

The Cage and the Chain: Materializing a Boom in Postwar Japan's Pearl Country

Postwar Japan's coastlines became host to an unprecedented boom.

Entrepreneurs--some of them highly capitalized with hundreds of employees, many more of them short on cash and family-run, almost all of them male--rushed to try their hands at one or more of the tasks of surgically manipulating, rearing, buying, contract farming, and guarding pearl-bearing *akoyagai* shellfish. Markets grew for a far-flung trade in "mother oysters" (*bogai*), the gendered term with which people in Japan had described the productive financial potential of living *akoyagai* (and other bivalve varieties) since at least the late nineteenth century. Into a mother oyster's soft body would be implanted at least one, and often two or more, spheres cut from the thick shells of clams gathered by Americans living along the rural tributaries of the Mississippi River. Placed next to each sphere would be a piece of shell-secreting mantle tissue, cut from a freshly killed pearl oyster and inserted into a living one. By the mid-1960s, more than four hundred million nucleated mother oysters circulated annually along the shores of twenty-three out of postwar Japan's forty-six prefectures.¹

Of interest here is the political calcification of power relations in artifacts designed to facilitate and showcase the biological calcification of pearls. This essay is an attempt to look afresh at two material systems that were at the heart of the postwar pearl boom: chains of pearls and cages of living mother oysters. The ordering of different-sized pearls along a thread came to be seen as a problem of industrial coordination. But the stringing

¹ Okinawa, the forty-seventh prefecture, reverted to Japanese sovereignty in 1972 under a treaty signed with the United States government.

of what eventually amounted to millions of chains of pearls itself depended upon the dispersed management of hundreds of millions of living pearl oysters among thousands of pearl oyster raisers and pearl cultivators in dozens of bays. It was a problem that extended back into the sea, in ways that shaped rural communities across western Japan. The submersible metal cage was the building block for the expansion of a new geography based on sustained relationships with saltwater livestock. The floating raft and tethered cage turned into visible markers of cultivated waters. They, in turn, became objects of state regulation. Throughout the boom, the cage did not exist without the chain, and vice versa.

The pearl boom's origins can be located in the 1940s ruins of the Japanese empire, in places where practices of working with pearl-bearing shellfish had emerged in the late nineteenth century: in and around Nagasaki prefecture's Ōmura Bay and, above all, in southern Mie prefecture's Ago Bay. Ago Bay was at the center of the postwar pearl boom in several senses. Boosters offered up Ago as the scientific, historical, ecological, and economic focal point of Japanese pearl cultivation. From 1956, the bay housed Japan's first nationally-funded pearl research laboratory. Capital, measured both in cash and living *akoyagai* shellfish, moved through Ago and its hinterwaters.

Ago Bay and surrounding inlets in Mie prefecture formed the core of the boom through the 1950s. During that time, coastal communities in Ago and its vicinity became the subjects of extensive village studies. Geographers, ethnographers, and others whom Miriam Kingsberg has begun to call Japan's "human scientists" looked to southern Mie prefecture as a crucible of declining coastal catch and gather fisheries, booming coastal

pearl cultivation, and expanding offshore fisheries.² They linked pearl cultivation to socio-economic transformations brought about both by economic modernization and export dependency. Mie's largest pearl cultivators built bigger houses than fishers; they brought in the first televisions; and they participated in different kinds of economic associations. Yet they and many others also relied more than ever on overseas demand to sustain their new ways of life. By the end of the fifties, Mie prefecture's government had taken dramatic steps to reduce the number of pearl oysters and cultivators in the prefecture. One result was that Mie-based cultivators, along with counterparts in Kobe and Nagasaki, moved themselves and their capital to a new frontier along the coasts of western Japan.

This frontier was a legislative artifact of attempts to reform the livelihoods of some three million Japanese fishers--including a substantial proportion of returnee soldiers--who lived under the American-led occupation of Japan. Amid intense lobbying by entrepreneurs who had traded in living pearl oysters and pearls since at least the 1930s, a group I have termed the "transwar cultivators," the Japanese parliamentary architects of postwar fisheries reforms singled out pearl cultivation as something apart from most fisheries and all other varieties of aquaculture. The redefinition of what it meant to cultivate living shellfish remade parts of postwar Japan's shoreline. Fueled as it was by legal changes that, in the case of pearl oysters, favored individual over collective rights ownership, fisheries reforms resulted in the dismantling of communal fisheries governance over the places where mother oysters could be gathered, moved, or, as the

² Makino Yoshirō, ed., *Shima no gyoson*, (Aichi daigaku sōgō kyōdo kenkyūjo, 1994); Makino Yoshirō, *Shima gyoson no kōzō* (Meicho shuppan, 1996); Matsumoto Michiharu, *Nōson hendō no kenkyū* (Minerva Shobō, 1990), pp. 137-142.

world's largest prewar cultivator Mikimoto Kōkichi phrased it at the turn of the twentieth century, “put to work” (*shigoto ni kakaru*).³

Japanese-language studies of the boomtime, most published between the mid-1950s and the mid-1970s, sit at a historiographical juncture between pearl cultivation's imperial and transnational turns. Well before the postwar boom, pre-1945 “Japanese” pearl cultivation had been regionalized at imperial and subnational scales. At the tail end of the boom, especially from the 1970s onward, Japanese capital and Japanese people skilled in the arts of shellfish manipulation moved to ventures in Australia, Southeast Asia, mainland China, and other shores along the Pacific. In that sense, Japanese observers considered the effects of the *buumu*--a term many began to use in earnest in the 1960s--to be distinctly national in scope. That nationality was in part the product of a specific geopolitical moment, often glossed as Japan's “high growth era” (*kōdo seichōki*). In one sense, the postwar pearl boom was of a piece with a longer, more expansive, and more variegated history of attempts to transform the sea into a frontier of export farming. but it emerged from a late 1940s occupation-era redrawing of postwar Japan's coastlines. A result, unintended but unopposed by the American officials who oversaw but did not draft the first postwar pearl-related regulations, was the creation of Japan's pearl country, a saltwater space of fluid borders which was nevertheless part of a national Japanese economy.⁴

³ Mikimoto Kōkichi, “Shinju monogatari,” *Kokoro no hana* (April 1905), p. 53.

⁴ Derek Hall has suggested that we attend to the *filière*- or chain-specific histories of certain commodities, while also proposing the comparability of terrestrial and saltwater commodity booms. One of Hall's areas of focus, the rapid expansion of shrimp aquaculture from the 1970s onward in Southeast Asia, has dominated recent scholarly assessments of saltwater booms, and rightly so: farmed shrimp is today the world's largest aquacultural export. The history of shrimp aquaculture investment also happens to be part of a rich tradition of studies that chart connections between imperial Japanese territorial and economic expansion and the rise of a post-imperial Japanese consumer culture that spurred the reshaping of spatial and market relations under both national, transnational, and neoliberal terms. Derek Hall, “The International Political Ecology of Industrial Shrimp Aquaculture and Industrial Plantation Forestry in Southeast Asia,” *Journal of Southeast Asian Studies* 34 no. 2 (June

Japan's postwar pearl boom revealed conflicting ideas about industry, growth, and skill. As Jacob Eyferth has pioneered in his study of twentieth century Sichuanese papermakers, it is possible to view the transformation of postwar Japan's pearl oyster-rich coastlines not only in terms of technological change or dislocations engendered by "modernization" writ large, but also as part of local struggles over what counted as skilled work.⁵ From the late 1940s onward, the political valences of skill in Japan's pearl country did not hinge, as in the early years of the contemporaneous People's Republic of China, on policies designed to separate rural from urban space, and agricultural from industrial production. Rather, the political calculus in postwar Japan considered pearl cultivation to be part of "industry" itself. Japan's largest cultivators considered their signal victory to be the integration of coastal frontiers and biota into the national promotion of export manufacturing. "Unskilled" practices of raising pearl oysters were separated legally from "skilled" practices of surgically manipulating them. The latter received a new legal definition as "pearl cultivation" under Japanese fishery reforms, which in turn subjected pearl cultivation and pearl cultivators to differential treatment from the individuals and fisheries association that raised pearl oysters as livestock for sale to cultivators. Postwar reforms treated village-level control of *akoyagai*-rich waters as a detriment to the expansion of pearl cultivation. In the process, mother oysters came to be seen as inputs into a national industry that centered on the export of cultured pearl necklaces.

2003), pp. 251-264. One significant Japanese-language genealogy of such studies can be seen in Tsurumi Yoshiyuki, *Banana to Nihonjin: Firipin nōen to shokutaku no aida* (Iwanami Shoten, 1982); Murai Yoshinori, *Ebi to Nihonjin* (Iwanami Shoten, 1988); and Murai Yoshinori and Tsurumi Yoshiyuki, *Ebi no mukō ni Ajia ga mieru* (Gakuyo Shobo, 1992).

⁵ Jacob Eyferth, *Eating Rice from Bamboo Roots: The Social History of a Community of Handicraft Papermakers in Rural Sichuan, 1920-2000* (Harvard University Asia Center, 2009).

The Post-Controversy “Cultured” Pearl

From the early 1920s through the late 1930s, what we now call a “cultured” pearl was an object of bitterly debated questions about race, nature, and value.⁶ Were “cultured” pearls products of human artifice because they formed as a result of surgical shellfish manipulations? Did it matter that those manipulations were performed only by Japanese hands? Or should “cultured” pearls from Japan instead receive the same commercial treatment as other “real” pearls--now often known as “natural” but at the time generally referred to as “orientals”--because both formed inside a living creature? Dueling propositions about “cultured” pearls invited conflict along the inter-imperial paths that brought “orientals”--gathered along the coasts of the Gulf of Mannar between Ceylon and southern India, Venezuela’s Isla de Margarita (the “Island of Pearls”), northern and western Australia, French Polynesia, and above all the British sphere of influence in the Persian Gulf--to wholesalers in Bombay, London, and Paris, and then on to New York retailers who, by the 1920s, were turning Wall Street cash into Fifth Avenue pearls. Judging the role of human agency in the production of a “cultured” pearl consumed years of wrangling over pearl and precious stone nomenclature. It resulted, first in France and soon thereafter in the interwar “oriental” pearl world in which Paris wholesalers operated, in the legal fixing of artificial, natural, and cultured pearl markets, enforced by the machine-mediated testing of pearls to ensure that each one remained sorted into a stable category of artifice and origin from shore to shop.

⁶ The material in this section comes from Kjell Ericson, “Nature’s Helper: Mikimoto Kōkichi and the Place of Cultivation in the Twentieth Century’s Pearl Empires,” PhD (Princeton University, 2015).

The post-1945 world looked very different for everyone who gathered and traded pearls. The natural/cultured/artificial tripartite distinction remained, as did a growing infrastructure of gemological laboratory testing and certification, but the “cultured” pearl ceased to be an object of controversy. In large part this was due to the reorganization of the Indian Ocean’s pearl economy. Bahrain-centered Persian Gulf networks of “oriental” pearl gathering declined precipitously with the rise of the oil industry as a competitor both for formerly-indentured dive labor and for ocean space. Elsewhere, Bombay’s environs lost its place as the world’s largest destination for pearl drilling and stringing amid post-Partition bans on pearl imports into India.

What remained in the immediate aftermath of war was insatiable American demand for pearls. Evidence of this can be found in a 1949 issue of *Life* magazine, which carried a cover story entitled “Pearls: at any price they are the nation’s no. 1 jewelry.”⁷ Photos of women--all of them white--showed some of the myriad ways that a large swathe of Americans had come to wear the staggering eighty-six million strands of pearls they bought each year, many part of multi-stranded necklaces and the vast majority purchased for two dollars or less. American women had three kinds of pearls to choose from, based on categories forged during the 1920s and 1930s: “artificial,” “cultured,” and “natural.” Yet by the late 1940s, this choice was framed as a purely economic one: pearls could be had, after all, “at any price.” After Japan’s surrender, pearl buying representatives from the United States reappeared in droves. Prices for cultured pearls--increasingly referred to as simply as “pearls”--soared. Into this new order too stepped a loose grouping of Japanese men whom I have called Japan’s transwar cultivators.

⁷ *Life*, 14 November 1949.

The Transwar Cultivators

Until the mid-1930s, patents issued under Japanese industrial property law defined who was (or was not) a pearl cultivator. A pearl cultivator was someone who owned a patent for techniques of manipulating living shellfish, someone who paid to license a patent, or someone who operated without patent protection and under the threat of legal reprisal. The expiration of the first generation of spherical pearl patents ushered in hundreds of new cultivators, most of them based in Mie prefecture, toward the end of the decade. The earlier generation of cultivators, who called themselves “cultivators of large capital” as opposed to the new ranks of “cultivators of small capital,” lobbied the Japanese wartime state to restrict smallholders under a wider military-industrial logic of control policies. The most dramatic wartime policies of cultivator licensing and reduction took effect in 1942, only after Pearl Harbor and the end of trading relationships with buyers in Europe, British India, and the United States. Out of more than 300 cultivators, 106 received authorization to continue cultivating pearls.⁸

In the aftermath of Japan’s defeat, the remnants of the wartime cartel looked back on the 1930s as a failure to control the rise of smallholder pearl cultivators and the (increasingly New York-based) buyers who had sought to purchase inexpensive pearls directly from them. These transwar cultivators formed the nucleus of a postwar bid to reshape Japan’s pearl business. They searched for new ways of governing pearl cultivation outside the realm of patents. They sought national protection against a repeat

⁸ Tange Makoto, *Shinju no sangyōron* (Shinju shinbunsha, 1986).

of domestic competition and foreign buyer control. Yet they also saw in the postwar world new opportunities both to restrict cultivation and to expand it.

Transwar cultivator demands for national protection--from foreign buyers and uncontrolled domestic competitors alike--were based on the idea that Japan had lucked into a near-global postwar monopoly on pearls derived from living shellfish. At a moment when pearl prices were high and Japan appeared as the world's only major supplier of pearls, transwar cultivators turned away from explicit controls. The logic of the pearl necklace served as a guiding principle for the organization of pearl cultivation along national lines.

The Chain

In February 15th, 1952, a transwar cultivator named Miwa Toyoteru came to the Japanese Diet in order to push for legislative approval of what had come to be called the Pearl Culture Industry Law. As he addressed the committee, Miwa presented a back-of-the-envelope calculation of global demand for cultured pearls:

1. There were 1.2 billion women living in the world.
2. One in twenty of those women, a total of 60 million, could afford to buy a cultured pearl necklace.
3. Each year one in a thousand of the women who could afford to might actually buy a necklace.
4. As a result, Japan's yearly production goal should be to export 600,000 necklaces per year.
5. If each necklace were to sell for an average of 20,000 yen, cultured pearls could bring in 120 *oku* (12 billion) yen in export earnings per year.⁹

Miwa argued that a global confluence of regional transformations had left Japan as the world's major remaining source of pearls. Pearl cultivation had the potential, Miwa suggested, to replace Japan's prewar export mainstays of raw silk and green tea, in a

⁹ Dai-jūsan-kai kokkai, Shūgiin, Suisan iinkai dai-jū-gō, 15 February 1952.

postwar world where nylon stockings and “Ceylon tea” posed grave challenges to the pair’s past dominance.¹⁰

At a time when the occupying Americans were buying more necklaces than ever before, Miwa’s invocation of a global rather than an exclusively American market for pearls was deliberate.¹¹ In the years after August 1945, Americans--some working as part of the occupation, many more not--flocked to Japan to acquire strands on the black market, in occupation-directed PX commissaries, and eventually in occupation-ordered auctions. In contrast to booming links with the United States, postwar buyers based in Europe and Asia saw cultured pearls as replacements not for glass or plastic “artificial” pearls, but for a declining trade in “oriental” pearls. Japan’s transwar cultivators wagered that the biggest and best pearls would be necessary in order to convince wholesalers and consumers outside the United States not just to buy cultured pearl necklaces, but to pay a premium for them. As strong as American demand was, Miwa was among the transwar cultivators who sought to restore trading connections to places where cultured pearls had sold in greater quantities than in the United States, namely western Europe and India. They were wary of catering primarily to American tastes for inexpensive “souvenir” necklaces.¹²

The transwar cultivators supported a new piece of legislation, the Pearl Culture Industry Law (*shinju yōshoku jigyōhō*), that moved backwards from finished necklaces into the water. Miwa lobbied for the law in terms of matched string of pearls:

Sixty to seventy percent of pearls are now used for necklaces. In a typical necklace small pearls are used for the ends, but toward the middle medium and large pearls are used. It takes one or two years to finish a small pearl, but three to five years for a medium or large pearl. During all that time [shellfish] must be cultivated in the ocean.¹³

¹⁰ Dai-jūsan-kai kokkai, Shūgiin, Suisan iinkai dai-jū-gō, 15 February 1952.

¹¹ Dai-jūsan-kai kokkai, Shūgiin, Suisan iinkai dai-jū-gō, 15 February 1952.

¹² Dai-jūsan-kai kokkai, Shūgiin, Suisan iinkai dai-jū-gō, 15 February 1952.

¹³ Dai-jūsan-kai kokkai, Shūgiin, Suisan iinkai dai-jū-gō, 15 February 1952.

For saltwater entrepreneurs like Miwa, the size of a pearl was shorthand for time, capital, and demand. People in Japan's postwar pearl country thought of cultivation in terms of chains containing sixty, eighty, or even one hundred pearls. They sorted individual pearls into categories of small, medium, and large. The small pearl was a metonym for smallholder cultivation. Each chain of pearls linked cultivators of all sizes, yet a necklace only had limited room for small pearls. Many small pearls were products of a shellfish's single calendar year spent in the water. These were the "one-years" (*ichinen-age*). Miwa lamented that there were far too many "one-years" and, by association, too many smallholder cultivators. What was demanded overseas, Miwa argued, were the largest pearls, which required the greatest investment in mother oysters and the longest time guarding them post-operatively in the water.¹⁴

In the late 1930s, Miwa became one of many Japanese pearl entrepreneurs who had brought capital to fisheries communities when he started his first pearl farm in the Mie prefecture village of Tategami.¹⁵ Miwa was among the transwar cultivators who looked to the 1930s as a time of crisis for pearl cultivation in Japan, not because of their own expansionism but rather because of the many smallholders who had appeared in Mie prefecture, nowhere more so than in Ago Bay. Smallholders began to sell pearls on consignment to foreign (and above all American) buyers. The prices they eventually received were a fraction of the levels many of the larger and longer standing cultivators received in the 1920s. Transwar cultivators felt that the 1930s crisis had deepened not only as a consequence of excessive cultivation (the forty million or so *akoyagai* shellfish that were nucleated each year at the height of prewar cultivation represented less than

¹⁴ Dai-jūsan-kai kokkai, Shūgiin, Suisan iinkai dai-jū-gō, 15 February 1952.

¹⁵ *Miwa Toyoteru kaikoroku* (Miwa Toyoteru kaikoroku kankōkai, 1960).

one-tenth of postwar boom levels) but also due to smallholder cultivators' lack of liquidity and eagerness to sell pearls at any price.

Proposals for imperial Japanese pearl controls had first appeared amid a wave of commodity regulation schemes in the interwar world. During the 1930s, the largest cultivators in Mie prefecture debated the possibility of setting up an analogue to the De Beers-led Central Selling Organization, which organized auctions of mixed, uncut diamonds in London. They were intrigued by the diamond industry production and sales cartel that had been implemented in the late-nineteenth century (and reorganized, with considerable fanfare, as a response to post-1929 global depression) with the support of the the South African government and the imperial British state.¹⁶

Two decades later, Miwa--who had also been one of Japan's handful of prewar diamond importers--again brought up "diamond policy," not to argue for pearl cultivation restrictions *per se*, but rather to argue to Japan's parliamentary representatives that global demand for pearls could be met only with concerted political support. Transwar cultivators saw outright production restrictions to be unnecessary in a postwar time of rising demand. Miwa, for one, had participated, along with other transwar cultivators, in a massive selloff of wartime pearl stocks in 1950; to Miwa, the auction had served as a test case proving the resilience of high prices even when a glut of pearls went up for sale. Even so, Miwa was at the head of a long line of transwar cultivators who also expressed a desire to maintain what they saw as the pearl's precarious identity as a "gemstone" (*hōseki*), a status they thought had been lost during the 1930s. And nothing defined a gemstone to them more than price stability.¹⁷

¹⁶ For example, a brief discussion of "British Africa's diamond control methods" appears in an article on pearl control policy in *Ise Shinbun*, 17 January 1937.

¹⁷ Dai-jūsan-kai kokkai, Shūgiin, Suisan iinkai dai-jū-gō, 15 February 1952.

Appeals for national support rather than national restrictions bore fruit. The Pearl Culture Industry Law went into effect in the spring of 1952. The law prescribed access to national financing in order to ensure that the panicked selling of the late 1930s would not happen again. It served to promote the cultivation of larger pearls in the name of a national export industry, by requiring each prefecture to compile estimates for the planned production of pearls based the size of the nucleating object implanted into living shellfish. This tactic ensured that some pearl oysters would be shunted away from smallholders toward large-pearl cultivators. At the same time, it authorized the use of targeted subsidies to promote the expansion of mother oyster raising.¹⁸

Critics of the proposed law denounced its authoritarian origins; arguments in the law's favor appeared to invoke 1930s wartime control policies as an ideal. From a different direction, some transwar cultivators welcomed the prospect of cultivation controls but lamented that the law as written did not in fact do anything to restrict newcomer cultivators.¹⁹ Indeed, this was the fundamental inconsistency of the law. Like other elements of postwar Japan's industrial export policy, pearl culture industry law had links to wartime controls, but unfolded amid new postwar opportunities for expansion. Growthism was far from a hidden drawback of the new law; it was instead one of its key features.

From the early 1950s onward, chains of cultured pearls were objects which manifested renewed backing for cultivators of the largest pearls that clustered in the middle. Transwar cultivators portrayed the Pearl Culture Industry Law as the promotion of a national industry that would allow for the increased production of pearl necklaces at stable prices. But the law revealed contradictory impulses toward cultivation. It did not

¹⁸ Nihon shinju yushutsu kumiai, *Shinju no ayumi* (Kobe, 1964).

¹⁹ Dai-jūsan-kai kokkai, Shūgiin, Suisan iinkai dai-jū-gō, 15 February 1952.

explicitly restrict smallholder production, yet at the same time it worked on the assumption that the provision of financing and supplies of inexpensive mother oysters should be reserved for cultivating bigger rather than smaller pearls.

Coastal Fisheries

In English-language scholarship, a persistent image of early twentieth century Japanese fisheries is one of overseas expansionism. State subsidized mechanization of Japanese long distance vessels was indeed part of what William Tsutsui has called “pelagic empire.” A rush to gather crabs, croakers, and even southern Pacific varieties of pearl oysters sparked fishing wars throughout the Pacific world.²⁰ Even so, coastlines were (and are) vital to understanding the course of twentieth century Japan's fisheries expansionism.

Japan's 1930s status as the world's largest fishing state rested in large part--seventy-seven percent, to be more precise--on catches in village-controlled nearshore fisheries.²¹ By the 1960s, however, nearshore fisheries had switched places with offshore and distant water fisheries. Japanese policymakers described a “malaise of coastal fisheries,” as boat-based fishers' livelihoods moved farther and farther from land. The postwar decline of catch-and-gather coastal fisheries occurred alongside a massive reorganization of its legal underpinnings. Chief among these changes were the redefinition of village fisheries associations and the restructuring of fisheries rights.

The wellsprings of the pearl boom can be seen in appeals to pearl cultivation as a new path for Japan's domestic coastlines. Such appeals began in earnest from 1948, the

²⁰ William Tsutsui, “The Pelagic Empire: Reconsidering Japanese Expansion,” in *Japan at Nature's Edge: The Environmental Context of a Global Power*, ed. by Ian J. Miller, Julia A. Thomas, and Brett L. Walker (Hawai'i, 2013), pp. 21-38; Micah Muscolino, *Fishing Wars and Environmental Change in Late Imperial and Modern China* (Harvard University Asia Center, 2009).

²¹ *Nōrin suisanshō hyakunenshi: Shōwa sengohen* (1979), p. 575.

start of a war on price inflation that was pushed by the American-led Allied occupation of postwar Japan. At the heart of anti-inflation policy in Japan was a slew of austerity measures. Chief among them was President Truman's Nine Points Stabilization Plan, which crystallized a growing American belief in the need to balance Japan's national budget and promote manufacturing exports. As pearl prices rose, outpacing spiraling domestic inflation, living pearl oyster prices rose even faster. Most cultivators had ceased operations after 1941, but so too had the villages that engaged in larger-scale pearl oyster gathering. Many blamed colder than average waters in southern Mie prefecture for small *akoyagai* catches once postwar gathering resumed around 1947. By 1949, prices had reached up to 2,000 yen per *kan* (3.7 kg), a more than two-thousand-fold increase from the lowest prices of the late 1930s.²² Transwar cultivators began to plan ways to dissociate themselves from the rising costs of doing business with pearl-oyster-gathering village fisheries associations. Rather than paying huge amounts to fisheries associations for mother oysters, some cultivators went into the business of raising their own shellfish from infancy. Making use of practices established among those in the edible oyster trade, Mie prefecture cultivators devised systems for collecting free-swimming *akoyagai* spat and transferring the juvenile oysters to cages for two or three years of rearing.²³

In Japan's pearl country, the bitterest debates over export-led dispossession, village commons, and smallholder production happened not on land but in saltwater. Transwar cultivators targeted the village governance of coastal commons for reform. This was a different tactic from their explicit 1930s interest in the suppression of smallholder cultivators. It is in this context that we can evaluate one transwar cultivator's petition to

²² "Shinju bogai sōba no kōtō," *Ise Shinbun*, June 1949, reprinted in *Mie kenshi gendai 2: sangyō keizai* (Mie ken: Tsu, 1992), p. 208.

²³ Alvin R. Cahn, *Pearl Culture in Japan* (Tokyo: General Headquarters Natural Resources Section, 1949).

the American occupation authorities: “We are of the opinion that we must turn our eyes to the point that the pearl culture business is not a regional fishery restricted only to a certain area or a sea block, but it is rather a special export industry lumped together.”²⁴ Transwar and postwar cultivators together advanced the idea that pearl cultivation was not a fishery in itself, but was rather part of a national necklace industry.

Clause 19

Japan’s revised Fishery Law (*gyogyōhō*) passed in 1949, three years after the new postwar Land Reform Law (*nōchi kaikakuhō*). The Fishery Law’s substantial gestation period encompassed four dramatically revised drafts and several major policy shifts. Whereas the first draft in 1947 gave all rights to fisheries associations in a Soviet-supported plan, an American-backed second draft gutted the power of fisheries associations, authorizing instead only individual fisheries rights holders.²⁵ At the time, American officials looked at the implementation of land reform, with the transfer of land rights from land-rich individuals to land-poor individuals, as a template for fisheries reform. But as Japanese officials (and the budding Japanologist Edward Seidensticker) noted, Americans failed to grasp the extent to which Meiji Japan’s fisheries rights regime had codified “custom” at the level of the village rather than the level of the individual. They had also overlooked the extent to which the most heavily capitalized fisheries operated under ship owners and “net bosses” (*amimoto*) in a realm of licenses that for the most part received

²⁴ K. Takashima, “Petition for setting up pearl cultivation special adjustment committees after revision of the Fishery Law,” in Shellfish (Oysters, Pearls): Fisheries Division (February-December 1949), GHQ SCAP Box 8868, NRS 08206.

²⁵ Makino Mitsutaku, “Sengo gyogyōken seido kaikaku no rippō katei,” *Shakai shisutemu kenkyū* 4 (2001), pp. 61-75.

administrative treatment separate from village fisheries association rights.²⁶ To put it mildly, singling out a “fisheries landlord” as the object of redistributive reform proved to be a complex undertaking.

It was in this situation of flux that Clause 19 of the 1948 third draft of the Fishery Law zeroed in on pearl fisheries for special treatment. The law distinguished between pearl oyster cultivation (*shinjugai yōshoku*), the raising of living shellfish in captivity, from pearl cultivation (*shinju yōshoku*), the surgical manipulation of pearl oysters for the purpose of producing pearls. Clause 19 noted that newly reformed village fisheries associations would have first priority in applying for pearl oyster cultivation rights. However, it specified that “experienced individuals” (*keiken ga aru mono*) would be given preference for pearl cultivation rights over local applicants.²⁷

Debates over the third and fourth drafts of the Fishery Law included substantial debate over the place of pearl cultivation in the postwar order. Diet members struggled to define the scope of pearl cultivation, the only branch of aquacultural rights subject to the “experience” test. Village fisheries association representatives in Mie prefecture vigorously opposed Clause 19. They wanted local communities to be able to rent those rights to pearl cultivators, or to be able to refuse cultivator demands altogether. By contrast, cultivators seized on the rhetoric of land reform to label villages in Mie prefecture as rent-seeking “landlords.” In 1949, the prewar “Pearl King” Mikimoto Kōkichi was first in a list of over two hundred old and new cultivators who signed a statement opposing village control of the waters they hoped to use for pearl cultivation. Village governance was stifling the industry; fishers, moreover, did not have the skills or the

²⁶ Konuma Isamu, *Gyogyō seisaku hyakunen: sono keizaiteki kōsatsu* (Nōbunkyo, 1988); Edward Seidensticker, “Japanese Fisheries Reform: A Case Study,” *Far Eastern Survey* 20 n. 18 (24 October 1951), pp. 185-188.

²⁷ Uraki Shin’ichi, *Shinju no keizaiteki kenkyū*.

capital to cultivate pearls on their own. Without outside Japanese investment and expertise, an export industry would either cease to grow or be taken over by foreign capital.²⁸ Fisheries cooperative association interests in Mie prefecture countered that their members had long labored in skilled roles on pearl cultivation farms.²⁹

Clause 19 survived the third and fourth drafts to become part of Japan's postwar Fishery Law. As such, the law confirmed that the surgical manipulation of pearl oysters as a highly skilled activity available first to those with "experience." Indeed, precisely because Clause 19 made the certification of individual's skill a prerequisite for pearl cultivation applications, "experience" itself became a commodity that could be offered to those who hoped to join the boom. In Mie and neighboring Wakayama prefecture, some made group applications under an "experienced" cultivator's name.³⁰

From early 1950 onward, the Fishery Law invalidated all existing village fisheries association rights. The Japanese state implemented a nationwide compensation system to pay villages for the rights losses; most of the compensation payments in and around Ago Bay were earmarked for revoked pearl cultivation rights.³¹ Newly-labeled "fisheries cooperative associations" (*gyogyō kyōdō kumiai*) acted as sales intermediaries for member fishers. Yet the new associations controlled a more circumscribed basket of rights--unlike the early twentieth century fisheries regime, rights issued after 1950 could no longer be legally sold, leased, or used as loan collateral. Crucially for people in southern Mie prefecture, fisheries reforms redefined the distinction between pearl oyster cultivation and pearl cultivation in terms of skill. A key outcome of new law, and specifically of Clause 19, was that spaces that had supported pearl cultivation in the past,

²⁸ Nihon shinju yushutsu kumiai, *Shinju no ayumi* (Kobe, 1964), pp. 190-193.

²⁹ (Cite)

³⁰ Uraki Shin'ichi, *Shinju no keizaiteki kenkyū*.

³¹ *Gyoren jihō*, 1 April 1952, reprinted in *Mie kenshi gendai 2: sangyō keizai* (Mie ken: Tsu, 1992), p. 208.

and other waters that seemed amenable to cultivation in the future, were removed from direct village oversight and placed under the authority of the prefectural governor to issue pearl cultivation rights.

Village Laws and National Laws

The changing economic geography of rural Japan's coastlines and the local implications of the Fishery Law's Clause 19 brought cultivators and fishers--sometimes within the same village--into conflict. Such was the case in the Ago Bay village of Hamajima.

More shellfish from Hamajima had reached the mother oyster markets of early twentieth century Japan than from any other single village. Hamajima and other fisheries associations in Ago Bay began to lease rights to use village waters to Mikimoto Kōkichi and other pearl cultivators from the early 1900s onward. After 1903, however, Hamajima ceased to allow cultivators into the village. Instead, its leaders pursued the gathering of living mother oysters that nearby Ago Bay cultivators demanded. Pearl oyster gathering began as a sideline to other catch-and-gather fisheries; bonito and other finfish catchers opposed the expansion of cultivation infrastructure, above all the rafts and cages that impeded boat navigation and net dragging. A compromise solution was for the fisheries association to mobilize divers from inside and outside the village for a few days each year.

³²

Mother oyster gathering had already come to account for twenty percent of the village's fisheries revenues by 1916.³³ Living shellfish structured community membership in Hamajima as nowhere else in Japan. A portion of the proceeds from

³² Hamajima gyogyō kyōdō kumiai, *Hamajima gyogyō kyōdō kumiai no ayumi* (Hamajima, 1991).

³³ Makino Yoshirō, "Shinju yōshoku no seiritsu/tenkai to gyogyō kumiai," in *Shima no gyoson*, ed. by Makino Yoshirō (Aichi daigaku sōgō kyōdo kenkyūjo, 1994), p. 288.

turn-of-the-century mother oyster sales had first gone to village leaders, later to members of the Hamajima fisheries association. By the mid-1920s, when Hamajima's leaders stopped making exclusive contracts with individual cultivators and instead began to auction mother oysters to the highest bidder, the distribution of mushrooming shellfish profits had restructured village membership.³⁴

In 1927, the growth of the mother-oyster economy prompted the writing of new rules for determining who was a true Hamajima-ite. All “native residents” (*dochaku no jūmin*) of Hamajima, rather than fishers and gatherers, began to receive shares of the windfall. Village leaders refashioned native resident category of hometown indigeneity according to a sliding scale of kinship. If the head of an existing household could receive a full share immediately, younger heads of branch households had to wait ten years, with ten percent of a full share added each year, before becoming a full pearl oyster shareholder. A hypothetical couple who both immigrated to Hamajima from somewhere outside the village would have to wait forty years.³⁵

Hamajima did not see an easy transition to the new fisheries order of the 1950s. Soon after the passage of the new Fishery Law, forty-three Hamajima residents petitioned Mie prefecture for individual pearl cultivation rights in the village's waters. Hamajima fisheries association members (and others still in line for village residency status) stridently opposed them. The would-be pearl cultivators in Hamajima did not come from fishing backgrounds. They brought merchant capital to cultivation ventures from bonito processing and other commercial activities. For their part, other fisheries association members refused to patronize the cultivator-owned businesses in town.³⁶

³⁴ Hamajima gyogyō kyōdō kumiai, *Hamajima gyogyō kyōdō kumiai no ayumi* (Hamajima, 1991).

³⁵ Makino Yoshirō, “Shinju yōshoku no seiritsu/tenkai to gyogyō kumiai,” in *Shima no gyoson*, ed. by Makino Yoshirō (Aichi daigaku sōgō kyōdo kenkyūjo, 1994).

³⁶ Makino Yoshirō, “Shinju yōshoku no seiritsu/tenkai to gyogyō kumiai.”

Mie newspapers closely followed Hamajima's intravillage dispute during the first years of the 1950s. So too did Mie prefecture police. In the summer of 1952, the police reported that Hamajima village fisheries association members had tried to ensure that cultivators would not be a part of the village's mother oyster gathering: fisheries association members boarded motorboats in order to scatter nearly five hundred pounds of mother oysters. Fisheries association members claimed that the shellfish had been illegally appropriated by the village's cultivator faction.³⁷

The new Fishery Law divided Hamajima. As one anti-cultivation villager put it, "Just as each nation has national laws that are essential to the nation, each village has village laws that are essential to the village. If a national law is a bad law, it cannot win out over village law. This Fishery Law is a bad law that ignores the village situation."³⁸

Even so, breakdowns in Hamajima's "village law" could be seen by 1954 with the end of a nearly half-century-old tradition of communal pearl oyster gathering. Hamajima's waters soon housed rafts and cages brought in by thirty-four approved pearl cultivators and, not long thereafter, by fisheries association members who began to cage and raise mother oysters of their own.³⁹

The Cage

The cage entered early twentieth century Japanese practices of pearl cultivation as a way to protect mother oysters as long-term livestock. It was a living space designed to be permeable to saltwater (and the tiny algae, a mother oyster's primary food source, that

³⁷ "Shinju kaiku mondai (shō) Shōwa 26-30," volume 438, located in Mie kenshi hensanban, Tsu, Mie Prefecture.

³⁸ Makino Yoshirō, "Shinju yōshoku no seiritsu/tenkai to gyogyō kumiai," in *Shima no gyoson*, ed. by Makino Yoshirō (Aichi daigaku sōgō kyōdo kenkyūjo, 1994), p. 287.

³⁹ Makino Yoshirō, "Shinju yōshoku no seiritsu/tenkai to gyogyō kumiai."

floated in it) while remaining impassible to larger creatures like the starfish and the octopus. Cages took multiple forms, but a popular technique was to tether them to floating rafts made from wood (often *hinoki* cypress) lashed to empty oil barrels. Raft-and-cage cultivation could be managed without ever going in the water. It reduced the role of female *ama* breath divers, who had begun to work as wage labor on pearl farms and participate in village mother oyster gathering from the late nineteenth century onward. Cages raised shellfish from the seafloor toward the surface and, when carried or towed by boat, made sedentary shellfish mobile.

Pearl country was a world of livestock and the entrepreneurs who bought and sold them as mother oysters. In one sense, the boom in pearl country was hard to see. It took place largely underwater, between closed bivalve shells that only appeared above the surface of the water for a few hours a year (most often during biannual cleanings). Yet the boom's traces were also in plain sight. Networks of rafts mushroomed along the coasts of western Japan. By the late 1960s as many as 216,000 rafts, upwards of two million cages, and close to half a billion pearl oysters formed the infrastructure of Japan's pearl country.⁴⁰

High-modernist ideals underlaid the prewar aesthetics of raft-and-cage pearl cultivation. In the 1920s and 1930s, rafts and cages represented a vision of an industrial future in the sea. Nowhere was this more so than in prewar Japan's largest pearl farms, which had been operated by Mikimoto Kōkichi in southern Mie prefecture's Ago and Gokasho bays. As one visiting American reporter put it in the early 1930s, "Dearborn, Mich., has been completely Fordified; Gokasho Bay, Japan, has been thoroughly Mikimotoed."⁴¹ The (clearly) Fordist resonance of massive pearl farming changed with

⁴⁰ Oguri Hiroshi, *Tōyō no hōseki: shinju* (Tamagawa daigaku shuppanbu, 1976), p. 165.

⁴¹ Henry Albert Phillips, "A Pearl Farm in Japan," *The Baltimore Sun*, 24 January 1932.

the expiration of Japan's first generation of spherical pearl patents in the mid-1930s. By the middle of the 1950s, as more and more cultivators tried to raise and manipulate shellfish outside the realm of industrial property, it became possible to see the raft and the cage as a menace.

Clause 19 of the Fisheries Law separated pearl cultivation from mother oyster raising, but the cage linked both together in the water. The number of pearl cultivators and mother oyster raisers, along with the numbers of rafts and cages, exploded in Mie prefecture. A national baseline of 106 transwar cultivators in 1945 had grown to 750 (701 of them in Mie) by 1951 and 3,001 (2,426 in Mie) by 1958. The floating infrastructure of pearl cultivation peppered the surface of Mie prefecture's most heavily farmed inlets. In Ago Bay, twenty-five rafts dotted every American-football-field-sized plot of demarcated cultivation waters by 1957.⁴² In some areas the density was even greater. By the mid-1950s prefectural fisheries officials, larger cultivators, and pearl necklace exporters had begun to diagnose the situation in Mie with a single word: "overcultivation" (*misshoku* 密殖).

The overcultivation of pearls was a problem of excessive density, of too many shellfish packed into too many cages and suspended from too many rafts. In the realm of forestry, one solution to botanical overcultivation (*misshoku* 密植, a variant of the term used in pearl culture) was to thin out densely saplings to allow more room for each remaining plant to obtain nutrients from the soil and grow. Mie prefecture's fisheries officials thought about pearl cultivation along a similar line.⁴³

What resulted was a concerted policy of decultivation. In pearl country, the raft-and-cage system, rather than the individual *akoyagai* shellfish (or the individual tree), became the practical unit for state restriction of overcultivation in the water. Mie

⁴² Uraki Shin'ichi, *Shinju no keizaiteki kenkyū* (Tokyo Daigaku Shuppankai, 1970), p. 274.

⁴³ Uraki Shin'ichi, *Shinju no keizaiteki kenkyū*.

became the first prefecture in Japan to order the registration of every raft in the prefecture in 1957. All cultivators in the prefecture, both those who raised mother oysters as part of a village fisheries cooperative association and those who operated on shellfish to induce pearl formation outside of village fisheries governance, had to pay a yearly fee for every raft they used.⁴⁴

Raft registration had several important effects. Restrictions did indeed indeed reduce the number of rafts in parts of Mie Prefecture. In Ago Bay the nearly 90,000 rafts in 1957 fell to just under 65,000 in 1960.⁴⁵ But the registration requirement hit thousands of smallholder cultivators, many working with a handful of rafts at most. Coastal patrols for unlicensed rafts resulted in tense and at times violent conflicts between small cultivators and government fisheries officials, as well as the competing cultivators who at times served as state informants.⁴⁶

Mie's restriction policy propelled a new wave of pearl culture outmigration from Mie prefecture to other parts of western Japan. Several hundred "experienced" Mie cultivators were in position to move outside the prefecture, to places where Clause 19 of the Fishery Law ensured that they would be first in line for pearl cultivation rights. This did not mean that fishing communities were powerless against newcomers. Although fisheries cooperative associations lost the ability to lease (or not lease) rights to incoming cultivators under Japan's postwar fisheries order, they were in a position to prevent demarcated cultivation areas from being established in the first place. One tactic was to appeal to the fisheries adjustment committee that devoting ocean space to rafts and

⁴⁴ Oguri Hiroshi, *Nihon no shinju: sono yūbokuteki yōshoku no shokeitai* (Kokon shoin, 1968).

⁴⁵ Oguri Hiroshi, *Nihon no shinju: sono yūbokuteki yōshoku no shokeitai* (Kokon shoin, 1968), p. 43.

⁴⁶ See, for example, "Gyogyōken kakutoku e dōmei: ken no mutōroku ikada torishimari ni shōgyōsha ga tsuyoku hantai," *Chūbu Nihon Shinbun*, an undated newspaper article held in the Mie kenshi hensanban, Tsu, Mie.

cages would result in significant income losses due to displacement from coastal catch-and-gather fisheries. Indeed, one representative argued that pearl culture grounds were by no means more lucrative than other fisheries in a given area. As a result, cultivators tended to move to places where locals did not actively object to their presence. They found resistance in northern Kyūshū, for example, where line and net fishers retained influence than other western coasts. Yet some communities responded more like Shikoku's Tokushima prefecture, where a fisher described to one researcher how he and others welcomed Mie cultivators:

We don't know anything about the details of things like pearl nucleation techniques, nor do we know whether or not the ocean is suitable for pearls. But with the decline in coastal fisheries here it has become impossible to make a living, so something had to be done...If people from Mie prefecture who arrive to make pearls get good results, we would first want to get involved through the fisheries cooperative association. After that, individual fishers could try to raise mother oysters. We are relying on people from Mie prefecture to test out cultivation in advance.⁴⁷

During the early 1960s, the boom spread to places where “inexperienced” locals could not apply for pearl cultivation rights on their own. Bigger cultivators began to move outside Mie in earnest; they focused on the Pacific side of Shikoku, particularly Ehime prefecture. New forms of contract pearl farming appeared as well. Some Mie cultivators specialized in supplying smallholders outside the prefecture with *azukarigai* “contract oysters,” bringing surgically nucleated Mie oysters to farmers who either bought the shellfish outright or who raised them on behalf of Mie capitalists.⁴⁸ And wherever mother oysters went, they went inside cages.

⁴⁷ Oguri Hiroshi, *Tōyō no hōseki: shinju* (Tamagawa daigaku shuppanbu, 1976), pp. 95-96.

⁴⁸ Uraki, *Shinju no keizaiteki kenkyū*, p. 292.

Conclusion

A single strand of pearls is more than an item of adornment. In postwar Japan, the pearl necklace concretized plans for the coordination of production across time and space. Chains of pearls fixed in place the objects that came out of mother oysters, according to a hierarchy of export promotion that earmarked the cultivators of larger pearls for preferential treatment. Cages confined pearl-bearing shellfish and made them governable, but also facilitated the movement of shellfish livestock to the edges of Japan's pearl country.

Pearl cultivation boomed alongside the legal and material refashioning of village fisheries and international trade linkages. Its bust left a widely dispersed but less densely covered geography of pearl cultivation. Mie cultivators were among the first to expand with the boom but also the first to pull back as foreign buyers began to stop placing new pearl necklaces orders in the mid-1960s. After 1968, the total number of rafts in Japan fell to two-thirds of the peak level. Those that remained covered just one-third the previous spatial extent.⁴⁹ In some parts of western Japan, fishers who had tried raising mother oysters went back to net and pole fisheries. Others tried out seaweed, edible oyster, or yellowtail aquaculture, activities that lay outside the test of "experience" reserved for pearl cultivation.⁵⁰

In Japan's reduced 1970s pearl country, Nagasaki and Ehime prefectures emerged as national cultivation centers. Mie retained its historiographical position as Japan's pearl culture birthplace, but the prefecture's declining production levels did not shape the trade as in the past. After close to a quarter-century of work, the 1979 closure of Ago Bay's National Pearl Research Laboratory further signaled the end of attempts to revive the

⁴⁹ Oguri, *Tōyō no hōseki*, p. 165.

⁵⁰ Oguri, *Tōyō no hōseki*.

boom in Mie. Other cultivators and exporters turned from *akoyagai* to “South Seas” and freshwater pearl cultivation. They subsequently began to seek out a theretofore neglected consumer: the Japanese woman.⁵¹

Traces of the pearl boom remain, but they have become a part of western Japan’s coastlines in ways that elide the dislocations that accompany radical spatial reforms--whether on land or sea--in the name of export-driven cultivation. “The Sea and Pearls and Terraced Fields,” goes the title of a fictionalized account of pearl cultivation written by an Ehime-based author.⁵² The combination evokes a picturesque and static image of contemporary Japan’s pearl country, even as it obscures the processes that caged, enchained, and propelled its boomtime expansion.

⁵¹ Cultivators attempted to link domestic consumption of pearl necklaces to the 1970 Osaka World Expo, for example. Oguri, *Tōyō no hōseki*, p. 170.

⁵² Nakamura Eriko, *Umi to shinju to dandanbatake* (Atorasu shuppan, 2007).