

happen in Alpine scenery, the rocks have come out too dark. Among the full-page illustrations, hoar-frost on a tree, a frozen lake in the Engadine, and a view at Ragaz strike us as particularly good. In fact, though the book is certainly not free from defects, it has not a few countervailing merits.

COLOUR AND PIGMENTS.

Colour-sense Training and Colour Using. By E. J. Taylor. Pp. 88. (London: Blackie and Son, Ltd., 1908.)

THIS should prove a very useful little book to teachers who wish to explain the fundamental laws of colour to their pupils. The old division of the spectrum into the three primaries—blue, yellow and red—still persists among artists and leads to much confusion of thought, and doubtless a book of this character will assist in bringing in a truer perception of the nature of colour-vision, while it is not so difficult as Prof. Church's book or Sir William Abney's "Colour Measurement and Mixture."

The author in dealing with this subject takes the ordinary Young-Helmholtz theory of the primary colour sensations, and is quite right in so doing. It is simpler, and at any rate covers most of the facts, and there is no need in a book of this character to discuss any rival theories which may exist. The weakest chapter in the book is that dealing with the mixing of pigments, and in a future edition this chapter might well be re-written and developed. One of the most important lessons the artist can learn from the study of the theory of colour is the extent to which he can limit his palette and get all the effects he requires. For instance, by means of a rich madder, cobalt yellow, viridian, and cobalt blue, every tint can be obtained, including a deep, rich, velvety black, while a complete spectrum can be constructed on a lower key by the use of black, Indian and Venetian red and yellow ochre, and it is therefore of great importance that the art student, having once mastered the theory, should test it by experiments with a few selected pigments, and should realise for himself that lampblack and yellow ochre really give a green, and that he can get practically a complete absorption of the spectrum from not more than three or four pigments.

It is also of importance that he should be trained to use a palette consisting of permanent pigments, and should avoid as far as possible those that are fugitive. It is therefore a pity to see in a modern text-book an artist advised to use such pigments as crimson lake, carmine, indigo and gamboge. These should all be excluded. The writer has also apparently not realised the extent to which his theory will assist the artist who wishes to paint in the method of the French impressionist school by the juxtaposition of small dots of colour instead of by an actual mixing of the pigments. If, for instance, blue and yellow are painted in small dots side by side, from a little distance the effect is to give a grey and not a green; in fact, green is the one colour which cannot be produced by such juxtaposition of pigment, but must

be obtained either by the use of a green pigment or the mixing of a blue and yellow so as to leave the net result of their mutual absorptions. A short discussion, therefore, of the French method of painting as opposed to the method of mixing pigments, and a statement of the actual results obtained by the blending in the eye of the lights reflected from two separate pure pigments painted side by side, would be of great value to the modern artist. Most of our painters to-day make use of both methods to get their effects, and would probably be much helped by being taught a few fundamental principles. The only reference which the author has to this method of painting is to be found on p. 60, where he says the designers avoid dirty tones by placing the pigments very close, with the alternate colours in dots and dashes, but he does not seem to realise that the resulting colour may be quite different from that obtained by blending the pigments.

There is another difficulty which faces the artist in dealing with actual pigments, and which has not been discussed by the author. Many when mixed with white completely alter in tint, and the matter is not so simple as it would appear from the description in the text of the graded tones to be obtained in this way. To take a simple instance, the great value of yellow ochre to an artist is that it can be mixed with white without an alteration in the tint, so that the yellow ochre let down with white has the same colour value to the eye. This is not true of most other yellows, and consequently yellow ochre is invaluable for producing the effect of bright sunlight falling on a white surface. With reference to the training of children in the meaning of colour, it is open to question if the modern kindergarten methods are wise. The colours which are used in practice for training young children, and from which they are supposed to build up various patterns, are remarkable for their peculiar ugliness and the hideous colour schemes which result from them. Children grow up with a beautiful perception of true colour schemes in many lands where the kindergarten methods have never been heard of, and one of our greatest difficulties at present is that those engaged in trade processes which involve the use of colour have no fine sense of what is beautiful. It is surely an open question whether the hideous colours presented to very young children in the kindergarten classes are not positively injurious, and tend to destroy any instinctive taste for colour with which they have been endowed by nature.

THE ATLAS OF CANADA.

Atlas of Canada. Prepared under the direction of J. White. Pp. 21; 83 plates. (Canada: Department of the Interior, 1906.)

THIS atlas, which has been compiled with great care, shows, in a form which can usually if not always be easily comprehended, much of the information which is at present obtainable concerning the Great Dominion. It contains about forty maps, and rather more than that number of plates of diagrams.