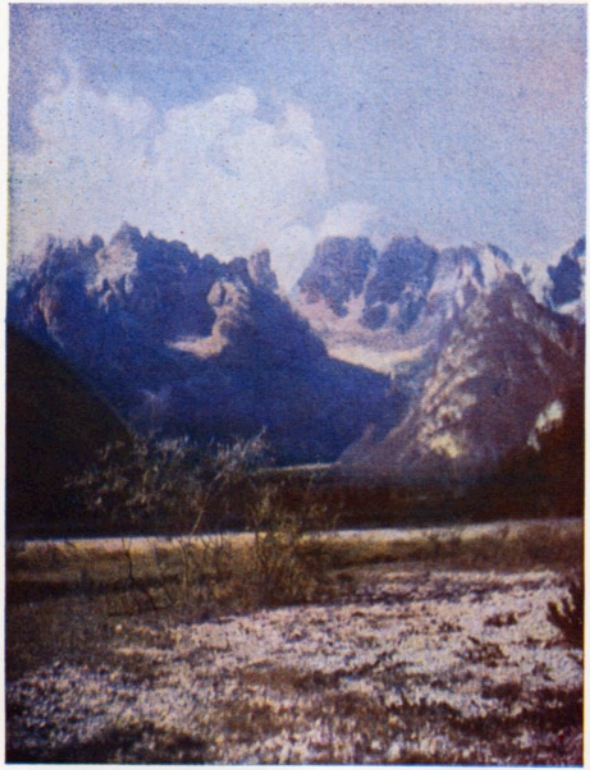

W. Inglis Clark.

MONTE CRISTALLO.

Snapshot in the hand.)

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MONTE CRISTALLO.

(From Crepedel.)

THE KLEINE ZINNE.

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THE ALTO NUVOLAU.
(Sunrise.)

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Colour Photography for Mountaineers.

By DR. INGLIS CLARK.

(Read before the Alpine Club, February 7, 1911.)

WHEN I had the honour of lecturing before the Alpine Club on February 7, 1911, this subject was interwoven with some experiences in the mountains of Tirol, and the illustrations which accompany this might therefore properly have appeared along with the paper in the last number of the Journal. The Editor however considered that, as the illustrations in colour had no special reference to the climbs under question, it would be better to issue them separately accompanied by an explanatory paper dealing essentially with colour photography.

Two years ago I wrote a paper for the 'Scottish Mountaineering Club Journal' on this very subject, and a glance at that paper and the illustrations therein will show that, while my method of working and the process generally has not greatly advanced, the reproduction of autochromes (colour positives) has made marked advance. The time has now arrived when it is open to suggest that illustrations in colour of mountain scenery will, as a rule, be much more true and valuable than any merely black and white photograph. As however the majority of climbers still have the impression that photography in colours is an intricate and difficult matter, I shall endeavour to disabuse their minds of any such idea.

In what respects then does photography in natural colours

differ from ordinary photography? In the ordinary variety a negative is made, and from this prints or lantern slides can be obtained. In colour photography, as a rule, no negative is obtained, but only a glass positive, and it is impossible to print direct on to paper. It is however not the case that one cannot copy the original positive, for it can be duplicated and the resulting lantern slides in colour are practically as good as the original and sometimes better. The colour positive can also be reproduced by commercial processes (see illustrations herewith). The necessary requirements are:—an ordinary camera, a dark slide—a colour filter—a good lens—the colour plates. Beginning with the colour plates: these are purchasable at 2*s.* 6*d.* for a box of four (lantern size) as supplied by Lumiere. In using them, place them with the *glass* side towards the lens, in a dark slide, having previously inserted a black card (supplied by makers) in contact with the film side. A colour filter (price about 7*s.* 6*d.*) is attached to the inner side of the lens, and the photograph taken in the ordinary way. It will be noticed that the *plate* is reversed, and the colour filter is to be on the *inside* of lens. This is in order that the light may pass through the glass before reaching the sensitive emulsion, and that the focus may still be accurate. If focussing is done by scale, the result will be right. If by focussing screen, the colour filter must be applied to the lens after focussing. So far then no greater difficulty exists in Colour than in Plain Photography, and if a camera stand is used and a time exposure, the two processes are on a level. The *time of exposure* is the first difficulty. With ordinary plates, a skilful photographer can get good results even with very varied exposures, but with colour plates exposure must be fairly accurate. I do not propose here to enter into details, but there are one or two maxims which, when applied with brains, enable one to meet nearly all conditions. The first is—when possible, only take photographs in sunshine. Only unsatisfactory pictures are possible in dull light. Exceptions are portraits, flowers and the like. Give an exposure of two to three seconds at stop f8, from April to August in bright sunshine—morning and evening being longer. Any experienced photographer knows how to use a meter, and with this the corresponding exposure at other times is easily got. Snapshots are only possible with a lens of wide aperture, and I find the Glaukar lens f3:1 suitable for this purpose. Very rapid exposures are impossible, but one may count on $\frac{1}{5}$ sec. at f3 as possible in sunshine and for distant views.

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THE COBBLER—ARROCHAR.

The after-treatment of the plates is exceedingly simple. Develop in Rodinal (strength 1 in 10 or weaker) till all parts are at least grey. Rinse. Place in Permanganate of Potash and Sulphuric Acid (instructions in box) for three minutes. Rinse. Expose to light and redevelope. Rinse. Place in very dilute Permanganate and Acid for 20 seconds. Rinse and dry. The whole operation fully described ('S.M.C. Journal') in books is complete in 10 minutes, and varnishing and mounting give a slide ready for the lantern.

A glance at the colour illustrations will show the manifold advantages of this process. The pictures selected are just an average of those (180 in number) exhibited before the Alpine Club, and, although the reproductions are of great excellence, they give but a faint idea of the sparkling brilliance of the originals.

Rendering of Rocks.—All mountaineers know that one of the charms of mountain scenery lies in the exquisite and varied colouring of the rocks. Thus the rocks of Skye are brown-blue, taking on blue shades, the rocks of the Dolomite range from ashy white, through golden yellow, to red, or blue; while in Red Sandstone districts the colour is a leading feature. But when one speaks of colour, we mean the colour in white light, or average colour, say about mid-day. But what of sunrise and sunset or of lurid light? The colour of the rocks varies from hour to hour in sunshine and shadow, and according to the angle of the sun. The two illustrations, 'Sunrise on the Alto Nuvolau' and 'The Kleine Zinne,' well show this. In the former the sun's rays coming horizontally through a stratum of cold moist air light up the otherwise yellow rocks, and the peak stands out in dazzling red against the black rock behind still in shadow. Below, where a reflected light illuminates the foreground, we can see that the natural colour (yellow-white) is completely overcome by reflection from the dark blue sky and the ruddy rocks above. The picture is one of an exquisite character, but familiar to the mountaineer.

The Kleine Zinne again, illustrates mid-day. Had it been otherwise, the effect would have been more charming, for the ghastly appearance of the peak hardly commends itself, yet it is true. If one looks at the rocks of the Grosse Zinne to the left, it will be seen that, though of essentially the same colour as those to the right, the angle of the sun being different has imbued them with a richness of colour which gratifies the eye much more than do the brilliant rocks of the Kleine

Zinne. The foreground is worth attention. In a black and white photograph this would have appeared to be barren screes, but even in the distance the faint greens and browns lead the eye down to the immediate foreground where the Alpine larkspurs form a garden in the front.

The two pictures of Cristallo illustrate two difficult types of subject. *Cristallo from Crepedel* is avowedly a difficult subject. The time is nearly mid-day and the heavy shadows in the foreground must still have colour, while the distant illuminated peak has but little chance to appear other than white. Yet close examination shows every variety of hue in the distant rocks, and even the heavy shadows below the trees, though degraded in reproduction, distinctly indicate the nature of the ground.

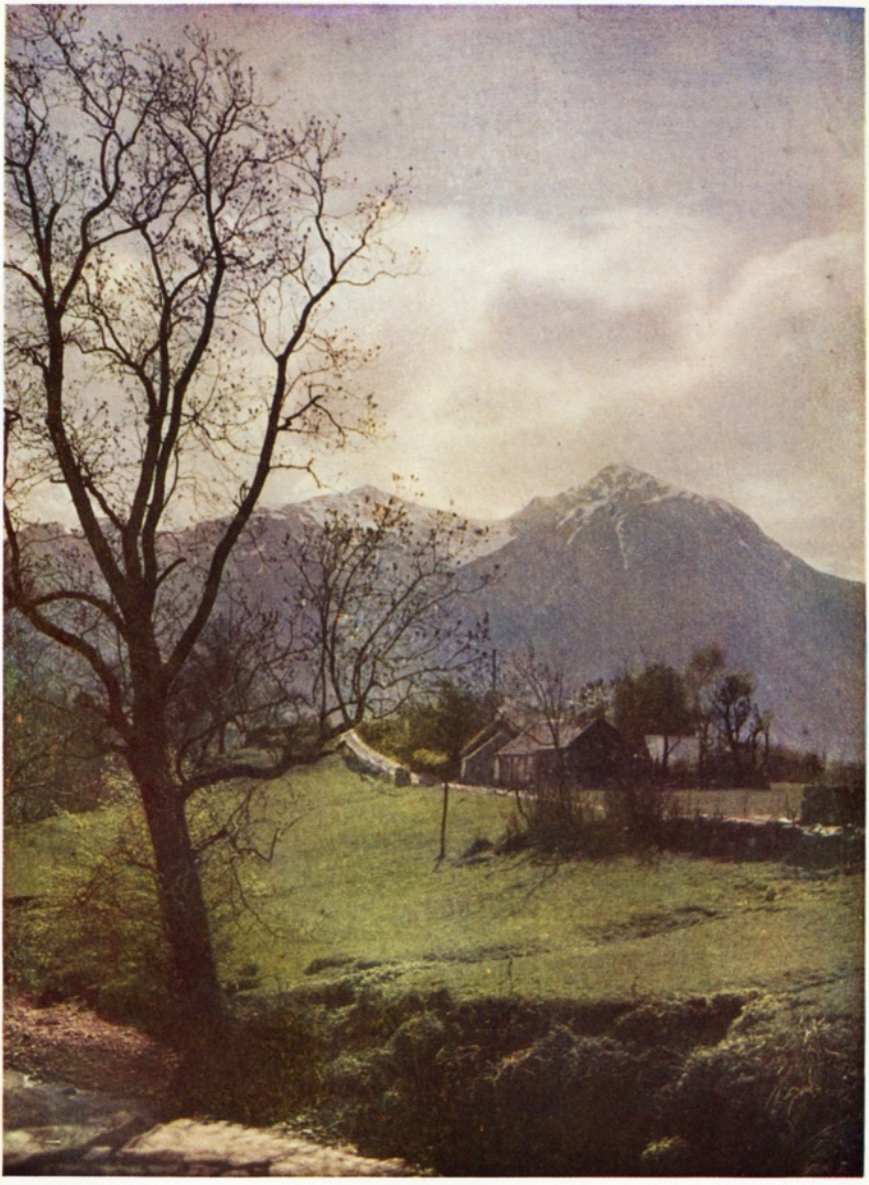
The Snapshot of Cristallo was taken from the motor-car on the road near Landro. Photography is strictly forbidden now (for military reasons), and an attempt to take the scene from the hotel verandah was promptly stopped by the landlady, who threatened two months' imprisonment if I persisted. In this dilemma I ventured to take a snapshot from the motor-car, as we drove past, and I think the success of the venture will be conceded. The deep blue shadows of early morning are well reproduced and the picture stands out in vivid reality.

The two Scottish scenes deal more with the rendering of greens.

The Cobbler has a foreground of complicated grass and wild flowers, a middle distance of early summer oaks and other trees, and the blue-green Scotch firs form a foil to the mountain distance of the peak. The amount of atmosphere is evident and the 'Cobbler' regards the scene from an evident distance.

The mountains of Glencoe in hazy shadow sink into the background, while interest centres on the clachan of Glencoe, the reputed scene of the historical massacre.

I feel that in a hurried sketch like this I can have done but very scant justice to this very interesting subject, but I trust enough will have been said to act as a sort of guide to the illustrations themselves and to induce others not only to produce photographs in natural colours but to utilise them in illustrating papers on mountaineering subjects.



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THE MOUNTAINS OF GLENCOE.