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EDITED BY
ROBERT ANDERSON.

CONTENTS.

Astronomical Observatories on Mountain-Tops.....	George G. Anderson, C.E.
Three Days on Braeriach.....	James H. Bell.
On the Rising Road.....	Alexander Macdonald, M.A.
The Hills (verse).....	Arthur F. Leslie Paterson.
A Wintry Ascent of Lochnagar.....	David P. Levack.

In Memoriam :

John McGregor.

The Club and the War: Military Services of Members.

NOTES.

REVIEWS.

ILLUSTRATIONS :

Mount Hamilton—The Lick Observatory.

Mount Wilson.

Allt drue—Looking towards the Lairig.

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MOUNT HAMILTON, CALIFORNIA, AND THE LICK OBSERVATORY.

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ASTRONOMICAL OBSERVATORIES ON
MOUNTAIN-TOPS.

BY GEORGE G. ANDERSON, C.E.

IN the latter part of April of this year [1918] there appeared, in the magazine section of the Sunday edition of a Western newspaper, a vivid and apparently veracious description of preparations then being made to observe the solar eclipse of June 8th from the top of Pike's Peak, Colorado. The article—a "do ble-page story"—was a typical sample of Western journalism, particularly of the Sunday edition variety. It aimed at a popular treatment of a scientific investigation of immediate interest to the general reading public, introducing both *suppressio veri* and *suggestio falsi* in a manner not readily discernible by the ordinary reader. The article was illustrated, of course. At the top of the double page was a reproduction of a panoramic view of the bald top of Pike's Peak, while at the bottom was a view of the shelter and "observatory"—really observation platform—at the top of the Peak, the terminal station of the Cog Railroad in fact (a view which would be readily recognizable by at least one member of the Cairngorm Club). On the right of the page there was a diagram showing, on an exaggerated scale, the elevation of the Peak from

IX. P

sea-level to top, 14,108 feet, with sketch drawings of the atmospheric conditions in each zone of 3000 feet—a graphical presentation of the reason for endeavouring to observe eclipses from high mountains. In the centre of the page was a “distorted diagram” of the Peak and the Earth, showing the path of the eclipse over the United States, and illustrating the “battery of telescopes” that would be directed on the phenomenon and “*the airplane carrying the motion picture cameras!*”

Almost at the beginning of the story two statements were made that were apt to predispose the reader familiar with the Pike’s Peak region to scepticism as to what might follow:—

Here . . . will be the distinguished astronomical heads of all the great observatories in America, with dozens of telescopes, scores of the most delicate instruments for the study of solar light, telescopic cameras, motion picture cameras, and a host of skilled assistants to manipulate them.

On another part of the Peak will be hundreds of amateur astronomers. And a little lower down, on one of the shoulders of the summit the remnants of the Ute tribe of Indians, not at all scientific, but deeply interested in the eclipse, will watch “the eating up of the day god.”

It would be as unlikely, as it has been unusual, for “the distinguished astronomical heads of all the great observatories in America” to be gathered at *one* point of observation of a solar eclipse. And for the discovery of the *remnants* of the Ute tribe of Indians in the vicinity of Pike’s Peak, the formidable array of delicate instruments lacked the most essential—a microscope. There isn’t *one* Ute Indian remaining within a hundred miles of the shadow of the Peak! Another egregious blunder was perpetrated in a precious statement that “Dogs will be driven away, because they howl dismally during an eclipse and would disturb observers.” A dog on the top of Pike’s Peak is as rare as “the remnants of the Ute tribe of Indians” lower down its slopes!

The article then went on to say that, to obtain the fullest advantage of the 87 seconds during which the eclipse would be total to the observers on the Peak, science had spent the last five years in the most painstaking, laborious preparation; and the laborious pre-

paration involved was referred to in some detail. The splendid 20-inch instrument in the Chamberlin Observatory at the University of Denver, "the largest telescope that was ever used to view an eclipse," was to be transported to the summit of Pike's Peak by the cog railway (the steel tube of this instrument, it was mentioned, is 26 feet long and with its mechanism weighs 25,000 lbs., and the instrument rests on a stone pier of 300 tons extending 13 feet into the ground). A 6-inch telescope in Denver Observatory was also to be taken up the Peak. From the Yerkes Observatory at Williams Bay, Wisconsin, Professor Frost was to send his famous spectrograph. Special apparatus from the Lick Observatory in California was to be used to photograph the corona. And a polariscope and other instruments were to be furnished from various quarters.

It is quite conceivable that five years may have been spent in arranging for the bringing together of these valuable instruments at Pike's Peak for this occasion, apart altogether from the erection of huge bases on which to poise them and shelters for their protection. If any of the latter was executed in the preceding five years, it was accomplished with mysterious secrecy—so mysterious that the frequent visitor to the top of Pike's Peak was unaware of it, and could not see any trace of the erections nor any indication of preparation for them. The article assured its readers, however, that towards the close of April the active preparations for setting up the big telescope on the summit of Pike's Peak "will begin." The work detailed constituted a respectable task of construction to be completed between the close of April and the beginning of June—long before the latter date as a matter of necessity, in order to permit of the installation of the numerous delicate instruments enumerated. The period of thirty days—the extreme limit—would be short enough anywhere, and surely all too brief at the altitude of Pike's Peak and under the climatic conditions likely to prevail there at that time of

year. "It still will be wintry then at that great altitude." It was—the present writer can testify to that from personal observation at the foot of the Peak less than a week before this story appeared.

The achievements in aircraft accomplished during the war have excelled all other developments of a scientific nature, but an entirely new field for the aviator was outlined in this article. To provide against the catastrophe involved in the loss of time, energy, and money represented by the elaborate preparations just indicated "if a wisp of cloud passes between the telescope and the darkened disc of the sun during the time of totality," we were informed that science had conceived a very ingenious checkmate:—

A great aeroplane loaned by the Government, equipped with Liberty motors, and bearing, besides its pilot, two scientists with cameras, will rise above the Peak a few minutes before the moon has raced entirely across the face of the sun. It will ascend 10,000 feet above the summit of the Peak—almost five miles high in the air, far above the sphere of any possible clouds. Scientists and pilot will wear suits made especially to withstand the cold of this altitude. Upon their backs will be tanks of oxygen, and their faces will be covered with masks as airtight as a diver's helmet. Into these masks the breath for their lungs will be fed through tubes. At such a height the atmosphere is so rarefied that no man would be able to manipulate cameras for science. The cameras will take 300 pictures of the eclipse a minute.

There were some quite obvious difficulties in the carrying out of such a programme. At that date no successful aeroplane had been built around the Liberty motor. While it was not so stated, it was implied that the aeroplane would rise from the top of the Peak, but, in the language of the Western battle front, there is no practicable "jumping-off place" at that altitude.

As with the aeroplane and moving picture "stunt," so with the rest of the ambitious and exaggerated programme outlined—it never materialised. Regarding the experiences of the scientists on the result of their observations from the top of Pike's Peak on the day of the eclipse there has been absolute silence. Among all the reports from the numerous observation stations in

the path of totality through the United States no mention of Pike's Peak occurs—doubtless because there was nothing to report. The “largest telescope” remained in its place in Chamberlin Observatory at the University of Denver, where Professor Frost and Dean Howe were stationed during the eclipse—two sadly disappointed astronomers, since, for once, the usually clear sky of Colorado was totally obscured all day by a dense mass of clouds. The Pike's Peak “observation,” so loudly trumpeted beforehand, did not come off; but probably we shall never know whether the scientists misled the special writer as to the preparations for observation from Pike's Peak, or the special writer “put one over” on the reading public.

The particular desirability of mountain tops for the establishment of stations for the observation of eclipses and for other astronomical investigations was alluded to in this “popular” article. As might be expected, the reference to that phase of the subject was somewhat superficial, though the diagram (on exaggerated scale) sketching the atmospheric conditions at various zones of elevations presented, with some accuracy, the chief reasons for the advantage of such location of observatories. “It is important to observe the eclipse from a “mountain top, because, on the earth's surface, light “rays are distorted by passing through air layers of “various densities” is as fair a generalisation of the conditions, as the statement that “Pike's Peak . . . on “account of its altitude and for other reasons . . . will “be the best place for observing the eclipse on the entire “globe” is a preposterous exaggeration. The diagram was divided into zones of 3,000 feet elevation and the classification of these zones was broadly accurate; they ranged in condition from “thick dust, smoke, heavy “clouds, whirlwinds, and ordinary winds” in the first or lowest zone, to “absolutely clear atmosphere or steady “temperature, giving perfect vision, barring occasional

“ wisps of cloud ” in the topmost zone. Newton first pointed out the importance of making astronomical observations from a mountain top :—

For the Air, through which we look upon the Stars, is in a perpetual Tremor ; as may be seen by the tremulous Motion of Shadows cast from high Towers, and by the twinkling of fix'd stars . . . The only remedy is a most serene and quiet air, such as may perhaps be found on tops of the highest Mountains, above the grosser clouds—(“*Opticks*,” third edition, p. 98.)

The proposed construction of walls 12 feet high “ to serve as wind breaks ” indicates the absence of “ a most serene and quiet air,” and anyone who has braved the ascent of the Peak, by any means of locomotion, knows that the atmospheric conditions at that altitude are unstable, that heavy winds are common and electrical storms of great intensity frequent during the summer months, while in the winter season—of prolonged duration—cyclonic blizzards of extreme ferocity are not uncommon. In part, the sensational article admitted these things :—

The summit of Pike's Peak is constantly swept by heavy winds. The velocity of these currents seldom falls below 17 miles an hour, and it has been known to reach 158 miles . . . It will still be winter then [towards the close of April] . . . The cog railway up the Peak usually does not open until in June.

From the practical standpoint, accessibility of the site of a mountain observatory is not only desirable but essential. Pike's Peak has, of course, a cog railroad which has been in successful operation for nearly thirty years, and a very substantially built automobile highway was opened about two years ago. But neither of these means of transportation is ordinarily passable beyond the period extending from mid-June to mid-October. Many years ago, a meteorological station was maintained throughout the year at the summit of the Peak, and it is possible that even now watchmen continue to pass the winter at the top. Existence may be endured, however, in conditions which would not contribute to satisfactory results in scientific observations. The abandonment of the meteorological station clearly demon-

strates the futility of attempting to maintain an astronomical observatory in the conditions that prevail at an altitude of 14,108 feet.

It was unfortunate that the path of totality of the recent solar eclipse was remote from the observatories that have been established at high altitudes in the Pacific Coast region of the United States, where the conditions Newton considered so desirable exist throughout the year, with the addition that they are readily and continuously accessible. At both Mount Hamilton, near San Francisco, and at Mount Wilson, near Pasadena, in California, altitude is associated with steady, tranquil, and transparent atmosphere, freedom from rains except during a period that ordinarily does not extend longer than from late November to early March, and with little cloudiness, while both observatories are reached by well-built highways of easy gradients.

Lick Observatory, the earliest established within the Pacific area, occupies the summit of Mount Hamilton (4209 feet), the highest peak in a spur of the Coast Range Mountains. It is between 50 and 60 miles southeast of San Francisco and 13 miles east of San Jose in a direct air line. An excellent mountain road from San Jose to the summit was built in 1876, and is still maintained by Santa Clara County. The road doubles the air line distance to 26 miles, is very tortuous and of easy gradients, and is extremely popular with automobilists, the views obtained from various points along it being kaleidoscopic in character, including the whole of the fruitful Santa Clara Valley and the picturesque peninsula south of San Francisco, and the Coast Range of mountains with the dominant Mounts Tamalpais and Diablo. The capital road and the delightful scenery have combined to make Mount Hamilton somewhat of a popular resort. Visitors are freely admitted to the observatory in the daytime, to the number of 5000 or more annually. (I amused myself on my last visit there

—in 1916—estimating the value of the “tips” to the janitor, a pawky Edinburgh Scot, who grudgingly admitted that “It wis a gey help, though I dinna get this frae everybody!”) On Saturday evenings, visitors are admitted to look through the telescopes; as many as 150 to 200 are frequently registered in one evening. Thus the observatory, by virtue of accessibility, has rendered some service to popular education since its opening in 1888.

Mount Hamilton has one disadvantage as the site of an observatory, which would appear to be serious and yet does not seem to affect the work done there, in other than a temporary inconvenience to the observers—it has frequently been subjected to seismic disturbance of more or less violent character. At no time has any material damage been done to the instruments, but the walls of some of the buildings plainly show the effects of shakes, and one of the residences was completely shattered a few years ago.

The success attending the munificent gift of James Lick to the State of California undoubtedly directed special attention to the advantages for astronomical research on mountain tops and in climatic and atmospheric conditions such as exist on the Pacific Coast. Resulting from that was the establishment, in 1905, of the great Solar Observatory of the Carnegie Institution on the summit of Mount Wilson (5885 feet), near Pasadena, California, in the Sierra Madre range.

This station possesses superior advantages. While the “wet season” is of nearly the same duration as at Mount Hamilton, the normal total precipitation is very much less. Throughout the dry season day after day is clear and tranquil and the wind velocity is remarkably low. As the official guide to the station describes it :—
“The broad and diversified mountain summit, protected from the sun’s heat by spruces, pines, and undergrowth, affords numerous locations perfectly adapted for the



Photo by

MOUNT WILSON, CALIFORNIA.

Dr. Ford A. Carpenter.

“various instruments; the water supply is abundant;
“and the completion of the mountain road makes the
“distance to the Pasadena office only 16 miles, covered
“in $2\frac{1}{4}$ hours (ascending) by auto stage.”

The unusual accessibility has permitted the establishment of the shops, laboratories, and offices in Pasadena itself, within easy reach of foundries, sources of light and power, and other facilities demanded by the nature of the work. As a result, a wonderfully efficient organization has been built up and is being constantly expanded, and, alike in quantity and quality, the scientific investigations conducted by this observatory have taken a foremost rank among the contributions from all parts of the world. At Mount Wilson there is greater freedom from earthquake shock than at Mount Hamilton.

It is not my purpose to describe either the principal instruments in use or the special investigations pursued at either of these observatories; my sole intention is to demonstrate, by reference to them, the desirability of establishing astronomical observatories on mountain tops, and to indicate some of the features that must be reckoned with in considering such establishment, from the practical view point, in addition to the atmospheric advantages.

Both observatories, like all others of large plan and scope, are devoted to “aid in solving definite problems relating to the structure of the solar system and of the sidereal universe.” It was Lick’s intention, as expressed in the deed of trust, that his observatory should be “useful in promoting science,” and to that injunction—if it may be so described—the scientific staff at Mount Hamilton have been most faithful. Merely as a suggestion of what has been done there, it may be stated that the astronomers have discovered four new satellites to Jupiter, 19 unexpected comets and 10 periodic comets whose return had been predicted, 4,400 double stars, 250 spectroscopic binary stars, and many hundred new

nebulæ. That list is not down to date nor intended to be complete. In the field of stellar photography, Lick Observatory has been most successful. The most casual visitor to Mount Hamilton is immediately absorbed in admiration of the extensive and unique series of photographs of the sun in total eclipse obtained by expeditions sent out by Lick Observatory.

As its name—Solar Observatory of the Carnegie Institution—would imply, the Mount Wilson Observatory was established, primarily, for investigations of the sun, considered not only as the central body of our own system, but as a typical star. The present Chief of Staff declares the principal object of the Observatory to be, in effect, “to contribute, in the highest degree possible, to the solution of the problem of *stellar evolution*.”

The scientific equipment, constantly enlarging, merits more than passing mention, not possible here, and includes a 60-inch reflecting telescope, a horizontal reflecting telescope (aperture 24 inches), two “Tower” telescopes, and, recently installed, a reflecting telescope with a mirror 100 inches in diameter. At this Observatory also stellar photographs, of nebulæ and clusters, are of the highest excellence, while extensive researches in the physical laboratory at Pasadena relate chiefly to temperatures, pressures, magnetic fields and other factors in the spectra of the principal chemical elements.

The scientific world would have been “on edge” had the solar eclipse of June 8th come under direct observation from either or both of these observatories. It was not possible, however, in the eternal scheme of things, to move the path of totality from Pike’s Peak to Mount Wilson. Nor was it practicable to move the instruments from the latter mountain top to the summit of the Rocky Mountains, any more than it was to transplant the smaller instruments as proposed or suggested in the amazing story of the Pike’s Peak preparations.

SANTA MONICA, CALIFORNIA,
October, 1918.

THREE DAYS ON BRAERIACH.

BY JAMES H. BELL.

WHAT follows is a short account of three separate expeditions over Braeriach from the Aviemore side, in the course of a visit to the Inverness-shire hills in the latter days of August 1918 by the writer, along with the Rev. R. P. Dansey. Perhaps one of the main incentives of our expedition was the investigation of the eternal snows of the Cairngorms, which, owing to the winter conditions in 1917-18, should have been very low indeed last September.

Our first day was mainly a walk of exploration. We left Aviemore about 8 a.m. and went along the timber railway up to Coylum Bridge, from where, by the track through the woods and near the stream, we soon reached the Cairngorm Club Bridge over the Allt na Beinne Moire. The weather soon gave us a foretaste of its behaviour for the rest of the week—mist at an altitude of 3000 feet or so and occasional drizzle. The next three wet hours were well employed in repairing the roof of a deserted bothy standing in the middle of a grassy lawn, just half a mile or so beyond the bridge. On later expeditions we slept here, and thus saved an hour and a half's morning walk, not to mention the other delays imposed by civilisation on the mountaineer. The afternoon being sunny and delightful, we proceeded up through the pine woods on the left side of the Làirig. By five p.m. we had gained the pools of Dee, when the character of the weather slowly changed, and wreaths of mist soon obliterated the windings of the Dee down the glen to the south. We slowly worked our way up the slopes on the right, but on reaching the col between Braeriach and Sron na Leirg the mist was so dense as to shroud all but a few boulders in a uniform white blur. By compass, we made for the direction of the foot of Loch Eunach, and soon came upon 200 feet or so of

broken granite crags, which we descended fairly easily, finding ourselves in the valley of the Allt na Beinne Beag. Following this stream for several miles downward, we reached the lower lochy in Glen Eunach after two hours of rain and mist. Soon after, the weather almost cleared and we had excellent views of the western ridges of Braeriach.

Next evening we walked up to the shieling at the foot of the Làirig and spent the night there in tolerable comfort, as it was calm and fuel was plentiful. About 3 a.m. the moon shone out of a fairly clear sky and the temperature was just below 44 degs. F. By 5 a.m. we were moving up the pass. The mist still lay on the slopes at a uniform height of 3000 feet, but to the north the sky was clear and in the east gave promise of a bright sunrise. We passed several groups of stags on the way—some of them were within a distance of 100 yards; they seemed fairly tame, but greeted us with frequent roaring, as if offended at our intrusion. At this season of the year we came across them everywhere—from the low-lying Rothiemurchus Forest to the summit plateaux of Braeriach and Ben Muich Dhui. Near the rocky barrier above the Pools of Dee the only sounds were the croak of ptarmigan from the cliffs of Creag na Leacainn, and the rush of the waterfall down the flanks of Ben Muich Dhui. The view to the north was fine and clear, ranging from Ben Wyvis and Ben Dearg to the dimmer and more distant hills of Sutherland, but from the south slowly crept up the inevitable mist, and Cairn Toul was almost invisible.

After a short halt for a meal, we gradually traversed the boulder-strewn slopes on the right until we got round into the Garbh Choire of Braeriach; then we followed the head waters of the Dee right up to the amphitheatre of crags, over which the stream dashes in a magnificent cascade, about 650 feet high. The scenery here is on a grand scale: in front are frowning precipices intersected by dark gullies, and in the centre the white

foamy line of the fall of the Dee. Above, the mist comes curling over the rim of the plateau into the corrie; around is a wide, flat space, sandy, or covered with huge granite boulders. Here and there the stream—which runs for the most part underground—appears in wide, sandy pools, in one of which I had a most refreshing dip, although the temperature was 42 degs. F. The summit plateau of Braeriach was reached by an interesting and not unexciting scramble up the slabby rocks on the left of the waterfall. A sort of chimney above the slabs gave an easy egress to the plateau by the rocks on its right side. I fancy that many quite good climbs could be got in this corrie, but the jointing of the granite affords rather few, and often badly-sloping hand-holds, though the texture of the rocks hereabouts is quite rough and firm. Following the stream about three-eighths of a mile from the precipice over the level, sandy, plateau, we came to the Wells of Dee; there quite a large volume of water comes welling up out of the red sand at a temperature of 40 degs. F. One is tempted to wonder where it comes from, as the altitude here is close on 4000 feet. We were now on an undulating plain, here boulder-strewn and there sandy, with occasional patches of scrubby grass and moss, while the more distant parts were ever and anon swallowed up in wreaths of mist, which blew along the western ridges from Glen Eunach. The effect of the shifting mist, the desolation, and the stillness, only broken by the subdued roar of the Dee waterfall and the twittering of a few small birds, possibly snow buntings, was very marked.

We gradually worked our way round the edge of the crags and over fairly bad ground till we gained the peak of Sgor na Lochan Uaine, noticing several snow patches in the Fuar Garbh Choire, the largest of which might be 250 square yards in area. On Sgor na Lochan Uaine the mist and a thin rain shut us in completely, so we resolved to give up all thoughts of Cairn Toul and return

to the summit of Braeriach. Though having this end in view, we neglected somehow to hug the precipice on our right, and as a result we almost descended one of the ridges towards the head of Loch Eunach. Just as we reached the summit cairn of Braeriach, the mist cleared for a short time from the plateau, though it remained scething up and down over the corries, being always blown back on ascending, by the slight westerly breeze. Under these conditions, the view from the summit into the eastern abyss is unequalled. Now and then fantastic granite pinnacles come into view; thin spires, rearing themselves out of a bottomless sea of mist, into which slope—almost perpendicularly—great, smooth, rocky slabs, at places intersected by even steeper gullies. A long traverse round the slopes of Sron na Leirg below Corrie Ruadh, brought us back to the Pools of Dee by 5.30 p.m. During the long descent to Aviemore the sun came out in a sky of beautiful cirro-macula, and in the valley the heather was quite dry, thus showing the mist and rain to be a specialty of the higher Cairngorms.

After one day's rest we spent the next over Ben Muich Dhui and Cairngorm, and that night I found myself again in the old shieling—alone on this occasion—as I had resolved to explore the corrie and crags immediately beneath the summit of Braeriach. Though I had a double supply of heather for my couch, the night was far from pleasant, as a violent wind arose towards midnight. The absence of door, window, and one-half of the roof gave rapid variations between cold breezes and stifling smoke, and one dozed off and rekindled the fire alternately until dawn. About 3.30 a.m. I strolled out to look at the weather. The scene was one of wild beauty and grandeur. A crescent moon hung in the eastern sky close to Venus, while above and below were fleecy alto-cumulus clouds, studded here and there with a few stars. The mist lay over the ramparts of the Làirig at its usual level, while Castle Hill and Carn Elrick stood clear over the tops of the pine forest, which

cast waving shadows on the ripples of the Làirig burn. Five minutes later the moon was robed in an iridescent corona and the hill slopes became darker, but soon the stormy wind had again cleared the sky.

By 4.45 a.m. I was off, and by 8 a.m. I had reached a point on the slopes above the Pools of Dee. A steep but easy climb took me to the topmost slopes of Sron na Leirg, where an icy hurricane was blowing. Soon I had crossed the col and reached the top of a scree slope, which I descended into Corrie Bhrochain. The mist was almost as bad as it had been two days before, but more mobile. Ben Muich Dhui was always clear and Cairn Toul as persistently clouded, though Lochan Uaine, perched in its crater-like hollow, was nearly always visible. Corrie Bhrochain had no snow in it whatever, and I could now admire from below the stupendous dark chimneys and buttresses beneath the summit of Braeriach. Even in this sheltered corrie the wind was very fierce, so I contented myself with a scramble up a gully of moderate steepness to a point quite near the summit. On the summit the wind seemed to blow in tornado-like gusts over small areas—here a dead calm, and a few yards away a hurricane. The rain was now exchanged for sleet, with some hail and snow. From above, the granite pinnacles seem to be scarcely 2 feet thick and from 20 to 30 feet high. In good weather, I should imagine these crags would present more features of interest to the rock-climber than any others in the Cairngorms. Soon I was glad to make my way over the steep, but broken crags to the shores of Corrie Lochan. Seen from above, the waters of this loch have a beautiful bluish-green hue, even more striking than that of Glaslyn on Snowdon. Lochan Uaine on Cairn Toul also shows this; but, in contrast to these, the Pools of Dee are of a sinister slaty blue. In the case of Glaslyn, the explanation seems to lie in the copper salts in the slate rock, but here the rock is identical in all three cases—red granite. As Corrie

Lochan seems very deep and Lochan Uaine may also be so, the colour is perhaps due to micro-organisms distributed throughout the water—of a very arctic habitat.

From Corrie Lochan an easy walk brought me to the foot of Loch Eunach, with good views of the buttresses and gullies of Sgoran Dubh. The later part of the afternoon was, as usual, sunny in the valley. After a pleasant rest in the warm fragrance of the fir trees, I reached Aviemore in the evening. Next day, the mist cleared for a minute or two off the hills, and showed Braeriach white, with a sprinkling of new snow, as if consoling one by the reflection that bad weather in the Cairngorms is not altogether an accident.

MOUNTAIN-CLIMBING.

Dared and done : at last I stand upon the summit, Dear and True!
 Singly dared and done ; the climbing both of us were bound to do.
 Petty feat and yet prodigious ; every side my glance was bent
 O'er the grandeur and the beauty lavished through the whole ascent.
 Ledge by ledge, out broke new marvels, now minute and now immense :
 Earth's most exquisite disclosure, heaven's own God in evidence !
 And no berry in its hiding, no blue space in its outspread,
 Pleaded to escape my footstep, challenged my emerging head,
 As I climbed or paused from climbing, now o'er-branched by shrub
 and tree,
 Now built round by rock and boulder, now at just a turn set free,
 Stationed face to face with—Nature? rather with Infinitude.

ROBERT BROWNING.

—“ La Saisiaz.”



Photo by

ALLTDRUE—LOOKING TOWARDS THE LAIRIG DHRU.

J. H. Bell.

ON THE RISING ROAD.

BY ALEXANDER MACDONALD, M.A.

OUR aim was to visit all the corries and hill-tops that are down in the floras as gardens of the rarer specimens of Alpines. But on the long way to the farther heights, and during breathing-spaces and lunch intervals, other things than plants appealed to us, some of them hard to put on paper and others more easy of record.

The changing skyline and contours and the varying shades of vegetation in mass, cloud scenes and giant shadows, were matters for artistic handling, but the winged-life could be noted through a field-glass and the names written down. Beyond Coillecreich even, we seemed to enter a new faunal region, for there, hopping in the birken shaw below the road, were three magpies in their awkward motions and motley wear, uttering a harsh protest against intruders. In the Ballochbuie, redstarts were in numbers, and wheatears and stone chats appeared now and again. At least as far as the mouth of the Clunie, among the willows by the brooks, the young of the wood wrens (*Phylloscopus sibilatrix*) might now and then be noted, busily turning the leaves in search of aphides and other minute creeping things. We have noted this species for several seasons always in August, when, after the nesting season is over, individuals, or two or threes, frequent copses and gardens in their search for greenflies, spiders, and other minute insects. Ornithologists are somewhat unwilling to concede the point of the presence in the Dee Valley of this interesting bird, and ask for the indubitable proof of the domed nest not lined with feathers; but in reply we ask—"What can this warbler be, larger and yellower than the willow wren?"

From the days of Macgillivray the kingfisher has

been noted along the Dee, while dates of its occurrence and other circumstances point to the possibility of its breeding in the region; but inquiry brought out the fact that it is now some years since its wonderful colours were noticed in Braemar. The most recent record—about six years ago—refers to the Balmoral stretches of the river. It was not our luck to see the snow-bunting nor the golden eagle, though we picked up two unmistakable tail-feathers of the king of birds in the royal forest. Ptarmigan we encountered on several of the higher ranges, once as low as 2,900 feet—on Little Craigendall. Old birds and young were both in evidence, but the young were much liker in plumage to the red grouse (of which we saw plenty) than their mothers. Black game are also frequent.

That bold outlaw, the hooded-crow—or should we call him the carrion-crow at once?—was in evidence in many a high glen, finding scope and sustenance through every season of the year. The appeal which he makes to our romantic sentiments has in it a flavour of the racial sympathies that admit Rob Roy or Paul Jones into the heart of the most tenderly-nurtured maiden. He is not a king like the eagle, but his qualities of daring, strength, and activity put him well up in the list of robber chiefs.

Of the evidences of glacial action and mountain torrent and flood there was abundance at every turn, and we were forcibly struck by a form of sub-aerial denudation with which geologists are probably entirely familiar. Our journey began in the first week of August, shortly after a "St. Swithin" of markedly moist conditions, when over five inches of rain was recorded in the low grounds in three weeks, but the air had been dry and warm for a week before our arrival and the long bare hog-backs of the higher hills were desiccated to such an extent that the peaty soil was gaping around every boulder. On several mountains, at about 3000 feet above sea level, we were puzzled by the ap-

pearance of the surface, which was marked by fresh scars at every square yard or so, four or five inches across, as if some sharp instrument had been used to pluck up patches of the peaty soil, exposing the subsoil to a depth of several inches.

Examination convinced us that, after an abnormal soaking, the sun-heat and winds had cracked the peat in all directions, and thus offered loose edges to the high winds which succeeded the rains, and which, of course, attain terrific force at such elevation. Patches of peaty substance had thus been detached from the face of the hills and hurled to the void. Such circumstances must frequently occur in Alpine situations, and must contribute in some degree to the wearing away of the mountains themselves. An eminent geologist says on this very point—"The potency of the wind in clearing peat from our higher levels will be noted by any walker across British or Irish uplands. In Wicklow the great glacial boulders, seven or eight feet high sometimes, have a little tufty residue of heather and peat clinging to them, while all round a clean sweep has been made by the wind. There is no doubt that our uplands are now desiccating and therefore losing peat. The days of mountain peat are over."

On the same phenomenon Dr. Alexander Bremner, whose knowledge of the physical geology of North-Eastern Scotland has been made known in two fine monographs, adds the following:—

"On the higher hills and plateaux of the Eastern Highlands hill-peat (as distinct from basin-peat) is no longer forming, but is, on the contrary, undergoing denudation. In dry weather, particularly in spring, its surface becomes intersected by shrinkage cracks. These cracks are lines of weakness, and high winds working along and from them carry away year by year a large amount of peaty debris, coarse and fine, sometimes stripping off the whole layer of peat, sometimes excavating hollows of various forms and sizes. Many of our smaller high level wet weather

lochans and pools—and some of a larger size and more permanent character (dubh-lochans)—rest on a peat bottom in wind-eroded hollows. Occasionally the coarser wind-borne debris has not been carried far and has accumulated, much as blown sand does on the western side of the erosion hollows—a proof that the strong desiccating east winds of spring are the chief agents of denudation.”

When we sat down to lunch, it was in some little dingle by a mountain rill, where the sun warmed us and enticed the hill-loving insects to bask in its rays. There were no noxious things, but the frequent appearance and frolics of lovely silver-washed fritillaries of several kinds and the abundance of gaudy five spot burnet-moths, and other species wholly unknown, made us sorry again that this part of our education had been neglected. We resolved that our next hill-climbing expedition must include in its personnel an entomologist, who could, on the spot, instruct us in the life histories of those lovely airy creatures that are the unsurpassed symbols of symmetry and lustre.

THE HILLS.

I will go into the hills

Where the breezes blow freely and pure,
For the soul seems to wing where it wills
In the wide-sweeping waste of the moor.

I will go into the hills

Where the lone-loving curlews are wailing
To follow the brown burns and rills
Till the long summer daylight be failing.
Into the hills, for the hills are my home,
Wherever I wander, wherever I roam.

I have looked up to the hills

Since the days of my being began,
Where the wealth of the wilderness fills
With wonder the mind of a man.

I have found up in the hills

The aid that the Psalmist proclaimeth
Where the bee-beloved nectar distills,
And the vice of the world never shameth.
Up in the hills, for the hills are my home,
Wherever I wander, wherever I roam.

I will come back to the hills

('Tis the Highlanders' hope and belief)
Where the spirit of solitude stills
The heart that is breaking with grief.

I will come back to the hills,

Though my bones in the desert be lying,
To follow the brown burns and rills
And hearken the heather folk crying—
Back to the hills, for the hills are my home,
Wherever I wander, wherever I roam.

ARTHUR F. LESLIE PATERSON.

BIRKWOOD, BANCHORY.

—*Aberdeen Daily Journal*, 7th Aug. 1918.

A WINTRY ASCENT OF LOCHNAGAR.

BY DAVID P. LEVACK.

SOME members of the Club having expressed a desire for a mountain excursion, an unofficial Meet at Ballater during the first week-end of May was arranged for, with the object of ascending Lochnagar. This is the mountain best known, perhaps, to the generality of the members of the Club. It has a very varied temperament, however. Now fair and smiling, now dark and frowning, it is a mountain which should not be attempted without certain precautions, unless in exceptionally fine weather when the barometer has been high and steady for some time. It is, indeed, remarkable how few people realise what might possibly happen on Lochnagar, even in the warm days of summer; and there are on record several narrow escapes of visitors to the Ballater-Braemar district, who, going unprepared and with little knowledge of the hill and its capricious moods, were enveloped in mist and were with difficulty rescued from dangerous places on the mountain.

On this occasion we were destined to encounter Lochnagar in one of its unpropitious moods. The weather on the Saturday was dull and cold, with sharp showers of hail, and altogether holding little promise of being succeeded by a good day; and, in view of the threatening outlook, our Chairman maintained that an ascent of Lochnagar by the orthodox route was the only justifiable expedition. This course was agreed upon; and early on the Sunday morning a party of nine set out in a trap for Alltnaguibhsaich. The morning was dull and rather cold but fair, and we started in hopes of a good day. Having arrived at Alltnaguibhsaich, we at once set off up the Lochnagar path. The party divided, as parties usually do, into groups of two and three—the long legs

in front, the short behind. The "Stick" at the foot of the "Wilderness" was reached in 55 minutes—good average time; and the long uphill walk over the Wilderness to the Fox's Well was accomplished in about 20 minutes. Half-way between the Stick and the Well, footprints were seen here and there on the snow, evidently only an hour or two old. Shortly afterwards, two figures were observed coming slowly down the path, and they proved to be two senior members of the Club who had walked up from Inver, where they were staying. They had preceded us across the Wilderness, as far as the foot of the Ladder, but as they were not equipped for the arctic conditions which they knew existed higher up, they decided to return, and we met them a short distance below the Well. We tried to persuade them to come on with us, but deeming discretion the better part of valour, they proceeded down the hill, while we went forward.

The weather now became distinctly worse. A biting wind, more or less from the south, drove the mist across the face of the Cuidhe Crom, blotting out the upper half of the Ladder, and making us none too comfortable as we halted at the Well for lunch. So cold was it that we were glad to move on and up, the gale increasing as we ascended. Half-way up the Ladder, we had our last glimpse, for some hours, of the district below us; then the mist swallowed us up. Keeping pretty well together, we slowly ascended the path, and, in the teeth of the wind, with the help of a compass, found the cairn at the top of the Ladder. The weather was now very bad. The wind roared across the plateau, and it was interesting to watch the various members staggering along, leaning against it, and gradually becoming coated with frozen moisture from the mist. From the cairn, the leader moved across to the cliffs, following the line of which was the only safe route that day. Advancing now across the level, always keeping in touch with the cliffs, the going was easier, the ground being fairly well swept of snow. The foot of the rise to the main plateau

was soon reached and we slowly climbed up, the rocks becoming more and more coated with ice as we ascended. Upon reaching the plateau, the full force of the wind was felt, while the ground was covered with snow, hard in places, remarkably soft in others. It became increasingly difficult to see more than a few yards, and the cliffs were followed more closely than ever.

We now advanced in single file. The cliffs were so heavily corniced and the gullies so thickly banked up with snow that it was difficult to make out which were the main gullies and which were the subsidiary ones. Raeburn's gully was the first to be recognised, but beyond this difficulty was experienced, and we steered due north for a gully which we were more or less certain was the Black Spout. This, however, proved to be one of its branches, but eventually we found the Black Spout itself, easily recognised by its size although otherwise unrecognisable with its huge drift of snow.

The main top lies a little way back from the cliffs and due north from the Spout. The wind was fiercer, and the mist and driving snow were so dense that it was almost impossible to keep a straight line for any distance, even with a compass, and a short search was necessary before the ice-coated rocks of Cac Carn Beag loomed through the mist. A huge drift was piled up on the south side, and we sheltered for three minutes in the hollow behind the topmost rock. The cold was intense and prohibited any further delay. Small icicles formed on our moustaches and eyebrows, while our clothes were thickly coated with ice.

We turned to descend and had to face the full force of the gale. Driving particles of ice and snow made it difficult to see, and we were buffeted about a good deal. Steering due east, we quickly came to the cliffs, the edge of which we followed all the way down, our footprints on the way up being of very little use to us, as only here and there could we detect any trace of them, so quickly had they been filled with snow. On reaching the top of

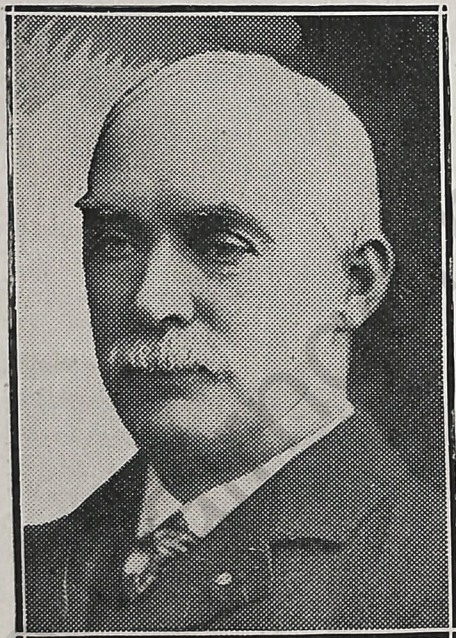
the Cuidhe Crom above the Ladder, we still continued to our left, and descended by the loose rocks to the col between the Cuidhe Crom and the Meikle Pap. At this level we came out of the mist, after having been in it for over four hours.

The snow had now turned to rain, and the clouds followed us down the valley, so that by the time we reached the path beyond the Stick, the mist was down upon us once more, and the Wilderness was completely blotted out. We quickly trotted down the path, and Alltnaguibhsaich was reached about 5.30 p.m. The trap was waiting, and having donned overcoats we scrambled aboard. Soaked more or less as we were, the drive to Ballater was rather uncomfortable, and climbing out of the trap at the Hotel door was a stiff performance ; but tea, hot baths, and dry garments soon changed that, and it was a merry party which sat down to dinner that evening mightily pleased with the day's outing.

In Memoriam:

JOHN MCGREGOR.

Died, 12th April 1919.



WE regret having to record the death of Mr. John M'Gregor, one of the original members of the Club and an ex-Chairman. Mr. M'Gregor was a native of Braemar, a nephew of Mrs. Donald Fraser, formerly at Derry Lodge; and having been in the way of spending his holidays in Braemar and at Derry Lodge, he became well acquainted with the Cairngorms. He

was an enthusiastic member of the Club; had served continuously on the Committee; and was Chairman during the years 1904-5-6. As Chairman, he "personally conducted" the Club's excursion to Braeriach in the summer of 1904, and presided at the first—and only—"At Home" of members of the Club and their lady friends, held on 19th December 1905.

Mr. M'Gregor was a teacher by profession; was for many years headmaster of Dr. Bell's School, Old Aberdeen, and thereafter of the Old Aberdeen public school, and of the Hanover Street public school,

Aberdeen. In 1897 he was elected a Fellow of the Educational Institute of Scotland. He was a member of the Aberdeen Parish Council for eighteen years, and was Chairman of that body, 1898-1910. He was also a Captain of the 4th, subsequently the 6th, Volunteer battalion of the Gordon Highlanders, becoming ultimately Major of the 6th Gordon Highlanders (T.F.), and in the latter capacity was mobilised at the outbreak of the war. (See "The Club and the War" in this issue).

We are indebted to the *Aberdeen Journal* for the accompanying portrait of Mr. M'Gregor. A photograph of him in a characteristic attitude appears in C.C.J., vol. V., p. 49.

DR. JOHN GORDON, 1 Rubislaw Terrace, Aberdeen, who died on 22nd March, was a member of the Club for several years, and contributed two interesting articles to the *Journal*—"Round Loch Eunach" (Vol. I.—July 1895), and "A Glimpse of the Dolomites" (Vol. III.—January 1901).

Sir HUGH THOMAS MUNRO of Lindertis, Forfarshire, died at Tarascon on 19th March—(he went to France in January, along with his two daughters, to engage in canteen work). He was a prominent member of the Scottish Mountaineering Club and was well and widely known as a skilled mountaineer. He compiled tables giving the altitude of all Scottish mountains exceeding 3000 feet in height, which have been so generally accepted that it has become customary to designate such mountains as "Munros." These tables appeared in the first volume of the *Scottish Mountaineering Club Journal* (September 1891). To the first number of the *Cairngorm Club Journal* (July 1893) Sir Henry Munro contributed an article on "Sgoran Dubh and the Western Cairngorms," and to our Jubilee number (January 1918) an article entitled "Three Nights on the Cairngorms."

The Club and the War.

MILITARY SERVICES OF MEMBERS.

Subjoined is a complete list of the members of the Club who were engaged on military service in one form or another during the War, along with details of individual services, the engagements taken part in, promotions in rank, awards conferred, etc.

The record is one of which the Club has every reason to be proud. No fewer than 41 members responded to the call of patriotism; and this, as was remarked in our last issue, is a highly creditable proportion out of a Club of 140 members, many of whom, moreover, are now far past the military age. The particulars which follow show that a considerable number of those who came forward served in the fighting line, while such as were retained at home or were not engaged in active military operations in the field performed duties none the less useful and important, if not so pre-eminently warlike and personally dangerous.

Of the former section—those engaged in the fighting forces—nine were killed in action or died from wounds received in action. We deplore their loss, more especially as, being nearly all young men, they were most active members of the Club, on whom ultimately, to a large extent, the prosecution of the special work of the Club would have devolved. We must ever cherish their memories for the loyalty and devotion they displayed, the gallant services they rendered, and the heroic sacrifice they finally made. Our grateful thanks are also due to all the other members of the Club who, whether serving at home or abroad, were equally inspired by a sense of duty to King and Country, and who willingly and cheerfully “did their bit” for the great cause for which Britain and the Allied Powers went to war.

The nine members who fell were the following :—

Dunn, Robert James Armstrong.—(Aged 33).

Son of the late Mr. John A. Dunn, boot and shoe maker, Aberdeen, and manager of the west-end branch of the business founded by his father. Rejoined the 4th Batt. Gordon Highlanders (T.F.) shortly after the outbreak of war. Was commissioned as Second Lieutenant. Promoted Lieutenant. Went to France in the autumn of 1915, and participated in much heavy fighting with his battalion, notably in the attacks on High Wood and Beaumont-Hamel. Was wounded in the battle of Arras, 23rd April 1917. He went on with his men, however, and was killed in action by a machine-gun bullet in front of the German wire entanglements. After his death, it was notified that he had been MENTIONED IN DESPATCHES and promoted from Lieutenant (Acting Captain) to Captain. (See In Memoriam notice in present vol., pp. 37-38).

Ellis, James.—(Aged 25). Son of Mr. John Ellis, coal merchant, Aberdeen; engaged in his father's business (Messrs. Ellis & McHardy). Was gazetted Second Lieutenant, 7th Batt. Gordon Highlanders (T.F.) (Deeside Battalion), Sep. 1914, and went to France, Apl. 1915. Promoted Lieutenant, July; Lieutenant (Temporary Captain), Nov.; Captain, Sep. 1916. In hospital in England, suffering from trench fever, Oct. 1916—Mar. 1917. Rejoined his battalion. Was wounded in the fighting on the Scarpe, and died at a Casualty Clearing Station two days later, 24th April 1917. Was buried in the cemetery at Agnez-les-Duisans. (See In Memoriam notice in present vol., p. 39).

Fyfe, Austin James Claud, F.F.A.—(Aged 39).

Son of the late Mr. James S. Fyfe, Manila, and a nephew of ex-Lord Provost Sir David Stewart. Was on the staff of the Northern Assurance Company at their head office in Aberdeen; author of several papers on actuarial subjects. Commissioned as Lieutenant, 255th (1st Highland) Brigade, R.F.A. (T.F.), 1915. He went out to France, and was detailed for trench mortar work. Was killed in action, 23rd March 1917. (See In Memoriam notice in present vol., pp. 36-7).

Gillies, James Brown.—(Aged 30). Advocate in Aberdeen. Secretary and Treasurer of the Club and Editor of the Club's *Journal*, 1912-16. Captain, 4th Batt. Gordon Highlanders (T.F.), retired. Re-commissioned, Aug. 1914. He served as Adjutant and latterly as Major in the 2/4th Batt. Gordon Highlanders. Accompanied the 1/4th Batt. Gordon Highlanders to France, Mar. 1916, and acted for a considerable time as temporary

Major. Saw a deal of active service in the neighbourhood of Arras and Armentieres and in the Somme battle area, being with his battalion in the High Wood fight and in the advance on Beaumont-Hamel. Was killed in action, 13th November 1916, shortly before the capture of Beaumont-Hamel, when in charge of a detachment clearing out a German trench. (See In Memoriam notice, Vol. VIII., pp. 229-31).

Lyon Robert, M.A., LL.B.—(Aged 24). Son of ex-Lord Provost Sir Alexander Lyon, one of the oldest members of the Club. He was studying for the Scottish Bar in Edinburgh when war broke out. Had been a member of U Coy., 4th Batt. Gordon Highlanders (T.F.) and rose to the rank of Sergeant; and with the training then received he speedily received a commission. Was gazetted Second Lieutenant, 5th Batt. Gordon Highlanders, Aug. 1914. Promoted Lieutenant (Temporary Captain), Jan. 1916. Killed in action, 30th July 1916, in an attack on the German trenches in the course of the battle of the Somme, while advancing at the head of his company in face of a withering fire. (See In Memoriam notice, Vol. VIII., pp. 234-5).

McLaren, Jan Malcolm.—(Aged 33.) Engaged in mercantile business in Aberdeen until 1911, when he went to California and commenced banking and fruit farming near Los Angeles. He was an enthusiastic mountaineer; established a record by climbing (with four others) the six highest Cairngorm peaks on one day; contributed an article on the feat to Vol. VI. of the *C.C.J.* (pp. 49-51). Joined the 14th (County of London) London Regiment (London Scottish) as a private, Mar. 1916. Went out to France after a few months' training, and took part in the advance on the Somme. Was killed in action, 7th October 1916, while charging with his regiment on the Somme battlefield. Was buried in a valley between the hills around Les Bœufs. (See In Memoriam notice, Vol. VIII., pp. 232-3).

Meff, William B.—(Aged 28). Son of Mr. William Meff, fish salesman, Aberdeen, and Dean of Guild of the city, and engaged in his father's business. Was commissioned Second Lieutenant, 7th Batt. Gordon Highlanders (T.F.) (Deeside battalion), Feb. 1915. He went to France three months later. Was promoted Lieutenant, and acted for some time as Brigade Bombing Officer. Was in all the important engagements on the Somme. Died of wounds in hospital, 14th November 1916, having been hit by shrapnel on the previous day, in the battle of Beaumont-Hamel. Brigadier-General Douglas Campbell, in a letter to the Dean of Guild, said :—

Your gallant son was wounded at my side, and I feel I must write to tell you, in the midst of your sorrow, how deeply I feel his loss, and sympathise with you in it. I got to know and admire him very greatly while he has been on my staff as Brigade Bombing Officer. There was no more capable officer in the Brigade than he, and I had the greatest confidence in him. He was a fine organiser, so cool and level-headed, and quite devoted to his work. He will be hard to replace in his responsible position, and his loss to the army is great.

(See In Memoriam notice, Vol. VIII., pp. 235-6).

Smith, George Alexander, D.S.O.—(Aged 44). Advocate in Aberdeen. Major, 4th Batt. Gordon Highlanders (T.F.) Was mobilised at the outbreak of war. Was with his battalion in France, Feb.—Dec. 1915, and took part in many engagements. Thereafter, was for almost a year Lieutenant-Colonel in command of the 8th King's Own (Royal Lancaster) Regiment, and when he left it was presented by the officers with a silver tray "as a token of their affection and devotion, and to mark their appreciation of his leadership and gallantry." Was at General Headquarters, 3rd Echelon, Oct. 1916—Oct. 1917. Though more than once offered a Staff appointment, he preferred to serve as an active combatant, and he was placed second in command of the 5th Batt. Gordon Highlanders, and in that capacity took part in the big retreat at St. Quentin. From that time onward he was in command of the battalion. Wounded twice. Killed in action by a shell at Buzancy, 28th July 1918, while directing an operation by his men. AWARDED D.S.O. THrice MENTIONED IN DESPACHES. In addition, his Brigadier testified that he was twice recommended for the Victoria Cross. The engagements he took part in included The Bluff, St. Eloi, Delville Wood, and Guillemont. (See In Memoriam notice in present vol., p. 202).

Smith, George Buchanan, M.A., LL.B.—(Aged 24). Eldest son of Sir George Adam Smith, Principal of Aberdeen University. He was studying law, intending to proceed to the Scottish Bar. Was gazetted Second Lieutenant, 1st Batt. Gordon Highlanders, Aug. 1914, and served at Stoneywood Wireless Station for four months. Proceeded to Flanders in command of a large draft of men, and on 14th Dec., while leading his platoon in a charge on the German trenches between Kemmel and Wytzaechte, was severely wounded, being invalided for several months. Returned to France, Aug. 1915, and was attached 2nd Batt. Gordon Highlanders. Killed in action, 25th September 1915, while leading his platoon in the first charge of the advance on Loos. An account of a six days' walk from Glasgow to Braemar from his pen appeared in the first number of the present vol., pp. 20-6, along with a poem, p. 35.

The following is a record of the services of other members:—

BARCLAY, WILLIAM, L.D.S.—Joined up (on his return from South Africa) as a gunner, R.G.A., Nov. 1916. Served for three months at Fort Carlisle, outside Queenstown Harbour; then was transferred to the 370th Siege Battery. Was appointed Dental Officer with rank of Lieutenant, June 1917; sent to Parkhall Camp, Oswestry. Shortly after, was posted to Barrow-in-Furness in charge of the Dental Centre of that garrison. Promoted Captain, and remained there until demobilised, Mar. 1919.

BRANDER, ERIC WILLIAM HARCOURT, M.A., LL B.—Lieutenant, 4th Batt. Gordon Highlanders (T.F.) at outbreak of war. Was mobilised with his battalion, Aug. 1914. Promoted Captain, Nov. 1914. He served with the 51st Division at home, Aug. 1914-Feb. 1915; with the 3rd Div., B.E.F., Feb. 1915-Feb. 1916; with the 51st (Highland) Div., B.E.F., Feb-May 1916; and was present at most of the engagements in which these divisions took part. Was Brigade-Major in charge of Infantry Training School, Calais, May 1916-May 1917. Member of Commission to 2nd French Army at Verdun to investigate and report on French system of infantry training, Dec. 1916-Jan. 1917. Staff Captain, Headquarters, Calais, May 1917-Mar. 1919. Promoted Brevet-Major, June 1918. THrice MENTIONED IN DESPATCHES.

BUTCHART, HENRY JACKSON, D.S.O., B.L.—Captain, 2nd Scottish Horse; mobilised, Aug. 1914. He was Officer commanding dépôt, 2nd Scottish Horse, till Dec. 1915, when he was attached to 2nd Reserve Regt. of Cavalry. Accompanied Scottish Horse to Egypt, May 1916. Was promoted Major, June; Acting D.A.A. and Q.M.G., No. 3 Section, Canal Defences, Egyptian Expeditionary Force. Divisional Intelligence Officer, 52nd (Lowland) Division, E.E.F., July-Oct. D.A.A.G., Australian and New Zealand Training Centre, E.E.F., Nov. 1916-Jan. 1917. D.A.A. and Q.M.G., Imperial Mounted Division, E.E.F., Feb. 1917. D.A.A. and Q.M.G. and D.A.A.G., 74th Yeomanry Division, Mar. He was present at the following:—Battle of Romani and advance to Mazar (Egypt); 2nd Battle of Gaza, capture of Beersheba, battle of Sheria, capture of Jerusalem, capture of Ram Allah and Sinjle positions on Nablus road (Palestine); Advance on and capture of positions in advance of Hindenburg outpost line, Somme (France); Advance from Bethune to Lille and Tournai (France and Belgium). AWARDED D.S.O. TWICE MENTIONED IN DESPATCHES.

COOK, WILLIAM LITTLEJOHN.—Gazetted Second Lieutenant, 4th Batt. Gordon Highlanders (T.F.), Sep. 1914. Promoted Lieutenant, Dec. Wounded near Ypres, June 1915. Was attached Admiralty Transport Department, Nov. Appointed to Staff of Principal Naval Officer, White Sea (stationed at Archangel), May 1916. Promoted Captain, Nov. Was on special service in Norway, two months during Spring, 1917; at Archangel, June to Nov.; and again in Norway, Nov.-Dec. Unable to return to Russia owing to revolution, and proceeded to London. Then appointed on Staff of Naval Vice-Consul at Bergen, and engaged in running convoys between Scandinavian countries and Britain, France, &c. Sent as

Commercial Adviser to Principal Naval Transport Officer, Eastern Mediterranean, May 1918. He returned Nov., and was freed from service, Dec. DECORATED with the ORDER OF ST. ANNE (third class) by the late Tsar of Russia, 1916. THANKED FOR SERVICES by the Director of Transports and Shipping, these services being recognised as "greatly instrumental in enabling the Ministry of Shipping to supply the armies in France with the large quantities of Russian timber which were so essential."

CORNER, EDRED MOSS, C.M., F.R.C.S.—Joined R.A.M.C. (T.F.), 5th London General Hospital, as Captain, Aug. 1914. Was promoted Major, 1917. Served also at the King George Hospital and Queen Mary's Auxiliary Hospital for the Limbless, Roehampton. MENTIONED IN DESPATCHES.

ROLL, WILLIAM FLETT, M.A., M.D.—Called up on mobilisation as a member of the R.A.M.C., Home Hospital Reserve, to take duty at the Aberdeen Military Hospital, with the rank of Captain. Appointed Officer in charge of the hospital early in 1915, and continued in that post until demobilised, Jan. 1919.

CROMBIE, JAMES, M.B., L.D.S.—Captain, R.A.M.C. (T.F.), attached 1st Scottish General Hospital. Was mobilised at the beginning of the war, and served throughout its duration with the 1st Scottish G.H., Aberdeen. Was appointed Officer in command of the Centre for the treatment of jaw injuries, 1st S.G.H., and Officer in command of the Aberdeen Military Dental Centre, July 1915; and held these posts until demobilised, Mar. 1919.

DICKSON, JOHN.—On the reserve of officers (6th Batt. Gordon Highlanders) at the outbreak of the war and was called up at mobilisation. Joined at Keith and went to Perth and Bedford for training, with rank of Captain (although senior to most of the officers, had to rejoin at the foot of his rank, and was therefore junior Captain). Commanded a company in the battles of Neuve Chapelle, Fromelles (9th May 1915), and Festubert (16th May 1915). Commanded the attack at Givenchy (June 1915). Was wounded there and invalided home. Was subsequently appointed second in command of the 3/6th Batt. Gordon Highlanders, and the amalgamated unit, 4th Reserve Batt. Gordon Highlanders. Promoted Major, Jan., 1916. He left 4th Res. Batt. in Aug. 1917, and was placed in command of 1st Training Batt. R.A.M.C. at Blackpool. Was demobilised, Jan. 1919.

DUFFUS, JAMES CATTO, M.C., M.A., LL.B.—Lieutenant, 255th (1st Highland) Brigade, R.F.A. (T.F.). Was mobilised on outbreak of war. Proceeded to France, May 1915. Served with the 51st (Highland) Division throughout the war, and was present at all the engagements in which it took part. (These included Festubert, High Wood, Beaumont-Hamel, Vimy Ridge, Scarpe Valley, Cambrai, Bapaume, &c.) Was promoted Captain, June 1916; Acting Major, Aug. 1917. AWARDED M.C. and FRENCH CROIX DE GUERRE (gold star). Demobilised, Feb. 1919.

EDWARDS, JAMES HASTINGS, M.A., LL.B.—Captain in the Aberdeen Volunteer Artillery. Was mobilised with the 1st Highland

Brigade, R.F.A. (T.F.) [afterwards called the 255th (1st Highland) Brigade, R.F.A.], Aug. 1914. Proceeded to France with the brigade, May 1915, and served with it throughout the war, being present at the engagements in which it took part. Was promoted Major, June 1916. Demobilised, April 1919.

GALLOWAY, ALEXANDER RUDOLF, M.A., M.B.—Major, R.A.M.C. (T.F.); attached 1st Scottish General Hospital. Mobilised, Aug. 1916. Acted as Ophthalmic specialist to the Medical Recruiting Board and Ministry of Pensions, Aberdeen.

JOHNSTON, ALEXANDER MACKENZIE.—Lieutenant, 4th Batt. Gordon Highlanders (T.F.). Was mobilised while in camp at Tain, July 1914. He had been for some time in charge of the Signal Section of the 4th Gordons, and when at Bedford his section was attached to the R.E. He went to France with the 51st Division, May 1915, and was wounded on 3rd June, and sent to England. He returned to France, with the rank of Captain, Nov. 1916, and acted for some months as area officer in charge of the lines behind Bapaume. He was afterwards attached to the Signal Section of the 46th Division. During the big fighting in Mar. and Apl. 1918, this Division helped to hold the mining district near Loos, but did not have to repel any direct attack. In Sept. 1918, Captain Johnston was transferred to Corps Signals.

LEVACK, DAVID PROUDFOOT.—Joined up voluntarily as a pioneer in the Wireless Division of the Signals, Feb. 1917 (before he was 18). Was promoted Corporal, Dec. 1917 and Sergeant, April 1918. Acted as Sergeant Instructor in wireless at Haynes Park till demobilised, Jan. 1919.

LEVACK, JOHN REID, M.B.—Captain, R.A.M.C. (T.F.). Mobilised on war being declared, and attached to the 1st Scottish General Hospital in Aberdeen as Medical Officer in charge of the X-rays and electrical departments; held this post till demobilised, Mar. 1919. Promoted Major, Nov. 1915.

LORIMER, JAMES VASS, O.B.E.—Lieutenant, Royal Army Service Corps (T.F.) Was mobilised on outbreak of war. Proceeded to France, May 1915. Served with the 51st (Highland) Division throughout the war, and was present at all the engagements in which it took part (previously enumerated). Was promoted Captain and Adjutant, Aug. 1914. Wounded in the fighting at Ypres, Sep. 1916. MADE O.B.E. (Military). MENTIONED IN DESPATCHES. Demobilised, Mar. 1919.

MCCONNOCHIE, ALEXANDER INKSON.—In Army Service Corps Office, Maryhill Barracks, Glasgow, as transport clerk of war stores (railway and steamer traffic), Dec. 1914-Mar. 1917. Thereafter, assistant cashier to William Beardmore & Co., Limited, ordnance manufacturers, etc., Parkhead, Glasgow (on Government work only), to 31 Dec. 1918.

MCCOSS, JAMES—Joined North Scottish R.G.A., June 1916. Was promoted Bombardier and then Corporal, and was Acting Sergeant, 1 Sep.-31 Oct. 1918. Went to France, Mar. 1917, and was in the battle of Messines and the artillery fighting on the Messines Ridge; also in the fighting on Hill 60 in front of Ypres. Was at Vimy Ridge, 1918; and when the advance was begun was in front of Amiens. Was in the St.

Quentin Canal crossing, and when the Armistice was signed was at Avesnes, on the Franco-Belgian frontier. Served subsequently in the Army of Occupation.

MACDIARMID, JOHN DUNCAN.—Rejoined as Captain, Royal Army Service Corps (T.F.), Nov. 1914, and was in command of a company of the 2nd Line Territorial from that date till Dec. 1916; the company was chiefly engaged in supply transport work in Perthshire and in Norfolk. Went to Salonika, Jan. 1917, as Officer Commanding 19th Auxiliary Horse Transport Company, which was never completely formed as it was decided that no advance should be made and all available personnel were sent as drafts to Palestine. Went to Palestine with the 53rd Welsh Division as Advance Railhead Supply Officer, Nov. 1917. After the defeat of the Turks, the Division returned to Alexandria, Nov. 1918; and Captain MacDiarmid subsequently served there as Divisional Troop Supply Officer, and, latterly, as Acting Senior Supply Officer. He was demobilised, May 1919.

MACDONALD, D. RONALD—Joined 35th Field Coy., R.E., as Despatch Rider, June 1915. Landed at Rouen, Oct. Afterwards joined 4th Divisional Signal Coy. Was promoted Corporal. Took part in following engagements:—Somme offensive, 1916-17; Battle of Arras, Passchendale Ridge, Battle for Cambrai, Sep. 1918. Was transferred to 1st Army Signal Coy., Feb. 1919.

MCGREGOR, JOHN—Major, 6th Batt. Gordon Highlanders (T.F.) prior to the war; and mobilised with his battalion, Aug. 1914. Placed on the reserve, Nov. 1914; deemed too old for active service.

MACKIE, JAMES CECIL DAVIDSON.—From the 4th Batt. Gordon Highlanders, was gazetted Second Lieutenant, 255th (1st Highland) Brigade, R.F.A. (T.F.), and left Aberdeen with the brigade, Aug. 1914. Promoted Lieutenant, Sep. Proceeded overseas with the Brigade as part of the Highland [later 51st (Highland)] Division, May 1915. Was promoted Captain (substantive), June 1916. Saw all the engagements in which the Division was employed in 1915-16-17-18 (previously enumerated); and "in at the finish" in Belgium, 11th Nov. 1918. Wounded Mar. 1918.

MENTIONED IN DESPATCHES.

MILLER, JAMES BRUCE, M.C.—Called up from Territorial Force Reserve, Oct. 1914, for service with the 552nd (City of Aberdeen) (Fortress) Coy., R.E. (T.F.) as Captain. Took the company out to France, Apl. 1915, and continued in command of it during the war. Was D.O.R.E., Peuplingues, under S.W.O., Calais, Aug.-Nov. 1915; Acting S.W.O. Forests, Nov. 1915-Feb. 1916; D.O.R.E. machinery, under C.R.E. Forests, Aug. 1916-Feb. 1917. Proceeded with the company, Feb. 1917, to the First Army, 11th and 15th Corps, where, apart from defence work, the company was engaged on a variety of other R.E. works falling to an A.T. company. The company took its part in the Lys battle, being chiefly employed on the hasty demolition of bridges; and subsequently took part in the advance by Merville, Aubers Ridge, and Lille to Tournai, in Belgium. During this period the company was engaged on bridge construction, the last to be erected being two steel bridges for the heaviest class

of army traffic over the Scheldt at Tournai. AWARDED M.C. MENTIONED IN DESPACHES.

MILNE, ARTHUR PLEDGE.—Retired from 1st Aberdeenshire R.E. (Volunteer) with the rank of Captain, 1900. Rejoined 4/2nd Highland Field Coy., R.E. (T.), as Lieutenant, Aug. 1915. Was promoted Captain, Mar. 1916, on taking command of 2/3rd Highland Field Company, R.E. (T.) Was engaged in construction of School of Aerial Gunnery, Loch Doon, Ayrshire, acting as Camp Commandant.

MURRAY, JOHN.—Gazetted Second Lieutenant, North Scottish R.G.A., Oct. 1914; promoted Temporary Captain, Nov. Employed on Coast Defence (Scottish Command), Oct. 1914-Aug. 1917; and on Siege Artillery Courses, Sep.-Dec. 1917. Joined 268th Siege Batt., R.G.A. as Lieutenant, Jan. 1918, and employed on active warfare at the Ypres Salient until the Armistice.

NICOL, JOHN ALEXANDER, D.C.M., M.A., B.L.—Enlisted as a private in the Scots Guards, Nov. 1915; was promoted Lance-Corporal, Corporal, Lance-Sergeant, and Sergeant. Participated in engagements in the Ypres sector, June-Oct. 1917; Fontaine and Gouzeaucourt, Nov.; Arras, Jan.-Mar. 1918; Bayelles, etc., Mar.-July; Ayette, Hammelin-court, Lagnicourt, Canal du Nord, Maubeuge, etc. (British offensive), Aug.-Nov. AWARDED D.C.M. Wounded (slightly) twice and gassed once.

PIRIE, DUNCAN VERNON, O.B.E.—Captain, 3rd Hussars (retired); M.P. for North Aberdeen. Rejoined army at outbreak of war. Staff Captain, Sep.-Dec. 1914. Served in France as a Railway Transport Officer, Dec. 1914-Jan. 1916. Promoted Major, and attached to 2/5th Batt. Durham Light Infantry, Oct. 1916; served in the Struma region, Macedonia. Acted as Administrative Commandant, No. 5 Area, Likovan, April-Oct. 1917. Lieutenant-Colonel commanding British garrison, Corfu, Nov. 1917-Aug. 1918; commanding lines of communication, Bralo Tlea, Greece, Aug.-Oct. 1918. MADE O.B.E. (Military). MENTIONED IN DESPACHES. AWARDED the GREEK ORDER OF THE REDEEMER and the SERBIAN DECORATION OF THE WHITE EAGLE.

REID, CHARLES, D.S.O., M.A.—Captain, 4th Batt. Gordon Highlanders (T.F.), at the outbreak of war. A week before, he was "rushed" from Tain to the Torry Battery, Aberdeen, in charge of a party of his battalion, who erected wire entanglements at the Battery and dug trenches, in feverish haste. Left for France with the battalion, Feb. 15, and took part in all engagements in which the battalion co-operated, until badly wounded at Ypres, Sep. 1915, while leading C Coy. in the holding attack made by the 3rd Division. Rejoined the battalion at Arras, Mar. 1916. Again wounded at High Wood during the Somme offensive. Attended the Senior Officers' Course at Aldershot in the spring of 1917, and was posted as second in command (Temporary Major) of the 8/10th Batt. Gordon Highlanders, July 1917. Took over the command of the battalion during the Passchendale offensive, and was gazetted Acting Lieutenant-Colonel, Aug. Was with the battalion when it moved to the Arras sector, where it helped to stop the big German offensive, Mar.-Apr. 1918. Wounded by a

machine-gun bullet through the jaw, Apl. AWARDED D.S.O. THrice MENTIONED IN DESPATCHES.

SMITH, ALEXANDER EMSLIE, JUN., M.A.—Gazetted Lieutenant, Territorial Force Reserve, for duty as a Recruiting Officer in Aberdeen, Feb. 1916; and served in that capacity till recruiting was taken over under the Ministry of National Service, 1918, when it became a civil department.

THOMSON, ARTHUR LANDBOROUGH, O.B.E., M.A., B.Sc.—Gazetted Second Lieutenant, 13th Batt. Argyll and Sutherland Highlanders (attached 4th Batt.) Served in France and Belgium as a subaltern with the Argyll and Sutherland Highlanders and at the Headquarters of the 9th Division, 1915-18. Transferred to the Staff as Deputy Assistant Controller of Salvage, May, 1918, and promoted Assistant Controller with the acting rank of Major, Nov. Thereafter appointed an Assistant Quartermaster-General at the General Headquarters in France, with the acting rank of Lieutenant-Colonel. MADE O.B.E. (Military). MENTIONED IN DESPATCHES.

WATT, EDWARD WILLIAM, M.A.—Captain, 4th Batt. Gordon Highlanders (T.F.). Mobilised, Aug. 1914. Adjutant 2/4th Batt., Sep. 1914-Mar. 1915. Promoted Temporary Major, Dec. 1914. Appointed to command 3/4th Batt. (as Major), Apl. 1915; promoted Temporary Lieutenant-Colonel, Nov. Appointed to command the amalgamated Reserve Batt. Gordon Highlanders (T.F.) [comprising the four former Reserve Batts.] Sep. 1916, and continued in this command till Aug. 1918, when he relinquished the temporary rank of Lieutenant-Colonel on joining the 1/4th Gordon Highlanders in France as Major. Served with that unit in the B.E.F. and the Army of Occupation; stationed at Buir, Germany. Was appointed to the temporary command of this battalion, Mar. 1919; but was demobilised before taking up the appointment. MENTIONED IN DESPATCHES (for service at home).

WELSH, WILLIAM C.—Sergeant in the old 1st Volunteer Batt. Gordon Highlanders. Offered his services on two separate occasions, but was rejected by the Medical Board. Thereupon placed his services at the disposal of the Volunteer authorities, and was put in command of the Grange platoon of Volunteers—1st Banffshire Volunteer Regiment (now 4th V.B. Gordon Highlanders). When the Volunteers were placed on a proper military footing, the War Office refused him a commission, but still retained him as Platoon Commander with the rank of Sergeant, and recognised him as a Military Instructor.

WILSON, ALEXANDER MORICE, M.B.E., M.A., LL.B.—Lieut., 4th Batt. Gordon Highlanders (T.F.) Was mobilised at outbreak of war, Aug. 1914. Gazetted Captain, Sep. Served with battalion in France and Belgium, and participated in various engagements. Was wounded, Spring 1915. Joined Royal Flying Corps, Aug.; was gazetted Flying Officer and appointed Instructor, Nov. Served for about a year as Flight Commander. Thereafter, was in charge of the technical work of aerodrome construction and selection of aerodromes, gun ranges, etc. Promoted Wing Adjutant, Sep. 1917; Staff Officer, Apl. 1918; Major, Royal

Air Force, June. Appointed R.A.F. representative at Paris, June; Independent Air Force representative at Paris, Sep. Now Officer Commanding R.A.F., Paris. MADE M.B.E. (Military).

Members on service	-	-	-	-	-	41
Killed in action or died of wounds	-	-	-	-	-	9
Wounded	-	-	-	-	-	8
Awarded D.S.O.	-	-	-	-	-	3
„ M.C.	-	-	-	-	-	2
„ D.C.M.	-	-	-	-	-	1
Made O.B.E.	-	-	-	-	-	3
„ M.B.E.	-	-	-	-	-	1
Awarded Foreign Orders	-	-	-	-	-	3
Mentioned in despatches	-	-	-	-	-	11
Thanked for services	-	-	-	-	-	1

NOTES.

THE following is the text of the memorial in favour of the construction of the proposed road through Glen Feshie, which was addressed to the Road

Board, in conformity with the remit made at the last annual

PROPOSED meeting of the Club (see p. 210):—

ROAD THROUGH

GLEN FESHIE.

14 GOLDEN SQUARE,

ABERDEEN, 30th December, 1918.

The Road Board,

Queen Anne's Chambers,

Broadway, Westminster, London, S.W.1.

Gentlemen,

On behalf of the Cairngorm Club, Aberdeen, we beg respectfully to bring to the notice of the Road Board the claims of a scheme in which we are doubly interested as mountaineers and as citizens. One of the most urgent needs of Scotland in respect to communication—in the north-east portion of it, perhaps the most clamant of all—is a through trunk road from east to west. The natural termini are Aberdeen and Fort William. A route between these points would be the complement, and add greatly to the utility of the great south to north road from Perth to Inverness. These two roads would open up the whole of the central Highlands. Lateral roads could be led from them in any required direction, and every locality in the area could thus be made comparatively easy of access.

To effect the main purpose, the Deeside road at the Linn of Dee (about 6 miles west of Braemar) must be linked up with the Speyside Road, preferably at Kingussie, or at such other point east of it as the existing road might be found, or made, serviceable. The easiest, and indeed the only feasible, route is by Glen Feshie, which Nature seems to have designed for the purpose, the gradient being easy and the elevation at the summit level moderate. The line is wonderfully direct, too, considering the mountainous character of the whole region.

At present Braemar is a *cul de sac*. Access to the mountains beyond is possible only to those who have leisure and to whom expense is not a prime consideration. For the scores and hundreds of young men- and women-workers in a populous centre like Aberdeen, who would be benefited both physically and morally by frequent resort to the open, we regard it as of the last importance that all possible facilities of route and conveyance should be provided for the purpose. One of the main objects for which this Club exists is to promote in particular resort to the hills, hill-climbing, and that first-hand acquaintance with native topography and scenery which is a very foundation of love of country. A through route such as described would enormously increase opportunities of the kind. It would convey—chiefly, no doubt, by motor or electric traction—visitors, whether from near or far,

to the immediate vicinity of the great mountain sanctuaries of the Cairngorms, while it would in no way interfere with the seclusion and charm of these glens and mountains. The accesses of the Larig, Glen Tilt, Glen Derry and a dozen more would be untouched; only they would become accessible to hosts of those who know them only by name.

The region, lying on the outskirts of several local road authorities, is a kind of No Man's Land. It does not specially appeal to any one road board as serving the exclusive interests of its own area. Much of the traffic would come from without and would go straight through; the road would be a national rather than a county road.

In view of schemes of development, such as forestry, small holdings, and local crafts and industries and employment generally, the road would be of even greater importance than in regard merely to tourist and mountaineering facilities, though the opening up of the Highlands as a national playground is an object that cannot be regarded with indifference.

Under these circumstances, we venture to suggest that the road should be constructed by the Road Board itself—that is, the expense should be borne by the Board direct; and that some allocation of funds ear-marked for its upkeep should be made from year to year to the County Councils of Aberdeenshire and Inverness-shire. These Councils will in due course be called upon to improve the accesses to the new road and other portions of the trunk line, and in fairness should not be saddled with expenditure that both directly and indirectly is national, not local, in character.

We trust no questions of procedure or of supposed rights may be allowed to stand in the way of a great and urgent improvement, for the furtherance of which and similar undertakings it is understood that your Board has been called into existence.

We are, Gentlemen,

Your obedient servants,

BRYCE, President.

JOHN CLARKE, Vice-President.

J. R. LEVACK, Chairman.

T. R. GILLIES, Acting Secretary.

It had been a stormy week in Fort William, but Friday brought a slight improvement in the weather, in so far that it was dry, and that the mists had crept a little higher up the hillsides. We made an early start, and, wending our way up Glen Nevis, reached the shepherd's cottage at Steall a few minutes past nine o'clock. The waterfall was a fine sight after all the rain, and the photographer crossed the stream and made an exposure.

The Aonachs were to be our first point of attack, so we struck up the slope of the "Beg" above us and followed the course of the burn right into the great south corrie. Our hopes of a good day were by this time beginning to melt away, for first we encountered a few flying showers of rain and sleet, and when we reached the floor of the corrie the mist swooped down on us, and in a few minutes more the air was thick with snow flakes.

We pressed on, however, over great beds of old snow, and up the short rise to the summit level, where we found a good three inches of fresh snow; then along the plateau to the few stones marking the highest point of Aonach Beg (4060 feet). There were tremendous cornices of snow crowning the precipitous east face, but under the conditions we dared not approach them too closely, though at one point we were able to have a peep into the vapoury depths. As there was no abatement of the storm, or likely to be any, we descended the 400 feet to the col, and then trudged along the great flat, northward to the large cairn on Aonach Mor (3999 feet).

We had intended crossing over Carn Mor Dearg and so on to Ben Nevis, but the storm was so persistent and the cold so intense that we thought it prudent to give up the idea of any more tops. This was the month of June, and we have seldom experienced a worse day, even in April. A few minutes were spent in the shelter of the cairn, and we continued our tramp along the broad flat ridge to its termination in Sgor a Pheanais (2171 feet); then descended out of the mist and out of the snow, and into the warmth of a genial summer's day. A careful survey of the landscape showed us the River Lundy, and a road running alongside it, in the direction of Inverlochy. We reached the riverside at 1.30, and sat down to some lunch, which we regarded as richly deserved; then, later on, we dawdled downstream, joined the Glen Spean road, and so on to Fort William.

WILLIAM BARCLAY.

At the time of the January full-moon, I undertook a midnight expedition to the summit of the West Lomond (1713 feet), the highest point in Fifeshire. The sky was cloudless, and there was a fair MOONLIGHT breeze from the north-west. On the way up, the snowy VISIBILITY. tops of the Ochils in the west shewed up hard and clear, so that, after ascending the snow-clad slopes to the summit, which I reached at 12.30 a.m., I was in no degree surprised at the great visibility. To the east twinkled the Fife Ness and Isle of May lighthouses, while the top of Arthur's Seat protruded from a sheet of mist, beneath which glittered the lights of Edinburgh in the south.

But it was in the north and west that the view was grandest. Here, the horizon was a brilliant white, as against its blackness in the eastern sector. To the west the peaked outline of Ben Vorlich (south of Loch Earn) was clearly visible at a distance of 38 miles. Further northward Schiehallion's outline was just distinguishable against the darker sky and the dark shapes of the nearer hills at a distance of 43 miles. To the north, the ridge of hills from Carn na Glasha to Beinn a' Ghlo shone out clear white at an average distance of 45 miles, while Lochnagar was no doubt visible though not identified. I have never yet had such an excellent opportunity of testing the naked-eye visibility of distant hills by moonlight. With the help of a glass, which would also have served as a protection against the icy north wind, the shapes could have been made out much better, but as to the main outlines of the groups mentioned I have no doubt whatever. I have seldom seen the matter mentioned in any publication.

JAMES H. BELL.

A SAD fatality occurred on Ben Nevis on Sunday, 9th February. Second Lieutenant Alexander Campbell, Royal Field Artillery, and a brother officer set out to climb the lower shoulder of the mountain, which was in a highly dangerous state owing to ice and snow. When the two had reached a height of about 1000 feet, Lieutenant Craig, in attempting to negotiate a snow-slide, lost his footing, and was immediately hurled down the slope. On his companion reaching the spot where Lieutenant Craig lay, he found the latter quite dead. He thereupon returned to Fort William and reported the matter to the authorities. Lieutenant Craig, who was about 22 years of age, belonged to Auckland, New Zealand.

THE Prince of Monaco, with the approval of the Governments of the Allies, and particularly that of Great Britain, is organising, for April of next year, a series of Congresses (to be held in the Principality of Monaco), for the purpose of making better known the thermal, climatic, and Alpine health resorts of France and the Allied Continental countries, so as to attract to them those who, prior to the war, used to patronise the Austrian and German resorts. It is claimed that the former health resorts are incontestably superior to the latter, and that it is essentially necessary to proclaim their excellence in order to counteract a persistent German propaganda of the "pretended superiority" of the German resorts. Among the various Congresses being arranged is one on Alpinism, to deal with mountain work (climbing and mountain sports) and with the development of Alpine stations. The president of this Congress is to be Baron Gabet, Vice-President of the French Alpine Club; and Mr. J. P. Farrar, President of the English Alpine Club, is one of the two honorary-presidents. The Congress has received the adhesion, not only of these two Alpine Clubs, but of the American Alpine Club, the Alpine Club of Canada, the Appalachian Mountain Club, and the Sierra Club of San Francisco; and amongst other invitations to attend the Congress is one to Lord Bryce as representing the Cairngorm Club.

MR. G. W. R. MILLAR contributed an account of an ascent of Fujiyama, the sacred peak of Japan, to *Chambers's Journal* for November last. Fujiyama is 12,365 feet high, and rises almost straight from sea-level. It is a dormant or quiescent volcano, no eruption having been recorded for over two hundred years. The mountain is in appearance an enormous massif with a covering of black volcanic ash, while for the last 2000 or 3000 feet it is chiefly composed of great blocks of volcanic rock. Its lofty head is crowned with snow for all but a brief period in the height of summer. Mr. Millar's party set out for the mountain from Gotemba, a small village, starting at 10.30 a.m., and proceeded on horseback along a narrow steep-lane, always mounting higher, known as the "East Front Entrance," there being several other ways of ascending the mountain from different sides. The ascent proper began at the second stage, 11½ miles from Gotemba, and the horses were discarded at the 6000 feet level.

"Climbing up the last 2000 feet or so is hard," wrote Mr. Millar, "for here the ascent is over rough volcanic rocks, boulders, and loose stones, and is relatively steep. This, together with the rarefied atmosphere, which renders breathing difficult, the cutting wind blowing off the snowdrifts, and the cold driving mist, made the progress over the steep volcanic massif of the last 1000 feet more of a crawl than anything else—in fact, a veritable penance. But in the end we reached the summit at 12.15 p.m., exactly ten hours from the time we left Gotemba, which, considering the distance and the altitude, might, I was informed, be considered a fairly rapid ascent. Unfortunately the thick driving mist which had surrounded us at the higher levels still continued, and blotted out all prospect of any view from the summit."

One, it seems, gains "great merit" in Japan by reaching the top of the sacred Fujiyama. But that "marvellous summit" can be appreciated—perhaps best appreciated—by being observed at a distance; and Mr. Millar says the feelings of writers who enthusiastically laud its glories can be entered into by "any one who has been fortunate enough to see Fujiyama in the sunlight, with its bridal veil of snow falling in white folds from the lofty summit, which strikes upwards towards the blue sky above it, and to behold, in the clear air of the mysterious East after sunrise, the mist clouds rolling away before the power of the sun of Japan."

A CORRESPONDENT obligingly sends us, from his commonplace book, the following cutting of a quotation from Rousseau's Works:—

ROUSSEAU "A general impression (which everybody experiences,
ON though all do not observe it) is that, on high mountains,
MOUNTAINS. where the air is pure and subtle, we feel greater lightness
and agility of body, and more serenity in the mind. The
pleasures are there less violent; the passions are more moderate; meditations receive there a certain great and sublime character proportioned to the objects that strike us; a certain tranquil pleasure which has nothing sensual. We are there grave without melancholy; quiet without indolence; contented with existing and thinking; all too lively pleasures are blunted and lose the sharp points which render them painful; they leave in the heart only a slight and agreeable emotion; and thus a happy climate makes the passions of mankind subservient to his felicity, which elsewhere are his torment. I question whether any violent agitation or vapourish disorder could hold out against such an abode if continued for some time; and I am surpris'd that baths of the salutary and beneficial air of the mountains are not one of the principal remedies of medicine and morality."

THERE are times when *Punch* exhibits the failing it frequently attributes to Scotsmen—it "jokes wi' deeficulty." It got hold of a statement in a Scottish newspaper to the effect that "The Association

"RECONSTRUC- for the Betterment of the Highlands and Islands of the
TION" Free Church of Scotland have prepared and presented to
OF THE the Secretary for Scotland a memorandum on the recon-
HIGHLANDS. struction of the Highlands," and thereupon it made the
comment—"We have always thought that judicious

thinning of the more congested views would help the tourist." The use of the phrase "reconstruction of the Highlands" was undoubtedly unfortunate, but it hardly warranted the manufacture of such a small witticism.

A MEETING of the Committee of the Club was held on 18th June—Dr. Levack, the Chairman, presiding—at which several interesting and important matter were discussed. It was arranged to hold a

PROPOSED Summer Excursion on the July Holiday, Mount Keen being selected as the objective. Authority was given to EXCURSION. Mr. J. A. Parker to accept an estimate for the painting of the Allt-na-Beinne Bridge at a cost of £17 10s., and to see the work carried out.

The large cost—due, of course, to the recent rises in the prices of material and labour—will absorb the balance of the Bridge Fund remaining, and an appeal is to be made to visitors to Aviemore and district to contribute. Finally, the Committee agreed to recommend to the annual meeting of the Club the appointment, as Secretary and Treasurer, of Mr. John A. Nicol, D.C.M., solicitor, Aberdeen. Mr. Nicol has been a member of the Club for several years, is a splendid walker, and is keenly interested in mountaineering; and the Committee were of opinion that with a man of his vigour as Secretary the activities of the Club would speedily be renewed.

At the above-mentioned meeting of the Committee the following were admitted members of the Club:—

NEW MEMBERS. Mr. Gerald W. T. II. Fleming, Surgeon Sub-Lieutenant, R.N.V.R., Aldersyde, Durham.
 Mr. Arthur Robert Horne, Bonn-na-Coille, Murtle.
 Mr. Edward Birnie Reid, 6 Golden Square, Aberdeen.
 Mr. Charles Playfair Robb, Westbank, Fonthill Road, Aberdeen.
 Mr. Marshall Jeffreys Robb, B.Sc., Westbank, Fonthill Road, Aberdeen.

In addition,
 Miss Isabel Rose Simpson, West Bungalow, Cults,
 was admitted an associate member.

REVIEWS.

THE KING'S HIGHWAY (New Series). Nos. 1-6.—This is an illustrated monthly magazine “of the road, for all roadfarers, road lovers, road makers, road reformers,” which has assumed an entirely “THE KING'S new and enlarged form under new management and HIGHWAY.” under the editorship of Mr. J. Inglis Ker. It is excellently printed and handsomely illustrated, and is in many ways an admirable magazine, containing much interesting reading. But it has its limitations, the principal being that the mere “road-walker,” the pedestrian, receives very scant attention. Judging from the bulk of the articles, indeed, and particularly from the advertisements, one is forced to the conclusion that the magazine is published mainly in the interest of motor-car makers and owners and users. True, the aim of the magazine is declared to be “to awaken and sustain an intelligent interest in the Road, blending its romantic history and inexpressible charm with its significance to the economic, industrial and agricultural developments of the future.” But while the history and the charm certainly receive treatment, the number of articles devoted to road reformers and road-makers indicate that the trend of the magazine is towards articles dealing with the reconstruction of our highways on improved and scientific principles, so as to secure rapid transport. Among the more general articles, attention may be directed to a series of papers on “Dickens on the Road,” by Sheriff T. A. Fyfe, of Glasgow; another series, “Out of the Past,” culled from writers of former days, by Mr. R. J. MacLennan; an article on “Ancient Maps of Britain,” by Mr. Harry R. G. Inglis, F.S.A. (Scot.) author of the “Contour” Road Books; and an article by Mr. G. R. Blake, on “Wade's Road”—across the moor from Amulree to the glen that leads down into Aberfeldy; a road that “goes straight up the hill, and over the hill, down the other side, and so to its destination. It is boldly conceived; it fears nothing. In its construction there was no avoiding moraines, no coy skirting of streams. If there was a moraine Wade cut through it; if there was a stream, however deep and broad, he bridged it.” Mention should not be omitted of two delightful papers by Sheriff Penney—“In the Western Isles with a Bicycle.”

R. A.

A “Roll of Honour” forms a conspicuous feature of the April number of *The Scottish Mountaineering Club Journal*—just as it does of the present issue of the *C.C.J.* Sixty members of the S.M.C. joined His

“SCOTTISH MOUNTAINEERING CLUB JOURNAL.” Majesty's Forces during the war, and of these thirteen died. Their photographs are given, enclosed in artistic panels designed by Mr. Colin B. Phillip; the Editor pays a tribute to “the happy warriors,” and Mr. Thomas Fraser Campbell contributes some In Memoriam verses. Mr. D. R. Pye gives details of “A Fortnight in Skye,” into which was

compressed a quite unusual amount of climbing; the author was told that his party had seen more of the Cuillin in their fourteen days than the ordinary chances of weather might have allowed in fourteen weeks. Mr. Walter A. Reid, in what is apparently the first of a series of papers on "Saturday Hill Walks (Aberdeenshire)," describes a walk along the Fir Mounth road, from the bridge of Dinnet (or Aboyne) across Glen Tanar forest, to Tarfside—a total distance (from Aboyne) of $14\frac{1}{4}$ miles. Any one desirous of taking this walk will do well to study the directions given by Mr. Reid. Not the least interesting item in the number is the speech of the President, Dr. Inglis Clark, at the annual dinner of the Club: it is a fine exposition of the "philosophy" of mountaineering.

THE 1917-18 number of the *Journal of the Fell and Rock Climbing Club* contains a number of articles dealing with climbs and walks in the

English Lake District, the chief ground of the operations of the Club. The activities of the members are not limited to this region, however, and the opening paper, by the President of the Club, Mr. Philip S. Minor—which has the suggestive title of "Nights Out," includes accounts of night ascents of the Dent Blanche and the Weisshorn.

Mr. E. W. Steeple writes on "Wanderings in Skye," becoming highly enthusiastic over the Coolin, with "its shattered peaks and its endless variety of scenery." There is a very interesting article on "Shadows and the Rocks," showing how several "glorious courses amongst the rocks" have been discovered by some trick of evening shadow, and yet admitting that shadow routes do not always lead to success. We note that this number is edited by Mr. and Mrs. William T. Palmer, the former of whom contributes "some unauthorised remarks" on the training of novices in climbing. We regret to learn that Mr. Palmer is relinquishing the editorship.

THE "Annual of the Mountain Club of South Africa" for 1918 has many interesting articles descriptive of climbs in various parts of the extensive territory included in the Club's "sphere of interest"—

SOUTH AFRICAN a list is given of 20 peaks ascended by members during 1917. The principal articles deal with ascents of two particular faces of Table Mountain, and climbs in the "ANNUAL." Waaihoek range, the Transvaal Drakensberg, and the mountain ranges of Oudtshoorn and Mossel Bay; and we

learn much from them of the special features of South African mountains and the difficulties that have to be faced and overcome by those who seek to gain their summits. One contributor, furnishing an article appropriately titled "Off the Beaten Track," complains of the mountaineering habit of attacking great peaks to the neglect of the ravines and passes, and sagely reflects that "In our youth we make a bolt for the summit, and a more rapid descent, but usually it is not until old rheum has settled in our bones that we learn to see more by doing half as much in the same time." He also makes uncomplimentary remarks on the kilt as a part of mountaineering outfit. Member of a company of volunteer Highlanders engaged in field

manœuvres "in the early nineties," he and the captain, on an off-day, essayed to climb the rocky heights of the Sneeuwkop, the culminating point of the Klein Drakensberg range. When leaving camp, the captain insisted on their doffing coats, gaiters, hose, and sporan. "It was a fine experience swinging the kilts across the open veld, but in the gully, and in many other tight places, we would have rejoiced if we had also hung the kilts on the tent pole. . . . The kilts were contrary enough in the ascent, but when coming down over a buttress or sliding down a mossy incline, they would suspend us in mid-air or collect the rubble and moisture for yards around. There are eleven yards of material in a Highlander's kilt and its weight is about four pounds, but these statistics were compiled by a cold-blooded drill sergeant at sea-level. On a mountain range they should be read as hundredweights and furlongs, as they find all projections and absorb all moisture *en route*."

Mr. John Foster, in his new novel, "The Searchers," which has just been running through *Chambers's Journal*, again THE CAIRNGORMS makes use—as he did in "The Bright Eyes of Danger" AS A —of Speyside as part of his "locus." The hero hails SOUL BATH. from a certain "Glen Ciuin," and the doctor of the glens, whom he meets in Edinburgh, addresses him in this wise:—

"A little of the town goes a long way with me. A city practice would soon knock me up. Indeed, the charm of the Cairngorms—I am a lover of mountains—appeals to me even in this wild weather. . . . Truth to tell, my dislike of towns and my love for the open were the chief causes of my settling in the Glen. I get my share of sport. I have a penchant for observation of wild life with a camera, and I hope soon to publish a monograph on Alpine lichens. I am often out on the mountains alone, and know almost every corrie of them by heart. Apart from my hobbies, I think of a long day in these solitary places as a—how shall I put it?—a 'soul bathe'."

Shortly after, the hero pays a visit to his home, and thus describes his sensations as he approaches it:—

"Every yard of the drive was a delight. The morning was bright and serene to the zenith. The atmosphere, tingling, sparkling with the tonic quality of dry champagne, was so clear that distances seemed lessened, and familiar features of the strath stood out clean-cut and strangely near. In the windless air the Cairngorms, for once were clear of mist to the high tops, their dark fastnesses and ramparts in abrupt contrast with the steel-blue canopy of the sky. I could pick out the bright threads of the hill-burns that are for ever running down their silver ladders, the green spires of well-remembered woods and many a spur scaled by me when, an eager youngster, I had been out on the range in all weathers from Airgiod Meall to Ord Ban. Nearer gleamed my native river, its green haughs speckled with crofts, little blue stalks of peat-reek rising from them in the still air; above them, tier upon tier, their immemorial guardian mountains, awakening in me, as they always do, a strange inward incommunicable sense of wonder and solace. The beauty, the peace of it all, was like a cool hand laid on hot tired eyes."

'A soul-bathe.' I had almost forgotten Dr. Hall's phrase ; but now it was recalled, and it lingered with me until we turned into the avenue of The Bield and I was greeting its owner."

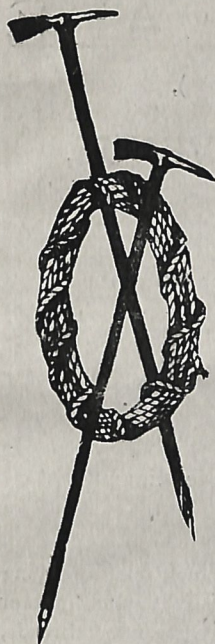
MR. JOHN BUCHAN has made the heroes of his novels traverse many parts of Scotland. In his latest novel, "Mr Standfast," he incidentally lands his principal character in Skye, in the track of pro-

MR. JOHN BUCHAN German agents and propagandists. The "sleuth," as American fiction-writers would designate him, has

ON

THE COOLIN.

to alter his course in the island, and this brings him within sight of the Coolin. "Mountains," he is supposed to remark, "have always been a craze of mine, and the blackness and mystery of those grim peaks went to my head." He sat on a hill-top for half an hour raking the Coolin hills with his glasses, and indulged in the following reflections :—"I made out ugly precipices, and glens which lost themselves in primeval blackness. When the sun caught them—for it was a gleamy day—it brought out no colours, only degrees of shade. No mountains I had ever seen—not the Drakensberg, or the red Kopjes of Damaraland, or the cold, white peaks around Erzerum—ever looked so unearthly and uncanny." Unfortunately, the trend of the story takes the hero to the eastern coast of Skye, and we are deprived of the opportunity of observing how Mr. Buchan, with his keen eye and facile pen, would have further described the majestic features of the Coolin.



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