Libby Peter's Rock Essentials

NEW SERIES

No. 1 : Slate

All photography: Mike Robertson.

Have you ever been curious about the rock you touch – where it came from and how it got there? Do you ever finish a route with a feeling that it was somehow designed to be climbed? Some rock types seem to have been designed with us in mind – perfectly sculpted into vertical pathways, yet others prove to be more fortress-like, not yielding to an attack without a struggle.

In this next series of articles we get up-close to the rock itself to gain a deeper understanding of the medium we climb on – how it's formed, where you find it, what it's like to climb on and what makes it special. Having a good knowledge of the characteristics of the rock can only improve your ability to make the moves with confidence and grace.

High steps are often needed to reach the next slate edge.

Back to school – rock types

It's impossible to talk about individual rock types without at least considering the absolute basics of the origins of those rocks. Geology is a complex and vast subject but some simple background information helps paint the picture, and each month we'll add a little more detail to that picture.

There are three broad categories of rock type – igneous (volcanic), sedimentary and metamorphic, of which igneous is the largest and most complex. All rock starts out life as igneous material from deep inside the earth where it exists as magma. By various means this molten material makes it way toward the earths surface or crust where it cools and hardens into what we recognise as rock.

The main igneous rock types can be sub-divided as:

- Acid rich –such as rhyolite and granite
- Base rich – such as basalt and dolerite, and
- Intermediate – andesite.

Sedimentary rocks are composed of the eroded particles of igneous rocks broken off in chunks high in the mountains and carried by ice and rivers in ever smaller grains towards the sea. These mud and sand sediments, plus minerals and other organic and biogenic particles, are laid down in layers beneath the sea. Over time these soft

*The classic **Seamstress** (VS 4b), Serengeti, Dinorwig quarries, North Wales.*

*The **Seamstress** belay illustrates the need to be paranoid about sharp edges!*

Costa del Dali – Dali's hole is re-incarnated into a sport venue by Colin Goodey and team.

A worn micro-wire placement. This one needs very careful seating so it won't lift out.

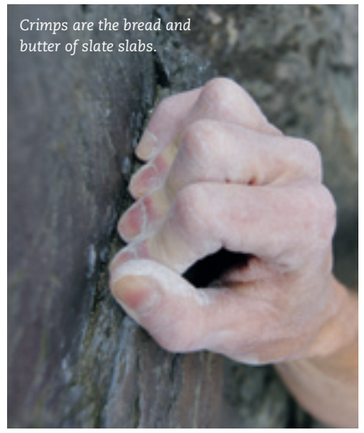
layers are transformed into distinct bands of rock (a process known as lithification). Mudstone is the most common sedimentary rock but limestone and sandstone are the ones climbers most frequently seek out.

Both igneous and sedimentary rocks can be altered by fierce pressures and high temperatures to create metamorphic rocks, such as the rock type we're looking at this month – slate.

How slate is formed

Slate is metamorphosed mudstone. These particular mud sediments were laid down on seabeds about 500 million years ago. Over considerable time these muds were transformed into a soft mudstone of varying colours from grey, purple, green and black. The brittle and climbable slate was created when the mudstones were subjected to immense pressures during a phase of movement within the earths crust about 400 million years ago. The most distinctive feature of slate is that it forms cleavage planes along which it splits very cleanly when quarried. It's this feature that enables it to be repeatedly split to create roofing tiles and also creates the resultant clean faces on which we find our fun.

Although slate has very old origins it is one of the more recently discovered climbing arenas. Largely because it was, quite literally, still being unearthed up until the 1960s. It is also one of the more unusual and distinct rock types we climb on; one of the few that most climbers guess right when asked.



Crimps are the bread and butter of slate slabs.

Singing rock – a Dinorwig slate quarry quirk. Each hole plays a different tune when thumped.

Geographical spread

Although slate is found in small quantities around the country, it is the quarries of North Wales and the southern Lake District that hold most interest for us.

It came to mainstream attention in the eighties with Pete Whillance's *Stiff Little Fingers* in the Lakes and Stevie Haston's *Comes the Dervish* in Wales. The routes of this era were in the main hard and bold but subsequent development has given us a spread of grades and choice between both trad and sport routes.

How to climb slate

In many ways slate is an obvious rock type to climb and the routes tend to fall into one of two categories – smooth slabs of low friction rock dotted with small but positive horizontal edges or clean sharp cracklines. It's so often the case on slate routes that you can see exactly what you need to do, it's just a question of doing it.

Climbing well on slate is all in the feet; a stiff pair of boots and precise footwork makes a huge difference. Being able to stand with confidence on those tiny edges is half the battle. Smearing, though sometimes necessary, rarely feels secure as slate has notoriously low friction.

Handholds are invariably positive, verging on sharp. Crimps (where there's room for finger tips only) are common even on the easier climbs but this is when you must remind yourself you're on a slab so get more weight on your feet and you won't have to pull so hard.

Steep slate routes often have the weirdest holds. The quarrying process resulting in scoops and sloping ledges that threaten to spit you off unless you use clever body positions. There's no hiding from the fact that steep slate cracks are often evil. Smooth as silk on the inside with razor sharp edges they test your jamming skills to the limit.

How to place gear in slate

The majority of slate routes are bolted, although of course the bolts are of considerably variable age and quality. As always, make an assessment of their quality each time you climb and lower off. The better-protected traditional slate routes tend to follow cracklines so the gear placements tend to be obvious, though not always secure. The smooth sides of the cracks reduces the holding power of cams and well used nut placements are worn and polished making the nuts prone to lifting out without much encouragement.

Special features and particular hazards

- The sharpness of the rock can't be overstated, whether it's your skin or your rope at risk, so always keep this in mind as you make hard moves and set up belays.
- Unusual metal spikes and other contraptions litter the quarries – occasionally they're an integral part of the climb but they also create a significant hazard in an unlucky fall.
- Quarries are an inherently unstable environment so check for loose rock at the top of the crag and be wary of hollow sounding flakes. If it doesn't feel or look solid, it probably isn't.
- Access is often a delicate issue at quarries. Landowners are, quite sensibly, worried about accidents (and litigation) so take heed of local advice.

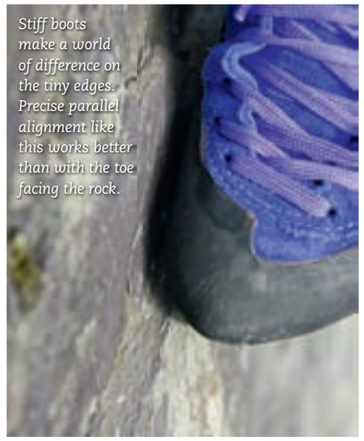
Best loved crags and routes

North Wales

- Dinorwig/Llanberis slate quarries – Bus Stop Quarry for its convenience and spread of grades.
- *Seamstress* (VS 4b) in Serengeti – perhaps the nicest trad slate route you'll ever do. Popular, well protected (apart from the start) and deservedly classic.
- *Comes the Dervish* (E3 5c) in Vivian Quarry – is on every extreme leaders list. A grown-up version of *Seamstress* with a serious and insecure start.
- Rainbow Slab – even if you'll never do a route on it go and have a look, it's a beautiful piece of rock.
- Dali's Hole – great setting, singing rock holes and home to the easiest route on slate, the delightful and well bolted *Emerald dyke* (F4a).

Lake District

- Hodge Close Quarry, near Coniston – worth a visit even if just to stand and stare.
- *Behind The Lines* (HVS 5a) – one of the few more amenable routes hereabouts, or try your hand at the bolted Indoor Gym.
- Cathedral Quarry, Little Langdale is another impressive hole. If you're not too intimidated *Night of the Hot Pies* (E1 5b) is a steely lead.
- Tilberthwaite Quarry – friendly setting with short but intense routes, mostly extreme. Try *Big Tree Corner* (E1 5b) if you're going well. □



Stiff boots make a world of difference on the tiny edges. Precise parallel alignment like this works better than with the toe facing the rock.

Libby has been climbing for over 20 years, she is a qualified Mountaineering Instructor and IFMGA Guide and is the author of *Rock Climbing – Essential Skills and Techniques* published by MLTUK and recently produced *Get Out On Rock* – the definitive instructional DVD. Her base is North Wales from where she runs the guiding outfit Llanberis Guides (**info@llanberisguides.com**)