

RANE Research Projects

Stephen Turner **Materia Prima**



Once upon a time, 300 million years ago, the granite massif of Carnmenellis was intruded into the Cornish landscape not more than a score miles to the north of Falmouth. Hot vapours filled all the fissures and gaps and then cooled into rich seams of copper, tin and many other minerals in close proximity. The Carnon River, rising at Blackwater and running into Restronguet Creek at Devoran cuts at right angles through these diverse veins and has been the focus for my RANE research.

An ex-miner I spoke to in passing believed that you could find nearly all the elements of the periodic table here, but he was not too forthcoming when I asked him about the Philosopher's Stone, the *Materia Prima* for turning base metal into gold.

However, it seems that there was so much profit to be made from the baser sorts of metals that there was no need for any mythic transformative material – though if it had been found, it might have prevented an increasingly intensive scarring of the land over the past 3,000 years of continuous human habitation.

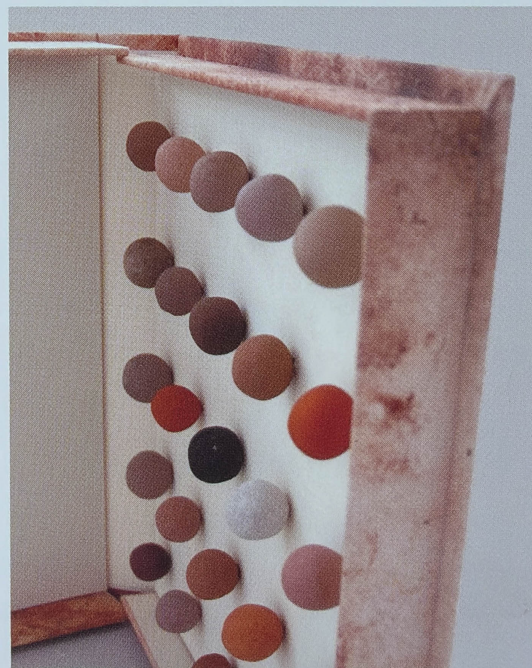
I began to infiltrate the valley, to burrow about across the short six miles from source to estuary, looking at the dialogue between the natural and the manmade. The stunted growth along the stream bed for example, could have been indicative of grazing by cattle or sheep. However, it is probably the result of contamination by arsenic that occurs naturally, and in the much greater concentrations left behind by an industry that mined and refined it in huge quantities here, until the end of World War II at Point Works in Bissoe.

Tailings (or waste) from mining have filled up the valley bottom in serried layers for many generations. What the river once washed down unaided, people began to throw and rinse down themselves – particles of copper, tin, cobalt, nickel, lead, iron, arsenic and uranium, all too fine to be caught in the refining process, along with the gangue, so called waste minerals such as quartz. Here in microcosm in the Carnon Valley we can see how economics has been allowed to assess (or assay) the value of the earth.

The whole form of the landscape has been changed by this process of silting down. When the Great Western Railway built a viaduct across the valley in 1860, for example, the navvies had to dig down through nine metres of this waste material. The river at its source (symbolic of purity?) also bubbles out through tailings.

Below:

Pastels made from fine sediments collected by Stephen Turner.



They clearly spread out into the intertidal river too, as revealed by core samples taken by Camborne School of Mines, and it has made Restronguet Creek the most contaminated part of the Fal Estuary.

Attempts have been made at filtration, concentrating the heavy metals in gathering pools below the different mine workings, but they are left to fail when the mines close, and subsequently get used as a dumping ground for all manner of other detritus, like the pillow I found half submerged in a ferric sea, symbolic perhaps of the sleep of humanity through impending catastrophe, or maybe a reminder of a nearby bed and breakfast industry that wishes to use a sanitised mining heritage as the basis for tourism.

Meanwhile, the river is still fed by fine contaminating particulates in suspension, carried along in the water flow.

At Two Pipes (a lesser known Carnon Crossing), I tried to let the river reveal this process over a measured period of time by fastening a rectangle of canvas on the water surface, supported by string fastened to plastic and steel rods. After two days it had begun to tell its story. The river created three of these works for me, at different points along its path, and I made one of them into the cover for a pastel box of twenty five separate Carnon Valley colours. For I had begun to notice how nature was a filter in other ways too.

Tailings are scattered down the valley slope near the Wheal Jane Mine above Bissoe, and with the action of rainfall, are naturally graded by the time they reach the base of this manmade escarpment

A water-filled pool at its base in February was by June a cracked bed of extremely fine deposits. Water, in its eternal cycle, is moving and fusing the minerals on which it falls and through which it flows. I began to collect the variously coloured earths and to consider making an allusion to these processes of filtration, and in the process a record of the contaminants.

Each sample of earth had seven successive washings. Vessel one contains the raw material stirred thoroughly in clean water that is then poured off into vessel two where the water levels are topped up and the stirring and pouring off repeated, until by vessel seven only the finest sediment is left suspended in cloudy

water that takes two days to settle. These finest of the fine sediments are then made into pastels, which are little odes to local colour. But I wanted to set this subjective beauty against the tougher reality of the chemical composition of each colour, and in the process make a kind of poem from that information too, together providing both a qualitative and a quantitative take on the experience of place. Twenty five chemical formula texts (based on an analysis of the different samples by the Camborne School of Mines) are being created, each written in its own pastel – so they are exactly what they say.

Some make more scary reading than others – the pastel made at the site of the arsenic production plant below Bissoe has an 18% arsenic content, so while attractive, it's clear that all that glisters is not necessarily gold.

However, there is an undoubted beauty and wonderment in a seam of earth that is purest purple, but what curious amalgam of manmade and natural processes caused it to arise? Can it be wholly enjoyed? Sunsets over London can be spectacular on occasion, but they are often caused by micro particulates in the air, so much so that it has become impossible to depict phenomena like this in art without heavy irony (not to mention without cliché).

There is no Philosopher's Stone. The real wealth and alchemy of a place is in the wholeness and interrelation of its accumulated layers of meaning and in the stories it has to tell. I do feel that the troubled story of the Carnon Valley should be told and not hidden away behind Environment Agency signs, with generalised warnings that show people in trouble in water. This approach seems destined to end in a metaphorical drowning for us all.