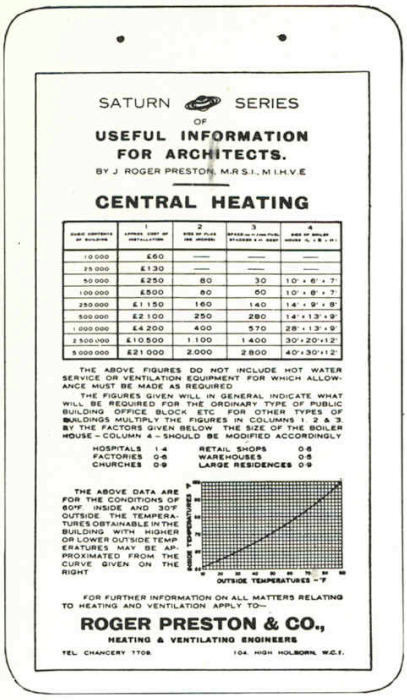

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THE ABOVE FIGURES DO NOT INCLUDE HOT WATER SERVICE OR VENTILATION EQUIPMENT FOR WHICH ALLOWANCE MUST BE MADE AS REQUIRED

THE FIGURES GIVEN WILL IN GENERAL INDICATE WHAT WILL BE REQUIRED FOR THE ORDINARY TYPE OF PUBLIC BUILDING OFFICE BLOCK ETC FOR OTHER TYPES OF BUILDINGS MULTIPLY THE FIGURES IN COLUMNS 1 2 & 3 BY THE FACTORS GIVEN BELOW THE SIZE OF THE BOILER HOUSE – COLUMN 4 – SHOULD BE MODIFIED ACCORDINGLY

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THE ABOVE DATA ARE FOR THE CONDITIONS OF 60°F INSIDE AND 30°F OUTSIDE. THE TEMPERATURES OBTAINABLE IN THE BUILDING WITH HIGHER OR LOWER OUTSIDE TEMPERATURES MAY BE APPROXIMATED FROM THE CURVE GIVEN ON THE RIGHT

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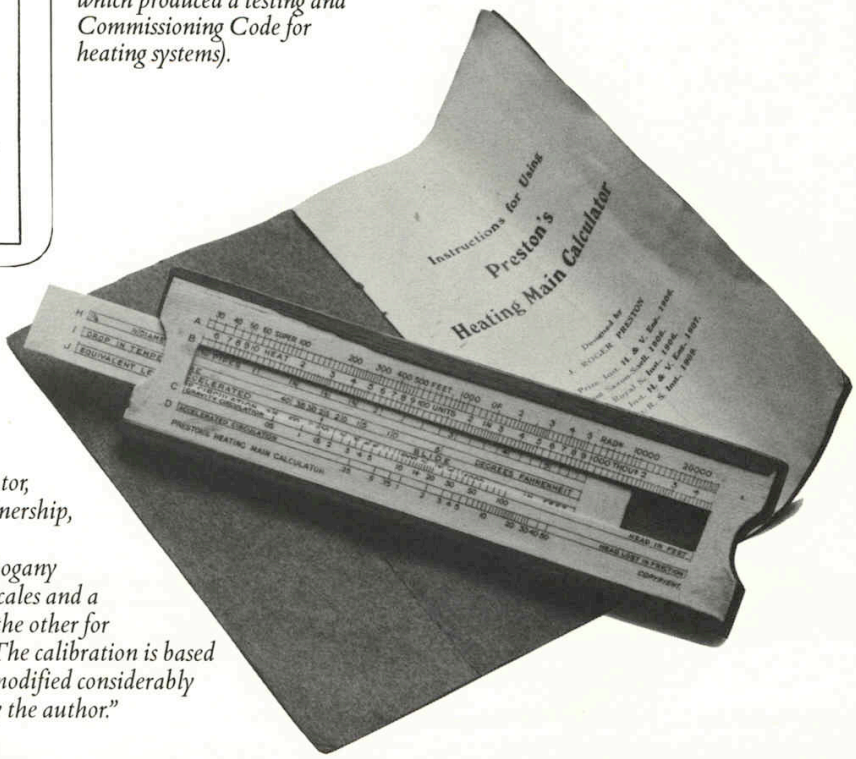
Testing Heating Systems

Before becoming a consulting engineer–in his 'commercial' days as he would have put it –J. Roger Preston distributed a number of ivorine information cards, as shown in the illustration.

As can be seen, these cards featured a small graph giving 'equivalent temperatures for testing heating systems on warm days.' This graph was based on an empirical formula developed by Preston in his 1909 paper. (Sixty years later, Bernard Rose, a present Partner, chaired an I.H.V.E. Committee which produced a testing and Commissioning Code for heating systems).



Preston's Heating Main Calculator, one of which still remains in the Partnership, complete with instruction book.

The Calculator consists of a mahogany housing six inches long with ivorine scales and a central slide, one side for gravity and the other for accelerated (or pumped) circulation. The calibration is based on the then-standard formulae but "modified considerably to agree with numerous tests taken by the author."

Public Work in the Thirties and Forties

A great deal of the early work carried out by the firm was in General and Mental Hospitals with particular emphasis on the remodelling of existing hospitals, many of which had been built in the middle of the preceding century or even earlier.

It was appropriate, therefore, that the Partnership be appointed to handle one of the only two completely new general hospitals to be built between the wars– the St Helier Hospital, Carshalton, for the Surrey County Council. This was the Partnership's largest job to that date, the tender for mechanical services being £153,500.

In addition, work was done on a number of new mental hospitals and the so-called mental deficiency colonies. At this time steam was widely in use for kitchens, laundries and sterilising, so the design and lay-out of steam plant in central boiler houses was commonly required, including the distribution of steam and the return of the condensate.

This was the era of considerable municipal development and the Partnership had its share of public building contracts such as swimming baths, slipper baths, washhouses, even turkish baths (including all the ancilliary services such as steam baths and medical baths). Leonard Copeland Watts vividly remembers testing the Turkish Baths at Londesborough Lodge, Scarborough, in mid-Winter when the temperature outside was 28°F and that of the hottest room 220°F.

Leonard Copeland Watts

The Partnership also worked on a number of notable civic buildings, including Peterborough Town Hall, Poplar Town Hall and the Southampton Civic Centre.

By 1939, the number of contracts carried out to plans and specifications prepared by the firm amounted to some 400, of which 95 were hospitals, sanitoria and poor law institutions, 50 were civic buildings and 40 school and university buildings.

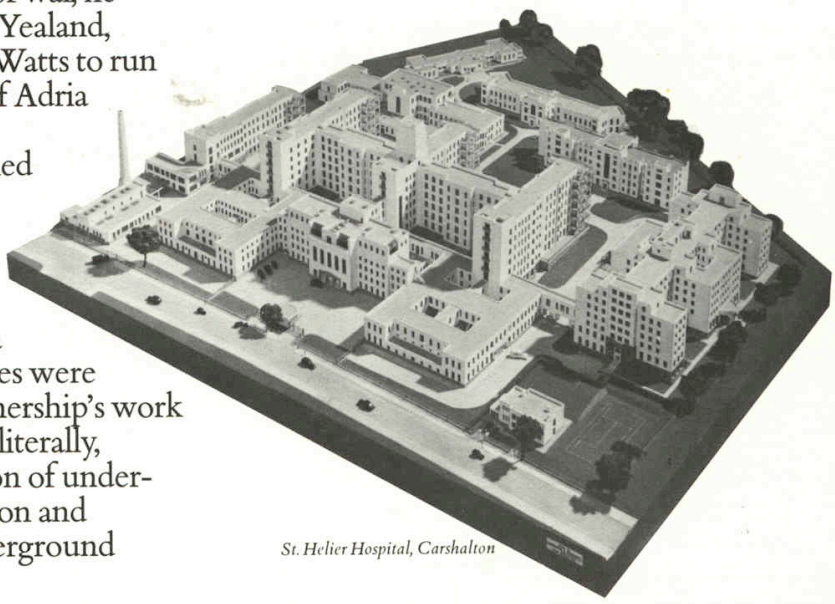
Also, at this time, Roger Preston, who was a Fellow of the Institute of Arbitrators, was selected by the Courts and by private companies to arbitrate in a number of disputes.

1939 saw Roger Preston in failing

Southampton Civic Centre

health and, at the outbreak of war, he returned to his old home in Yealand, leaving Leonard Copeland Watts to run the business with the help of Adria Buchanan.

The Partnership remained active for, although there was virtually no civilian work, there were vital jobs to be done for Government and the Armed Forces and a number of ordnance factories were designed. Much of the Partnership's work at this time was done, quite literally, underground–in the creation of underground stores for ammunition and explosives as well as an underground



St. Helier Hospital, Carshalton

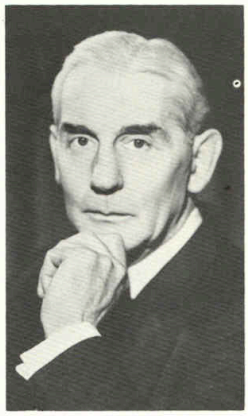
The Later Years

The Partnership's pre-war experience of work in the public sector, no less than its Government contacts during the war, stood it in good stead when the return of peace brought an unprecedented building boom.

As a matter of Government policy, new schools were built at all levels of educational achievement to keep pace with the ever-increasing child population, and technical colleges and universities quickly followed. In the first ten years of peace, JRP were responsible for the engineering services in over 100 schools and colleges.

By now the electrical department was well established. Soon plumbing and vertical transportation groups were added so that the firm was able to offer a totally comprehensive consultancy covering all mechanical, electrical and sanitary services in any kind of building.

Later, designers in the several disciplines were allocated to a number of integrated design groups able to undertake the design and co-ordination of all building services required for a project. An extension of the services offered inevitably led to a larger staff and a need for larger premises–and, in 1961, the Partnership moved to the four modern floors they still occupy at 167 Queensway, London W2, where Bernard Rose, a member of the firm since 1955, was taken into Partnership in 1966.



J. Richard Harrison

A second UK office was opened in 1970 and is now located at 29, Broadway, Maidenhead, the staff of JRP being almost equally divided between the two.

Over the years the firm has found itself increasingly in demand for all kinds of building–public, domestic, commercial and industrial. Though a full appreciation of this diversity demands a longer list than is possible here, the few examples overleaf of work carried out by the London office may give you some idea of its variety in scale and type.

Polytechnic of the South Bank, Department of Environmental Studies

Built as the National College of the Heating and Ventilation Industry and, thus appointment was a particular compliment to the firm. A great variety of systems and equipment was introduced to familiarise students with their operation and to facilitate testing under working conditions.

Small Mammal House, London Zoo

Where work included both air-conditioning and the provision of special lighting which, by changing the sleeping habits of normally nocturnal animals, enabled them to be viewed at their most active.

The Bristol Council House and the Nottinghamshire County Offices

Two superb administrative headquarters, among the last of their kind to be constructed in the classic style traditional to such buildings.

Food Research Institute

A laboratory complex with animal house. Many special services were required, including cascade refrigeration systems for cold rooms, some of which operate at minus 40°.

Ford Design and Research Centre

A complex of buildings embodying offices, studios, factory accommodation and laboratories. Probably the largest project undertaken by the firm, its design was completed in nine months.

Princess Margaret Hospital, Swindon

The first UK district general hospital to be built after World War II allowing an ultimate accommodation of approximately 700 beds. The firm has been engaged on successive stages of the building right up to the present day.

District Heating, Borough of Southwark

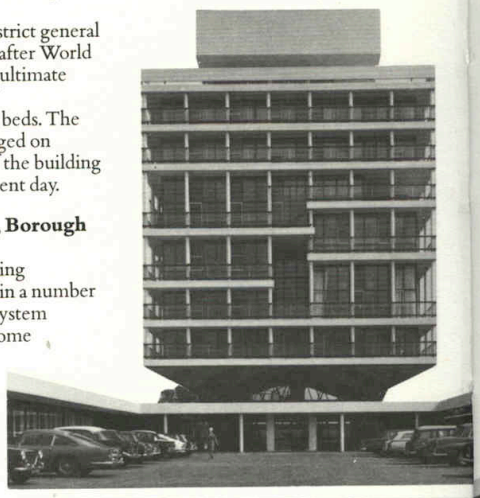
A major rehousing project carried out in a number of stages with the system currently serving some 3500 homes.

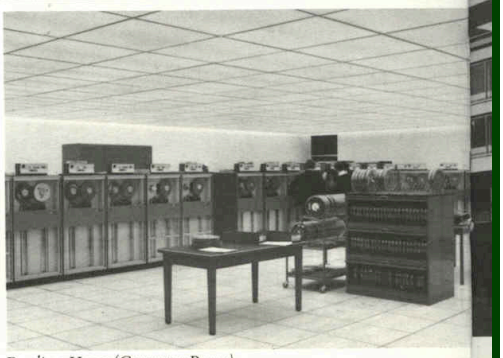
New Zealand House

The famous 18-storey block in London's Haymarket, embracing reception areas, visitors' facilities, staff offices and special accommodation for the High Commissioner.

Boadicea House

Wexham Park Hospital

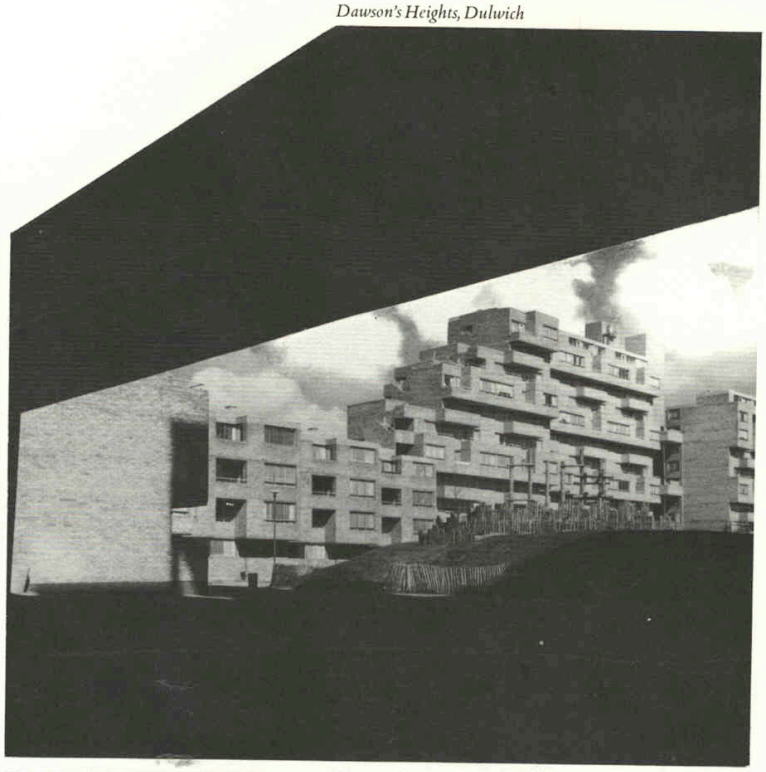


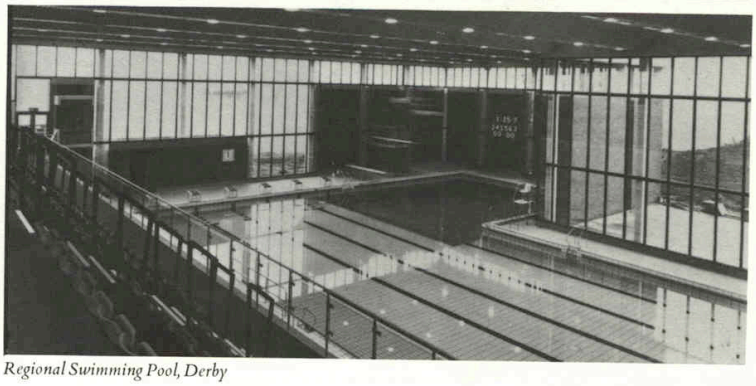


Boadicea House (Computer Room)

New Zealand House, London

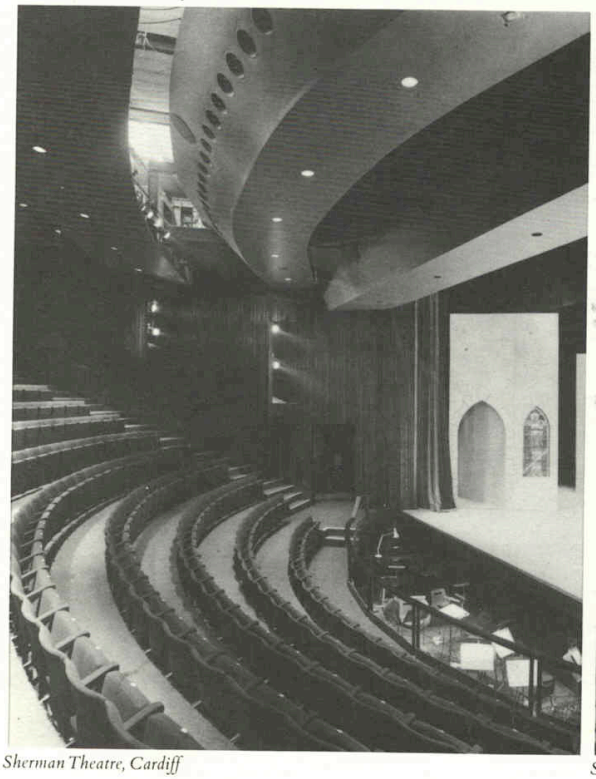
Dawson's Heights, Dulwich



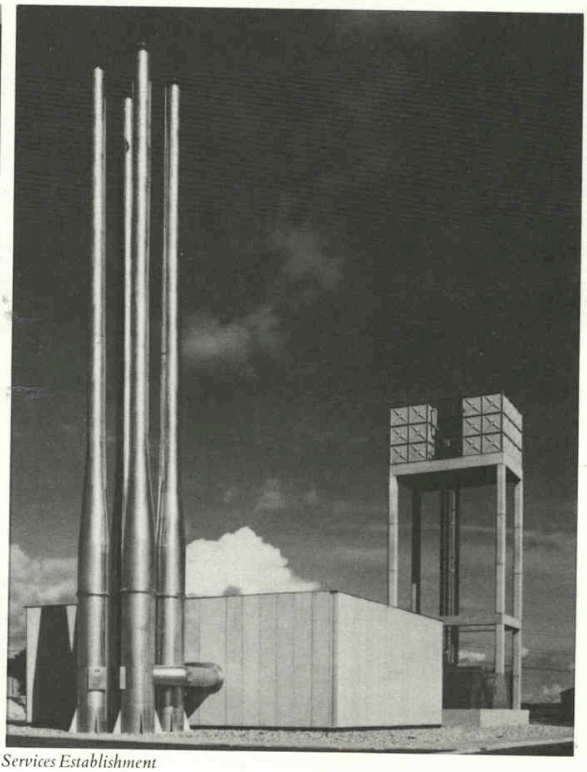


Regional Swimming Pool, Derby

Southern Gas
Regional Headquarters
Southampton



Sherman Theatre, Cardiff



Services Establishment

Working Overseas

In the past quarter century the development of JRP in Britain has been paralleled by its growth overseas, most notably in the Middle and Far East.

Although the Partnership was engaged to work on the Odeon Cinema in Cairo as early as 1948, the mainstream of overseas work dates from 1952 when advice on air-conditioning was sought by the Public Works Department in Lagos. This, in turn, led to considerable work in Ghana, Nigeria and Sierra Leone which has since included the Mainland and Maternity Hospital in Lagos and the University College Hospital in Ibadan.

In the mid 1950's the firm also planned and installed all the mechanical and electrical services for two magnificent buildings in Baghdad; The National Assembly building and the Presidential Residence.

The Partnership have also worked extensively in other parts of the Middle East on investigations, reports and project designs. During the same period Partners and engineers also worked in Pakistan, Malta, Jamaica, Barbados and Trinidad.

These early engagements were undertaken with almost a missionary-like zeal which survived many physical hardships and social embarrassments. For his first visit to Baghdad, in 1953, Richard Harrison thought he had chosen the ideal wardrobe for the Englishman abroad, but, as his diary recalls, "felt conspicuous in Al Raschid Street in a white linen suit." Deryck Thornley was even arrested in the same city–for some innocent though, as it proved, imprudent cine-photography of the local people and buildings.

Since 1958, however, the Partnership has been most closely identified with work in Hong Kong, where initial work on air-conditioning the new Government Secretariat Office, a large military hospital and the then-new air terminal at Kai-Tak Airport led to an approach by a Hong Kong firm of architects to collaborate in the design of the Mandarin Hotel. Since this required the presence of senior personnel over a prolonged period, the Partnership decided to open a Hong Kong office in 1962, of which John Buss was the Resident Partner until his untimely death in 1972.

This office alone has employed as many as 85 people and is presently in the charge of local Partners, Raymond Banham, Felix Tsang and Rick Kroos. The Hong Kong office has been engaged upon an impressive variety of projects, including work on the World Trade

Hotels left to right: Excelsior Hong Kong, Indra Bangkok, Furama and Sheraton Hong Kong

Housing Project, Hong Kong

Kia Tak Airport, Hong Kong

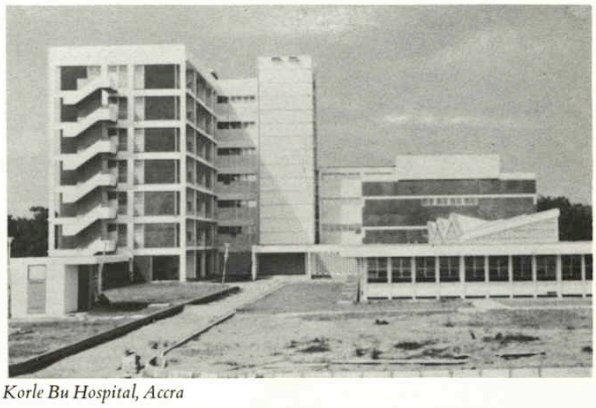
Centre, the shopping precinct, restaurants and offices in the Ocean Centre, the Hong Kong TV Station, the Royal Hong Kong Jockey Club, the Chinese University and Phase 1 of the Hong Kong Polytechnic.

Further hotel work followed the completion of the Mandarin, including the Excelsior and the Sheraton and the air-conditioning of the vast baroque lobby of the Peninsula Hotel–a difficult assignment which had to be completed without disturbing the world-famous decor.

Richard Harrison recalls that, though the Hong Kong scene has changed greatly during the Partnership's years there, "the one thing that has not changed is the pressure." It seems, however, that people working in Hong Kong soon adapt to its faster pace of life. He recalls the bitter complaints of his Partner when some office furniture ordered on a Monday did not arrive till Saturday of the same week. "In England," he comments, "it would probably have taken six months!"

Bangkok has proved another fruitful area for development and, in recent years, JRP have collaborated on such diverse projects as the Indra Hotel, the Asian Institute of Technology and the Chancery Offices at the British Embassy.

Rick Kroos, Ray Banham and Felix Tsang



Korle Bu Hospital, Accra