Lat. *scutellarius,* keeper of dishes and plates (*scutella),* became in 0. Fr. *escueillier* or *sculier,* whence in English *sculler, squiler,* &c. A “ sergeaunt-squylloure ” is found amongst the officials of the royal household; and the *Promptorium parvulorum,* dating about 1400, glosses *lixa,* a sutler or camp-cook, by “ squyllare, dysche-wescheare.” “ Scullion,” a kitchen-wench, has been naturally connected with scullery, but is derived from O. Fr. *escouillon,* dish-cloth, cf. Span. *escobillon,* spring for a gun, ultimately from Lat. *scopa,* birch tree, *scopae,* broom of birch twigs.

SCULPTURE (Lat. *sculptura,* from *sculpere,* to carve, cognate with Gr. *yλνφeiv),* a general term for the plastic art of carving, especially in stone and marble, but also in such materials as wood (see Wood-carving), ivory (see Ivory), metal (see Metalwork) and gems (see Gem).

The production of bronze statues by the *cire perdue (anglice,* “ lost wax ”) process is described in the article Metal-work;

until (since its revival) recent times but little practised in Europe outside of Paris, it has now invaded most countries where fine casting is appreciated, and where naturalistic rendering is desired. There are signs, however, of its being ousted for a certain class of handling by the “ galvanoplastie ” method—a system of copper deposit by an electrical process—whereby “ going over ” the work

after it has been reproduced in metal is avoided.

■ For the execution of a marble statue the sculptor first models a finished preliminary sketch on a small scale in clay or wax.

He then, in the case of a life-size or colossal statue, has a sort of iron skeleton set up, with stout bars for the arms and legs, fixed in the pose of the future figure.

This is called the “ armature.” It is placed on a stand, called a *chassis,* with a revolving top, so that the sculptor can easily turn the whole model round and thus work with the light on any side of it. Over this iron skeleton well-tempered modelling-clay is laid and is modelled into shape by the help of wood and bone tools; without the sustaining assistance of the ironwork a soft clay figure, if more than a few inches high, would collapse with its own weight and squeeze the lower part out of shape. While the modelling is in progress it is necessary to keep the clay moist and plastic by squirting water on to it with a sort of garden syringe capped with a finely perforated rose. When the sculptor is not at work the whole figure is kept wrapped up in damp cloths. A modern improvement is to mix the modelling-clay, not with water, but with stearin and glycerin; this, while keeping the clay soft and plastic, has the great advantage of not being wet, and so the sculptor avoids the chill and consequent risk of rheumatism which follow from a constant manipulation of wet clay. This method, however, has not been very extensively adopted. When the clay model is finished it is cast in plaster. A “ piece-mould ”@@1 is formed by applying patches of wet plaster of Paris all over the clay statue in such a way that they can be removed piecemeal from the model, and then be fitted together again, forming a complete hollow mould. The inside is then rinsed out with plaster and water mixed to the consistency of cream till a skin of plaster is formed all over the inner surface of the mould, and thus a hollow cast is made of the whole figure. The “ piece-mould ” is then taken to pieces and the casting set free. If skilfully done by a *gοοd formatore* or moulder the plaster cast is a perfect facsimile of the original clay, very slightly disfigured by a series of lines showing the joints in the piece-mould, the sections of which cannot be made to fit together with absolute precision. Many sculptors have their clay model cast in plaster before the modelling is quite finished, as they prefer to put the finishing touches on the plaster cast—good plaster being a very easy and pleasant substance to work on.

The next stage is to copy the plaster model in marble. The model is set on a large block called a “ scale stone,” while the

marble for the future statue is set upon another similar block. The plaster model is then covered with a series of marks, placed on all the most salient parts of the body, and the front of each “ scale stone ” is covered with another series of points, exactly the same on both stones. An ingenious instrument called a pointing machine, which has arms ending in metal points or “ needles ” that move in ball-socket joints, is placed between the model and the marble block. Two of its arms are then applied to the model, one touching a point on the scale stone while the other touches a mark on the figure. The arms are fixed by screws in this position, and the machine is then revolved to the marble block, and set with its lower needle touching the corresponding point on the scale stone. The upper needle, which is arranged to slide back on its own axis, cannot reach the corresponding point on the statue because the marble block is in the way; a hole is then drilled into the block at the place and in the direction indicated by the needle, till the latter can slide forward so as to reach a point sunk in the marble block exactly corresponding to the point it touched on the plaster mould. This process is repeated both on the model and on the marble block till the latter is drilled with a number of holes, the bottoms of which correspond in position to the number of marks made on the surface of the model. A comparatively unskilled *scarpellino* or “ chisel-man ” then sets to work and cuts away the marble till he has reached the bottoms of all the holes, beyond which he must not cut. The statue is thus roughly blocked out, and a more skilled *scarpellino* begins to work. Partly by eye and partly with the constant help of the pointing machine, which is used to give any required measurements, the workman almost completes the marble statue, leaving only the finishing touches to be done by the sculptor. In the opinion of many artists the use of the mechanical pointing-machine is responsible in a great measure for the loss of life and fire in much of modern sculpture.

Among the ancient Greeks and Romans and in the medieval period it was the custom to give the nude parts of a marble statue a considerable degree of polish, which really suggests the somewhat glossy surface of the human skin very much better than the full loaf-sugar-like surface which is left on the marble by most modern sculptors. This high polish still remains in parts of the pedimental figures from the Parthenon, where, at the back, they have been specially protected from the weather. The Hermes of the Vatican Belvidere is a remarkable instance of the preservation of this polish. Michel- angelo carried the practice further still, and gave certain parts of some of his statues, such as the Moses, the highest possible polish in order to produce high lights just where he wanted them ; the artistic legitimacy of this may perhaps be doubted, and in weak hands it might degenerate into mere trickery. It is, however, much to be desired that modern sculptors should to some extent at least adopt the classical practice, and by a slight but uniform polish remove the disagreeable crystalline grain from all the nude parts of the marble.

A rougher method of obtaining fixed points to measure from was occasionally employed by Michelangelo and earlier sculptors. They immersed the model in a tank of. water, the water being gradually allowed to run out, and thus by its sinking level it gave a series of contour lines on any required number of planes. In some cases Michelangelo appears to have cut his statue out of the marble without previously making a model—a marvellous feat of skill.

In modelling bas-reliefs the modern sculptor usually applies the clay to a slab of slate on which the design is sketched; the slate forms the background of the figures, and thus keeps the relief absolutely true to one plane. This method is one of the causes of the dulness and want of spirit so conspicuous in most modern sculptured reliefs. In the best Greek examples there is no absolutely fixed plane surface for the backgrounds. In one place, to gain an effective shadow, the Greek sculptor would cut below the average surface; in another he would leave the ground at a higher plane,

@@@l Moulds made in one or few pieces, from which the cast can only be extracted by destroying the mould, are called “ spoil-moulds. A large number of casts can be made from a “ piece-mould,” but only one from a “ spoil-mould.”