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FRONT COVER: Azuchi Castle, Omi Province, Japan photo: T L

INSIDE FRONT COVER: King David Street, Jerusalem by Gustav Bauernfeind, 1880

INSIDE BACK COVER: Promo piece, STON-EXUS covers (Please copy and distribute.)

BACK COVER: Ring of Brognar, Orkney, Scotland photo: T L



above: elegant ampersand, detail from gravestone, Rhode Island photo: T L far right: staircase to the Grand Canyon Amphitheater photo: Andy Dufford

stone (ston) n.

- a. Concreted earthy or mineral matter; rock.
 b. Such concreted matter of a particular type. Often used in combination.
- 2. A small piece of rock.
- 3. Rock or piece of rock shaped or finished for a particular purpose, especially a piece of rock that is used in construction.

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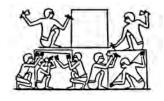
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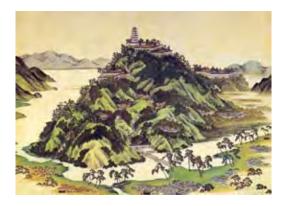


nex-us (nek' sas) n., pl. nexi or nex-us-es.

- A means of connection; a link or tie.
 A connected series or group.
- 3. The core or center.

mag-a-zine (mag-úh-zeen), n.

1. A periodical containing a collection of articles, stories, pictures, or other features



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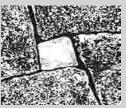
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EDITORIAL

Welcome to the 11th edition of STONEXUS Magazine.

Another smorgasbord of stone lore for your delectation. Hopefully the tastiness of the meal will offset its tardiness. To make amends for the poor service: a dessert, compliments of the house—4 pages more than the usual 64.

This, like every issue of STONEXUS, is a Stone Foundation production.

Andy Dufford, a Stone Foundation member of long standing, gave a presentation at Stonework Symposium 2010 about the Grand Canyon stonework project that he was then beginning. And at the next Symposium, a year later, he gave another presentation on the completed project—a comprehensive overview of the undertaking from conception to reception, an overview that he agreed to recapitulate here: RIM ROCK. Thanks, Andy.

Three of the four stone sculptors whose work is shown in the TEKTONIKA PHOTO GALLERY are Stone Foundation members and the fourth, Don Meserve, was a member until he passed away in 2010.

Most of those represented in the PHOTOS TO THE EDITOR section are also members.

I emphasize this to remind readers that STONEXUS is a collaborative enterprise, an in-house publication that depends on material submitted or suggested by its readers—photographs, writing, connections to previously published material, etc. It depends as well on your Stone Foundation membership fees, and the generosity of sponsors—this issue could not have been printed and mailed out without financial aid from Norm Akley (Trow and Holden Tool Co.) and John Mills (Select Stone) and a donor who wishes to remain anonymous—Stone Foundation members all.

Re the center spread, ALEPPO—marvelous photo isn't it? It's actually 24 photos stitched seamlessly together. Thanks to photographer Stefan Sonntag for allowing us to reproduce it here and to Pierre de Montaulieu for the historical background. (Details of the Citadel's interesting stonework can be seen at: http://romeartlover.tripod.com/Aleppo1.html)

The final chapter of the Japanese travel journals* appears here; I hope folks have enjoyed our journey through the world of Japanese stonework. I enjoyed reliving it. We've been asked about leading a tour there and may do that in future. If you're interested, let us know.

The writer John McPhee, one of my literary heros, came to Santa Fe last winter and gave a reading. At the book signing afterwards we spoke briefly. I presented him with a copy of STONEXUS to read on the train he would take the next day, and asked for—and received—his permission to reprint TRAVELS OF THE ROCK, an article I have long wanted to share here.

McPhee has directed his exploratory attention at a wide and varied range of subjects, but the one that has inspired his deepest interest is Geology, the study and the story of stone. At intervals he returns to his investigations of the lithosphere and communicates to us what he discovers in his researches and what he derives from the knowledgeable and companionable experts whose company he cultivates. But, interesting as it is, the TRAVELS OF THE ROCK is a mere bagatelle compared with his major opus, ANNALS OF THE FORMER WORLD (Farrar, Straus and Giroux) This is a tetrology, four big books in one, devoted to the exploration of the dramatic swath of complex geological activity that is intercoastal North America, a subject well-suited for his detached, lucid and witty, lapidarian style of writing.

The GREAT WALL OF VENTURA and RENDEZVOUS IN WEST RUTLAND are perhaps better suited to a newsletter type of publication, but they are interesting as projects—one functional, the other ornamental, both noteworthy — hence their inclusion here.

Yours in the interest(s) of stone, stonework and stone art,

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Tomas Lipps, editor

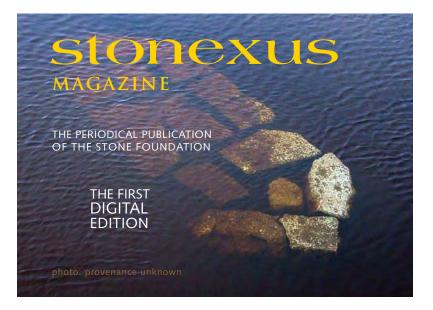
p.s. One reason that this issue was late getting to the printer was the bright idea I had last summer to put out a digital edition of STONEXUS—as well as, not instead of, a print edition.

I went to work on that and had 50 pages done before I realized that the format—the same format used for the print edition —would be difficult to read on a computer screen, particularly on a laptop screen (which most computers evidently are). So I shelved the project and went back to work on the print edition (work that was twice interrupted by bill-paying stone jobs.)

To print and distribute two issues of STONEXUS a year would be good, but it just isn't possible financially (even to get out one print issue is a stretch financially.) One print edition and one digital edition, however IS possible. Two STONEXI for the price of one membership/subscription? Now that's an upgrade.

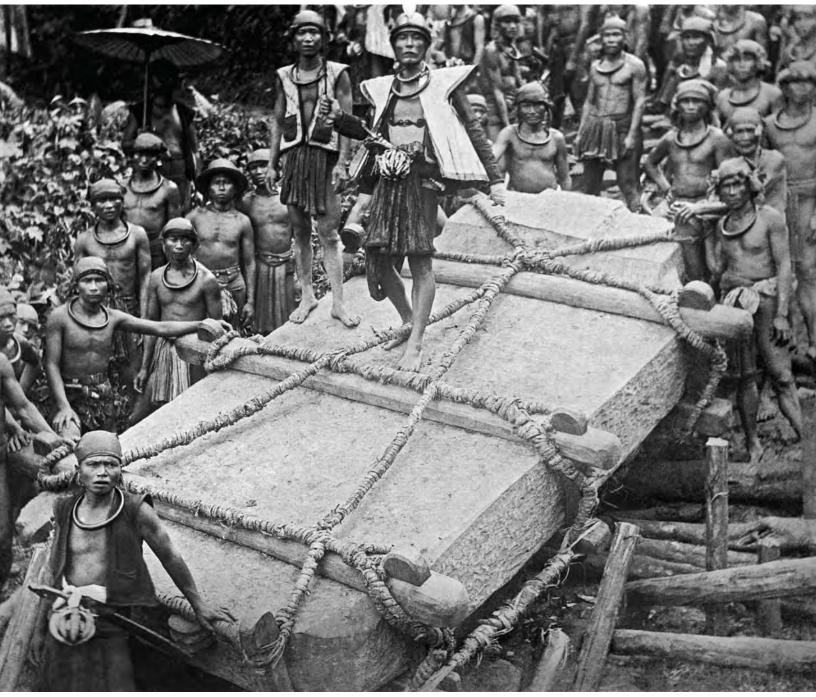
A digital edition does require time and effort to produce (now accepting applications for volunteer staff), but there are no printing and mailing expenditures. It makes for an interesting publication because it is an appropriate medium for reproducing low-resolution images—the type of images that commonly appear on the internet and are circulated by e-mail—the type of images that do not reproduce well in the print medium (and high resolution photos for which there is no space in the print edition.)

stornetc. . . the Stone Foundation e-mail newsletter serves as an early model for a digital STONEXUS. The features titled RANDOM RUBBLE and X-FILES, containing images and text 'mined' from the internet, will be included. Keep an eye out for interesting material and e-mail it to tomas@stonefoundation.org. *On the subject of the Japanese journals: The photographs printed in the last issue that were taken at the Isamu Noguchi Garden Museum, Mure, Japan include artwork that is copyright of the Isamu Noguchi Foundation and Garden Museum, New York. We apologize to the Foundation for having printed photographs of that artwork without its authorization.



So take heed, there will be a DIGITAL ISSUE of STONEXUS in addition to the print edition. Member/subscribers wishing to receive it should make sure we have a current e-mail address. If you are uncertain about this, send an email stating that you wish to receive the digital edition to mimi@stonefoundation.org.

PHOTOS TO THE EDITOR



above: Island of Nias, Sumatra, Indonesia photo: Ludwig Borutta (1915) courtesy of Tropenmuseum of the Royal Tropical Institute (KIT) and Wikimedia Commons

Megaliths such as this, some richly decorated, were a part of the culture of this small island off the western coast of Sumatra, Indonesia. There were also stone statues, stone seats for the chieftains, stone tables where justice was rendered and stone columns over which village men leaped during celebrations. The megaliths served to commemorate high-ranking personages and assure their place among their ancestors in the afterlife. When such a stone was transported and erected, a ritual feast was given. It took 525 people three days to erect this stone in the village of Bawemataloeo. ■

right: Island of Nias, stone figures, significance surmised, provenance unknown



TEKTONIKA PHOTO GALLERY



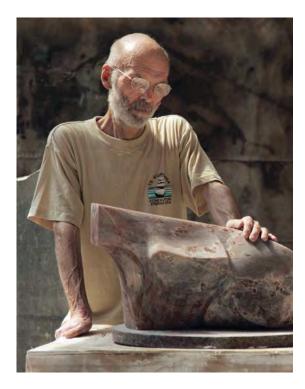
FOUR STONE SCULPTORS:

SOMERS RANDOLPH

DEVEREN BOWMAN DON MESERVE







RIM ROCK



Best job site in the world

For the last two and half years my design firm, Chevo Studios, has been involved with improvements at Mather Point on the South Rim of Grand Canyon National Park. This has been a one-of-a-kind experience involving serendipity, organization, risk taking, careful planning and budgeting, plus a mountain of hard work by a great team of creative people, all resulting in a marvelous monumental stone environment for park visitors.

Mather Point is the first significant overlook for those visitors who enter the park at the south entrance.

The canyon receives an increasing number of visitors, now over 4 million a year, which the parking lot and access to the Mather Overlook were woefully under equipped to handle. Park staff and outside consultants had been working on a transportation plan and redesign for over 8 years.

The resulting plan proposed moving the roadway to protect the resource and provide visitors with a safe, auto-free experience along the rim. The removal of the roadway and rim side parking lot provided the opportunity to enhance canyon-viewing experiences. Highlights of the renovation include a landmark plaza, an amphitheater on the rim, a vastly improved Mather Point overlook and a Visitor Center Plaza with integrated interpretive elements. Chevo Studios was exceptionally fortunate to have the opportunity with park staff, DHM Design, Federal Highway Administration and Fann Contracting on design and construction of all of these improvements.

The power of postage

In 2008, our studio created a series of stone sculptures of Missouri River endangered species adjacent to the midwest

headquarters of the National Park Service. The combination of interactive art and interpretation was a perfect match for our talents and I was eager to find more opportunities to contribute our skills to the mission of the parks. Unaware of the design effort that was taking place at Grand Canyon, I sent a booklet of our work to Vicky Stinson, the project manager. I knew her as a casual acquaintance, and the mailing was intended as an introduction and a conversation point to explore how Chevo Studios might get involved in other park projects. Normally, those cold mailings are akin to sending a message in a bottle. I often mail booklets out and follow up with phone calls and most times those efforts yield a polite "no." I was surprised when, only a week after my mailing, Vicky called me and said, "We're working on a huge project here at the Canyon and some of the things we want to do are in your book." A few days later I was at the offices of DHM Design introducing our work and skill set to the project landscape architects, and two weeks later I was at the

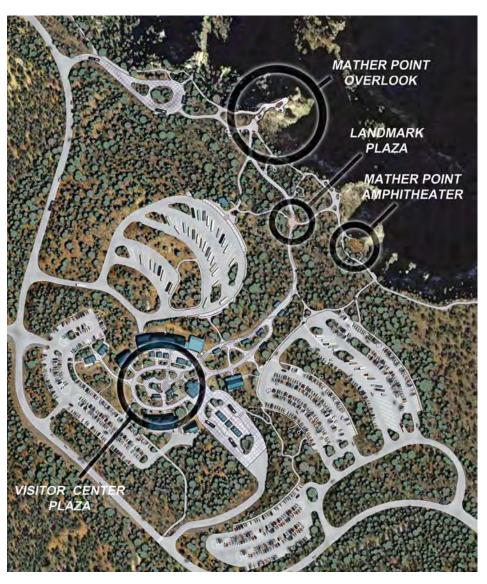
canyon for an extended design charette.

Inspired stonework has a long history at the park. Artist/architect Mary Coulter worked for Fred Harvey to create a series of visionary buildings that embody the spirit of the landscape. In particular, her designs for the Desert Watchtower and the Lookout Studio combine the rugged presence of desert stone with the patterns and construction principles of southwest tribal art and architecture. Project manager Vicky Stinson and the

Mather Point project team share a respect for that long-standing connection of stonework with the site and they recognized that renovation presented an opportunity to use stone in a way that would both blend into, and resonate with, the soul of the landscape.

Sites and Spaces

The scope of the project grew as our collaboration progressed. At the outset I was engaged to assist in developing buildable schematic designs for 1) a large interpretive plaza along the main access from the



Women of Stone

parking areas, 2) an amphitheater on the rim and 3) an accessible trail on the Mather Point Overlook. As the design process developed, the park service expanded our role to include construction duties on all of the above as well as design/build services for a landscaping scheme with stone features and seating to redefine 4) the main visitor center plaza. Our work at the visitor center also included design and fabrication of interpretive and sculptural elements integrated into the landscape.

The first area of our involvement was midway between the visitor center and the Mather Point overlook. Here the design team envisioned a "Landmark Plaza" that would serve to orient visitors and create a place for groups to meet and rangers to give talks. The plaza would also introduce visitors to the eight associated Native American tribes that have connections with the canyon.

A big pile of rocks

The design team had also identified a material resource for creating the plaza: a sizable pile of Kaibab limestone slabs that were stripped off as overburden 30 years ago to open up a landfill in the park. Our initial task was to help develop a solid design and a construction plan for transforming that stone resource into a plaza space. An early trip to the pile revealed a stone workers dream: many slabs were over 10' in length and showed beautiful patterns of weathering. The character of those rocks begged for a place where they could be featured and appreciated.

Two challenging aspects of doing artistic stonework in a traditional construction setting are 1) enabling creativity and 2) meeting real-time construction schedules and budgets. In the case of the Landmark Plaza project, we met these disparate challenges by pairing a thorough inventory of the rocks available and an imaginative model making process. This allowed us to dream big and to anchor that dream in reality.

We started by unpacking the rock pile, making accurate measurements of each stone. These would be the core kit for articulating the space. Back in the studio, we made scale models of each stone and began to set those miniature stones on a scaled plan. The early models lacked design cohesion, but then, through my research I happened upon the geological concept of imbrication, the dynamic process by which the stones along a watercourse are arrayed as a result of flooding. I'd witnessed that phenomenon again and again in my years of canyon explorations. Simply put, stones are flipped downstream and stacked against their most adjacent downstream neighbor as the floodwaters push through the canyon. The result is elegant, organic and



ohoto: Brad Cross

TRAVELS OF THE ROCK

PLYMOUTH ROCK is a glacial erratic at rest in exotic terrane. When Mayflower, an English merchant ship, approached the rock, in 1620, the rock, like the ship, had recently been somewhere else. Heaven knew where. Some geologists have said that the rock is Laurentian granite, from north of the St. Lawrence River (Loring, 1920). Most American geologists have preferred a provenance closer to home: Cape Ann, for example, north of Boston (Carnegie Institution, 1923); or the region of Cohasset, south of Boston (Shimer, 195I); or even the bed of Plymouth Bay (Mather, 1952). Wherever the boulder came from, it was many times larger in 1620 than it is today.

It was also in one piece. In 1774, the rock was split in two, horizontally, like a bagel. There were those who feared and those who hoped that the break in the rock portended an irreversible rupture between England and the American colonies.

If so, the lower half was the Tory half, for it stayed behind, while the upper part was moved from the harborside to Liberty Pole Square for the specific purpose of stirring up lust for independence. Scarce was independence half a century old when a new portentous split occurred, in the upper, American, rock. It broke, vertically, into two principal parts, shedding fragments to the side. Eventually, the two halves of the upper part were rejoined by common mortar, containing glacial pebbles from countless sources, and the rock as a whole was reconstructed. The upper part was returned to the waterfront, where a thick filling of mortar was slathered on the lower part, and Plymouth Rock-with its great sutured gash appearing like a surgical scar-was reassembled so that it would be, to whatever extent remained possible, a simulacrum of the landmark that was there in 1620.

In the course of the twentieth century,

by John McPhee

the mortar did not hold. Pebbles fell out. Chunks. Despite a canopy over the rock (McKim, Mead & White, 1921), water got into the great crack, froze, and wedged against the bonding force with pressures as high as two thousand pounds per square inch. The rock could not stay whole, and on August 7, 1989, in an item disseminated by the Associated Press, the Massachusetts Department of Environmental Management announced that the oldest symbol of the New World was in dire need of a mason.

N the British merchant marine, Mayflowers were numerous. The one that approached the landmark in Plymouth Bay that December was twelve or so years old, and had, for the most part, carried wine to England from Bordeaux. Her new assignment was equally commercial. When she sailed from Devon, she was under instructions to go to the mouth of the Hudson River, where her pasSX°OF°21

FOLLOWING THE OLD STONE ROAD: NIHON

by Tomas and Miwako Lipps

Travel seemed a fitting way to reward ourselves for having successfully produced issue number VIII of STONEXUS. The selected destination was the stony archipelago of Nihon. or, as we outlanders know it, Japan. There was a purpose beyond the therapeutic effect of travel and an indulgence in the prospective pleasures of Japanese food and drink: a brief exploration of the world of Japanese stonework and stone art.

We had learned of the existence of a 'tribe' of stone artisans, the Anoh, the legendary builders of the great stone castle walls of medieval Nihon. We further learned that there are contemporary practitioners, the last of the Anoh, near Lake Biwa not far from Kyoto on the central island of Honshu, on the slopes of the very mountain where the style of masonry for which the Anoh were famous came into flower five hundred years ago.

To visit with contemporary Anoh stonemason contractors, a father and son, 14th and 15th generation Anoh stonemasons, was in itself enough reason to make the trip, but not the only reason.

For the past three or four years I have been in communication with a sculptor, internet 'prospector' and friend with whom I've shared interest in and an appreciation for contemporary Japanese stone sculpture. We 'discovered' several artists whose work we particularly liked and I was even in communication with a few of these individuals. Although much contemporary Japanese sculpture is thoroughly modern and bears no discernible cultural character, there was, we sensed, something distinctly Japanese about the work of certain sculptors. So, to see and to document stone sculpture in Japan and to discuss it with Japanese sculptors seemed another worthy stone Sea of Japan 'track' to follow.

SHIKOKU

KYUSHU

The extreme 'stoniness' of our objectives was, in the course of our travels, relieved by the pleasures of social contacts, eating, drinking and bathing, so it seemed appropriate to lighten this account of those travels in the same way, by presenting it here as a journal. Hopefully that will make it easier to read -and more fun to write.

HONSHU

Pacific Ocean

The third of three parts:



KYUSHU/KUMAMOTO

We left stony Shikoku, the smallest of the four major islands of the Japanese archipelago, and headed west on the midnight ferry to the port of Beppu on the larger island of Kyushu.

Leaving in the middle of the night and arriving with the dawn, we felt more like travelers than tourists, travelers with a mission. Hustled off the boat by its cleaning staff we drifted through the port area toward the sleeping city. Beppu, built over a complex of hot springs, is constantly wreathed by plumes of steam. In the morning light it looked mysterious. On the boulevard bordering the port we found a taxi, its driver asleep. Our presence beside his car was enough to awaken him and, happy to have business at such an early hour, he

drove us to the railroad station.

a train window.

several in the vicinity.

We had learned of these through a serendipitous occurrence. On our very first

Sea of Okhotsk

HOKKAIDO

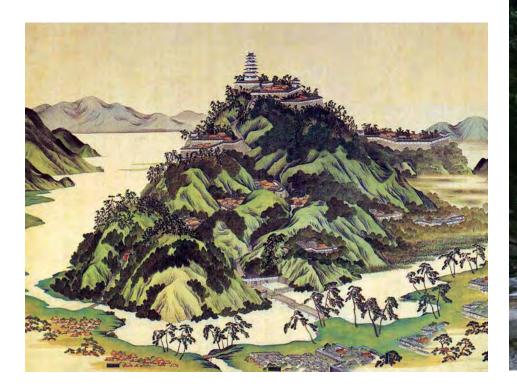
Amidabashi (Amida Bridge) over the Zeniyagawa, (Zeniya River) Nagasaki, Kyushu—early 1900s

A few hours later we were clickedyclacketing toward the interior. Train travel, particularly the local trains that meander along the valleys with which Japan is riven, is one of the pleasures of touring there. Even so it was frustrating to be whisked through places graced with interesting stonework that I would have loved to explore and photograph and I found myself inventing a wide angle camera lens that could be attached to

Our objective in Kumamoto was to visit and photograph the unusual, for Japan, arched stone bridges. There were, we knew, morning in Japan, while eating breakfast at Miwako's sister's home in Tokyo, we happened to watch a television documentary on the arched stone bridges of Kumamoto.

A few days later, when we mentioned the bridges during our visit with quarry owner Hiroshi Kamegawa we learned there was a historical stone bridge society in Kumamoto—his late father had been an active member of this group and after a search through his papers he was able to provide us with contact information.

We had arranged an appointment with the director of the stone bridge society at 16:00. Our mid-morning arrival in Kumamoto gave us time to find lodging, grab a bowl of *soba* on the street and explore the Kumamoto Castle.





AZUCHI CASTLE

Elegant and formidable, the form of the Japanese castle evolved in response to sociopolitical and geophysical conditions. Medieval society on this stony archipelago at the other side of the ocean was clan-dominated and as fractious and insecure as the terrain was vulnerable to seismic shock.

Due to the danger of destruction by earthquake, buildings, at least those that housed people, could not be constructed of stone so somewhat flexible timber-framed structures became the norm. Stone was used for foundation walls and in such a way as to impart a degree of flexibility to those structures.

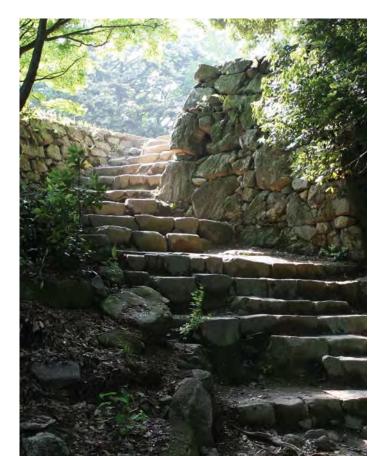
Azuchi-jo (*jo*, castle) on the shore of Lake Biwa near Kyoto was revolutionary in design and became the prototype for subsequent medieval castle construction. Its predecessors were essentially fortresses; castles built after Azuchi-jo were complex, many-tiered and often opulent, timber-framed structures built at commanding heights upon platforms created by massive defensive stone ramparts.

Azuchi-jo was constructed at the behest of Nobunaga Oda, a powerful, resourceful and somewhat flamboyant 16th century warlord whose ambition it was to become the country's first supreme ruler. To eliminate what he saw as a rival power in the area Nobunaga attacked Enryaku-ji, a temple complex on neighboring Mt. Hiei that was home to several thousand militant Buddhist monks. His army set fire to the mountain, killed everyone they encountered, men, women and children, and destroyed hundreds of buildings.

The well-built stone walls, though, resisted destruction, something noted by Nobunaga. They had been built by a community of stonemasons located at the foot of Mt. Hiei known as the Anoh-shu (shu, people) a subjugated class of artisans that originally came, or were brought, from Korea. When Nobunaga began construction of Azuchi castle he recruited the Anoh masons. Begun in 1576, it was completed in 1579-and destroyed by fire in 1582.

Although its life was brief Azuchi-jo was was a legendary place in Japanese history (just last year a full-length feature film was produced about Nobunaga and the building of the castle) but the Anoh stonemasons have been largely forgotten.

Despite, or perhaps because of, its legendary status Azuchi-jo was not, like so many other medieval castles, rebuilt. Restoration was limited to the essential hardscape: steps, rampart walls, foundations-the basic footprint. Fortunately there were still a few descendents of the original stonemasons living in the area who were capable of undertaking the restoration of work done by their actual forebearers—the Awatas. ■



above: The first of more than 400 steps to the top of the mountain and the foundations of the five-storied castle that towered over it.

below: A well-fitted boundary wall to the mausoleum near the castle site said to be the final resting place of Nobunaga Oda. It is also believed that his body was never found.



below: The need for good building stone exceeded the availability of it and Buddhist temples and Shinto shrines were not spared in the widespread scavenging that occurred. This block bearing the emblematic footprints of the Buddha became a simple unit of masonry. Fortunately it was placed in a wall in such a way that the carving was protected until it recently came to light during the restoration.



ANOH-SHU

On my very first visit to Japan in 1992 I was told of a village of stonemasons somewhere in the environs of Kyoto. More recently, through persistent inquiry on Miwako's part we were able to discover the whereabouts of this place, a town called Sakamoto. It is a suburb of Otsu in Shiga prefecture north of Kyoto beside Lake Biwa. She learned the name of the one known stonemason family still in residence there, the Awatas.

Junji Awata and Suminori Awata, father and son, are 14th and 15th generation stonemasons who specialize in the restoration of medieval castle walls throughout Japan, rebuilding them to resist seismic shock. They are practitioners of the legendary Anoh method of stonework and live at the foot of Mt. Hiei near Kyoto where the Anoh method originated in the 16th century.

The father broke with tradition by going to a university to study engineering, but after working for some time in that capacity, he returned to the family trade. His son, however. began working with his grandfather as a boy, leaving junior high school to do so. Away from the work site Jyunji and Suminori are father and son, but on the job-because they began their apprenticeships at about the same time—they relate as brother masons.

Awata senior has devoted himself to disseminating information about the Anoh stonework tradition. His engineering training and experience have merged advantageously with stonemason savvy. He is the author of a highly regarded book on the history, principles, and practices of the Anoh method as well as a technical treatise and he has conducted training programs all over Japan. The Awatas have been involved in the restoration of more than a dozen medieval castles throughout Japan as well as modern applications of the Anoh dry stone walling technique known as the Anoh-zumi (zumi-method.)

We met with the Awatas and Junji took us on a walking tour of the town. At the Hiyoshi Taisha shrine our attention was captivated by three stone bridges over the Omiya river which runs through the grounds of the shrine. These marvelous post and beam structures have been designated national treasures.

Hiyoshi Taisha was built in 806. Because of its proximity to Mt. Hiei it has always been associated with Enryaku-ji. The shrine was destroyed in 1571 when Nobunaga eliminated the Enryaku-ji monks, but it was rebuilt soon after.

From Sakamoto we took a local train to Azuchi-jo. Unlike many other medieval castles, Azuchi-jo has not been restored (though a replica was built elsewhere) but the Awatas were commissioned to rebuild walls that their ancestors had worked on in the late 16th century.

The Awatas' response to my suggestion that they come to the USA and share their techniques with American and Canadian stonemasons was positive and it led to the Japanese Dry Stone Walling Workshop associated with the Stone Foundation's annual gathering in January 2010. In the course of that workshop two major structures were built modeled on Japanese Castle ramparts (see STON-EXUS Magazine issue #X). ■

below: This bridge was built in 1669. Its post and beam substructure was recently replaced by the Awatas. Note the joinery resembling skilled wood framing.

facing page: The other two national treasure bridges and Junji Awata pointing out the slots in a stone carved for the wedges that were used to split it.

bottom of facing page: New work, old way. Recent work by the Awatas in a park in downtown Sakamoto.

