

# Testimonies of the Rocks: the Hugh Miller Writing Competition 2015-16

## **3<sup>rd</sup> place in prose**

### **Jim Gilchrist: Crawling cards from time out of mind**

The Hugh Miller Writing Competition 2015-2016 invited entries inspired by the geological and landscape writings of Hugh Miller, Scotland's celebrated self-taught geologist. The competition was organised by the Scottish Geodiversity Forum, the Friends of Hugh Miller and many other partners.

Further details of the competition, and all the winning entries, are available at [www.scottishgeology.com/hughmiller/](http://www.scottishgeology.com/hughmiller/)

We hope that this writing competition has encouraged a renewed interest in Miller's work, a catalogue of superb new writings inspired by one of Scotland's greatest nature writers and greater awareness and appreciation of Scotland's geodiversity.

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Crawling cards from time out of mind

By Jim Gilchrist

*And then there rose in quick succession scenes of the old Carboniferous forests: long withdrawing lakes, fringed with dense thickets of the green Calamite, tall and straight as the masts of pinnaces, and inhabited by enormous fishes, that glittered through the transparent depths in their enamelled armour of proof; or glades of thickest verdure, where the tree-fern mingled its branch-like fronds with the hirsute arms of the gigantic club-moss ... Hugh Miller, Sketch-book of Popular Geology*

*Who can wait quietly while the mud settles? Tao of Lao Tzu*

BOTH quotations come to mind while I'm standing on the rocky shore near Crail harbour, contemplating winter sunshine glimmer off two fossilised *Lepidodendron* stumps, the "gigantic club-moss" of the Carboniferous forests evoked in that pre-cinematic, diorama-like sweep of prose so characteristic of Hugh Miller.

I've known these hefty stumps since childhood holidays in the East Neuk. Much more recent was the realisation that, just a few yards away, the exposed sedimentary bedding is pitted by the tracks of a giant, centipede-like arthropod, all six feet of it, that was rattling about under these trees when the Scottish Lowlands were a complex of swampy lagoons and steaming forests, the remains of which would eventually form our coal seams.

Miller imagined something of the same: "A huge crustacean of uncouth proportion stalks over the weedy bottom, or burrows in the hollows of the bank ..." There again he could almost have been referring to another Fife beastie of that period, *Hibbertopterus*, a two-metre long sea scorpion related to present-day arthropods such as scorpions and horseshoe crabs. Its trackway, found a few years ago in north-east Fife, revealed the crescent-shaped footprints and central tail groove it left while crossing wet sand 330 million years ago.

Also at Crail, as elsewhere around the East Neuk, you find perfectly preserved tidal ripples from those Carboniferous mud flats, just as Miller, as an apprentice stonemason, found himself unearthing when blasting quarry rocks. "The entire surface was ridged and furrowed like a bank of sand that had been left by the tide an hour before," he recalled in *The Old Red Sandstone*.

Such frozen moments ... A friend of mine, the sculptor Tim Chalk, was commissioned to create a sundial around a fossil tree stump much like those at Crail for the garden in Edinburgh's Rutland Square. The elegant result sets the fossil stump against a contemplative bench bearing a spherical equatorial sundial fashioned like a split boulder. The fossil is encircled by sculpted glass-reinforced concrete, inscribed with fallen leaves and that quote from the *Tao of Lao Tzu*: "Who can wait quietly while the mud settles?"

If time, according to Tennyson (a reader of Miller's *Old Red Sandstone*), is a maniac scattering dust, he scatters no end of ancient footprints too. A few years ago, I had the chance to visit some fossil tracksites in Wyoming while driving north through the cowboy state with my wife, headed for Yellowstone. Surrounded by the spectacularly riven scenery of the Bighorn Basin, we jolted gingerly down a dirt road, trying not to lose our hired car's exhaust system and avoiding a basking rattlesnake, to emerge at Red Gulch Dinosaur Tracksite. There, amid a classic "badlands" landscape, a gully floor is criss-crossed with smallish three-toed dinosaur prints, including those thought to be of the small raptor *Ceolophysis*, a type of which also seems to have stalked the Isle of Skye, back in the mid-Jurassic period, when Scotland and North America were part of a common landmass. The prints are preserved along with the solidified ripples and worm holes of an ancient lagoon, again as if the tide had only just newly ebbed away, rather than 167 million years ago.

In this oil and mineral-rich state, geology is a pre-eminent concern and for many years the state's pre-eminent geologist was the celebrated David Love, who died in 2002. Working with the United States Geological Survey for more than four decades, Love, as writer John McPhee puts it in his fine book *Rising from the Plains*, was a man with "the geologic map of Wyoming in his head". He was, moreover, the son of a ruggedly individualistic Wyoming rancher, John Love, who had been born in Portage, Wisconsin, but educated in Scotland, the nephew of none other than the pioneer environmentalist John Muir. Muir was also someone who had a great regard for Hugh Miller's works, to the extent that he named an Alaskan glacier after him. And as Miller's books were, according to his protégé Archibald Geikie, "to be found in the remotest log hut of the Far West", it seems likely that they were also present in the remote Wyoming ranchhouse where Love junior grew up.

Owing to the fossil-rich nature of rock formations bearing such memorable names as Chugwater, Bighorn and Sundance (and, yes, Butch and the Kid roamed here), dinosaurs are something of a cottage industry in Wyoming, and the Wyoming Dinosaur Museum at Thermopolis is a dinophile's delight, although the fossil that stuck most in my mind was of a more modest if oddly affecting nature. It was of a small horseshoe crab, *Mesolimulus walchi*, a distant and diminutive Jurassic relative of that giant water scorpion that once prowled Fife. Unearthed in Bavaria, it was unusual in that it preserved not only the little armoured creature itself but also its tracks, recording clearly how some 150 million years ago it had progressed erratically along the muddy bottom for several metres, becoming increasingly disoriented, before grinding to a very terminal halt, for its body lay, perfectly etched, at the end of its final crawl. Horseshoe crabs survive as "living fossils" to this day, and in Massachusetts I've seen beaches littered with their cast-off, helmet-like shells, like detritus from another age.

It has been suggested that possibly the creature found itself in toxic water, and tried fruitlessly to escape. Time and tide, as they say, wait for no man, but just sometimes they do freeze-frame, to preserve for hundreds of millions of years a last, futile struggle for survival.