the CEP, we could catch our fish wherever we wanted. If the fish farm project will be implemented, we could not eat nor catch our fish anymore.” Another Polynesian fisherman said: “Today, I don’t feel the repercussions [of the CEP program] anymore, because there is less ciguatera in the lagoon than during the CEP epoch. But I think that with the Chinese project, we risk having a destroyed lagoon, with much more ciguatera. This would be really bad for future generations.”

In effect, the fish farm would affect the people much more than the CEP’s nuclear testing. In the words of a Polynesian woman married to a French veteran: “The aquaculture project will be worse than the atomic bomb for us!”

The return of the French military to Hao

When I returned to Hao for a second period of fieldwork in late September 2021, the most important news, according to most people I talked to, was the announced return of "*le militaire,*" the French military, to their home atoll.

During his official visit to Tahiti in July 2021, President Macron said that the main reasons for the return of the Adapted Military Services Regiment (RSMA) on Hao would be to provide an economic boost to the local population, to help them finalize the nuclear rehabilitation program, and to facilitate the social and occupational integration of young Tuamotuan jobseekers. This assistance would give them the possibility of remaining on their islands instead of moving to Tahiti or abroad. Macron also addressed "adventurous" projects, such as the Chinese fisheries project, and prompted foreign investors to stay outside of French Polynesia. After all, I quote in Macron's words, "This is France! This is French Polynesia!" (Macron 2021).

I asked one of the managers of the Chinese fish farm investors' local company what he thought about president Macron's comments about foreign investors. He answered, laughing: "Well, it looks like a Cold War Indochina broke out recently between France and China, and Hao is at the center of their attention." A high-profile Polynesian politician told me soberly how he assessed the announced return of the RSMA to Hao: "This is nothing but a strategy of France [so that] China [sees] that Hao, French Polynesia, the South Pacific are still in French hands." A Polynesian social scientist even perceived the reinstallation of the RSMA on Hao as "French recolonization of Hao." One RSMA representative's short, but comprehensive answer to my question about the real reason for the return of the RSMA on Hao was: "Well, because Macron said so."

China's economic and potential strategic interests in investing in a fisheries project in Hao's lagoon to increase its power in the Pacific region indeed represents a thorn in the side of France. China has increased its expansion in overseas investments in other countries. These include a variety of critical infrastructure projects in water and wastewater, health, transportation, and food and agriculture sectors. Infrastructure projects, including the $300-million fish farm project on Hao, are costly, and they might induce economic security obstacles and an economic dependence of the host country on China (see Jiang et al. 2016: 25, 46). French Polynesia has had limited autonomy from mainland France, which is in charge of foreign affairs, defense, and justice matters

in both France and its overseas territories. The tourist-based economy at home and in its territories is also subsidized by French aid. With its high rates of unemployment and poverty, French Polynesia could certainly use a large-scale investment from China, which would also strengthen its autonomy vis-à-vis France.

On Hao, Macron's speech fueled the resentment of the already critical voices arguing against the fish farm. The announced return of the French military made some former proponents of the fish farm even change their minds.

The election of Hao's new mayor in March 2020 had also had a powerful influence on people's opinions about the two projects. Unlike the former pro-fish-farm mayor, *tavana* Théodore, the new mayor, *tavana* Yseult, is skeptical about the Chinese fish farm's impact on Hao's marine environment. *Tavana* Yseult personally favors the re-installation of the RSMA. She told me that she would hope to witness Hao soon becoming "a hub," again in the Tuamotu archipelago, "be it for the sustainable management of residual pollution, tourism, small-scale farming, or any other alternative activity" (i.e., alternative to the Chinese fisheries hub). She believes that the RSMA could help to improve the living conditions and public services on Hao.

People in French Polynesia listen carefully to their *tavana* and usually support his or her ideas for future island development (see Nolet 2007). The standpoint of the new mayor, *tavana* Yseult, is understandable when one looks at her family history. Her maternal family is a politically powerful landholding family on Hao. Her mother was also the *tavana* of Hao around 10 years ago. The parents of the former mayor, *tavana* Théodore, moved to Hao in the 1970s to work for the CEP. Both families economically and politically benefitted from the CEP program. Yet, unlike *tavana* Théodore, the new *tavana* Yseult feels much more emotionally attached to the atoll, to the land of her ancestors. She is much more concerned that the fish farm will pollute the lagoon of her "mother island" ("*île mère"*). I talked to a handful of Hao residents with land use rights who criticized *tavana* Théodore for supporting the installation of the fish farm in Hao's lagoon. They argued that since he is not originally from Hao, he should not be the one to decide what big business should be implemented on "their" (the landholding families) island. When one considers their respective family histories and their attachment to the atoll and its marine environment, *tavana* Yseult has much more to lose from the fish farm than *tavana* Théodore.

All in all, most people I spoke with on Hao in 2021 said that if they would have to decide whether they should welcome *les Chinois* or *les Français* on their atoll, they prefer to stay with the more familiar French, rather than to engage with the Chinese.

Philippe who lives at the *Sablière* on the former land parcel that the CEP used as an open waste pit, said: "We are in French Polynesia, so we stay with France. If the RSMA comes to Hao, this will mean that *France* is coming back to Hao. This is also good news for our younger generations." Tony, the fisherman and beekeeper from Hao, is glad that President Macron was very clear about France not wanting China "to have a base in the Pacific." Asked about the return of the RSMA, he replied: "This is good! We need the support of France. We hosted the French military for 30 years, and our younger generations also need the support from the military. They should offer them educational training, jobs." Tahitoa, another fisherman from Hao, is convinced that "Macron loves Hao, because of our large airstrip, our CEP infrastructure. That's why he will give us the RSMA."

Léonie, who lives in the former house of the *État-Major*, said: "It's good that the CEP, erm, I mean the RSMA, is coming back. They might also protect us from cyclones since it is also French military." It was not so surprising to me that Mamie Blue also expectantly waits for the military to return: "I already have a great business idea: Selling beer to the French in front of my house – almost like in the good old days!"

The prioritization of the RSMA over the fish farm highlights the marginal position of the Chinese in French Polynesia. It also demonstrates how French imperialism continues to inform local economies. People on Hao have already internalized a French colonial approach with which to judge future development projects like the Chinese fish farm. Many of them prefer the French to return to Hao rather than the Chinese. This is a colonial effect, induced by the CEP. Their prioritization of the RSMA is also rooted in their nuclear nostalgia. Their nostalgia for the French CEP is built into the asymmetrical colonial legacies of hope of being overtaken by authoritative French actors.

During my stay on Hao in late 2021, a few critical voices of the Polynesian community wondered whether the return of the French military to their home atoll could strengthen economic development and forward the monitoring of residual military waste, or if it would rather be simply a geopolitical strategy of the French Republic to show China that Hao is indeed a French

territory. Jules, for instance, a man from Hao who used to work for the CEP in the 1980s and 1990s, believes the reinstallation of the RSMA is nothing but a strategic decision of the French State, "to control the Chinese who still want to install their fish farm on Hao." Considering Hao's two-decades of marginalization and isolation – both from the local and the French political scene, some islanders do not understand the current debates about Hao's re-transition into an economic and military hub. Heimana, for instance, found it "strange" that "our atoll has attracted so many people: first the missionaries, then the CEP, and now the Chinese. And since July, the military also wants to come back." Poko, for example, asked himself if the RSMA is returning to Hao only "to control and spy on the Chinese." He found it suspicious that RSMA representatives are visiting the atoll "all the time" since the official announcements in July 2021.

It must be noted that the people who criticize both the fish farm and the return of the RSMA are not depending on a new, economically promising project. These are primarily a handful of former French CEP workers and veterans and their families, and Polynesian residents who either still enjoy the economic privileges they were given by the CEP or who have a steady income or who have managed to return to a self-sufficient life after the CEP era based on small-scale fishing and copra harvesting.

Yet, since every third person of the active population on Hao was unemployed by 2017 (ISPF 2017) and many people do not want to live a life based solely on small-scale fishing and farming, these people cannot afford to be skeptical. Some of them are waiting for the fish farm, rather than for the RSMA, because they hope that the fish farm will create more salaried employment for them than the RSMA, which will primarily offer training opportunities to young people.

5.4. Longing for Large-Scale Development Projects

In the late 2010s, the unemployment rate in French Polynesia continued to increase. In the active population, aged 15-64 years, the unemployment rate was 12.8 percent in 2019. The unemployment rate for young people aged 15 to 29 rose as high as 27.4 percent, meaning that slightly more than one in four was unemployed (*Tahiti News* 2021). The unemployment rate on Hao has been higher than average since the shutdown of the CEP program (ISPF 2017). Poko

connects the unemployment rate to the local interest in the fish farm project: “People on Hao have been used to be salaried employees. We became so dependent on salaried work at the CEP program, that we now wait for the Chinese to give us again a salaried job.”

In December 2019, Hao’s then mayor, *tavana* Théodore Tuahine, a passionate supporter of the fish farm project, told me that he has a list of 130 Hao residents in their late teens and early twenties who are waiting for a job at the fish farm. These people are looking out for their economic future, even though they know that the project has been criticized and constantly delayed because of its possible risks.

Nevertheless, despite all the criticism, *tavana* Théodore still has high hopes for the Chinese fish farm’s potential to improve Hao’s economy and its post-CEP image as a polluted atoll:

> *The investors of the project promised that they will introduce an ecologically sustainable form of large-scale fish farming. The fish farm project could transform Hao into an aquaculture hub for China’s new Silk Road. Hao could thus become, again, finally – after around twenty years of post-CEP depression – a socio-economic hub having a specific* raison d’être *within the Tuamotu archipelago and beyond.*

The Hao islanders still find it difficult to sell their fish to supermarkets or major fish distributors in Tahiti, for example, since “nobody wants to eat fish from Hao because of the nuclear (*à cause du nucléaire*),” the *tavana* said. He hoped that “thanks to the Chinese fish farm, the world will finally see that fish from Hao is indeed eatable and that Hao and our lagoon are safe and clean.”

Promises of economic growth and environmental sustainability

Promises made by the Chinese investors during the last official visit to Hao in 2019 have fueled local residents’ hope that the fish farm project will be both economically and ecologically sustainable, and thus help improve Hao’s post-CEP image.

An official meeting was held behind closed doors at Hao’s town hall in December 2019. Present at this meeting were the Chinese fish farm investors, a delegation from Tahiti Nui Ocean Foods, the head of French Polynesian President Fritch’s cabinet, and employees of the *Direction de l’Environnement* (DIREN), the governmental department responsible for the preservation of natural resources and the environment. The community of Hao was represented at the meeting by

members of Hao's municipal council and some of Hao's key community actors, including the principal and a teacher from the *collège*, two fishermen, the owners of the three grocery shops, and the representatives of the biggest associations. I was allowed to attend the meeting as an observer.

During the meeting, the Chinese investors promised economic growth and jobs while assuring ecological sustainability. One employee of the DIREN tried to reassure the Hao representatives that they would do their best to make sure "the project is kept clean" ("*que le projet sera bien propre*").

The CEO said that his investment company also has an image to preserve, just as Hao does: they do not want to farm and sell poisoned fish, nor do they want to live on an atoll with a polluted lagoon. Cheng said that they are on Hao to stay: "After all, we already perceive ourselves part of the French Polynesian society."[69]

In addition to the former mayor and the young, unemployed population of Hao, there is another optimistic group of individuals who are ready to welcome the fish farm employers to Hao: the few shopkeepers and owners of small businesses. Some of them are of Chinese origin or are *démis* and have one parent of Chinese origin. The owner of a little corner store in the village center told me that he is waiting for Hao to be swamped, again, as it was during the CEP program, by foreign (this time Chinese) and Polynesian workers boosting the local economy. The French husband of a local woman who owns a snack bar at the airport and a small restaurant in Otepa village said: "There are pros and cons. For us, it will be interesting, this aquaculture project. It will attract more people. We might need to enlarge our snack bar. The *Magasin Otepa* has already expanded!"

Infrastructures of hope: Le Magasin Otepa

When I went back to Hao in 2021, Agathe, the owner of the grocery store *Magasin Otepa*, was very high on my list of people I had to meet: I wanted to talk to her about the grocery store she had opened with her husband in 2019. I had heard from other Hao residents that the couple had opened Hao's biggest supermarket only because they assumed, as others did, that Hao would be

[69] A translator participated in the meeting, translating the French statements of the Tahitian and Hao representatives into Chinese and the Chinese statements of the Tahiti Nui Ocean Foods delegation into French.

swamped with Chinese and Polynesian people working for the fish farm project and that Hao would need a bigger supermarket to supply the increased population. When I asked Agathe if this assertion was true, she answered briefly: "That's correct!" She added that that there used to be a *Magasin Otepa* before "but [it] was much smaller than the new *Magasin Otepa*." The previous owner wanted to retire, so Agathe, who is of Polynesian and Chinese origin, moved from Tahiti to Hao to take it over:

> *My brother lived here before. Some of our ancestors are from Hao. He always told me to move to Hao as well, as it is much calmer than Tahiti, less traffic. I saw an opportunity to come and start my own business here. So, I bought this piece of land from the entitled beneficiaries, and we started to build the new Magasin in 2015. And when I heard of the aquaculture project, I mean… during the CEP epoch, Hao's supermarkets made 600,000 Francs CFP of sales revenue per day!*

Both the fish farm and Agathe's grocery store may seem to be simply buildings within which to do business. But in effect, they are also infrastructures or technologies of hope (see Sejersen 2019), hope for the return of nostalgic past when it was possible to achieve modernity and socio-economic well-being, hope for the return of big business to Hao. These infrastructures of hope manifest people's nostalgia for economic prosperity introduced by the CEP program. The Chinese aquaculture project, some people on Hao hope, will bring back this once prosperous, modern, forward-looking image. As Agathe put it, "major investments like the Chinese fish farm and the CEP are needed to save the economy of [French] Polynesia." Those people with most to gain economically from the fish farm are also those who expressed most nostalgia and hope for the return of big business on Hao.

Other individuals share Agathe's opinion about large-scale investment projects. Léonie, the young woman who lives in the former CEP building of the *État Major*, considers the Chinese project "a good alternative" to the creation of many small development projects, since "small projects won't create many new salaried jobs for everyone, and on Hao, *everyone* needs a job in order to afford the modern lifestyle introduced by the CEP."

Pito, one of the two bakers of the island who is half-Polynesian and half-Chinese, agrees that Hao needs a large-scale project similar to the CEP: "We need a second CEP coming to Hao, boosting our economy, and reviving the happy times of Hao's CEP past!"

Since the beginning of colonial exploitation of natural resources, a public policy of major works, or *une politique de grands travaux*, has reigned in French Polynesia. First, copra harvesting was the major enterprise, followed by phosphate mining on Makatea from the early 20th century until the 1960s, and nuclear testing later on (see Robineau 1984: 443). (This policy was also responsible for the arrival of the first Chinese immigrants in French Polynesia and their eventual economic independence.)

Moetai Brotherson, a Polynesian pro-independence politician and member of the French National Assembly, told me during our meeting on Tahiti that "the CEP had brought this policy to a completely new level." In other words, the CEP became the benchmark for many future economic projects in the Territory, including the fish farm project. The people of Hao, as well as many other Polynesian citizens and politicians, link economic development, and, consequently, social well-being, to big development projects. The fish farm represents more than a promising economic opportunity for the locals; it would bring back glorious bygone times when an imperial-like world power came to Hao and created new jobs, a monetary system, and a lifestyle that the people were now hopefully waiting to be brought back by the CEP-like Chinese aquaculture investors.

The hope towards the fish farm of the former mayor, business owners, and some young unemployed islanders is informed by their nostalgia for a CEP-coined policy of large-scale development projects. They believe the resurgence of the local economy depends on splendid investments from overseas. Both economic wealth and development can only be introduced to Hao from abroad, by another (colonial) influence coming from outside French Polynesia. Because they were accustomed to the French CEP taking care of Hao's economic development for over 30 years, my informants imply that Hao needs an external actor to regulate local fishing, even though they have the knowledge and tools to manage their own marine resources, albeit on a much smaller scale than the Chinese intend to do. In effect, the Chinese may soon have their hands on the levers of French Polynesia's *politique de grands travaux*.

The price to be paid for the golden age of large-scale fisheries

Despite the counterarguments to the installation of the Chinese fish farm in Hao's lagoon noted above, especially its possible impact on the marine environment, a few people still think the

aquaculture project is a unique socio-economic opportunity to escape the dreary, uncertain post-CEP present. They are still waiting for the nostalgic past to repeat itself in form of the fish farm.

Diana, a young woman in her mid-thirties who is related to Hao's former, pro-fish-farm mayor, Théodore, assured me in 2021 that she still believes in the Chinese project and compares it with the CEP program: "After all, the CEP has done so many good things for Hao. And our people benefitted from the CEP presence, despite all the pollution they have left."

Pito, the baker, is also in favor of the aquaculture project:

> *We know its consequences, but we also know the things that will be beneficial for the people. […] We can't say that there won't be any pollution. There will be pollution. […] For our future, we need an economic project that must be substantial. For me, that's the aquaculture project.*

When I asked Agathe, the owner of *Magasin Otepa*, what she thinks about the possible ecological impact of the project on Hao's lagoon, she said: "Well, there is nothing for free [*il n'y a rien pour rien*]!" Some Hao residents, who are not originally from Hao but moved there for work, seem to accept that the negative impacts of the fish farm are the price to be paid for a second golden age of socio-economic well-being.

Because of the dreary present, some people on Hao like Diana, Pito, and Agathe prefer to be optimistic that the past-like future of the Chinese fish farm will be better than the post-CEP now. It would be worth to try something that would change the dull and *fiu* present.

5.5. Nostalgia as Future-Oriented

As we know, nostalgia brings into play a temporality of its own and indicates the presence of the past. On Hao, however, it seems as if Hao's past might come back in the near future either with the construction of the Chinese fish farm or with the return of the French RSMA. As some people on Hao assess the promise of the two projects, it seems possible for time to be reversible, recoverable.

Jacques, who worked for the CEP as an electrician and currently lives in the former military doctor's house, told me how he assesses the planned construction of the fish farm: "It feels like the CEP is coming back to Hao. They will offer new job opportunities to the Hao population. […] The aquaculture project could bring new life to Hao, new development – just like the CEP once did." This circular conception of temporality, that is, the belief in a return of the past in the future, highlights the future-oriented nature of Hao's nuclear nostalgia.

Anthropological or social scientific studies on nostalgia in post-socialist and postcolonial contexts in particular emphasize the *future*-oriented character of nostalgia (Davis 1979; Stewart 1988; Palmberger 2008; Tannock 1995; Boym 2001; Boyer 2006; Pickering & Keightley 2006; Piot 2010; Basset & Baussant 2018). There are many ways that nostalgic people engage with the past. Some nostalgias might be regressive, oriented towards the past *only*, which is less socially useful, while others can be productive, progressive, and directed towards the future.

Stuart Tannock (1995), for example, is inspired by but also expands on Fred Davis's (1979) idea of nostalgia as a reaction to the discontinuity of time, i.e., time being linear and irreversible. According to Tannock, nostalgia can also lead to continuity: it can function as a "retrieval" of the past "for support in building the future," rather than a mere "retreat" from the present (1995: 458f). Instead of simply expressing a desperate longing to return to an idealized past, nostalgia can be progressive when it leads people to recognize that some "sources" of the past could be retrieved as "resources" that provide inspiration for the future, for example, for social change (ibid: 457).

The future-oriented character of Hao's nuclear nostalgia illustrates that in the dreary post-CEP present, people living on Hao have turned towards the past to find inspiration for the building of their future. Job-seeking residents, for example, who are frustrated about the high unemployment rate, turn towards the CEP past to get inspired for what they want their future to look like. These people simply want the return of economic stability and job opportunities that they experienced during the CEP period.

Other residents, like copra farmers or fishermen who have difficulties to export their products to Tahiti, deplore the negative image of Hao as a polluted and lost island. They look back to the CEP past when their atoll had a positive CEP-linked image in French Polynesia. But they also keep in mind that the CEP is also responsible for Hao's negative image in that it dumped military

equipment in Hao's lagoon and buried nuclear waste in the soil. This inspires their hopes for a future in which the protection of Hao's surrounding environment becomes a priority.

In her work on nostalgia among citizens of Mostar in former Yugoslavia, which she also calls "Yugonostalgia," Monika Palmberger (2008) argues that nostalgia can paralyze people who realize that whatever they are longing for can never be retrieved, which puts them in a constant state of waiting. However, nostalgia can also be a way to envision the future (ibid: 358). In other words, nostalgia can be both melancholic and backward-looking *and* utopian and forward-looking (Pickering & Keightley 2006: 921). It can be reflected in localized visions of a future that is better than the "now" because people long for a future that would replace the dreary present (Piot 2010: 20).

People on Hao experienced and remember first and foremost the good things about the CEP past, including the socio-economic freedom, the empowerment, and the many gifts of French nuclear modernity they received from the CEP. These elements of the CEP past are missed by many villagers in the dull post-CEP present and now inform their future. The CEP program became their point of reference or, in Palmberger's (2008: 358) words, a "guiding star" for future development projects, including both the $300-million Chinese fish farm project and the RSMA. Many of the Hao residents I spoke with are dissatisfied with the post-CEP present, but, looking back at the nostalgic CEP past, they remain hopeful that things will be better in the future. They want to follow the lead of an economic power that promises them this bright future.

Different groups of people express nostalgia for different aspects of the CEP period and thus have different visions of what Hao's future should look like and which outside power can help them get closer to this future. Many local residents who talked to me express nostalgia for the French military, for the time when the CEP managed everyday life and enabled them to live a life marked by economic stability, gaiety, and communal solidarity. These things were gone when the French military left Hao.

Most of these people wait for the RSMA to return to Hao in the near future because they believe that the nostalgic past could be only brought back by the *French* rather than by Chinese. These people would also probably gain most in profit and social status once the French military returns to Hao. Mamie Blue, for instance, said that "the Chinese will not drink as much beer as the French. I won't make any money with them!" Miri, a woman from Hao whose family rented their

ancestors' land to the CEP looks forward to the RSMA return. Miri hopes to re-rent her family's property to the French military personnel and their families. She believes that she would not make any money with the Chinese fish farm workers: "The Chinese investors will build housing facilities for its non-Hao workers in their fish farm zone close to the airport. They won't be interested in our property at the *Sablière*."

Other local residents, including some job-seeking villagers and small entrepreneurs whose families moved to Hao for the CEP program, express nostalgia for big business introduced by an outside economic power (not necessarily from the French). They want Hao to regain its past glory and centrality on a *global* level and they want to look towards a bright future marked by economic progress and western modernity with the same utopian optimism than their parents and grandparents did during the CEP period. This promising future, some people hope, will be introduced by the Chinese fish farm. Residents like Agathe, the owner of Magasin Otepa, believe they will gain more from the Chinese in terms of profit and salaried employment than from the RSMA.

Nostalgia is never far from hope (Stewart 1988; Angé & Berliner 2014: 11; Jansen 2016; see also Crapanzano 2003). Hope for the return of the positively remembered elements of the past affects the temporal reasoning of the present (see Kleist & Jansen 2016: 377). Nuclear nostalgia on Hao shapes what nostalgic people hope for in the future. As Kathleen Stewart put it when discussing nostalgia in the late stages of capitalism, Hao's nostalgia became "the very lighthouse" that waved them "back to shore – the one point on the landscape that gives hope of direction" (Stewart 1988: 229).

The fish farm and the RSMA are not just manifestations of people's nostalgia for the future. They are also manifestations of their hopes for the return of past glory and socio-economic privileges experienced during the CEP era. The two projects seem to be the only exits from the dreary present and gateways to a promising, predictable future. The RSMA manifests the hope of local residents for the return of the French (colonial) power to manage everyday life and stimulate the local economy, while the fish farm raises hope among some entrepreneurs and young unemployed villagers for the return of big business. The latter group hopes for a utopian future where the socio-economic standards set by the French CEP might return.

5.6. Temporal Reconfiguration: The Fear of a Second Abandonment

While the fish farm has raised hopes for the return of a golden CEP-like age among some members of the Hao community, it has also provoked fears about a second abandonment of the people by an outside power and the return of an after-CEP-like *tristesse.* This concern is added to concerns about the aforementioned ecological degradation, violation of land rights, and the right of residents to move freely in the lagoon.

The fear of a second abandonment is primarily linked to the fish farm, rather than to the return of the RSMA, because the fish farm project is comparable to the boom-and-bust-cycle of the CEP. The future impact of the RSMA on the everyday life of the Hao residents seems less drastic and more predictable (also because the RSMA was based on Hao once before). Hao's people worry that the Chinese fish farm would eventually lead to a second boom-and-bust moment where they would be abandoned again by an external power. This abandonment could then lead to a second "*après-CEP*" (after-CEP) present, in this case the future "*époque après-aquacole*" (an after-fish-farm epoch).

At the end of the 2019 meeting with the delegation from Tahiti and the Chinese investment company, the brother of the then *tavana* Théodore, put this fear of a second abandonment concisely when he rose to speak. He introduced himself as a "representative of the small people of Hao" ("*représentant des petits gens de Hao*"). He wanted the Chinese to keep in mind that the CEP once came to Hao for 30 years and secured the island's rising prosperity, but then just left and did not leave anything behind for the islanders except pollution and economic depression. He proposed that the Chinese should thus find a solution now for the "after-fish-farm-crisis" ("*crise après-projet-aquacol*e").

The CEO of the Chinese company, Wang Cheng, assured the representatives of Hao residents that he is aware of the atoll's CEP past and about the residents' fear of being exploited and abandoned again by an outside company. He said that the investors were not developing this multi-million-dollar aquaculture project only to shut it down after 30 years. Instead, they planned the fish farm project as a long-term project, farming fish in a sustainable manner for "at least 90 years."

The promises of the CEO of Tahiti Nui Ocean Foods made some people on Hao optimistic about the after-fish-farm future. The fish farm reminds them of the CEP in the sense that the Chinese investors would come to Hao, transform it into a hub, and feed the world with fish from Hao. The more skeptical people on Hao, however, ask themselves, what might happen *after*wards, after they leave. Mariette, for example, does not want Hao to experience a desert-like scenario again. She put it regretfully: "[I]n 2000, Hao became a desert! And then now there is the fish farm to feed the world with fish from Hao. Once they leave… and then what [*et après*]?"

It took people like Mariette almost two decades to realize that they have at least something in the post-CEP present to be proud of as residents of Hao, including small-scale agriculture projects like the vanilla farms and the collective memory of the CEP's golden age depicted in The Memory Room. Yet, they do not want to go through a period again where everything seems possible and accessible, only to be then forced again to experience the feeling of nothingness afterwards. Lucas also worries about the "*après*" of the fish farm: "Let's imagine they come here, settle down, and take all the fish. And then what [*Et après*]?! […] They leave! Then, we have *nothing*. *That's* the problem."

Romaine and Mireille, two Polynesian women who work in the *collège*'s canteen and are married to local fishermen, share Mariette's and Lucas's fears and compared it with the after-CEP depression. Romaine tried to put her mixed feelings about the fish farm project into words: "The aquaculture project seems to be a good idea. It brings jobs. But, how should I say it… What about after the project? […] I mean, it seems like there will be again…" Her friend Mireille interrupted with: "The CEP!" Here is Romaine again:

> *Exactly! And there is always this question of 'but what about afterwards?' ('*mais après*?'). You see? They came. They left. And then there is this 'and then what?' question. […] How will Hao's 'life after' look like this time (*Comment va être cet 'après' de Hao?!*)*

As I realized the full ramifications of the closing of the military base and its impact on the local population, I came to realize that the most violent act of the French CEP on Hao was not atmospheric testing, environmental pollution, or the creation of complete socio-economic dependence on an outside power, but the act of leaving the Hao atoll and abandoning its islanders in 2000. This abandonment, the cutting-off of the seemingly equal relationship with the local

population, and the fact that, all of a sudden, they had to deal with residual pollution by themselves is remembered by most people I talked to on Hao as the actual crime of the French CEP.

In times of crises after the collapse of social, political, and economic structures, people become aware of the discontinuity of safe times and knowable, probable futures. They develop a nostalgic state of mind for the retrospectively more stable, pre-crisis times.

Anthropologist Maurice Bloch (1977) makes it clear that people hold different conceptions of duration that are dependent on context. In a time of crisis, such as the end of Hao's CEP era, the experience of time begins to change (see Koselleck [1985] 2004). Nostalgic people try to make sense of unexpected, challenging experiences by reframing their accounts of the past, the present, and the future. They might escape the gloomy present and wallow instead in nostalgic memories of the past.

Also, people's nostalgia might influence their temporal reasoning of when the nostalgic past ended and the gloomy present began. The study of nostalgia helps us understand the localized, somewhat ambivalent experiences of temporality, which is the understanding of and relationship with time. Usually, temporality refers to the linear progression of the past, present, and future. Because it is shaped by very exceptional historical events, nostalgia puts the past, the present, and the future in a mutual relationship, which redefines an individual's sense of time as not necessarily linear (see Angé & Berliner 2014: 11f; Palmberger 2008).

Nostalgia constitutes a contextualized frame for the "once was," the "now," and the "not yet," leading to the fact that only some events of the longed-for past are emphasized while others are de-emphasized, ignored, or simply forgotten (see Stewart 1988: 227). Moments of crisis and exception are good starting points to anthropologically grasp the temporal reasoning that accompanies nostalgia.

Nostalgic people try to make sense of unexpected, challenging experiences by reframing their accounts of the past, the present, and the future. The local population on the Hao atoll did just that. Since the departure of the CEP, time on Hao has been experienced as, in anthropologist Jane Guyer's words, "punctuated" and "event driven." In her paper "Prophecy and the Near Future" (2007), Guyer analyzes developments in fundamentalist Christianity, macroeconomics, and the perceptions of time to study the general shift in the US culture of temporality (i.e., the linear

progression of time) since the 1950s and 1960s, toward the distant future and the instantaneous present at the expense of the near future. Guyer argues that because of an increase in economic complexity in the US at that time and the simultaneous rise of a religious focus on the "end times," a manageable near future seemed to disappear for many Americans, along with the anticipation of their following a set path to make life better within a defined time frame. She concludes that the near future for some people is increasingly re-inhabited by forms of punctuated time of multiple dates that fill the gap (that is, the near future) between the instantaneous present and an abstract, distant future. Thus, time is then perceived as being episodic, non-linear, and event-, or rupture-driven, rather than enduring. Specific dates are considered "event moments" that mark turning points or endpoints that could lead to decisive change (ibid).

I add a colonial nostalgia dimension to Guyer's temporality concept and her idea that the punctuated time units that will open up in the near future might be "reconfigured elements that are well-known already" (2007: 416). This is when the form of punctuated time on Hao and the general local approach towards the future is shaped by nostalgic memories of the colonial past. It is not Christianity (although most Hao residents are Christians) nor really capitalism that makes time on Hao episodic. Here, it is the residents' nostalgia for the CEP period that conditions the local population into a radical reconfiguration of time.

The CEP, with its introduction of a new era and its abrupt departure that put an end to the glorious era, has made time on Hao be perceived as episodic. For example, the two main sequences that people on Hao use to organize time are *le temps CEP*, the time when the CEP was on Hao (1960s – 2000) and *l'après-CEP*, the time after the CEP left the atoll (2000 –). The after-CEP time is then divided into 1) the now, the instantaneous, gloomy present, 2) the near future, which fills the gap between the immediate present and the distant future that was replaced by one specific event, i.e. the plans to install the Chinese fish farm, 3) and the distant future, the abstract *after*-fish farm time (*l'époque après-aquacole*) that many people believe would begin when the Chinese leave the atoll, just like the French left.

The fear is that the Chinese leaving would lead again to the dull after-CEP-"meantime" (see Jansen 2015, 2016), that is a manifestation of their fear of abandonment experienced with the CEP. Even though the people of Hao can imagine that the fish farm might bring a needed economic upturn and a sense of well-being, they are already considering the next "boom and

bust" era, both economically and emotionally. Many do not want their children to experience an afterlife of the fish farm project similar to the afterlife the post-CEP generation experienced and still endures.

The sense that Hao's near future would be inhabited by punctuated time is influenced by the local population's complex nostalgic remembrances of the CEP era. The missed and longed-for CEP time influences which turning points in the mid- and long-term horizon should be emphasized, envisaged, and anticipated. I argue that nostalgic imaginings of past times and the awareness of radical ruptures that led to the end of the glorious CEP times engender what anthropologist Charles Piot (2010) calls a "restructuring of temporality," away from the deplorable present and/or a traumatic event in the recent past that haunts the present to a preoccupation with the "happy" CEP time, even as people speculate about the *future* (see Piot 2010: 9, 129). In other words, people prefer to concentrate on imagining the future instead of being stuck in the gloomy present. In his study on shifts in political culture in post-Cold War Togo, Piot follows Guyer's approach to temporality as event-driven and punctuated by events when he asks how NGOs and charismatic churches have re-organized socio-political life in the absence of the (dictatorial) state. He claims that, since the end of the Cold War, Pentecostals and neoliberal NGOs have not only exercised sovereignty in Togo, they have also reconfigured temporality. On Hao, it was the CEP that reconfigured temporality.

Societies react against the one-dimensional structure of time and the emergence of socio-political instability after abrupt moments of dramatic socio-economic and political changes by re-conceptualizing temporality around specific dates. Nostalgia consolidates the reconfiguration of time: only some specific dates or events are emphasized that help people live through contemporary times of crisis and help them imagine a better future that is inspired by the "once was."

While wallowing in nostalgic memories can increase one's frustration with a gloomy present (see Piot 2017: 116), nostalgia can prevent people from getting caught up in the instability of a period or, in the case of Hao, in moaning over the French military's abrupt departure approximately 20 years ago. Nostalgia can be a means to escape the "forced presentism" and distant "fantasy futurism" by re-inhabiting the near future with punctuated time and life-changing

events, such as the installation of the fish farm or the return of the RSMA, that are inspired by the longed-for past (see Guyer 2007).

Some of the people critiquing the fish farm project speculate that the afterlife for them after the project closes will be exactly like the CEP-past and the post-CEP present. Léa, the mother of a teenage son who lives in the former laundry facilities of the CEP puts it well:

> On the one hand, it will be good for the people, because there will be jobs for everyone again. […] So, they [the Chinese investors] might perhaps bring us something. But then, once they settle on the atoll, polluted water! And we will be surrounded by fences. We won't be allowed to go wherever we want. […] When the soldiers left, you know, we had money, there was life on Hao with the soldiers. But today, there is no money, no life. And when the Chinese arrive, it might be the same. And afterwards, it will be the same too.

Yet, such statements were rare in my interviews with the people of Hao. In fact, most people who criticize the fish farm project are afraid that the *after*-fish farm epoch would be even *worse* than their CEP experience. They predict now that the fish farm project would *from the very beginning* pollute the lagoon. In other words, their nostalgic memories of the colonial CEP past inform their temporal reconfiguration in that the CEP is perceived as the true divider of time (before the CEP, during the CEP, and after the CEP) that decides which moments in history and in the future are episodic. The fact that the majority of the people I spoke with on Hao prefer the RSMA, i.e., the French military, rather than the Chinese investors, to replace Hao's gloomy present with a new time period (Hao's second RSMA era) highlights the French colonial embeddedness of the perception of time on Hao.

5.7. Conclusion

This chapter explores how the local-global tensions that defined Hao's proud CEP history and painful CEP departure might be reproduced by the planned Chinese fish farm project. Two decades after the CEP left, it appears that a new, promising, yet hazy future of modern utopianism, epitomized by the fish farm project, is imminent. For some people, the relationship

with and the arrival on Hao of outside powers, such as the fish farm investors, displays repetitive patterns reminiscent of the French CEP project. The fish farm investors have generated hope for the return of Hao's centrality and socio-economic well-being and for the restoration of the once lost CEP-linked modern futurity. They have successfully managed to veil their project with the cloak of sustainability, economic self-sufficiency, and image improvement. Despite this clever marketing, however, the investors have generated fear, concern, and unease among Hao's residents about what would happen to their home atoll when such promising, yet asymmetrical relations to mainland empires are re-established.

Nevertheless, for many residents, the risk of living again in another after-CEP epoch seems to be worth a try, considering the dismal present. The comments of some of Hao's residents contain a note of resignation about accepting the drawbacks of the fish farm, but they also hope that the project can still build on the success of the last big development project that was the CEP.

Yet, their nostalgic longing for a future seems to be elusive. In 2021, I met Hiro's and Mariette's son, Simon, and his wife Tera who adore reminiscing about Hao's CEP era. I asked them what they think of the Chinese fish farm. Simon: "Well, we are waiting! But if nothing happens, it will stay a mere dream!" Since the installation of the fish farm is still uncertain, many Hao residents I spoke with are not sure if their hopes for a better future are in vain and will remain a mere dream of a world to come. Most people would meanwhile rather go with the more predictable French RSMA project than with the Chinese fish farm project. On 27 October 2022, the RSMA was officially welcomed on the Hao atoll (La Présidence de la Polynésie Française 2022). The fate of the Chinese fish farm project, on the other hand, remains undecided. In the meantime, the people of Hao continue to reside in a nostalgia-soaked present.

CHAPTER 6. CONCLUSION: NUCLEAR PARADISE LOST

In this thesis, I critically examined how nuclear nostalgia on the Hao atoll structures the present in complex, partly ambivalent ways and how it helps the Polynesian residents navigate many unknowns in terms of nuclear and military pollution, economic stability, and their future. I demonstrated that colonial relationalities and imperial nuclear narratives reverberate in the present and continue to inform both memories of the nuclear military past and aspiration for the future of the people living on islands formerly colonized for the testing of nuclear weapons. More specifically, I argued that Hao's relationality and its central position within French Polynesia during the CEP era informs the Hao residents' hopes, but also their fears, for future island development projects, including the proposed Chinese fish farm project and the return of the French RSMA to Hao.

I foregrounded nuclear nostalgia as a privileged analytical perspective for understanding how nuclear testing has shaped Hao's regional and global relations. Indeed, nuclear nostalgia underlines Hao's relationship with the wider Polynesian region and the island's position within the French nuclear empire. In Chapter 4, for example, I argued that when one looks at Hao's position in post-CEP French Polynesia, nuclear nostalgia constitutes an empowering act of the local residents who re-position themselves and their home atoll within the contemporary mainstream narrative about French Polynesia's nuclear history.

My analysis of nuclear nostalgia on the Hao atoll offers a contribution to contemporary island thinking in anthropology and beyond. Islands, especially the Pacific Islands (a region profoundly shaped by the U.S., British, and French nuclear weapons testing programs), have been central to the development of anthropology. Pioneers of modern anthropology developed the discipline of anthropology based on their ethnographies about islands (see Baldacchino 2006: 4; DeLoughrey 2001: 35).[70] Such accounts, including those written by Bronislaw Malinowski (1922), Marshall Sahlins (1976), Robert E. Johannes (1981), and Mary Helms (1988), have taught us to

[70] Some exemplary ethnographies include Bronislaw Malinowski's ethnographic work on the Trobriand islands in Papua New Guinea (1922), Margaret Mead's work on coming of age in Samoa (1928), Alfred Radcliffe-Brown's ethnography on the Andaman Islands (1922), and Raymond Firth's study on kinship in Melanesia (1936).

approach the island as a relational space rather than an isolated entity with its own discrete history. They ethnographically grasp islanders' mobility and their relational entanglements with other islands, mainland cultures, and modernity.

The most recent incarnation of islands as relational entities can be found in the *Anthropocene Islands Studies* literature. This area of study deals with the shift from modernist thinking *of* islands towards a more relational way of thinking *with* islands in the Anthropocene. The work of Epeli Hau'ofa (1994) on the ocean as a sea full of interrelated islands profoundly influenced this decolonial thinking *with* islands in the postcolonial (nuclear) age when he stressed that islands must be viewed from a more holistic perspective, "in the totality of their relationships," not as confined, isolated spaces (ibid: 153). The shift towards thinking *with* islands emphasizes interconnected, relational island networks (Pugh 2016, 2018; Chandler & Pugh 2020; see also Glissant 1997; Baldacchino 2006; DeLoughrey 2019; Hau'ofa 2008; Strathern 2004, 2020; Sheller 2020; Hayward 2012; Grydehøj et al. 2015). In short, islands are approached as "relational spaces" (Stratford 2003: 495) that are "part of complex and cross-cutting systems of regional and global interaction" (Baldacchino 2006: 10), which in turn "problematize static tropes of island insularity, isolation, dependency and peripherality" (Chandler & Pugh 2020: 65).

My ethnography of Hao takes seriously the relationality of island spaces yet cautions against strong ontological views of relationality at work in Anthropocene Island Studies. I showed that Hao – a quintessential Anthropocene Island, given its close relationship to nuclear testing, one of the hallmarks of this new age – is not ontological but a historically conditioned property that can take various forms and meanings. Hao's relationality is uneven and conditioned by colonial as well as regional dynamics. Indeed, I demonstrated how Hao has been constructed as isolated and peripheral, but also constituted the center of regional and international, partly uneven socio-economic relations.

For example, France placed the Hao atoll on the periphery of its nuclear endeavor. The French military exploited the local population and ancestral land because of the island's isolation and remoteness from mainland France. At the same time, this colonial exploitation enabled Hao to become a socio-economic hub at the regional and national level where outsiders, i.e., French military personnel and Polynesian CEP workers and their families, came in large numbers. Today, Hao is no longer on the edge of the French nuclear empire. Yet, it is also no longer a national,

socio-economic hub. It is a place from which people move away because job opportunities have become limited after the shutdown of the military base. Polynesians from Tahiti described Hao to me as a polluted place that is not worth visiting. The proposed Chinese fish farm fuels hope on Hao that the atoll will move from the periphery of French Polynesia (and France) back to the center of regional and international socio-economic relations.

Nostalgia for the nuclear age helped me grasp and unpack these complex relationalities on Hao. Nuclear nostalgia is shared among the majority of people I met on Hao. It is a collective but various articulated form of longing for centrality, inter-island relationality, economic prosperity, conviviality, obligation-free reciprocity, and communal, nuclear-linked identity. It manifests itself on Hao in almost every aspect of the local society I encountered. As I showed in Chapters 2-5, it is evident in the gendered forms of subjectivity and colonially inflicted ideas of sexuality, in the remaining CEP infrastructure, in planned, future infrastructures, as well as in the counter-narratives that residents create to re-position themselves and their home island in Polynesian mainstream society.

I discussed nostalgia as closely related to relationality and longings for relationality, while also pointing out how nostalgia involves and relies on the camouflaging of normalcy. I would like to highlight five contributions that this thesis provides to how we can study nostalgia as a form of memory in anthropology.

First, my ethnography showed that nostalgia must be studied as both a social and an individual phenomenon. A large portion of the residents I met on Hao express nostalgia for the CEP age, but different groups of residents are nostalgic for different reasons. Perhaps unsurprisingly, those that benefitted most from the CEP are also those that are most nostalgic. Some members of landholding families received financial compensation for leasing or selling their ancestors' land to the CEP. The CEP gave non-binary gender subjects like Mamie Blue a new sexual identity (*raerae*) and facilitated their social empowerment (something *raerae* do not have to this extent anywhere else in French Polynesia). Other Polynesians who moved to Hao from other islands were included in the local community by the CEP through salaried employment and invitations to barbecues at the military zone. They did not need to be born on Hao or come from a landholding family to feel like Hao locals.

Some groups of people still benefit from the past CEP era. When the French military left in 2000, they gave some individual members of landholding families, as well as a few Polynesian people who have no rights to use land on Hao, access to undivided, ancestral land. These are privileges that one cannot get anywhere else in French Polynesia. These people also express nostalgia for the powerful, chief-like leadership of the CEP that administered everyday life on Hao, kept the public streets clean, and still provides protection from cyclones and other natural forces (through the remaining solid military buildings made of concrete).

Both nostalgia for the nuclear past and hope for the CEP-like future are multiple and unequally distributed. The young, job-seeking residents, and many of the entrepreneurs and political actors who are not originally from Hao have more hope for the Chinese fish farm than others, including Hao's new mayor and other members of landholding families, who would benefit less from this project and might even lose economic privileges and political power that they had received from the CEP. Nevertheless, I showed in the ethnographic chapters of this thesis that those that benefitted most from the CEP are also often those that were exploited the most. Mamie Blue received social status and a new sexual identity from the CEP but was also sexually exploited by French military men. Members of landholding families were expropriated of their ancestors' land. Three decades later, some of them were given the privileged access to this formerly colonized land.

French Polynesia's colonial, pre-CEP history tells us that Hao has been on the margins of the French empire throughout the modern age. As seen in Chapter 3, the Tuamotu islands, including Hao, were subordinated to the Pomare Kingdom of Tahiti and later to the French colony. With the arrival of the French nuclear weapons testing program in the Pacific in the latter part of the 20th century, Hao became the center of economic and geopolitical relations on both regional and global levels. The CEP program added an unprecedented dimension to Hao's position in the economic life of the Tuamotu archipelago and to the quality of Hao's regional relationality by turning the island into a military and economic hub. It became a cultural entity with a special CEP-linked identity and a *raison d'être* in the wider sea of Polynesian islands. CEP Hao seemed to be an exception from colonial subjugation: It became an important place to be in French Polynesia, a place where everybody – the French military personnel, the local landholding families, and the

Polynesian people having recently moved to Hao – seemed to be equal and well-integrated in the local community.

Nevertheless, CEP Hao was still also a colonially overdetermined place. This thesis offered an ethnographic account of the precarious nature of life after nuclear weapons testing in the Pacific where traces of decades-long colonial exploitation, imperial dependence, and environmental pollution reverberate in the present. In Chapter 2, I pointed out how sexual colonial exploitation and gendered power imbalances of the CEP period has led to the internalization of colonial understandings of femininity, masculinity, and sexuality. As seen in Chapter 3, the CEP expropriated indigenous people of their ancestral land. I discussed how the remaining CEP buildings fueled social tensions among the people in this deeply individualized local community after the CEP closed because of envy over the CEP's irregular distribution of collectively owned land. I also examined how post-CEP generations have to fight for formal acknowledgement of their rights to use and live on their ancestors' land that had been leased or sold to the CEP. I showed how the CEP's use of the Hao atoll as its dumpsite for nuclear and para-nuclear waste created residual radiation and military waste that still determines contemporary mainstream society's nuclear narrative about Hao as a polluted, lost island.

I also demonstrated that this uneven, exploitative nature of the military presence was camouflaged through the seemingly equal relationship between the French military and the Polynesian CEP workers and the transformation of the Hao atoll into a socio-economic hub in the Tuamotu archipelago and beyond. Hao's relationality with France and its positionality within French Polynesia distracted the local residents from 'seeing' the colonial dimension of it.

Second, the camouflage of nuclear colonialism showed that nostalgia is not singular but fragmented. On Hao, there exists an active remembering of the positive aspects of the CEP period, including *les bringues* at Mamie Blue's bar, the abundance of sharing and obligation-free gift giving, and economic wellbeing. But there also exists an active forgetting about the colonial cruelties such as sexual exploitation, land expropriation, environmental pollution, and the creation of complete socio-economic dependence. Cynthia Enloe's work on the camouflage of militarized power through the creation of normalcy helped me further analyze what is (made) forgotten of Hao's nuclear past and why and how these omissions have strengthened people's nuclear nostalgia. Enloe's camouflage concept implicitly alludes to the fact that the military's camouflage

of colonialism and militarized power imbalance has led to the ignoring or forgetting of these power imbalances. I expanded on Enloe's work by analyzing how the French military's camouflage work has not only influenced what is forgotten, but also what is remembered of the nuclear colonial past. Nuclear nostalgia, I argued, is conditioned by the camouflage work of the French military.

In this thesis, I demonstrated that camouflage takes different forms and entails different kinds of nostalgias. Mamie Blue and her identity as *raerae* personifies the French military's camouflaging of their sexualized power relations with the Polynesian people through *les bringues* (parties) and sexual colonial desire. The CEP made Mamie Blue feel sexually and socially empowered, which seems ironic considering the colonial rootedness of the gender and sexual identity of the *raerae*. I also showed that the French camouflaged its exploitative relations with the landholding families by giving the Polynesian population on Hao land use rights, housing, and other obligation-free "gifts of modernity." This camouflage work caused the CEP to be remembered on Hao not as a colonial superpower that was exploiting the local population and dropping nuclear bombs a few hundred kilometers south from Hao. For many people of Hao that I talked to, the CEP was dropping *Papa Noël* and Christmas presents instead. Ironically, the CEP is also remembered as Hao's protector from outside dangers, including cyclones and new, possibly radiation-induced illnesses.

What the different forms of camouflage all have in common is that they led to a new, CEP-related sense of normalcy and a new CEP-linked communal identity on Hao that further cultivates nuclear nostalgia. The CEP introduced new sexual identities, new infrastructures, and a new CEP-linked communal identity. It created this new, highly relational place that was not just culturally authentic in the very modern, French way. It seems to have also facilitated traditional Pa'umotu life, including the easing of social tensions and politics attached to reciprocity. The CEP is glorified especially by the occupants of the former CEP houses as having let them live a unique, "authentic" Pa'umotu and simultaneously French, modern life free of any obligating reciprocity and socio-economic tensions. Nuclear colonialism was presented by the French military to the "children of the CEP" as the gate to freedom, wellbeing, prosperity, and centrality. The fact that the nuclear testing program is perceived as having an identity- or culture-endowing force and is remembered

today by Hao's residents as having done nothing wrong is the true tragedy of the (post)nuclear age.

To some extent, nostalgia on Hao today still maintains the CEP's camouflage work and still represses thoughts of colonial exploitation. For Mamie Blue, for example, nostalgia is a means of self-preservation; she either does not recognize or has forgotten about sexual exploitation. The military doctor's house is a symbol of land and housing privileges, which makes it difficult for its occupants to 'see' that their privileges rest on decades of colonial land exploitation. It is evident that nuclear nostalgia is a strategy to preserve Hao's positive nuclearity of the past, which obscures the risks of residual radiation and military waste.

What my analysis of the persistence of the CEP's camouflage work showed is that nostalgia has been strategically appropriated by the residents of Hao. I critically expanded on Enloe's work on the camouflage of normalcy when I argued that camouflage is not just a masking of militarized power imbalances. Even though it has a colonial heritage, camouflage has also an enabling aspect. It works not just against the people of Hao, but also *for* them. It has helped them be something or someone else. Mamie Blue, for example, received a new, empowering identity from the CEP. Chapter 4 highlighted that the camouflage concept brings out nostalgia's capacity of resistance against the Polynesian mainstream nuclear narratives. The camouflage of nuclear colonialism helps the Academy of Culture to re-position Hao against the prevailing narratives about French Polynesia's nuclear past. In Chapter 5 we saw that the camouflaging of French nuclear colonialism enables the people of Hao to argue against the Chinese fish farm project and in favor of the return of the French military to Hao.

Nostalgia and the concept of camouflage are related to the general narrative about nuclear justice and nuclear cover-up. Yet, both nostalgia and camouflage also allow for a more nuanced, decolonial approach to the study of the nuclear aftermath. Camouflage helped me talk more diversely about nostalgia for the nuclear age, even if this does not fit the western compensatory logic that is commonly applied in nuclear humanities. In short, the camouflage concept helped me take nuclear nostalgia of the residents of Hao seriously, but also still criticize it.

The analysis of the impact of the camouflage work of the French military on the nuclear nostalgia of the Polynesian population underscores my analytical approach to nostalgia as a relational phenomenon, which is my third contribution to the study of nostalgia. I analyzed how

nuclear nostalgia on Hao is conditioned through the relationality of the island residents not just with the French military but also among themselves and with other Polynesian islands.

Different groups of people long for different relationalities: Chapter 2 analyzed how Mamie Blue sees the trade of her sexual subjectivity for social status as a fair exchange and still longs for French military lovers. Mamie Blue and other children of the CEP, including the generation of Polynesians who moved with their families to Hao to work for the CEP, are nostalgic for the time when everyone – both descendants of landholding families and newly arrived CEP workers – felt empowered and like true Hao locals because of their free access to land, salaried employment, boisterous parties, and the new "modern" (French) lifestyle. As seen in Chapter 3, the CEP program and its promotion of salaried employment gave the Polynesian CEP workers financial freedom, which enabled an abundance of food sharing by means of regular invitations to shared meals. This was experienced, especially by landholding families, as reinforcing kinship ties, social cohesion, and communal solidarity. The occupants of the architectural relics of CEP times long for their relationality with modern, French things and their former access to infrastructural development, including the free use of leisure facilities, electricity, and tap water. As discussed in Chapter 5, the relationship with the CEP as a strong, political leadership figure and main employer of Hao's golden age continues to influence small entrepreneurs' and unemployed islanders' visions for Hao's future development.

To better understand the empowering aspect of nuclear nostalgia, one must not only examine the relationality between Hao and mainland France or the French military, but also the relationality between Hao and the main island of Tahiti (home to 70 percent of the Polynesian population and seat of the territorial government). I demonstrated that nuclear nostalgia is not just a naïve embrace of nuclear colonialism, it is a means of the local community to (re-)position itself against the Polynesian mainstream narrative about Hao as a radioactive island and its population as victims of the CEP program. Nuclear nostalgia is structured by regional relationality and it both shapes and is shaped by local counter-narratives to mainstream nuclear narratives.

Nuclear nostalgia is not just a means by which to remember the heroic (hi)story of Hao's role in France's pursuit of global nuclear domination. It also illustrates what aspects of the CEP program that people on Hao experienced were the most violent act of the French nuclear testing program. According to most of the Polynesian residents who spoke with me on Hao, the true

crime of the French military was not decades-long exploitation and exposure of their home island to radiation from nearby atmospheric tests. It was the sudden departure of the military that Hao's residents think caused the greatest harm.

This thesis demonstrated that the nuclear testing era is not just remembered with resentment on the Hao atoll. Despite the colonial atrocities, such as nuclear pollution, land exploitation, and socio-economic dependence, the nuclear past is remembered primarily through nostalgia, which continues to inform both the post-CEP present on Hao and its future.

Fourth, I argued that nostalgia has a temporal component, because it influences people's understanding of the past, present, and future. Nostalgia is about both remembering and forgetting the past, but – as shown in Chapter 4 – it is also about a community's strategic positioning in the present. I addressed the proposed Chinese fish farm project and the recent return of the French RSMA to Hao in Chapter 5 to highlight that nostalgia does not just turn towards the past and present, it also turns toward the future. In other words, nuclear nostalgia informs future island development: it informs the hope for the return of the idealized nuclear past in the near future in form of a CEP-like development project. Future empires re-transform post-nuclear or post-military islands into new hubs on the ruins of former nuclear empires. Roughly 26 years after the end of French nuclear weapons testing in the South Pacific, Hao is on the periphery of French Polynesia, while also remaining entangled in imperial relationships with both France and China.

Nevertheless, the local community wants to change its (post)nuclear marginality by reclaiming agency, for example, by prompting the French military to clean up their lands contaminated by heavy metals and other pollutants and insisting that the future Chinese project can only be established in their lagoon if it does not cause any severe ecological damage to the marine environment.

Fifth, I showed the material component of nostalgia. The fish farm project highlights the material component of nuclear nostalgia on Hao because it entails the hope of local entrepreneurs and job-seeking islanders that the fish farm will bring back bygone times of progress and economic development. The material component of nuclear nostalgia was expressed throughout the thesis; it is manifested in the preserving and cherishing of material remains of the nuclear past. Mamie Blue proudly showed me her well-kept souvenirs from the CEP era, such as old photographs of her

French military lovers and the legionnaire's cap. The nuclear nostalgia of other Hao residents, such as the members of the *Académie Culturelle*, is materially manifested in The Memory Room, with its many photographs and other material relics of the nuclear past (such as the military uniform of a French veteran). As seen in Chapter 3, the new residents of the former house of the military doctor and other CEP buildings express nostalgia for the CEP age simply by re-inhabiting these decaying houses.

These and other material legacies of the CEP period are not perceived as toxic ruins or residual waste, but as the last "authentic" souvenirs, as "gifts" of the CEP. They are material cultural heritage of Hao's golden age that are worth collecting and preserving. They help members of Hao's older CEP generation cope with the challenges of the dreary post-CEP present, such as land disputes and the Polynesian mainstream narrative about Hao as a radioactive atoll.

Such souvenirs and remains remind of and invoke the original "gift" of the CEP. In 1966, at the dawn of French nuclear testing in the Pacific, French President Charles de Gaulle, in a speech on Tahiti, presented the nuclear bomb as a "gift" to the Polynesian population and thanked the Polynesians for assisting France's rise to global nuclear power. During his speech, de Gaulle proudly informed the local government and civil society that they had the unique opportunity to contribute to the testing of French nuclear weapons and, thus, to the re-instalment of the radiance of France that was lost in World War II. In return, they would benefit from socio-economic development. Almost 60 years later, the "gift" of de Gaulle has mutated into a problematic aftermath characterized by residual pollution, sexualized power relations, and land disputes. Yet, this gift also continues to radiate in the form of nuclear nostalgia about the past and for the future.

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