Abstracts of Periodical Literature

by Simon Pepper

The guidelines set out in the first of our annual abstracts of periodical literature have been adhered to in this second collection. It attempts to identify 'material addressing the history of constructional and structural technique, the development and supply of building materials, construction costs, the building trades and professions, their training, organisation, management and methods of work'. What seemed to be 'purely architectural matter' has been omitted. Even so, it is encouraging to find so much evidence of recent work in construction history finding its way into journals ranging in their specialisation from art and architectural history, through industrial archaeology, technology and engineering, to cultural and historical geography. I hope this collection (despite the inevitable gaps) proves useful to readers by bringing to their attention papers all too easily missed.

I am grateful to those who have kindly sent offprints for abstraction, and I hope that my neutral summaries do them justice. Generally speaking, I will make it my practice to follow up subsequent numbers of journals from which papers have already been abstracted. If papers in these or other journals have been missed, however, please let me know. Foreign language material will be most welcome.

Thus far, I have restricted myself to papers in regularly-published journals likely to be found in good libraries, or obtainable through inter-library loan. It has been suggested, however, that useful work often lies unnoticed in undergraduate dissertations (hence, unlisted in higher degree abstracts), or the occasional papers privately produced by many colleges or research groups. If work of this kind is submitted, I will be happy to include it in an appropriate category.

Jean Christian Bans and Patricia Gaillard-Bains, 'Continental Roofs: Some New Clues, Part I', *Vernacular Architecture*, 15 (1984), pp.56-64. "From the point of view of vernacular architecture France is still the terra incognita of Western Europe, and from ignorance of the French evidence several misconceived theories have developed among scholars in northern Europe." The prime objective of the authors is to describe the most common roof types in France and northern Spain. The paper is the first instalment of what promises to be a most useful English-language introduction to continental roofs.

Marjorie Nice Boyer, 'Resistance to Technological Innovation: The History of the Pile Driver through the 18th century', *Technology and Culture*, 26 (1985), pp.56-68. Pile driving, by means of mallets, rams wielded by groups of workmen, or more sophisticated machines using pulleys and release mechanisms, is one of the oldest foundation building techniques. Using written accounts and illustrations of siteworks, the author explores the technical and manpower problems, and attempts to explain the widespread resistance to the more advanced pile-driving methods from the middle ages to the end of the 18th century.

Nancy Briggs, 'The Evolution of the Office of County Surveyor in Essex, 1700-1816', *Architectural History*, 27 (1984), pp.297-307. Historians of local government from the Webbs to Moir have commented on the slow appearance of the county surveyor as a salaried officer; the Justices of the Peace generally preferring to farm out jobs to small local craftsmen. Drawing upon documents in the Essex Record Office, the author provides data on the salaries and workloads of the surveyors appointed by the Essex Justices, initially on a temporary basis for specific projects, but later on a more permanent basis for the larger programmes of public works (particularly prisons) at the end of the 18th century.

Giuseppe Chigiotti, 'The Design and Realisation of the Park of the Royal Palace at Caserta by Luigi and Carlo Vanvitelli', *Journal of Garden History*, 5 (1985), pp.184-206. Chigiotti's careful survey of the work and costs of the great park surrounding the palace of the kings of Naples, which was developed throughout the second half of the 18th century, reminds us that landscape has its place in the history of construction.

Thomas Day, 'Samuel Brown in North-East Scotland', *Industrial Archaeology Review*, 7 (1985), pp.154-70. Samuel Brown (born 1774), a pioneer structural engineer, acquired his technical expertise rather unusually, as an officer in the Royal Navy during the Napoleonic Wars. Before being retired on half pay, he actively promoted the use of chain cables for securing ships at anchor. This proposal was soon taken into use and it was from his position as a manufacturer of iron cables that he gained both his experience of wrought iron and the financial independence which allowed him to develop bar-chain suspension bridges. In 1820 the Union Bridge, the first of its type in the U.K., was designed and constructed by Brown for the River Tweed, after which he was to become one of the main promoters of suspension bridges, either designing them or acting as ironwork supplier. In the period 1828-32 he constructed four bridges in north east Scotland which are the subject of this paper.

Graham Haslam, 'John Norden's Survey of the Manor of Kennington, 1616', *London Topographical Record*, 25 (1985), pp.59-62. Norden's survey of Kennington runs to fifty-five folios and is a detailed description of the manor, its tenants, properties, their values and land uses. It represents one part of a survey carried out by Norden and others on more than two dozen manors belonging to the Duchy of Cornwall. Besides being of interest to students of London's 17th century topography, the article sheds light on the techniques of a surveyor using 'modern' equipment (such as the circumferator, the plane table and the theodolite) and the upward mobility of one of the construction industry's earliest professions. (See also entries under Hunting and Kerney)

Penelope Hunting, 'The Survey of Hatton Garden in 1694 by Abraham Arlidge', *London Topographical Record*, 25 (1985), pp.83-110. Abraham Arlidge, carpenter, builder, surveyor, property speculator and Master of the Carpenters' Company, was instrumental in the development of one of London's earliest residential estates, Hatton Garden. Penelope Hunting's paper is written around Arlidge's survey map of the completed estate in 1694, but is rich in data on the property development world of late 17th and early 18th century London, its financial and leasing arrangements, building costs, rents and taxes. (See also entries under Haslam and Kerney)

Frank Kelsall, 'Liardet versus Adam', *Architectural History*, 27 (1984), pp.118-26. The use of Liardet's stucco by Robert and James Adam is well known, as is Liardet's case against Johnson for patent infringement. Liardet however was involved in three long suits brought by the Adam brothers, who were themselves being sued by Lord Stanhope because of the failure of the famous stucco. Frank Kelsall's paper explores the tangled web of claim and counter-claim, and shows that the problems rising from the use of untried and fallible building materials are by no means new ones for the construction industry and its design professions.

Michael Kerney, 'The Architectural Work of George Smith (1782-1869) in Greenwich and Blackheath', *London Topographical Record*, 25 (1985), pp.143-60. The Georgian tradition of the architect/surveyor continued far into the 19th century, even if increasingly represented by unfashionable men whose names rarely

appeared in the architectural journals. This architectural biography traces the suburban building activities of George Smith, surveyor to Morden College and architect of numerous housing estates and railway buildings in south-east London. (See also entries under Haslam and Hunting)

Douglas R. Littlefield, 'Eighteenth Century Plans to Clear the Potomac River: Technology, Expertise, and Labor in a Developing Nation', *Virginia Magazine of History and Biography*, 93 (1985), pp.291-322. The Chesapeake and Ohio Canal and the Erie canal were amongst the great engineering achievements of the early 19th century. Littlefield's paper provides an account of the late 18th century plans (only partly implemented) to bypass the rapids and falls of the 287 mile long Potomac river. The financial and labour problems faced by the Potomac Company are explored.

Jose R. Merino, 'Graving Docks in France and Spain before 1800', *Mariner's Mirror*, 71 (1985), pp.35-58. Jose Merino's study is a comprehensive survey of the early graving docks built in these two important seafaring countries, many of them gigantic installations making use of advanced technology for their gates, haulage equipment and pumping systems. Costs, plans and building operational records are absent; but the primary documentation is all referenced and would, no doubt, yield the data needed by historians of construction.

Peter Mills, 'Archaeology at the Royal Mint: the first naval victualling yard', *Mariner's Mirror*, 71 (1985), pp.349-54. The report of a trial dig carried out by the Museum of London in June-August 1984 on the site of the royal mint, itself occupying the land where the first naval victualling yard was developed from 1560 to the end of the 18th century.

M.H. Port, 'A Regime for Public Buildings: Experiments in the Office of Works, 1869-75', *Architectural History*, 27 (1984), pp.74-85. The 'experiments' of the title were the variety of approaches to the design and control of building works, and the internal administrative structures, of the Office of Works under a series of ministers, senior civil servants and their professional staff. In a period which saw the erection of a large number of important public buildings (Home and Colonial Office, Law Courts, Natural History Museum), the power structure of the responsible government department, and its officers' ability to influence events, is of great interest.

Jean-Pierre Protzen, 'Inca Quarrying and Stone Cutting', *Journal of the Society of Architectural Historians*, 44 (1985), pp.161-182. Inca construction techniques have long been the subject of speculation. Investigations of ancient quarry sites and of numerous cut-stone walls reveal that the amazingly precise Inca constructions were built with very simple means (using stones selected from rock falls; parting big blocks with hammerstones; dressing by the use of smaller hammerstones) and assembled largely by means of trial and error, with minimal further dressing. Major projects, such as the 15th century rebuilding of Cuzco in masonry, were carried out in very short periods of time.

P.R. Proudfoot, 'The Development of Architectural Education in Sydney', *Historical Studies*, 21 no. 83 (1984), pp.197-211. At a time of retrenchment in all higher and tertiary education, systematic study of the history of professional training is particularly relevant. Proudfoot's article tells the story of architectural education in New South Wales, from articled pupillage (known as the *indenture* in Australia), through the part-time technical college phase, to the architecture course developed by the Department of Engineering at Sydney University in the 1880s (one of the earliest university architecture courses in the Empire).

Martin Reuss, 'Andrew A. Humphries and the development of Hydraulic Engineering: Politics and Technology in the Army Corps of Engineers, 1850-1950', *Technology and Culture*, 26 (1985), pp.1-33. Nineteenth century military engineers played an important role in civil engineering, nowhere more so than in the U.S.A. where the army took responsibility for the control of the Mississippi waterway, including bridges, levees and locks. This article explores the struggle for departmental control of this enormous undertaking, and the problem of what is now known as 'command influence' in survey methodology, interpretation, and flood control technology.

Richard Rodger, 'Bricks, bye-laws and back-to-backs: housing history and Victorian capitalism', *Journal of Historical Geography*, 10 (1984), pp.291-8. An important review article examining the recent publications of M.J. Daunton, *House and Home in the Victorian City: Working-Class Housing 1850-1914* (1983) and David Englander, *Landlord and Tenant in Urban Britian 1838-1918* (Oxford, 1983). Rodger evaluates their contributions to the formulation of a general history of urban housing, and places them in a well-referenced critique of the post-war literature which will no doubt soon figure as required reading in urban studies courses. An abstract cannot possibly do justice to the range of issues raised.

Richard D. Rodger, 'Business Failure in Scotland, 1839-1913', *Business History*, 27 (1985), pp.75-99. This article is a response to a more general study with the same title by M.S. Moss and J.R. Hume (*Business History*, 25, 1983, pp.3-10) and concentrates on Scottish building bankruptcies between 1856 and 1913. The major contention of Rodger's paper is that far from being just a helpful adjunct to trade cycle history, *pace* Moss and Hume, bankruptcy data are of much greater significance in isolating both the background circumstances of business failure and the internal workings of the industry. In the course of this methodological discussion a good deal of useful material is presented on the local patterns of building industry failure, and the pressures faced by different trades at different times of the year, as well as the celebrated crises for the Victorian building industry (such as the spectacular crash of the late 1870s, when two-thirds of Glasgow's builders went to the wall, most of them never to resurface).

Edwin A. Shearing, 'Chester Canal Projects' *Journal of the Railway and Canal Historical Society*, 28 (1984-85), pp.98-104 and 146-54. A two part article describing the surveys and projects carried out between 1768 and 1833 by Brindley, Weston, Morris and Telford for the Chester Canal Navigation Company. The paper gives a great deal of information on the process of surveying, financing and legislating for these undertakings, as well as the expenses and fees charged by the engineering consultants.

John K. Smith, 'The Ten-Year Invention: Neoprene and Du Pont Research, 1930-1939' *Technology and Culture*, 26 (1985), pp.34-55. This article traces the history of neoprene from its origin to its success as a money-maker for the Du Pont chemical company. Some studies of invention take it for granted that the ultimate form and utility of the product was apparent from the beginning, and that commercialisation was a relatively straightforward process. Smith's study of this material (lately of some importance in building) shows both assumptions to be false.

Peter Stanier, 'The Granite Quarrying Industry in Devon and Cornwall, Part One, 1800-1910', *Industrial Archaeology Review*, 7 (1985), pp.171-89. "Dominated by metal mining in both counties, this much overlooked industry played an important role in ... major civil engineering and building works of Victorian Britain. In the former, it excelled over the better known Aberdeen granite industry. Although surface stones had been used locally since prehistoric times, it was not until the nineteenth century that quarrying and an 'export' trade developed. Penryn became the main centre, where many quarries were close to this port, while good transport was essential for successful developments further inland. This article aims to summarise this poorly documented industry, during its most

active period, down to the depression of 1905-10, when there was almost total collapse in the face of Scandinavian competition."

Franklin Toker, 'Gothic Architecture by Remote Control: An illustrated building contract of 1340', *Art Bulletin*, 67 (1985), pp.67-95. "Architecture is the only visual art that cannot be executed by the form-giver alone: it invariably demands the assistance of other executants. The contemporary architect goes one step further and executes buildings entirely by remote control. The beginnings of architecture by remote control are usually linked to the development of the working drawing in the Renaissance. This paper examines the drawing and text of a Sienese building contract of 1340, and concludes that execution by remote control was already a significant part of the culture of Gothic architects." Toker's article concerns drawings for the Sansedoni Palace, preserved in the archive of the Monte dei Paschi di Siena, current owners of the palace. It goes a good deal further, however, to discuss building industry terms and titles and the pattern of administration in medieval building operations.

Theodore Turak, 'Remembrances of the Home Insurance Building', *Journal of the Society of Architectural Historians*, 44 (1985), pp.60-65. The years 1984 and 1985 are the centennial of one of the 19th century's most significant structures, the Home Insurance Building in Chicago, hailed by some as the world's first true skyscraper. Further light is shed on the circumstances surrounding the building's design and construction by documents from the architect, William Le Baron Jenney, his partner William Mundie, the fireproofing contractor Peter Wright and one of Jenney's competitors for the commission, Frederick Bauman.

Herman Van der Wee, review of W.H. Vroom, *De financiering van de kathedraalbouw in der middeleeuwen, in het bijzonder van de dom van Utrecht* (Maarssen, 1981) in *Journal of the Society of Architectural Historians*, 43 (1984), pp.267-8. "During the last few years medieval construction has not only been studied from a formalist point of view but has also been analyzed systematically in its social, economic, technical, and even financial aspects. While the influence of finance on construction has been explored in the context of Italian cities in the Renaissance, similar systematic studies of Europe north of the Alps during the late Middle Ages have been undertaken less frequently. Mr Vroom's study is a happy exception. The book is divided into two parts. In the first part the sources of income for cathedral construction north of the Alps, in general, are thoroughly analyzed, and in the second part the financing of one particular project, Utrecht cathedral, is studied in detail." This lengthy review contains a good deal of information.

J.W.R. Whitehand and S.M. Whitehand, 'The study of physical change in town centres: research procedures and types of change.' *Transactions of the Institute of British Geographers*, New Series 8 (1983), pp.483-507; J.W.R. Whitehand and S.M. Whitehand, 'The Physical Fabric of Town Centres: the Agents of Change', ibid, 9 (1984), pp.231-47; J.W.R. Whitehand, 'Commercial Townscapes in the Making', *Journal of Historical Geography*, 10 (1984), pp.174-200; J.W.R. Whitehand, 'Architecture and Commercial Redevelopment in Post-War Britain', *Journal of Cultural Geography*, 4 (1984), pp.41-55. The four papers listed above report different aspects of recent research, carried out at the University of Birmingham's Department of Geography, on the physical development of British town centres since World War I. A county town, Northampton, and a suburban town, Watford, were the focus of the study, which made use of data from the local authority building applications to analyse the pattern of change in new buildings, additions and alterations; the agents of change (developers, professional consultants, contractors) and their location; the involvement of different types of commercial clients (large-scale retail chain stores in the 1930s, property and insurance companies from the mid-1950s); and the predominant architectural styles adopted at different times during the period.

Book Reviews

The Building of London from the Conquest to the Great Fire

John Schofield

British Museum Publications, 1984,
x+190pp, 147 illust, £12.95
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Medieval and Tudor London was for a long time an enigma. Much of the street pattern survived into the days of accurate mapping, but the buildings of the period which can still be seen above ground, except in Westminster, amount to hardly more than a few churches, plus the Tower, the shell of the Guildhall and parts of the legal Inns. Even the one major domestic survival in the City, Crosby Hall, was horrendously demolished in 1907, and transported for re-erection to Chelsea. People could only suppose that the pre-Fire City looked something like parts of York, Canterbury or Shrewsbury.

John Schofield, who is a field officer at the Museum of London, has written a book which is both intensely factual and pleasantly readable, and helps to place London firmly in the stream of building history. By drawning on both archaeological and documentary evidence, together with recorded impressions from the past, both visual and written, he has produced the most comprehensive general history of early London building that has yet appeared – following, in less detail, the example of Martin Biddle and Derek Keene in Winchester and Colin Platt in Southampton.

We are reminded of the dangers of studying architectural history only on the evidence of buildings that survive. It is true that the significance of the St. Paul's Chapter House and St. Stephen's Chapel in Westminster in the evolution of the Perpendicular style is now fully appreciated, but how often are the Norman nave of St. Paul's, drawn by Hollar, or the remains of Holy Trinity Priory, Aldgate, depicted in a drawing of 1800, properly related to, say, Ely or Norwich?

Perhaps the greatest value of the book is the light it sheds on the history of doemstic building. Some splendid undercrofts are known from drawings, such as Earl de Warenne's reputed house in Southwark, demolished in 1830, and Gerrard's Hall off Cannon Street, destroyed in 1852. Others have been revealed through excavation, as at Milk Street, and one, at 8 Philpot Lane, was discovered by a delegation from preservation societies, including the reviewer, when that building was threatened. Interestingly there is evidence that some of the early undercrofts – like the extant one at St. Mary-le-Bow Church – were at first above the levels of the surrounding streets, which have been raised since.

As elsewhere in England some merchant's houses were built of stone around 1200, but after that they were mostly timber-framed, though often with stone undercrofts and stone party walls (controlled by regulations). Ragstone from the Medway Valley was used for basic structural work, with Reigate stone for dressings and details. Stone from Caen, Beer (Devon), the Isles of Wight and Purbeck, and Oxfordshire was used for important buildings but Portland stone was used only occasionally. Imported Flemish bricks and tiles were used, especially for chimneys, from the fourteenth century but, as elsewhere in eastern England, bricks came into widespread use only towards 1500. Overwhelmingly, oak was the dominant domestic building material, varied by elm for certain features and, even in the Middle Ages, by Baltic deal for planks.

Many of the houses followed the courtyard plan, as did early livery company halls which often originated as merchant's houses. The actual street frontages were frequently developed with speculative houses and shops, perhaps one room deep, three to four storeys high and sometimes physically backing on to the courtyard buildings. Surveys by Ralph Treswell of Clothworkers' Company proper-