

texture making it a receptacle for dust, smoke, etc., which in a short time completely ruins its surface. No doubt this is more especially true of our houses in Canada, shut up closely as they are during a long winter with the accompanying accumulation of dust.

This brings us to the consideration of wall paper as a medium for decoration—a material more generally used than any other and undoubtedly more broadly adapted to the various requirements of house decoration. As I have already said, wall paper has been designed to reproduce other materials in a cheaper and more practical form. Silk, leather, tapestry, cretonnes, etc., are now to be had in wall paper in their choicest designs. The first cost of die cutting, etc., being distributed over a large output the richest and most elaborate examples of each fabric may be copied. How one is deceived by these reproductions when on the wall, but one may have the very best of design and weave the world affords, while if attempting to use the actual fabrics only a very moderate and perhaps undesirable selection is possible. There is of course a very large range and very superior range of designs which are not copies of anything but simply wall paper.

Wall papers are broadly divided into hand-made and machine-made—pressed flat, gilt and color. The manufacture of hand made papers follows somewhat the earliest type of printing press, but while the old printing press has long been discarded, the hand or block printing machine still retains a large place in wall paper manufacture. The advantages are a more solid layer of color and as a consequence a more forcible effect on the wall. Large designs also may be printed with blocks when the expense would be too great to construct a machine for the purpose. But of late years, with perfected machinery and skilful printing many designs are produced which test the ability of an expert to detect as not hand-made. The best designs come from England—that is designs which are purely wall paper, not imitations of any other fabric. Such men as Burne Jones, William Morris, Lewis F. Day, Walter Crane and others have given their best efforts to the designing of wall paper and the result is what might be called a school of wall paper design which is drawn upon by the designers of other countries. These men by no means treat the wall as in all cases merely a background for other things, but rather as an important feature in the furnishing of the room. Of course where important pictures are to be hung many of their designs would be quite inappropriate, but unfortunately the number of important pictures bears a ridiculously small portion to the number of rooms to be decorated. French designs excel in reproduction of silks, leathers, etc. and many of their papers are exquisite examples of the art of wall paper making. By far the largest proportion of designs are studies of natural flowers slightly conventionalised. Always popular and easier of treatment than ornament, they peculiarly appear in the season's lines although the really good floral designs of one season could be counted on the fingers of one hand.

Within the last year or two the reign of the frieze has perceptibly drawn to its close. At one time considered a *sine qua non* in every room—in fact almost as essential as the furniture—it is now relegated to the cheap parlor combinations as they are called, where ceiling frieze and wall are beautifully matched, saving brains and much anxious thought to the dealer and the buyer. Wall papers are now usually carried to the ceiling or cornice and finished at the top with a picture moulding. Ceilings if good are painted or tinted, if cracked are papered with something simple in design and of almost one color. Sometimes the ceiling color or paper is brought down a short distance on the wall to meet the wall paper at the picture moulding. Sometimes the upper third of the wall is covered with a different design from the lower two thirds, the picture moulding again acting as divider. A very pretty treatment for bedrooms is to carry a narrow border around each wall of the room forming them into large panels. These borders frequently have corner pieces to match. Papers with the texture of burlaps, denims, &c., make a very good lower wall and are an excellent background for pictures. Ingrains or cartridge paper are now very little used. Pressed or raised papers except in leather effects are not much in use, good coloring being preferred to their somewhat showy effect. The stripe designs which come to us at present in such abundance will not continue to occupy so large a place in dealers' collections, yet they have an important use in giving

an appearance of height to rooms whose ceilings are undesirably low, besides being an agreeable change from the ordinary run of designs. The old cretonnes and chintzes furnish a range of beautiful patterns for bedrooms, morning rooms, etc.

The proper treatment for all of these patterns is to simply cover the wall with them as would be done with the actual material.

Coming to the woodwork of the room we find a variety of new tones for natural wood. Rich browns, deep mossy greens, Flemish oak finish, may be applied to ordinary pine or white wood with highly satisfactory results. The strong reds and greens of the wall at once call for special treatment of the woodwork and these deep tones are the result. In direct contrast are the white and ivory tones which set off equally well the reds, greens and blues of the wall. The old fashioned drawing room in white and crimson or green is very much in evidence at present, while in the bedchambers white woodwork prevails, almost to the exclusion of everything else. Graining, while not tabooed on aesthetic grounds as formerly, does not seem to find a place with other prevailing features. Oak among hardwoods is in great favor but more frequently finished in Flemish log oak coloring, than in the natural wood.

One of the most desirable importations of old world ideas is the more general use of hardwood floors. Very few realize the danger to health which lurks in the harmless looking carpet which in many cases remains securely tacked to the floor for several years. An analysis of the dust accumulated in that time has revealed possibilities of disease which in many cases must have neutralized in the actual thing.

A permanent floor may be laid in any house on top of the existing floor without alteration to doors or other woodwork of the room and at the cost of ordinary carpet. Parquetry designs add decorative character to this part of the room. Not the least important advantage gained by the use of hardwood floors is the introduction of the very artistic and everlasting Eastern hand made rugs which now adorn so many of our homes. When the life of these things is considered, the money expended upon them is probably the best investment possible in house furnishing.

THE CHARACTER OF SAND GRAINS.

It has been pointed out by Sorby and others, that by the aid of the microscope much may be learned concerning the history and character of sand grains. He has classified them into five groups, which, however, graduate into each other. These are:—

1. Normal, angular, fresh-formed sand, such as has been derived almost directly from the breaking up of granitic or schistose rocks.
2. Well-worn sand in rounded grains, the original angles being completely lost, and the surfaces looking like fine ground glass.
3. Sand mechanically broken into sharp angular chips, showing a glassy fracture.
4. Sand having the grains chemically corroded, so as to produce a peculiar texture of the surface, differing from that of worn grains or crystals.
5. Sand in which the grains have a perfectly crystalline outline, in some cases undoubtedly due to the deposition of quartz upon rounded or angular nuclei of ordinary non-crystalline sand.

In the manufacture of bricks fired at a low temperature, No. 3 above described is no doubt the best, as it possesses certain binding qualities; but the usual type of sand met with in ordinary brickyards is either No. 1 or No. 2.

NOTES.

The value of building permits issued to date by the Inspector of Buildings of Winnipeg is \$630,575, as compared with \$383,633 for the same period last year.

The annual convention of the American Society of Civil Engineers opened at Niagara Falls, on the 25th inst., and will close on the 28th inst.