SCULPTURE.

The art of sculpture originated at a very early age in the world's history; and, without venturing into the controversy as to whether or not it was first devoted to purposes of idolatrous worship, whether it was practiced before the Flood, and whether Abraham's father was a distinguished statuary, we may safely assume the Egyptians and Assyrians to have been distinguished for their progress in this art, and ascribe to the ancient Greeks the honor of having brought it to perfection.

The great superiority of the Greeks in the art of sculpture may be ascribed to a variety of natural causes which tended to foster and improve their taste for the beautiful. No people entertained a higher appreciation of all that is elegant and graceful; they preferred natural beauty to acquired accomplishments; they decreed the first rewards to those who excelled in agility and strength of body; to have a handsome figure was the hopeful desire of every Grecian youth. This love of the beautiful was in every way favorable to art. Socrates is said to have declared the artists to be the only wise men. The artist who executed his work with ability and taste might reasonably hope to have his own statue placed beside those of Miltiades and Themistocles. Thus encouraged and rewarded, art attained perfection; under similarly favorable circumstances, it might do so again. It is not our intention to enter into an inquiry as to the respective merits of the modern schools. Our ambition may be excited, but our pride is humbled, when we look at the Laocoon, the Venus de Medicis, the Apollo Belvidere, &c. Yet the knowledge of infinite superiority attaching to these immortal works should not depress the efforts of our artists, but rather rouse them to renewed exertion. What man has done, man may do. Phidias and Praxiteles may be rivaled, though they can never be excelled.

The mechanical part of sculpture is exceedingly simple, and requires but few tools. The essential element of success is the genius of the sculptor. Roubiliac used to say, "The figure is in the substance of the marble; I only extricate it from the inclosure, or pick out." But before the artist, with chisel and hammer, sets about the arduous labor of picking out the statue, he has something else to do; and those who imagine that his principal work consists in chipping with his tool at the block of marble are woefully ignorant of the real facts of the case, most part of his labor being, in truth, confined to clay and plaster.

The sculptor begins his work precisely as does the painter, by a sketch. Frequently he makes this sketch on paper, but in all cases proceeds with it in clay or wax. In these materials he makes a perfect model of the subject which he intends to execute; thus determining the character, proportion, and effect of his composition. Professional artists almost always use clay, and many of these clay models are annually exhibited in the Royal Academy of Arts, London. The clay employed is of the quality and prepared in the manner in which it is used by potters. It may be readily prepared by wetting it with water, and by working and beating it into a proper consistency. Very few tools are required, and these consist only of small pieces of wood, bone, or ivory, for cutting away the clay, pressing it into form, &c. Most sculptors rely more upon their bare fingers in modeling than upon any tool whatever. This was the practice among the ancients, who especially used their nails to render certain parts more delicate and lively.

Clay, when used for modeling, requires to be kept constantly in a proper state of moisture, especially if metal supports or braces are used in the erection of the model, as these, by their not yielding to the contraction and expansion which take place in the clay, if not kept at an equal degree of dampness, cause the latter to crack and often fall to pieces. The requisite degree of moisture is preserved by occasionally throwing water over the model with a syringe—the rose-head of which is perforated with very fine holes—by sprinkling it with a large brush, or by hanging wet cloths over it during the intervals of labor.

In reference to these remarks, we may observe that, according to the massiveness of the figure and the detached portion of its parts, more or less support is required beyond that which it is in the nature and strength of the clay to supply. For this purpose skeleton braces of iron must be prepared; these should be firmly bolted or fixed to the modeling-stand. Their protrusion beyond the surface of the model may sometimes be unavoidable, but care should always be taken that this may occur at unimportant points. The figure, or group, is then gradually developed by building it up compactly with the clay.

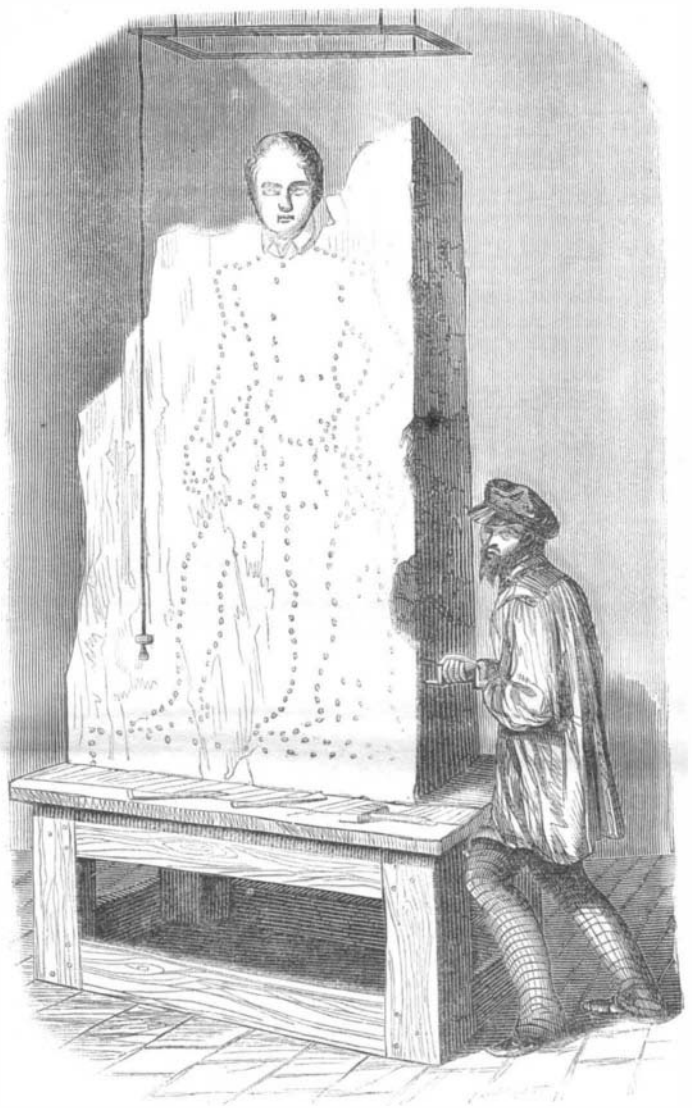
The custom is almost universal with sculptors, whether or not the figures are to be ultimately draped, to model them first of all as nudes. Accuracy of anatomical form is thus secured with a greater amount of certainty.

A cast in plaster is frequently taken from the clay model. This is a very simple process, but requires great care in its execution. A mold of the model has first of all to be taken, into which a mixture of plaster-of-paris and water, about the consistency of thick batter, is poured. The operation should be witnessed before the experiment is made of a first attempt, after which there will be no difficulty in conducting the process.

The finish of the model is often advantageously effected in the plaster. In large or complicated works, the plaster cast is often a very great convenience, as parts of the statue or group—such as heads, limbs, &c.—may be removed and wrought upon separately, under some circumstances, with greater facility than in the position which they occupy in the composition.

The plaster cast is never so beautiful as the clay model; and neither one nor the other equals the completed work, when "the marble, chiseled into life, grows warm." The clay model has been fancifully described as life—the plaster-cast as death—the marble statue as the resurrection.

Hewing the figure, or group, out of the stone or marble, is a simply mechanical operation. The relative sizes of the model and of the proposed work having been ascertained, exact measurements are made of the various prominences of the composition. Thus, on either side, for instance, the shoulders of a figure would be more prominent than the head, and in a face the nose must be more prominent than any other feature. The exact hight and depth of all the inequalities in the model having been taken, the block of stone or marble is bored to the proportionate depths (as shown in our engraving), and the workmen then strike off all the superfluous material, leaving the figure as a rough but exact counterpart in outline and proportion of the clay model or plaster cast. The skill of the sculptor is then shown in all those skillful touches of the chisel which impart life and beauty to the composition—those happy touches which show the genius of the artist, and which can never be given by any mere artizan.



MODE OF CUTTING STATUARY OUT OF MARBLE.

A GREAT BORE.—The great gun cast at Fort Pitt Foundry some months ago is now completed. After having been turning round in its lathe for about three months, it may now be seen rolling along O'Hara-street, on its way from the foundry to the Pennsylvania Railroad. The bore is 15 inches in diameter, and about 14 feet long. It is large enough to hold 16 bushels, and a stout, broad-shouldered man may enter it and pass down to the bottom. While undergoing the different processes of boring, turning and planing, the gun had turned round in its lathe about 65,080 times, and some parts of its exterior surface moved a rod at each turn, making the whole distance which some parts of the iron have traveled, while in the lathe, more than 200 miles. The gun is now encircled by two massive rings, six feet in diameter and one foot of face, which are secured by set screws. The gun serves as an axle, and the rings act as wheels, and roll along together on a heavy wooden railroad. Holes are cast in the face of the wheels to receive iron handspikes. Eight men with the aid of a crate and pulley, move the whole along with ease. On arriving at the railroad, the gun will be suspended between two eight-wheeled platform cars, from trussed beams, which are so arranged on the cars that the whole will be equally distributed on each of the 16 wheels, each wheel bearing 3,000 pounds exclusive of the car, platforms and trussed frame-work. The same cars will carry the gun to Washington City, where it will be transferred to a vessel, which will deliver it at Fort Monroe.—*Pittsburgh Journal.*

A NEW FARM ENGINE.—A correspondent informs us that he recently witnessed the successful operation of a portable engine for traveling on the common road, plowing, and executing several other operations, on the farm of J. O. Wood, about 20 miles from Hannibal, Mo. It was constructed by Messrs. R. L. Steer and George Roberts, of Hannibal, who have taken contracts to plow with it in competition with animal power. On the common road it travels at the rate of from five to six miles per hour, and it is stated to have been very successful.

A STEAM FIRE ENGINE.—Among the many other good illustrations preparing for our next issue (the last of the present volume) we are having executed a large and beautiful engraving of the steam fire-engine just built by Ettenger & Edmond of Richmond, Va., to fill an order from Russia.