

Cosmopolitan Chronicle.

True tales from the annals of history, archaeology, construction, and restoration of the Casa de Bandini & Cosmopolitan Hotel.

VOL. I, No. 1

San Diego, Alta California, February 18, 2008

Price: Free

DISCOVERING THE UNKNOWN:

The Casa de Bandini/ Cosmopolitan Hotel.

VICTOR A. WALSH.

San Diego Coast District Historian.

The Casa de Bandini, erected between 1827-1829, is one of the most historically significant buildings in California. Used first as a home by Juan Bandini and his family and later adapted and converted into a hotel, apartment, olive factory, and restaurant. The building is a rarity because of its long history, distinctive architectural character, and association with significant people and events in the state's history.

The concessionaire, Delaware North, Parks and Resorts at San Diego LLC is contributing a minimum of \$2 million to restore and rehabilitate this historic landmark. In April 2006, the San Diego Coast District of California State Parks was awarded a \$1.8 million matching grant from the California Cultural and Historical Endowment (CCHE) to restore

the adobe-wood-frame building to its use as the Cosmopolitan Hotel, which opened in 1869.

The first phase of this project began in April and May of 2007 when Larry Felton, a Senior State Parks Archaeologist; Robert Robinson, the District engineer; and Nini Monovi, an archaeology project manager, began removing sample sections of the building's exterior stucco to analyze its construction history in terms of materials, features (i.e., doors and windows), and condition.

With assistance from Bruce Coons of SOHO, the project's historical consultant, and Steve Van Wormer, a historical archaeologist, the team is beginning to uncover a fascinating glimpse into the building's construction history. In 1869, for instance, when Albert Seeley converted the single-story adobe into a two-story, adobe-wood-frame hotel, his construction crews patched the first-floor adobe with brick and mud, used iron-cut nails, and thin mill-sawn rewood lap siding.

Inspection of the building also reveals that it was unusual in terms of its level of architectural sophistication. The original first floor adobe had built-in, adobe-layared cornices and

unexposed roof rafters. Such design features certainly existed in the 19th-century Spanish and Mexican domestic architecture and California's missions, but are rarely found in the homes of 19th-century California's remote frontier. Building the adobe required a core group of highly skilled workmen.

"The building was very well designed," says Coons. "It has important and intricate Spanish-Colonial details generally not associated with the domestic architecture of 19th-century California."

Samples of historic fabric so far uncovered are in surprisingly good condition. This is especially evident with the exposed sections of adobe block on the first story. "We did not expect to find this," says Robinson, "because the adobe is covered with a stucco exterior (applied during the 1930s), which generally prevents adobe from breathing or getting rid of moisture. Beneath the stucco exterior we found to our surprise a lime plaster primer. We think that the lime plaster possibly acted as a barrier to wick the moisture away from the adobe."



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DISCOVERING THE UNKNOWN:

The Casa de Bandini/ Cosmopolitan Hotel.

VICTOR A. WALSH.

San Diego Coast District Historian.

The Casa de Bandini/Cosmopolitan Hotel is a priceless historical resource. Originally completed in 1829, its history spans 175 years. It was the hub of social and political activities in Old Town San Diego during Mexican rule. It served as the headquarters of Commodore Robert F. Stockton during U.S. military occupation in 1846. After the Civil War, it became one of Southern California's most important hotel-stage stops.

Over the many years, in spite of many alterations, the grand old building retains a most distinctive architectural character. There are few historic buildings remaining in the state that rival its scale as representative of a nineteenth-century commercial building that combined Mexican adobe and American wood-framing construction techniques.

A discovery, recently uncovered, pertains to the building's cobblestone foundation on the Calhoun Street side. Directly below a partially exposed door frame between the 2nd and 3rd windows, Steve Van Wormer, an historical archaeologist, has begun to excavate portions of the foundation. Larry Felton, a Senior State Parks Archaeologist, selected this site to examine because the exterior adobe wall on the west side of the door frame is thicker than the wall of the east side. This suggests that the adobe, as originally constructed in 1827-1829, ended here.

The foundations on the west and east sides are noticeably

different. The trench on the west side contains fist-size cobbles, four layers deep, with that on the opposite side contains pebbles and almost no cobbles. The foundation on the west side is the original foundation, while that on the east side is obviously more recent, probably dating back to the gold rush in Van Wormer's opinion.

What is really interesting and readily apparent is that the original foundation extends out more than a foot and then slopes. This sloped sections served as a splash guard to deflect water dripping off the roof overhead in order to control erosion. This indicates that the original one-story Bandini adobe did not have a veranda on the Calhoun-Street side or most likely on the Mason-Street side.

"What interests me most about the build," says Van Wormer, "is its extensive history and how little we really know about its construction. We have the (Mariano Guadalupe) Vallejo drawing (ca 1830s) that shows the number of rooms and their uses, but we have nothing that I know of about the building's construction techniques."



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THE CASA & THE DON.

VICTOR A. WALSH.

San Diego Coast District Historian.

Old homes, like old acquaintances, bear witness to times gone by. No place perhaps better reflects this truism than the Casa de Bandini, which was built between 1827 and 1829 in old San Diego by Juan Bandini (1800-1859).

Married to Dolores Estudillo and, after her death, Refugio Argüello, the daughters of two influential Spanish Californio families, Bandini carved out an illustrious career as a politician, civic leader, and rancher. His American sons-in-law included Colonel Cave Coats, a prominent San Diego rancher, and Abel Stearns, the wealthy Los Angeles trader and cattle baron.

According to Mariano Guadalupe Vallejo's 1829 drawing, the Bandini residence was originally U-shaped with two wings extending along present-day Juan and Calhoun Streets our form the plaza.

There were seven rooms, a *zaguán* or entrance hall, an inner and rear patio, outdoor kitchen, corral, and shed for rigging and harnessing horses. The rooms had thick adobe walls, ceilings of heavy muslin, and deep-set windows with shutters.

Alfred Robinson, the shipping agent for Bryant and Sturgis, described the stately whitewashed adobe in 1829 as a "mansion,...when completed, (will) surpass any other in this country." The home was the pride of this frontier outpost, a symbol of Bandini's elite status and love of fine things.

The casa's appearance was important to the Don for another very important reason: his love of family. "Bandini loves his family," says Cynthia Hernandez, who is translating his lengthy correspondence with son-in-law Stearns. "he really misses his daughters (arcadia and Ysidora), and wants them to visit as often as they can."

Bandini set about refurbishing the home and grounds in the mid-1840s to entice his married daughters to visit him and Refugio on a more regular basis.

In May of 1846, he ordered 50 pieces of glass, all 8x10 inches, to installed paned, wood-framed windows in the house.

The following year, he replanted the rear garden with "beautiful flowers." He also remodeled the patio, lining it with potted plants and replacing the rough cobblestone with clay brick. The hand-dug well was replaced with a deep brick-lined well, most likely built by a Mormon mason. Bandini also built a small wooden bathhouse for the comfort and privacy of his daughters when they visited.

An accomplished musician and dancer, Bandini often hosted parties on the veranda-enclosed patio. He hired guitarists and violinists and on one occasion in 1849, a contortionist—a young boy with flexible bones (*soltura de huesos*)—to entertain family and friends.

To Bandini, a man driven by an exacting sense of duty, caring for the house meant caring for the family. It was his testament to times gone by.



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THE CASA & THE DON.

VICTOR A. WALSH.

San Diego Coast District Historian.

By the 1840s, Juan Bandini's *casa grande* (large house) on the plaza had emerged as the hub of San Diego's social and political life. The home had between 12 and 14 rooms, a curved clay tile roof, and a large *sala*, or front parlor room, where Bandini held lavish parties and political meetings. It measured 33 feet (Mason Street) by 16 feet (Calhoun Street).

"Señor Bandini's adobe is the finest house in town. The parlor is a fine, large room with a white pine floor, so worn from dancing that the knots project. On the walls are several fox hunting scenes and a picture of Washington. On the clock case—a Yankee clock—is the American flag," wrote Major S. P. Heintzelman of the U.S. Army on May 16, 1849.

Exactly where Bandini acquired the knotted pine and other materials that graced his home is uncertain. It could have come by ship from San Francisco, from the forest of the Cuyamaca, or perhaps Bandini's rancho in

Riverside, where he harvested timber, including pine.

The floors in the other rooms were either compact earth or clay time. In her memoir, Arcadia Bandini Brennan, a great grand niece of Juan Bandini, noted an interesting household practice she had heard from her grandaunt Tia. "She told me that ...the floors were fixed by having the ground in each well swept, then wet down by buckets of water. When dry, green grasses or soft leafy branches were put out all over, evenly laid and the beautiful rugs were rolled out."

The *sala* was special to the Don. It was the first room to be blessed in 1829 by a Catholic padre. It was where Bandini entertained, gathered with friends, and plotted Alta California's political destiny.

The New England shipping agent Alfred Robinson left an evocative account of a fiesta that he witnessed at Bandini's home in 1833. In the brightly-lit *sala*, thronged with people, Robinson saw a graceful couple perform Mexico's national dance, *el jarabe*.

The female dancer...cast her eyes to the floor whilst her hand graceful held the skirts of her dress, suspending it above the

ankle...Her partner...rattled away with his feet with wonderful dexterity. His arms were thrown carelessly behind his back, and secured, as they crossed, the points of his *serape*,...

In this same room, Don Bandini laid plans in 1831 to successfully overthrow Governor Manuel Victoria, met representatives from the Padres-Hijar expedition in 1834, and plotted against Governor Juan Bautista Alvarado in 1836-1837. In 1846, he greeted Commodore Robert F. Stockton in his *sala*, offering his house as Stockton's military headquarters.

Recently, State Park's on-site inspection team uncovered the tongue and groove Douglas fir flooring (albeit in a very deteriorated condition) that Albert Seeley put down in the *sala* in 1869. There's no evidence of the original pine floor, but "it's possible we could find remnants of it," says historical consultant Bruce Coons. "We are not finished, and we are learning something new every day about this remarkable building."



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THE ART OF HISTORIC DETECTION.

VICTOR A. WALSH.

San Diego Coast District Historian.

Unraveling the mysteries of historic construction practices, especially in a building as old as the 179-year old Casa de Bandini, which underwent major renovations, requires above all else a commitment to the art of detection.

“There is nothing like firsthand evidence,” the legendary fictional English detective, Sherlock Holmes, once quipped. The problem is finding the evidence—in this case, remnants of historic fabric dating back to the building’s use as the Cosmopolitan Hotel or even earlier when it was the residence of Juan Bandini.

Over the past three weeks, State Parks’ on-site inspection team, headed by archaeologist Larry Felton and engineer Robert Robinson, began removing sample sections of the exterior stucco façade on the second story overlooking the rear courtyard.

The cement stucco dates back to the 1930 renovation undertaken by Cave Coutts Jr. It is layered over chicken wire and tar paper, which, in turn, covers the mill sawn redwood clapboard installed by Albert Seeley as siding in 1869 for his hotel.



The boards are approximately six inches in height with a narrow top or lip, which widens toward the base. The base of the adjoining board overlaps or covers about 1

1/2 inches of the other board’s lip. The heavy residue of leadbase paint suggests that the siding was originally reddish brown.

Clapboard siding helped to economize on nail usage—in this case, the lip and base of the adjoining boards were held in place with a single nail. Seeley’s

work crews used cut nails with an almost square top. The redwood siding on the 1872-1874 addition on the eastern extremity of the veranda is grooved drop siding, not clapboard siding.

Samples of the hotel’s original redwood door and window trim have also been uncovered, along with imprints of the original window sills. The sills extend further out than the existing sills installed in 1930.



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THE ART OF HISTORIC DETECTION (PART 2).

VICTOR A. WALSH.

San Diego Coast District Historian.

The 1930 rehabilitation by Coutts is critical to understanding the design, dimensions, and materials used in building the Cosmopolitan Hotel in 1869. Why? Unlike today, Coutts' work crews salvaged and reused a wide variety of materials from Seeley's hotel, including porch roof decking, beams, purloins, and even balcony posts. The country then was mired in a Great Depression, and it was prohibitively costly to replace existing building materials with shipped goods.

Before stuccoing the second-story walls, Coutts' work crews boarded-up the doorframes, windows, and other open spaces of the hotel with roof decking from the Seeley veranda. "Coutts reuse of original materials from the Seeley period," says Larry Felton, "has allowed us to identify the original locations and dimensions of the doors and windows of the hotel."

In addition, engineer Robert Robinson and historical consultant Bruce Coons have been able to identify porch beams and purloins from the Cosmopolitan Hotel in several boarded-up sections on the second story. Robinson and Coons also discovered the 1869 veranda roofline of the hotel (18 inches below the existing roofline) and what appears to be an original veranda post in the downstairs kitchen.

All of this indicates that the building contains more historic fabric than initially anticipated. "Our project to rebuild the hotel," says Robinson, "thanks to Coutts reusing a lot of the material from Seeley's period is really a restoration."

Continuing, he further explains: "With the exception of the roof, we have lots of samples of original fabric, and we know where they were located. That's pretty remarkable—materials (from 1869) that still exist after nearly two lifetimes."

What can we conclude from this? Unlike the depression-ridden 1930s when Coutts renovated the Cosmopolitan Hotel, today, mass-produced building materials are readily

available at Home Depot and other local outlets. In 2008, it generally costs contractors less money to buy new materials than to reuse existing ones because of code requirements and availability of reproduced authentic-looking, historical materials.

The reuse of on-site historic fabric—the "firsthand evidence" to borrow from Sherlock Holmes—is the most important informational source about a building's history. Nothing—historic photographs, drawings, written records, or off-site salvaged materials—can replace it.



Archaeologist Larry Felton measuring previously hidden opening.



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True tales from the annals of history, archaeology, construction, and restoration of the Casa de Bandini & Cosmopolitan Hotel.

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OF WORDS & NAILS.

CYNTHIA HERNANDEZ.

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Leader/Interpreter.

Currently, one of my assignments is translating letters written by Juan Bandini, dating from 1841 to 1859, in connection with the restoration of the Casa de Bandini/Cosmopolitan Hotel. Translating historical documents is a fun challenge because sometimes you need to learn about things you never thought you would need to know, in order to translate the documents better. This was the case of a very interesting letter I came across that Bandini wrote to his son-in-law Abel Stearns in 1841 stating he was sending him some blacksmithing tools:

"I am sending you with the wagon the pieces of the forge that I am enumerating:

1 anvil

2 hammers

9 cold cutting chisels/hot cut chisels and chisels/punches

12 dies/taps

1 or 2 hammers/hardy

11 drill bits"

After a few minutes trying to translate this letter I realized that I didn't know what Bandini was

talking about—I couldn't picture the tools he was sending, and it was hard to translate something I had no idea what it looked like or how it was used. Due to my lack of knowledge in blacksmithing (and tools in general) I decided to ask somebody that knew about this matter, so I went to ask Steve Van Wormer, an archaeologist who is currently working on the Cosmopolitan Hotel project, and is a blacksmith.

He was very interested in this



letter and helped me with the tool names, but I needed to see the actual tools to better understand them. So he suggested that I talk to the blacksmiths in Old Town. I went to see Todd Caffo and Beth Holmberg who are part of the Living History Program. I told them about the letter and that I needed help with the tools. They were also very interested in this letter because it

showed them the tools that were used back then.

Todd asked me about the items and I gave him the translation I had in English, and he showed me each tool and gave me the correct names. It was so wonderful to be able to see how history was coming alive in Todd's hands, because using the same tools Bandini mentioned in his letter, Todd made a beautifully decorated iron nail from scratch! It all made sense after watching him using the forge and tools and listening to him explain the process. Watching him work made me realize how important blacksmithing was back in the 1800s, and that it is a trade that requires dexterity, knowledge and strength. This experience helped me realize how important the information in that letter is, how valuable the knowledge of the Living History program in Old Town is, how we can help each other to do a better interpretive job, and also appreciate the artistry that is inside every historical object that I, as an archaeologist, find in excavations in Old Town. That was possible thanks to an old letter and a little iron nail.



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THE CHALLENGE OF HISTORIC PRESERVATION.

VICTOR A. WALSH.

San Diego Coast District Historian.

Restoring the Casa de Bandini, a building with a long and storied past that underwent major rehabilitations, to its appearance as the Cosmopolitan Hotel poses some real challenges. Oftentimes, there is no perfect decision about how best to preserve, retain, or restore historic fabric.

Let's take an example. Over the last year, State Park's staff and consultants have removed sections of the exterior stucco on the first floor. They have discovered two layers of stucco. The most recent layer is made of Portland cement. About a quarter-inch deep and painted off-white, it was applied in the early 1950s when Frank Cardwell owned the building. Beneath it is another layer of cement stucco finished in a fine, hard, buff color, which was put on in 1930 by Cave Coutts Jr.'s

work crews.

Beneath this layer of stucco, staff made a major discovery. A thick lime plaster had been applied to the adobe wall. "Lime plaster was used," explains Bill Mennell, State

Park's general manager of the project, "because stucco will not stick to adobe."

Chicken wire was attached to the block with wire nails and staples to hold the plaster in place. The exposed adobe, which dates back to at least the Cosmopolitan Hotel era, is in excellent condition. Nobody expected this because nonporous materials like stucco trap moisture causing adobe to melt and eventually crumble.

There are many plausible explanations for the adobe's surprisingly good condition.

First, the lime plaster insulated the adobe from the stucco, allowing it to breathe and wick away moisture.

Second, the way the building was originally designed on an elevated, level cobblestone footing helped minimize ground moisture. "The grade drops quite a bit as it approaches the plaza," says archaeologist Steve Van Wormer, pointing at

a deep trench with the exposed cobblestone footing. "Imagine if you can—at this corner (where Mason and Calhoun streets meet), the foundation was pedestaled up from the street almost four feet to the adobe block."

Third, the veranda that Albert Seeley constructed in 1869 also helped protect the adobe walls from water run-off and rain.

The condition of the adobe raises an interesting question. According to Larry Felton, the project's lead archaeologist, removing the nails may create a "major risk to the long-term conservation of the adobe." Under the circumstance, retaining the stucco may be an acceptable alternative to removing it.

While this treatment may help preserve the historic adobe, it compromises the goal of restoration because the adobe walls were a highly visible, character-defining feature of the Cosmopolitan. They should be visible for people to see. But how to do this without damaging them, and insure ongoing maintenance? This may be the real challenge.



Cosmopolitan Chronicle.

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THE LANGUAGES OF RESTORATION.

WILLIAM F. MENNELL.
San Diego Coast District
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Witness marks. Down to sterile. Shear load. Parts per million. Primary source. Historic fabric.

These are some of the terms used in historic restoration. An entire dictionary of such terms could be created, and we would still miss a number of them. Historic restoration represents “multiple languages” because it involves different types of workers and specialists.

For example, **witness marks** is a term used by conservators, carpenters, paint analysts, masons and others to identify marks left on wood or other materials that shows where something used to be, but has been removed. Witness marks could refer to paint lines, screw or nail holes, and indentations left by the removed material.

Down to sterile: This is an archaeological term that indicates that the dig has gone down to the point where

there are no artifacts, or any indication of human habitation.

Shear or lateral load: This is an engineer’s term that considers the imparted horizontal force, primarily due to wind and seismic loading, upon a structure.

Parts per Million: This term is used to define the concentration of hazardous material (e.g. lead) in mediums such as floor/wall tiles, or painted surfaces.

Primary source: This term is used by historians, anthropologists, and other social scientists. It refers to a document, transcription or other written source left by a person who lived during the period being studied. In the case of the Cosmopolitan Hotel restoration that period would be the late 19th century when the hotel operated.

Historic fabric: This term is used by historians to identify materials, such as wood, paint, wallpaper, adobe, or furnishings, that date back to the period of the building’s existence—in this case roughly the late 19th century.

Architects, archaeologists, carpenters, electricians, engineers, equipment operators, landscapers,

historic photographers, plumbers, plasterers, roofers, wood workers, and other trades and professions involved in historic restoration have their own unique sets of terms or languages.

Working out ways to effectively communicate is important for all involved. Sometimes it is done by meetings, reports, drawings, photos, or e-mails. Sometimes it may be just pointing.

Sometimes a translator is needed. “The profile of a pit is the side of a hole.” “Shear load is a sideways push.” Sometimes it is learning some of the other vernaculars.

A reconstruction site can sound like a symphony orchestra warming up.

Violins screech, drums beat, horns and woodwinds play apparently oblivious to each other.

Saws scream, shovels scrape, hammers pound, boards creak, people yell over the noise.

Both seemingly chaotic collaborations then somehow progress to a magnificent unified purpose.



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JUAN BANDINI: A HUMAN PERSPECTIVE.

CYNTHIA HERNANDEZ.

Archaeological Project
Leader/Interpreter.

Juan Bandini's personal letters dating from 1841 to 1859 to his son-in-law Abel Stearns found in the Huntington Library are a magnificent source of historic information, but they are more than that. They let us perceive the every-day life, personality, and feelings of Juan Bandini, an important figure in the history of San Diego.

Bandini had a close relationship with his daughters and sons and he was a devoted husband. Every time he signed his letters he would say: "give all my love to my daughters." Stearns married Bandini's daughter Arcadia and Juan sent another daughter, Ysidora, to live with them to keep her sister company. He would always say to Stearns that he missed them and that he wished he could go visit them in Los Angeles. Apparently he wasn't able to go very often because he had to manage his properties,

take care of Stearns' properties, and for health reasons as well.

Several letters reveal that Bandini was always thinking of the well-being of his family. He would send items that Stearns had requested to Los Angeles and sometimes Bandini would add little packets containing presents for his daughters. At the end of one letter he told Stearns: "please don't forget to give Ysidorita the packet that contains white cotton cloth for her to make some blouses and to give Arcadia the little ring that accompanies the cloth." He would ask to be sent golden thimbles, combs and needles for his daughters and wife. In one letter Bandini asked Stearns:

"I am begging you to tell Ysidorita to change the clothes of her brothers, to mend them so they are not raggedy, to arise early and clean her room and the room of her sister, to make the coffee, to sweep early, and to dust, for this exercise is good for the health and is beneficial to the interest and to the good education as well."

One particularly funny letter talks about the way Bandini would worry about his daughter Arcadia. The Estudillo ladies (who were Arcadia's aunts) were going to pay a visit to Stearns and Arcadia in Los Angeles, but Bandini wanted to warn Stearns about these ladies, although very honorable and with an irreproachable conduct, they were very fond of presents. Bandini said they would do anything possible to persuade Arcadia to give them things they liked in her house as presents, and because Arcadia is very kind she would not be able to refuse, so Bandini says to avoid this visit at all cost to save Arcadia's belongings and to teach her "economy."

A few other letters tell us that Bandini was also worried about the education of his sons. He sent his son Juanito, to Stearns to take his first reading lessons and Bandini thanked Stearns for taking care of the education of his sons.



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WHICH WAY IS NORTH?

WILLIAM F. MENNELL.
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Services Manager.

In order to build, or unbuild, one always needs to know that they are in the correct location. Usually, this is done by relying on a point on the compass called north. This seems to make sense, as the compass has been around since the 13th century. Knowing which way is north, the other directions follow. Most of the time, this method works great. But, what if the building or site is a square or rectangle, with one corner pointing north? Which of 2 sides do you call the north side?

The Casa de Bandini/Cosmopolitan is such a place. It is not the only one, as many buildings in Old Town San Diego were built with this alignment. The reason however is not based on north, it is based on south.

South is the direction of maximum sun exposure in San Diego. To take advantage of this, you would want 2 long exterior walls to have this exposure. In what whitelanders (people who live where it snows) call winter, sun warming 2 long sides is

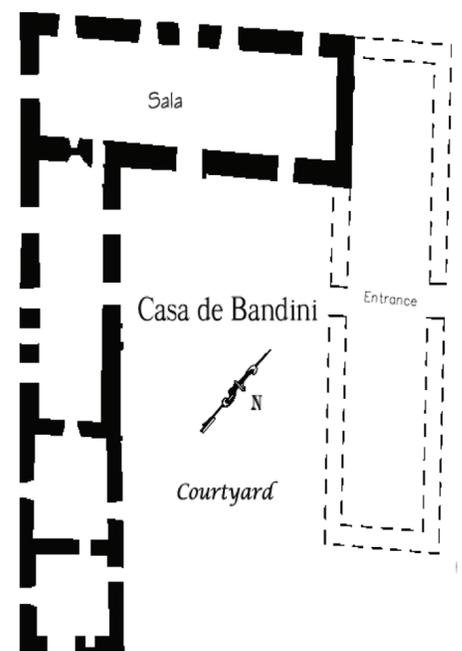
passive solar heating at its best. Opening the window shutters in the daytime allows warm air to move inside. Heat or cold can not move through the almost three foot thick walls in one, or even two nights.

And, there is the wind. In "winter", the wind coming off the ocean can be cool. Capturing that in the *jardín* (courtyard) would cool down the area most used for daytime activities. Having the yard protected from that direction keeps the area as comfortable as possible. By closing the *zaguán* or entrance hall doors, wind is reduced to a minimum.

In warmer months, the building acts in reverse. This alignment gives the *jardín*, morning sun while it is coolest, and the most shade in the afternoon, when it is warmer. By opening the windows and doors of the *zaguán*, large volumes of air are forced through small openings. Air loses temperature as it increases in velocity. The air not only gets cooler, but also gets dryer, as the humidity it carries is partly condensed. This courtyard design, developed in Mediterranean areas comes to the U.S. via Spain.

Understanding the reasoning and history of the alignment

gives us insight to the ingenuity of the builders but, does not help us with our dilemma. Which side should we call north? If the architects call one side north, and the archaeologists call the other side north, confusion will certainly ensue. So, to make it as clear as possible, in general conversation, we will name the sides by the corresponding street names, or areas adjacent: The Mason Street side, the Calhoun Street side (or Estudillo side), the Juan Street side, and Seeley side (the direction of the stable). While this may not be normal protocol, everyone will be much clearer on location.



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WHAT IS ADOBE?

WILLIAM F. MENNELL.
San Diego Coast District
Services Manager.

The word “adobe” has appeared in a number of stories published in the Cosmopolitan Chronicle, but without really explaining what it is. It can refer to an architectural style, earthen brick, or a type of soil. Juan Bandini’s grand home was an adobe in all three categories.

The word coming to us via Moorish Spain, it is derived from Arabic; *attôba, al-tôba*, meaning “the brick.” The bricks are made of soil and water, usually with straw or grass added, pushed into a wooden form, and then dried in the sun for at least 2 weeks. The bricks weigh roughly 40 pounds each.

Although there are many types of earthen structures, the adobe buildings in Old Town are made of such bricks. The dried bricks were laid on a cobble stone foundation, mortared together with the same soil material, but no straw is added. Commonly thought of as clay, “good adobe” soil is actually about 65% sand, only about 25% clay. The walls

of the casa are about 3 feet thick. Given the size of Bandini’s home, approximately 1900 square feet, and the thickness of the walls, at least 10,000 bricks were needed.

After the adobe bricks were laid, the walls were covered with a thick mud plaster. Traditionally, this was applied using small boards, or with bare hands. Horse or donkey manure was often added to increase the “stickiness” of the plaster. Plastering was often done in three coats, the first and thickest, the “scratch coat,” was often scored, scratching the surface to assist with the second coats ability to adhere. The second coat is done as smooth as possible, often mixed with additional sand to reduce cracking. The third very thin coat fills the remaining hair-line cracks. A whitewash finish, made from a powder-like lime extracted from fired seashells, protected the adobe walls from moisture.

Adobe is also a style of architecture, characterized by thick earthen walls, small window and door opening relative to today, and often a flat or slightly sloped thatched or clay tile roofs. Other types of earthen structures exist in other parts of the world. It is estimated that currently 50% of the world’s

population live in some type of earthen structure. Rammed earth is popular in France. The original English Tudor style buildings, in the 15th century were a type of earthen structure supported by wooden beams, and called “wattle and daub,” or “cob on posts.” In Western Africa, adobe is called *Butabu*. Some Native Americans stacked layers of mud, letting them dry before the next layer. Parts of the Great Wall of China are made of adobe.

It is speculated that the Casa de Bandini, and the Casa de Estudillo, the 2 largest homes of the time in San Diego, were made by the same small, skilled, disciplined, and well-organized workforce. The population of San Diego in the 1820s was far less than the 1.2 million of today. Still, the number of local San Diego people that could build such a home today may be about the same as it was then.



Cosmopolitan Chronicle.

True tales from the annals of history, archaeology, construction, and restoration of the Casa de Bandini & Cosmopolitan Hotel.

VOL. I, No. 13

San Diego, Alta California, June 6, 2008

Price: Free

A NEW ERA: PART 1.

VICTOR A. WALSH.

San Diego Coast District Historian.

On November 1, 1859, a debt-ridden and long-suffering Juan Bandini died at his son-in-law Abel Stearns' home in Los Angeles. As the executor of Bandini's estate, Stearns continued to lease out his father-in-laws' Old Town home and to wrestle with his creditors.

A man of exacting duty, Bandini had requested in his last will and testament that his creditors be "satisfied" before the estate "be divided among (his) heirs."

Over the next decade, the old mansion, reflecting the family and Old Town's decline, fell into disrepair. Adobe walls were removed, and part of the building was converted into a stable and feed storage complex. By 1860, it was unoccupied. In May of 1862, an earthquake cracked the adobe walls in several rooms, and collapsed the wing facing Juan Street. The damage was not repaired.

In 1869, Stearns sold the family home to Albert L. Seeley,

a seasoned stage driver and horseman from Texas, and a new era began. Seeley converted the old adobe into an imposing two-story, L-shaped Greek revival style hotel. The renovation would cost Seeley \$8,000—money from his English-born wife Emily's recent inheritance.

Seeley hired a local contractor, Parson Brothers, to repair the deteriorating adobe and to add a wood-framed second story and balconies. This was a common practice among American businessmen who converted Mexican adobes into commercial operations. The Exchange Hotel, Franklin House, and Freeman-Light House also used adobe and wood-frame construction.

The siding on the second story was mill sawn old growth redwood clapboard probably from northern California shipped down the coast. The balcony featured turned wooden columns and was enclosed with turned baluster railings. The doorways had full height pilasters and bracketed cornices over the top. Windows were framed by large wooden shutters and were capped with the same style of cornice.

Judging from samples of exposed adobe brick on the first floor, Seeley's construction crews had apparently repatched the walls with red brick mixed with adobe mud. Traces of lime suggest that they plastered the brick with lime plaster.

The clay tile roof of the Bandini era was replaced with a wood shingle hipped roof. It had a wide, level overhang covering the upper balcony.

A stairway from the entrance hallway and an exterior stairway facing the courtyard from the back of the Mason Street wing provided access to the second story guestrooms. The exterior stairway no longer exists, but State Parks' inspection team recently uncovered its entrance behind the walls at the top of the interior stairway. Apparently at the threshold where the two stairways met, intersecting steps about a foot-and-a-half high on both sides connected to the guestrooms.



Cosmopolitan Chronicle.

True tales from the annals of history, archaeology, construction, and restoration of the Casa de Bandini & Cosmopolitan Hotel.

VOL. I, No. 14

San Diego, Alta California, June 13, 2008

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A NEW ERA: PART 2.

VICTOR A. WALSH.

San Diego Coast District Historian.

The Cosmopolitan Hotel or "Seeley House," as locals called it, opened in November 1869. "The new hotel," according to the San Diego Union, "is truly an elegant building. Its broad verandas above and below extending on three sides of the whole building give the place a comfortable southern air."

A stage driver since the age of 17, Seeley built the hotel to provide overnight accommodations for passengers taking his stage to and from Los Angeles. Prior to converting the Bandini home into a hotel, his stage line had operated out of the Franklin House across the plaza.

The hotel was part of a largescale operation as Seeley purchased adjacent lots and built a large two-story, gable-ended barn, corrals, livery stable, windmill and cistern over the next two years. By 1873-1874, he owned five wagons and other vehicles

valued at \$1,000, 16 horses and half-breeds at \$800, and harnesses, ropes, and bridles at \$100 according to the tax assessment rolls.

Seeley promoted the Cosmopolitan as a "first-class hotel." Advertisements in the *San Diego Union* stated that the "large and commodious hotel" featured "large, well ventilated, and finely furnished" rooms and a well-stocked table and bar boasting "the choicest wines, liquors and cigars."

The bar sold imported Havana cigars for 20 and 25 cents each, fresh lager beer by the glass, bottle or gallon, and a special, highly popular drink called "Uncle Toby" for a nickel. Ice was always on hand.

The rooms were decorated with colored pattern wallpaper, most likely hung over stretched muslin. They were small, without indoor plumbing fixtures or bathrooms, but well suited for Seeley's passengers, many of whom were single or unattached men. It also catered to local visitors traveling by stage and extended family members from outlying areas with business and personal ties to Old Town.

Contrary to the owner's promotional claim, the hotel was not really "first-class." It did not have gas lighting or running water, a billiard room, or suites like the Horton House and other downtown upscale establishments. But like many frontier institutions, it provided a multiplicity of services, including a post and telegraph office, a barbershop operated by a "gentleman of color," and a town social center along with providing hotel accommodations and stage transportation.

The hotel also featured a "spacious sitting room," which occupied Bandini's former sala or parlor room. A large room with a fireplace that still exists and a tongue-and-groove Douglas fir floor recently uncovered by State Parks staff, it was the scene of raffles, family reunions, evening dances, Christmas parties, and wedding receptions.



Cosmopolitan Chronicle.

True tales from the annals of history, archaeology, construction, and restoration of the Casa de Bandini & Cosmopolitan Hotel.

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Price: Free

COSMO'S VISITORS.

—
THERESE MURANAKA.
San Diego Coast District
Associate State Archaeologist.

Many historic preservation visitors have stopped by the Cosmopolitan Hotel since the archaeological work began: Seth Mallios, Anthropology professor at SDSU and his students; Lynne Christenson, San Diego County historian; Sue Wade, Colorado Desert archaeologist; Jackson Underwood archaeologist at RECON; Caltrans archaeologists Chris White, Deb Domenici, and Karen Crafts; Southern Service Center cultural staff Marla Mealey, Jim Newland and Patty McFarland; and old friends with the National Trust Western Leaders Linda Mayro and Bill Doelle. We look forward to each visit, as everyone sees something different, or has something unique to say. Some special 'VIP' guests have been park docents, and park

employees, who are anxious to be able to "say the right thing" to the people who come to Old Town on tours.

From my point of view, the most poignant tour was with USD History Chair, Molly McClain. Walking around the house one evening with two history professors, Molly and Iris Engstrand, we were talking about the only map known of the house, a plan done late in life by Mariano Vallejo. Especially in the areas that he labeled *Sala*, *Cuartos* and *SaGuan* (that is 'living room', 'rooms' and "hallway") with Molly, we reminisced about how she is a direct descendent of Vallejo. Vallejo's daughter, Prudenciana Lopez, and her husband Jose Matias Moreno, lived in Old Town and left one of the most historically valuable collections of letters about Old Town and northern Baja California life, a collection kept at the Huntington Library in San Marino.

As I thought about Vallejo as an old man drawing his Casa de Bandini map from memory, I also thought how much joy he would have watching his "granddaughter" (many generations removed) admiring

his efforts. At that point in his life, realizing that the Rancho Era of California was lost, he must have made an effort to jot down a few details that might in their own way help the Californios remember who they are. As we peered down at the original flooring on which Vallejo must have walked and danced, I couldn't help but be amazed at the passage of time. Many people have asked, what's the best thing that I have ever found. I have to say that it is when a descendent comes face to face with the things their families once knew.

Some of our most recent guests have been a "gaze" (per San Diego Zoo website) of raccoons that left their footprints all over the floor, and a rodent that dug a hole into an archaeology test square, descendents themselves. It must be at night, when all of the scientists have packed up, that these early Californios return, and admire our handiwork.



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True tales from the annals of history, archaeology, construction, and restoration of the Casa de Bandini & Cosmopolitan Hotel.

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THE PHOENIX BUTTON.

NICOLE TURNER.

San Diego Coast District
Archaeological Project Leader.

In preparing for the restoration of the Casa de Bandini/Cosmopolitan Hotel, archaeologists have been conducting sub-surface investigations looking for clues that offer insight into the buildings history and the lifestyle of its inhabitants. In the courtyard a cobble foundation has been exposed—possibly the remnants of the Juan Street wing of the Casa de Bandini that was demolished after a flood that had damaged the building. In addition to structural components, the occasional artifact is unearthed that has a story of its own. One of particular interest is the Phoenix Button found in the courtyard by archaeologist Scott Wolf from ASM Affiliates, Inc.

The artifact is a metal button with a phoenix bird wearing a crown rising out of a nest of flames. The phoenix is a mythical bird that dies in flames and is reborn from the ashes. “Je Renais de mes cendres” is inscribed on the button translated as “I rose

from my own ashes.” The button is common in the northwest and has been found throughout the west coast region. Its history is somewhat ambiguous and at one time thought to be from the uniforms of Napoleon’s Haitian soldiers. It is now believed to be the coat of arms for the only King of Haiti, Henry Christophe (1767-1820). Christophe served under the Toussaint Louverture in the war of independence that turned the French colony of Saint-Dominique into the free nation of Haiti. In 1811, Henry Christophe pronounced himself king. Christophe reigned until 1820 when, too ill to put down a coup, he committed suicide.

The buttons are believed to be worn by the King’s military troops. Each button has a number on it thought to represent regimental unit numbers. Different numbers have been documented, however, there appears to be a large gap in the representation and it has been speculated that this was deliberately done to give the illusion of a larger military, though; there is no proof of such.

After the king’s death, the bulk surplus buttons were sold to merchants and brought to the west coast of the United States. In California, they have been associated with the California Spanish Missions and Native Americans. According to Scott Wolf’s report on archaeological

findings at the El Fandango Restaurant, many of these buttons were thought to be in distribution on the west coast around the 1830s and 1840s documented for both decorative and utilitarian uses.

One explanation of the dispersal of buttons along the coast is their use as trade, possibly to the Indians for furs and salmon who in turn traded with other tribes. The manufacturing location of this button is still somewhat of a mystery. Possible locations of manufacture include Haiti, the United States, and England.

The phoenix button is not new to Old Town. They have been found during archaeological investigations at the McCoy House and the El Fandango Restaurant.



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AN ENSUING RIVALRY.

VICTOR A. WALSH.

San Diego Coast District Historian.

Construction of the Cosmopolitan Hotel in 1869 symbolized an ensuing rivalry between Old Town and New Town San Diego. Founded in 1867, when Alonzo Horton, a shrewd New Englander, bought 960 acres of scrub and cactus along the bay front, New Town quickly eclipsed Old Town as the county's center of trade and development. Within a year people and businesses, including many from Old Town, were moving into Horton's Addition as the bay front community was called.

When Horton heard about Seeley's hotel, he offered to give him an entire block in his Addition provided Seeley would invest his wife's inheritance in New Town. The cocky stage master declined, reportedly boasting, "Old Town is the

town the real San Diego; your mushroom town of New San Diego soon will peter out. All the people who want to travel will have to come to Old Town to take the stage."

In October 1870, nearly a year after Seeley had opened the Cosmopolitan, Horton unveiled his new downtown hotel, which he named The Horton House. The two-story brick building had gas lighting and running water, and its "large, commodious, and well lighted" guest rooms offered "magnificent views" of the bay. It featured a well-stocked dining room and bar with "American male waiters," a reading and billiard room, a ladies parlor, bridal chamber, and suites for retired and elderly guests. Promoted as "the Hotel of Southern California" by the *San Diego Union*, it catered to a clientele of wealthy "travelers in pursuit of knowledge or pleasure," many coming by steamboat from San Francisco.

Unlike the Horton House and other downtown establishments, the Cosmopolitan never catered to wealthy tourists from outside the area. It was a stage stop located in a backwater area for passengers traveling

between Los Angeles and San Diego and outlying hamlets. Advertisements promoting the hotel never graced the pages of the *Golden Era*, a glossy, upscale pictorial monthly magazine that operated out of San Diego and San Francisco.

The hotel's guest register, a copy of which the District recently purchased from California State Library, is reasonably complete for the years, 1870-1873. It lists only the check-in date (not the exit date), name of the guest, residence, and sometimes the room number. The number of new guests averaged between 3 and 6 on most days. On special occasions, such as the coming of the circus or a family funeral or reunion, the guest listed in the register more than doubled.

The hotel had thirty numbered rooms, which suggests that it accommodated local boarders, probably single men, whose names were not listed in the register as well as stage passengers and visitors listed in the register.



Cosmopolitan Chronicle.

True tales from the annals of history, archaeology, construction, and restoration of the Casa de Bandini & Cosmopolitan Hotel.

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San Diego, Alta California, July 11, 2008

Price: Free

TOOLS & MATERIALS, NOW & THEN, PART 1.

WILLIAM F. MENNELL.
San Diego Coast District
Services Manager.

In today's world with Home Depot, Ace Hardware, and pickup trucks, it is easy to forget construction was not always done the way it is now. The "Skilsaw" wasn't invented until 1924, and they made only six of them that year. The first factory assembled pickup, the "Ford Model T Runabout with Pickup Body," made its debut the following year. The gasoline powered chainsaw was not invented until 1926. The spring tape measure wasn't widely used until the 1940s.

So how did they build in the 1800s? Many of the tools we take for granted today were not available when Bandini build his casa, or even by the time Seeley transformed it into the Cosmopolitan. Although adobe was readily available, wood needed for lintels, doors, and *vigas* (roof beams) was not. Timber was felled by ax or cross-cut (whip) saw. Large orders of lumber were shipped down the coast—sometimes by towing huge log rafts—or around the horn of South America.

Orders shipped by boat took months, even longer. In 1828, for example, Bandini ordered *palos colorados* or redwood posts from an American

merchant in Monterey. He did not receive the shipment until sometime after November 1829—over a year-and-a-half after he placed the order.

Logs were made into lumber at large mills usually set up near the timber. The mills were powered by waterwheel or steam, or had saw-pits. Sawpits? A saw pit is just what the term indicates: a pit, usually shored with timbers, about 7 feet or deeper. The pits were dug by hand since the first backhoe wasn't built until 1953. Sawing was a two-man job. One sawyer operated the saw—up to 7 feet long—from above, the other, in the pit, helped pull the saw down, then helped lift up the saw in the kerf, and up for the next cut. The saw did not have set, which is an alternating angle put on the teeth. Set increases the kerf to be wider than the blade and help prevent pinching. On average, the two-man team could cut about 200 feet per day. So, if you needed 10' long beams cut flat on all 4 sides, it would take all day to cut 5.

For smaller quantities, local timber was felled, and then turned into lumber using a broadax or adze. Shingles were hand cut with a froe. The lumber was then transported by horse-drawn *carreta*, wagon, or dragged to the building location. Depending on its use, it may have been finished on-site using a drawknife or plane. In California, the first person to be granted permission to harvest timber in the public domain was Juan Bandini, in 1839, for use on his Rincon Rancho.



Cross-cut or Whip Saw.



Adze.



Broad Ax.



Froe.



Draw Knife.



Cosmopolitan Chronicle.

True tales from the annals of history, archaeology, construction, and restoration of the Casa de Bandini & Cosmopolitan Hotel.

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TOOLS & MATERIALS, NOW & THEN, PART 2.

WILLIAM F. MENNELL.
San Diego Coast District
Services Manager.

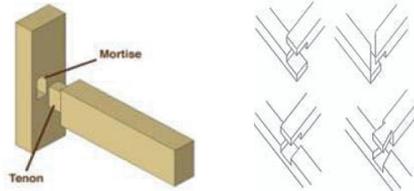
Carpentry is sometimes called joinery. The common use today of western frame construction, and “Simpson” ties, is probably responsible for the decline in this alternative trade name. Today, almost all wood joints in construction are butt or plain joints, in which the end or side of one board is placed or “butts” against the other.



This wasn't always the case. When the Casa de Bandini was built, joints on roof framing were often notched, and lashed together with leather. Leather was also sometimes used for hinges.

At the time of the Cosmopolitan construction in 1869, full framing methods were common.

Full framing involves the use of joints such as lap; open mortise, and closed mortise; also know as mortise and tenon, which used pins, (dowels) to hold the joint together.



Clockwise from top left: End lap, mitred half lap, dovetail lap, and cross lap.

Nails were rare and valuable in the West throughout much of the 19th century, so they were used sparingly, and often reused when found; after a fire or demolition.

Today nails are the most common fastener used in construction. From about 3000 B.C. until 1786 A.D., all nails were hand forged by blacksmiths. (See chronicle vol. 1 no. 7) With the invention of cut nail making machines, which stamped nails out of flat iron plates, they could be mass produced. Nails were sold by pennyweight, a term originally used to denote the prices of nails per hundred. For example, 8d or 2 1/2 inch nails (d indicating penny, or pennyweight) originally sold for 8 cents per hundred. Now the d just indicates the size of the nail.

Manufactured nails which usually came from the East Coast, took a very long time to arrive on the West Coast—the Panama Canal wasn't opened until 1914. They were also expensive to ship because of their weight. So, often in the West nails were still forged

by hand. Up until the mid-1800s, storage containers were primarily wooden barrels, boxes, tins and to some extent, pottery. Nails were usually shipped in kegs.

Although most nails used today are wire nails, cut nails are actually superior. Cut nails provide superior holding power because of their four edges. A cut nail tears through the wood fibers,



The illustration shows the type of kegs used by Tremont—America's oldest nail manufacturer—to ship cut nails all over the world for over 150 years. The sturdy kegs are constructed from pine staves with steel rims and wire bands.

rather than splitting the fibers as wire nails do. This minimizes surface splitting of the wood. They are made from much harder steel, and therefore harder to bend. They are still used in nailing tongue and groove flooring; just as carpenters did in the Cosmopolitan's main room (Bandini's sala.)



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TOOLS & MATERIALS, NOW & THEN, PART 3.

WILLIAM F. MENNELL.

San Diego Coast District
District Services Manager.

Although many tools have been improved or invented recently, the fundamental tools of the carpenter have been used for centuries: the hammer, chisel, saw, square, level, measuring device, drill, and plane.

The hammer: Multi-purpose hammerstones have been used for millions of years, and there is no doubt the hammer was the first tool used by humans. In California, hammerstones for making other chipped stone tools, and for pulverizing meat and plants, have been around for at least 12,000 years.

Around the fourth century B.C., wooden handles were added to hammers. Handles were initially tied to the head, and much later a hole was bored into the head to secure it to the handle. The hammer has evolved through the Stone Age, Bronze Age, and Iron Age to today's alloys. There are over 250 types of hammers in production today.

Carpenters during the time

of both Bandini, and Seeley, also commonly used a mallet—a hammer with a wooden head—for use with chisels, and driving in trunnels (wooden pegs or dowels, literally meaning “tree nail.”) Trunnels were used in ship building, and mortise and tenon joints

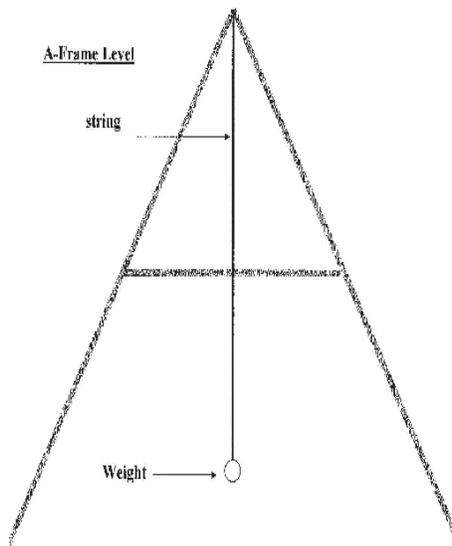
The chisel is almost as old as the hammer. Early chisels made out of flint dating back 10,000 years have been discovered. As hammers are often used jointly with chisels, it is not surprising they evolved together, made of the strongest materials available.

The saw is so important that both the ancient Greeks and Chinese had a hero accredited with its invention. The hand saw as we know it today, i.e., a non-

backed steel serrated blade with a wooden handle, was introduced in the 1600s. Today's saws are almost identical to the ones used to build Bandini's home, and during the construction of the Cosmopolitan.

The square is another very old tool of extreme importance. A military formation described in a fourth century B.C. Chinese military manual, is called “carpenter's square formation.” The square was used in all areas of the ancient world, just as it is today. As the right angle of the square gives it its importance, great care has always been exercised in its use and storage.

The laser level coming into its own today was obviously not available to carpenters in the 19th century. But the “spirit level” a glass tube with a bubble in it, attached to a very straight piece of wood may have been. There are many ways to find level. One of the earliest and simplest is a bowl filled with water. Another early method is an A-frame level, which has a weight attached with a string at the apex of the A, and lines up to marks on the cross piece. A-frame levels were used from ancient times to the mid 1800s. Both Bandini's and Seeley's builders may have employed them.



Cosmopolitan Chronicle.

True tales from the annals of history, archaeology, construction, and restoration of the Casa de Bandini & Cosmopolitan Hotel.

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Price: Free

TOOLS & MATERIALS, NOW & THEN, PART 4.

WILLIAM F. MENNELL.

San Diego Coast District
District Services Manager.

A report of theft from a barn storing goods from a ship: *Royal Herald* 30, May, 1805 "...some carpenter's tools and several articles of less value..." A carpenter's tools were not only the life blood of the craftsman, they were vital to the wooden ships of the era, and to communities, for without them ships, homes, barns, and wagons could not be built or repaired. Both the tools and the craftsman who used them were highly valuable and given high status. To inherit an artisan's tools was a great honor.

Tools in the 19th century were often made by hand. The metal components were forged by a blacksmith, the wooden parts were made by the carpenter using them. Making these tools was usually a required task for carpenter's apprentices. At the end of the apprenticeship which could take 5 to 12 years, the graduated journeyman would have the tools needed to begin

their own career. Apprenticeships began as early as 8 years old, Benjamin Franklin, for example became an apprentice at the age of 12.

One of the most important tools was a measuring device. For long distances that did not require extreme accuracy like the walls of a building, pacing would suffice. Ordinarily the pace is estimated at two and one half linear feet but in measuring distances by stepping, the pace is extended to three feet. However, pacing off a distance correctly depends upon every pace being the same, which is extremely unlikely. If they aren't it could result in two parallel walls not being the same length, and the cross wall would be out of square. Many adobes including the Casa de Bandini have walls that are not square. Another possibility for the walls being out of square is that the workman used a rope to measure the length, and stretched it tighter on one of the walls. There is a third possibility. The *vara*.

The *vara* was the primary unit of length during the Mexican period when Bandini's home was built. Unlike the yard, or the meter, the vara varied from place to place. In California, it was determined to be 33.372 inches,

but by Mexican standards at the same time it was 32.99 inches. While this seems a very small difference, for large areas such as the 100 square varas granted to Bandini and Estudillo in 1827, the difference is 1757 square feet. If the Mexican vara was used on one wall, and the California vara on the parallel wall, over 104 feet—the length of the Calhoun Street wing of the Casa de Bandini—the difference is about 16 inches.

When the Cosmopolitan Hotel was constructed in 1869, the workers used the English, or standard measurement system. Their measurement devices would be a yard stick—wooden or ivory sticks having been used since at least the time of the Romans—or a folding rule, which were in use by many carpenters since the 18th century. Carpenters also had measurement markings on the iron framing squares they used.



Folding Rule.



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True tales from the annals of history, archaeology, construction, and restoration of the Casa de Bandini & Cosmopolitan Hotel.

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San Diego, Alta California, August 8, 2008

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TOOLS & MATERIALS, NOW & THEN, PART 5.

WILLIAM F. MENNELL.

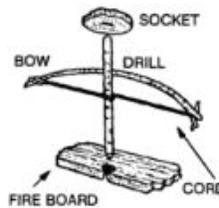
San Diego Coast District
District Services Manager.

At some point, every carpenter needs to drill holes. The first electric drill was patented in 1889 in Australia. Hand-held electric drills—an extremely common item today—were invented by Black and Decker in 1917. The “first cordless drill” is attributed to NASA for collecting moon rocks. But NASA’s drill was far from being the first cordless.

The first boring device was an awl, made from a stick, antler, bone, tusk, or sharp stone, and either pushed back and forth, or spun with just hands. They were in use for tens of thousands of years before NASA. Some of these early drills had the capacity to have worn bits replaced, which could be made from sharp rocks, or metal. For hundreds of thousands of years, flint-tipped drills were used in making beads and tools, and it is known they were used to drill teeth at least 8,000 years ago.

Later developments increased

shaft revolution speed, and the amount of downward pressure that could be applied. These developments are called “bow” or “strap” drills. Bow drills use a headpiece—a piece of wood with a socket—giving the user the ability to push down harder on the shaft. This is rotated by a bow—another stick with a strap attached and wrapped once around the drill shaft. Depending on the sharpness of the bit, or end of the shaft, they can be used for either drilling holes, or starting fires.

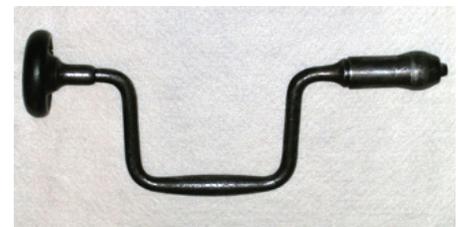


bored clears much easier. Different sizes of bits could be fit into the auger handle, which is rotated by hand.

The next advance in drilling, the brace, was apparently developed sometime in the 15th century. The brace added a significant attribute, the ability for the first time in history to bore with continuous rotation. The brace holds similar bits as the auger, which can be changed depending on

the size of the hole needed. The top of the brace has a spindle, which can be held firm while the crankshaft is turned.

This is the same type of “cordless drill” used by the builders of Bandini’s home in 1828. They were hand-made of hardwoods such as a maple, the bits being forged by a blacksmith. Wrought iron braces with improved chucks—the part holding the bits—were available by 1869, the time of the Cosmopolitan construction. They were called “The Barber Brace,” so named for William Henry Barber, who in 1864 received the patent for the new chuck design. The new, far superior chuck design caught on quickly, and thousands of the new braces were manufactured beginning in 1865. It is likely that the carpenters who built the Cosmopolitan Hotel were fortunate enough to have them.



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TOOLS & MATERIALS, NOW & THEN, PART 6.

WILLIAM F. MENNELL.

San Diego Coast District
District Services Manager.

“Who doesn't feel a thrill at the soft whistle of a sharp plane as it glides along a board and heaps up on the floor a great pile of aromatic curls? Surely it is pleasurable enough just to be an onlooker, but when you are privileged to be the planeman himself, there is no sensation quite so enjoyable.”

Invented by the Romans in the first century, the plane is probably considered the most rewarding tool by carpenters. The plane is now rarely used, but before mould-cutting machinery was invented and introduced, most carpenters in the 19th century had about 30 in their tool cabinet, each with a different function.

A plane in its most basic form can be described as a chisel in a frame. The difference is that while a chisel is guided by hand, the plane blade, or iron is guided by the frame. Although there are many ways to divide types of planes, they can be separated into two main categories: planes, and shaves, which perform three main functions: shaping, finishing, and fitting.

There is a wide variety of planes,

which can be roughly divided by size, and service, for example: jointer, trying, fore, jack, smooth, block, and molding. They can have one, two, and in rare cases, three irons. Finishing planes, jointer and jack for example, are used to remove rough saw marks, and insure boards fit together correctly. Molding planes are used to make moldings and cut joints. American craftsmen made thousands of molding planes and used them to produce millions of feet of hand-planed moldings and joints. In the main sitting room of the Cosmopolitan Hotel, Bandini's former sala, the tongue and groove flooring required about 8,000 linear feet of planing, using paired planes.

Shaves also come in several categories such as; spoke shaves, cooper shaves and croze, beading tools, and scrapers.

Like planes, each shave has a unique purpose, the blade and body shaped to accomplish one primary task. A croze for example is used by coopers—barrel makers—to put a groove at the top and bottom of the staves to fit the ends of the barrel.

Although all sharp edged tools need to be sharp, it is most critical with planes.

Dull hatchets can eventually worry through a piece of wood. A dull saw can be pushed hard enough to finish a pathetic cut, but planes and shaves simply will not function if not sharpened correctly. Carpenters therefore included sharpening tools, such as files, and whetstones in their

tool box. Sharpening a plane is an art similar to sharpening a barber's razor.

*Poetry is a very sharp plane
sailing in your hand
along a Sugar Pine board.*



Finishing Planes.



Molding Planes.



Shaves.



Croze.



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CASA DE BANDINI: THE MOVIE, PART 1.

WILLIAM F. MENNELL.

**San Diego Coast District
District Services Manager.**

Congratulations! You have just been hired as the director of an historic era movie about the small Mexican town of San Diego in Alta California. You have just assembled your team of writers, historic consultants, set-makers, costume-creators, prop-makers, casting director, and film crews.

At the first meeting with the writers and consultants, you tell them good and bad news. The good news is that there is no book, so no fights with authors. The bad news is the historical consultants inform us no written documentation of any kind about the actual construction can be found. In this case, script writers will have to rely almost completely on the tools, materials, and techniques known from the period, and on the recently-discovered archaeological findings excavated during the restoration of the Casa de Bandini/Cosmopolitan Hotel.

A short time later, the script writers and historic consultants produce the following rough-out:

Time: Summer, 1828

Location: San Diego in Alta California

Setting: Large construction sites of Casa de Bandini and Casa de Estudillo.

Scene I: Indians and presidial soldiers are mixing mud in pits located between the two construction sites. To some pits they add chopped straw prepared by workers nearby. Six laborers are making bricks with wooden forms. One helper for each brick maker shovels the mud/straw mix into the forms. They use forms that make two 12" x 13" x 3" bricks each. Behind them long rows of adobe bricks dry in the sun. Four men are going down the rows turning bricks to dry the opposite side. In other mud pits, workers prepare the mud without straw for mortar, which is immediately transported to the walls by still more of the work crew. Dried bricks are also being moved to the walls. Cow-hide bound wooden scaffolding is being erected against two walls which are now over 4 feet high, set on cobble footings.

As the writers and consultants move to rough out another scene, you take the draft to your set makers, costume-creators, prop-makers, and casting director. Naturally, they have a lot of questions.

Casting director: "OK, lots of men working. How many are actually working on the buildings, laying bricks? How many are moving bricks and mortar? Any idea on a total in this scene? Are the owners around? Is there a foreman pointing at stuff? How old are these guys? Is there a water boy, or girl? Any women working?"

Set-maker: "I am no adobe expert, but doesn't it take water to make mud? Where are they getting the water? How many other buildings are there in town?"

Prop-maker: "How many bricks are we talking about? I figure they are using some kind of a cart or wagon to move the bricks, but how are they moving the mud?"

Costume-creator: "Are these guys wearing shoes, sandals, bare footed? Are they all wearing shirts? Hats?"

Good questions. With limited information, you knew this job wasn't going to be easy.



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CASA DE BANDINI: THE MOVIE, PART 2.

WILLIAM F. MENNELL.

San Diego Coast District
District Services Manager.

As the director of an historic movie about the village of San Diego in 1828, you are trying to fill in gaps in the script; the building of both Casa de Bandini, and Casa de Estudillo, probably the largest construction project in Southern California at the time.

The script-writers rough draft of Scene I presented more questions than answers. You decided to send the staff to a small town in Baja California to research adobe-making and construction, which is still done there by traditional means. The writers come back with drafts for the next four scenes.

Scene II: Making lime for whitewash.

Setting: A short bluff overlooking a beach.

Scene: Large piles of discarded sea shells are being thrown into the top portion of a tall stone kiln. Driftwood is shoved into

the bottom compartment, and a worker is pumping a large bellows to create heat over 750 degrees. There are several barrels nearby to transport the newly-made lime by mule and *carreta* to the construction site in on the plaza.

Scene III: Cutting trees to make roof beams and lintels.

Setting: The woods.

Scene: Two men are chopping down pine trees with broad axes. There is a pit saw set up where we can see the top man sawing a felled tree into squared lumber. In the background, a pair of horses pulls a cart loaded with timbers.

Scene IV: Tanning leather for cutting straps.

Setting: Tanning shed.

Scene: Groups of Indian men and singing sailors from the Sandwich Islands are soaking cowhides in vats of brine, staking the cured hides on the ground to dry, and cleaning and scraping the hides. In the background hides are drying. Two women are cutting hides into straps.

Scene V: The ships

Setting: La Playa (The Beach)

Scene: Small boats shuttling back and forth from shore to a

large foreign ship loaded with goods for trade. *Mayordomos* (foreman) and their workers are busy counting and inspecting the quality of the hides and tallow supplied by Bandini and Estudillo to pay for the trade goods they ordered. Don Juan Bandini's carpenters have selected carpentry tools, iron stock for forging nails, tool blades and hardware, some New England hardware such as door knobs, and a New England wooden door as the finishing touch for the Don's new home. His daughters and their Estudillo cousins are being rowed back to shore, talking excitedly about the silks, jewelry, and new the coffee and chocolate set they have requested, aware that their wishes depend on the value of the hides and tallow.

As the historians said, no one really knows exactly how the Casa de Bandini was built. Until a time machine is invented, we are relying on archaeologists, historians, and other professionals for information about the methods, materials, and tools used to construct these two magnificent buildings.



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CASA DE BANDINI: THE MOVIE, PART 2.

CYNTHIA HERNANDEZ.

Archaeological Project
Leader/Interpreter.

We archaeologists are the luckiest people in the world! We get directly in touch with the past; we do research, and turn other people's trash and lost items into valuable information. The things we come across can be as big as a house foundation, or as small as a bead, but they often lead to more questions than answers.

The archaeology crew working at *La Casa de Bandini* found a small oval-shaped medallion with an inscription in French in two rows around a woman who has the palms of her hands turned upward. On the other side of the medallion we can see twelve stars framing a cross which rests on a horizontal bar and a letter M.

Looking for clues about the iconography of the medallion we found that the woman is an "Immaculate Virgin Mary," specifically Our Lady of the

Miraculous Medal. According to the story, in 1830 a French farm girl named Catherine Labouré, had three apparitions. In the first, a child led her to the chapel to meet the Virgin Mary.

In the second, the Virgin appeared before her standing on a globe with snakes at her feet and holding another globe in her hand. The Virgin told Catherine that the globe represented the world, and then the globe disappeared and rays of light shone from the Virgin's hands, rays that symbolized the graces the Virgin would grant to those who asked for them and the apparition of the Virgin was framed by the words "*O Marie Concue Sans Peche Priez Pour Nous Qui avons Recours a Vous.*" ("O Mary Conceived Without Sin, Pray for Us who have Recourse to Thee.")

In the third apparition, the Virgin asked Catherine to have a medal made to commemorate what she was shown. The Virgin promised that all those who wore it would receive great blessings and grace, especially if worn around the neck. The first medals were delivered to Archbishop Hyacinth de Quelen on June 30, 1832.

Catherine Labouré was canonized in 1947 and has become the patroness of architects, miners, elderly sick men and prisoners.

The medallion found at the Bandini house is not the only one found in Old Town; another one was discovered at the Aguirre house in 2004. The two medallions are similar but have some interesting differences. The one found at the Aguirre house has the inscription in English, Mary is looking to the left, and it has the date 1830 at the bottom. The one found at the Casa de Bandini, has the inscription in French, her head is turned to the right, and has no date at the bottom.

Does the inscription in French, and the lack of date tell us that the medallion found at the Bandini house is older than the one found at the Aguirre site? Were the medallions imported or made locally? Did it belong to someone in the Bandini family? Did a guest of the Cosmopolitan Hotel bring it?

The archeologists at the Cosmopolitan Hotel project are currently working to answer these and other questions.

