Subtractive Sculpture
Sculpture Fall 2011
What is it?

- Subtractive sculpture is the oldest form of sculpture and involves removing material, as in wood carving or stone sculpture, to create a finished work.
- Subtractive sculpture is by far the most technically difficult and due to the nature of the medium is the most restrictive in expression.
Early Egyptian and Greek sculpture prior to the Golden age of the 5th century BC were all similar in their frontal, stiff, and formal composition.
Greek Sculpture

- The Classical period of Ancient Greece produced some of the most beautiful pieces of art. The form "emerges" with the slow, careful chipping away the artist performs upon the marble's surface. The sculptor's magic wand or his "chipping" tools are the hammer, the chisel, and lots of patience.

- But just chipping away at the marble leaves a rough surface, which the Greek sculptor smoothed out with another stone called emery. After the surface was smoothed it was polished with a softer stone to give it a shine known as a patina.
One of these rough blocks of marble in a quarry would have been sculptured into this beautiful horse.
When looking at sculpture for examples of early Christian iconoclasm, *spolia* must be taken into consideration. The lesson from the Esquiline group and many other similar examples is (once again) that sculpture was broken up for many other reasons than religion or conflicting ideologies.
Roman Emperors

Images of the emperors were not only carved in profusion but air-brushed to make them look the part. Here, from the Palazzo Massimo, an image of Vespasian intended for public display.
A more typically Roman subject. The side of the sarcophagus, now in the Palazzo Massimo, shows the Romans as invincible and the barbarians as dying like flies.
During the Renaissance, the greatest stone sculptor ever known, Michelangelo, created his works first in clay. The clay would next be cast in plaster and a three dimensional pointing device would be used by a staff of assistants to transfer the dimensions to a block of marble; countless hours would then be spent drilling into the marble in thousands of spots to the proper depth required by the pointing device.
The raw shaped marble was finally finished by the hand of the master himself. Only in Michelangelo's last few years of life did he begin the incredible feat of actually carving figures directly out of stone without the aid of a preliminary work and pointing devices.
Downsides ...

- The greatest drawback of subtractive sculpture is in the excessive demand of time and the one of a kind results.
- Editions are not an option, so today it would be difficult for any artist to make even a meager living dealing exclusively with stone.
• Another limitation of stone subtractive sculpture is the relative fragility of the stone itself. This particular limitation prevents the artist from creating open compositions with outstretched arms or legs.

• This necessity for tight composition led Michelangelo to explain that a well composed marble figure could be rolled downhill without anything breaking off.
The Egg Assignment

- Primary Emphasis: Three-dimensional Form "In the Round"

- Secondary Emphasis: Positive and Negative Space.
Notes:

- Cleanup after you are done.

- Dress for a mess!

- Plaster will be provided by the studio.

- Use ONLY the assigned chisels to carve plaster (the moisture in plaster will ruin any good chisel).
When carving a form in any material two methods can be employed. The carver can either let the original mass determine the nature of the carved form by working intuitively and making adjustments during the process, or he/she can determine the nature of the form prior to carving.

A combination of the two methods is also used often. In this case the sculptor will loosely conceive of a form to be carved out and during the process of carving he or she will make various adjustments and changes to the original plan.
Carving is a methodical and time-consuming activity. It demands patience and a great deal of focus since the carved material is always prone to breaking when the sculptor is careless.

In this sense, the sculptor is required to become one with his material and to anticipate the intentions of its object before any accidents occur.
• The carving technique is universal for all material in the way that the sculptor will remove first the large unwanted portions of mass before proceeding to break smaller and smaller pieces as he/she approaches the surface of the desired forms.

• The final stages of the form revelation often involve careful and time consuming sanding, polishing, and depending on the material, finishing the sculpture by sealing its surface.
Plaster Stages

- **The liquid stage**: This stage occurs immediately after mixing with water. The mixture at this stage can be poured, brushed and thrown. It lasts about 15 minutes.

- **The putty stage**: The plaster thickens to the consistency of toothpaste. In this stage, plaster can be applied with a putty knife or spatula, and it can be modeled like clay. It lasts about 5 minutes.

- **The rigid stage**: Occurs once the mixture begins to set. The plaster becomes brittle and it can be cut with a knife or dug into with a spoon. The plaster is very fragile and should not be vibrated, dropped or have pressure on it.
- **The set stage:** The plaster begins to heat up and obviously hardens. The heat that is radiated depends on the size of the mixture and the setting speed. When the plaster cools, it is a good time to remove it from the mold and trim any unwanted edges since it is still very pliable.

- **The cure stage:** Lasts from the time the plaster cools until it dries completely. The mixture hardens substantially and metal tools are required for its manipulation. Because it still contains about 18% water, the tools get clogged and require cleaning quite often.

- **The dry stage:** The plaster no longer contains moisture and it is at maximum strength and very brittle at this stage. It can be sanded with sandpaper or painted.