Exploring Sedimentary/Granulating Pigments

If you’ve been painting long, you’ve undoubtedly noticed that when you are mixing different pigment colors some seem “grainier” than others, and some mix together well, while others seem to separate out in mixtures. Some pigments flow evenly and smoothly over your paper, while others really have to be pushed around!

What’s going on here? It’s simply sedimentary!

The materials (natural or synthetic) used to manufacture the various artist watercolor pigments have different characteristics, and one of these characteristics is the tendency of particles of paint to settle out of the water and binder materials in the paint. We call this settled out matter sediment and we refer to paints that have a lot of sediment as granulating pigments or paints.

Some watercolor painters don’t care for sedimentary pigments because they are a little more difficult to use; they don’t make smooth, evenly graduated washes for example (they streak), and some of them are quite opaque, and if used heavily can look chalky and dull. But—if you are aware of what they can and can’t do, they can be wonderful additions to your palette.

If you don’t know which of your tube colors are sedimentary, you can conduct your own tests. The paper you use for these tests influences the result. The sediment is easier to see on cold press or rough paper, since there are depressions in the paper surface to capture the particles of paint, but your results can be deceiving, because the depressions simply capture and hold more paint, not just paint particles. If you use hot press paper for this test, you will have a truer result because the sediment will show up even without paper depressions to capture it. Here’s how to do your sediment tests:

Fully saturate your brush tip with the color you want to test—in the sample at left I used Cobalt Violet / PV14—and paint a 1/2”x1/2” square with this fully saturated mixture. Now take clean water, a full brushload, and touch the bottom edge of the square while it’s still wet. Pull the clean water down about an inch from the bottom of the square. Tilt your paper and let the water run into the square, then tilt it back the other way, and let the paint run into the clear water area. You can do this several times. Let your sample dry. My example was painted on cold press paper.

Below are sediment tests of two blues and two violets on hot press paper. Notice the difference in sediment between a pigment like Winsor Violet (actually a blend of two violet pigments, PV23 and PV19) and the Cobalt Violet. The Winsor Violet is smooth, brushes out evenly and the tilting of the paper as you do the test blends the color fairly evenly over the test area. Compare this to the cobalt violet, which is grainier, and uneven where the heavier particles settle out in the mix. Similar results are seen in the comparison of the Phthalo blue (no sediment) and the Manganese Blue (lots of sediment)
So, what can you do with these heavier, sedimentary pigments? Take advantage of the fact that they will tend to stay put once they are on your paper, even when you paint over them. One of my favorite things to do with them is to use them to create shadows (in folds of fabric for example).

In this painting, a checkers board and Monopoly houses represent a town as seen from the air. The blue and red-brown checked fabric was suggested by infrared satellite photos which show vegetated and barren areas as colored patches. Photos taken over Oregon clearly show the clearcut areas in contrast to those areas with trees still standing.

On a Clear Day, You Can See the Clear Cuts
Fabricscape Series
Watercolor on Paper, 22”x15” image

In the detail (right top) I used Manganese Blue to create soft shadows in an Aureolin Yellow wash. While the wash was still damp, I brushed in the shadow areas. Because the manganese pigment is so heavy, it doesn’t spread very far, so you don’t risk losing highlight areas, as you might if using a phthalo blue or some other non-sedimentary pigment.

If you’re wondering about the small flower pattern, it was created using two different stamps that I hand-cut from pieces of pink pearl eraser. The stamps are “inked” from a heavily saturated mix of the color you want to stamp with. By protecting edges with wax paper as you stamp, you can even make the stamped design seem to disappear inside a fold of fabric.

In the second detail from the painting (at right), I used the manganese with a light red wash of Quinacridone Violet and Cadmium Red Light.

I find these colored shadows are much more exciting visually than if I had mixed some unremarkable gray color, or even a darker value of the local color of the fabric. In addition, the sediment lends a textural quality, which is an added bonus when painting fabrics.
Another fun thing to do with these heavy pigments is to “drop” some into a wet wash of a lighter-bodied pigment. In Barbara Nechis’ book, *Watercolor—The Creative Experience*, she calls her variation of this process an “oozle”, and she gets very interesting effects in her semi-abstract paintings by starting with very wet paper, and dropping transparent and opaque pigments onto it. She then looks at these spontaneous shapes and then develops the painting depending on what the shapes suggest to her. Nechis’ favorite combination for making oozles (her term) is Van Dyke Brown Umber and Permanent Blue. She mixes these together slightly before placing blobs of the mixture on very wet paper.

I take her division of pigments even further, because all opaque pigments aren’t sedimentary, and some sedimentary pigments are transparent (see my list below for examples), and you will get different results depending on whether your pigment is staining, non-staining or somewhere inbetween.

Sedimentary pigments can be used to create “oozles” (or you can come up with your own name for these spontaneous shapes).

Below is one example. Into a very wet patch of Aureolin Yellow (non-staining and transparent), I dropped Manganese Blue (touched the point of a saturated brush to the paper). Some of the blue (the lighter parts of the pigment and binder) spread rapidly out into the yellow, while the heaviest particles stayed right where my brush tip touched the paper. You can manipulate this somewhat by tilting your paper.

In this painting of mine, two plastic pigs from the game of Pigmania, look over a ribbon fence at a wash (in our part of the country, a wash is a usually dry arroyo).

When I was a kid in Lewiston, Idaho, we lived across the street and up the embankment from the river, and my Mom was always warning us not to play down there, because of the dangerous currents in the river. For the longest time, I thought currents were a live creature that lived in the river. When I read Barbara Nechis’ description of “oozles” (which sound like living things to me), I just had to do this painting...

In the detail (right) from my painting, I had a very wet, medium value wash of phthalo blue and phthalo green, into which I dropped Burnt Sienna and Cobalt Violet, and tipped the paper a little to let the shapes spread out towards the right. When this dried completely, I added some linear curved lines in a darker blue-green to suggest movement in the “water”, but that can also be read as decorative patterns on a piece of “watercolored” fabric.