

“WHAT’S IN A NAME? THAT WHICH WE CALL A ROSE BY ANY OTHER NAME WOULD SMELL AS SWEET.”

–WILLIAM SHAKESPEARE

The names of magmatic rocks give igneous petrologists a secret pleasure. They are magical passwords into a world of minerals, textures, chemistry, associations and histories accessible only to those who have studied enough to understand what the names imply. We relish using them – *absarokite*, *kakortokite*, *jacupirangite* – and their obscurity binds our tribe together, excluding those who have not acquired the magic. Unlike minerals, whose names have to be approved by the hard-working members of the IMA Commission on New Minerals and Mineral Nomenclature, rock names can be introduced willy-nilly, as they were, mainly in the 19th and early 20th centuries. Discussion of their etymology reached its apotheosis in *A Descriptive Petrography of the Igneous Rocks* by Albert Johannsen, published in four volumes between 1931 and 1938 by the University of Chicago Press. Look up ‘basalt’ and you will be treated to four pages, with long quotations in Latin, French and German, and words printed in the Ethiopic, ancient Egyptian, Greek and Hebrew scripts. Johannsen concludes, ‘The term *basalt* is of uncertain origin’, but of the alternatives offered I prefer: ‘Worm said the word comes from the Ethiopic *bselt* or *bsalt*, the feminine of the adjective *bsul* (*bsul* [here printed in the Ethiopic script – ed.] is the Ethiopic word for cooked)’. There we are, transported by a single word to East Africa, a cooked rock in a cooked terrain.

Unlike minerals, which are often named after people, rocks are predominantly named after regions or places. There are striking differences in the scale of these sources, even when the rocks are closely related. For example, take the series *alkali basalt* – *hawaiiite* – *mugearite* – *benmoreite* – *trachyte*, volcanic rocks related primarily by crystal fractionation in deep magma chambers. The relationship is mainly expressed by increasing proportions of alkali feldspar at the expense of plagioclase, which simultaneously becomes richer in sodium, poorer in calcium. *Trachyte* was (according to Johannsen) named by Haüy, perhaps in 1813, and is an allusion to the Greek word for ‘rough’. The other three are named after places, all of which I visited in 2008.

Hawai’i is the greatest, most magnificent volcanic edifice on Earth, measuring at sea level 160 by 140 km. The highest of its five volcanic centres, Mauna Kea, rises 4205 m above sea level and 17 km above its base on the ocean floor. The centre most active at present, Kilauea, has been almost continuously active for 600,000 years. Its flanks, streaked by overlapping flows, their young, glassy surfaces iridescent in the tropical sun, give an overwhelming impression of inexorable growth. Hawai’i truly deserves to have a rock type named after it, and *hawaiiite* was defined by Iddings in 1913. Johannsen is dismissive of the name, which was based on the feldspar composition calculated from chemical analysis (the CIPW norm, of which Iddings was the ‘T’); it therefore ‘has no place in a mineralogical classification’.

Benmoreite is named after Ben More on the island of Mull, which is off western Scotland and part of the North Atlantic Large Igneous Province. The Hebridean sub-province is built around four famous volcanic cen-



Lava entering the Pacific from Kilauea, Hawai’i, July 2008



Palaeogene traps, Ben More, Isle of Mull

tres, Mull, Ardnamurchan, Rum and Skye, and with their associated lava fields has a north–south dimension of 150 km, similar to the size of Hawai’i. But erosion since the Palaeogene lets us see into the magma chambers that lay below volcanic superstructures of which only fragments are preserved. The Mull volcano has a central position in the history of igneous petrology because it was here in 1924 that Bailey and others first recognized the two magma types that we now call the ‘alkaline’ and ‘tholeiitic’ series. Ben More (it simply means ‘big hill’ – there are lots of Ben Mores in Scotland) is a handsome 966 m mountain, rising from the sea, the piled lavas with their distinctive ‘trap’ topography forming the western flank of a plutonic centre with a central caldera. The evolved lavas form paler horizons near the top of the peak. The name *benmoreite* was given by Tilley and Muir in 1963 and thus escaped Johannsen’s scrutiny, but Kerr in 1995 analysed samples from the type locality and found them to be trachyte!



Mugeary, Isle of Skye

Which leaves us with *mugearite*. The rock was named, from its mineralogy, by Harker in 1904 after Mugeary (pronounced moog-ary, with a hard ‘g’) in Trotternish, a windswept peninsula of flat-lying flows that forms the northernmost extension of the Isle of Skye. I went there towards the end of November, when the high ground of the Cuillin gabbro centre to the south was snow covered. Mugeary is a solitary, small farmhouse, at the end of a twisting single-track road, in an expanse of peat bogs enlivened by occasional jointed-basalt cliffs. While I was taking photographs the farmer arrived on his quad bike, accompanied by the inevitable super-intelligent black-and-white dog. I asked if he knew that his house had given its name to a rock type. ‘Aye, I looked it up on the web’, he replied. Mugeary is a long way from Hawai’i, in many senses, but to have an igneous rock type named after your home – how cool is that!

Ian Parsons, University of Edinburgh