

LINES FROM THE RUSSIAN: ANTI-MATTER IN THE CULLIN, 29 JULY 1931

By **G D Morrison**

Our *troika* reached the rocky Lagan cirque,
Climbed past its sparkling tarn and gained a slab,
Where now we three sprawled supine in the sun:
Dirac¹, long-limbed beside the compact Bell²,
And thirdly myself Igor Tamm³ as well.

1 **P.A.M. Dirac**, O.M., F.R.S. (1902–84). Theoretical physicist and Lucasian Professor of Mathematics at Cambridge. Awarded the 1933 Nobel Prize in Physics. Famously wrote: ‘The aim of science is to make difficult things understandable in a simpler way; the aim of poetry is to state simple things in an incomprehensible way. The two are incompatible.’ Probably autistic.

2 **J.H.B. Bell**, D.Sc. (1896–1975). Son of the manse, industrial chemist, SMCJ Editor and pioneer of at least 64 Scottish routes, who also climbed widely in the Caucasus and European Alps. Sympathetic observer of the Soviet project.

3 **I.Y. Tamm**, Hero of the Soviet Union (1895–1971). Pre-revolutionary Bolshevik, Soviet physicist, chain-smoker and mountaineer. Fellow student with James Bell at Edinburgh University in 1914. Awarded the 1958 Nobel Prize in Physics.

Two days before, we'd broken fast near Strome,
 Then struck our sodden tent and failed to start
 The savant Paul Dirac's new touring car;
 So Bell and I, inspanned like Ural kine,
 Had drawn it up the roadway's long incline.

Whence, lo! it sprang to life and bore us off
 To Kyle and thence Glen Brittle where the *drok*,
 The golden gorse, set off the black shore-sand;
 Vanilla, coconut and melon scent
 Most sweetly with the soft sea-breezes blent.

Though uncollectivised, Miss Campbell's croft⁴
 Gives bed and peasant fare on modest terms.
 (Karl Marx's dialectic not gainsaid,
 I grant the *kulak* grasp is sometimes loose,
 While meriting in every case the noose.)

There having supped and then withdrawn to smoke,
 Like Romans couched replete on our box-beds,
 We'd touched on Engels, Russell, unsound rock,
 The sixteenth Party Congress (just adjourned)
 And why the use of pitons might be spurned.

'Your electron equation pray expound,
 I'd asked Dirac, who seldom speaks unbid.
 'E-squared,' said he, 'is always positive,
 But energy (that's E) when less than nought
 Suggests a sub-sea vacancy be sought.'

But to our climb: now Bell uncoiled the rope,
 Its hempen smell evoking alpine days.
 'The mist has gone, the rock looks largely dry;
 Let's go up Sgùmain by the West Trap Route,
 Where Smythe and I some years ago set foot.'

We left Dirac to day-dream in the sun,
 But pledged to meet him four hours hence atop
 Sgùrr Alasdair, to which he'd surely climb
 The great stoneshoot and tourist route apace;
 And thus our paths diverged awhile in space.

Each crystal of the coarse plutonic slabs
 Bit deep in Bell's soft-iron cleated boots,

4 **Mary Campbell** (d. 1947). Fondly remembered landlady at Glenbrittle.

While my Swiss patent nails though sharply toothed
 Glanced off the gabbro holds with rasping tone,
 And failed to pierce that adamantine stone.

At length the Evil Chimney hove in view:
 'This pitch,' said Bell, 'looks somewhat damp today,
 Yet gives a struggle tough enough when dry;
 I'll now exchange my boots for woollen socks,
 Affording grip upon its slimy rocks.'

As when the Caspian tiger, poised to spring,
 Stares at the rampant bear's high-rearing neck
 And plots the throttling lock and lethal bite,
 So now Bell eyed the unforgiving crack,
 Rehearsing move by move his bold attack;

Then sprang with uncoiled vigour at the rock,
 Found lodgement in the cleft and swiftly climbed,
 Great strength of limb thus matching strength of will.
 The chimney overcome he took a hitch,
 And bade me follow likewise up the pitch.

The rope gave more than moral help, I own,
 The fissure being quite unadorned with holds.
 Crack giving way to ledge above and slab,
 We reached at length the eponymous trap-dyke,
 Where Bell made fast the rope around a spike.

'Observe,' he said, 'this aphanitic trench –
 The fine-grained basalt set in gabbro slab;
 Composed alike and yet of forms diverse,
 The one rock slowly cooled, the other chilled;
 The fractured pluton's faults with lava filled.'

Beyond the dyke a terrace gave respite,
 Tobacco, talk and ease before the Tower –
 Sgùrr Sgùmain's final *direttissima*.
 A single line of weakness breached the wall,
 On which Bell now commenced to give his all.

By turns requiring balance, guile and brawn,
 This unrelenting groove consumed an hour,
 Before he reached a stance and cried 'Come on!'
 Three vain attempts to follow dashed all hope,
 Despite Bell's best advice and tautened rope.

So I untied and sought an easier way,
A rising northward line that turned the Tower,
While Bell continued solo on his route.
From Sgùmain's misty top we hailed Dirac,
And heard his answer wafting faintly back.

Now Bell and I made haste along the ridge,
Put best foot forward on the *mauvais pas*,
And joined Dirac on Alasdair's high top.
'We've had a frightful struggle on our climb;
No doubt you passed a much more restful time?'

'It now is clear,' announced Dirac at once:
'Each particle exists in obverse form,
Electron matched by *anti-electron*.
The latter is unseen,' he then opined,
'Because with *anti-protons* intertwined.'

The cloud-sea lapped about our sunlit peak,
And stretched away quite level all around.
'Why, *anti-matter* – capital!' said Bell;
'But come, we must go down; it's half-past eight,
And Mary does not like us dining late.'