

Patterns of the California Coast in Ceramic Art

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Textures play an important role in my ceramic art, providing complexity, depth and interest. Often I look for textures or patterns in nature and attempt to reflect those textures in clay. Occasionally I create a texture and see if it recalls a pattern in nature that then inspires the design of the ceramic work. I find either process very satisfying.

Recently I wanted to modify a crackle pattern I use on vessels (Figure 1). As a start, I combined the crackle pattern with several other texturing techniques until I found something that appealed to me on a thrown form. This new pattern immediately reminded me of the strata of rock often seen on the California's coastal cliffs (Figure 2). So I decided to explore this idea further.



Figure 1



Figure 2



Figure 3

Strata Patterns

The California coast is defined by steep-walled bluffs, cliffs, and rocky headlands (Figure 3). Unlike the eastern and southern coasts of America, the California west coast was created by faulting and uplifting of land. The coastal bluffs and cliffs are actually the edges of marine terraces, shaped by ocean waves and currents and uplifted from the ocean floor. Since the cliffs

are composed mainly of sedimentary rocks such as sandstones and shale, they are particularly prone to erosion. The result is a dramatic testament to the erosive power of waves, winter rainstorms, and wind all along the California coast. The cliffs have grains of quartz, feldspar, and mica compressed into layers of sandstone. These are all materials used in ceramics. So it is both the drama and the materials that draw me to the California coast only 15 kilometers from my home.

Strata are defined as layers of sheet-like sedimentary rock or earth lying between beds of other kinds of rocks. They are present as thin or thick layers in repeating or varying patterns. Many are dramatic, colorful and mesmerizing to view (Figure 4). This is the pattern or texture that I wish to call to mind with my art (Figure 5)



Figure 4



Figure 5

With this inspiration, I began exploring ways to recreate strata in clay. My first and perhaps most interesting method is to throw a vessel on the wheel. While vessel is still a cylinder and before I create the final shape, I horizontally score the clay using forks or other tools. The scoring pattern can be uniform spacing or variable in spacing. Both are found on the cliffs. After creating the scored pattern, I thoroughly dry the exterior of the vessel using a torch or heat gun. Alternatively, I coat the surface with sodium silicate (also known as water glass) and dry the surface.

Once the surface is dry to the touch, I begin to expand the vessel from the inside only using a flexible or ridged rib tool. I do not touch the outer surface anymore. As the vessels expands and changes shape, the surface begins to crack vertically between the scored lines (Figure 6). This new pattern is random but can be adjusted by the level of dryness of the surface. Using sodium silicate provides additional control of the surface cracking. Care must be taken to



Figure 6



Figure 7

prevent the cracks from propagating completely through the clay wall. This will distort the piece and result in tearing.

Depending on the type of glazing I intend to use, I vary the size of the cracks from very fine to large deep cracks. Fine cracking can be obscured with thick glazes or multiple glazes and thus the cracking patterns are hidden.

This kind of pattern can also be developed for hand-built work. This is achieved by throwing a thick cylinder on the potter's wheel using a large quantity of clay. No base is left at the bottom of the cylinder so it can be expanded out thus forming a pipe-like geometry. At the beginning of this expansion or later before fully expanded, the same scoring and drying process is applied as used for my strata vessels. Further expansion results in the cracked strata pattern.

Once the clay has begun to stiffen, the cylinder is vertically cut and laid flat on a surface to dry further. Slabs created in this manner can then be constructed into many hand-built designs. Some care is needed to prevent the slabs from breaking along the cracks during hand-building.

As I continue to work with the strata pattern, I prefer thinly glazing the work using a spray gun. This emphasizes the crack patterning and gives the greatest depth to the work. Another approach is to apply stains or glazes and then rub the surface thus leaving the added color only in the cracks. I have also learned to craft patterns that can enhance the glaze or accentuate the vessel shape.

I plan to continue to explore using this strata texture in both hand-built and wheel-thrown ceramic art. Currently my focus is on glaze, stain and oxides that enhance this texture and the overall piece.

Seashells and Calcium Carbonate

While at the California seashore, I often explore the local seashells. I am fascinated by the repeating patterns of color and texture. Often these patterns adjust to reflect the change in shape of the seashell (Figure 7). Since I incorporate surface textures to provide depth and interest in my pieces, I can learn from these beautiful seashore creatures.

My textures utilize similar repeating patterns. They might be dots, points, spirals or repetitive carving. One technique that I enjoy is applying the texture to a wheel-thrown cylinder, either in a band around the cylinder or completely covering the surface. As I then expand the piece, this texture evolves to reflect the shape of the piece. Typically the texture is "tight" or close

together where it has been only slightly expanded, but then opens up in the regions that have been stretched. Depending on the firmness of the clay, the speed of the wheel and the pressure I apply to the inside of the piece, I can generate a twist in the surface pattern. These patterns and twists remind me of similar changes in the seashell patterns as I view the shape of a shell. See Figures 8 and 9.



Figure 8



Figure 9

Although seashell patterns appear very precisely repetitive, there is often a subtle randomness within the pattern. Perhaps it appears as a micro-random pattern within the precise macro-pattern. I believe this gives the pattern more life and a dynamic nature that an exactly repeating pattern would lack. Similarly, my textures have a random micro-texture within the overall ordered pattern.

Seashells are composed of the three layers: the smooth inner layer is composed mainly of calcium carbonate. Calcium carbonate (CaCO_3) is used as a high-fired flux in ceramic glazes. When CaCO_3 is incorporated in a glaze, it results in a harder, more durable glaze that can take higher thermal shock. CaCO_3 is a stable and insoluble compound, which makes it a preferred method of introducing calcium oxide into a glaze mixture. The carbon is burnt off during firing. An excess of calcium in a glaze formulation can produce a beautiful microcrystalline matt glaze. CaCO_3 is also known as whiting, limestone, chalk or marble in glaze formulations.

In the kiln, seashells are used under ceramic art or between pieces to prevent adhesion to the kiln shelves or each other during firing. In wood firings, the shells may be used to mask portions of the ceramic piece from the wood ash and thus create patterns. At high temperature in the kiln as the clay softens, a seashell can become embedded in the surface. The residual salt in some shells may also leave traces of salt effects. After firing, the remaining shell or calcium dust can be removed to reveal a decorative pattern.

The incredible variations of seashell patterns will continue to be an inspiration to my work. And their chemical composition provides us with a unique flux in glazes and a useful material in firings. The rocky cliffs, ocean and fiery sun of the California coast are distilled in a work of art.

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Captions for Figures

- Figure 1 Jade Crackle Vase, 15cm diameter x 17cm high
- Figure 2 Spooner's Cove, California, USA
- Figure 3 California Coastline
- Figure 4 Strata on the Coast
- Figure 5 Strata Covered Jar, 21cm diameter x 32cm high
- Figure 6 Detail of Strata Surface in Clay
- Figure 7 Scallop Seashell
- Figure 8 Sunflower Vase-Desert Series, 27cm diameter x 15 cm high
- Figure 9 Chrysanthemum Vase