Medium is what the painting’s made of, and it can vary all the way from oil, for making oil paintings like Rembrandt did, to something as mundane as mud, that wonderful gooey stuff which you and I used when we were kids to make mud pies. Unlike some elements of art, medium is necessary—you can’t make a painting without paint, or a mud pie without mud.

Paint consists of two parts, the first of which is pigment, or the colors that are employed. In the past colors, like the deep blue of indigo, were obtained from plants, or the earth (ochre), or even animals. Some small sea mollusks were ground into a precious dye used only for the king’s clothing. Today most pigments are the result of chemical processes.

These colors were not always ready to apply to a surface. What if your pigment is red dust? How do you make that stick? A means had to be developed to deliver the pigment in a usable form to a painting surface. Vehicle is the technical word for what is mixed with the pigment to render it “paintable” and is the second item needed: pigment + vehicle = paint. Water is the most common, and is usually used to dissolve the pigment. Water dominated until the Van Eyck brothers made oils popular in the 1400’s. Since then many other substances have been used as vehicles for pigment, but water and oil remain the most popular.

These different painting media present different possibilities (or limitations) for the artist to create very different looks. Artists are very careful in choosing both pigments and vehicle. Watercolor is one of the simplest mediums to understand. It is made by combining pigment with water. Most North American grade-schoolers have had at least a
little experience working with the familiar black box of watercolors and a brush. Because watercolors are rather watery they run easily. Thus the colors stick best to a substance that absorbs water effectively. A heavy, damp paper is the most common choice.

Since professional paintings in watercolors are done on wet paper this medium has some limitations in creating precise lines, but is excellent for in creating a soft texture. It also cannot be erased, because once the paint touches the paper it is immediately absorbed. This makes it a difficult medium, where every stroke of the brush must be correctly placed to produce exactly what the artist wants. No errors; no erasures. Watercolor paintings also tend to be smaller than many other media.

Fresco is a medium that has been used for centuries; it was especially popular when covering large surfaces—walls, ceilings, etc. Fresco is Italian for fresh, because the painting (with water colors) must be done on a freshly plastered surface. To properly size the picture, a rough sketch of the final painting is drawn the day before. This cartoon is a quick outline done on any adequately sized piece of paper. Small holes are then punched in the paper, following the major lines of the painting. The next day the cartoon is placed on the fresh plaster and lightly tapped with a bag of soot, so that the holes leave little block dots on the wall. The artist then need only remove the cartoon and “follow the dots” to create his image. He then colors in the rest of the work. The drying paint is absorbed into the plaster so the fresco actually becomes part of the wall or ceiling. Its surface becomes very hard, allowing it to be cleaned without damaging the underlying paint.

Fresco technique was used for one of the world’s great masterpieces, the ceiling of the Vatican’s Sistine Chapel. Michelangelo’s ceiling depicts scores of people in Old Testament scenes.

Each day for four years he painted a different
section because if the plaster dried before the painting was completed, there would be no way for the paint to be absorbed into the wet plaster. After all, you cannot make something fresh twice. Therein lies one of the major difficulties of fresco: you can only work on fresh plaster, so you need a crew to have the plaster all ready when you arrive, and they can only plaster as much as you can paint that day. The wet plaster immediately absorbs all paint applied to its surface. While drying the plaster forms a hard, topmost layer that actually serves to protect the paint, which is now below the surface. Since the paint is absorbed directly into the plaster you can’t erase—not even a little. That makes this a very difficult medium because it must be done perfectly, first time, every time. Any erasing is done with a hammer and chisel. One of the most famous frescos in art history is Leonardo da Vinci’s Last Supper. You can compare the wear on this painting with the freshness of Michelangelo’s frescos.

Closely related to fresco is mural, derived from mur (French for wall). The only significant difference between the fresco and mural is that a
mural is painted on dry plaster, not wet, but that small difference can create some large problems. The paint in murals tends to flake off or become damaged because the paint may not bond in all places with the surface of the wall. Another problem with any colored surface is that it can fade. Constant exposure to light will fade anything. Your living room carpet will get lighter in the areas where the sun strikes it directly. Most museums don’t allow flash photo because the combined light of millions of flashes from tourists’ cameras will actually dull and mute the painting.

Tempera is a painting medium that comes from a relatively simple recipe: one part water, one part pigment, and one part egg yolk. The egg yolk is one of Nature's best glues. It also allows brighter tones than found in simple watercolor. Tempera dries very rapidly, and as a result the mixing of colors on the painting surface is rather difficult.

Tempera was also the medium employed in making illuminated manuscripts. These illustrations were painted with tempera on a leather page, called velum, and formed the bulk of all Bibles and other religious books used by the church until the Renaissance.

After the invention of Gutenberg’s printing press (1454) people still sought to include works of visual art within books, but the limitations of the illuminated manuscript made this medium rather unpractical. A printing press could produce 200 volumes in the same amount of time that was required for a single handwritten illuminated manuscript. Developing artistic media that were based upon mass production techniques allowed illustrations to be
included at the same rate as text was printed. This also made it possible for an artist’s work to be well known throughout a large area. The German artist Albrecht Dürer became an international celebrity largely because of his skill in creating mass-produced forms of woodcuts and engravings. Woodcuts and engravings are two kinds of a printing process known as serigraphy. The other types are the etching and the lithograph.

The woodcut is made by drawing an image on the face of a flat block of wood and then carving away all areas that are not part of the picture. The desired image is left in relief (raised) above the surface of the block, much like the letters on a cancellation stamp used in the post office. The goal of the artist is to carve away everything that is not part of the desired picture. The completed block is then inked and paper is pressed against the block. The paper is then lifted away from the block and is an exact reverse image of the woodcut. It is this piece of paper that we are seeking—it is the woodcut. In this manner a very large number of prints may be produced. There are certain limitations with this medium. Wood is fairly soft and can be fragile, so the integrity of the print may change over time. Because there is great difficulty in carving away parts of the image, woodcuts often lack the fine precise detail of other forms. Lines tend to be bolder and more separated.

Engravings are made
by taking a flat plate of soft metal (usually copper) and scratching the desired picture into the surface. The plate is then inked, the excess ink wiped away, leaving ink only in the bottom of the scratched grooves, and paper is then pressed against the plate. Here the image is incised (sunken) into the surface rather than shown in relief as is a woodcut. Because an engraving is drawn directly on a metal plate rather than carved away, it is possible to present a great deal more detail in this art form. The durability of the metal plate also allows for more copies to be produced than does a woodcut.

**Etching** is a process much like engraving in that the image is incised on a metal plate. With an etching the entire plate is covered with wax. The artist then draws the image into the wax by means of a sharp instrument. This allows for varying degrees of pressure, and can produce a more subtle work than even an engraving. Next the waxed plate is dipped into a specially prepared acid solution. The acid eats away those surfaces exposed in the drawing process, yet doesn’t affect those areas still covered with the wax. Again, the plate is inked and paper pressed on it to create the final print. Because the acid actually eats away part of the plate, etchings tend to have “fuzzy” lines rather than the clear, clean ones found in engravings.

**Lithograph** literally means “stone writing.” This is because lithography is accomplished through the use of a specially prepared limestone plate. It is accomplished by applying the principle that oil and water repel one another. The image is drawn with a grease pencil or an oil-based crayon. Water is then lightly applied to the plate. While water rests rather easily in the porous surface of the limestone, it is repelled by the areas containing the greased designs. After this a layer of printing ink is
applied to the stone. The ink adheres only to the illustrated section, and flows off of the part treated with water. Paper is then pressed against the surface. The porous paper readily absorbs the ink. Lithography was the first medium in printing that made the copying of music easy.

Oil paint, invented in Belgium around 1420 by the Van Eyck brothers, was a major breakthrough for painters. Pigments (anything colored that could be ground into powder) were blended with linseed oil. This affords the bright colors of tempera, yet is almost the opposite in that it dries very slowly. This allows the painter to blend colors on the surface, to correct and revise the work even days later. In fact many of the important elements of painting (like chiaroscuro and aerial perspective) that will be mentioned later on in this chapter are possible only because of the slow drying properties of oil. Jan van Eyck’s Arnolfini and His Bride achieved a very high degree of minute detail, making it one of the world’s most popular paintings, even today. His incredible detail was only possible because he used oil.

Mosaic is a process of creating pictures by placing pieces of colored tile, stone, glass, etc. together to form a picture. The process would be like making a jigsaw puzzle without any precut pieces. The artist simply selects and creates appropriately sized and colored pieces of material to form the desired image. These pieces are held in place by mortar.

Mosaics are often used in floors or ceilings. Some of the best-preserved Roman art is in the mosaics that covered the walls, baths, or pools in the homes of the wealthy. Although the process has existed for centuries we find today that it is usually too costly, especially on
a Roman scale (remember that they had lots of slaves for the job). Today rather than placing each individual piece in the mortar, a workman uses sheets of tiles that have been glued to a mesh backing. This allows him to work quickly and place several dozen pieces at a time. Today the largest application of this technique is found in public rest rooms, where the floors and walls are often tiled.

In a process very similar to mosaic, stained glass involves forming a picture through placing together colored pieces of material, this time using glass. Rather than fixing the fragments with mortar, stained glass must be mounted in a frame that can be placed in a window. The frame is made of soft metal wire (usually lead).

After the picture is assembled, the lead frame is crimped with a soft hammer, causing the frame to hold the glass pieces in place. In the gothic age molten lead was poured directly into the space between the panes. These segments were then placed into larger stone or wooden frames for added stability, and then placed in the wall.

There are two broad categories of sculpture: relief and full round. Relief sculpture also has two types: low (bas) and high. The nickel on this page is low relief because the image is only slightly raised from the background. High relief means the statue is almost detached from its background. Statues of this type are usually seen on the front or sides of Justinian and his court, Ravenna, mosaic
Greek-style buildings like the US Supreme Court building. They are meant to be seen from one side only. Many times the figures are almost free-standing, being attached on just one side to a structure. If you were a statue and I placed you so your back and one leg...
were glued to a wall you would be in high relief. Fine examples of high relief sculpture may be seen on the tops of Greek-style temples or many government buildings. These statue groups, known as friezes, are almost completely three dimensional, but are designed to be seen from one side only. We also find relief statues on most of Europe’s Gothic cathedrals.