

## 10. THE POLAR BEAR PIT AND RAVINE FOR LIONS AND TIGERS

An existing ravine was adapted to provide these three enclosures. The circular Polar Bear Pit was placed in the centre with an elevated terrace around it which bridges the ravine and affords excellent views into the three enclosures. Lower terraces along the Western side were designed so that animals could be seen at eye level on concrete shelves placed at intervals on the rear wall of the ravine. A ramp shaped to suggest the form of an iceberg was also provided for the Polar Bears which overhangs their deep swimming pool. Sleeping quarters are out of sight under the public terraces. Public toilets are provided down stairs opposite the polar bear enclosure. Restoration of the Polar Bear Complex was carried out by Makers Industrial Limited in 1989.



*The Polar Bear Pit.*

*Nearby at the southern end of the complex to your right is.....*

## 11. KIOSK 2

The second kiosk, identical to that near the bear ravine.

*Follow the path and take the middle route past the cottage up towards the castle. Outside the reptile house is...*

## 12. THE REPTILES ENCLOSURE

A simple low concrete wall surrounding a double apse ended pit originally intended to house reptiles.

*Take the path directly opposite which leads down between the childrens corner and the elephant enclosure and turn left at the end to...*

## 13. THE ELEPHANT HOUSE

One of those buildings placed near the castle which had to be kept low and inconspicuous. Its top forms a terrace flush with the ground so that the view from the castle is not spoilt. It is single storey with a slightly curved and glazed front and clerestory which rises through the terrace above. Flanking staircases lead to the higher level.

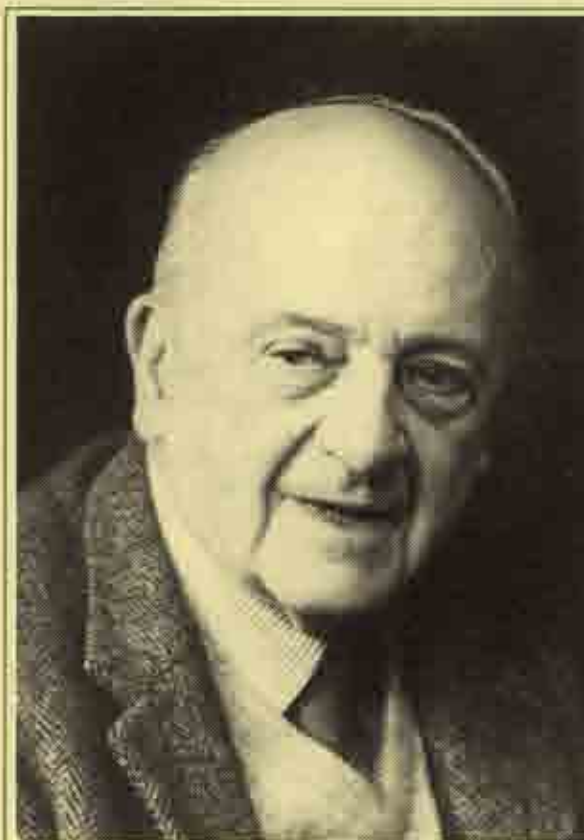
*This is the end of the tour.  
You may return to the main entrance by the chairlift.*

## WHAT IS TECTON?

Tecton was a group of architects, led by the Russian born architect Berthold Lubetkin, which exploited the aesthetic potentialities of modern architecture in the 1930s. Lubetkin was undoubtedly one of the outstanding architects in England during the thirties. Born in 1901 at Tiflis in Georgia he studied in Moscow and later in Paris under the famous french architect Auguste Perret. Here he learned the secrets of construction in reinforced concrete and was influenced by the ideas of 'Le Corbusier'.

He worked in Russia and Paris before coming to England in 1930 where he gathered around him six young graduates of the Architectural Association in London to form the Tecton group. Their first important commission was High Point 1 flats in Highgate. This white multi-storey block constructed of reinforced concrete became a rallying point of the emergent English Modern Movement in architecture. However the Tecton buildings which captured the public imagination were two commissioned by London Zoo: The Gorilla House (1934) and the Penguin Pool (1935). The latter was designed with the aid of the engineer Ove Arup, as a shallow pool with interlacing curved ramps which were a structural 'tour de force' for the time. Tecton was subsequently asked to design 13 structures for the new Zoo which was opened at Dudley on 6 May 1937.

Lubetkin's outstanding contribution to British modern architecture was marked by the Royal Institute of British Architects when he was awarded the Gold Medal in 1982. He lives in retirement in Bristol today and has taken an active interest in restoration of the Tecton structures at Dudley.



*Bertold Lubetkin, Paris 1982  
COPYRIGHT: The Architectural Press*

sponsored by



Industrial Limited  
Concrete Repair  
Specialists  
021 • 377 • 6690



Planning and  
Architecture Dept.

Leisure Services



# THE TECTON TRAIL



*Tropical Bird House; roof detail*

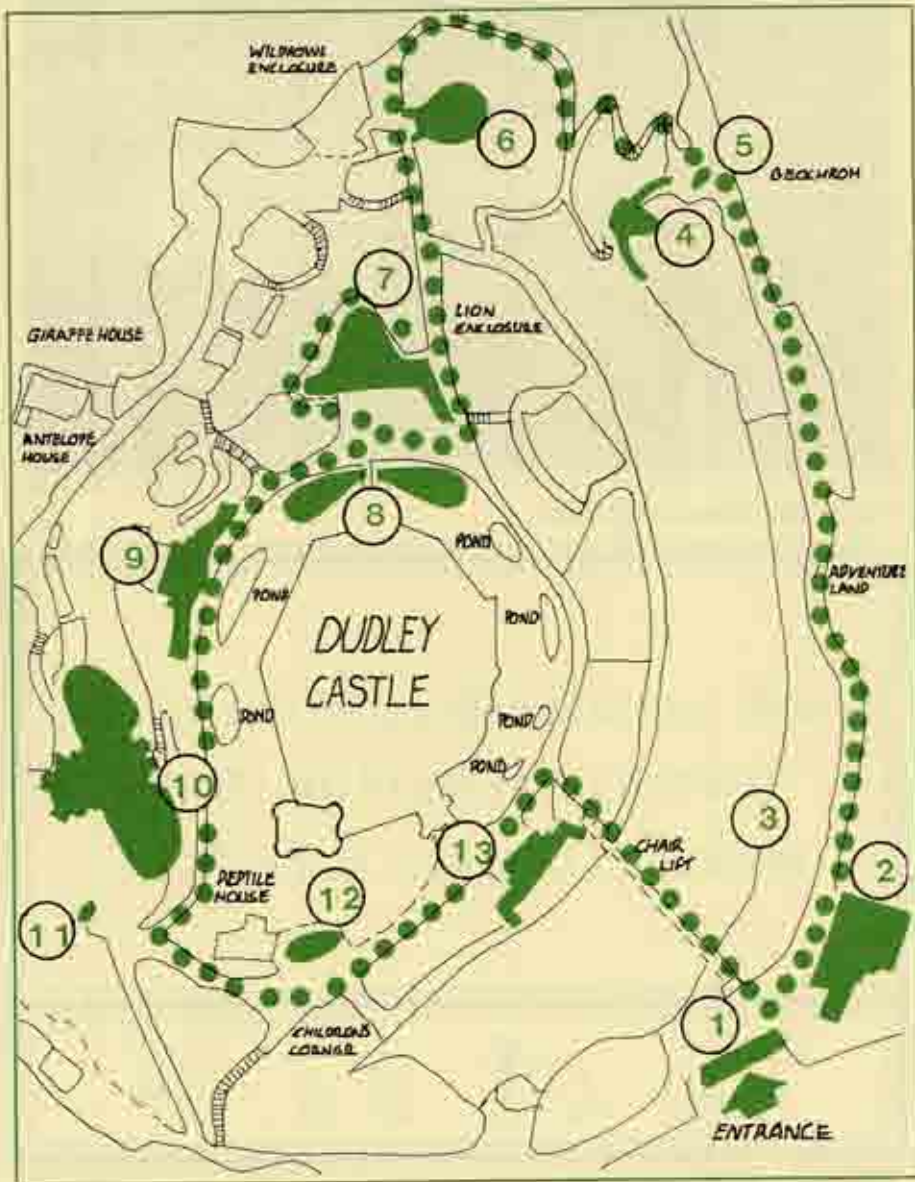
A WALK AROUND DUDLEY ZOO HIGHLIGHTING  
PIONEER EXAMPLES OF THE USE OF  
REINFORCED CONCRETE IN THE 1930'S



# The Buildings

The Zoo site comprises some 30 acres surrounding Dudley Castle. The steep and rugged terrain reduced the number of possible sites available for buildings and made construction work exceptionally difficult. To add to the difficulties, Castle Hill itself is honeycombed by the limestone workings of previous centuries. The limitations of the site largely dictated the location and form of many of the structures. Existing outcrops of solid limestone were used as foundations and to a large extent dictated the shape of the resulting buildings. The use of reinforced concrete was ideal in this situation and buildings like the Bear Ravine were freely designed to utilise the natural features of the site and adapted and altered as work progressed in accord with actual ground conditions. An additional constraint was imposed by the then Office of Works which insisted that those buildings near to the castle should be kept as inconspicuous as possible in order not to intrude on views to or from the ancient monument.

Tecton designed 13 structures at the Zoo most of which were listed as Buildings of Special Architectural or Historic Interest in 1970. In the late 1970's the Zoo was almost forced to close because of financial difficulties but was rescued by the joint action of Bristol Zoo and Dudley Metropolitan Borough Council. The Penguin Pool by then had deteriorated to such an extent that it had to be demolished in 1979. Since then a major programme of repairs has commenced for the remainder of the Tecton buildings, to be funded by the Dudley Zoo Development Trust, Dudley Metropolitan Borough Council and English Heritage. The seminal influence of Dudley Zoo in the history of the Modern Movement is now recognised and the preservation of this unique collection of Tecton structures is of national importance.



The Penguin Pool before demolition

# The Trail

N.B. Access to some of the buildings or sections of the route may be restricted whilst repairs and restoration works are in progress. The animals currently housed in the Tecton buildings are not necessarily those for which the structures were originally designed.

## 1. THE ENTRANCE

A row of five gates, with ticket offices constructed of blue engineering brick. The roof consists of a series of 'S' shaped interlocking canopies constructed of reinforced concrete and supported on steel columns. Slots along the front were designed to lighten the effect of the roof and to protect the front edge of the slab from streaking by soot deposits in the rain.

Turn right and walk 40 m... on your right stands....

## 2. CAFE NO. 1 (SAFARI)

A long single split level building with concrete framing and 9" diameter columns to the frontage, which originally had four doorways. The south extension houses the toilets and the rear of the building is now Bentley's night club.

Continue along the path and approximately opposite the fairground on the left you come to the Site of

## 3. THE PENGUIN POOL. (now demolished)

A shaped pool with curvilinear terrace, ramps and steps. To the rear was a window in the pool wall, reached by a walk way, where penguins could be seen swimming under water.

Continue about 100m and on your left lies...

## 4. THE BEAR RAVINE

This enclosure shows how the natural features of the site influenced their design. It is a substantial structure with a shaped retaining wall and cantilevered terrace which gave views into the enclosure. It was also intended that chimpanzee tea parties would be held here which could be watched from the upper terrace supported on slender mushroom shaped columns. Whilst excavating for foundations an unexpected cavity at least 15m deep was discovered which meant the original design had to be radically altered.

nearby stands.....

## 5. KIOSK 1

One of two kiosks at the Zoo, elliptical in shape with a canopy supported on metal stanchions - originally used for sweets and ice-cream sales.

Turn left behind the bear ravine and take the zig zag path up the hill. You will see above you.....

## 6. THE TROPICAL BIRD HOUSE

A circular building of two storeys with a cantilevered balcony, affording views over the surrounding paddock. The roof over the central part of the bird house is of particular interest. The reinforced concrete section over the central area, in the form of a shallow inverted cone, is structurally separate from the outer walls, being connected only by a glazed rooflight which forms a complete circle. Steps lead to an area underneath where a transformer was originally located. Considerable repair and restoration was carried out in 1984.

From the entrance continue on the path travelling towards the castle. Through the trees on your right you can see the restaurant. You may take a small flight of steps up to the terrace or continue on and turn right at the top to.....

## 7. THE QUEEN MARY RESTAURANT

The shape of the building was determined by the strongly symmetrical apex of the site which here slopes steeply down to the east and west, giving views over the surrounding area. If you walk around the terrace note the diamond shaped paving slabs and how the windows are inclined. It is a single storey building with an arch enclosing the central entrance which runs back as a barrel vault. The elevation was kept deliberately low because of the close proximity to the castle.

Directly opposite in what was the castle moat is....

## 8. THE SEA-LION POOL

A pair of symmetrical shaped pools connected under a central bridge which leads into the castle courtyard. Smooth concrete slabs to the rear for the sea-lions to rest on are connected to the pool by ramps. Special balconies for the public overlook the deeper parts of the pool.

Continue on the path which skirts around the outside of the castle to...

## 9. CAFE NO. 2

Another split level structure designed not to conflict with the setting of the castle. It is a long, serpentine building originally designed to be left open at the front but largely enclosed by glazed panels at a later date. Circular columns support the roof and main structure at the rear where there is a basement storey. This can be approached from a path which branches off that leading to the primate house. The original intention was to excavate the bank beneath the building and use the area as an aquarium. However this was never carried out.

Continue to the far end of the cafe and turn right then left down a zig zag flight of steps to...

