

“Making a Marble Statue”

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(Two unrelated articles are included in the scan of the last page of the above article:
(1) “Architecture First of All an Art,” & (2) “Purbeck Marbles,” in the Isle of Purbeck, district of
Dorsetshire, England. The “Ancient Guild of Purbeck Marblers” is discussed in this last article.)

Making a Marble Statue

THE first thing to settle in a statue or group is the general design. For this purpose the artist, having chosen his subject, makes one or more sketches on paper, representing his conception of the treatment appropriate to it; these he will vary as improvements on the original idea suggest themselves, or as new notions spring up, says an English writer. Having to a certain extent satisfied himself with one or other of them, as expressing fully what he wishes, and as being at the same time harmonious in its arrangement, he then proceeds to make from it a small sketch or model in clay, in order to ascertain its probable effect in other views than the one represented on the paper. For it must be recollected that sculpture is widely different from its sister art, painting; the former has many views to consider, the latter has but one; and though in a piece of sculpture there will of course be principal views more effective than others, still they must all be agreeable, and to a certain extent suggestive or expressive of the main idea; and for this reason the sculptor has frequently to sacrifice or modify that which, were only one view to be considered, would aid him forcibly in his intentions. It is scarcely necessary to say, therefore, that alterations occur again in these clay sketches, and more than one is frequently made before the final decision

on the question of design takes place. This done, the full-size model is commenced in clay, the same material as the sketch, and for this the artist has to supply supports, as it rarely happens, except in recumbent figures, that the clay will hold itself together in the required position without their aid; no difficulty exists, however, in providing these, the roughest hedge-carpentering answering the purpose better than the finest workmanship. All that has to be done is to build up upon the stool a rough woodwork of sufficient strength to bear the weight of the clay and prevent it sinking, and to so arrange it that it shall be contained within the surface of the proposed model. Upon this the clay is kneaded by the hand into the requisite form, unassisted by anything but a few very simple wooden tools that help to cut, scrape or press, as may be required. The clay itself is that prepared by the potters for the common white stoneware, and is in no way expensive.

Young, inexperienced artists often show an overstrong predilection for the use of these wooden spatulas, or modeling tools, as by their assistance they find they can more easily obtain a smooth surface to their work; but experience afterwards teaches them that an imitation of the pulpy surface of the flesh can only be obtained from the touch of flesh

itself, or, in other words, from the pressure of the finger and thumb, and that the wooden tools must be used sparingly, merely as assistants to the hand, otherwise a hard, mechanical style is apt to creep in. There is in truth in a real artist, when working on his clay, the same species of feeling as in a fine pianoforte player, who draws expression from the instrument, not barely from correctness of note, but from a mental absorption in the music which imparts itself to his touch, and this affinity between head and hand is interrupted in the sculptor when the modeling tool intervenes between the surface of his work and the delicate sensation with which his hands are endowed.

With persons unacquainted with sculpture there is a general impression that the cutting of the marble is the most difficult part; but those who are intimate with the art know that the designing and modeling and the primary portions, and that the other, though of course requiring some knowledge as well as taste, is, in comparison, scarcely more than a clever manual dexterity. The artist, in fact, employs his own hand almost entirely on the designs and modeling, for in these stages he has to originate almost all the beauties of his work, and he knows if his model be in any way defective, inaccurate in its proportions or wanting in beauty or expression, that there is no hope that such defects will be remedied in the marble. The latter portion is indeed, in a measure, a mechanical process of copying, restricted, by the very means it employs, from departing to any great extent from the model. Before the model is finished nature must be referred to, and that frequently, to give an air of truth to the figure, which never was and never will be gained except by reference to her.

We will, however, suppose that the sculptor has by dint of time and labor thoroughly studied his model, compared it with and corrected it from nature, arranged his draperies and subordinate parts in proper order, brought all the surfaces up to a necessary degree of smoothness; in fact, given to the best of his talent and power actual embodiment of that which his mind has conceived. It is still in the soft clay, which will not bear moving, nor be durable for long, as it is liable to shrinking, and, if not constantly supplied with moisture would eventually crack, owing to the supports within not allowing every part to diminish in an equal degree. It has for this reason to be molded and cast into plaster, a process we shall briefly describe. Plaster of Paris is a strong, fine, white lime, made from gypsum or alabaster ground to powder and baked; and, so prepared, has the property of crystallizing rapidly when mixed with water, or, in other words, of condensing itself into a hard body. A certain quantity is mixed with water, sufficient to form a liquid of about the consistency of good cream, and thrown

over a portion of the model walls of soft clay having been built round that portion in order to prevent it from running on the other parts. The object of thus covering a part only at a time will be seen presently, and the proper division of such parts must be learned by experience, as it depends entirely upon the peculiarities of the model.

This liquid plaster of Paris will, under the hands of an experienced workman, take an exact impression of the surface, and in the course of a few minutes become hard, as we have before explained. More must be added, however, in order to render it of the thickness necessary to sustain itself, which thickness will depend on the size of the object to be molded. The clay walls are then removed, when we have one-half or more of the model covered with a hard shell, the edges of which stand up clean and square from the clay. These edges are then soiled with clay water, and the same process goes on with the other half; or, if it be a very complicated work, there may perhaps be three, four, or even five pieces of mold, all made in this way in succession.

The whole having been covered, after this manner, with a coating, the inner surface of which has taken a delicate impression of every marking on the model, the next step is to open this shell or mould, in order to take out the clay. If the joints between the pieces have been well washed with clay water, these will separate easily by the driving in, at judicious distances, a few wooden wedges. At any rate, one piece will come away by this means, and from the opening thus made we can pick out the clay, just as it will best come, only taking care not to injure the surface of the mold, as any damage done to that will show itself in the cast.

The interior of the mold is now washed with a soft brush and water, and the pieces again put together and bound round with ropes to keep them to their places. The whole is well saturated with water, and fresh plaster of Paris of a finer quality poured into it through the mouth formed by the underneath side of the base. This also, becoming in a few minutes hard, forms a facsimile in plaster of the clay model, to be afterwards extracted from the outer casing or mold. Between the surfaces of the two, however, there is but little adhesion, as the saturating the first with water previous to filling it with the second prevents it. The removal of the outer coating is accomplished by chipping it off in small pieces by means of a mallet and blunt chisel. This part of the work requires considerable practice as well as caution to prevent injuring the cast; but if everything has been well managed the pieces will splinter off before the edge of the chisel reaches it. To remedy at last any little faults or inaccuracies that may have occurred, rasps, glass-paper, fish-skin and for small work Dutch-rush are used.

The working of the marble now begins which, if

it require not the highest talent, takes at least the longest time and the greatest labor. The model and marble are fastened in relative positions on two square blocks of stone, having each, along the edge in front, a scale of parts marked out, similar to those on a carpenter's rule. The "pointing instrument," as it is called, is then applied, which consists generally of an upright pole, with a cross-piece attached, that travels along the edge so marked, just as a T-square travels along the edge of a drawing-board. (This pointing-instrument may indeed be well conceived by fancying a large T-square, the long part round instead of flat, and perpendicular instead of horizontal.) To this is attached a circular metal bar, and at the end of that again a needle, with ball and socket joints between both. By the aid of these joints the workman can fix the point of the needle to any part of his model, and having by means of the screws tightened the joints, can transfer the instrument from the stone on which the model rests to the other, when of course the relative position of that part in the marble will be indicated if the instrument itself be fixed to the corresponding number on the scale. It is, in fact, nothing more than a system of finding a third point from two already given.

Various improvements have from time to time been made on this instrument in order to gain facility of motion, but the principle in all is the same. The best one is, perhaps, that invented by Behnes, for which the Society of Arts awarded its gold medal. It possesses greater variety of movement than any other, and, as such, is more convenient to the workman, but has one drawback—a too great liability to get out of repair. Indeed, it will be easily understood that in an operation where dust and small pieces of marble are constantly flying about, it is not advisable to have to do with machinery of too delicate a construction. By this simple method the block is hewn out roughly, but correctly, into shape, and a great number of points or perforations are made in it, the bottom of which represent the surface of the model, and correspond in distance from each other with small pencil dots, marked at the time of taking them upon the model.

These marks on marble and model form so many guides for the carver who now takes the work in hand, so that his mind is entirely relieved from the apprehension of any error in the main proportions or position of parts, these being definitely fixed by the points themselves. He has merely to copy what he sees correctly, by the aid of those points, and to bring the whole to a good, fine surface; his ingenuity is displayed in clearing out with his chisel and hand-drill the deep cuttings—often a very difficult task, attended not only with a great deal of labor, but requiring considerable skill as well as practice. The marble comes at last again into the artist's

studio, from whence the model emanated; and his delight is then in giving those final touches which remove from it any hardness or immobility it may have acquired under the hands of a copier, and impart to it the spirit and character of nature. The whole is ultimately rubbed over with sand and water by the aid of small pieces of wood and linen rags, to remove the dry, dusty appearance derived from the chisel or rasp, and to bring up the lucid beauty of the material.

When the multiplying of casts is required, as is frequently the case, a mold is again made upon the finished marble, much after the fashion previously described with the clay, but composed of an immense number of pieces, fitting one within the other, so as to admit of each one coming away separately from the marble, and, again, from the casts, without injury to either. This is professionally termed "safe molding" on account of the outer coating being preserved; in opposition to the other, which is called "waste molding," from the shell or mold being destroyed in the process. Any reasonable number of casts may be taken from the safe-molds.

Architecture First of All an Art

While it is unquestionable that the architect of today is more and more compelled to admit and provide for in his buildings the application of science in manifold directions, there remains the fact that architecture is, first and foremost, an art; that its primary function is the creation of the beautiful, says an English exchange. Beauty in architecture does not exclude but, on the contrary, is inseparable from full provision for the maximum of usefulness in every building. It connotes not only this provision but the expression of full fitness for its purpose in every part of every structure. It is in its highest achievement not the decoration of utilitarianism with a veneer of applied ornament, but the aesthetic satisfaction of every necessity in appropriate, logical and pleasing form. Therefore, it is to be hoped that any extension of scientific training that may be introduced into the school of education of our future architects may not exclude such studies as tend to the development of the imagination and the acquisition of facility of expression.

Purbeck Marbles

One of the most interesting quarrying industries in the world is that carried on in what is known as the Isle of Purbeck, in the district of Dorsetshire. The stone quarried is a fossiliferous marble, of blue-gray color and shell markings. It has been used for many hundreds of years, mostly for ecclesiastical work.

Nearly 100 quarries are in operation in what used to be a Royal deer forest, and the whole industry is managed by a curious kind of trades guild, known as "The Ancient Guild of Purbeck Marblers."