broken ; it was a common dodge with landscape workers in the past to do this by tramping through it, or making ruts in it. Mr. Gait's ' Piz Roseg,' otherwise a good picture, shows this defect, and looks as if it had been taken in early morning or evening. Mr. Speyer's ' Sunrise on the Fiescherhorn ' may be compared with this ; it is a good photograph, it is picturesque, and the shadows show the right lighting.

Over-printing must be avoided, and examples of prints which would be much improved if they were not printed so heavily are Dr. Marshall's ' Copper Mountain,' Mr. Skrine's ' Rakaposhi ' and ' Baltit.'

Unity.—All pictorial photographs must possess a certain unity, matters of subsidiary interest must be depicted as such, and there must be no sacrifice of the main feature. Mr. Speaker's ' Grand Darreï ' supplies an example of too broken a subject.

The following are selected, in addition to those mentioned, as examples of good Alpine photography :

In Mr. H. Pasteur's ' Sunset over the Aiguille du Tour ' the sunset effect is very good and this picture shows cloud and sky in correct relationship.

Colonel Hills' ' Wyddfa from Crib Goch ' is an example of good photography ; the solidity of appearance and the modelling are first-class.

Mr. Amery's ' Eastern Peak of La Meije,' his ' Main Peak of La Meije,' Mr. R. Morrish's ' Snow arête on the Ramolkogel,' Mr. Speaker's ' Petit Clocher de Planereuse,' Mr. Smythe's ' Kamet,' and Mr. Courtney's ' Kebnekaise, Lappland,' are all examples of first-class work.

A word in conclusion. Sepia tones do *not* suit Alpine subjects, and Dr. Amstutz's ' Santnerspitze ' was a warning to those who hanker !

A most interesting show, especially to a man who knows something about it, who makes the materials which so many photographers spoil, and who is generally unable to take a decent photograph himself for love—no one being likely to offer him money for it !

As usual, the Club is indebted to Mr. Spencer for the care he has displayed in the hanging and framing of the exhibits. What a pity that this consummate mountain photographer has taken to other and baser forms of art !

A NOTE UPON PHOTOGRAPHIC EXPOSURES AT HIGH ALTITUDES.

It is generally well known that glass such as is used for lenses and filters is transparent to ultra-violet radiation (invisible to the eye) from a wave length of 3200 Å. to the visible violet. This radiation

is absorbed to some extent by thick layers of air, and the amount of absorption varies with the altitude and the atmospheric conditions. Since it is invisible radiation it is not possible for the photographer to make an eye estimate of its effect at any altitude, or under any particular weather conditions.

Now there are three types of exposure meter for determining the light value, their one common feature being the employment of some type of slide-rule for calculating the result.

1. *Calculating Meters.*—These depend upon values of the actinic quality of the light, expressed as numbers, for various latitudes and differing sky conditions at various hours of the day. Obviously,

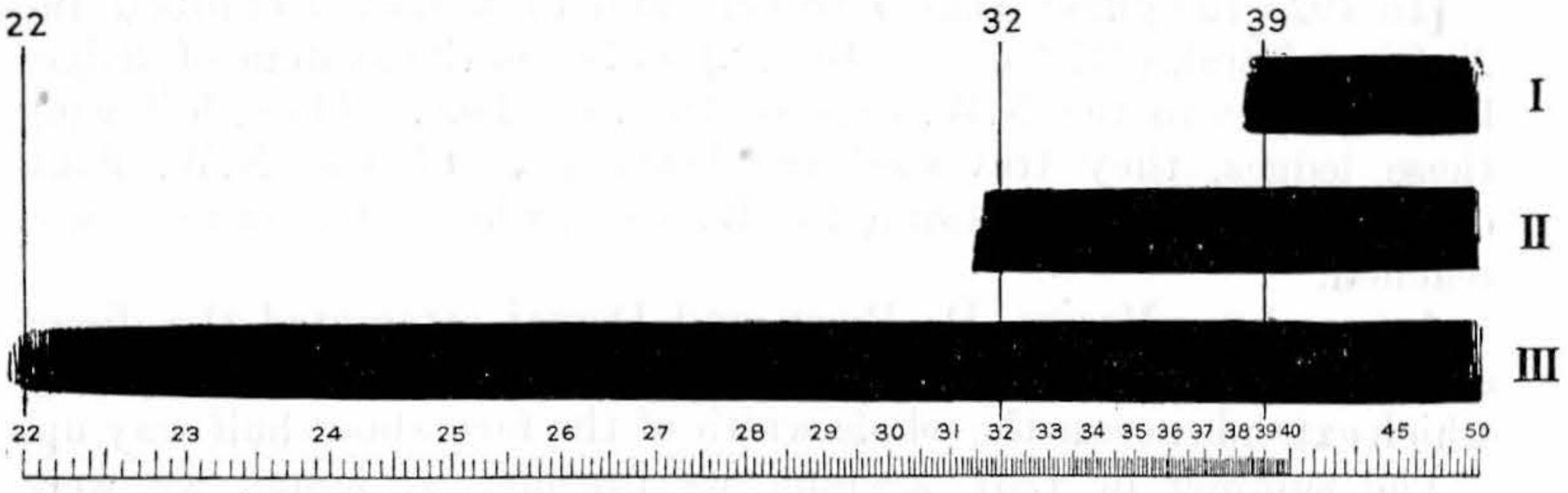

FIG. 1.

I shows the visibility limit of the spectrum in the extreme violet, lying about 3900 Å., also the absorption of the ultra-violet by a good filter of the 'Q' type.

II shows the ultra-violet passed by glass of the type generally employed in lens manufacture—*i.e.* it is transparent to ultra-violet radiation between 3200 Å. and 3900 Å.

III is the ultra-violet spectrum upon a piece of sensitive paper of the exposure meter type, showing that it is sensitive throughout the whole range of the ultra-violet.

these tables can take no account of the ultra-violet content of the light.

2. *Extinction Meters.*—These depend upon some visual method of estimating the exposure necessary to obtain requisite shadow detail; the instrument is pointed towards such a shadow, and a match made against a standard, or a point, is found at which a number or some other feature of the instrument can just be distinguished. Again, obviously no account can be taken of the ultra-violet content of the light.

3. *Exposure Meters.*—These expose a strip of sensitive paper which darkens to a standard tint, the length of time taken to darken being observed. As this is the only type of meter which might give the required information, exposures of the sensitive paper employed were made with the large Hilger quartz spectrograph, and it was found, as expected, that the paper is sensitive to ultra-violet radiation. Fig. 1 shows the result.

In estimating exposures at high altitudes, therefore, a meter of this type should be employed; we have no evidence that the rate of darkening for the ultra-violet radiation is of the same order, and therefore has the same value on the slide-rule, as is the case for visible light, but since the paper is affected, the calculated exposures will be more nearly correct than those given by the other two types.

OLAF BLOCH.

ŠPIK, BY THE N.W. FACE.[1]

[In 1925 the guide Angelo Dibona and Frau Escher climbed the N. face of Špik (2472 m. = 8100 ft.) as far as the system of ledges leading right to the N.W. edge of the said face. Then, following these ledges, they traversed the lower part of the N.W. flank diagonally upwards, attaining the W. arête, whence the summit was reached.

A year later Messrs. De Reggi and Deržaj attempted the direct ascent of the N.W. face, but were baffled by the great overhang which extends across the whole width of the face about half-way up.

The summer of 1931 keeping us prisoner at home, we were compelled to seek for the unsolved problems left in our native mountains, and discovered to our astonishment that no further attack had been made on the Špik's N.W. face since 1926.]

RAINDROPS beat upon the window-panes of our compartment in the train as we travelled to the station of Gozd-Martuljek, on the Upper Sava. Our prospects for the next day were certainly not promising. Yet we decided to climb as far as the foot of the face, descending again in the morning if there should be no improvement in the weather. After two hours of tramping through the wet we reached the high-level corry of Pod Srcem, under the N. flank of Špik. As everything was sopping we had no great choice of sites for a bivouac and contented ourselves with a slightly overhanging rock, under which we found a dry spot where we could sit and lean back. We covered ourselves with our tent-sack and went to sleep until 4 A.M.

It had stopped raining, mist there was none, so off we went. We packed up quickly, and ascended to the snow gully to the right of the green bluff, piled against the N. face of Špik. The yawning gaps in the edges of the snow threatened to delay us greatly, so at 5 A.M. we took to the rocks to the left of the gully and climbed up to the face by the bluff and its exposed ridge. Keeping to the

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[1] The party consisted of Madame Debelak, MM. E. Deržaj and Ž. Šumer, July 5–6, 1931. See, in general, *A.J.* **39,** 138–40, with illustrations.