

Approaches to Construction History

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THE CONSTRUCTION HISTORY SOCIETY

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This article is based on a thesis which explored some of the theoretical problems associated with furnishing the construction industry with an historical identity [1]. One of the surprises in studying construction history is the lack of attention given to the identity and scope of the subject. Despite the mass of literature written on various aspects of construction from an historical viewpoint, there is a marked paucity of works dealing with the conceptual framework and theoretical basis of the subject. Apart from a few papers in academic journals, virtually no attempt has been made to establish the intellectual credibility of construction history.

Why has this been the case? Part of the reason is found in what Ravetz claims to be a "deep division in society in which technical and industrial processes and their workers are socially divided from policy makers, academics and professionals . . ." [2]. Construction as a manner of production is considered to have little social relevance; the result is that studies such as Charlesworth's history of British motorways relegate matters of construction to a short paragraph [3]. Another reason for the lack of attention given to construction history has been the proliferation of historical specialisms (urban, architectural and economic history) which deal with aspects of construction as part of their academic portfolio.

This does not mean, however, that no attempt has been made to identify, create and promote construction history as a subject of study. The problem is that the subject still remains diffuse because of the lack of attention given to exploring its conceptual foundations. As a contribution towards this, this article examines the main approaches so far taken to construction history. The only thread tying these approaches together is their use of an historical perspective; apart from this they are methodologically eclectic and extremely difficult to classify. However, for the purpose of analysis these studies have been grouped into:

- (a) *direct approaches to construction history*: i.e. works which in some way assume construction history to be an identifiable subject area; and
- (b) *indirect approaches to construction history*: i.e. works that take their theme and/or conceptual framework from other disciplines.

Direct Approaches

The first direct approach to be considered is that outlined by Sir John Summerson in the first volume of *Construction History* [4]. Summerson defines construction history as involving two things: (a) the history of structural design and (b) the history of building practice. The former category is dominant, with the longer pedigree; there is a

mass of literature (much of it antiquarian in nature) which interprets construction history as the structural development of building materials and the built environment.

This specialisation of theme is probably due to the disproportionate number of people working in the construction industry who have received a 'technical' education: hence the prevailing view that construction is primarily a technical process. One of the advantages, from an historical viewpoint, in defining construction in this way is that it enables parallels to be drawn between different periods of history; as Addis has pointed out, the engineering problem of getting a building to stand up remains the same whether the structure is a Greek temple, Gothic cathedral or nineteenth century railway station [5]. The major disadvantage is that it leads to what Condit has called the "engineer's fragmentation of history": the subsumption of construction under a narrowly defined technological approach that tends to obscure the multidimensional patterns and the inter-relations of events [6].

Summerson's second definition enlarges the field of study by looking at construction as a production process shaping the built environment. Summerson states that the history of building practice involves the "total process of getting a building up on the site, including everything from the recruitment of labour, selection of materials, transport of materials and equipment on the site, down to the supply of drawing materials for the office, the method of payment to builder and architect and so on" [7]. He lists the types of firm and organisation involved in the process, based on a definition of the 'building class' given by the first editor of the *Builder* in 1842.

This approach defines construction as a form of production associated with a specific product (i.e. building production, as against agriculture, manufacturing, etc.). This has the merit of directing attention both to the transformations that have occurred in the production process and to the manner in which this process is organised. This sort of focus has been sadly missing, as Dunster has pointed out in relation to architectural history [8]. Nonetheless, there are aspects of Summerson's definition that are open to question. The selection of building production as a dominant theme for historical study does not necessarily make construction history more self-evident in identity and scope. For example, Edwards has pointed out that sectorisation of building production based on product can result in self-imposed blinkers when trying to differentiate construction from other forms of production activity [9].

The main difficulty with this approach arises from the historical specificity of its definition of building practice, which refers to the relatively short period of time when capitalist relations have been the dominant mode of production in construction. The concepts of 'industry' (avoided by Summerson and replaced by the term 'building world') and 'firm' date from the nineteenth century when the capitalist mode of production transformed society and separated the realm of production from that of consumption. During this period, when salaried and wage labour became the norm, many of the social relationships mentioned by Summerson were formed. In construction there was the development of the speculative builder/craft subcontractor, piece-rate workers, casual labourers, contractors in gross, foremen, skilled workers, etc. The increased division of labour associated with the capitalist economic system was directly responsible for many of the occupations listed by the editor of the *Builder* as constituting the 'building class'. If the history of building practice is to be defined in these terms it will have little value as an analytic tool when dealing with other modes of production such as feudal and peasant economies, or the socialist economies of Russia and China.

The next 'direct' approach to be considered can be neatly summarised by what Hamilton has called the "cultural field . . . (of) one's own profession", based on the inclusion of history in technical curricula as a way of 'enlarging' the sympathies of students beyond the purely technical [10]. Colleges which train the technical and professional specialists for the construction industry sometimes set aside a small number of hours per week for 'construction history'. Thus, civil engineering students might be given a series of lectures on the development of roads, harbours, water supply, etc. from the eighteenth century to the present day (perhaps using Pannell as recommended reading) [11]; while quantity surveying students might be asked to read Thompson's *Chartered Surveyors* [12] or Nisbet's *Quantity Surveying in London during the 19th Century* [13].

In this approach to construction history the subject is not presented as a complete field of study, but merely as background material; and it might be doubted whether this method is capable either of providing students with the necessary analytical tools to interpret past building activity or of providing them with a liberal education. Much of the history taught on these courses is really about the formation and development of particular professions, whether architecture, civil engineering, building management, surveying, environmental design and engineering, or landscape gardening. Most of those professions are relatively recent, the earliest dating from the eighteenth century: to restrict construction history to the rise of a profession is necessarily to omit the great mass of construction in earlier epochs. Furthermore, study based on the history of individual professions is inappropriate for the construction industry not only because of the extent of the inter-relationships between professions in this sector, but also, as Ive & McGhie have pointed out, because building is "closely connected with other manufacturing industries and service sectors" [14].

A further 'direct' approach to the history of construction draws its intellectual inspiration from the idea that history has relevance to contemporary society [15]. This approach is found in the work of the Bartlett International Summer School (B.I.S.S.) whose organising committee publishes an annual volume of proceedings, dealing with *The Production of the Built Environment*. Although the B.I.S.S. has multiple objectives regarding the nature of its research work, it does attempt an historical analysis of change in the built environment in order to apply lessons drawn from previous events to the present so that "change can be managed according to human aims" [16]. The B.I.S.S. is not specifically concerned with construction history but rather with the socio-economic forces shaping the 'built environment', a term deliberately used to overcome the 'professional' and 'subject' divisions between architects, planners, historians, economists, building surveyors, etc. Nonetheless, some of the most exciting current research work on the history of construction is being done by its contributors; for example, by Clarke [17], Janssen [18], and Ball [19] on the transition to capitalism in building production and by Ive [20] on the construction process in colonial Africa.

Despite the diversity of topics covered in the B.I.S.S. papers, they share in common a Marxist theory of historical explanation, an approach to history that has been very influential since the 1950s. Many of the acknowledged leaders of 'mainstream' historical scholarship—e.g. Christopher Hill and E. J. Hobsbawm—write from the Marxist premise that "all societies contain both stabilising elements and disruptive elements (or contradictions) and that historical change occurs when the latter burst out of the existing social framework and through a process of struggle achieve a new order" [21]. Many of the B.I.S.S. papers attempt to analyse the contradictions or dialectic between the forces of production in construction (i.e. the tools, techniques, raw materials and

labour) and the relations of production or division of labour required to sustain production. This has opened up interesting areas in construction history, particularly with regard to the building labour process (labour and management) and technological change in the building industry. The main drawback is that all historical data relating to construction is interpreted according to the one level of reality; class conflict in the manner of production is seen as driving history in a forward direction. While this can be a fertile approach in the hands of the best historians, it can also lead to a narrowness of approach and result in “reductionist history by second-rate scholars” [22]. Such an approach is also open to the danger of being deterministic in the sense of viewing historical events as being the outcome of ‘certainties’ rather than ‘probabilities’ in human behaviour.

Another instance where the legitimacy of construction history is grounded on its contribution to solving current problems is the work of Morice. In his article on the role of history in a civil engineering course, Morice gives a two-part justification for the study of construction history: it will help engineers design better structures, since building is “littered with examples of (structural) failures which historical insight could probably have avoided”; it will also develop an appreciation of the impact which major engineering works can have on the environment since “historical study will cause the young engineer to be more aware of his public accountability in environmental matters” [23].

Morice’s approach raises a number of questions. At the level of historical scholarship it has not been settled that ‘lessons can be learnt from history’, as witness Hegel’s famous dictum [24]; some historians argue that the study of history, as the study of human thought and action, is of intrinsic value irrespective of any practical implications [25]. Moreover, in terms of practical performance it is questionable whether history can be used as an aid to better structural design by ‘professional engineers’. Hatchett has shown in a case study that the failure of the King Street bridge in Australia in 1962 was caused by an unholy mix of new technology (the introduction of high tensile steel), failure in communication between consultants and subcontractors, faulty inspection procedures and difficulties in the method of procurement [26]. Such work suggests that trainee engineers should address general questions relating to the current construction industry by focusing on topics such as methods of procurement, management control, labour relations, technological development, etc.

The final direct approach identifies the construction industry as an important user of economic resources and subjects it to historical analysis with a view to achieving greater economic efficiency. In his book, *An Economic History of the British Building Industry 1815–1979*, C. G. Powell expresses the hope that his study will,

help to heighten appreciation of economic and social generalities as an aid to the better understanding of other particularities and the overall position of building in society. Such an appreciation appears to be all the more important at a time when demand for buildings is changing and when resources for their provision are more than usually scarce [27].

This is related to the learning-lessons-from-history approach in that it attempts to give some form of guidance in solving contemporary economic problems in building. The most obvious difficulty with this approach from a theoretical viewpoint is the designation of construction as an ‘important’ economic activity. It is based on a method which divides the economy into sectors and then appraises the contribution made by each discrete sector to the national accounts. Even when applied to the contemporary economy, this method can result in conceptual difficulties. Sectorisation

of the economy by type of product (e.g. shipbuilding, aircraft manufacture, house-building, civil engineering, etc.) bears no necessary relation to the way labour is organised in trade unions, nor to the markets in particular categories or types of labour [28]. The degree of importance of an industry also varies according to the components included in the category: for example, the Standard Industrial Classification for construction is a site-specific definition which does not include the professions or building material supply industries.

These difficulties are compounded when applied to the study of the past. To deal with important issues such as the relationship between construction capacity and demand it would be necessary to make use of the conceptual framework of a new specialism, the applied economic analysis of the construction industry. This subject however is at an early stage of development: its conceptual framework is incomplete and it has certainly not addressed the problem of earlier forms of construction. A further difficulty is that in the past the level and/or composition of demand for construction has been subject to marked variations, both nationally and regionally, and there has been no necessary relationship between the level of demand for building and the significance of developments within building. Although it may be true that for a particular time and place construction activity as measured by selected economic yardsticks was relatively unimportant, this does not mean that unimportant events were occurring in construction. In medieval England, for example, the houses of husbandmen, yeomen and minor gentry began to be built on new principles, involving a transition from ‘short lived houses’ to buildings which still survive today—an important change in the history of construction technology [29].

One of the most noticeable deficiencies of construction historiography is the lack of a wide-ranging survey that provides an even-handed coverage of the subject. Such a survey could act as a general synthesis, drawing together the research findings of a large number of specialist works, as well as being a “fertile source of new questions and . . . the principal means by which historians can communicate . . . to the wider public” [30]. Works on construction history that do range over time tend to be characterised by thematic specialisation [31]. For example, Knoop & Jones’s *Collected Papers on the History of Building* is about the economics of English stone building in the late middle ages [32]; H. M. Colvin’s multi-volume *History of the King’s Works* deals with the administrative history of English royal building [33]; and Salzman’s *Building in England down to 1540* attempts to uncover the conditions that existed in the building industry during the high middle ages [34]. A somewhat different approach is found in Jope’s *Studies in Building History*, which covers aspects of structural development from Roman timber building to early seventeenth-century houses in Ireland [35]. This is a ‘collaborative history’ in which leading experts each contribute a chapter based on their specialist knowledge. The drawback, as with most collaborative histories, is that, however like-minded the contributors, the themes which cut across the specialist concerns of the contributors tend to be omitted.

One major theme in the literature of construction history is that of changes in building technology. Studies of this subject tend to focus either on the period before the beginning of industrialisation in the late eighteenth and early nineteenth centuries, or on the period since. With regard to the former, one of the main controversies concerns the degree of technological change in the pre-industrial building industry. Some writers argue that construction technology prior to the Industrial Revolution was static or at least restricted in its developments. Goldthwaite, for example, states that “before the industrial revolution few technological innovations were introduced that

essentially changed the ways buildings were put up" [36]. Similarly Salzman asserts that hand tools "varied little between the Roman period and the nineteenth century" [37]. Against this, others argue that fundamental transformations occurred in building prior to the nineteenth century. Condit argues this with respect to the Romans [38]. If the generic term 'construction technology' is disaggregated into a number of specialisms, such as structural design, structural systems, building materials, hand tools, industrial organisation, etc. (as in Guedes' encyclopedia of architecture and technological change [39]) the rate of technological change in different parts of construction can be assessed. Shelby has investigated developments in hand tools from ancient to modern times and disagrees categorically with Salzman's assertion that no significant innovations occurred in this form of technology [40].

Overall, the literature on pre-industrial technological change in the construction industry gives a reasonable presentation of the main events (i.e. the main types of change in their chronological order); what is missing is an explanation of the forces which shaped this change. For example, it could be argued that the chief factor in the development of Roman construction technology was the exceptional ability shown by this society to organise manpower, finances and techniques on a large scale. The homogeneous character of the Roman state was of prime importance in this respect. There is also the question whether the construction technicians of these epochs knew what they were doing with regard to technological innovation: was it a largely unconscious process governed by fortuitous events or was it guided by any broader, deliberate concepts? These questions of the causation of technological change have yet to be explored.

The other main focus in the literature of this sort is on the period from the industrial revolution to the present day [41]. The best critical review of the literature on the transformation that has taken place in this period is the paper by Groak and Ive presented to the Building Economics Workshop; their study is one of the few that, in dealing with the history of construction technology, attempts a unified presentation of theory and practice giving due attention to interrelations between the various parts [42]. Generally the literature in this field deals with technological change as an "exogenously induced change based on one or another kind of simple determinism": for example, the work of Bowley on innovation and resistance or response to change in the building industry [43], and that of Turin, which emphasises the study of the building *process* as a way of comprehending the direction and mechanisms of technological change in the industry [44]. The alternative (endogenous) explanation is based on a model where various elements within the building industry (such as leading firms or groups of firms) influence the pace and direction of technological change.

A particularly interesting strand in the debate on change in the construction industry is the controversy over the 'backwardness' or otherwise of building compared to the other branches of production. Some writers (notably Bowley, Turin and Ball) argue that construction developed in a direction which was not only different from other industries, but which resulted in it being considered 'backward' [45]. Others claim this is a misrepresentation of events based on a unilinear view of development; Tuckman, for example, suggests that "the construction industry... should not be characterised as 'backward' since it will not 'catch up' or even approximate to the predominant manufacture but it is a parallel form of labour process" [46].

Most of the research on technological change in the recent period uses a socio-economic approach focussing on groups, institutions and structures. This tends to play down the importance of the individual in technological innovation. The work of

Hobhouse on Thomas Cubitt [47], Pugsley on Isambard Brunel [48], and Middlemas [49] on late nineteenth- and early twentieth-century engineers and contractors represents an attempt (among other things) to highlight the role of outstanding individuals in providing the driving force associated with technological change. The assumption underlying works of this kind is that technological change can be brought about by the 'break-away' action of non-conforming individuals and that communal regulations and restrictions impede the enterprise of such individuals.

Indirect Approaches

These approaches do not view construction history as being an independent scholarly discipline. Instead they study construction topics within a conceptual framework drawn from other subjects.

The first of these indirect approaches is the application to construction of the questions developed in the historical study of the transition from feudalism to capitalism. Within the social sciences, the question of how capitalism came into being has been a major issue, for Adam Smith, Saint-Simon, Max Weber and Durkheim, as well as for Marx [50]. With regard to construction, the 'transition to capitalism' debate has prompted the work by Janssen on the formation of wage labour in building production in the seventeenth and eighteenth centuries [51]. Janssen's approach stems from Marx and particularly from Maurice Dobb, who dates the beginning of the capitalist era to sixteenth-century England [52]. Applying this notion to building production, Janssen claims that a decisive breakdown in the feudal subordination of labour occurred in seventeenth century London and Middlesex, where the introduction of a new construction technology—brickmaking and bricklaying—changed existing social relations in construction, resulting in the rise of large-scale capitalist brickmakers and builders who employed labour on a wage basis [53].

While Janssen attempts to locate the first 'appearance' of capitalist relations in building production, other writers have investigated the development of this mode of production in the industry. Ball argues that the rise of speculative building in nineteenth-century England arose from the difficulties of acquiring capital for building production at a time of great demand for housing. This lack of capital meant that building got fragmented into a number of separate parties (landowners, estate and speculative builders, homeowners, etc.) who engaged in a buying and selling relationship [54].

Some indirect approaches to construction history not only incorporate themes considered relevant by other disciplines but also embrace and/or extend the conceptual framework in these subjects. This is the case with Price's work on the labour process in the British building industry between 1830 and 1914 [55]. While dealing with construction, the conceptual roots of the book belong to the historical specialism of labour history. This field emerged with the work of the Webbs and the Hammonds and focused at first on the co-operative movement, trade unionism and socialist politics [56]; but this work later came to be seen as "excessively institutional, narrowly political and elitist, focussing on legislation and trade union activities, especially the activities of leaders" [57]. In a series of studies written between the late 1940s and early 1960s (collected in 1964 as *Labouring Men*), E. J. Hobsbawm sought to develop labour history as 'working-class history', i.e. a history not limited to organisations and leaders, but one dealing with working-class experience more broadly [58]. Price attempted a similar revision by giving attention to the role of the labour process; he

planning gives an excellent description of the way industrialised building techniques (and the forces which created this technology) restructured the urban environment of many cities [67].

It can be argued, however, that the urban historians' approach to construction history results in an inadequate level of conceptualisation and theoretical perspective to this subject. Despite what Dyos says about the range of research work on the urban past ('From the archaeology of urban development in the Dark Ages to community patterns in the modern metropolis, from York in the age of reform to Blackpool in the age of affluence' [68]), most of this work concentrates either on the urban transformation process that began around the year 1800 or on subsequent aspects of urbanisation. Urban history by definition concentrates on the city and gives little attention to the rural aspects of living. What, therefore, do urban historians make of the intensive building activity that occurred in rural England between 1570 and 1640 (what Hoskins called the 'Great Rebuilding') that ended the medieval preference for permanent buildings and resulted in the building and successive rebuilding of permanent vernacular houses [69]? While past civilisations have occasionally been dominated by their urban institutions, throughout historical time most people did not live and work in urban concentrations (even in 1800, when the world's population was estimated to be about 1000 million people, less than 3% could be described as urbanised [70]). This suggests that construction activity was mainly located in rural communities which were geographically diffused and supported a highly localised building industry.

The last of the indirect approaches arises from economic history. In spite of its economic importance, the building industry has attracted the attention of relatively few economic historians compared to other forms of production such as textiles or iron and steel. The main problem is that building as a specific form of activity has been carried out mainly by a multitude of small organisational units and individual entrepreneurs who left few sources of written material. Most of the work in this area concentrates on the nineteenth and early twentieth centuries, for the obvious reason that a lot of data exists on this period that can be used to make quantitative statements. Within this period, the main theme in the literature has been the study of fluctuations—particularly long swings—in housebuilding (see, for example, Thomas's *Migration and Economic Growth* [71], Parry Lewis on building cycles and economic growth [72], Cooney on capital exports and investments in Britain and the United States [73] and Sahl's work on housebuilding in England between 1890 and 1914 [74]). This concentration on building fluctuations derived from the interest of economists in the 1930s in the disequilibrium that can occur in the national economy and result in crisis. It was thought that the study of fluctuations would give a historical perspective to the disruptive forces in the economy which, at the time, were only dimly understood. Other literature on the economic history of construction includes work on British building between the wars that focuses on the problem of low productivity in the building industry and also the economics of housing in general (e.g. Marton Bowley's *Economy between the Wars* [75] and Richardson & Aldcroft's *Building in the British Empire and the State* [76]). For many general readers the field is defined by Powell's *Economic History of the British Building Industry* (published in 1980), which begins with the rapid growth of towns and cities in the early nineteenth century and ends in the era of the 'Lump' and 'D-I-Y'—all in 200 pages. Allowing for the character and haphazard distribution of the primary sources relating to the economic performance of the construction industry, this branch of building history has a number of important gaps: very little of the literature relates to

maintains there is an inherent dialectic within the labour process that propels workers and their organisations in new directions and towards new challenges to capital. In nineteenth-century construction, Price identifies two key transformations that conditioned workplace struggles: the rise of the general contractor, employing hundreds of men, and the emergence of the modern pattern of industrial relations, narrowing the building workers' demands from issues of control to matters of money.

The next indirect approach has the potential for inspiring some of the most exciting research work in building history. Development Theory is a specialism of economics concerned with economic development in 'Third World' countries and the strategies required for its successful implementation. (In this sense it has links with the transition to capitalism debate, in that interpretations of the emergence of capitalism can have practical consequences for the strategies adopted by underdeveloped countries.) Research in Development Theory has looked at the relationship between construction and development, either in terms of the establishment and growth of the construction industry in 'Third World' countries or of the role of the construction industry in economic development [59]. This approach to construction is based on a national planning viewpoint in which the industry is perceived as being an important user of scarce resources (and thereby required to be efficient and effective) and/or as an important contributor to economic growth in the form of fixed capital formation (e.g. roads, housing, factories, airports, docks, dams, etc.). One of the defects of earlier work in Development Theory was that it studied the experience of economic growth in Western industrial societies without analysing the historical development of socio-economic forces within 'Third World' countries. Similarly, in construction and development studies attention was focused on the 'technical' . . . aspects of construction, with an emphasis . . . on the development of new materials (to substitute for more expensive or important ones) and of new construction technologies' [60]. These problems led some authors (notably Todaro [61] and Ganesan [62]) to conclude that 'cultural values' are decisive in determining the rate and direction of economic growth, recognising the variations within 'Third World' countries of history, geography, social structure and traditions.

This reorientation within Development Theory has focused attention on the indigenous building industries of underdeveloped countries, looking at the current structure of industry as the outcome of historical processes. Given the almost complete ignorance that prevails regarding 'Third World' construction history, this is a formidable undertaking, but it will at least begin to correct the view from the 'district commissions' verandah' (as in Bingham's history of the Public Works Department of Ceylon [63] and Buckley's study of irrigation works in nineteenth-century India [64]). One of the best examples of the revisionist approach to 'Third World' construction history is Iye's paper on building production in colonial Africa [65]. Allowing for the methodological difficulties involved in studying the history of building in underdeveloped countries (with oral tradition as the main form of historical evidence), this thematic specialism has an important contribution to make.

The next indirect approach to building history stems from urban history. The rise of urban history in Britain in the 1960s and 1970s represented an attempt to subsume construction history within the boundaries of the historical study of the city. H. J. Dyos, the doyen of urban historians, bemoaned the lack of detailed research on the operations of builders and developers and considered this form of history to be an important component of studies on the urban fabric [66]. Later writers on urban history followed this approach. Kavez, for example, in her book on postwar urban

the economic development of building and its interrelationship with the economy before the nineteenth century. Goldthwaite's brilliant study of *The Building of Renaissance Florence* is a conspicuous exception [77]. Furthermore, few construction historians so far have followed the trend in economic history towards the systematic study of individual firms on the basis of their business records. Whether or not the historian identifies with the values of the capitalist economic system, these studies can give an understanding of the mechanisms of economic expansion at a critical juncture in the history of an industry. Most of the studies on firms in the construction industry are authorised hagiographies that lack the penetration and intelligence shown by, for example, Charles Wilson's study of Unilever [78].

Conclusion

Construction history as a subject of study focuses attention on a variety of important subjects which might not otherwise be taken seriously. It gives historical perspective to the way the built environment was literally pieced together, dealing with matters such as the structure and ways of working of the building industry, the type of technology used, developments in the labour process, the relationship between construction and the development of the economy, etc. There is however no intellectually compelling reason for seeing the subject as an independent historical discipline. Most of the work could be located in one or other of the existing specialisms which deal with the history of the built environment, such as urban history, architectural history or the interdisciplinary approach of the B.I.S.S. Each of these has the potential to develop the concepts and methods relevant to the study of building activity, provided only that enough interest is taken in this area.

In practice, however, the history of construction has been largely neglected by these specialisms and instead has been the preserve of amateur historians, technical specialists and academics whose commitment to construction as a field of historical study is restricted to the duration of a few research projects. A price is paid for leaving construction history out—urban history, for example, makes little sense unless some attention is given to the way in which the urban fabric was made. Furthermore, the building industry has been of fundamental importance to many economies for long periods of time (although, as already noted, care is needed in using this theme to organise construction history). This suggests that construction history should not be dismissed as an idle intellectual pastime. Its main vindication as a subject of study (apart from any intrinsic value) is the unfortunate reluctance of the more pertinent historical specialisms to enter into discussion about building production, counterpoised with a recognition of the importance of this activity to socio-economic life in the past.

The work of the Construction History Society suggests the history of building is beginning to emerge as a separate intellectual discipline. This article has concentrated on one of the fundamental difficulties in creating a discipline—the exploration and establishment of a conceptual framework that guides the work. None of the survey histories of construction has attempted a conceptual analysis of building history, and most of the consideration given to this important subject is found in the chance remarks and concluding paragraphs of various academic journals and papers.

My general conclusion is that construction history should be open to and/or draw upon many other disciplines and be viewed in the same way that Dyos regarded urban history, namely, as a focus for a variety of forms of knowledge rather than a form of knowledge itself [79]. The construction historians' perspective is positively enriched by

not being committed to a single methodology. Thus the lack of agreement as to whether to pursue an economic approach based on analysing the influence of building in the economy, or a technological approach that focuses on the various stages of structural development, or an approach that concentrates on the role of labour in the building process, can help to produce a range and variety of research that gives serious consideration to the complex historical processes that have shaped construction.

Finally, I would urge that construction history should range widely over space as well as time. It is probably true to say that the historical study of building as a production activity has found more support in Britain than any other country. Whatever its advantages, this does raise the danger of a parochialism that eschews the possibility of a comparative method. By abstracting construction phenomena from different societies at different periods it becomes possible to compare the various ways in which the human race has approached building and to move towards a general theory of building production based on historical evidence. Only with such a theory will it be possible to deal with the really significant questions in construction history.

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