decorative work, viz., appropriateness of pattern and excellency of workmanship. If, occasionally, the earlier designers per­mitted themselves to indulge in somewhat bizarre fancies, they at least carefully refrained from any attempt to produce those pseudo-realistic effects the undue straining after which in later times ultimately led to the degradation of not only French calico-printing design, but of that of all other European nations who followed their lead. The practice of the older craftsmen, at their best, was to treat their ornament in a way at once broad, simple and direct, thoroughly artistic and per­fectly adapted to the means by which it bad to be reproduced. The result was that their designs were characterized, on the one hand, by those qualities of breadth, flatness of field, simplicity of treatment and pureness of tint so rightly prized by the artist; and, on the other, by their entire freedom from those meretri­cious effects of naturalistic projection and recession so dear to the modern mind and so utterly opposed to the principles of applied art.

*Methods of Printing.*

Broadly speaking textile-printing means the local application, to textile fabrics, of any colour in definite patterns or designs, but in properly printed goods the colour becomes part and parcel of the fibre, or, in other words, the latter is dyed so as to resist washing and friction. Textile-printing, then, may be looked upon as a form of dyeing; but, whereas in dyeing proper the whole fabric is uniformly covered with one colour, in printing one or more colours are applied to it in certain parts only, and in sharply defined patterns. In principle these two branches of textile colouring are closely allied, for the colouring matters used in each case are practically identical, but in practice the means whereby their respective objects are attained bear little or no resemblance to each other. In dyeing, for instance, it is sufficient, for the most part, to immerse the fabric in an aqueous solution of the dye-stuff, stirring it about constantly or other­wise manipulating it to prevent unevenness. In printing, however, the colour must be applied by special means—either by a wooden block, a stencil or engraved plates, or rollers— and thickened to prevent it from spreading, by capillary attrac­tion, beyond the limits of the pattern or design. Many colours also contain, besides the colouring matter and thickening, all the substances necessary for their proper fixation on the cloth when the latter is simply passed through a subsequent process of steaming, and others again require to be subjected to many after treatments before they are thoroughly developed and rendered fast to light and washing.

There are five distinct methods at present in use for producing coloured patterns on cloth:—

(1) Hand block-printing.

(2) Perrotine or block-printing by machine.

(3) Engraved plate-printing.

(4) Engraved roller-printing.

(5) Stencilling, which although not really a printing process may be classed here as one.

(r) *Hand Block-Printing.*—This process, though considered by some to be the most artistic, is the earliest, simplest and slowest of all methods of printing.

The blocks may be made of box, lime, holly, sycamore, plane or pear wood, the latter three being most generally employed. They vary in size considerably, but must always be between two and three inches thick, otherwise they are liable to warp—a defect which is additionally guarded against by backing the wood chosen with two or more pieces of cheaper wood, such as deal or pine. The several pieces or blocks are tongued and gr∞ved to fit each other, and are then securely glued together, under pressure, into one solid block with the grain of each alternate piece running in a different direction.

The block, being planed quite smooth and perfectly flat, next has the design drawn upon, or transferred to it. This latter is effected by rubbing off, upon its flat surface, a tracing in lamp- black and oil, of the outlines of the masses of the design. The portions to be left in relief are then tinted, between their outlines, in ammoniacal carmine or magenta, for the purpose of distinguishing them from those portions which have to be cut away. As a separate block is required for each distinct colour in the design, a separate tracing must be made of each and transferred (or “put on" as it is termed) to its own special block.

Having thus received a tracing of the pattern the block is thoroughly damped and kept in this condition by being covered with wet cloths during the whole process of “ cutting.” The block­cutter commences by carving out the wood around the heavier masses first, leaving the finer and more delicate work until the last so as to avoid any risk of injuring it during the cutting of the coarser parts. When large masses of colour occur in a pattern, the corresponding parts on the block are usually cut in outline, the object being filled in between the outlines with felt, which not only absorbs the colour better, but gives a much more even impression than it is possible to obtain with a large surface of wood. When finished, the block presents the appearance of flat relief carving, the design standing out like letterpress type.

Fine details are very difficult to cut in wood, and, even when successfully cut, wear down very rapidly or break off in printing. They are therefore almost invariably built up in strips of brass or copper, bent to shape and driven edgewise into the flat surface of the block. This method is known as “ coppering,” and by its means many delicate little forms, such as stars, rosettes and fine spots can be printed, which would otherwise be quite impossible to produce by hand or machine block-printing.

Frequently, too, the process of “ coppering ” is used for the pur­pose of making a mould, from which an entire block can be made and duplicated as often as desired, by casting. In this case the metal strips are driven to a predetermined depth into the face of **a** piece of lime-wood cut across the grain, and, when the whole design is completed in this way, the block is placed, metal face downwards. in a tray of molten type-metal or solder, which transmits sufficient heat to the inserted portions of the strips of copper to enable them to carbonize the wood immediately in contact with them and, at the same time, firmly attaches itself to the outstanding portions. When cold a slight tap with a hammer on the back of the lime­wood block easily detaches the cake of the type-metal or alloy and along with it, of course., the strips of copper to which it is firmly soldered, leaving a matrix, or mould, in wood of the original design. The casting is made in an alloy of low melting-point, and, after cooling, is filed or ground until all its projections are of the same height and perfectly smooth, after which it is screwed on to a wooden support and is ready for printing. Similar moulds are also made by burning out the lines of the pattern with a red-hot steel punch, capable of being raised or lowered at will, and under which the block is moved about by hand along the lines of the pattern.

In addition to the engraved block, a printing table and colour sieve are required. The table consists of a stout framework of wood or iron supporting a thick slab of stone varying in size according to the width of cloth to be printed. Over the stone table top a thick piece of woollen printer’s blanket is tightly stretched to supply the elasticity necessary to give the block every chance of making a good impression on the cloth. At one end, the table is provided with a couple of iron brackets to carry the roll of cloth to be printed and, at the other, a series of guide rollers, extending to the ceiling, are arranged for the purpose of suspending and drying the newly printed goods. The “ colour sieve ’’ consists of a tub (known as the swimming tub) half filled with starch paste, on the surface of which floats a frame covered at the bottom with a tightly-stretched piece of mackintosh or oiled calico. On this the “ colour sieve" proper, a frame similar to the last but covered with fine woollen cloth, is placed, and forms when in position a sort of elastic colour trough over the bottom of which the colour is spread evenly with a brush.

The *modus operandi* of printing is as follows:—The printer commences by drawing a length of cloth, from the roll, over the table, and marks it with a piece of coloured chalk and a ruler to indicate where the first impression of the block is to be applied. He then applies his block in two different directions to the colour on the sieve and finally presses it firmly and steadily on the cloth, ensuring a good impression by striking it smartly on the back with a wooden mallet. The second impression is made in the same way, the printer taking care to see that it fits exactly to the first, a point which he can make sure of by means of the pins with which the blocks are provided at each corner and which are arranged in such a way that when those at the right side or at the top of the block fall upon those at the left side or the bottom of the previous im­pression the two printings join up exactly and continue the pattern without a break. Each succeeding impression is made in precisely the same manner until the length of cloth on the table is fully printed. When this is done it is wound over the. drying rollers, thus bringing forward a fresh length to be treated similarly.

If the pattern contains several colours the cloth is usually first printed throughout with one, then dried, re-wound and. printed with the second, the same operations being repeated until all the colours are printed.

Many modifications of block-printing have been tried from time to time, but of these only two—"tobying ” and "rainbowing ”— are of any practical value. The object of “ tobey-printing ” is to print the several colours of a multicolour pattern at one operation, and for this purpose a block with the whole of the pattern cut upon it, and a specially constructed "colour sieve ” are employed. The sieve consists of a thick block of wood, on one side of which a series