

South London Sports

Saturday 7 July 2012



Led by Christina Malathouni and Ian McInnes

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In the Society's current magazine, Paul Lincoln entitled his piece on the grade II*-listed National Sports Centre at Crystal Palace: 'Landscape with pool' (Spring 2012, pp. 8-9). Designed in 1953-4 and built 1960-4 by the LCC Architect's Department under Sir Leslie Martin, the Centre remains to date as modern as ever and the relationship of its pools to the surrounding park landscape is indeed breathtaking.

Join us on Saturday 7 July for a walk leading to a visit inside this magnificent building. As English Heritage note: "The interiors seen by spectators are of particular interest. ... The views across [the central] concourse and seating, and down into squash areas, are particularly impressive. Their fluidity is enhanced by the bold expression of the 'A'-frame and delicate arched bracing supporting the roof which is a most distinctive and distinguished feature."

This is the Society's response to London's Olympic extravaganza of lycra sports outfits and venues inspired by the fluid geometry of water in motion and ergonomic bicycle design. At the time of its commission, Southern England did not have an Olympic-sized pool and this was the first indoor multi-functional hall designed in Britain (though not the first to be built) at a time when such facilities did not exist elsewhere in Europe.

Starting at the 1930s Temple Bowling Club, with its unique first floor indoor 'green' first used in the 1934 Empire Games, we follow with the recently refurbished Grade II listed Brockwell Lido. Next will be the Herne Hill Velodrome, the last remaining venue from the 1948 Olympic Games still in active use. Although the site has lacked maintenance over the years, the recently formed Herne Hill Velodrome Trust has resurfaced the track and is actively campaigning for funds to improve cyclist and spectator facilities. It's then by bus to Crystal Palace for a late lunch break (buy your own in Westow Hill). The second half of the day will be at the Grade II* listed National Sports Centre, a very positive outcome from a Society case a few years ago. We will also view the Grade I listed sculptures of prehistoric animals. Departure can be via the Grade II listed Crystal Palace Lower Level Station, built specifically for visitors to the Crystal Palace in mid C19.

Interior visits now confirmed to the National Sports Centre, Temple Bowling Club and Brockwell Lido. Alastair Hanton, trustee of the Herne Hill Velodrome Trust, will also be joining us to say a few words about the plans for the future of the Velodrome.

<u>Cost</u>: Members only £14 (Please bring a Zone 1-4 travel card for the bus rides.)

Meet: Outside Denmark Hill Railway Station at 10.30am.

<u>Finish:</u> Catch the train at Crystal Palace Low Level Station or walk back up to Crystal Palace Parade and catch a bus (approximately 4.30pm).

Meet at Denmark Hill Station at 10:30.

Walk down Champion Park.

Opposite the Station note the Grade II-listed **William Booth Memorial Training College** – the central block of a training establishment, designed by *Sir Giles Gilbert Scott* in 1932. In front of the building there are **two Grade II-listed statues** (c.1930) by *G. Wade*, depicting General William Booth (1829-1912), founder of the Salvation Army, and his wife, Mrs Catherine Booth.

Turn left and walk along Denmark Hill.

Ruskin Park, to the right, is an early C20 public park (pre-1914), designed by *J J Sexby* and named after John Ruskin who lived in the neighbourhood. It is registered at Grade II.

Turn right to 1A Sunset Road:

10:45-11:15

The Temple Bowling, Social and Croquet Club, 1932 - 33 (architects: Leslie H Kemp & Tasker – Architects & Surveyors (Leslie Kemp - ARIBA FIAA AI Struct E and F E Tasker - AIAS AMI Struct E))

Locally listed by Lambeth Borough Council in March 2012

(Access courtesy of Temple Bowling Club)



The site was originally part of the Sanders Estate owned by Sir R A Sanders, Bart, MP – for a short time the Minister of Agriculture & Fisheries under Stanley Baldwin in 1923 and MP for Bridgwater in Somerset.

It had previously been used as tennis courts, with a small pavilion, and was originally developed by a local firm called Martin & Co (Sites) Ltd – the existing garages on the site date from 1924. Martin & Co (Sites) Ltd were owned by W H Wilmot & Henry A Wilmot jnr, successful builders and developers on the Dulwich Estate nearby.

The building is steel framed and has been re-roofed externally, and redecorated and altered internally, but it retains its fabulous first floor bowling green and the original roof structure.

The building was used for the bowls completion at the 1934 British Empire Games, along with a site in Paddington, but there is no suggestion that it was built specifically for the games. There is a Pathé News clip on you tube at http://www.britishpathe.com/video/body-line-barred/query/empire+games+bowling

Kemp was a cinema specialist, originally working as an assistant for Andrew Mather and then W E Trent. He set up on his own in 1931 and built cinemas for circuits such as D J James, Shipman & King, Union, Regal and others. It is not clear when Kemp met Frederick Morrell, the successful house builder and owner of the Temple bowling club site and several sites in nearby along Herne Hill, but it's possible that the introduction was though Sir Robert Tasker, MP for Holborn and later chairman of the LCC. Tasker's son Frederick, a surveyor, was Kemp's partners between 1932 and 1936.

In an interview in the CTA's 'Picturehouse' magazine he talks about taking on Frederick because his father 'was very helpful' and initially used him as a site supervisor .The practice went on to design Dorchester Court, the large block of flats on Herne Hill (listed Grade II) and Dorchester House, also listed Grade II, Morrell's own house in Dorchester Drive.

Last March Lambeth Borough Council added the Bowling Club to its Local List for its special local architectural or historic interest.

Return to Denmark Hill and walk/catch a bus down Denmark Hill/Herne Hill.

Note to the right side Grade II-listed **Dorchester Court** (1933-4) also by *Leslie H Kemp and Frederick E Tasker* - for Mr Morrell, a local builder and developer. Development of 96 flats in eight blocks around a central landscaped courtyard. A complete and little altered development in Moderne Style, not denuded by the limited window replacement that has taken place. The ensemble remains exceptionally well detailed outside and within.

Separately listed are six cast iron **lampposts** set in the central gardens, with central **fountain**.

By the same architects and also listed at Grade II is also **Dorchester House** - built slightly later in 1936 and listed in 1997 as a remarkably complete and lavish example of a 1930's house.



Further down on Herne Hill, if one looks far away to the left, one can spot **Dawson Heights** designed and built by *Southwark Council architects and Kate Macintosh* (1964-72) and, unfortunately, recently turned down for listing (see Casework report in the *C20 Magazine*, Spring 2012, p. 47).

At the end of Herne Hill walk through into Dulwich Road.

Brockwell Park is a C19 park and gardens, since 1892 a public park. Registered at Grade II the park is noted for the late C19/early C20 adaptation of the walled garden by *J J Sexby* to a formal flower garden.

11:45-12:15

Brockwell Lido, 1936-37 (architect – LCC Parks Department Architects (H A Rowbotham & T L Smithson)).

Nationally listed at Grade II in 2003

(Entry fee included in event fee.)



Built in 1937 and known as 'Brixton Beach', Brockwell Lido was designed by *Harry Rowbotham and T L Smithson* in Moderne Style for the LCC. It comprises a rectangular bathing pool enclosed by a 3 metre high red brick wall, with brick on edge pattern at the top. Along each side are single storey flat-roofed pavilion buildings with metal Crittall windows throughout and rendered parapets, window surrounds, door surrounds and plinths. The builder was G P Trentham and the cost was £26,150, £2000 of which was a contribution from the LCC.

The main entrance for bathers was from Brockwell Park, and a separate entrance for spectators was provided in Dulwich Road. The architectural press reported at the time the pool was completed:

"Bathers obtain access to the bath through the vestibule and pay office, and a central corridor leads right and left to the cubicles and lockers, women being accommodated on one side and men on the other. Foot and shower baths are provided for use both before entering and after leaving the bath, and access to the bath can only be obtained through wading pools. Diving equipment consists of a 5-metre board, 3-metre fixed and spring boards and 1-metre fixed and spring boards, as well as an ordinary spring board and chutes for adults and children. Two terraced areas have been provided for spectators, and a café (50ft. by 20ft.) planned so that it is available to the general public as well as bathers.

"Provision has been made for 162 cubicles and 880 lockers (for both sexes), and two large dressing rooms are available for parties of children. Cubicles have jointless glazed walls, with self-opening flush doors, the lockers being placed in sections along the centre and facing the cubicles. Central lavatory accommodation is provided, and separate lavatories are accessible from the bath.

"The pool surround is paved with green precast slabs. The floor of the pool is constructed in squares of white Portland cement concrete, with expansion joints of cork; the side walls are lined with glazed bricks. The filtration and sterilisation system ensures that the capacity of

600,000 gallons can be passed through the filters in five hours. After filtration the water is sterilised by means of the chloramine (chlorine and ammonia) process. The water is discharged over an aerator, then through special spreaders at the shallow end. The wading pools are also connected to the filtration system. A special scum trough fitted across the deep end has been designed for the continuous withdrawal of the surface water to a depth of 12 in.; the outlets are connected with the main section of the purification plant.

"The work, cost of which was approximately £26,000 [almost the whole of which has been found by the Lambeth Metropolitan Borough Council], was carried out from plans prepared in the Parks Department of the L.C.C., and under the supervision of the chief officer of that department."





Brockwell Lido in the 1950s

Diving competition in the 1960s

Very popular from its opening until the 1960s, the lido then declined and by the 1980s was 'rundown, facing closure and prey to vandals and the elements. It was eventually closed – and squatted – but a community-run initiative managed to re-open the pool on a shoestring during the 1990s. '.

A deal between Lambeth Council and Fusion Lifestyle was reached in 2002. This included plans for investment in the fabric of the historic building, modernisation of its plant and securing a revenue stream for ongoing maintenance. The building's listing in 2003 dictated changes to the initial plans that proposed a glazed cloister around three sides of the pool. Further delays were caused when a water main was found under the site of extension in 2005. Nonetheless, following an injection of over £3m by Fusion Leisure in 2006, including £500,000 funding from the HLF, the Lido was restored and extended (architect – Pollard Thomas Edwards Architects) and this scheme was eventually completed in 2007. In order to incorporate useful space for dance studios, areas for exercise and indulgence, children's activity centre, the width of the south wing was doubled: the original front elevation (facing the park) was demolished, brought forward by six metres and rebuilt. The extension was built in new brick to match and the join was expressed by a glass slit. The existing café and changing rooms were also upgraded. The inside wall enclosing the pool was however retained. Access is now through the side, closer to park entrance and car park.

Rowbotham and Smithson had also designed the similar Victoria Park Lido of 1936 in Hackney (since demolished) and the Charlton and Parliament Hill Fields lidos. Initially the LCC provided land for lidos in its parks but the lidos were operated by the individual local authorities. During the 1930s the LCC assumed responsibility for providing its own lidos.

By the 1950s there were 60 lidos in London. 1937 was the year during which the most lidos and pools were built. At present only 11 lidos are still in use.

Walk back along Half Moon Lane and turn right into Burbage Road.

12:30-13:00 - Herne Hill Velodrome

(Brief introduction to current situation and future plans courtesy of Herne Hill Velodrome Trust)



A short History:

A Victorian venue that hosted cycling events in the 1908 and 1948 games, the Herne Hill Velodrome is the oldest cycle track in Britain and one of the oldest in the world.

The gates of the London County Cycling and Athletic grounds were opened on 23rd May 1891.

Built at a time when 'path racing' as it was first known, had become a popular sport, the new track had to compete with at least half a dozen other tracks in the London area.

George Lacey Hillier (1856-1941), the driving force behind the original development, was born in Sydenham and took up cycling in the early 1870s. He was a well-known competitive cyclist in the late 1870s, the peak of his career being in 1881, when he won the National Bicycle Championships at all distances including the 50 mile road tricycle title.

He retired from active competition in 1882 and became the editor of the 'Tricyclist'. After its amalgamation with 'Bicycling News' in 1885, he became a stockbroker, but remained actively involved with cycling – particularly at the Crystal Palace Cycle track.

After some disagreement with the manager at Crystal Palace he decide to set up a new track in the area and managed to rent a large field at the rear of Burbage Road from the Dulwich Estate. At that time there were no houses in Burbage Road and the land was occupied by a dairy farm. The land itself was often waterlogged, one of the Effra tributaries ran across the site, so the Estate were quite happy to rent it out to him subject to reserving land along the road frontage for future housing development.

The original track had built up banking but the actual surface was timber although by that time 'Cement' surfaced cycling tracks were common in Europe (the first cement track in England was built in Putney in shortly afterwards). It consisted of pitch pine planks laid transversely across the track held together by long bolts parallel to the track surface. Cork washers, about 25mm diam and 6mm thick were placed on the bolts between each plank for expansion and contraction. It seems that the track surface was assembled in sections and then fixed to a timber frame base resting on the track

bed – a report in the 'Hub' in August 1896 stated 'it was laid upon a substratum of concrete and cement on the latest and most improved principles'

The new surface was quite fast – one J W Stocks used it to become the first rider to cover 25 miles in less than an hour, but not long afterwards there were complaints from riders about vibration being caused by the gaps between the planks. After three seasons the planks were taken up and refitted lengthways on the straights, and brought closer together on the bends.

However, a wet day for the Anchor Shield in September 1896 was the surface's last competitive outing, the surface was too slippery and there were several accidents. The 'Bicycling News' reported that the wood 'would have to be replaced by cement if the track is to retain its reputation.'

A new 'cement' surface was completed by March 1897 and, although resurfaced several times, the basic construction lasted through until 1991.

The track was completely rebuilt in 1992 to the designs of Ron Webb.

In January 2011 *Building Design* reported that Hopkins Architects, designers of 2012 Olympic Velopark, carried out feasibility work for the Save the Herne Hill Velodrome campaign on a pro bono basis. They drew up a £5m scheme to resurrect the dilapidated venue.

In July 2011 *Building Magazine* reported that a long-term lease was given to British Cycling to look after the track and this enabled the body to raise money for refurbishment and works on the new track could start. Although the original 7m-wide track was made by concrete, the new track is made of a new material that Tarmac developed in close collaboration with British Cycling: MasterTrack – a special asphalt mix (made up of fine granite stones) to correspond to the unique specification for cycle tracks: smooth, dry, and very, very fast. Additional difficulties were caused by the banking of the track: using the equipment on the slope and compacting the asphalt; specialist equipment needed to be developed. Tarmac developed a hinged frame that connected the paver lying asphalt on the slope with a larger paver machine sitting on the flat area on the inside of the track. Similar innovation was necessary for the rest of the machinery. Future plans include new outer track safety fence and a wider run-off zone inside the track, which at the time of the article was grass.

Unlike the new venue in Stratford, Herne Hill is suitable for beginners and could act as a 'feeder' track for its more modern London neighbours.

The 1948 Olympics:

The selection of Herne Hill as the location for the Olympic track cycling events was confirmed at a meeting of the National Cycling Union in March 1947. The Chairman reported that "subject to necessary permits, alterations and additions will be made for the new entrances, seating and standing room". More detailed plans were unveiled later in the year and these showed a new side stand, the rebuilding of the entrance gates and the installation of turnstiles at the main Burbage Road entrance, and additional car and cycle parking, refreshment facilities and toilets. Enlargement of the standing area to accommodate up to 15,000 spectators was to be achieved by building a sloping banking around the outside of the track. A second entrance was also proposed but this proved impossible to incorporate because of problems over leases.

Although not shown in the original plans, a temporary scaffold stand for 2-300 was erected on the back straight and it is this construction that appears in the well-known photograph showing Reg Harris and Mario Ghella competing in the final of the 1000 metres sprint.

Equipment installed to ensure accurate judging and time keeping included a photo finish camera mounted on a tall metal tower overlooking the finishing line and automatic timing by 'electric control'. This consisted of a starter's pistol being connected to an electro-mechanical device, which started two watches when the gun was fired. The 1000 metres sprint was just over two laps - the rider broke a thread across the track as he crossed the finish line for the third time. Breaking the

thread released a spring controlled lever and this automatically stopped the watches. This worked to tenths of a second and was backed up by hand operated stop watches as a check.

At the NCU meeting on 7th November 1947 the Chairman was able to confirm that the Olympic Committee was prepared to pay 50% of the cost of the works - the actual cost to the NCU turned out to be approximately £7,500.

The event took place over three days in August in reasonably good weather – it was dull for a time but there was no rain. The final of the 1000 m sprint was on the second day and hopes were high that Reg Harris would take the gold. In reality he had had a bad year, his training had been curtailed following a car crash in March and he was only selected on appeal.

In the end he was well beaten, though spectators were surprised that the Italian was carried from the dressing room to his bike and carefully placed on it before the start. Harris turned professional soon afterwards and had a distinguished professional career over the next ten years, wining four world championships.

The other final on the second day was the 4000m pursuit – the Great Britain team took the bronze medal.

The final race on the third evening was the 2000m tandem race. The British team of Reg Harris and Alan Banister won the first of the three matches but the Italians won the second and the third – reputedly by a few inches.

Walk along Burbage Road and Turney Road to Croxted Road and catch a No. 3 bus to Crystal Place Parade.



13:30 - 14:30

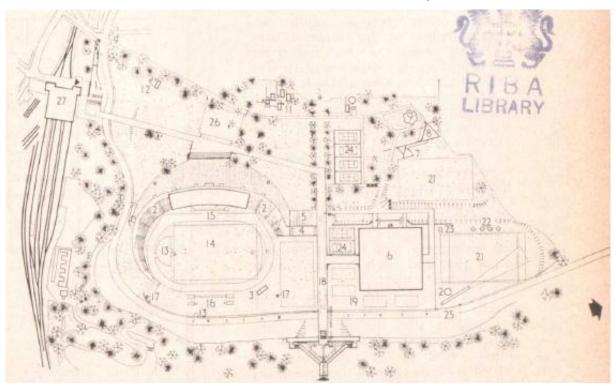
Lunch break in Westow Hill, Crystal Palace

Walk down Annerley Hill and into Crystal Palace Park.

Crystal Palace National Recreation Centre (designed 1953-4; built 1960-4)

Designed by *Hubert Bennett*, architect to the LCC in succession to *Sir Leslie Martin*; deputy architect: *F. G. West*; senior architect: *Geoffrey Horsfall* in succession to *D. C. Jenkin*; group leaders: *N. Engleback* (until 1960), *E. R. Hayes*; and structural engineers: *Ove Arup & Partners*.

Job architects: for Sports Centre: *Bryn Jones* (until 1961), *J. Roebuck*, *D. J. Winch*; for hostel, ancillary accommodation and staff houses: *J. Roebuck*, *D. Winch*, *J. Attenborough* (until 1959).



Crystal Palace burnt down in 1936 and the area passed from the care of the Crystal Palace Trust to the LCC in 1951.

The Architect & Building News welcomed the new development in its editorial in November 1954:

"Since the Crystal Palace was burnt down a large part of the grounds was fenced off from the public and has reverted to jungle. Melancholy Victorian statues stick up out of luxurious mulberry bushes whose fruit is never picked the owners of this neglected and almost forgotten open space, the LCC, last week published their proposals for the use of part of the grounds as a National Youth and Sports centre, towards which the Council are prepared to commit £1.75m. We welcome these proposals and urge that everything be done to hasten their realization.

"Professional sport has its own grounds and facilities, and finances them in the normal way. Amateur sport has for tool long had to exist as best it might, though it has become an established idea that the prestige of a country is dependent on the prowess and success of its amateur sportsmen and sportswomen. Heroic efforts have been made in recent years by our horsemen and track athletes to keep Great Britain from being regarded by Continentals as a country with a brilliant future behind it.

"Synonymous as Britain's name is with sportsmanship, our amateurs have been handicapped by lack of financial support and facilities to a degree that has made them the object of pity and sympathy from nations whose policy it is to use support to maintain prestige.

"The Crystal Palace scheme should mark the end of this era of stinginess, but should not be interpreted as a sign that we are swinging too much in the direction of abandoning out traditional standards, which assure that a man has to be very dogged indeed to overcome the difficulties of remaining amateur while competing with foreigners who receive every encouragement from their governments.

"In architecture and engineering the modern idiom has found in stadia and swimming pools a most inspiring and appropriate subject for design and construction.

"Buildings arising from the needs of dynamic and living use afford better opportunities for contemporary design and technique than traditional buildings where unfamiliar reinterpretations arouse much public opposition. Where the public have not had time to form prejudices on appearance, the new look is more welcomed.

"The architecture of sport has an impressive list of examples throughout the world. Now, it is our turn."

The Architect & Building News, 22 July 1964:

"In 1962, under the London County Council (Crystal Palace) Act, 1951, the LCC were given the duties and responsibilities of the former trustees of the site to develop it for the purposes of education, recreation and furtherance of commerce, art and industry.

"In the same year, having already set about clearing and redeveloping the site, the LCC invited Sir Gerald Barry, Director General of the 1951 Festival of Britain, to submit a scheme to maintain the established traditions of the former Crystal Palace.

"One part of Barry's scheme included an exhibition hall in London. The other part was for a National centre for training in sport.

"In his report to the LCC Sir Gerald Barry said: "It may perhaps seem remarkable that the British nation, which invented and bequeathed to others most of the forms of sport which are now enjoyed throughout the Western world, should have no central home for sport of their own to which their own athletes and those of other nations can look as a focal point.

"The £2½ million Crystal Palace National Recreation Centre has been created to make good this deficiency."

The Centre was initially run by the Central Council for Physical Recreation.

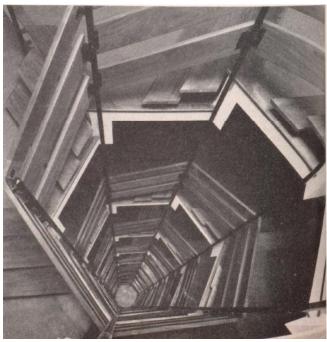
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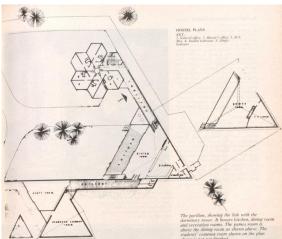
Sports accommodation block (1960-4)

The Architects' Journal reported on the sports accommodation block on 19 August 1964: "In contrast with the imposing scale and almost classic symmetry of the sports hall ... the residential areas comprising hostel with ancillary accommodation and staff houses for the Crystal Palace National Recreation Centre are subdued and informal in their layout".

Situated on high wooded ground to the north of the public areas of the Sports Centre, the hostel provides accommodation for trainees and other visitors attending courses, conferences etc. The hostel is planned as six hexagons surrounding a hexagonal open well and staircase and each hexagon rises 1ft 6in, helix fashion. Each unit contains a double and a single room and there is accommodation for a total of 130 students. On the ground floor, the lower units provide two offices, three flats for residential staff and a sick bay. The basement contains laundries, drying-room, bursar's store and service rooms and the upper units water storage tanks for the whole centre.









Connected to the hostel are two triangular buildings housing the dining-hall (that provides accommodation for seventy-five at a sitting) and games-room in two storeys (on a split level in relation to the hostel and the linking entrance hall), and the single-storey common-room (accommodating sixty) and staff-room (accommodating thirty).

Staff accommodation was provided for nine supervisory staff including the director and deputy director. There were three staff flats in the hostel and six two or three-storey three-bedroom staff houses. In addition, for domestic staff, two self-contained bedsitting-rooms were incorporated on the ground floor of one of the three-storey houses.

The design of the hostel was criticised by *AJ* for not being fitted with specially designed built-in furniture in response to the difficult geometry of each bedroom. Also, the dining room and kitchen had proved inadequate to cater for the full number of resident students.

Further criticism was expressed about the town planning relationships between individually well designed buildings in the Centre, which however were thought not to fit happily one with another. Also, as regards the materials chosen for the various buildings, it was considered that these were not sympathetic to each other: unlike the natural cedar cladding of the hostel that is weathering to a silver grey, staff houses are constructed in dark grey bricks and the timber infill panels between windows are in Columbian pine with a clear seal varnish.

15:00

Crystal Palace Sports Centre Stadium

The graceful sickle-shape canopy covers about 4,000 seats – a number considered adequate for a great number of events. The total provision of seats is 12,400, including 50 VIP seats and 30 press desks.

The track has a nine-lane straight, and seven-lane circuit. The area enclosed by the track is turfed and will be used for rugby, association football and hockey. Also included in the central area are a high-jump fan and a javelin run-up.

15:15-15:45 Crystal Palace Sports Centre

Nationally listed at Grade II* in 1997

(Access courtesy of Greenwich Leisure Limited)



English Heritage, Constructive Conservation, 2008

In the Society's current magazine, Paul Lincoln entitled his piece on the grade II*-listed National Sports Centre at Crystal Palace: 'Landscape with pool' (Spring 2012, pp. 8-9). Designed in 1953-4 and built 1960-4 by the LCC Architect's Department under Sir Leslie Martin, the Centre remains to date as modern as ever and the relationship of its pools to the surrounding park landscape is indeed breathtaking.

The principal level of the hall accommodates a 15,000 sq ft arena for training in basketball, badminton, gymnastics or lawn tennis. It can also accommodate events to which the public will be admitted and has retractable seating for 1,270 plus additional seating units on the northern practice area overlooking the arena, which result in a total capacity for spectators up to 2,000.

The swimming hall to the east of the central spine=framed structure contains: a 55yrds, eight-lane racing pool with a standard depth of 6ft 9in throughout its length; a 16ft-deep diving pool with 10, 7½, 5 and 3 metre diving platforms and two one-metre spring boards; and a teaching pool for schoolchildren or non-swimmers. The Olympic-standard pool was the first in the south of England:

"Emphasis was given to swimming as Southern England did not have an Olympic-sized pool. It was the first indoor multi-functional hall designed in Britain (though not the first to be built) at a time when such facilities did not exist elsewhere in Europe. Crystal Palace is exceptional in the breadth of its vision, not only in the range of facilities carefully planned within it but also in being intended to serve serious performers from all nations (there is separate residential accommodation in the park) as well as local enthusiasts." (English Heritage)

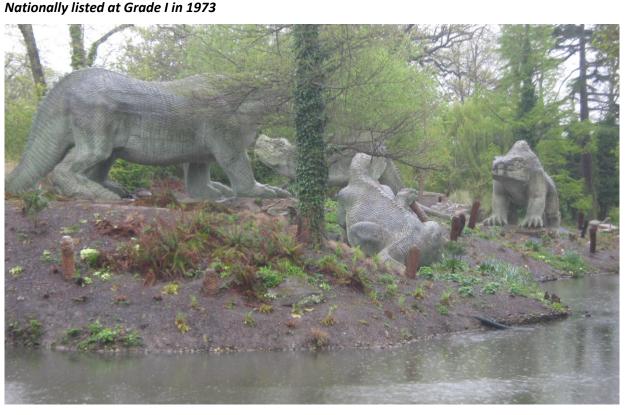
Reinforced concrete construction generally with reinforced concrete raking columns and beams and prestressed concrete legs to centre spine (triangulated both longitudinally and transversely) that echoes the work of the great Italian architect-engineers Pier Luigi Nervi and Riccardo Morandi. It carries a copper-covered steel-trussed roof, with side fascia at roof level clad with copper. Ceiling clad with teak boarding treated with linseed oil. The diving stage itself is an impressive scissor-shaped Brutalist structure.

As English Heritage note:

"The interiors seen by spectators are of particular interest. ... The views across [the central] concourse and seating, and down into squash areas, are particularly impressive. Their fluidity is enhanced by the bold expression of the 'A'-frame and delicate arched bracing supporting the roof which is a most distinctive and distinguished feature.

Although listed at Grade II* in 1997, by then sports minister Tony Banks, the Centre was threatened with demolition around 2004 and was included in EH's 2005 Buildings At Risk Register. The Society was engaged in a long campaign to save the building and it is disconcerting to hear that the new facilities in Stratford are considered a new threat to the future of the National Sports Centre.

16:00 Prehistoric animal sculptures, geological formations and lead mine on islands and on land facing the lower lake



In closing this walk, you may wish to join us to a short visit to these (pre-C20) Grade I-listed structures, constructed between 1852 and 1855 for The Crystal Palace Company on a twenty acre site. As English Heritage notes in the List Description:

"The prehistoric animals were constructed out of re-constituted stone on a framework of iron rods on brick plinths by Benjamin Waterhouse Hawkins, an artist and sculptor who specialised in natural history subjects, with advice on their authenticity by Sir Richard Owen. The associated geological strata and lead mine were probably laid out by David Thomas Ansted, consulting geologist, but constructed by James Campbell using geological

rocks. The landscape was designed to represent the geology of Britain from the Primary (Pre-Cambrian and Lower Palaeolithic) rocks through the Secondary (Upper Palaeolithic-Upper Cretaceous) and Tertiary (Tertiary and Quaternary) eras with economic rocks, geological structures and reconstructions of associated animals and reptiles on the lakeside and islands.

"...

"This was the first attempt to accurately re-construct the three dinosaur species known to the scientific world by the 1850s within their geological environment and the sculptures and associated geological strata form a unique display of the state of palaeological understanding in the 1850s, opened five years before the publication of Darwin's "Origin of Species". Of exceptional historic interest in a national and probably international context."

16:30 Crystal Palace Low Level Station

Nationally listed at Grade II in 1973

Again pre-C20 (mid C19), but of particular interest considering this was built specifically for visitors to the Crystal Palace and consequently in the grand manner. It consists of two pavilions with a linking portion of one storey. The left side portion is in French Chateau style. The right hand portion is of two storeys stock brick with hipped slate roof.





Finish approximately 16:30.

Catch the train at Crystal Palace Low Level Station or walk back up to Crystal Palace Parade and catch a bus.