

# Clever feet on the climbing circuits

If you go out into the hills at the weekend in many parts of the world you will see a new segment of footwear development at work. For climbing is a very complex sport, and to the outsider climbers having a beer fit into the same category as train spotters, noisily talking of different of different holds on different routes, waving their hands about to demonstrate how they overcame the problems.


Climbing routes come in many different forms each requiring a specific level of equipment. These stretch from the big Himalayan routes, which can take months to achieve, through Alpine routes that take days, Scottish summer routes that are day outings but a different story in winter, and crag climbing where many routes can be done in a day.

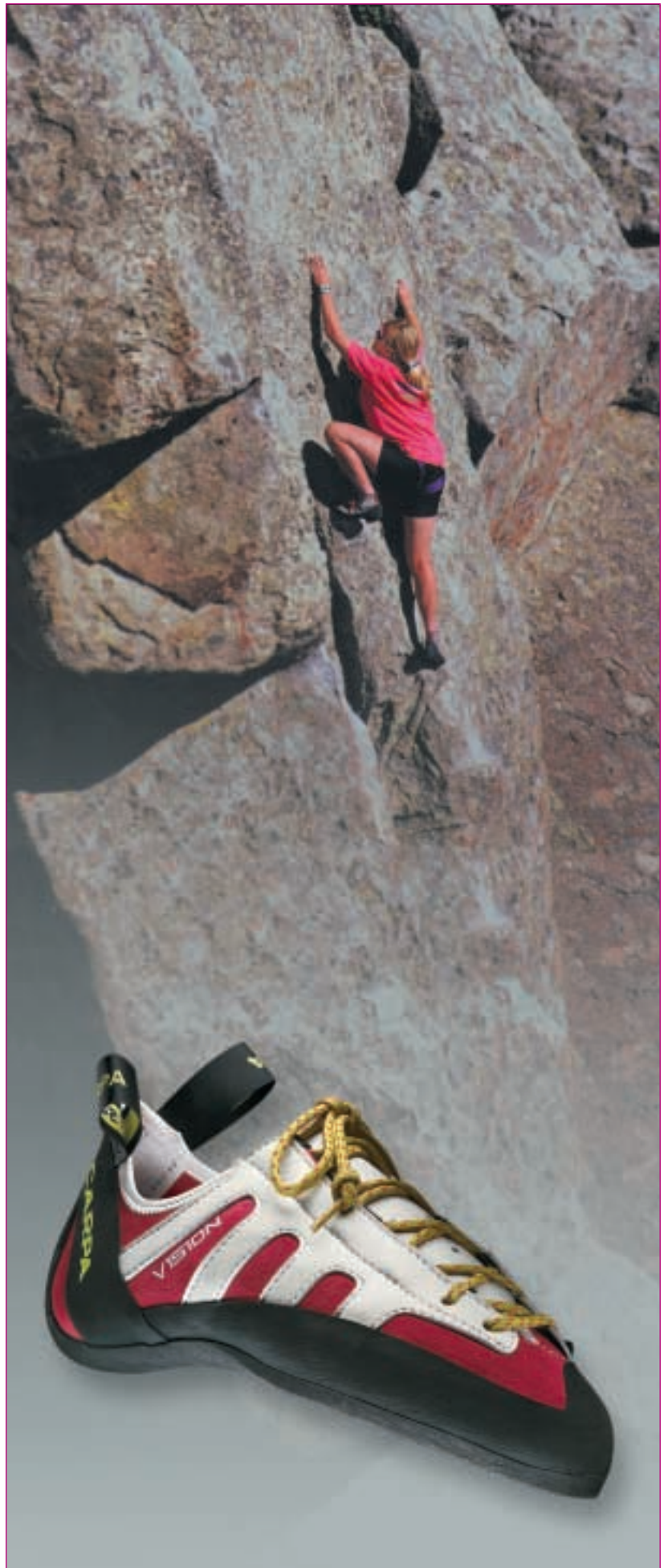
## Bouldering low

But now there is a new spectacle in the hills. A climber wearing a quilted jacket and a tight fitting woollen hat, with a pair of slipper-type shoes in his left hand and his right holding what looks like a folded lightweight mattress over one shoulder. This is the kit for bouldering; a junior version of free climbing that began in the 80s.

Bouldering is where a low level, high-skill problem has to be overcome and a day is spent working out how to do it. It used to be regarded as a training ground for roped routes, but

*Scarpa Vision, a highly technical shoe equipped with Vibram Grip rubber soles. The toe box is designed to avoid compression of the toes, thus significantly increasing sensitivity for very small holds and contributing to the success of the most difficult movements. A new tongue ensures optimum positioning of the foot in the shoe for maximum comfort. The heel design facilitates the most extreme techniques on both rock and artificial holds.*

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became popular in its own right in the early nineties, largely created by the activities of a small group from Sheffield in Northern England. Led by Ben Moon they climbed the fine boulders found in the nearby Peak district, and formed a club named after their zip code, S7. They worked on incredibly hard problems (moves) on the boulders and turned bouldering from an unglamorous training exercise into one of the biggest growth areas in the sport.

The folded mattress they carry is actually a \$150 bouldering mat, which allows radical moves close to the ground with no danger if you fall off. It is easy to see why it is climbing's growth area. There is minimal risk, it is easy to get started, and keeps you fit while you exercise in wonderful locations. Harness and helmet are not needed. Apart from your mattress - or 'drop zone crash pad' if you want to get technical - the only equipment the boulderer needs is a really good pair of climbing shoes.

The climber involved in such technical climbing as free climbing or bouldering has only four points of contact with the rock: his hands and feet. No ropes. With legs being stronger and more durable, footwork plays a vital role.

The positioning of the feet and how they are placed on the footholds can take a considerable amount of strain off the arms (and fingers, which are very weak). If you watch good climbers you will see them spending time making sure they use every foothold efficiently. They need maximum friction with the foothold and every square millimetre is important, especially at the top of the sport. It is here that the shoemakers and their collaborators come in.

### Activity-driven technology

With more people doing hard moves demand continues to grow for ever better equipment. In the early to mid nineties Boreal seemed to have



*La Sportiva's new Venom shoe has Vibram Grip soles and a Vibram SpiderWeb covering the entire vamp area. SpiderWeb is a full rubber mesh with a multitude of interlaced filaments.*

 Vibram



*Vibram GriptionTex combines rubber and textile in a process where heavy-duty polyester is studded with rubber inserts. Millet's Okto model is the first to use this system.*

 Vibram

the market. Its Ace rock shoe was described in Europe as the "bee's knees". They were comfortable yet had the edges for technical moves. Its Vector was made from very stiff rubber which had edges that helped on very small footholds. The most technical was the Laser, made from thin rubber but moulded to your feet, although they were never very durable.

After the surge in bouldering lots of boots came on the market from many companies. Five Ten Anasazis were popular, Boreal Stingers, Red Chili and there was an influx of technical climbing footwear.

What makes a technical climbing shoe successful can also make it very uncomfortable. Essentially built almost entirely of rubber it can be hot, sweaty, a home for fungus and other nasties, and most of all - inclined to stink. Nevertheless the first priority for the climber is to find the best technology for climbing. A 60-70o blank slab with no holds requires maximum friction, with as much rubber on the rock as possible. A vertical climb needs a shoe with rigid edges to prevent the foot from slipping and to extend the foothold. The shape is also important. The climber uses the inside edge, the outside edge, the toe and the heel so these all need to be both rigid and carefully shaped.

The technology then naturally turns to the story of rubber. Here we are dealing with a world not unlike Formula One motor racing, where every type of road surface and weather condition requires a differently constituted rubber.

### Birth from disaster

Modern climbers sometimes struggle on routes that were pioneered early in the last century and wonder how the climbers in those days got up them with the equipment they had. The answer is that they did not always succeed, and it was out of a failure of equipment in 1935 that the Italian technology company Vibram was born.

Vitale Bramani lost six friends on the heights of Mt. Rasica, and inadequate footwear for the mixed terrain, extreme cold, ice and snow was largely blamed. He was friendly with Pirelli and found he was able to use vulcanisation technology. So in 1936 he developed a new sole capable of gripping on the widest range of

surfaces. Known as the "Carrarmato" it was to be the start of the legend that has become Vibram, one of the world's best-known component brands.

In a sport growing rapidly "climbers are always inventing new moves that require shoes offering a larger grip area" says Jerome Bernard of Vibram, which is now the lead player in the area of technical soling. "With the constant evolution of free climbing people are making very strange movements. It has becoming very important to have grip on all parts of the shoe, but in doing so to avoid overheating".

Vibram's solutions for free climbing and bouldering has been based on its gripping climbing rubber, Vibram Grip and for 2004 this has been augmented with two new materials both of which recognize that the top of the shoe, indeed increasingly the whole shoe, has become part of the climbing 'armour'. With clever footwear construction and these new materials the climbers can make spectacular new moves on their progress up impossible ascents.

The new materials have been developed in close collaboration with their customers. Vibram GriptionTex combines rubber and textile. In an exclusive process Vibram studs heavy-duty polyester with rubber inserts. The rubber offers grip and abrasion resistance, while the textile is both lightweight and flexible. The idea is to apply this to the upper, effectively creating an extension of the sole. The first shoe to use this system is the Okto model offered by Millet. The sole rubber and Vibram GriptionTex virtually cover the whole shoe.

### The whole foot and nothing but ...

Vibram's other solution for 2004 has been brought to market by another leading Italian company, La Sportiva, whose dynamic leader, Francesco Delladio was recently featured in Business Week as CEO of one of Europe's smaller companies with world beating products and a strong market share. Now freed from a brief, and unsuccessful, involvement with The North Face, La Sportiva has recaptured its spirit of adventure, and this is nowhere better shown than in the Venom rock shoe.

Innovative and technically creative products are a major part of the history of La Sportiva, and its senior position in the free climbing and bouldering market has grown out of the success of the Mariacher model it produced when free-climbing started to become popular in Italy.

The new Venom predictably has

Vibram Grip soles, but is characterised by the entire vamp area being covered with a web of Vibram SpiderWeb. This is a full rubber mesh made up of a multitude of interlaced filaments.

The web is elastic, light and flexible - so can be adapted to the shoe design and will adhere to the foot shape to minimize bulk and looseness. As an open mesh more than 30% of the surface is vented, allowing the foot to continue to breath. Applied to the upper, as in the La Sportiva Venom, radical movements such as 'hooking' become possible with the front of the foot.

Jerome Bernard sees many opportunities for Vibram's developing technologies. "The children's sector has grown fast, particularly trekking where it is

realized that they need safer gear". Both Raichle and Merrell produce children's footwear with Vibram soling.

Just as each sport needs a specific Vibram compound, so do climbers come in classes. You could spot the old-style traditional climber who more often than not was the bearded, holey-jumper type. Now there is the hip boulderer. They wear surfy, snowboard type attire. Baggy trousers with rolled up legs - so you can extend the feet to their fullest extent, down jackets - comfort for those cold days, beanies to keep the brain warm, cross shoes (Merrell type) but have the Vans coolness. Designer stubble - to give them that salt-of-the-Earth look. Fresh air, rock and a Vibram sole; what more can a lad ask for? 