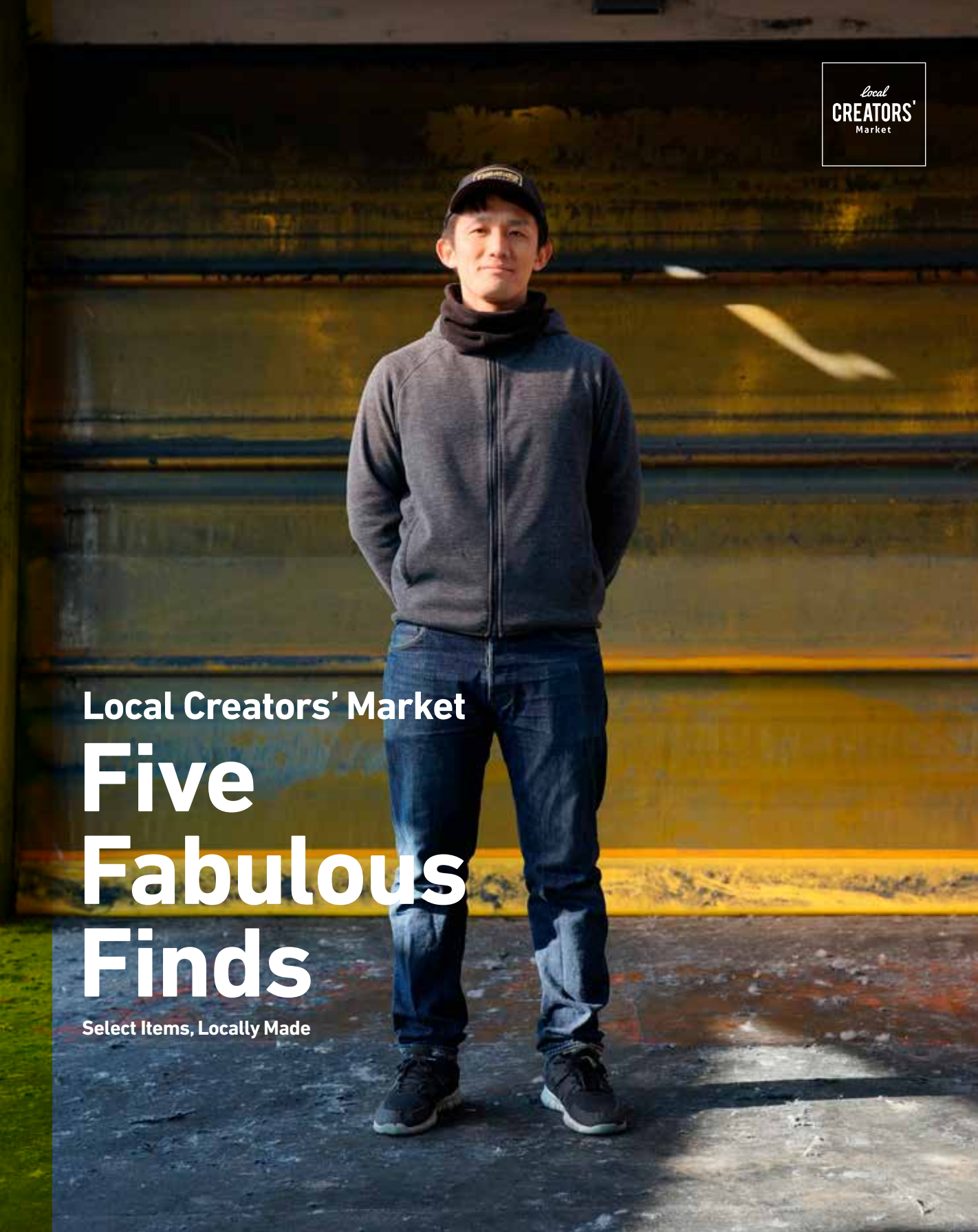


Local Creators' Market

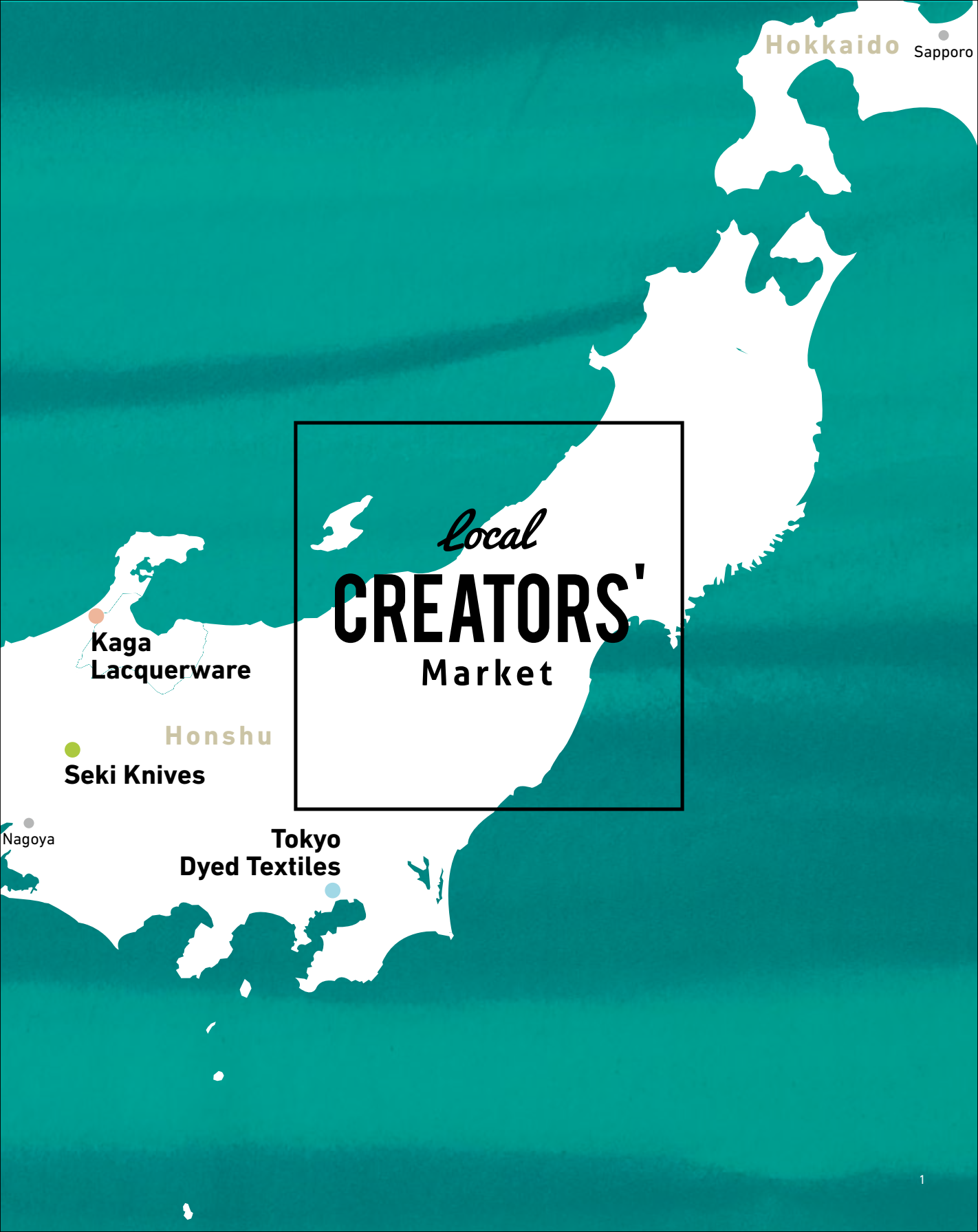
Five Fabulous Finds

Select Items, Locally Made

Local Creators' Market

Five Fabulous Finds

Select Items, Locally Made


Hokkaido
Sapporo
Local
CREATORS'
Market
Kaga
Lacquerware
Honshu
Seki Knives
Nagoya
Tokyo
Dyed Textiles

LCM—What is it?

Local Creators' Market is a project launched by Japan's Ministry of Economy, Trade and Industry (METI) to support traditional industries in their overseas branding efforts. LCM aims to strengthen ties between the localities where craft traditions are upheld, the creators who live there carrying on those skills and know-how, and potential markets for them beyond Japan.

The five municipalities and their products featured here were selected from a careful screening of applications. Each locale is notable for the high level of artistry and creativity carried out within a traditional sphere, as well as the potential of its products to appeal to a wider audience. As part of the METI initiative, each of these five consortia of craftspeople and their local governments will receive support from producers and other marketing experts in effective worldwide promotion of their products and these destinations.

Find out more at **local-creators-market.com.**

LCM Members

Sumida, Tokyo
Sumida City
Tokyo Textile Dyeing and Printing Cooperative
Kawai Dyeing Works Co., Ltd.
Uchida Dyeing Works Co., Ltd.
Kuronuma Dyeing Co., Ltd.

Kaga, Ishikawa
Kaga City
Yamanaka Lacquerware Association Cooperative
Yamanaka Chamber of Commerce and Industry
Mushu Yamazaki (lacquer painter)
Takehito Nakajima (woodturner)

Seki, Gifu
Seki City
Mitsuboshi Cutlery Co., Ltd.
Osamura Metals Co., Ltd.
Fujita Heat Treatment
Yamashin Seisakusho
Hirata Jiken
Kaiseki Suda

Kobe, Hyogo
Hyogo Prefectural Government
Kobe City
J-PEC Kobe
Mizuki Pearl Co., Ltd.
Pearl & Jewelry abill
Ogawa Pearl
Kano Company Ltd.
Kitamura Pearls Co., Ltd.
KDN Hanbai Co., Ltd.
Jewellery Consultant Tasaki
Taiho Pearl Co., Ltd.
Hanai Pearl Co.
Forza SK Inc.
Fukushima Pearl Co., Ltd.
Mikage Trading Co., Ltd.
Mizuki Shoji Co., Ltd.
Yamasei Pearl
La Verite Inc.
Luna Pearl
Gallery 301
Insurance Service, Inc.
H·U Corporation Company
Anada Management Consultant
Banshu Shinkin Bank
Kobe Shinkin Bank

Fukuyama, Hiroshima
Fukuyama City
Shinohara Textile Co., Ltd.
Sanyo Senko Co., Ltd.
Sakamoto Denim Co.,Ltd.

LCM Producers
Satoru Miyake (Hensyusha Inc.)
Nicolas Soergel (Chinriu Honten Ltd.)
Keisuke Otani (KCmitF)
Shinya Kobayashi (Coelacanth Restaurant LLC & Mujun)
Taeko Takigami (Comculture LLC)

LCM Publication Team
Chief Editor	Satoru Miyake (Hensyusha Inc.)
English Editor	Susan Rogers Chikuba
Translators	Deborah Iwabuchi, Susan Murata
Proofreader	Katherine Heins
Photographer	Kenji Takigami
Designer	Moment
Stylist	Tamiho Yokose (pages 16, 23)

Printed by Dai Nippon Printing Co., Ltd.

Local Creators' Market
Five Fabulous Finds
Select Items, Locally Made

The Local Creators' Market project is managed by All About Inc. on behalf of the Ministry of Economy, Trade and Industry and its 2017 initiative to promote regional brands.

Publisher All About, Inc.
1-20-8 Ebisu, Shibuya-ku, Tokyo 150-0013
Tel. +81 (0)3-6362-1258

©2018 All About, Inc.
All rights reserved.
Unauthorized reproduction prohibited.
Printed in Japan.

08

Sumida Textiles

Hand-dyed in Tokyo

Sumida Ward, known to many for the Ryogoku Kokugikan sumo arena, has long prospered as a center of Japan's fabric industry. A mainstay of the trade are the numerous dye shops in the ward, where advances are still being made in dyeing technologies and techniques first developed in the Edo period (1603–1868). While the number of shops is greatly diminished today, Sumida's dyeing industry remains strong, capable of reproducing any color on demand with a speed to match the fast-paced apparel industry and famous brands that it supports. Of note is the recently launched "some-zome" brand, represented by a lively group of artisans within the Tokyo Textile Dyeing and Printing Cooperative who are well on their way to bringing a whole new meaning to Tokyo colors.

Right: Sample color swatches of hand-dyed linen by Kawai Dyeing Works. The firm's original *azumadaki* method for single batches of 100 to 200 meters of fabric yields incredibly soft textures.

Kaga Lacquerware

A new standard from Yamanaka Onsen

A mountainous land dotted with hot springs, Yamanaka in Ishikawa prefecture is a major center of lacquerware production, thanks to woodturners who emigrated to this area 400 years ago. *Makie*, the art of lacquer painting with gold, silver, and other powders, also came to the region in the Edo period, giving rise to the tradition known as Yamanaka Makie. Today there are some 60 turners in the area maintaining the superb skills of their forebears. Their creativity, and that of the lacquer artists, promises many more chapters in this town's formidable history of woodcraft.

16

Tools used for *makie* lacquerware painting. Sixth from the right is a brush made of human hair held between two boards. It is used to spread a thin layer of lacquer evenly. The long thin brushes, which are tipped with rabbit's fur, are used to render fine lines.

Seki Knives

Sharper than sharp

Seki is one of the world's top three centers of knife production, along with Solingen in Germany and Sheffield in the United Kingdom. The city's sword-making history dates back to the Kamakura period (1185–1333), when the samurai warrior class was in ascendancy, and today Seki remains a mecca for sword aficionados from around the world. From the initial forging to grinding and edging, craftsmen here apply skills developed and carried forward over centuries to produce high-quality blades. Cake and bread knives sought after by pâtissiers and chefs from around the world are two notable products we feature here.

24

Right: A single knife blank and the stainless-steel plate from which it was stamped. Relying on their eyes alone, seasoned craftsmen deftly shift the position of the plate to yield as many blades as possible.

Kobe Pearls

Tiny lights of the sea

The shiny luster of Akoya pearls is seen in the oysters' shells as well. The leftmost pearl is shown as harvested while the bottommost displays the light pink blush achieved through careful polishing.

32

Kobe is home to some 200 pearl companies and an international port that dates back to 1868. In the port's early days the city had a foreign settlement and a hall for traders from abroad. Japanese merchants brought Akoya cultured pearls here, and it was not long before pearl traders began flocking to the city, drawn not only by the ease of export but also by the superior luster and color of Akoya pearls and the consummate skills of Kobe polishers. Cultivated in nutrient-rich waters, Akoya are beautiful even upon harvesting, but once they are sorted and processed these iridescent gems shine even brighter. The pearls associated with Japan and loved around the world today, Akoya from Kobe are perfectly poised to set the next fashion trend in fine jewelry.

Fukuyama Denim

Endless design possibilities

Specialists in every step of denim manufacture— spinning, dyeing, weaving, washing—abound in Fukuyama, a leading producer of denim in Japan and a name hailed by denim heads as the epitome of luxury. The area's indigo-dyed yarns and cloth of all types, specialized prints, and wide range of weaving methods never fail to tickle the sensitivities of designers. Not merely beautiful, Fukuyama denim products are also a step ahead environmentally. The locale is a driving force behind the worldwide appeal of Japanese denim.

Light sensors check for broken threads and other irregularities in denim that has been woven on an automatic loom. Final inspection is performed by expert human eyes.

40

Mottled turquoise pattern

Kiriko cut-glass print and gradation dye combination

Hand-Dyed in Tokyo

Local CREATORS' Market

Sumida Textiles, Tokyo

With its network of natural and man-made waterways, Tokyo has been an ideal place for fabric dyeing since the earliest days of the capital. In the Edo era (1603–1868) it was common to see long bolts of kimono fabric rippling in the waters as craftsmen washed the dyed cloth. Although the methods have changed, in modern-day Tokyo the industry remains strong.


Lattice print and gradation dye combination
Three-layer tie-dyed circle motif
Mottled coral dye pattern
Brushed dye pattern
Random spray dye pattern
Blue to orange multicolored gradation

Countless colors on demand

Edo murasaki is a shade of purple with a slight blue tint. Theater aficionados in Japan know it as the color of the cloth wrapped around the head of Sukeroku, the lead character in the popular Kabuki play of the same name. It is one of many hues that can truly be called a traditional Tokyo color. But what colors could possibly characterize the Tokyo of today—a teeming metropolis and cosmopolitan mishmash of fashion that glitters with a vast palette of hues and tints? A number of hand-dyeing shops are striving to recreate that full spectrum, producing colors with remarkable accuracy and speed.

Place an order with a swatch or color chip, and the shop will delve into a formidable databank of colors amassed over the history of the craft to instantly dye your fabric to the exact color of the sample. It's even possible for a client to send undyed fabric and a color sample by courier and receive the dyed cloth on the same day. In Tokyo's concentrated apparel industry, where exhibitions open and close constantly, this is an invaluable service.

In fabric dyeing the mixing and matching of color draws on the three primary colors red, yellow, and blue—except for special cases like emerald green, for example, which is rendered by blending a vivid blue-tinged yellow with turquoise blue. The complexities multiply exponentially from there. Even the same dye will look different when applied to different kinds of fabrics, and apparel makers today often mix fabrics and textures in the same article of clothing. Once a fabric is washed after dyeing, the look of its color changes again. These concerns make colorant blending a complex task indeed, as dyers need to account for subtle changes that occur when the fabric is washed to set the dyes. A neutral gray or beige, in which the three primary colors must be evenly balanced, will turn pink if there is too much red, or appear green if there is too much blue.

And so the mother lode of past data, as well as the artisan's skill in measuring and mixing, is essential to rendering any given color. While some shops, like Uchida Dyeing Works, use computers and spectrophotometers for efficiency measuring and mixing pigments to within 0.0001 percent of a kilogram, in the end the final product depends on the eyes of the people guiding the process. As any dyer will tell you, "We know what to do as soon as we see the color sample."

Hand dyeing also makes it possible to fill small-lot custom orders for 10 to 20 items, a task the larger factories with batteries of dyeing machines are unable to do. Uchida Dyeing Works employs a dozen or so craftsmen, each responsible for five to six dyeing vats that can rotate between orders twice daily. Though small in size, the studio can dye more than 100 different items in a single day.

Buyers in Japan are unforgiving when colors fade before their time—or, worse, bleed—as that is considered low-quality workmanship. With small-batch hand-dyeing of original or one-of-a-kind items, the pressure is especially high to yield exactly the right result. Nevertheless, Sumida's seasoned craftsmen settle into their task matter-of-factly, turning out an endless spectrum of colors.

Above: The seamless gradation of one color blending into another is only possible with hand dyeing.
Left: Computers are used to calculate color blends, drawing from a vast database of combinations amassed over decades.
Below: Just one portion of color samples that cover the full range of hues available.
Photos: Uchida Dyeing Works

Sumida craftsmen show off their own "some-zome" brand T-shirts, designed by Yumika Shiraki and featuring Edo-inspired tie-dye, print, and gradation themes.

A prominent new symbol of the city, Tokyo Skytree is lit up in a shifting kaleidoscope of traditional Edo-period colors.

A trio of hand-dyeing specialists

Perhaps a brief explanation of what is meant by "hand-dyeing" is needed. In the olden days, fabric was dyed over fire in iron vats, the cloth and dye bath churned by hand. While today's factories are equipped with paddle-dyeing machines, the only difference is that the agitation once done by hand is now performed by rotating blades. The overall process, starting with the blending of the pigments, remains very much a hands-on process.

Kawai Dyeing Works uses a proprietary dyeing technique called *azumadaki* that can give soft appeal to even the coarsest of linen fabrics, yielding a look that no machine can match. The adjustments required for different materials and types of weave are far too complex and delicate to be processed by machine; what's more, most continuous dyeing machines are designed for bolts of 500 meters or longer. Kawai's method introduces cloth to the dyeing vats in lengths of 100 to 200 meters, making small-batch orders possible. Dyeing a 1,000-meter bolt of fabric requires the process to be repeated at least five times, but the company has successfully applied this technique to as many as 71 different kinds of fabrics and weaves.

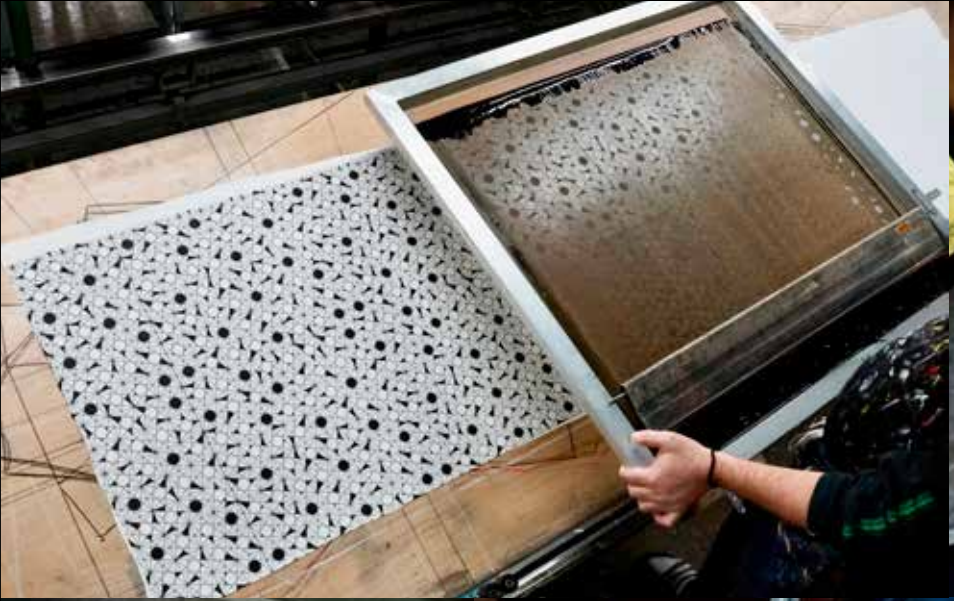
Kuronuma Dyeing receives a steady stream of requests for its silk-screened customized hoodies, T-shirts, and other apparel, turning around nonstop orders for as few as ten to several hundred. Each item is hand-printed, even for designs requiring as many as ten different pigments. The shop is also adept at designs that combine print and dye methods in a single piece of clothing.

Uchida Dyeing Works specializes in gradation dyeing. Batches of 30 to 40 articles at a time are suspended over the dye bath and repeatedly dipped to varying degrees to yield a delicate, seamless effect. At times the articles may even be turned upside-down. It's harder than it sounds—only three dyers in the shop have mastered the technique. The colors flow naturally, one shade blending into the next in a way that no machine can achieve.

These three shops, in collaboration with the Tokyo Textile Dyeing and Printing Cooperative, have united their respective areas of expertise to launch a new Tokyo brand of hand-dyed textiles under the "some-zome" name.

Above: Brush dyeing (blue) and tie-dyeing (black) are brought together in the bold design of this shirt. When colors and textures are combined this way, employing diverse dyeing and washing techniques as well as different dyes and pigments, the possible expressions are limitless.

Opposite page, top left: Silk-screen printing is done by hand, one print at a time. (Kuronuma Dyeing)
Top right: Gradation dyeing is a task for the most experienced. (Uchida Dyeing Works)
Middle left: Even with all the available data, color adjustments are made by an experienced craftsman. (Kuronuma Dyeing)
Middle right: Dye pigments are weighed to an accuracy of three decimal places. (Kawai Dyeing Works)
Bottom left: Each randomly bleached item will have its own unique pattern. (Kuronuma Dyeing)
Bottom right: The paddle-dyeing machine works as an extension of human hands, ensuring even coloration. (Kawai Dyeing Works)



local CREATORS' Market

A New Standard from Yamanaka Onsen

Kaga Lacquerware, Ishikawa

Ensconced in this mountainous hot-spring town, the woodturners and *makie* lacquer artists of Yamanaka Onsen have long pursued perfection.

Opposite page: Fountain pens by *makie* artist Mushu Yamazaki. Multiple coats of lacquer were polished down to portray *karashishi* lions, shells, and other good-luck symbols, turning a writing instrument into a luxury article of understated elegance.
Right: A stylish sake cup of Japanese horse chestnut by woodturner and lacquerware artist Takehito Nakajima. Sake cups are typically tiny, but Nakajima made this one easy to grasp. Its solid foot adds height and stability while the overall shape begs for a festive occasion.

An elegant bowl emerges beneath his hands as Takehito Nakajima works a piece of wood with tools he has made himself. Turners in Yamanaka typically use wood that is cut crosswise against the grain, which results in more durable wares.

A cypress bridge spans the Daijoji River in Yamanaka. The healing waters of this hot-spring area were known to travelers long before the first lodgings were built in the late 12th or early 13th century, and became still more celebrated after Matsuo Basho (1644–1694) lauded them in his classic *The Narrow Road to the Deep North*. In the center of town are Kikunoyu, a refined example of traditional bathhouse architecture, and the Yamanaka-za, a theater decorated with the *makie* paintings of the town's artisans.

The organic beauty of lacquerware

The lacquerware tradition in Yamanaka Onsen began some 400 years ago, when a community of woodworkers settled in this hot-spring area—drawn by the curative waters, perhaps, but also by the dense forests available to them.

These woodturners used lathes to cut, sand, face, and otherwise shape wood into bowls and trays that they then lacquered themselves. Today close to 60 turners carry on their craft here, along with the lacquer artisans and traders who settled in the area later.

It's not uncommon for those encountering wooden lacquerware for the first time to be taken aback by the material's light feel and smooth finish. The combination strikes some observers as less like high-quality wood and more like plastic.

So what, exactly, is the appeal of lacquerware?

The main raw material of lacquer is sap collected from trees of the sumac family. The key component of varnish gathered in Japan is urushiol, a high-molecular compound, allergenic oil, and skin irritant.

As if handling this substance alone weren't troublesome enough, in order to dry the varnish its naturally occurring enzyme laccase must undergo oxidized polycondensation, a process requiring a steady temperature of 20–25°C and a humidity factor of 60 to 80 percent. A wooden chamber known as a *muro* is used to this end.

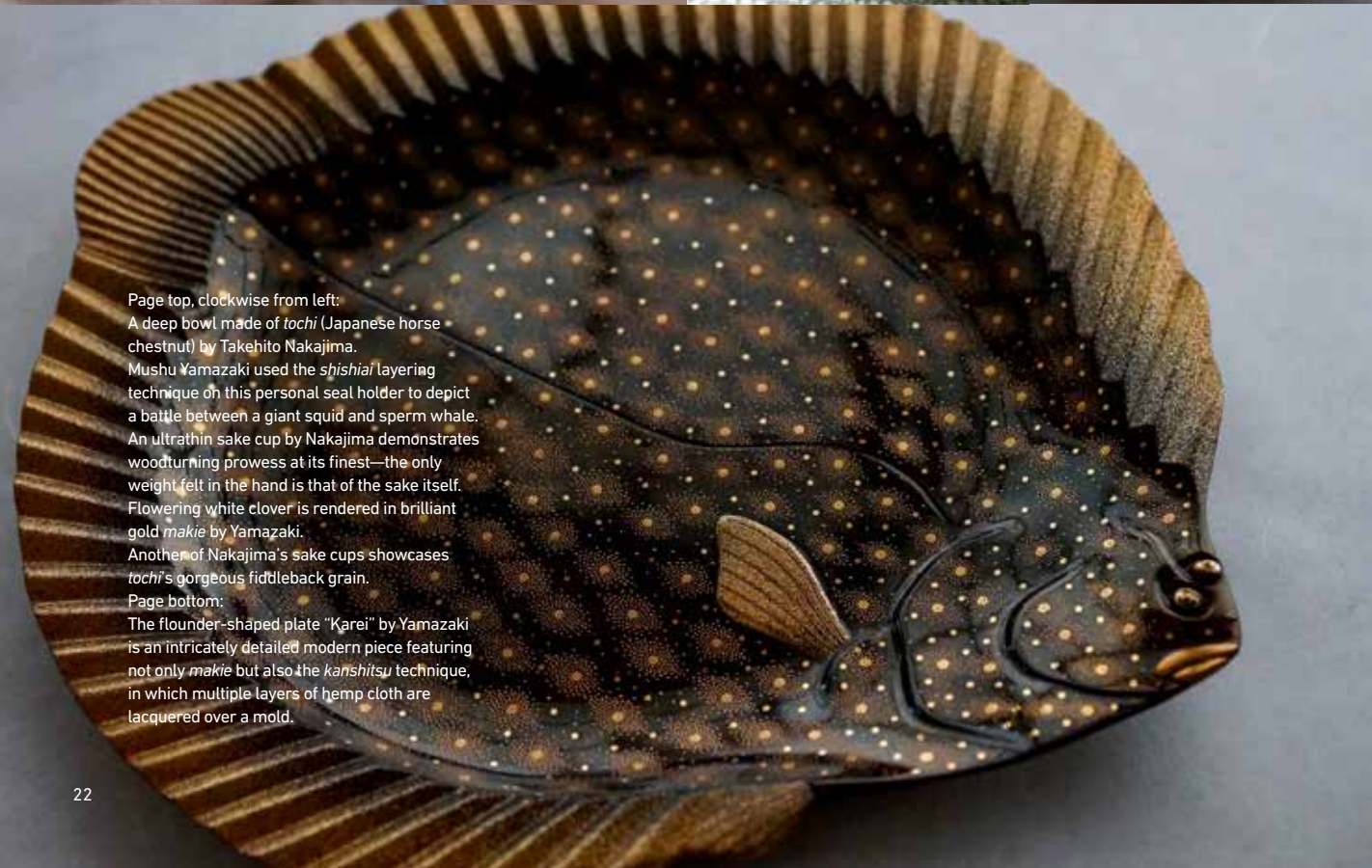
Once it dries, however, natural lacquer is incredibly tough. It is resistant to water, heat, salt, alkali, and acid, and impervious even to nitrohydrochloric acid, a substance that can melt metal. A 2,000-year-old piece submerged in muddy water was found with its shine still in place. What's more, a lacquer finish is both germ-resistant and antiseptic.

Lacquerware is also ecological. The bark of a varnish tree is cut and its sap collected drop by drop. Using traditional methods, only about 200 grams of sap can be recovered from a tree that has been growing for 15 years. Imagine! A raw material that will last more than 1,000 years can be recovered in 15.

Lacquer imparts a translucent effect to the surface it coats. When people first found the hardened sap in the forest, their instinct was to use it as an adhesive. It was later adapted as varnish once its beauty and protective properties were discovered.

A vermilion-lacquered comb from the prehistoric Jomon era, discovered in Fukui prefecture, has shown that lacquering techniques, as well as our quest for artistic expression, were well in place as early as 6,000 years ago.

Right: Marks on the trunk of a Japanese lacquer tree show where it has been tapped.



Page top, clockwise from left:
A deep bowl made of *tochi* (Japanese horse chestnut) by Takehito Nakajima.
Mushu Yamazaki used the *shishiai* layering technique on this personal seal holder to depict a battle between a giant squid and sperm whale.
An ultrathin sake cup by Nakajima demonstrates woodturning prowess at its finest—the only weight felt in the hand is that of the sake itself.
Flowering white clover is rendered in brilliant gold *makie* by Yamazaki.
Another of Nakajima's sake cups showcases *tochi*'s gorgeous fiddleback grain.
Page bottom:
The flounder-shaped plate "Karei" by Yamazaki is an intricately detailed modern piece featuring not only *makie* but also the *kanshitsu* technique, in which multiple layers of hemp cloth are lacquered over a mold.

Above, from top:
Mushu Yamazaki at work.
Takehito Nakajima.
Raw varnish has the thickness of honey.
Mushu Yamazaki.

Woodturning and painting techniques

The artisans Takehito Nakajima and Mushu Yamazaki, heirs to Yamanaka's legacy of woodworking and lacquerware, work at the forefront of these crafts today.

Nakajima is one of the top woodturners in Japan. He works with entirely with tools he has made himself, and does lacquering as well.

In Yamanaka, no clamps or other metal fittings are used to hold wood in the electric lathe—the piece is simply set into a wooden frame that protects it from scratches or other damage. This makes it easy to change the turning direction at any moment so that an entire bowl can be shaped in just a few minutes. Once the lathing is finished, the piece can be quickly removed and the next one set in place. Nakajima reports that a turner from overseas took one look at his setup and remarked, "That's crazy! Doesn't it scare you to work that way?" In fact, he explains, it's a clever way to bring out the inherent suppleness of the wood.

Everything Nakajima makes is magnificent, but his sake cups have special appeal. As their design is carefully considered right down to the texture and touch of the piece on one's lips, these works of art are a sublime way to savor sake. Nakajima's mastery is evident in the feather-lightness of his vessels as well as their ultrathin walls. His recent works feature translucent lacquer with the gloss of marble, a new form of expression.

Yamazaki, whose works are sought after by collectors the world over, is, equally, one of the top lacquer painters in the country.

In the decorative art form of *makie* lacquer painting, designs are built up three-dimensionally, often sprinkled with gold or silver powder. Beyond artistic talent, patience and an abiding affection for each piece are requisite. As only the slightest bit of lacquer can be applied before it is set to dry and the next coat begun, the process is long and labor-intensive.

Yamazaki takes on restoration projects, too, preserving masterpieces and other antiques in exquisite form for future generations. His painstaking care, extending even to parts that are hidden, can at times only be confirmed with a magnifying glass. It is no exaggeration to place his trailblazing work in *makie* in league with that of the great Edo-period master Shibata Zeshin (1807–1891).

Knives Sharper than Sharp

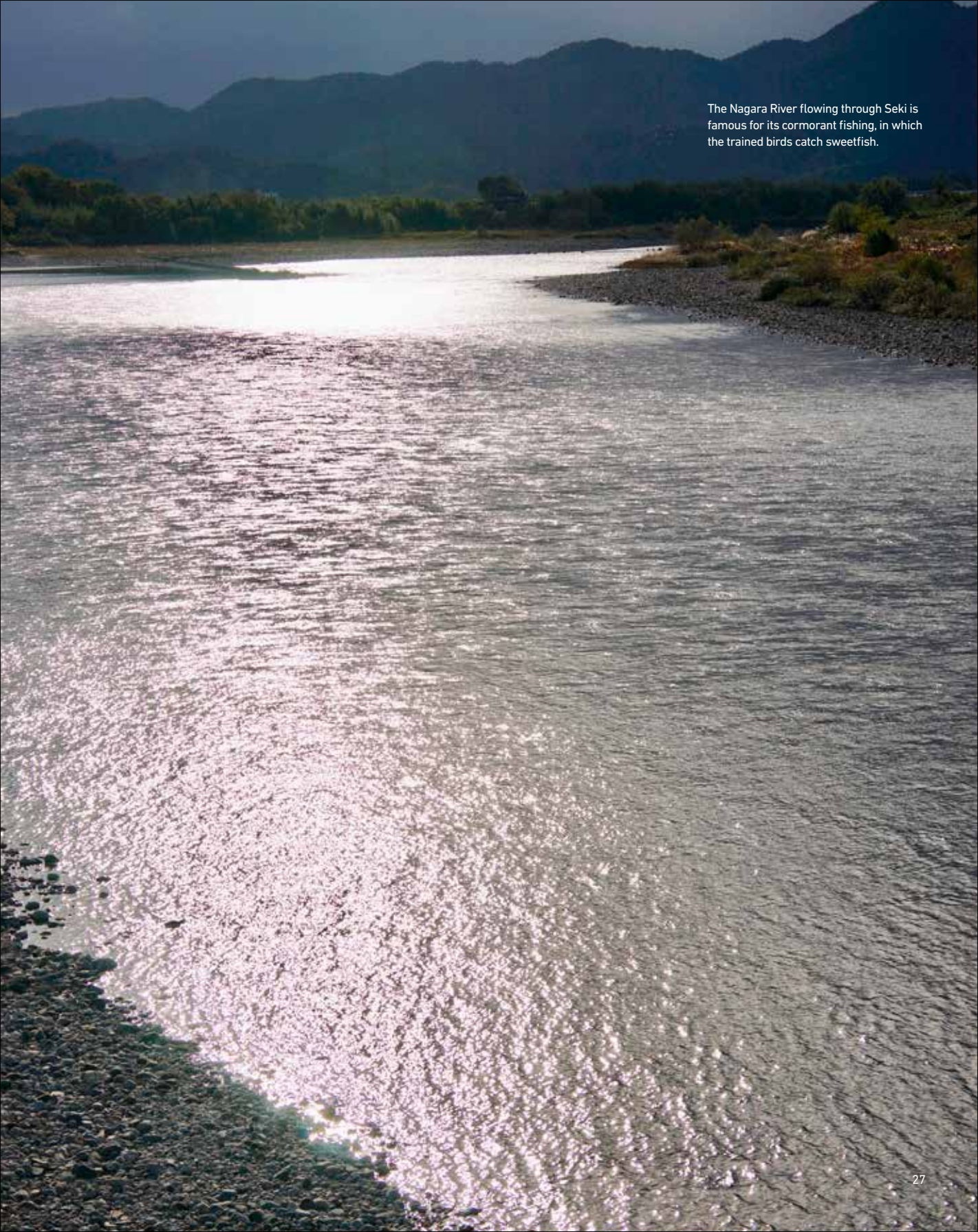
Local CREATORS' Market

Seki Knives, Gifu

This knife will change every assumption you have about the best way to cut cakes and other confections perfectly. Once you've tried it, we think you'll be hooked.

Opposite page: The elegant curve of a Seki cake knife cuts cleanly through the structure of even the most elaborate and delicate confections.
Right: The cake and bread knives of the Nagomi series.

After tempering, blades are cooled at room temperature. Each one is rigorously inspected.



The Nagara River flowing through Seki is famous for its cormorant fishing, in which the trained birds catch sweetfish.


MARU
NAGOMI

The ultimate wedding-cake knife

You sink the unusually curved serrated knife down into a cake gently, moving through with a slight sawing motion. Then, with a flick of the wrist, you draw the tip back across the bottom of the cake in one smooth motion. Before you now is a cleanly cut cake with every bit of its decorative cream perfectly in place.

This wonder tool is the work of a knife maker in Seki, Gifu prefecture, where swords have been forged since the late Kamakura period (1185–1333). By the height of the Muromachi period (1336–1573) there were more than 300 competing swordsmiths, and while the products have changed, Seki remains one of the world's leading manufacturing centers of quality blades. Today there are roughly 400 knife makers concentrated in the city.

The cake knife described above is one of a series offered by Mitsuboshi Cutlery under the brand name Nagomi. The high-quality line offers eight designs, including a bread knife and several general-purpose knives—all handcrafted through five different processes carried out by five different companies.

The material used is 440A stainless steel, flouting the industry trend toward high-carbon blades. Though favored for their hardness, high-carbon knives are brittle and difficult to sharpen. In contrast, high-chrome Nagomi blades are neither too hard nor too soft.

The 440A grade is an excellent material for producing, in the final step of the edging process, just the right *bari*, or burr, on the blade. This is a minute fold of metal formed on the opposite side of the knife edge when it is ground. Theoretically the burr should be eliminated when the knife is sharpened, but leaving a trace of it actually makes the knife cut better and helps it stay sharp longer.

Takahisa Watanabe, president of Mitsuboshi Cutlery, says 440A steel was first recommended to him by a Seki knife polisher who lauded its ability to "hold a good burr." Although the burr is so minute you need a microscope to see it, a seasoned polisher can tell it is there just by the feel. Too much burr leaves a saw-like edge that will not cut well. A slight trace is just right, especially for knives that are likely to be sharpened in the home rather than in a professional kitchen.

To ensure a sharper edge, Nagomi knives are purposely made from a harder steel, with Rockwell ratings of 57 or 58, rather than the usual maximum of 56. As the blades are stamped out of sheet metal rather than being forged, there is no fear of their cracking.

Top: Kasuga Shrine, home to the guardian of the Seki smithies.
Middle: Suda is a traditional Japanese restaurant nestled in the hills. Its chefs use Nagomi knives to prepare exquisite kaiseki cuisine.
Bottom: The all-purpose Nagomi *santoku* knife, photographed at Suda.
Opposite page: A Nagomi bread knife with its finely engineered serrated edge. It renders a smooth cut like no other knife can.

2

Before tempering, several blades are bound together in layers so that they will not warp in the heat. From here they will pass through a 12-meter furnace.

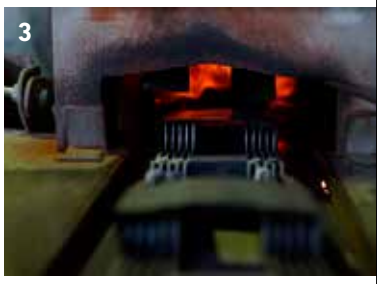
9

After the body of the knife has been ground and polished, the final task of edging determines blade sharpness and feel. Each edge is expertly ground by a skilled craftsman.

An all-star team of craftsmen

The Nagomi line, fashioned by a diverse team of highly skilled craftsmen who each bring their specialties and ideas to bear in a multistep process, is the natural result of Seki's traditional divisions of labor.

Take, for example, the knife handle, which is typically rectangular and straight. Nagomi handles, crafted by Yamashin Seisakusho using hygienic, water-resistant laminate wood, are softly curved (7). Into this fluid form Yamashin workers expertly cut the groove that will hold the tang (shank) of the blade. Next up are workers at Osamura Metals, who press blades with tangs precisely shaped to match the curvature of the handles (1). The blades are secured to the handles with rivets, and the whole worked and polished until the rivets are invisible (8).



The nascent knives next head to Fujita Heat Treatment, where they undergo quenching and tempering processes (2, 3, 4) at stringently controlled temperatures to achieve the desired hardness to a tolerance of +/- 0.5 on the Rockwell scale. Warping is assessed visually and corrected by hand (5). Next, the knives are sent to Hirata Jiken, where the bodies are ground and polished—also by hand—to the specified thickness within a margin of 0.2 or 0.3 millimeters (6). Finally, the knives are sent to Mitsuboshi, where their edges are ground as appropriate for their intended use (9).

When Mitsuboshi set out to make a new bread knife, they procured as many different types from around the world as they could and tried them out on loaves of bread both soft and hard. Employees tested the pilot and ranked it fourth against the competition. As that wasn't good enough, the company destroyed all 600 of the pilot blades and went back to the drawing board.

Several specification changes and prototypes later, they settled on the serrated blade and the just-right length of the Nagomi bread knife that today is eagerly sought by chefs and pastry chefs around the world. It's a winner with proud Mitsuboshi employees, too, who now rank it Number 1.


Pink
Baroque
Cream
Natural
Natural blue
Natural pink
Natural baroque

local CREATORS' Market

Tiny Lights of the Sea

Kobe Pearls, Hyogo

Look closely through the translucent sheen of any Akoya pearl and you'll see a rainbow of colors—a joint gift from the growers, the oysters, and the sea itself.

Opposite page: Akoya pearls are sorted and processed in Kobe, and then strung before shipping. Those ranked highest are light pink and perfectly round. Non spherical baroque pearls have become popular in recent years for their one-off uniqueness.

Above and opposite page top:
With its convoluted sawtooth shoreline, Tsushima is ideally suited to pearl cultivation.

Right and opposite page, from left:
Prior to cultivation, young oysters grow in mesh bags suspended from these rafts.

The waters of Aso Bay are rich in nutrients that flow from the surrounding hills.

Freshly harvested Akoya pearls show a great variety of shapes and colors.

When cultivation is successful, what began as an implanted core can yield a perfectly spherical pearl—a luminous product of collaboration by people, oysters, and sea.

Harvesting continues in a small hut on the shore. Workers collect the pearls as well as the adductor muscle, which can be eaten. The shells, too, are sorted for use in crafts.

Skilled hands—and some mystery, too

Any tale of pearls and their beauty must start with the sea. Akoya pearls are grown off the island of Tsushima in Nagasaki prefecture, some 120 kilometers from Kyushu. The biodiverse coastline here is ideal for their cultivation. Tsushima ranks along with Uwajima in Shikoku and Ago Bay in Mie as one of the top three pearl-farming regions in Japan.

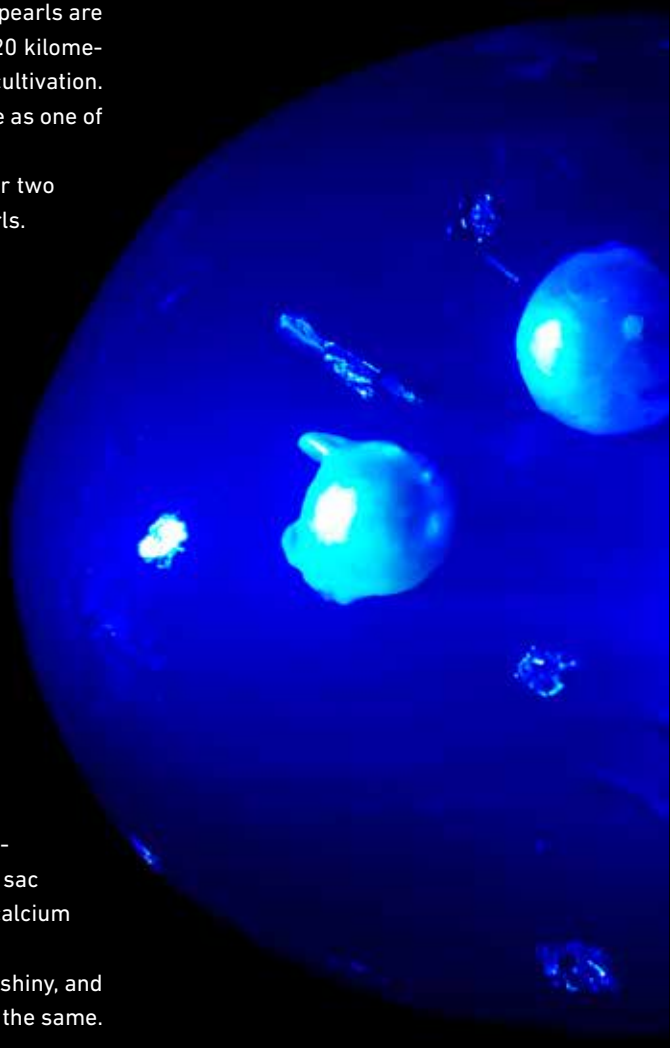
Each year at the end of November, oysters cultivated a year or two earlier are hauled up onto the shore by workers at Kitamura Pearls. With an early-morning start, as many as 50,000 of the shellfish are harvested each day.

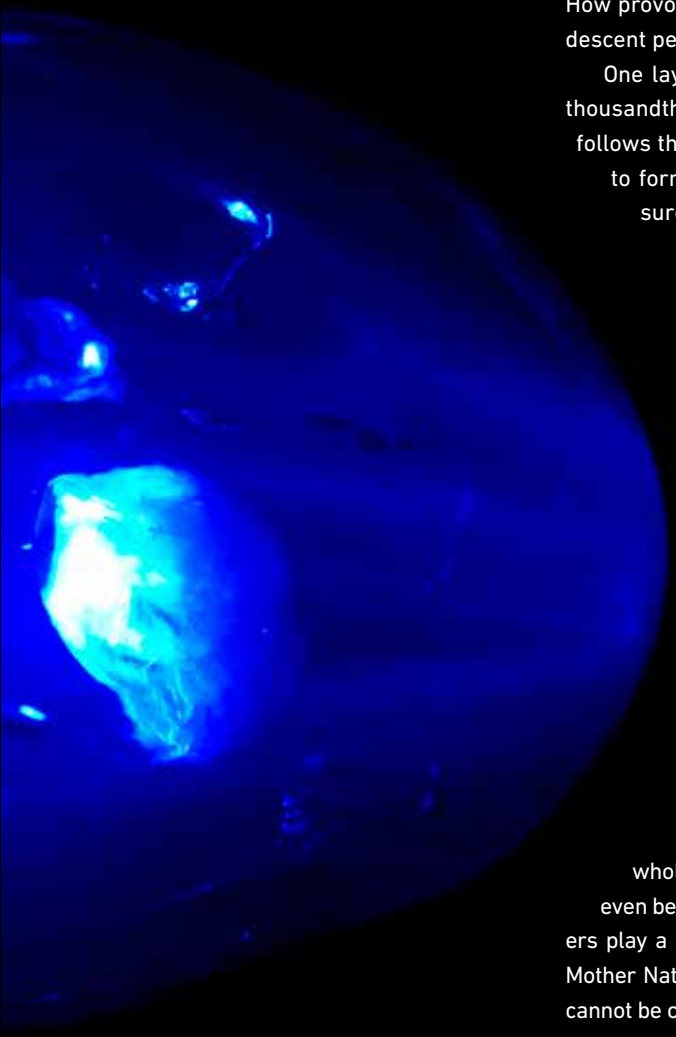
Pearl culture begins with the artificial fertilization of oyster larvae, or spats. After two to three years of growth, the shellfish fry are ready for nucleation—the most critical part of the culturing process.

The nucleus, or what will become the core of the pearl, is a rounded shell fragment about 6 mm in diameter, from an Eastern Asiatic freshwater clam grown in the United States, in Mississippi. With surgical precision, a trained technician uses a special tool to insert the nucleus into the oyster along with a mantle graft. Thus cultivated, the oyster is placed with others in a mesh bag and hung from a raft moored in the ocean. From April to January, they feed off plankton. Proper nutrition for the oyster crop affects the pearl harvest greatly, and oceanic conditions are monitored carefully.

Meanwhile, what is happening inside the shell? First, the grafted mantle divides and wraps itself around the nucleus, creating a sac into which layer upon layer of crystalline nacre, formed mostly of calcium carbonate, is secreted by the oyster to enwrap the core.

The lustrous inside of the shell—mother-of-pearl—is smooth, shiny, and multihued, just like the pearl. Indeed, these materials are one and the same.





Pearl farmers can't know what is transpiring within a nucleated oyster (shown here in a conceptual rendering); they can only trust that it is secreting layer upon layer of nacre to wrap the implanted core. The oyster, in turn, depends on the ocean for its sustenance. Each cultivated pearl evokes the sea's great bounty, time's passage, and the brilliance of life.

How provocative, even mystical, it is to consider that inside and out, the iridescent pearl and the shell that protects it are the very same!

One layer of nacre is 0.2 to 0.5 microns thick. (A single micron is one thousandth of a millimeter.) As the nucleus is six millimeters in diameter, it follows that anywhere from 1,000 to 2,500 layers of nacre are needed just to form a 6.5-millimeter pearl. Such a complex crystalline matrix ensures that each pearl is unique, with its own depth of color and shine.

Not every oyster will produce a pearl. Occasionally the core is spit out into the sea, and some oysters expire before their work is done. Barnacles and sea squirts can attach themselves to the shells, effectively starving the host. Kitamura Pearls regularly checks its growing beds for these parasites, which are removed by hand. The longer an oyster is left to grow, the larger its pearl becomes, but as an aging oyster nears death it secretes a substance that turns the pearl a dull matte white. The timing of the harvest is critical.

In the winter months nacre levels drop, but the thinner layer results in a delicate surface that gives a pearl its special radiance. In the last week or so before harvest, water temperatures are measured, samples from each lot are tested, and decisions are made on the best timing for the haul. Despite these efforts, some 45 to 55 percent of the oysters will have died, their pearls gone lusterless. Colors and shapes vary among the rest of the crop, and not all are spherical.

With so many factors affecting production, it seems a wonder that whole ropes of delicate pink pearls, considered the most precious, can even be possible. While the seasoned skills and exacting standards of growers play a huge role in creating these gems, the real benefactor is of course Mother Nature—and the delicate dance between sea and shell that ultimately cannot be controlled.

The work of pearl stringing. Each set of two adjacent rows will become the left and right sides of a single strand; here the pearls for each side are being matched in size. By long-standing tradition, this work is done next to a north-facing window, where the soft light aids the task of accurately judging color.

A thickness gauge is used to measure pearl size. Those 9 mm or larger are rare and expensive.

Post-harvest finishing in Kobe

The pearl as harvested.

The yellowing has been removed and the shine enhanced.

Blemishes have been removed.

The pearl has been polished and is ready to be strung.

There is a road in Kobe nicknamed Pearl Street, where some 200 companies process, sort, and string the pearls brought in from Japan's three major areas of production. The ropes are batched and sold in lots, then sent out into the world from Kobe Port.

All processing of Akoya pearls is done in Kobe. Yellowing is removed to improve the natural shine, any blemishes are treated, and a final polish is given. Years of training and practice turn each tiny orb into a thing of beauty.

Finally, the pearls are ranked by eye. They are sorted in front of a north-facing window, where the low-angled natural light reveals any scratches as well as shape and color irregularities. Artisans with a practiced eye recognize flaws as slight as a tenth of a millimeter.

A pearl's value is determined after the many steps of post-harvest processing are completed. In the natural world, of course, there is no rank to be assigned to layers of nacre enveloping a kernel of shell. Through repeated sorting and polishing treatments, the pearls' inherent luster and beauty are enhanced—fulfillment of work that began in the ocean several years previously.

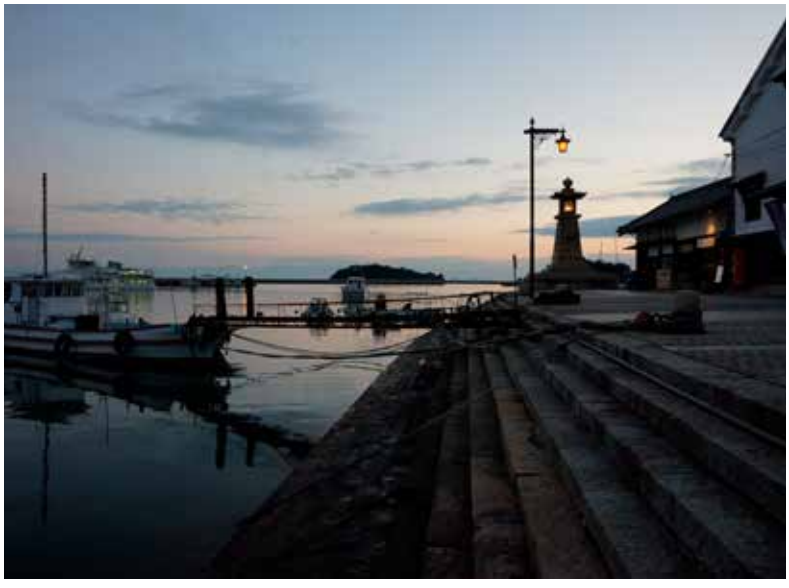
While the softly lustrous pink and perfect spherical form of the finest Akoya pearls are a standard that will never change, there is great beauty in the white, blue, gold, and black colors, as well as in the non-spherical baroque specimens. Whether pink or blue, black or cream, each individual orb is a point of light in a tale that whispers quietly of the sea's diverse riches. Listen closely, and another story is sure to begin.

Local CREATORS' Market

Endless Design Possibilities

Fukuyama Denim, Hiroshima

A town known for indigo dyeing is now a top maker of Japan denim—one of the country's best-known exports, loved by fashion mavens around the world for its high quality. That passion began here.



Opposite page: A loom in operation at Shinohara Textile, where both old and new weaving machines are used for different ends. Denim woven on vintage mechanical looms is popular for the rough borders it yields. Left: Tomonoura, the port of Fukuyama, on the Seto Inland Sea. The old stone lantern here, which is still lit at night, gives the impression of having traveled back in time.

Bassen, discharge dyeing, the specialty of Sanyo Senko, achieves varied effects through repeated bleaching or other chemical processing. The more complex designs are beyond the capacity of machines, and must instead be left to the instincts of experienced artisans.

From right, these fabrics by Shinohara Textile are 100 percent Tencel (unwashed); 100 percent Tencel (washed); a Tencel–polyester blend notable for its sheen and stretchiness; and the sheerest of the lineup, a Tencel–cotton blend.

Page top: Yarn that has passed through an indigo bath appears green at first, but with oxidation soon turns deep indigo in color. Page bottom: Warp threads are twisted into ropes before dyeing so their core remains white, an advanced technique preferred by denim connoisseurs. Photos: Sakamoto Denim

From thread to dyeing to weaving: Fukuyama does it all

A stroll through narrow alleyways in Fukuyama will lead you to the city's old Tomonoura port, which had its heyday in the Edo period (1603–1867). Bounded by the landmasses of Honshu, Shikoku, and Kyushu islands, the waters of the Seto Inland Sea here are a smooth calm blue.

Situated side by side in this region are Okayama and Hiroshima prefectures, the country's top two denim producers. Together they manufacture 90 percent of the nation's total. Fukuyama alone accounts for 50 percent.

Characterized by mild weather and little rainfall, the region has a long history as a settlement. Mountains rise close beyond the shores of the sea. As soil salinity is high the land is not suited to rice cultivation. Cotton, however, is sufficiently salt-tolerant. It was promoted as a crop back in the Edo period by the head of the feudal domain, who introduced textile production as well. Indigo could be grown in the mountainous areas, and dyeing techniques naturally evolved from there. In time the resist-dyed ikat pattern known as Bingo-kasuri emerged as a local specialty, featuring designs resembling the hash mark (#).

Cotton thread production, dyeing, weaving: such is the background underlying Fukuyama's ongoing success as a denim production center. Today many different technologies are employed here to meet the demand for high-quality denim fabric in large and small lots.

Three companies are especially notable for their love of denim, and for the technical skills they've mastered to keep pushing the design envelope. One is Sakamoto Denim, established in 1892, the first in Japan to mechanize the rope-dyeing method.

In rope-dyeing, warp yarns are literally twisted into ropes prior to being dipped in the dye bath. As a result, the core of the threads remains an undyed white. Once woven and washed and worn, over time the colored surface wears away, enhancing the distinctive appeal of faded denim.

Besides innovating a way of mechanizing this dyeing process, Sakamoto also developed the first continuous dyeing machine in Japan. The company is a driving force of Japan's indigo-dyeing industry; indigo textiles account for 90 percent of its business.

Its greatest strength is its wide range of denim colors. Even "indigo" itself comes in a multitude of hues—the warp threads may be dark indigo, super-dark indigo, natural-plant indigo, greenish indigo, and so on. The company can provide exactly the color a client requires.

Sakamoto is also a strong presence in the environmentally sustainable practices that support Fukuyama denim. The company uses electrolyzed water to dye at room temperature, and was one of the first to recycle water through activated sludge processing—doing what it can to reduce its burden on the environment.

Prior to dyeing, cotton fabric is bleached to remove yellowing and any residual starches—thus ensuring more accurate coloring results.
Photo: Sanyo Senko


Tencel warp / linen weft
Denim *bassen* + pigment print
Cotton warp / Tencel weft
Denim *bassen* + pigment print
Tencel warp / cotton weft Kersey weave
Denim gradation *bassen*
Tencel warp / polyester weft slub weave
Denim *bassen* + pigment print
Tencel warp / angora weft
Denim gradation *bassen*
Tencel warp / cotton weft

A wide range of materials and dyeing techniques

The second of our three featured Fukuyama makers is Sanyo Senko, a dye-works company that specializes in coloring cloth, rather than thread. It handles both continuous and batch dyeing in small and large lots, and particularly excels at discharge dyeing.

Known as *bassen* in Japan, discharge dyeing uses, in simple terms, a powerful bleach to subtract color from dyed fabrics in different patterns and complex designs. A laser-engraved design is run through a rotary printer from which the bleach or other chemical discharge liquid is dispensed, deactivating the color. The pattern emerges once the cloth is steamed and washed. *Bassen* is essentially ikat printing in its most modern guise.

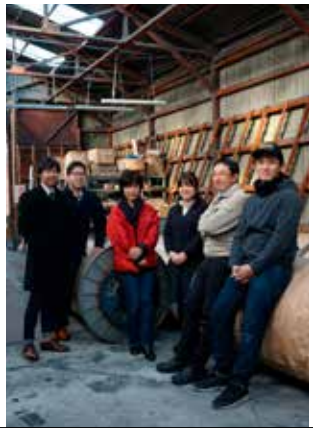
Bassen offers a wide range of expression, and can be used to create complicated gradations. Central to the process is the practiced, careful eye of the artisan, who adjusts the printing by even a mere millimeter or so as necessary.

Shinohara Textile is the third great force behind Fukuyama denim, and its specialty is weaving. Thorough production control ensures that each thread is perfectly in place to make denim of the finest quality. Shinohara is perhaps best known for Tencel denim.

Tencel is made mostly from the cellulose pulp of eucalyptus plants. Natural, sustainable, and breathable, the material is amazingly soft and smooth when used to make denim. Tencel denim is absorbent and well suited for wear by children and others with sensitive or delicate skin.

The weaving experts at Shinohara blend Tencel with cotton, linen, wool, polyester, and other fibers. A Tencel / cotton blend looks like regular denim but is smooth to the touch. Combined with polyester, Tencel yields denim with a fine sheen and elasticity. Shinohara offers more than 100 varieties of denim weaves, more than you'll find anywhere else in the world.

Try on a pair of jeans made of 100 percent Tencel and you may never want to wear anything else—they are that smooth and light. It's a fabric that seems to reflect the tranquil blue waters of its home on the Inland Sea.



Near right: Representatives of Sakamoto Denim, Sanyo Senko, and Shinohara Textile—companies that form the backbone of Fukuyama's denim industry.
Far right, from top: The end of one spool of thread is connected to the next at a speed too fast for the naked eye to see. (Sakamoto Denim)
The combination of rotary printing and artisanal skill makes continuous discharge dyeing possible. (Sanyo Senko)
All fabric is inspected for defects such as missing or broken threads, improper tension balance, or bits of dust or starch woven in. (Shinohara Textile)

local-creators-market.com


Local
CREATORS'
Market

METI
Ministry of Economy, Trade and Industry