PROFILE

FAITH HENTSCHEL
INA ARCHAEOLOGISTS PAY TRIBUTE

PHOENIX II IN VERMONT
2016 CLAUDE DUTHUIT GRANT RECIPIENT

SALVAGING USS WESTFIELD REMNANTS OF A CIVIL WAR GUNBOAT
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ON THE COVER: Faith Hentschel takes measurements on the Lapa Bronze Age shipwreck at Urluburun, Turkey (IANA, Photo by D. Frey).
IT'S ALL ABOUT THE SHIPS

Some readers glancing at the title will assume I am referring to boats, barges, skiffs, schooners, galleys, galleons, and all those vessels that are the focus of INA’s efforts to bring the history to light through the science of shipwrecks. But in fact the ships that make INA truly great, and make the INA presidency feel much less like a job, are relationships: specifically friendships and partnerships.

In this first double issue of 2016, we hear from Ph.D. student Carolyn Kennedy, the most recent recipient of INA’s largest annual archaeology award, the Claude Duthuit Archaeology Grant. Claude Duthuit (1931-2011), took INA Founder George Bass on his first open-water dive in 1960, was George’s closest friend, and a loyal and generous INA Director until his death. The Claude Duthuit Archaeology Grant was endowed by Claude’s wife Barbara in 2014, and every year the grant is awarded rekindles Claude’s intrepid and magnetic vigor.

In this issue we also honor INA partnerships with Texas A&M University (TAMU), which represents, in the words of George Bass, “the best thing that ever happened to INA.” The INA-TAMU partnership gave rise to the Nautical Archaeology Program (NAP), which celebrates its 40th year in 2016. Since its humble beginnings in 1976, hundreds of NAP students have earned Master’s and doctoral degrees and we followed up with some of them from NAP’s inaugural class.

My favorite part of this issue is the profile of archaeologist Faith Hentschel, whose service to INA as a volunteer every summer on a dozen INA shipwreck excavations exemplifies the definition of friend and partner. We received so many delightful anecdotes about, and terrific photos of, Faith in the field that we could not squeeze them all in. Following the adage that “a picture [by Don Frey] is worth a thousand words” I offer this photo of Faith and me on the Kislak Bar Column Wreck in 2006. What worried me at the time is a distant memory, but the photo epitomizes Faith’s inquisitive, assertive, and protective nature. I love being in the field with you, Faith!

Deborah Carlson
INA President
president@nauticalarch.org
UPDATE FROM THE EQUATOR PROJECT
INA Research Associates Katie and Piotr Bojakowski recently completed a field season recording the Equator, a small schooner built in San Francisco in 1888 for the South Pacific coconut trade. The Equator had a fascinating early history as a charter vessel for Treasure Island author Robert Louis Stevenson, a tender for an Alaskan salmon steam cannery, and a charter vessel for Treasure Island author Robert Louis Stevenson. The Equator had a fascinating early history as a charter vessel for Treasure Island author Robert Louis Stevenson, and very productive. University faculty in residence included INA President Debbie Carlson (Texas A&M), INA Vice President Cemal Pulak (Texas A&M), and INA Affiliated Scholars Nicole Hirschfeld (Trinity) and Kris Trego (Bucknell). They were supported by a stellar team of INA administrative and conservation staff and an outstanding group of six Texas A&M graduate students. Among the latter were Ph.D. student Kevin Melia-Teevan, Kelsey Rooney, and Miguel Gutierrez assisting with the analysis of artifacts from the Uluburun shipwreck, Chelsea Cohen and Phil Watson working on the Kizilburn shipwreck assemblage, and Karl Krusell conducting capacity measurements on 70 transport amphoras from the Tektaş Burnu shipwreck. As a result of INA’s affiliation with Texas A&M, graduate students gain international internship experience working with archaeological collections in a museum setting. INA researchers thank all students and INA staff for another terrific summer in Bodrum!

SUMMER RESEARCH IN TURKEY
In stark contrast to the terrorist attacks and political turmoil in Ankara, Istanbul, and southeastern Turkey, the summer of 2016 in Bodrum was calm, quiet, and very productive. University faculty in residence included INA President Debbie Carlson (Texas A&M), INA Vice President Cemal Pulak (Texas A&M), and INA Affiliated Scholars Nicole Hirschfeld (Trinity) and Kris Trego (Bucknell). They were supported by a stellar team of INA administrative and conservation staff and an outstanding group of six Texas A&M graduate students. Among the latter were Ph.D. student Kevin Melia-Teevan, Kelsey Rooney, and Miguel Gutierrez assisting with the analysis of artifacts from the Uluburun shipwreck, Chelsea Cohen and Phil Watson working on the Kizilburn shipwreck assemblage, and Karl Krusell conducting capacity measurements on 70 transport amphoras from the Tektaş Burnu shipwreck. As a result of INA’s affiliation with Texas A&M, graduate students gain international internship experience working with archaeological collections in a museum setting. INA researchers thank all students and INA staff for another terrific summer in Bodrum!

2016-2017 AIA LECTURE SCHEDULE
INA researchers are well represented in the current national lecture program of the Archaeological Institute of America (AIA). Fall presentations include those by TAMU Professor Shelley Wachsmann (The Sea of Guillemot Boat), Bass Lecturer and TAMU Ph.D. graduate Michael Jones (The Archaeology of Shipbuilding), Steffy Lecturer and TAMU Ph.D. graduate Lilia Campana (Megalomaniac at Sea: the Recovery of Hellenistic Naval Architecture during the Renaissance), and INA Affiliated Scholar Elizabeth S. Greenc (Exchange in the Age of Lyric Poetry: the Archaic Shipwreck at Daphne Burnu, Turkey). In 2017 scheduled speakers include McCann/Taggart Lecturer and TAMU M.A. alumnus Justin Leidwanger (Between East and West at the End of Antiquity: the Marazemmi Shipwreck), Anita Krause Badler Lecturer and INA Affiliated Scholar Mark Lawall, and TAMU Ph.D. graduate Peter Fix (The Recovery of La Belle). For more information about lecture locations and times, please consult the online schedule at www.archaeological.org/lectures.

NAP ALUMNI NEWS
Sam Cuellar received his M.A. from the Nautical Archaeology Program at Texas A&M University in May 2015. This past summer, Sam directed the INA-funded Indiana Survey Project, exploring the offshore remains of the once prosperous Texas port city of Indiana. With the help of TAMU Ph.D. students Dave Ruff and Charles Bendig, as well as the Texas Historical Commission and State Marine Archaeologist (and NAP alumna) Amy Roggens, Sam successfully completed a 75-mile geophysical survey of the former Indiana wharf area and relocated a wreck, tentatively presumed to be the Morgan Steamship Company’s SS Perserverance. After graduation, Sam accepted a position as a Data Exploitation Analyst at OceanSpringer International, Inc., where he will collect and analyze data from numerous towed, remotely-operated, and autonomous systems used in underwater archaeology. Laura White (M.Sc. University of Bradford, UK) recently joined the faculty of Texas A&M University - Galveston as a lecturer in the Dive Program, within the Department of Liberal Studies. She is currently finishing her doctoral studies in the Nautical Archaeology Program, researching the painting and preservation of ships in antiquity.

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Did you know that shopping at Amazon.com can support INA? AmazonSmile is an easy and automatic way to support INA at absolutely no cost – Amazon will simply donate a portion of eligible purchases to your favorite charitable organization. To help support INA, go to smile.amazon.com, search for, and select the Institute of Nautical Archaeology as your charity. If you want to do even more to help INA, please consider donating a book to the Mary and Lamar Touze Library at INA’s Research Center in Bodrum, Turkey by visiting INA’s Wish List at www.amazon.com! 
THE NAUTICAL ARCHAEOLOGY PROGRAM TURNS 40

Meet some of the students who embarked on a graduate degree in Texas A&M’s Nautical Archaeology Program four decades ago.

In 1976, as a direct result of its new affiliation with INA, Texas A&M University (TAMU) welcomed the first class of students into the country’s only academic graduate program in nautical archaeology. Over the past 40 years, Master’s students enrolled in the Nautical Archaeology Program at TAMU have directed and participated in hundreds of projects all over the globe, including INA shipwreck excavations at Serce Limani, Port Royal, Mombasa, Uluburun, Bozburun, and Tektas Burnu, among others. Some M.A. graduates went on to pursue a doctoral degree in a related field (history, classics, anthropology), while others have made successful careers in museums, publishing and journalism, cultural resource management, and archaeology at the state and federal levels. In celebration of NAP’s 40th birthday, we asked members of the first pioneering group what it was like to embark upon the pursuit of a degree in a brand new discipline, and they shared with us some of their favorite memories and photos from their time in the Nautical Archaeology Program.

1976-1977 NAP STUDENTS

Randel Davis
Tom Doran
Don Keith
Terry Mahlman
Sam Margolin
Sheila Matthews
Elizabeth (Lisa) Shuey
Warren Riess
Richard Swete

I left a tenured professorship at the University of Pennsylvania in 1973 in order to form INA so we could spend full time on field work and publishing without the duties of teaching. How ironic then that the best thing that ever happened to INA was affiliating with Texas A&M University in 1976 after a civil war forced INA to abandon its original headquarters on Cyprus. The graduate students we now have comprise the bulk of our skilled excavation staffs, often playing a large role in subsequent publications of our projects. Graduate seminars also provide opportunities to train future generations of nautical archaeologists in more than just excavation techniques.

- GEORGE F. BASS

I was asked by George Bass to join NAP as a faculty member in 1977. During the previous decade, I had become a competent teacher of ancient Greek and Greek and Roman archaeology at UC Davis. Now, however, I was faced with teaching courses in a new field just coming into being, and I sometimes felt that I was a fraud who pretended to know much more about my subject than I actually did. Fortunately, we were blessed with a steady flow of exceptional students who, working with the faculty both in the classroom and in the field, helped make the Program an important contributor to the form and substance of what is now the discipline of nautical archaeology. By the beginning of the 1990s, I felt I had become a competent teacher again in what continues today to be a truly great program.

- FRED VAN DOORNINCK

Don Keith on the Molasses Reef shipwreck

Terry Mahlman and Lisa Shuey
As a young man I considered various professions and by luck in 1969 I was a member of the archaeology team at Yassıada, Turkey. There I became fascinated with the wreck site in Maine, I became part of the team. In 1976, as I was preparing to start graduate studies in History, George, Dick, and Fred launched the Nautical Archaeology Program. Immediately I applied. Though I had learned much from these three wonderful men in the field, studying under them was extremely rewarding. It was in the NAP that I learned to meld my varied background (science, engineering, history, and a love of solving mysteries) to analyze and interpret wreck sites. And, I was with graduate students who would be colleagues and friends for life, whether or not they remained in nautical archaeology.

-WARREN RIESS

During my last year of undergraduate work in anthropology at The University of Texas, I was still undecided as to what direction to take after graduation. I watched a Jacques Cousteau documentary and decided, on a whim, to take diving lessons. The next day, I was near the Classics building when my feet took me into the main office and I asked if there was such a thing as doing archaeology underwater. They told me that George Bass was starting a program at Texas A&M.

My decision to apply changed my life and ignited a passion that has continued until the present. Dick Steffy instilled in me a deep interest in ship construction and 3D visualization long before computers would do all the work for us. Our first semester with Mr. Steffy was spent in his garage with breaks for homemade cookies made by his wife, Lucile. The second year, we experienced the thrill of an expanding program and our classroom discussions often evolved into evening gatherings.

I was invited to join the Sarıce Limanı excavation in Turkey and given the opportunity to reassemble and study the ship's hull. I worked on numerous projects as an INA employee for most of my career and I have never regretted a moment. It all goes back to a single documentary film and the extraordinary guidance of George Bass, Dick Steffy and Fred van Doorninck.

-SHEILA MATTHEWS

During my last year of undergraduate work in anthropology at The University of Texas, I was still undecided as to what direction to take after graduation. I watched a Jacques Cousteau documentary and decided, on a whim, to take diving lessons. The next day, I was near the Classics building when my feet took me into the main office and I asked if there was such a thing as doing archaeology underwater. They told me that George Bass was starting a program at Texas A&M.

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-SHEILA MATTHEWS

As an undergrad at UC Berkeley I discovered underwater archaeology when a professor gave me George Bass’ first book. Being an avid sailor and diver with a love of classical archaeology, it was exactly what I wanted to pursue, but at the time there was no place to go. Thankfully, three years later the Nautical Archaeology Program was founded and joining its first class was definitely one of the best things I ever did. It was a thrilling academic experience to study under George Bass, Fred van Doorninck and Dick Steffy, and an utter joy to work on the Sarıce Limanı, Uluburun, and Mombasa excavations.

The impact of those experiences and friendships made in the field are still a major part of me. Though my life went another direction after getting my M.A. and Ph.D., there’s no doubt in my mind that the discipline of self-directed research and the organizational experience of directing and publishing the port excavation at Gravisca, Italy helped me professionally. I’ve had a successful career in software development and, for the last 15 years, as an IT Project Manager and enjoyed it all, but nautical archaeology has remained solidly in my heart and mind throughout.

-LISA SHUEY

As an undergrad at UC Berkeley I discovered underwater archaeology when a professor gave me George Bass’ first book. Being an avid sailor and diver with a love of classical archaeology, it was exactly what I wanted to pursue, but at the time there was no place to go. Thankfully, three years later the Nautical Archaeology Program was founded and joining its first class was definitely one of the best things I ever did. It was a thrilling academic experience to study under George Bass, Fred van Doorninck and Dick Steffy, and an utter joy to work on the Sarıce Limanı, Uluburun, and Mombasa excavations.

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-LISA SHUEY
The third and final field season of the Shelburne Shipyard Steamboat Graveyard Project was made possible by the 2016 Claude Duthuit Archaeology Grant. Thanks to the generous Duthuit grant, the project’s co-principal investigators, Professor Kevin Crisman and Ph.D. Student Carolyn Kennedy of the Nautical Archaeology Program (NAP) at Texas A&M University (TAMU), were able to complete the study and excavation of four steamboats wrecked in Lake Champlain, Vermont. Not only were the predetermined goals accomplished, several unexpected finds revealed incredibly valuable information about one wreck’s identity and machinery.
In addition to co-directors Crisman and Kennedy, the 2016 season benefited from the leadership and co-direction of the Lake Champlain Maritime Museum’s (LCMM) archaeological director and NAP alumnus Christopher Sabick, as well as expert divermaster, longtime INA Affiliated Scholar, and director emeritus of the LCMM, Arthur Cohn, and assistant divermaster and technical diving expert, Dave Porter. Our core crew included graduate students Dan Bishop, Chelsea Cohen, Megan Hagsath, Kelsey Rooney, and recent Ph.D. Kotaro Yamafune; TAMU undergraduate Alexis Burbard, and volunteers Jenny Craig, Maxfield MacPhee, INA Research Associate George Schwarz, and Ed Scolion. The project ran from May 30 to June 19, during which time we were incredibly fortunate to have experienced perfect weather. The project was staged from Mark Brooks’ personal lakefront property, whose gracious support for the project over the years has only been matched by Charlie Tompkins, owner and operator of the Aske Marina.

The bow and stern assemblies, the keelson and keel (where possible), and some significant narrowing towards the stern post and rudder were excavated completely, revealing the major hull features of Phoenix II, including five cross sections, the stringers, keelson and keel (where possible), and the bow and stern assemblies. These tasks, begun in 2014 and 2015, were successfully completed by the end of June. Cross sections were recorded at frames 5, 20, 40, 80 and 110. The stringers and keelson were drawn in plan view and from profile perspectives. The bow was dug out from a thin layer of sediment in 2015, and documentation of the remaining structure was completed in 2016. The stern and rudder less than three-degree deadrise, the same angle found at frames 40 and 80. The flat, boxy hull therefore accounted for the majority of the steamer’s length. That the flat-bottomed hull was seemingly worrisome to the shipbuilders is suggested by an obvious increase in the number of iron fastenings used in the hull and ceiling of Anthropology, but eventually sent to the LCMM for permanent exhibition. The artifacts, though an exciting addition, were not the main focus of the 2016 Shelburne Project. In fact, the goals for this season were to continue recording the major hull features of Phoenix II, including five cross sections, the stringers, keelson and keel (where possible), and the bow and stern assemblies. These tasks, begun in 2014 and 2015, were successfully completed by the end of June. Cross sections were recorded at frames 5, 20, 40, 80 and 110. The stringers and keelson were drawn in plan view and from profile perspectives. The bow was dug out from a thin layer of sediment in 2015, and documentation of the remaining structure was completed in 2016. The stern and rudder were excavated completely, revealing the bottom of the hulled rudder. The excavated sections were recorded photogrammetrically by Dr. Kotaro Yamafune, whose services were made possible thanks to the Claude Duthuit Archaeology Grant.

The frame cross sections revealed a mostly flat-bottomed steamer, as expected, with some significant narrowing towards the bow and stern. The bottom was flat as far forward as frame 20, with a planking around the turn of the bilge. Phoenix II stern assembly presented more of a problem than the rest of the vessel. The bottom of the stempost and rudder were bashed much deeper into the lake floor than the rest of the hull. An unsuccessful attempt to reveal the keel and bottom of the boat was made in 2015, before the crew realized the extent of the task. This year, knowing what we were up against, we allocated some of the Claude 2016 SHELBURNE SHIPYARD STEAMBOAT GRAVEYARD 14 RIA QUARTERLY 43.1/2 SPRING/SUMMER 2016 WWW.NAUTICALARCH.ORG 15 [The diver] surfaced with a handful of iron tools...One of these tools was a chisel with an inscription that reads “S.B. Phoenix.” “S.B.,” an abbreviation for Steam Boat, and “Phoenix” made the identity of Wreck 2 unmistakable.
This single wreck represents the era of massive, elegant Lake Champlain steamboats that constituted the main method of travel for people passing through the Champlain Valley for nearly 100 years.

The disturbed clay left a lingering opaque cloud on the lake bottom, requiring all the recording to be done by touch. Removing gloves allowed divers to feel the seam between the garboard and the keel, and the iron fasteners holding the assembly together. The keel was found to be 9 inches molded, and held to the sterno post with a circular iron band, with the wood cut away so the iron circle was flush with the surfaces of the garboard, stempost and keel. The 15-inch diameter circular iron band was not what we anticipated; we were expecting iron dovetail plates, a common fastener used on steamboats during this period. Dovetail plates (also referred to as fish plates) were used on Tiouondega (1814), one of the earliest-planned steamers. Neither dovetail plates nor evidence of a circle band were detected on Phoenix I. According to Crisman, this type of fastener was used on several of the British ships in the Great Lakes in the War of 1812, but this is the first sign of one on a Lake Champlain steamboat.

We discovered even more surprises at frame 60, where the chisel and a large number of other artifacts were found. Clearing the rocks from frame 60, diver Ed Scoollon revealed the most indirect evidence for machinery from the entire wreck. At least five holes ranging from 4 to 11 inches in diameter had been cut through the ceiling planking, most likely to accommodate valves or through-pipes. The largest hole, at 11 inches in diameter, passed through not just ceiling planking, but also through a solid wooden block all the way through to the bottom of the steamer. The other holes had at some point been disfigured, likely in an effort to remove the metal piping they housed.

Aside from the holes indicating machinery placement, two iron attachment points resembling shackle bolt mounts were placed between the inner and outer engine bed timbers on both sides. The mounts were 4.5 inches high, with a 5-inch diameter circular head, and a 1-inch diameter hole where presumably the shackle bolt was attached. What exactly these mounts were used for is unknown, but they may be key to solving the positioning and configuration of the early crosshead beam engine used on Phoenix II. Though the features found on frame 60 require more examination, the information derived may answer many questions about this early style of engine and its employment on Lake Champlain steamers.

Three years of archaeological work on Phoenix II will be instrumental in furthering our understanding of early steamboats, their construction, engines and the lives of those who worked and traveled on board. The technology required for building the engines, designing the hulls and running the on-board operations was all in the earliest phase of development. In this period, shipwrights were using a mixture of traditional boat-building methods and implementing new, and in some cases, untested techniques to construct the hulls and skeletal framework. This process required trial-and-error to learn which construction methods worked best to produce larger and faster boats that generated the most profit. Phoenix II’s hull represents the earliest alterations, but can be directly compared to Phoenix I to see how design had changed in only five years. Having confirmed the steamer’s identity through the combination of archaeologically excavated, historical research, and a bit of luck, we are now able to draw conclusions about a known historical wreck. This single wreck represents the era of massive, elegant Lake Champlain steamboats that constituted the main method of travel for people passing through the Champlain Valley for nearly 100 years.

CAROLYN KENNEDY
Ph.D. Student
Texas A&M University
FOLLOW INA ONLINE: For more information, visit the project page at nauticalarch.org/projects/shelburne-shipyard-steamboat-graveyard-research-project/
Dr. Faith Hentschel has been a valued and voluntary member of a dozen INA projects over the past four decades. Faith earned degrees in Art History from Mount Holyoke (1965) and Classical Archaeology from Yale (1975, 1977, 1982). As an underwater archaeologist Faith worked in Maine, Italy, and Spain but dedicated the bulk of her career to INA projects in Turkey, where she trained countless students in the techniques of underwater excavation. Faith’s extraordinary resume includes INA excavations at Yassıada, Serçe Limanı, Uluburun, Bozburun, Tektaş Burnu, Pabuç Burnu, and Kızılburun. Faith also directed shipwreck surveys for INA in 2003 and 2004. In 2009, Faith retired from Central Connecticut State University as Professor in the Department of Art. During her prestigious archaeological career Faith has given innumerable public lectures about INA-excavated shipwrecks. Today she enjoys spending time with her two children and four grandchildren. The pages that follow capture, chronicle, and celebrate the lasting impact of one of nautical archaeology’s grande dames.
1970s

It was the mid-1970s when I first met Faith. George Bass was then well known for taking archaeology to the seafloor with the Byzantine Ship at Yassıada. He decided to launch a student excavation, I first heard of Faith's many praises, and conjured up an image of an incredibly capable, giant of nautical archaeology. It was with great anticipation therefore that my eyes were glued to the horizon for our locally-hired boat, returning from its weekly run to Marmaris with provisions and guests. When the boat finally arrived, I began sizing up the guests on board, and I quickly recognized Faith from her beaming smile, heartfelt greeting, and her infectious laughter. Indeed, Faith proved to be everything I had heard about and much more.

-SUSAN KATZEV

1980s

In 1977, I was a graduate student volunteering at INA's Serçe Limanı Medieval Glass Wreck excavation in Turkey when I met Faith. Two years earlier, at INA's Bronze Age Sıtyan Densı wreck excavation, I first heard of Faith's many praises, and conjured up an image of an incredibly capable, giant of nautical archaeology. It was with great anticipation therefore that my eyes were glued to the horizon for our locally-hired boat, returning from its weekly run to Marmaris with provisions and guests. When the boat finally arrived, I began sizing up the guests on board, and I quickly recognized Faith from her beaming smile, heartfelt greeting, and her infectious laughter. Indeed, Faith proved to be everything I had heard about and much more.

-CEMAL PULAK

In 1982, I was a student in the Williams College/Mystic Seaport Program in Maritime Studies when Faith gave a lecture at the Seaport about INA's work in Turkey. I was a history major, but wanted to work more with physical objects and ships, and the light bulb went on in my head during her lecture - this is EXACTLY what I want to do! After the lecture, I made Faith coffee while she told stories about George, Fred, Dick and the excavations at Serçe Limanı and Yassıada. A year later, she taught a course at Connecticut College. Faith assigned me a report on the Byzantine ship at Yassıada, and lent me her new copy of the excavation publication to prepare, and then had to suffer through a very long plank-by-plank report on Fred and Dick's hull analysis.

-FRED HOCKER

At Uluburun Faith was my favorite dive buddy. We would often “power dive” the 150 feet to the site to gain a bit more work time. She was tough as nails! One of the best parts of diving with her was that when excavating she mumbled to herself. As we were often out of sight of one another -- there was a big boulder in the way-- as long as I could hear her I knew she was safe and I never had to stop working to check on her. While over the years I have had other dive buddies who have perhaps been Faith’s equal, none has been better.

-RALPH PEDERSEN

During my photo runs at Uluburun I spent hours watching Faith excavate, and she was not to be disturbed or moved for a better photograph, but loving the lights she worked feverishly, talking to herself all the while. At Uluburun Faith was great company on a day off in Kastellorizo, she was always ready for a good conversation, a dance, or a jump off the cliff into the sea.

-DON FREY

The Uluburun shipwreck excavation lasted 11 full seasons during which we dived twice a day, six days a week for two and a half to three months each season, compiling 22,500 working dives, and I do not remember a single dive Faith missed! Always volunteering for tasks that others normally shied from, meticulously keeping excavation and artifact catalogs, and swiftly stepping in when others felt ill or tired. We depended on her regularly, and she delivered unfailingly week after week, year after year, with her big, beaming smile. I will never forget her standing on my shoulders at 180 feet deep determined to get difficult horizontal measurements using a plumb-bob and measuring tapes on the steep slope of the site. I cannot imagine a harder working, a more joyful and spirited colleague than Faith.

-CEMAL PULAK

1980s

This page, clockwise from left: Faith and Don Fray; Sorting glass fragments from the Serçe Limanı Glass wreck; Faith in 1979; Faith and Don Rosencrantz.

In 1977, I was a graduate student volunteering at INA’s Serçe Limanı Medieval Glass Wreck excavation in Turkey when I met Faith. Two years earlier, at INA’s Bronze Age Sıtyan Densı wreck excavation, I first heard of Faith’s many praises, and conjured up an image of an incredibly capable, giant of nautical archaeology. It was with great anticipation therefore that my eyes were glued to the horizon for our locally-hired boat, returning from its weekly run to Marmaris with provisions and guests. When the boat finally arrived, I began sizing up the guests on board, and I quickly recognized Faith from her beaming smile, heartfelt greeting, and her infectious laughter. Indeed, Faith proved to be everything I had heard about and much more.

-CEMAL PULAK

I can never forget the first time I met Faith. It was 1978, my first week in Turkey, and she arrived at the excavation full of smiles and exuberance. Faith always reminds me of laughter, long talks, whispers and giggles across bunk beds at our excavation camps, Faith has always been able to pull people out of themselves. Maybe it’s her openness and willingness to share that draws people to her. It is probably this feature of her character that also gives her such a love of adventure. Faith is always doing something, busy exploring and questioning – we have had some wonderful trips together and she has led me in directions I would never have thought to try on my own. I have known Faith for over half of my life, and because of this, the most important half.

-SHEILA MATTHEWS

This page, clockwise from left: Faith examining glass shards in the Bodrum Museum; Holding an ebony log from the Uluburun cargo; Faith discusses the Uluburun site plan in the field; Faith (left) and (left to right): George Bass, Robin Piercy, Dick Steffy, and Ann Bass.
Faith Hentschel was the first member of INA whom I ever met, when I attended her presentation on the 1988 excavation of the Uluburun shipwreck. Afterwards I presented myself to Dr. George Bass himself. In 1989 I was admitted to the Nautical Archaeology Program, and in May 1990 I reported for camp building at Uluburun. As Virazon arrived in camp, I quickly spied Faith and shouted “Hello Dr. Hentschel!” She laughed and replied, “Call me Faith.” I worked with her everyday over the next five seasons at Uluburun. Faith brought us first year students along for trips through the countryside and out to the restaurants of Kas on our day off, teaching us about the art and history surrounding us. Perhaps best of all was her great laugh and willingness to listen to our problems and little dramas. I can’t imagine my life in Turkey without her.

When I was lucky enough to have Faith as a dive buddy at Tektaş Burnu, I learned the thrill of zooming down to the site, finning furiously as fast as our ears could clear, impatient to begin the day’s discoveries. And yet many times at Kekova a few years after that, I watched as Faith patiently shepherded new students down to the site, descending feet-first at a rate that must have felt like half her bottom time. Faith didn’t only teach students to excavate, but to experience Turkey in all of its glory. After driving two students to a treasured fish restaurant on the Bodrum peninsula, she encouraged them to try whole fish for the first time. Yet with a different set of determinedly unadventurous diners, she had no hesitation in ordering multiple plates of sigara borek to make sure they too learned to love Turkish cuisine.

When I first met Faith when we worked together at Kazılburun, although I had been hearing stories of this INA Olympian since my sum- mer at Pabuç Burnu. Vivacious and loquacious, Faith possesses the sparkle of genius. The second word that comes to mind is ‘generosity’. Faith took me to explore the Sinai and dive in the Red Sea and tube the Xanthos River. She bought me my first car and made me learn to drive a motorcycle the day she fell off hers. She gave me the best hand-me-downs ever. The third word that comes to mind is ‘fierce’. Fierce to get it right, fierce to do it right. Her hand raised at the end of briefings, asking for clarification. Her hand raised to volunteer. The best cleaning buddy in the history of the universe. The best dive buddy in the history of the universe. The best hand-me-downs ever. Her third word that comes to mind is ‘joy’. Faith, wild-child of the 60s, dreaming big, fearless in making those dreams happen. Like the best heroes, stumbling big. Then doing even bigger to make up for it. The best cleaning buddy in the history of the universe. The best buddy in the history of the universe.

Faith is the ultimate digger, the excavator’s excavator, with years of experience and a fine eye for what she sees in the mud and sand. When I was preparing for the first season at Bozburun, I was pleased to learn that Faith would participate, and asked her to work the galley area. She was one of our stalwarts, every season for four years, but you had to be a tolerant partner. She did not want to stop digging, and would bat you away with a hand when you came to “suggest” that it was time to surface. I treasure every sea- son with her, and look forward to seeing her every time we meet.

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As Director of INA’s Turkish shipwreck surveys in 2003 and 2004, Faith made unsuccessful but well focused efforts to relocate the “Demeter Wreck.” Both summers, I followed her efforts closely and became aware that “macho extremism” was such a problem that I twice threatened to fire one of the offenders. In the end, however, it was Faith’s dignity and grace that carried the day. Today, thanks to the early efforts of people like Faith, INA is thriving under the leadership of women, along with men, at all levels. She is to be thanked for her role in bringing us to this happy state.

I’m sure Faith will laugh at the suggestion that I learned patience from her, but the better lesson might be one of balance. More than anything else, Faith’s ideas about a balanced life, which she told me over countless sandwich lunches on Virazon during the long first season at Pabuç Burnu—to pursue excellence, but leave time for love and family; to speak your mind, but sometimes stay silent; and to cherish the beauty of your full world—are words of wisdom I will always value.
In 2009, the U.S. Army Corps of Engineers (USACE) organized the recovery of the wreckage from the Civil War gunboat USS Westfield in advance of a major dredging operation planned for the Texas City Ship Channel in Galveston Bay, Texas. This project resulted in the largest archaeological salvage ever conducted in Texas waters. Over 8,000 artifacts were recovered and sent to the Conservation Research Laboratory (CRL) at Texas A&M University (TAMU). Although conservation was originally the main objective, in time, the project grew into a major exhibit at the Texas City Museum. This project was realized by both undergraduate and graduate students from numerous disciplines working together to achieve a common goal in bringing Westfield’s story to the public.
Forward she was blown into fragments down to the water... The Commodore’s boat and all in it were annihilated in the terrible catastrophe – scattered through the air in fragments.
open into a meaningful museum exhibit and it began to look as if most of the collection would be relegated to permanent storage.

**INTERDISCIPLINARY COLLABORATION**

Before conservation was complete, the author, together with fellow Nautical Archaeology Program (NAP) graduate student Jessica Stika, began to work toward a curation solution. Individually, these shattered artifacts meant nothing, yet, if they could be combined and exhibited together, Westfield’s story could be told. We started to design concept models that utilized skeletal structures to reconstruct the original size of Westfield’s machinery and began mounting the surviving artifacts onto those structures. Before long we realized that there were enough artifacts to reconstruct Westfield’s massive engine cylinder, one of the two boilers, and one of the bearing block assemblies that once supported the engine’s walking beam. After presenting concept models of these three components to the Texas City Museum, the idea was accepted, and the USS Westfield Reconstruction Project was formed.

Professional ship modeler Glenn Grieco of the Center for Maritime Archaeology and Conservation (CMAC) took the engine cylinder concept and redesigned it into a structurally sound engine cylinder, one of the two boilers, and one of the bearing block assemblies that once supported the engine’s walking beam. After presenting concept models of these three components to the Texas City Museum, the idea was accepted, and the USS Westfield Reconstruction Project was formed.

Students at the CRL were puzzled how to build the boiler components in an economically and structurally sound way. Architecture Ranch students reworked the boiler plan to include the vertical stability of the structure, the weight capacity to hold the artifacts, the aesthetic need to hide the main structural frame, electrical lighting, and most importantly, safety, since this structure would be placed in a public museum. Finally, Architecture Ranch students constructed the skeletal portions of the boiler using cattle-panel and reinforced steel bars and tubing. Although considerably smaller than the other components, the bearing block proved to be no less impressive in both planning and construction. The top portion of the bearing block weighs 765 lbs., while the bottom portion weighs 350 lbs. Without the wood beams that were originally integrated into the structure, students at the CRL were puzzled how to support the great weight of this component. The students from Architecture Ranch found a solution—a heavy frame hidden within faux beams designed to mimic the originals.

**CONCLUSION**

The process that led to this reconstruction proves that even the most scant archaeological artifacts can be an educational asset if utilized properly. While USS Westfield is only 150 years old, the design of the machinery is now largely forgotten or misunderstood. Collaboration between conservators, museum staff, and students of Anthropology, Architecture, and Engineering generated creative solutions through shared expertise. As a result, large portions of Westfield’s machinery were reconstructed, allowing the vessel’s story to be presented to the general public in one of the largest ship-wreck exhibits in the state of Texas.

**ACKNOWLEDGEMENTS**

Heartfelt thanks go out to students of the TAMU Anthropology Department: Jessica Stika, Karen Martin-dale, Kotaro Yamafune, Glenn Grieco, Christopher Dolit, Timothy Campbell, Ralf Singh-Bischoffberger, Parker Brooks, Carregan Miller, Martin Kullu, Kelsey Rooney; the Architecture Ranch: Luke Fangue, Jacob Puket, Mitchell Jackson, Michael McGall, Troy Haunm, Justin Cannaday, Shyanne Delhan; TAMU Galveston: Morgan Larmon and Rachel Jacob; and Austin Anderson (University of San Diego).

**SUGGESTED READING**


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**JUSTIN PARKOFF**

2016 Ph.D. Graduate Texas A&M University

**WWW.NAUTICALARCH.ORG**

Follow IMA Online: For more information about visiting the USS Westfield exhibit, check out the Texas City Museum’s website: http://www.texas-city-tx.org

**PHOTO, THIS PAGE: J. PARKOFF; OPPOSITE PAGE: ARCHITECTURE RANCH**

This page: Reconstruction of the boiler before final painting. Opposite page: Students at the Architecture Ranch welding the boiler’s frame.
Three hundred and thirty years after La Belle sank in Matagorda Bay, she is now the centerpiece of the main exhibit of the Bullock Texas State History Museum, which opened in downtown Austin in 2001. In fact, the discovery of La Belle in 1995 was the catalyst for the creation of the museum, and the building was designed specifically to house her. Following excavation by the Texas Historical Commission (THC) and years of conservation and reconstruction by Texas A&M University (TAMU)’s Conservation Research Laboratory, La Belle at last occupies the place of honor intended for her, within an exhibition providing a rich context of compelling narratives: the discovery of the wreck, the original La Salle expedition, the interpretation of the artifacts, the human remains on board, and the challenges overcome by the conservators.

Though the Bullock Museum covers many aspects of Texas history through its numerous galleries situated on three floors, it is immediately apparent upon entering the building that La Belle is the premiere exhibit. The arched entrance to the La Belle exhibit pieces the center of the wall facing the entry, and it is the only exhibit to occupy the first floor. Visitors proceeding to other exhibits on the second and third floors find balconies providing bird’s eye views of La Belle from every side on both levels.

The exhibit itself is very effective at telling multiple stories associated with the material remains, and in repeatedly highlighting the human element in those stories. As soon as visitors enter the exhibit space, the first thing they see is a series of photographs with captions providing the chronology of the search for, discovery, identification, excavation, conservation, and display of the wreck. It is made clear that a cannon recovered during early exploratory dives provided the proof of the identity of the ship. That cannon is then displayed next, just after the chronological series of photos, with a dramatic quote from the diver conveying the sensation of groping blindly in the muddy water and making a thrilling discovery. Other points emphasized in the chronology are the revolutionary technique employed to excavate the marine site as a land site by building a coffer dam and pumping out the sea, the Herculean task of conserving such a tremendous quantity of artifacts, the negotiations with France over the ownership of the wreck, the unusual choice to freeze dry the wooden hull, and the creation of the museum as Bob Bullock’s vision for the accommodation of this important discovery.

Also upon entry into the exhibit, one immediately hears the narration accompanying a 15-minute video, playing in a continuous loop. This is the main one of three different videos playing in various parts of the exhibit, and it tells the story of the La Salle expedition. The video begins with shots of the wreck in situ, with a close up of a human skull lying in it, then quickly transitions to the 17th century and the original conception of the expedition, and narrates the events that followed in a tragic tone. The visuals consist of paintings, map graphics, water colors, ink drawings, etc., and the focus is upon the hardships and eventual near complete loss of the expedition team.

The same story is also told with a very large map painted on the wall, with the expedition’s route dotted in, and with a set of photographs with captions, similar to the shipwreck discovery and display chronology opposite it, relating the chronology of the failed expedition, and ending with the sinking of La Belle. The map is effective in reminding the viewer just how long the journey across the Atlantic Ocean really was, especially in such a small ship. And the chronology provides additional detail not covered by the video, including more on the ship’s cargo, identities of some of the passengers, particulars about the voyage and the arrival, and greater detail about the sinking of La Belle.

Though 1.6 million artifacts were recovered from the shipwreck, surprisingly few are on display at the Bullock Museum, but they are effective at bringing to life the people who used them. The main artifact display is a single square glass case, designed to be viewed from all four sides. Each side contains a different category of items: items needed for the planned colony such as tools and cooking utensils, trade goods such as beads and rings, rigging from the ship, and weapons. The display case is small enough that, though the number of items inside is also small, they are so crowded that I found it difficult to take photographs without messy and distracting backgrounds.

A separate display case is dedicated to artifacts associated with one of the two skeletons found on the wreck, along with a replica of the skull and even a reconstruction of the face of the man who died over 300 years ago. Nineteen others reportedly died when La Belle sank. It is rare to find human remains on old wooden shipwrecks, since bodies are usually swept away, and this one provides an ideal opportunity to emphasize the human element in the historical events usually illustrated only by artifacts. As with the bronze cannon, the display of the human remains is accompanied by a dramatic quote, this one conveying the 20th-century researchers’ emotional connection to the 17th-seventeenth century would-be colonists.

The surviving hull of La Belle lies behind a low barrier at the rear of the first room of the exhibit. Visitors approach from her port side, of which only six strakes survive above the keel. She rested on her...
The hull remains list to starboard as they did on the seabed.

The ship is displayed in the ship’s intended positions in the assembled ship and its construction. As visitors leave the main front room of the exhibit, they walk toward the small rear room of the exhibit, a 15-minute silent video is playing on a loop. Oddly, there is no place from which to view this video. I had to wedge myself into a corner between the low barrier around the ship and a support column to be out of foot traffic so that I could watch the video. I found it worth seeing, however, since it showed the actual process of the construction of the coffin dams, the removal and sifting of the sand and mud, and the challenges involved in cleaning and reassembling the 8000 board feet and 600 pieces of the hull, all without ever letting them dry, and there is illustrative footage of the reconstruction within the large water tank with the lifting platform. Donny and Peter also talk about the novelty of freeze drying the entire hull, and the success of that process.

It is gratifying to see that the challenges and rewards of conservation are among the main stories the museum has elected to tell about the wreck. Though it is difficult to photograph the ship from the lower level as mentioned previously, as one leaves the La Belle exhibit and proceeds upstairs to enjoy the rest of the museum, it is quickly apparent that there are excellent perspectives on the ship from the staircase landings and the upper floor balconies above. With so much to see, learn and enjoy in the exhibit itself, it is an added treat to find numerous pleasing perspectives down onto La Belle long after one has moved on to the other exhibits.

Associate Director Dr. Ken Trelhuwecy (M.A., Ph.D. Princeton University) has participated in several INA excavations, including those at Beidhanur, Kizilhourun, and Tehta Burnu (Turkey) and at Godawaya (Sri Lanka).

As visitors leave the main front room of the exhibit, they walk toward the stem of the ship, and find a last placard explaining that La Belle was meant to be a “kit ship”. La Salle’s original plan had been to pack La Belle’s components aboard one of the other three ships of the expedition, and to assemble her after they had reached their intended destination in Louisiana. In the end there was no room to carry the components, and so La Belle was constructed in France and sailed across the Atlantic with the other ships. But the markings identifying the individual components and providing their intended positions in the assembled ship are still clearly visible on the hull today. The museum visitor need only look up from the placard at the well-illuminated stern section of the keel just above and a few feet away to see the Roman numeral markings very clearly.

As with most old wooden shipwrecks, the parts of La Belle that were buried in the seabed survive, while the parts above the mud have been lost. It is often difficult to envision what an entire ship may have looked like when all one can see are the parts that were probably below the water line even when the ship was intact and sailing. Visitors to the museum can overcome this problem fairly easily, however, since there is also on display a 1:12 scale model of La Belle created by Glens Grieco of TAMU’s Center for Maritime Archaeology and Conservation. The model is even in exactly the same orientation as the actual hull, listing to starboard, with the bow facing left, so one can glance from one to the other to imagine the full scale ship. Also, the hull planking has been left off of the model on the port side, so that viewers can see the boxes, barrels, ropes, etc., as they were loaded on the real ship.

Walking around the stern to get to the smaller back room of the exhibit, a loop of film Shipwrecked, screened upstairs in the museum’s theater. Of conserving such a huge quantity of artifacts as was found on La Belle. Two items receive particular attention in the film: the muskets and the hull itself. There is a nice graphic of a musket lying on the seabed and having its iron parts corrode away and form a concretion, and then a hole is drilled in the concretion and it is filled with epoxy. The viewer then sees the resulting muddled pieces refitted onto the original wood pieces to reconstruct the complete musket. Peter Fix discusses the challenges involved in cleaning and reassembling the 8000 board feet and 600 pieces of the hull, all without ever letting them dry, and there is illustrative footage of the reconstruction within the large water tank with the lifting platform. Donny and Peter also talk about the novelty of freeze drying the entire hull, and the success of that process.

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Walking around the stern to get to the smaller back room of the exhibit, a loop of film Shipwrecked, screened upstairs in the museum’s theater. The main display in the smaller rear room of the exhibition is the third and final video, this one a four minute film focusing on conservation. The first face seen is that of TAMU Conservator and former INA President Donny Hamilton, remarking upon the enormity of the task of conserving such a huge quantity of artifacts as was found on La Belle. Two items receive particular attention in the film: the muskets and the hull itself. There is a nice graphic of a musket lying on the seabed and having its iron parts corrode away and form a concretion, and then a hole is drilled in the concretion and it is filled with epoxy. The viewer then sees the resulting muddled pieces refitted onto the original wood pieces to reconstruct the complete musket. Peter Fix discusses the challenges involved in cleaning and reassembling the 8000 board feet and 600 pieces of the hull, all without ever letting them dry, and there is illustrative footage of the reconstruction within the large water tank with the lifting platform. Donny and Peter also talk about the novelty of freeze drying the entire hull, and the success of that process.

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FOOD AT SEA: SHIPBOARD CUISINE FROM ANCIENT TO MODERN TIMES

By Simon Spalding

Rowman & littlefield, 2015
ISBN 978-1-4422-2736-1
Reviewed by Grace Tsai and Karen Kubena

A resilient sea biscuit from Titanic recently sold for £15,000 (roughly $23,000 USD) to a Greek collector, making headlines and sold for £15,000 (roughly $23,000 USD) to a Greek collector, making headlines and... defined by a resilience that enabled sailors to endure the rigors of shipboard life.

In Food at Sea: Shipboard Cuisine from Ancient to Modern Times, Simon Spalding answers the intriguing question of what people ate on sailing vessels dating from prehistory until present day.

Spalding’s book is divided into eight chapters beginning with food eaten on Mesolithic dugout canoes and ending with cuisine aboard modern cruise ships. The chapters are organized in chronological order, with minor temporal overlap of a few chapters where the author found it beneficial to group chapters by subject matter rather than period. The main text is followed by shipboard recipes, a bibliography, and an index.

There are several strengths to this book. First, the breadth of this volume ensures that there is something for everyone interested in shipboard cuisine. The subject is explored from a variety of perspectives, and includes everything from Arabian dhows, Bronze Age ships, Byzantine wrecks, ships of exploration,Titanic, dugout canoes, submarines, and more. Most other publications on this subject cover narrow geographic areas and time spans—Food at Sea is one of the few that includes disparate periods, nationalities, geographic areas, and perspectives.

Although Spalding’s scope is wide, detailed morsels of information can be found throughout the book. For example, in chapter four, he notes how changes in ships’ rigging during the 19th century improved the sailors’ diet—the elimination of staysails left the crew leisure time to fish, whereas the crew rarely had time to catch fresh fish on clipper ships because sailors were constantly setting or striking the staysails. Spalding also mentions the various ways sailors tried to cure scurvy before the science behind the disease was known. Although discussion of the ramifications of the often restricted shipboard diets is nearly absent, Spalding does give special mention to scurvy, as no book on shipboard food is complete without a discussion on the most infamous of sailor diseases.

FOOD AT SEA

Boil the rice, the water, and the salt. Bring to a boil; then add vinegar and simmer at low heat for 20 minutes or until the rice is done. Serve in wooden bowls.

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The textual content is supported by frequent citations, direct quotes, and an extensive bibliography. Primary accounts from ships’ logs and journals are often cited, including a particularly colorful description of worm-infested sea biscuits that literally crawled off the mess cloth. Although well-cited, this book does not present original research of the author, but a secondary compilation of existing historical and archaeological publications; Spalding is neither a researcher nor an academic, but rather a music historian. Those who are experts in the topic should not approach this book searching for new data or fresh historical insights. Food at Sea is written in a clear tone with abundant descriptions that allow Spalding’s enthusiasm for the subject to shine through. Although nautical jargon is used throughout, the terms are defined for the non-specialist. Spalding’s articulate style, paired with his meticulous research, make this book suitable for both academic and... defined by a resilience that enabled sailors to endure the rigors of shipboard life.

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In Food at Sea: Shipboard Cuisine from Ancient to Modern Times, Simon Spalding answers the intriguing question of what people ate on sailing vessels dating from prehistory until present day.

Sailors on long voyages often succumbed to scurvy, a disease of connective tissue in which bleeding occurred in old wounds and fractures reopened. In 1747, Captain Dr. James Lind concluded that citrus fruit (specifically oranges and lemons) cured the disease after conducting one of the first clinical trials ever. Limes were mistakenly identified as the miracle substance, thus the moniker “limes” for British sailors and eventually Englishmen in general. Captain James Cook prevented sailors from dying of scurvy on voyages around the horn of Africa with the inclusion of sauerkraut, an antiscorbutic. Even so, vitamin C deficiencies was not identified as the causative agent of scurvy until the 1930s. The inclusion of these fascinating bits of trivia makes for an endless entertaining read.

The textual content is supported by frequent citations, direct quotes, and an extensive bibliography. Primary accounts from ships’ logs and journals are often cited, including a particularly colorful description of worm-infested sea biscuits that literally crawled off the mess cloth. Although well-cited, this book does not present original research of the author, but a secondary compilation of existing historical and archaeological publications; Spalding is neither a researcher nor an academic, but rather a music historian. Those who are experts in the topic should not approach this book searching for new data or fresh historical insights. Food at Sea is written in a clear tone with abundant descriptions that allow Spalding’s enthusiasm for the subject to shine through. Although nautical jargon is used throughout, the terms are defined for the non-specialist. Spalding’s articulate style, paired with his meticulous research, make this book suitable for both academic...
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