



## *Inspired by Nature* competition winner

*RICHARD BIRCH has brought to our attention the following document; the remarkable powers of observation and deduction revealed therein are of lasting interest to the naturalist.*

### **EXTRACT FROM A VICTORIAN DIARY (ANON), 1889**

**I**n the autumn of 1889, on the explicit instruction of his personal physician (myself), The Great Detective was prevailed upon to seek rest and recuperation, to which, surprisingly, he agreed.

"I have a desire to go here," he said, unfolding a map of Wales and indicating the island of Anglesey; and so it was I went forth to make the necessary arrangements, and the next day we caught the train from Euston to Bangor, North Wales.

I had arranged to stay in a boarding house in the mining port of Amlwch, on the north-west coast. It was dark when the local train pulled into the station, and the air was heavy with brimstone. First impressions were far from salubrious; nevertheless, I had never before cause to doubt his choice.

At breakfast the following morning, my companion was full of enthusiasm. He had already taken a constitutional around the town, and pronounced it a capital choice to spend a relaxing weekend.

After breakfast, we hailed a carriage to take us to Parys Mountain, an opencast mine east of the town. The superintendent was a Cornishman<sup>1</sup>, and had heard of my esteemed companion, although many of the local Welsh miners had not. Nevertheless, we were granted access to an adit of particular interest, and although the air was nauseous, we lit lanterns and plunged inside.

"Observe, Doctor, we stand beneath the mud of a deep ocean in Ordovician times. This rock was here even before the volcanic activity that deposited the minerals being mined so assiduously."

## EXTRACT FROM A VICTORIAN DIARY...

Photos by Richard Birch

"How can you know that?" I asked.

"It's written for all to see. Look here – " he pointed at some white marks in the dark rock. "Graptolites, extinct colonial marine creatures preserved as fossils<sup>2</sup>. They are as accurate as a date stamp."

A brilliant blue mineral, the colour of lapis scattered across the floor, caught his eye. "Ah yes, a form of copper sulphate I don't doubt." He produced a spatula from the pocket of his coat and proceeded to scrape some into a phial.<sup>3</sup>

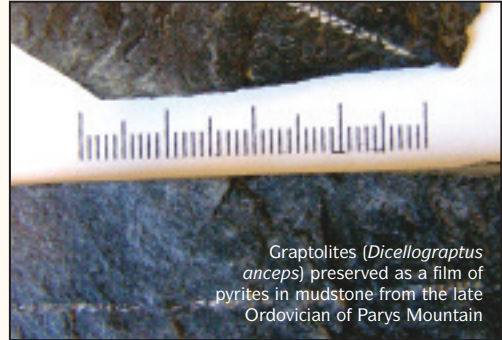
We entered deeper into the adit. "I have a desire to see some of the caves' inhabitants; come, Doctor, hold your lamp aloft so that we may illuminate the ceiling."

I did so, but the light was inadequate to penetrate the Stygian darkness. "It's no good. These lamps are not nearly bright enough."

My companion laughed. "On the contrary, my good friend. Not only is it possible to deduce the fact that bats have occupied this adit, but what kind of bat they were, and when they did so. Shine your lamp here, on the floor."

I did so, and noticed that there was a scattering of moth wings.

"Remark, my friend: all these wings belong to but a few species, all of which are in the family *Noctuidae*. These moths have a specific flight period: here a Yellow Underwing. It flies in July. Here an Angle Shades: it has a longer flight period, but July numbers are bolstered by



Graptolites (*Dicellograptus anceps*) preserved as a film of pyrites in mudstone from the late Ordovician of Parys Mountain



Wings of lesser yellow underwing and angle shades, adit floor Parys Mountain 2009

immigration. Elementary reasoning would therefore point to a moth predator occupying this cave in that month, and further –" he continued –" moths consumed at the roost in this manner are typical of the long-eared bat."<sup>4</sup>

After a tour of the mines expressly in honour of our visit, which my colleague found eminently fascinating, our carriage took us across the island to Rhosneigr, a journey of over an hour. After a repast of cold mutton at a local inn, my companion suggested we aid our digestion with a constitutional along the beach. Here he found much of interest in the flotsam on the shoreline. I myself found a small, intricately carved wooden figurine, which I put to him enquiringly.

"My dear Doctor," he responded soberly after a moment's reflection. "This is a Haitian voodoo doll; I rather fear that in August last year, the death by drowning of a pregnant woman from those islands was induced by supernatural causes involving the use of this doll.

"We infer this by the nature of the carving. See? The figurine is shown with distended belly. I estimate the lady was eight months pregnant. Had the child lived, it would be a year old now."

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*Entada gigas* on the strandline

"But how can you be sure of this?" I said aghast.

He produced, from his pocket, items that he himself had picked up during our constitutional.

"This, Doctor, is a seed from a tropical plant that accompanied your figurine on its transatlantic voyage." He held up a shiny brown object. "It's a sea bean<sup>5</sup>; travelled here from tropical America. When considered in conjunction with the design of your figurine, Haiti in the Caribbean is indicated, and since figurines such as this were produced exclusively for supernatural ritual, there is no other possible explanation."

Yet it was a decidedly disturbing one. We made

our way back to the beachhead and to our waiting carriage.

My misgivings on the efficacy of the prescribed rest were dispelled the next day as we travelled back to London. My companion looked well, with a high colour and cheery disposition as he buried himself in the newspaper.

"I must own", says I sheepishly, "that I receive greater benefit from such outings when accompanied by yourself, than I would ever get were I alone."

He dropped the corner of the paper and smiled.

"Observation and deductive reasoning are as essential a skill for the naturalist as for the detective, as I'm sure Mr. Darwin would concur<sup>6</sup>. For now, though, we must put aside the former hobby and adopt the latter vocation. See here," he said, brandishing the front page. The London Post headline was 'Ripper says he will kill again!'<sup>7</sup> My companion lit his pipe, folded his newspaper and stared ruminatively out of the window. "The game's afoot!" he said.

**Richard Birch**

### References:

1. The mines were then owned by Mr. Fanning Evans and 31 miners were employed, some of whom may have been Cornish émigrés; a relic from the previous owner, Captain Thomas Mitchell, who was from Cornwall.
2. Graptolites from the *Dicranograptus clingani* zone occur in the mudstones at Parys Mountain, indicating a late Ordovician (Caradocian) age, 450 million years old.
3. Pisanite (Fe,Cu)SO<sub>4</sub>·7H<sub>2</sub>O is common at Parys Mountain. The stunning blue colour is rapidly lost on exposure to sunlight.
4. Brown long-eared bat *Plecotus auritus* is a specialist moth predator and could be the culprit. However, Natterer's bat *Myotis nattereri* may also feed in this way, and has been recorded from roosts at Parys Mountain, whereas brown long-eared has not.
5. *Entada gigas*, from Tropical America, Africa and the

Caribbean. Theoretically they can float to UK shores in the Gulf Stream and the North Atlantic drift, where they get caught in a clockwise current around Ireland, and thence into the Irish Sea. They wash up fairly frequently on beaches in Cardigan Bay, and would therefore be more likely to occur on the north and west coasts of Anglesey. Their voyage "lasts on average about 14 months" (A.O. Chater pers comm.)

6. Darwin's *On the Origin of Species* was published in 1859, and its principles were long accepted by this time.
7. This headline dates the visit. The infamous "Dear Boss" letter, in which Jack the Ripper declared to the secretary of the Whitechapel Vigilance Committee that he would strike again, was received on 12th October 1889, a month after the discovery of the notorious 'Pinchin Street Torso': an unidentified woman whose death was attributed to Jack the Ripper. Curiously, the Baker Street Detective never involved himself in the Ripper case.