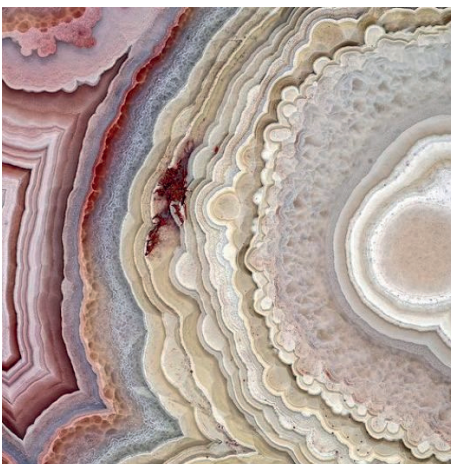
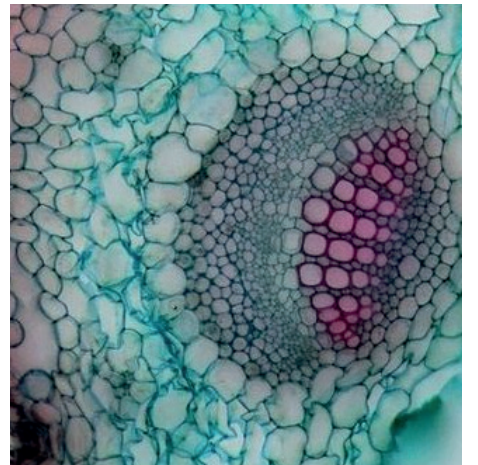


PATTERN  
in  
NATURE

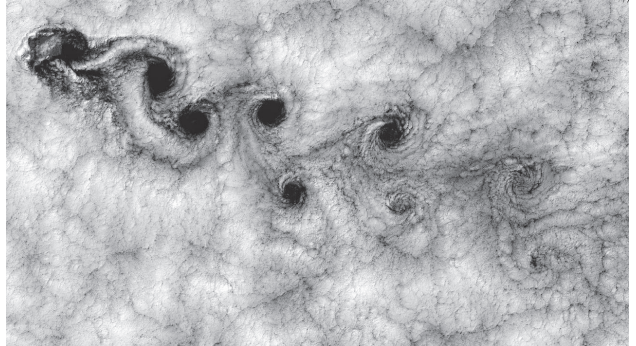


Patterns in nature are visible regularities of form found in the natural world. These patterns recur in different contexts and can sometimes be modelled mathematically. Natural patterns include:

- Symmetry
- Trees, fractals
- Spirals
- Chaos, flow, meanders
- Waves, dunes
- Bubbles, foam
- Tessellations
- Cracks
- Coats, stipes
- Pattern formation

Early Greek philosophers studied pattern, with Plato, Pythagoras and Empedocles attempting to explain order in nature. The modern understanding of visible patterns developed gradually over time.

In the 19th century, Belgian physicist Joseph Plateau examined soap films, leading him to formulate the concept of a minimal surface. German biologist and artist Ernst Haeckel painted hundreds of marine organisms to emphasise their symmetry. Scottish biologist D'Arcy Thompson pioneered the study of growth patterns in both plants and animals, showing that simple equations could explain spiral growth. In the 20th century, British mathematician Alan Turing predicted mechanisms of morphogenesis which give rise to patterns of spots and stripes. Hungarian biologist Aristid Lindenmayer and French American mathematician Benoît Mandelbrot showed how the mathematics of fractals could create plant growth patterns.



Mathematics, physics and chemistry can explain patterns in nature at different levels. Patterns in living things are explained by the biological processes of natural selection and sexual selection. Studies of pattern formation make use of computer models to simulate a wide range of patterns.

Our natural world is full of interesting patterns that can be used to inspire artists. There are endless varieties of patterns found in nature from plants and foliage, to animals and insects, landforms, and many others.

All living things create patterns. Patterns are also constantly being created by simple physical laws. There are patterns in the sand dunes created by blowing winds. There is a pattern in the vortex of a whirlpool and in the formation of an ice crystal.



White Texture - snow covered branches with intricate patterns



Coral close up



Cold Frost



Wood Weave - intertwining tree branches



Rippling White Texture - mushroom detail with delicate layers & curls



Rippling White Texture - mushroom detail with delicate layers & curls



Rippled Sand Patterns



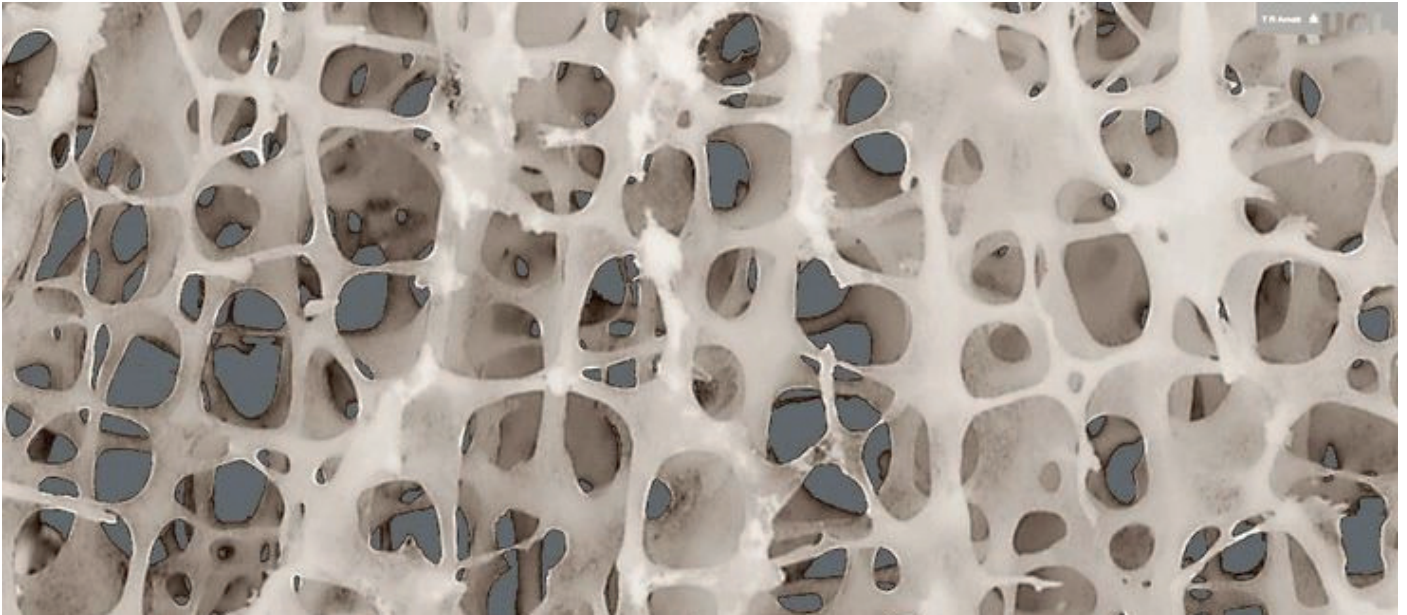
Ice textures seen in a frozen puddle



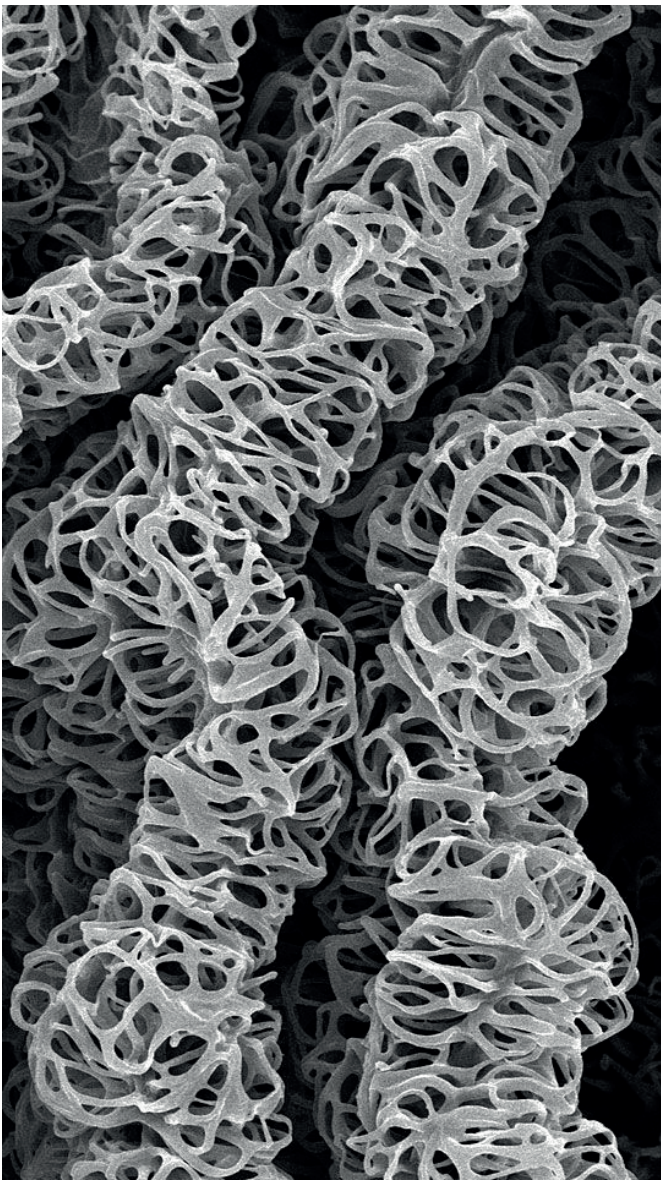
Snakeskin Textures



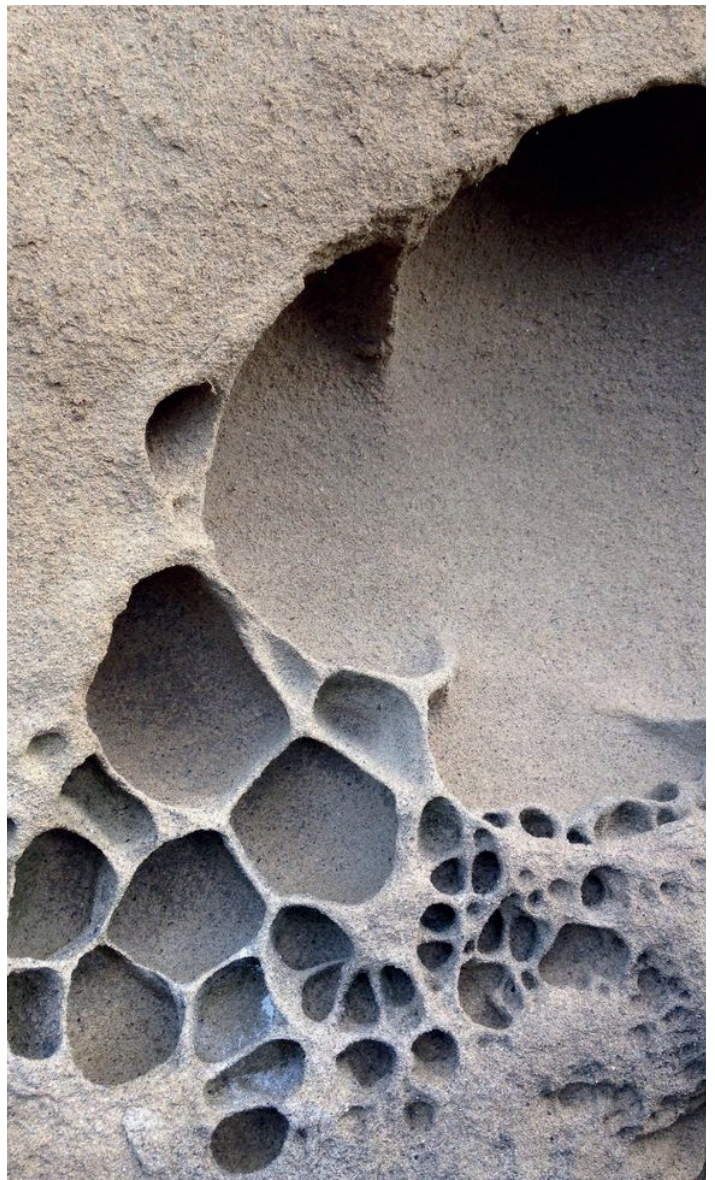
Volcano Lava



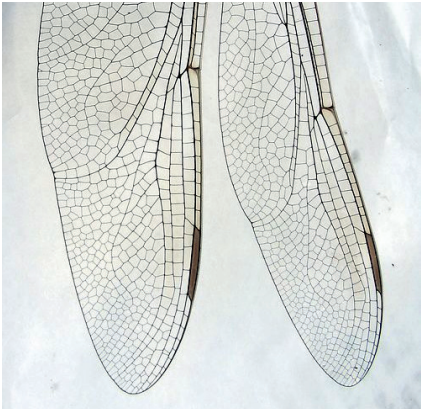
Magnified Nature - low power scan of bone



Magnified Nature - microscopic mushroom with complex natural structures



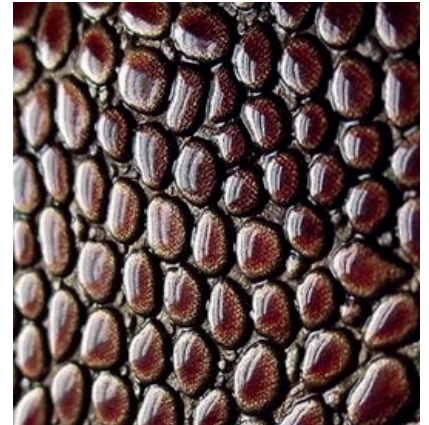
Organic Textures - weathered rock formation with sculptural patterns in chalky taupe



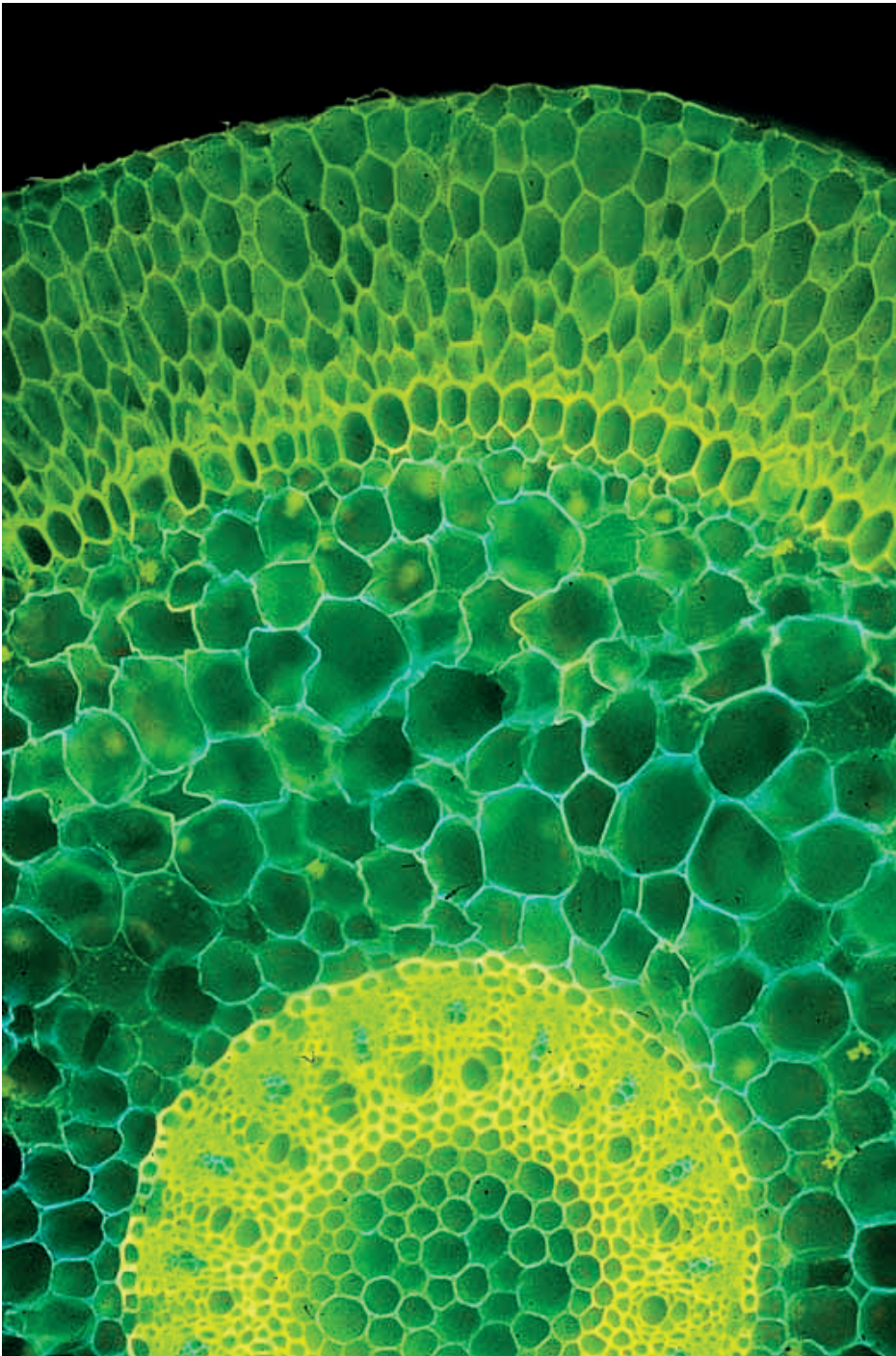
Fragile Beauty - dragonfly wing close up



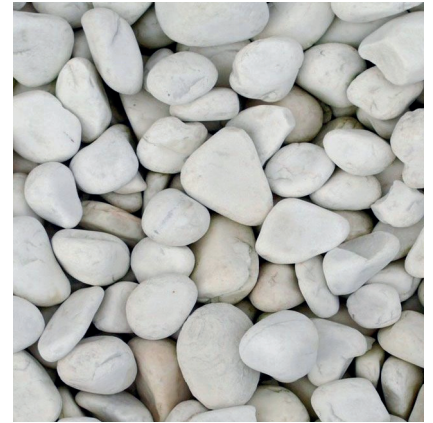
crawling tree roots



Lizard Skin Textures



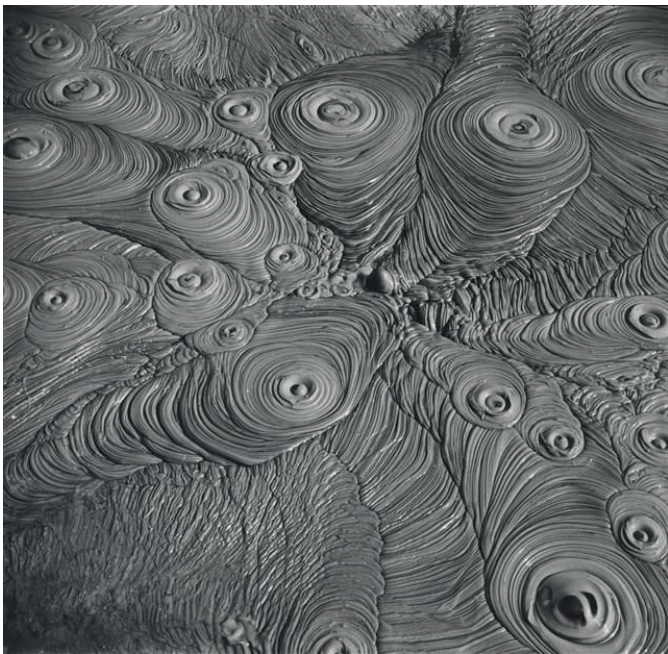
Beyond the Human Eye: Orchid Roots: Botanical Sponges



Pale Pebbles



Nature Magnified - dicot root cross section - microscopic plant cells



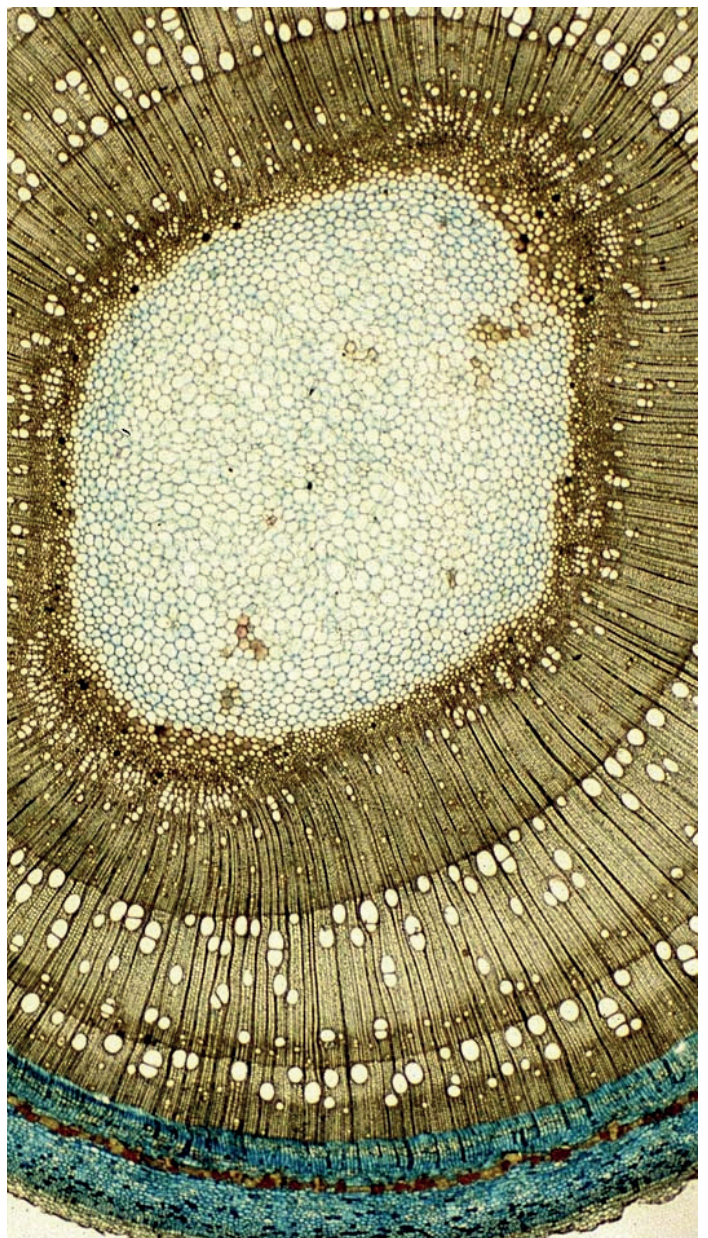
Mud Pools



monochrome beetle close up



colourful rust surface pattern



cross section of a plant sapling; microscopic plant cells



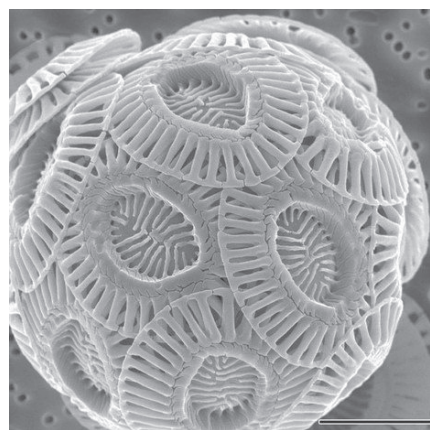
Nature Made Art - pretty pastel agate



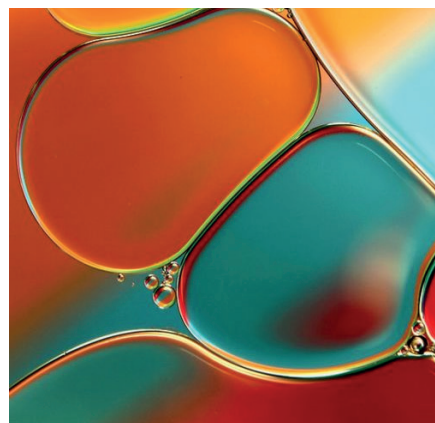
Nature's Artwork colourful sea urchin shells with beautiful texture and surface pattern



Scraggly tree branches



Chalk under a microscope



Water & Oil



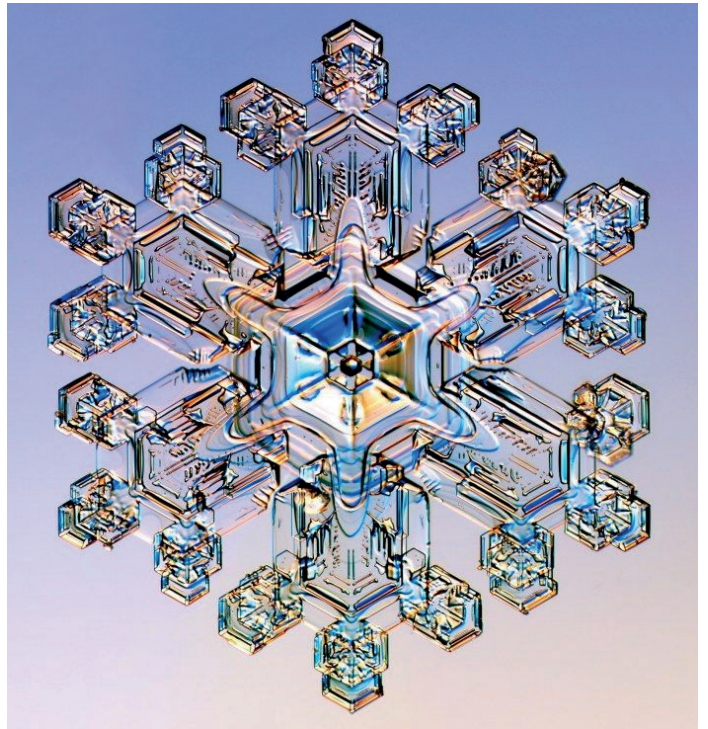
Beauty in Decay :: dried up leaf from a Papaya tree



Monstera Leaf



wood under microscope



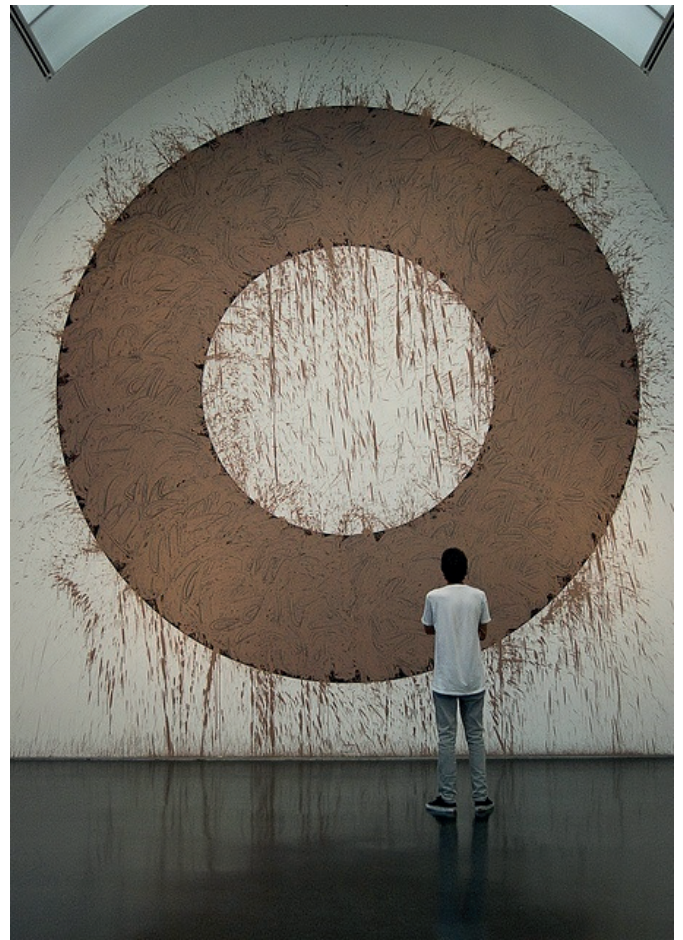
Snowflakes under the microscope



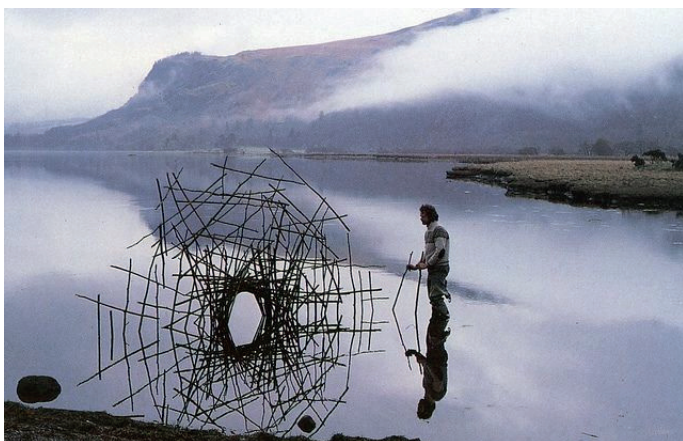


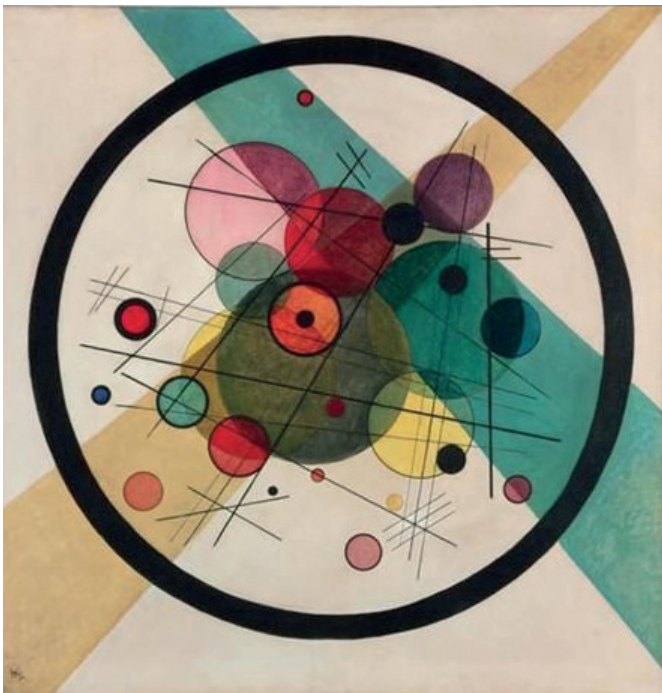


Andy Goldsworthy creates art from nature. for example stones arranged by color, balanced to form a black void all of his art is temporary and created outdoors if the wind blows it away, he starts over again. he works with leaves, rocks, seasons, cycles, snow, ice, sticks, and organic materials.

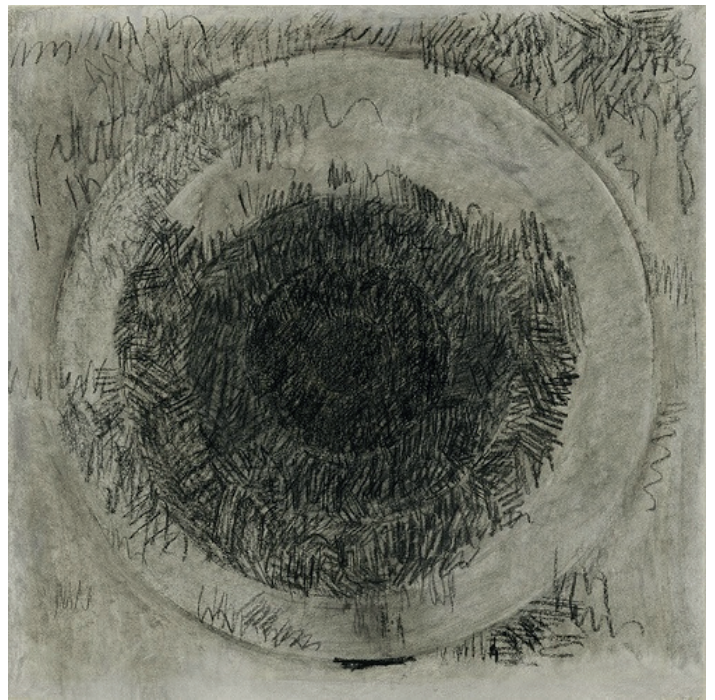


Richard Long





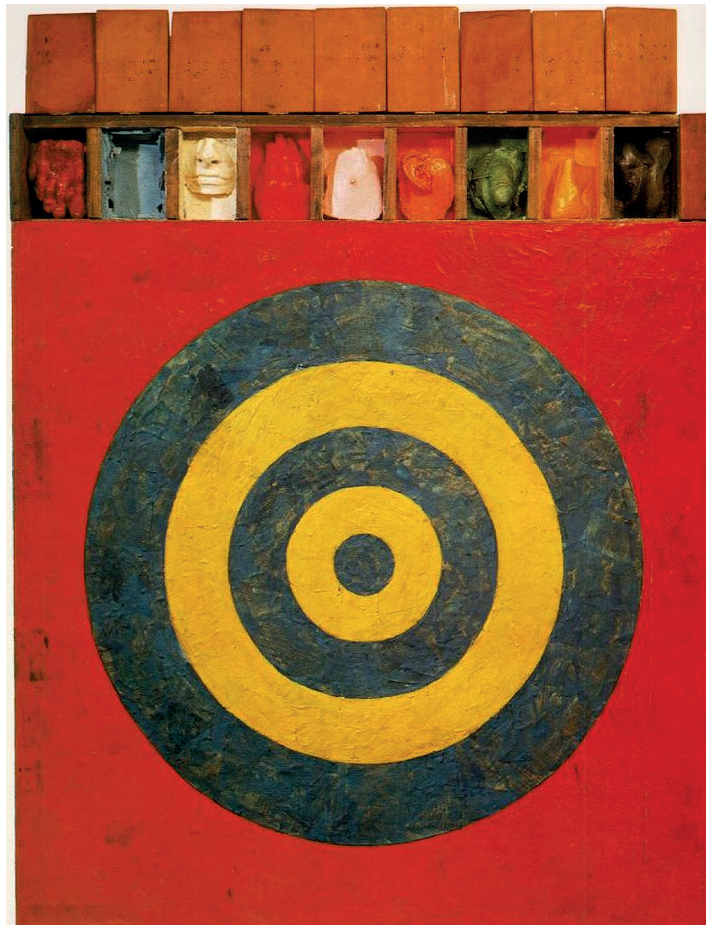
Wassily Kandinsky, Circles in a circle, 1923



Jasper John's "Target" 1958



Frank Stella's 'Harran II', 1967



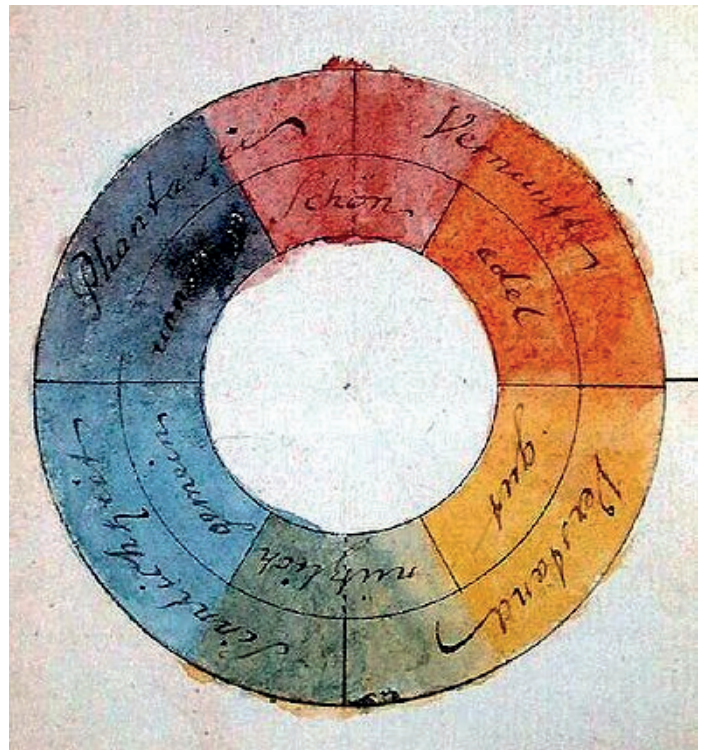
Target with Plaster Casts 1955 Encaustic and collage on canvas with objects 129.5 x 111.8 cm (51 x 44 in)

Suspended stone circle II  
by Ken Unsworth

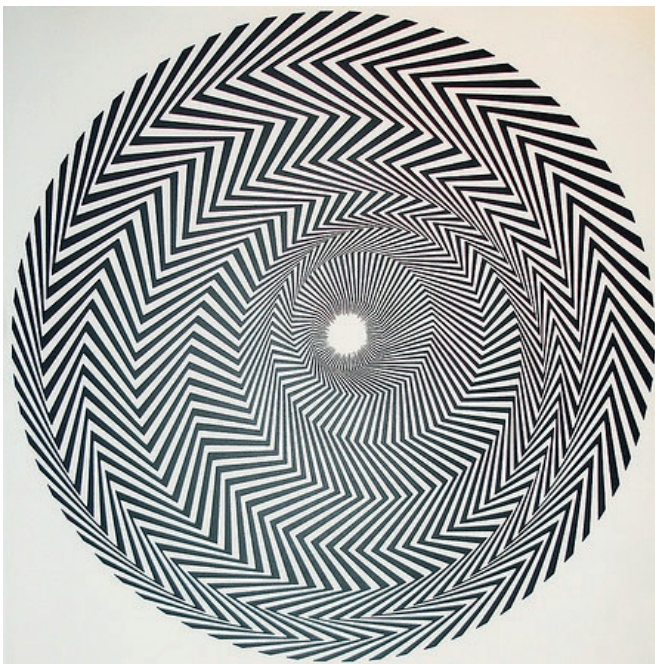




Bryan Nash Gill



Goethe's Color Wheel - 1809 - One of the earliest formal explorations of color theory came from an unlikely source - the German poet, artist, and politician Johann Wolfgang von Goethe, who in 1810 published 'Theory of Colors', his treatise on the nature, function, and psychology of colors. Though the work was dismissed by a large portion of the scientific community, it remained of intense interest to a cohort of prominent philosophers and physicists.



Bridget Riley

Kunsthalle Bern 16. Januar - 21. Februar 1971

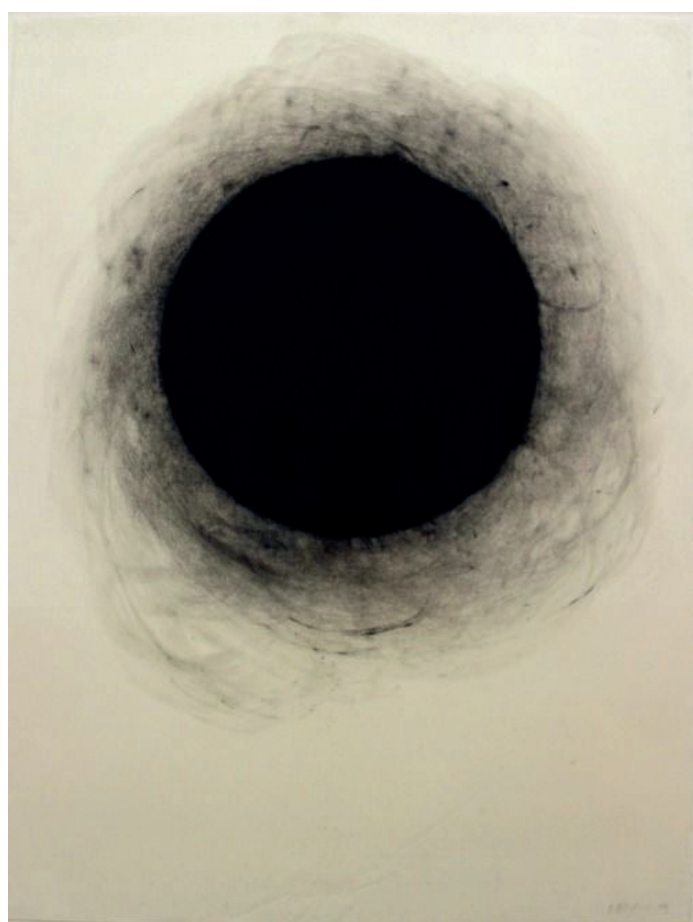




Leviathan by Anish Kapoor, Grand Palais, Paris



The Dismemberment of Jeanne d'Arc, 2009



Drawing (pins) by Brooklyn-based American artist Tara Donovan



Folded Rolls

Tara Donovan, Clouds Sculpture made of styrofoam cups

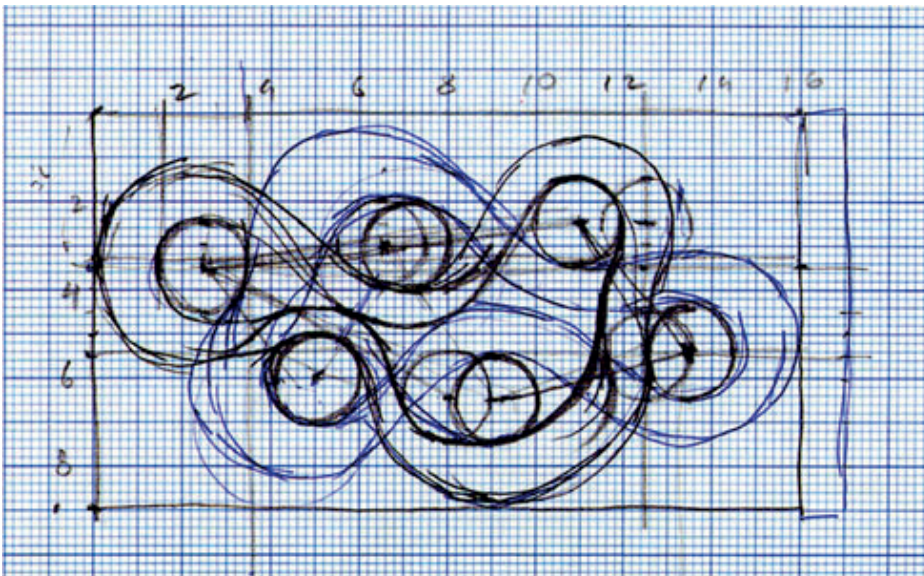
Tara Donovan (b. 1969, New York) is an American artist who lives and works in Brooklyn, New York. She is known for site-specific installation art that utilizes everyday materials whose form is in keeping with generative art.

Donovan's work uses everyday manufactured materials such as Scotch tape, Styrofoam cups, Paper plates, Toothpick, and drinking straws to create large scale sculptures that often have a biomorphic quality. Her sculptures must be assembled and disassembled carefully, which sometimes involves an extremely tedious process. With regards to her artistic process, Donovan explained that she chooses the material before she decides what can be done with it. She noted in an interview that she thinks "in terms of infinity, of [the materials] expanding."

In her show at Hemphill Fine Arts Donovan showcased the piece "Tar Paper." This minimalist-conceptual work was the most powerful and successful piece in the show. It consisted of 120 rolls of tarpaper that was ripped up and placed on the floor. The resulting structure was approximately two feet tall and thirteen and a half feet by seventeen and a half feet in length and width. Another piece that was displayed at the Hemphill Fine Arts is titled "Untitled (toothpicks)." It was a standing cube constructed with thousands of toothpicks pressed together, at once seeming as fragile as a sand castle and as solid as a hay bale.

Donovan says of her work, "It is not like I'm trying to simulate nature. It's more of a mimicking of the way of nature, the way things actually grow." Fellow artist Chuck Close told a reporter that "At this particular moment in the art world, invention and personal vision have been demoted in favor of appropriation, of raiding the cultural icebox. For somebody to go out and try to make something that doesn't remind you of anybody else's work and is really, truly innovative—and I think Tara's work is—that's very much against the grain of the moment. To me, it represents a gutsy move.



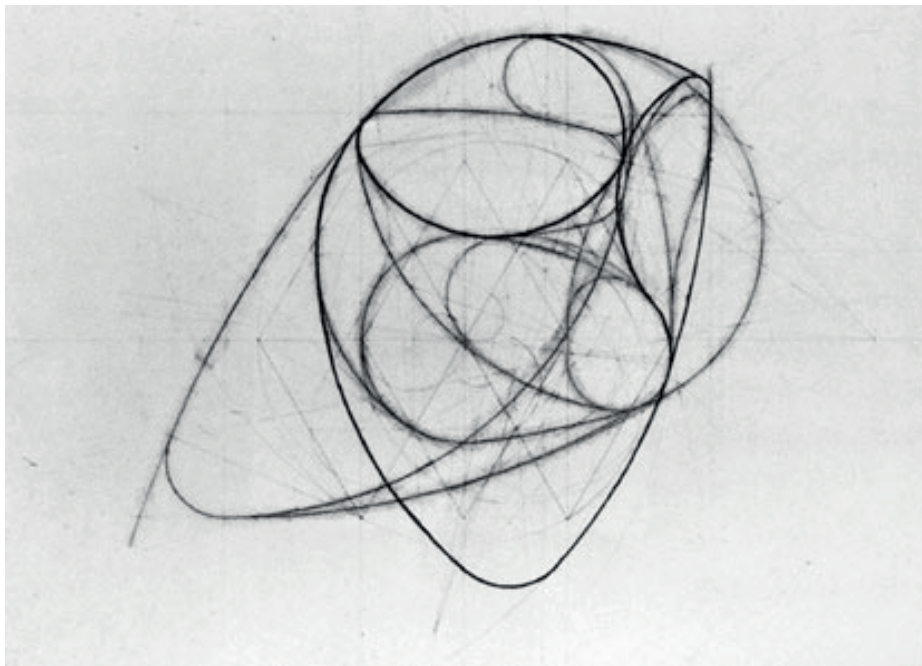
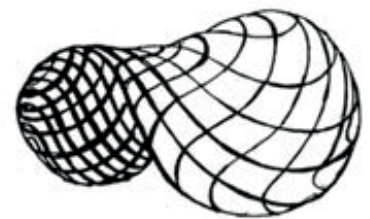
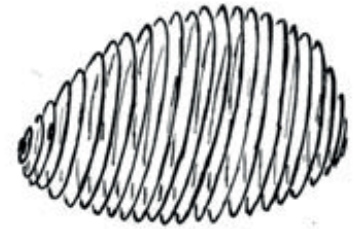


**What could Make Me Feel This Way A**

1993

Pencil, ballpoint pen on graph paper

21 x 30 cm



**It's Orpheus When There's Singing #7**

1979

Oil pastel, graphite on paper

112 x 147.5 cm





