PROGRESS IN INDUSTRY AND ENGINEERING—A Weekly Survey of Achievement in Britain and Overseas

REBUILDING LONDON IS THEIR ROUTINE

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PERHAPS the most obvious evidence that the ordinary citizen has had, over the last few years, of the boom in business investment through which the British economy has been passing, has been the great surge of office-building in our cities. Commercial building is only one part of business investment, and a less dramatic part than, say, an oil refinery, a nuclear power station, or a new steel strip mill: but the ordinary citizen can hardly avoid actually seeing new office blocks, whereas he seldom encounters the others, except in print or in photographs. The rising wave of commercial building that began in 1954 reached its peak later than the factory-building boom, and seems likely to last longer: last year's total spending on office buildings was probably well over twice the amount spent in 1953, and it has still been rising this year.

No other form of capital investment has been in more clamant demand. Building land in Central London, for instance, is worth about £1,000,000 an acre to-day, or £20 a square foot—which measures the value that people put upon it for building offices that they can rent, using the area several times over in multi-storey buildings

area several times over in multi-storey buildings for about £1 to £1 10s. a year per square foot "super" (i.e., on each floor). In spite of the continuing official counsel to commercial companies to decentralise and shift more of their staffs outside London, the demand for office space in London considerably exceeds the room available—even with the "site clearance" that was provided on so lavish a scale in wartime by the German bombers.

Much of the office building boom in London is still concerned with filling in the gaps those bombers made: some of the more recent new office projects have originated in the chance of making much more profitable use of site values that have grown with inflation than the buildings already on the spot ever could.

Building and civil engineering is a huge industry with an enormous annual output, carried out by at least 130,000 "firms" with thousands of them one-man enterprises. But the solid core of new work that makes up about three-quarters of British builders' output—say £1,400 million worth out of £1,800 million—is largely in the hands of the medium-sized or larger firms, and when one reaches the level of major projects such as a big office block, it is most likely to be carried out by one of a small number of big contractors, almost to be counted on one's fingers.

Building and builders have existed as long as history: but the building contractor such as these was unknown in this country 150 years ago. At the beginning of the nineteenth century, for the construction of any large building, its prospective owner or his architect had to engage craftsmen and labourers himself and supervise the work on his own account: the arrangements were haphazard and expen-

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It was in 1809 that Thomas Cubitt, a young joiner, quitted the sea and set up in London in partnership with his brother William, in the building trade, and in 1815 he signed his first contract to carry out the re-roofing of the Russell Institution in Great Coram Street and shortly afterwards obtained the contract for building the London Institution in Finsbury Circus. Cubitt took the responsibility of the whole construction job, which in those days was a new departure: it meant organising a permanent body of craftsmen, under one co-ordinating management, to turn the architect's design into bricks and mortar at an agreed price and in an agreed time. Building in London thus began to take a new, organised shape at the time that its population entered upon a new wave of expansion.

The Cubitt group of companies to-day is taking a prominent part in the rebuilding of London as a matter of course: for 143 years, amidst its other activities, this has been a routine affair. This company can reasonably claim to have changed the face of London more than any other single agency, over the years since it was formed: its contributions to the city's pattern and skyline, over the century-and-a-half, read like a historical guide. Cubitts built Highbury and Bloomsbury: they reclaimed the marshlands of Pimlico beside the river, making possible development of the whole area of Victoria and

Belgravia north of the Vauxhall Embankment, which, indeed, Cubitts built at their own expense and presented to the nation.

London was growing with the prosperity of the industrial revolution: Cubitts was not merely constructing the offices and new residential areas based upon that prosperity, but was contributing directly to its advancing new technologies. The firm built Euston, Fenchurch Street and Broad Street stations: they were responsible for the British tradition of the level railway platform (which to this day most of the world's railway systems lack), and, with Cooke and Wheatstone, for the development of the railway electric telegraphs. With Joseph Paxton, they built the Crystal Palace for the Great Exhibition of 1851.

Some of those early buildings have gone with the years: others, such as the east front of Buckingham Palace, remain as familiar landmarks alongside later achievements of the group such as London's County Hall, Unilever House, the London University Senate House, the Cenotaph, Cox's and Kings in Pall Mall, South Africa House,

Such techniques require close co-operation, from the outset, between those responsible for design and the building contractors who have to turn the paper into massive concrete realities. It can be argued, indeed, that the revolution in building organisation that was begun by Thomas Cubitt nearly 150 years ago has not yet been completed: and that the rapid changes in technique of, say, the last twenty-five years have again loaded the balance towards further evolutionary changes in organisation. With its recent record of advances in mechanisation and productivity, building is no longer vulnerable to gibes such as Kipling's about "nothing changes in the building trade." But it remains one of the very few industries that do not ordinarily employ their own designers, and where the final product results from a three-cornered relationship between the client, his professional (and sometimes proudly "unbusinesslike") adviser, the architect, and the building "production engineer" who has finally to do the job.

A group such as Holland & Hannen and Cubitts to-day embodies under one central management a wide



REBUILDING IN THE CITY OF LONDON: The new Bank of England building, close to St. Paul's Cathedral, is under construction by Holland & Hannen and Cubitts. It is a steel-framed building with brick cladding, and is faced with Portland stone. The architect is Victor Heal. The Cubitt group of companies is taking a prominent part in the rebuilding of the City.

Devonshire House and Arlington House. The Royal Festival Hall is perhaps their best-known post-war achievement in London. It is difficult, in writing about this company, not to turn into reciting a list.

The firm's history during this century has been one of steady growth, and of concentrating yet more facets of constructional activity under one management. Holland and Hannen, a company formed early last century to develop the Holborn district, had become towards the end of the century perhaps Cubitt's most tenacious rival. In 1883 the two companies amalgamated; but for twenty-five years longer the two sections continued to compete in tendering, and the present title, Holland & Hannen and Cubitts, retains the mark of this earlier rivalry.

The advent of the contractor as a responsible manager in building and civil engineering had transformed the scale and effectiveness of organisation of what remained well into this century a traditional technology of collective craftsmanship and hand labour. But large-scale organisation was also necessary to apply innovations in this basic technology; and the introduction of new materials such as reinforced concrete, and new mechanical aids to speed up building, has depended largely upon big companies, such as the Cubitt group, being ready to risk substantial amounts of capital in experiment. In recent years, projects such as the huge hangars at London Airport that Cubitts built for BEA, and the maintenance base still under construction, have required, for example, the most advanced techniques of pre-stressed concrete.

range of specialist departments and subsidiaries, handling, for example, the engineering installations that to-day make up so large a part of the total value of most construction contracts, a civil engineering organisation that is quite separate from the main building departments (though they may work together on big construction jobs such as the A.E.I. building in Grosvenor Place) and a separate concrete development company that deals with the manufacture, design and erection of prestressed and pre-cast concrete members. These are its home departments; since the war, on an increasing scale, it has engaged in contracting abroad, and this has led to the formation of its own subsidiaries overseas, alone or in association with other contractors there. The Cubitt group has a branch organisation in the West Indies, centred on Trinidad, and member companies in Canada, New Zealand and the Middle East.

Each of these departments and subsidiaries, in its own field requires complete competence in questions of design. There can be no question of forcing further structural reorganisation upon the conventional pattern of building activity, though many on all sides of the industry are sure that closer technical relationships must evolve.

But if and when the change does come, big constructional groups such as Cubitts will no doubt be ready to take on yet more responsibility, as this largest private—and family—company in British building has steadily done throughout its long history. Nor is there much doubt, incidentally, that when the time comes Cubitts, in addition to the world-wide activities, will still be engaged on changing the shape of London.