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AGM Papers Showing it off

The Nature of Derbyshire Gallery How it was made

Bill Grange, Keeper of Natural History, Derby Museum & Art Gallery, The Strand, Derby, DE1 1BS

The 'Nature of Derbyshire Gallery' at Derby Museum, finished in late 1997, is the outcome of four or so years of work, carried out by our Design team, and several volunteers, plus me. It forms a unit with the Geology Gallery completed in 1991. The two galleries together make the 'Derbyshire Nature Gallery'.

The gallery embodies many traditional display techniques, but combined in such a way as to make for a most unusual and visually exciting gallery. Like many other gallery projects completed throughout the country in the last thirty years or so, it concentrates on the local environment. Its basic purpose is to show the diversity of wildlife in Derbyshire; how it is related to the underlying geology and how the different species interact with each other and with the human species. I also intended that it was to be understood and enjoyed by people of all ages and academic background. I use the word 'enjoyed', as I firmly believe that a museum gallery should give pleasure as well as instruction - and I don't consider the two to be mutually exclusive!

It is a tall order! For one thing the natural environment (in so far anywhere in Derbyshire can be called truly natural) is extremely complex, to say the least. Inevitably, the story has had to be simplified. Anyway, the space available for the exhibition was not huge. It is also physically impossible, in a static display, to put over many aspects of natural history. There is also a limit to what any museum visitor can absorb. To decide what to leave out was the hardest part.

The gallery includes an introductory section, making the link with the ge-

ology gallery, and dealing with conservation issues. One feature of this is 'A Day in the Life of A Hedgehog' in which a series of specially posed specimens of this much-loved animal portrays the species contending with traffic on the by-pass, being accidentally forked by a gardener and facing other human-created hazards, as it goes about its business.

The main part of the gallery evokes a journey through Derbyshire, one of the most diverse of all English counties, starting in the far north and ending in the city of Derby in the south. It does this through a series of reconstructions, 'dioramas', of actual places, laid out in a geographical sequence, but with the seasons shifting to give a picture of a year's journey.

These places, chosen to give a 'cross-section' of Derbyshire's wildlife and not necessarily important sites or nature reserves, are: the summit of aptly named Bleaklow, a particularly wild part of the gritstone moors in the north of the county; a small defile or 'clough' opening into the River Derwent, north of the Howden Reservoir and Padley Wood, an ancient oak woodland at Grindleford. After passing through a model limestone cave the visitor encounters three locations in Monsal Dale, a delectable valley in the limestone country: an ash wood, a limestone grassland slope and the River Wye (this is the Derbyshire Wye, of course - no connection with the more famous one of the Welsh borders) in the valley bottom. Then they visit the River Derwent at Allestree just north of Derby; a small pond to the west of Derby; a roadside verge at just inside the city boundary; the abandoned Friargate Station in the city centre and, finally, a garden of a terraced house.

I visited each location; many more than once, to take photographs, make drawings and notes and collect specimens. What might have seemed to some people as jolly days out in work-time, were in fact quite hard work, (honestly!) When faced with the real outdoors in the context of having to devise its replication in the Museum, I was often nearly driven to distraction! Eventually I decided on one or two possible small areas of the chosen location as candidates for reconstruction. Then, armed with half a carload of plant material (no rarities were collected by the way), rocks, fragments of timber and other environmental bits and pieces, I was in a position to begin each habitat model within the huge case units. The latter were made

was carried out in modeling clay - the correct texture achieved by the clay being pressed into latex rubber moulds, taken from the bits of bark, rock, etc, collected on site. In all these aspects of the work I was greatly aided by a number of volunteers.

Each model environmental element had then to be painted. A stippling technique, using torn bits of plastic sponge, often gave the best results. Various water features were made using sheet Perspex to which was applied clear fibreglass bonding resin.

I preserved the plants by freeze-drying them in a special machine. Unfortunately, this process does not retain the colour of both foliage and flowers and this had to be applied artificially, and very carefully, using dilute acrylic paints. In this task, my volunteers were again of invaluable help.

Anyone coming into the temporary work-area at the end of the unfinished gallery would have seen a bottle, sitting on the worktable, labelled 'relaxing fluid'. They would be forgiven for thinking this was for my benefit. It was, in fact, used to 'relax' dried insects. Much of the insect specimens for the displays were obtained from our old collections - those without data being selected. These, of course, were in the typical symmetrical and unnatural postures of reference specimens. To make them suitable for the environmental settings they were placed in a closed plastic container, with wadding lining its bottom moistened with the relaxing fluid - a solution of anti-fungal phenol. After a couple of days I was able to manipulate the insects, for example raising up the wings of butterflies into a more natural posture - and keeping them in place with an arrangement of pins and card strips for a day or so, when they became dry and rigid again.

The bird and mammal specimens required for the display were partly obtained from our existing collections - in which case I was stuck with the

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partially by a contractor and by our resident joiner, Roger Wakefield.

I commenced each setting by doing a background painting, referring to the photographs taken on fieldwork. Then, the three-dimensional foreground took shape. The forms of boulders, outcrops, and tree-trunks I made in chicken wire, to which was glued paper or cloth strips. The final modeling

poses they were given by the original taxidermist - and from newly acquired material. Like many other natural history keepers, I am constantly having to stress that we don't rely on people going out with guns, as the Victorian curators No, the motor car and that other killing machine, the domestic moggie, plus the propensity of many birds to kill themselves by flying into patio windows, provided much of what we needed - the resultant corpses being brought to us by members of the public. This was an opportunity to ask the taxidermist, mainly Don Sharp of Wollaton Hall, Nottingham, to mount the specimens in 'action poses', illustrating many different facets of behaviour. As a result of all this we have, among the many specimens in 'frozen action', a sparrowhawk catching and eating a blue tit, a female blackbird feeding its young, a badger curled up in the depths of its set, red admirals and small tortoiseshells feeding on bramble flowers, and dragonflies mating.

Rocks, trees, plant material, and animals were gradually assembled for each setting, as far as possible re-creating each bit of habitat as accurately as possible. The design team then adjusted the spot-lighting with great skill, to simulate different natural lighting conditions, really bringing the settings alive. The effect of low autumn sunlight back-lighting the fronds of bracken in the oak woodland display is especially stunning.

A special feature of the gallery is that the glazed apertures, through which the visitor views the reconstructions, are not boring square openings, but are irregular in outline. My original 'ragged hole' idea was greatly developed by Steve Ferguson of our design staff, who both designed, and laboriously cut out, multi-layered naturalistic creations, each tailored to match the contents of each diorama and which are among the most memorable features of the new gallery. In addition to the main opening, smaller apertures enable selected species within each setting to be single out for detailed examination, while insects and other small animals are viewed through special eye-pieces penetrating the case units.

The design team, which also included Chris Frith, Richard Beckett, and Claire Foley, also made the walk-through cave, complete with model stalactites and stalagmites, produced the captions on computer, from my 'script', and devised other decorative features. Appropriate literary quotes,

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including some classic poems, are reproduced in large decorative script above each environmental setting, conveying something of the inspirational side of natural history. The display is housed in the oldest part of the museum building, which dates from 1870, and it is a credit to the Designers that this modern display blends so well with the Victorian architecture.

The displays are complemented by a small visitors' study room, with reference books, leaflets and children's work-sheets. A further section, incorporating a hands-on discovery bench and temporary-exhibition facility is to be added soon.

Although I said earlier that I simplified things there is, after all, so much in the gallery, that one tour is not enough to take it all in. But this just is as I want it - hoping to encourage repeated visits! However, the main purpose of the displays is to stimulate the visitors to explore the real Derbyshire, or at least to open their eyes to what is in their own localities. It is not a substitute for the actual countryside or urban environment. My motto is 'get them in to get them out'. I also hope that the gallery will help people to realise that all of us have a role to play in conserving our wildlife in the face of what often seem overwhelming destructive forces. If it sparks off such an awareness, even among a fraction of our visitors, then I will feel that all our efforts have been worthwhile.



A Task of Dinosaur Proportions Collecting, Conserving and Exhibiting the "Rutland Dinosaur"

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In 1965, Leicester City Museum had on its staff two geologists and four biologists. When the Manager of Great Casterton clay pit telephoned to say he thought one of his staff had found a dinosaur, it was Ian Evans -

Keeper of Biology at the time and the person he happened to know - that he asked for. The museum's Landrover and trailer were despatched to collect the five tonnes of rock that had already been excavated and put to one side. Five tonnes of potential dinosaur, but no geological data.

This is the story of how Leicester's Cetiosaurus was recovered from this fairly inauspicious beginning.

Cetiosaurus was a sauropod dinosaur. It was a Middle Jurassic genus, known from fossils found in Buckinghamshire, Oxfordshire and Northamptonshire as well as in Rutland, and it was one of the animals described by Richard Owen in the "Report on British Fossil Reptiles" (1842) that introduced the term 'dinosaur' to the world. Owen thought Cetiosaurus was a giant crocodile, so it does not qualify as one of the first dinosaurs named, but the genus was eventually restored to its rightful place in the canon of British dinosaurs (Phillips 1871).

The Williamson Cliff brickworks had, and has, its own quarry. The clay, used for making bricks and other more specialised products, is part of the middle Jurassic Rutland Formation (Bradshaw 1978), the beds previously known as the Upper Estuarine Series (Judd 1875). These are mainly cream, buff and multi-coloured clays and silts with rootlets, all interpreted as freshwater or lagoonal deposits. In Rutland, they usually rest upon a weathered surface of the Lincolnshire Limestone Formation - a surface that appears to have been weathered sub-aerially to produce a karstic landscape in a subtropical environment. In some places, however, there are deep, steep-sided hollows in the top of the Limestone and these are full of black clay; presumably, these hollows were ponds in Jurassic time. The dinosaur skeleton came from one of these pond clays. A contemporary photograph shows the digger driver who found the fossil and who reported its discovery to the quarry manager. One or both of these people happened to be amateur fossil collectors, and this is where the good luck began. Most of the skeleton was preserved in nodules of ironstone (clay-siderite/hematite nodules) at the bottom of one of the black pond clays. The nodules must have looked entirely nondescript, except for a few bits of weathered bone protruding from their sides, and indeed the clay was only being excavated because emptying the clay-filled hollow would cre-