

Wahl der Wochenmitten oder Wochenenden, der Weinfe-ste, der Bevorzugung bestimmter Jahreszeiten usw., auf die im Text näher eingegangen wurde. Die für Pkw-Zählungen und Befragungen ausgewählten Tage werden in der Literatur oft als „repräsentativ“ bezeichnet. Aus den hier vorgelegten Untersuchungsergebnissen geht m. E. eindeutig hervor, daß es solche für die ganze Saison „repräsentativen Tage“ nicht gibt. Die Tabellen und Karten zeigen, daß die Stichproben

erst in ihrer Kombination und Streuung die angestrebte Wirklichkeitsnähe erreichen. Im Einzelfalle mag in einer bestimmten Fremdenverkehrssparte einmal eine Verwaltungseinheit über- oder unterproportional vertreten sein. Solche Fehler lassen sich jedoch durch die doppelte Erfassung der Besucherströme und den kritischen Vergleich der beiden Erhebungsmethoden bzw. ihrer Ergebnisse in befriedigender Weise ausmerzen.

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FLUCTUATIONS IN THE LAND-USE COMPOSITION OF URBAN DEVELOPMENT DURING THE INDUSTRIAL ERA*)

With 9 figures

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Zusammenfassung: Schwankungen im Anteil verschiedener Landnutzungskategorien bei der Stadtentwicklung während des Industriezeitalters

Für die Vereinigten Staaten, Großbritannien, Australien, Italien und für einige ausgewählte britische Städte werden graphische Darstellungen vorgeführt, die Angaben über die zeitlichen Schwankungen des relativen Anteils verschiedener Landnutzungskategorien bei der Stadtentwicklung zwischen der Mitte des 19. und der Mitte des 20. Jahrhunderts machen. Außerdem wird auf eine Studie eingegangen, in der Grundstückstransaktionen, welche der Erschließung von Land für städtische Nutzung vorausgingen, in einem städtischen Teilbereich untersucht wurden. Das zyklische Element beim städtischen Wachstum wird betont, und die Aufmerksamkeit wird darauf gelenkt, daß es während der Flautezeiten des Wohnungsbaus zu einem relativ starken Zuwachs städtischer Flächen-nutzung kommt, die nicht Wohnzwecken dient. Es handelt sich besonders um Nutzungen geringer Intensität und um solche, die im Zusammenhang mit öffentlich-institutionellen Bauvorhaben stehen. Schließlich werden einige Faktoren zusammengefaßt, die den Hauptschwankungen in der Zusammensetzung der Landnutzung bei der städtischen Entwicklung zugrunde liegen, wie die Unterschiede in finanziellen Übereinkommen, die in den Anfangsstadien getroffen werden.

An aspect of cities that has been neglected, perhaps partly because it involves a long time perspective and severe data problems, is the analysis of time series relating to the various forms that in combination make up the physical character of urban areas. This type of study can reveal both the recurrent aspects of the development of the urban landscape, such as fluctuations in house-building, and the limitation of the construction of certain forms to particular periods, for example the concentration of cinema building in Britain almost entirely within the first four decades of this century. Ideally it should be undertaken at scales ranging from local to national (and even international) if individual developments in the landscape are to be viewed in the context of more general processes.

*) The author is indebted to Mr. S. T. DELANEY for permission to use his data on golf courses and rugby union clubs, to Mr. P. J. ASPINALL, Mr. R. G. FORD and Mr. T. R. SLATER for their comments on a draft of this paper, and to Mr. T. G. GROGAN for preparing the diagrams for publication.

It is only belatedly that the role of fluctuations in house-building in the growth and internal structure of the city has been investigated by geographers (for example, WARD 1964, JONES 1969, ADAMS 1970, FORSTER 1972, WHITEHAND 1972a, BARKE 1974), although such fluctuations have been studied a great deal in their own right by other social scientists on both sides of the Atlantic (for example, GREBLER 1936, FLAUS 1949, HABAKKUK 1962, GOTTLIEB 1976). Time series of non-residential development have attracted much less interest, and concern for their implications for patterns of urban land use has been confined to a small number of studies (for example, WHITEHAND 1972a, 1977, OPENSHAW 1974). Yet variations overtime in the incidence of different land-use developments and in the creation of different types and densities of housing have been shown at the intra-urban level to have had considerable significance for both the form of peripheral growth (WHITEHAND 1972a, 1975) and subsequent changes in the internal structure of urban areas (WHITEHAND 1972b). For example, it appears that there was a tendency for land to continue to be developed for certain low-intensity uses during slumps in house-building, resulting in changes in the land-use composition of new development and leading to long-term zonal variations in land-use patterns (see, for example, WHITEHAND 1974, BARKE 1974, OPENSHAW 1974). But such findings have been based on data for only a few cities and parts of cities. If their wider applicability is to be assessed, it is necessary to assemble data for more extensive and varied areas. It is the purpose of the first part of this paper to present such data, focusing primarily on variations over time in the relative amounts of urban development in different land-use categories. In the second part of the paper some of the more general factors that may help to explain these variations are briefly discussed.

The data to be considered relate to spans of time of varying length between the mid-nineteenth and mid-twentieth centuries. Information at the national scale is presented for the United States, Great Britain, Australia and Italy, at the city scale for several British cities, and at a local scale for a small part of a single British city. It has been compiled from diverse, mainly published sources and there are necessarily differences from one country to another and from one city to another in the form in which it is expressed. Rarely is information available in areal measures. More usually it comprises the amounts of construction of different types: in most cases this is measured by value or by number of buildings/dwellings, although occasionally the number of developments (parks, golf courses etc.) is given. In the case of one small area detailed land transactions at the level of the individual plot have been assembled in order to consider the extent to which transactions in land show regularities similar to those described at varying scales for construction and other types of physical development.

In the long term, residential development consumes considerably more land in an urban area than any other single land use (see, for example, NIEDERCORN and HEARLE 1963). Measured in terms of constructional activity it often comprises more than half the total. But such construction has undergone substantial fluctuations throughout the period for which there are reliable records and these fluctuations

have been paralleled by major variations in the speed with which urban areas have spread outward. The importance of residential construction is such that it is employed here as a yardstick to which other developments are related.

The national scale

Data at the national scale for the United States, the United Kingdom and Australia, although in each case assembled on a different basis, all suggest that non-residential construction has been subject to less pronounced fluctuations than residential construction (LONG 1940, app. B, sect. 2, LIPSEY and PRESTON 1966, pp. 20–21, FEINSTEIN 1972, Table 48, RICHARDSON and ALDCROFT 1968, p. 56, Table 1, p. 62, Table 3, BUTLIN 1959, pp. 397–398, Table II, pp. 403–404, Table IV. See also LONG 1940, pp. 168–175, RATCLIFF 1949, pp. 154–155). This is reflected in considerable variations over time in the relative importance of non-residential and residential construction (Fig. 1). Viewed in terms of cycles in house-building, the general pattern in all three countries was for the relative amounts of non-residential building to be small during booms in house-building and large during house-building slumps. For example, in the United States non-residential building (excluding public works and utilities) comprised only 35 per cent of all new floor space created in the high house-building years of 1939 and 1959 but 66 per cent and 72 per cent in the slump years of 1920 and 1945¹⁾.

If non-residential construction is disaggregated, it is apparent that the fluctuations were of greater magnitude in commercial and industrial building than in public/institutional building and on the whole it was public/institutional building that was responsible for the greater stability of the non-residential sector. For example, the ratio of the highest to the lowest annual scores recorded was substantially lower in public/institutional building than in any other category of building in Australia and the United States, the two countries for which the available data allow comparisons²⁾. All the major sub-categories of non-residential construction held up better than residential construction during house-building slumps (Figs 2–4) and, with the exception of Australia in the early 1930s, in each case of a prolonged slump in house-building there was a marked rise in public/institutional building as a proportion of residential and public/institutional building combined (Fig. 4). On the whole such rises were associated with absolute falls in the amount of public/institutional building, although cases of actual increases in this type of construction during house-building slumps were by no means unknown, as has been revealed in Scotland in the early 1880s and early 1900s (RODGER 1979a) and in Germany during the fifteen-year span before 1914 (GOTTLIEB 1976, p. 77).

¹⁾ Based upon LIPSEY and PRESTON 1966, pp. 20–21.

²⁾ Based upon LIPSEY and PRESTON 1966, pp. 20–21 and BUTLIN 1959, pp. 397–398.

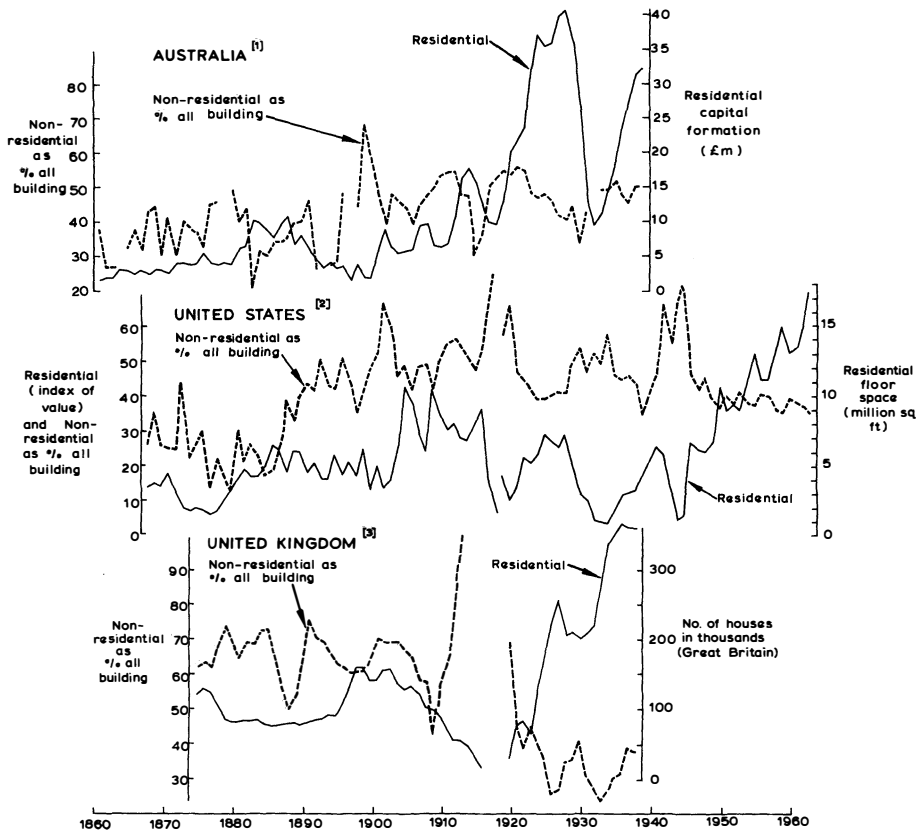


Fig. 1: Non-residential building as a percentage of all building. The percentages are based on gross capital formation for Australia, value or floor space for the United States, and net domestic capital formation or gross domestic capital formation for the United Kingdom.

Sources: Australia – BUTLIN 1959, Tables II and IV. United States (1868–1918) – LONG 1940, Appendix B, Section 2. United States (1919–63) – LIPSEY and PRESTON 1966, pp. 20–21. United Kingdom – FEINSTEIN 1972, Table 48; RICHARDSON and ALDCROFT 1968, p. 67; MITCHELL and DEANE 1962, p. 239.

¹'All building' comprises the following components of capital formation: residential (inc. public housing), industrial, commercial, and public buildings.

²Data for 1919–63 are floor space whereas those for 1868–1918 are LONG'S index of value. For 1919–55, data for certain states were not available and the figures for floor space in these years have therefore been weighted (in proportion to the number of states for which data were available) to make them comparable with those for 1956–63 which are for 48 states. LONG'S index is based on an increasing number of cities over time – before 1899 less than 12 cities are involved and the index is of doubtful reliability.

³Non-residential building as a percentage of all building is based on net domestic capital formation for 1875–1913 and gross domestic capital formation for 1920–38. Non-residential building includes civil engineering works during the period 1875–1913.

Information on the different types of residential construction is much more limited. LONG'S attempt to compile long-term series at the national scale for the United States is still one of the few (LONG 1940, pp. 224–225). His separate series for detached dwellings and multifamily dwellings cover the period 1868 to 1935 but, as with his series for other types of building, the number of cities upon which the nineteenth-century parts of the series are based is too small to justify placing much reliance on them (ABRAMOVITZ 1964, pp. 206–207). Nevertheless, the greater fluctuations in the construction of multifamily dwellings compared with detached dwellings that his findings reveal (LONG 1940, pp. 130, 175–176) tend to accord with statements on other areas that occur

sparsely in the literature (RODGER 1976, pp. 84–85, 1979b, p. 241). Taken together the scanty evidence suggests that there may well have been considerable variations over time in the relative proportions of middle-class and working-class houses that were constructed, the former comprising a large proportion of houses built during slumps and a small proportion of those built during booms; in other words, the long-term pattern seems to have been one of marked fluctuations in working-class house-building underlain by a more stable pattern of middle-class house-building.

Building activity, whether measured by floor space, value or number of buildings, is an incomplete measure of urban development since building densities vary considerably.

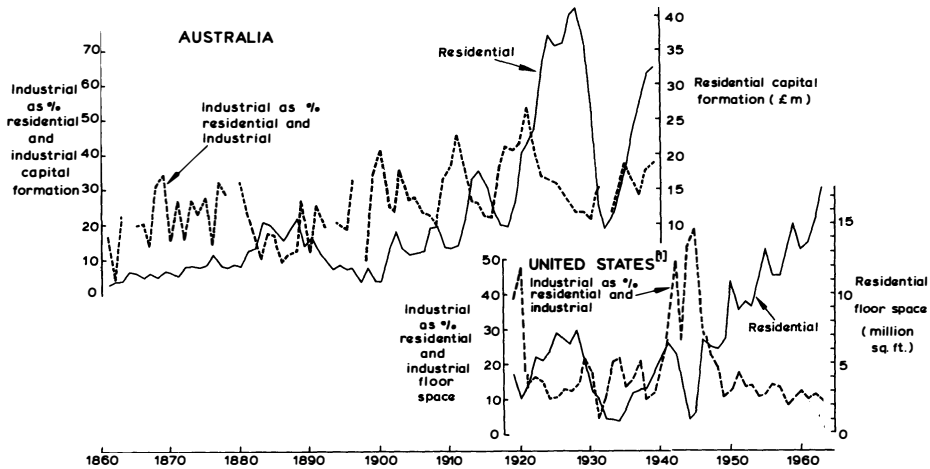


Fig. 2: Industrial building as a percentage of residential and industrial building combined.

Sources: Australia – see Fig. 1. United States – LIPSEY and PRESTON 1966, pp. 20–21.

¹For 1919–55, data for certain states were not available and the figures for floor space in these years have therefore been weighted (in proportion to the number of states for which data were available) to make them comparable with those for 1956–63, which are for 48 states.

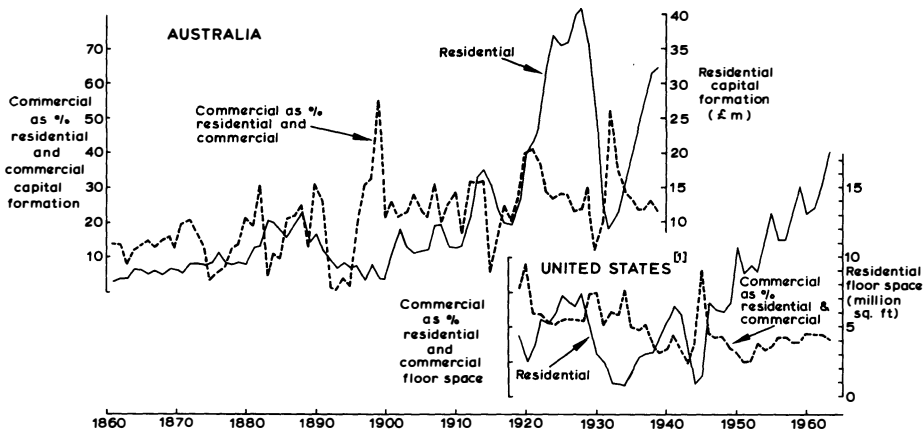


Fig. 3: Commercial building as a percentage of residential and commercial building combined.

Sources: Australia – see Fig. 1. United States – see Fig. 2.

¹See Fig. 2, Note 1.

Some developments, such as parks and sports grounds, involve little or no building yet occupy extensive areas of land. National data on such developments are time-consuming to compile but those available strongly suggest a distinctive pattern from that of house-building. A recent investigation of the creation of golf courses and rugby union clubs in England and Wales since the middle of the nineteenth century (S. T. DELANEY, personal communication) has revealed major fluctuations³⁾ but of different timing from those in house-

building (Fig. 5). In the case of golf courses, if the periods of the two world wars were excluded, the main fluctuations were counter to those in house-building, with the main peaks in golf course creation occurring during house-building troughs. In the case of the foundation of rugby union clubs, there was little or no correlation with house-building fluctuations.

These findings added to those on different types of building activity suggest that at the national level there have been major differences in the composition of urban development between house-building booms and slumps. It is necessary now to examine these differences at the more local scales at which they have taken on significance for the arrangement of land uses on the ground.

³⁾ The time series of golf course creation and golf club foundation are broadly similar. Data are not available on the creation of rugby union grounds, as distinct from clubs.

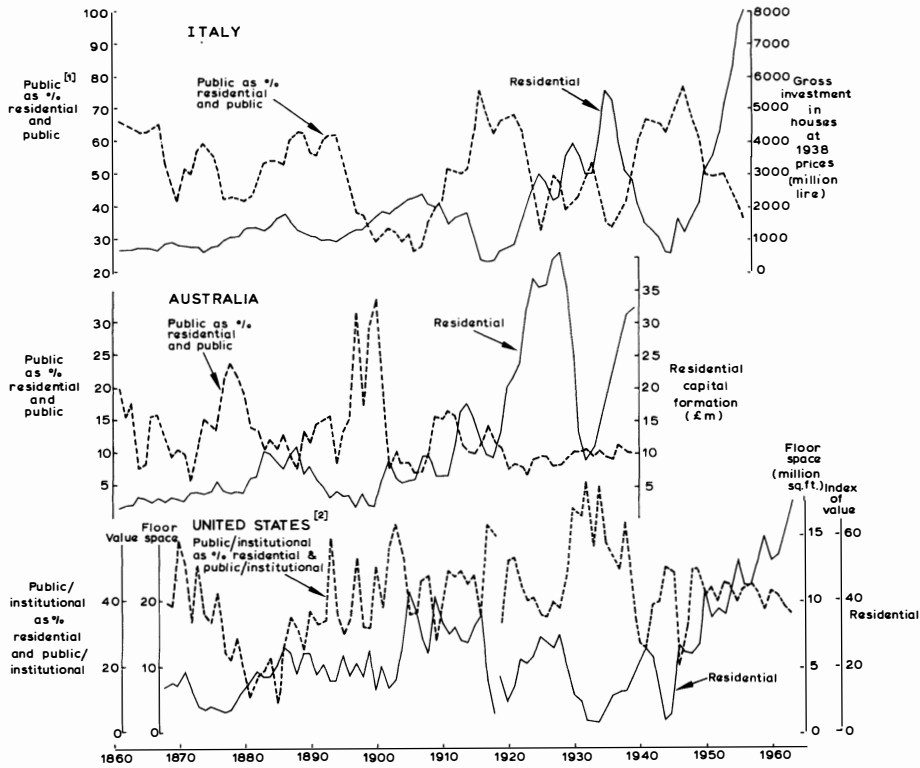


Fig. 4: Public/institutional building as a percentage of residential and public/institutional building combined. The percentages are based on gross investment in the case of Italy, gross capital formation in the case of Australia, and value or floor space in the case of the United States.

Sources: Italy – *Annali di Statistica*, Series 8, Vol. 9, 1957, pp. 266–267. Australia and the United States – see Fig. 1.

¹These are ‘public works’, whereas ‘public buildings’ have been used in the graphs for Australia and the United States.

²See Fig. 1, Note 2.

³Public and institutional 1868–1918; public 1919–63.



Fig. 5: Number of golf courses and rugby union clubs established in England and Wales.

Sources: Golf courses and rugby union clubs – *The Golfing Annual* 1888/9–1909/10, Vols 1–21; *The Golfer’s Handbook* 1902–77, Vols 1–74; *Rugby Football Union Handbook* 1976. House-building – MITCHELL and DEANE 1962, p. 239; *Department of the Environment* 1971, p. 7; 1975, p. 23; 1978, p. 24.

¹Only those still existing in 1975 are included.

The city scale

At the sub-national scale data are again fragmentary but broadly consistent with the findings pieced together at the national level. GOTTLEB (1976, p. 77) has drawn attention to the regular changes in the proportions of private (taxable) and public (exempt) building in the state of Ohio between 1853 and 1912 and to the tendency for there to have been an inverse relationship between public building and residential construction. Of the data for individual British cities, those for Glasgow for the period from 1871 to 1936 are probably still the best available. These reveal that neither institutional and public building nor commercial and industrial building had much relationship to house-building, which was subject to longer swings than other types of building (WARREN and PEARSON 1937, p. 121, Fig. 28). An impression of the effect of this on changes over time in the functional composition of urban development is given by CAIRNCROSS (1953, p. 20, Fig. 1): the value of plans for houses and shops comprised well over one-half of the value of all plans passed in house-building booms but fell to less than one-fifth during house-

building slumps. Long-period data for Bradford, Hull and Liverpool reveal marked fluctuations in the proportions of residential and non-residential building. In Bradford, non-residential building ranged between 10 per cent and 100 per cent of all buildings approved, high values having occurred during house-building slumps and low values during house-building booms (Fig. 6). By and large this reflected the massive long swings in house-building rather than any long-term inverse relation between the two types of building: before the First World War long swings in non-residential building were hardly perceptible⁴). Similar tendencies were apparent in both Hull and Liverpool (Fig. 6) and comparison of OPENSHAW's graphs of residential and non-residential building in South Shields between 1854 and 1939 suggests that in that town too there were major fluctuations in the composition of new development, reflecting larger long-term fluctuations in house-building than in non-residential building (OPENSHAW 1974, pp. 51, 54).

⁴ Based on graphical analysis of data in LEWIS 1965, pp. 323–324.

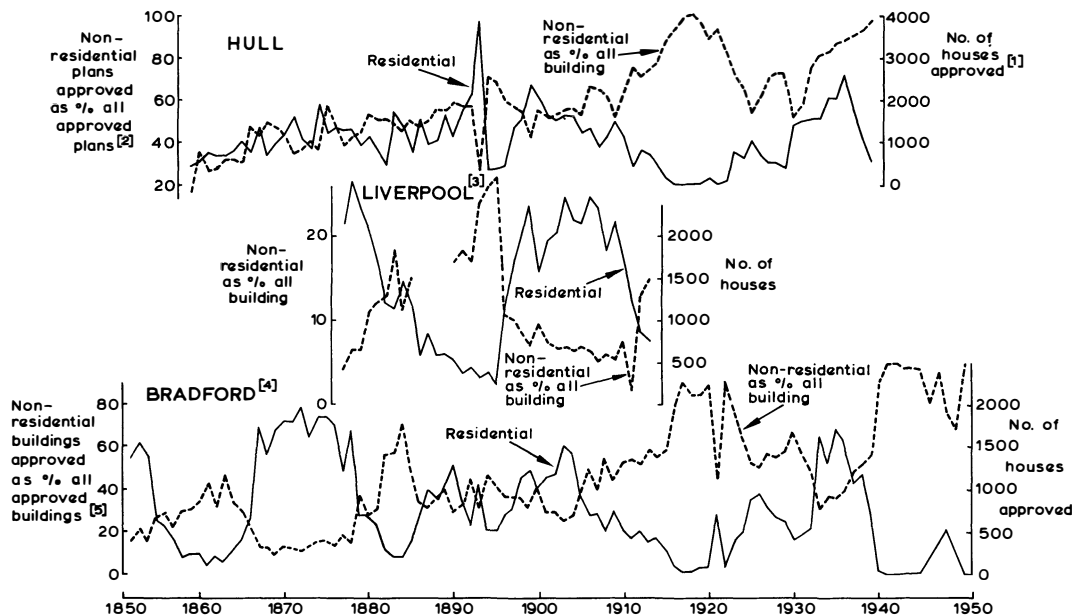


Fig. 6: Non-residential building as a percentage of all building in three cities. The non-residential percentages for the different cities are not directly comparable since 'miscellaneous' buildings are included in Bradford, but not in Hull and Liverpool, and the percentages are based on number of plans in Hull but on number of buildings and houses in the other two cities. Local-authority dwellings, which only became a significant part of building towards the end of the period for which data are graphed, are excluded.

Source: LEWIS 1965, pp. 322–325, 335–340, 342–352.

¹The number of houses plotted for 1893 does not include 3514 houses listed as 'not to be built', 99 per cent of which were lapsed plans.

²Data for non-residential building in 1902, 1909 and 1911 are incomplete.

³The administrative area of Liverpool, to which the data refer, was considerably extended in 1895 and to a lesser extent in 1902, 1905 and 1913.

⁴There were substantial changes to the boundaries of the administrative area to which the data refer in 1873, 1882, 1899, 1930 and 1937.

⁵Dwellings associated with shops have been included in the non-residential category. There are occasional omissions in the data for non-residential building but it is unlikely that these are significant.

Evidence on variations between sub-categories of residential construction in individual cities on balance adds support to the tentative conclusion at the national scale that there was a tendency for the building of higher-class houses to diminish less than that of working-class houses during slumps in house-building. However, long-period data have been compiled for few cities and the conclusions drawn must be qualified in each case. BERESFORD'S series for Leeds for the period from 1886 to 1914 reveal on the whole a fairly constant number of plans approved for villas compared with the large variability in the number for semi-detached houses, the large majority of which were concentrated in the house-building boom at the turn of the century (BERESFORD 1971, p. 117); but the dominating relationship was the secular upward trend in the proportion of these two house types compared with that of the main working-class types (the back-to-backs and through houses). Similarly, WHITE'S series for Liverpool for the period 1814-70 show a relatively high proportion of dwellings of under £12 annual rental during the house-building boom of the early 1840s but the series are of insufficient length to attempt to separate a possible cyclical element from a strong secular downward trend in the proportion of dwellings in this rental category (WHITE 1951, p. 204 reproduced in TREBLE 1971, p. 170). Data for Glasgow hardly help to remove the doubts. Although CAIRNCROSS'S series for Glasgow for the

period 1873-1914 reveal that the average number of rooms per new house was slightly higher during the troughs in house-building in the early 1880s and early 1910s⁵⁾ and this would seem to indicate that increased proportions of middle-class housing were constructed at these times (see also BUTT 1971, p. 72), other data suggest that the number of houses constructed with more than four rooms fell to negligible levels in several years during the slump of the 1880s (RICHMOND n. d., p. 214). If to this we add JAHN'S conclusion in a study of part of west London that house construction at either end of the rental scale was affected no more than building as a whole during the house-building slump of the late 1880s and early 1890s (JAHN 1971, p. 124), then the position would seem to be a good deal less conclusive than in the case of variations between residential and non-residential building.

Developments in which building was generally an incidental feature (such as parks and sports grounds), although they were often individually of large extent, were numerically sufficiently few within any one city to require extra caution in generalizing about their incidence. Information has, however, been compiled on the acquisition of sites for public parks and recreation grounds in eight major British cities and plotted against house-building activity (Fig. 7).

⁵⁾ Based upon data in CAIRNCROSS 1934, p. 15.

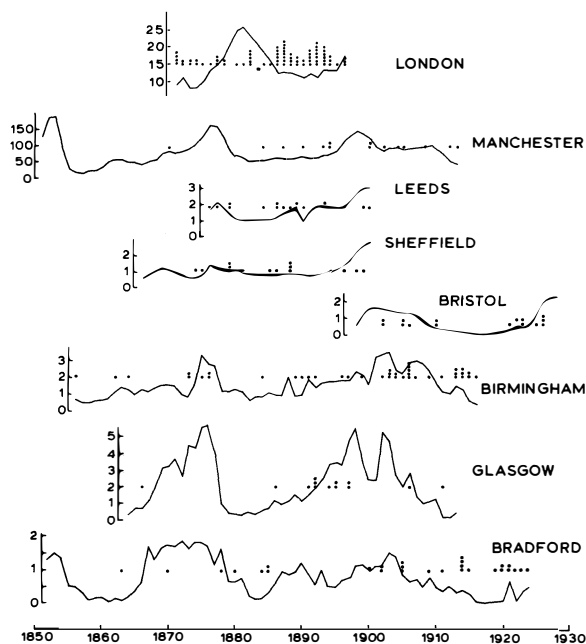


Fig. 7: The establishment of parks and public open spaces in eight cities. Each dot represents a site. The curves show houses built (in thousands) in Birmingham after 1900, London, Leeds, Sheffield and Bristol, houses approved (in thousands) in Birmingham before 1900, Glasgow and Bradford, and a house-building index (1901-10 = 100) for the conurbation in the case of Manchester.

Sources: London - HUNTER 1897, pp. 405-414; SPENSLEY 1918, p. 210. Manchester - *City of Manchester Recreational Services Department* n. d.; LEWIS 1965, pp. 314-315. Leeds - BRANSTON 1972, p. 61, Table 1; LEWIS 1965, p. 309. Sheffield - LEE 1974, pp. 12-13; ASPINALL 1977, Fig. 3. Bristol - information on parks and open spaces supplied by the City of Bristol Engineer's Department and on house-building by the City of Bristol Planning Department. Birmingham - LEWIS 1965, p. 308; LANGFORD 1879, p. 36; *City of Birmingham* 1951, p. 67; DENT 1916, pp. 60-69. Glasgow - LEWIS 1965, p. 308; *Corporation of the City of Glasgow* 1914, pp. 162-181. Bradford - LEWIS 1965, pp. 323-325; BENTLEY 1926, pp. 13-93.

Note: Dates are those of acquisition except in the case of a minority of sites in Bradford which are those of public opening. Sites included are generally those lying within the city boundaries (boundaries of the Metropolitan Police District in the case of London) at the time of their acquisition together with those city-owned sites outside that were not acquired by the incorporation of neighbouring local authorities. In the case of a few of the sites shown (notably the London commons) use as an open space precedes acquisition by a city council. There are doubts concerning the precise year of acquisition of a small minority of the London commons, and commons are excluded in Bristol. In addition to public parks and major open spaces, recreation grounds are included in London, Manchester, Sheffield, Bristol and Bradford. Extensions to sites are included in London, Sheffield, Bristol and Birmingham but not elsewhere. Transfers to parks departments of sites originally controlled by other city departments are excluded. Overall, with the proviso that the bases for assigning public open spaces to different categories may have differed between cities, the data are, as far as is known, largely complete with the one exception of Manchester, for which dates were available for only a minority of sites in the source used.

The creation of parks and recreation grounds – whether measured by number or area – appears to have continued unabated during slumps in house-building, resulting in substantial variations over time in the relative amounts of land developed for parks/recreation grounds and housing.

The local scale

The data presented so far provide a context within which changes in the land-use composition of urban developments in particular areas may be viewed. There remains the need, however, to move a further step down the areal scale, not so much to consider physical developments at that scale, since previous studies have at least started to do this (WHITEHAND 1972a), but to consider the transactions in land that accompanied the types of changes in land-use composition that have been detected. If a large number of sites are to be analyzed, the consideration of such transactions may for practical reasons be as close as we can get to the decisions about the way in which land was developed.

The ease with which land transactions can be employed in a systematic analysis varies considerably from country to country. In England such records are sporadic, but Scotland possesses in its Register of Sasines a comprehensive and centrally-located record of all land transactions over an extended period and this has been used as a source of data for the study of a small area. One such study does not provide a basis for generalization but it indicates the sort of analysis which if reproduced elsewhere would help to establish links between highly aggregated time series such as those described at the beginning of this paper and historical descriptions that view particular localities (often individual estates) in isolation.

The extraction of data from the Register of Sasines is greatly facilitated if large blocks of land in single ownership prior to urban development are selected and the chronological sequence of disposal of this land to urban users and developers is traced by means of the Search Sheets. Three such blocks of land were selected within 2 km of the edge of the built-up area of Glasgow as it was in 1900 (Fig. 8). They comprised those parts of the estates of Garscube, Kelvinside and Killermont within the administrative boundary of the city of Glasgow at the time when the data were extracted (1970)⁶. In almost all cases the intended urban use of the land was either explicit in the Search Sheets or could be inferred from the description of the purchaser/fuear or was known from other sources. A small number of doubtful cases were omitted. Intended uses, the large majority of which subsequently came into existence, could virtually all

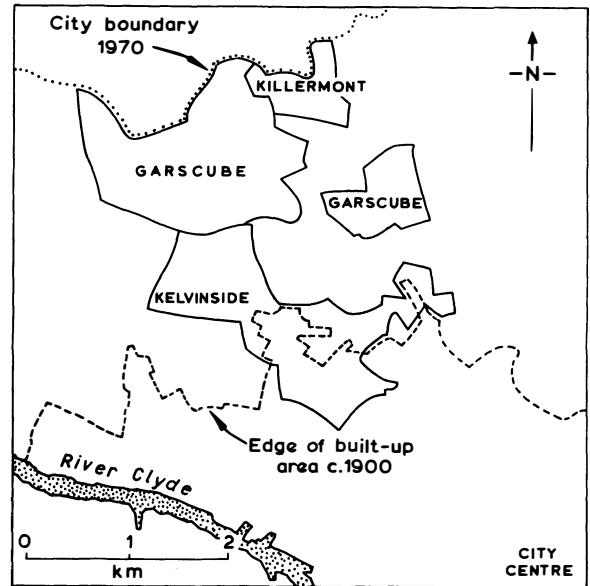


Fig. 8: The location of three estates in north-west Glasgow.

Sources: Garscube estate – unpublished map at Garscube Estates Office, Glasgow. Killermont estate – unpublished plans in the possession of Kerr, Macleod and Macfarlan, C. A., Glasgow. Kelvinside estate – unpublished map in the possession of Montgomerie Fleming, Fyfe, Maclean and Co., Glasgow. The principal basis for delineating the edge of the built-up area c. 1900 was the map in *Post Office* 1899.

be grouped into one of three broad categories – housing, institutions⁷, and industry (including transport and storage). The most important category measured by number of transactions was housing, but by area of land it was institutions, industry being the least important by both criteria. The area of land involved in the transactions relating to each category of use is plotted by five-year periods for 1900–69 in Fig. 9. The magnitude of the fluctuations in the acquisition of land for institutional and industrial uses was accounted for by a few large sites and it should be noted that only 222 transactions were involved in the whole analysis. The most striking aspect was the peaks in the acquisition of land for non-residential purposes when little land was being acquired by house-builders, notably the acquisition of land for institutional purposes immediately after the two world wars. The changes over time were greater than those identified for developments at the national or city levels. In accounting for this both the large impact of a few decisions in a limited area and the distinction between land acquisition and development should be borne in mind. Another factor was the location of this small area. By the beginning of the twentieth

⁶ A further part of the Garscube estate is situated beyond the northern margin of Figure 8: it remained rural throughout the study period and no transactions were recorded for this area. The author is especially grateful to Mr. I. D. B. FLEMING of Montgomerie Fleming, Fyfe, Maclean and Co., Mr. H. M. BEGG of Kerr, Macleod and Macfarlan, C. A., Mr. Wm. AITKEN, Factor, Garscube Estates Office, and Mr. G. BLACK, Keeper of the Registers of Scotland, for providing access to information on the three estates selected for study.

⁷ The main categories of land use defined as institutional were as follows: educational, medical, military, central and local government, research, recreational (including clubs and public open spaces) and religious (including burial grounds).

century most of it was relatively accessible to parts of Glasgow already in urban use. In contrast the national data, and often those for individual cities, included sites well outside the built-up area, which users requiring large amounts of land for non-intensive purposes would have tended to favour when more accessible sites were being rapidly developed for housing (WHITEHAND 1972 a). An inverse relation between housing development and the development of land for non-intensive uses, such as by many types of institution, may thus have been characteristic of relatively accessible areas, even though over a wider area the fluctuations in the two types of development may have been unrelated or even positively correlated.

Some explanations

The prime aim of this paper has been to give an account of the changing composition of urban development at varying scales, mainly with the object of providing context for studies of the development of intra-urban land-use patterns. Many fragments of the explanation for the time series that have been presented lie embedded in a diverse and voluminous literature, especially on building cycles. While it is beyond the scope of this paper to try to fit together all these fragments into a comprehensive explanation, it is appropriate to summarize some of the more important factors that would seem to underlie the patterns that have been identified.

Although in the long term there has, not surprisingly, been a positive correlation between population increments and house-building (LEWIS 1965, p. 165, NEWMAN 1935, p. 36), fluctuations in the land-use composition of urban developments of the type that have been identified would not seem to be explicable primarily in terms of demographic changes, even if allowance is made for the fact that different

population thresholds exist for different types of land-use development. Important among the factors that must be considered are the different ways in which the various types of development were brought into being, especially their financial basis, the interactions between different types of development, and the effects of the introduction of new types of land use.

Systematic data on the financial basis for urban development are largely lacking but it is possible to piece together a fairly consistent picture from the variety of studies that touch on the subject. A striking contrast between different types of development was the different degrees of uncertainty that were involved in the provision and marketing of buildings. At one extreme was working-class housing, frequently constructed on an insecure financial basis by speculative builders generally possessing minimal capital, relying heavily on loans (RODGER 1979 b, p. 226) and producing for a market full of uncertainties, and at the other extreme contractual works, such as public buildings, constructed on a relatively secure financial basis, such as accrued company profits, endowments invested in high-grade securities and income from taxation (LONG 1940, pp. 178-179), for specific clients. The uncertainties in the financial basis of housing provision were added to when it came to obtaining a return on the finished product by the greater role of non-pecuniary factors and ignorance among private house buyers, which tended to engender overspending in booms and undue timidity in slumps (LONG 1940, pp. 173-177), and in the case of working-class housing by the immediate effect of an industrial recession and the paying-off of employees on the ability of tenants to pay rents (GAULDIE 1974, p. 174). Speculative overbuilding was a major factor in the severity of the fluctuations in house-building (LONG 1940, pp. 169-173), whereas in commercial and industrial building it was less common and in public building it was virtually absent (LONG 1940,

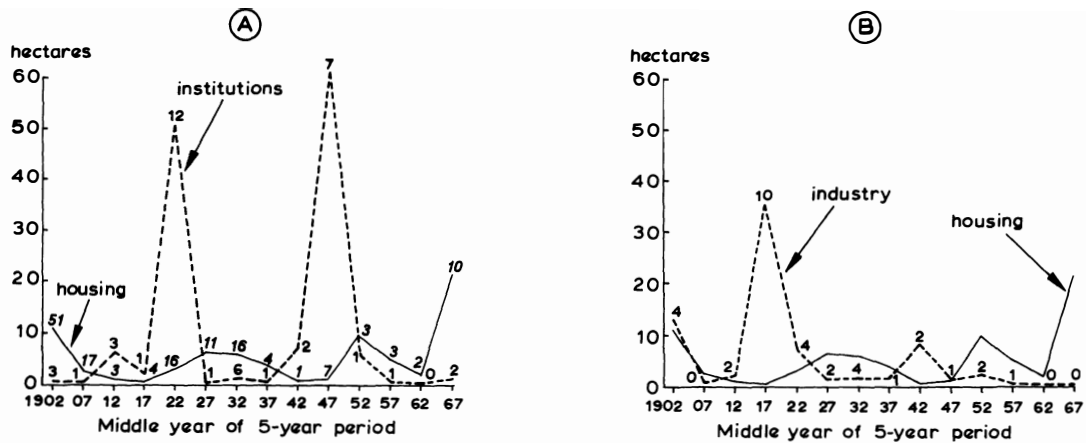


Fig. 9: Area of land acquired for urban land use on three estates in north-west Glasgow. The figures on the graphs indicate the number of transactions. A. Land acquired for use by institutions and for house-building. B. Land acquired for use by industry and for house-building. Source: Register of Sasines, Register House, Edinburgh.

pp. 141–142). During building slumps in late-nineteenth and early-twentieth century Scotland it was not uncommon for speculative house-builders to become subcontracted to undertake part of an industrial or public project, or to revert to their specialist trades – for example, as masons, joiners or plumbers (RODGER 1979 b, p. 240).

Since land for building purposes (especially for dwellings) occupied such a large proportion of urban areas, major fluctuations in building activity inevitably had major repercussions in the land market. At the level of the individual city the tendency for land values to rise during building booms and fall during building slumps was apparent in HALBWACH'S (1909) study of Paris from 1860 to 1900⁸⁾ and HOYT'S (1933) study of Chicago from 1833 to 1933, and a comparison of the building data for Hamburg graphed by WARREN and PEARSON (1937) with those of POLENSKY (1974) on land values suggests that there was a similar relationship in that city. A comparison of the data on land prices compiled by VALLIS (1972) for England and Wales with data on building activity (LEWIS 1965, pp. 316–317) suggests that an association also existed at the national level. In general, pressure on land was markedly reduced during slumps in building without commensurate falls in building costs (NEWMAN 1935, p. 20, WHITEHAND 1975, p. 212, GOTTLIEB 1976, p. 185). This provided conditions conducive of less intensive types of development. These conditions may well have been sufficient in some cases to offset a generally adverse economic climate. For example, this may have been a factor underlying the fact that fluctuations in the creation of golf courses in England and Wales were to some extent counter-cyclical to those in house-building. In terms of location there is evidence to suggest that during slumps in house-building there was a tendency for land-extensive uses to occupy sites that under more propitious economic conditions would have been ripe for house-building (WHITEHAND 1972 a).

The fact that new types of land use came into existence during the period under consideration was a further factor. The three lowest-intensity uses of land for which data have been presented (public parks, golf courses and rugby union clubs) were all essentially mid-nineteenth century introductions. It might have been expected therefore that the number created, at least during the early and middle stages in the diffusion of these innovations, would have been unrelated to variations in the size of population increments, and thereby protected from one cause of house-building fluctuations. This may have been a factor in the more even sequence of public park creation compared with house-building, but it is less reconcilable with the violent fluctuations in the creation of golf courses and rugby clubs.

There were, of course, many less general, but in specific instances more significant, factors that affected the changing composition of land-use development. Some affected par-

ticular land uses at specific places and times – for example, there was the legislation relating to parks and recreation grounds (see, for example, BALMER 1972) and local housing legislation (see, for example, FORSTER 1972). Others had a more widespread effect – for example, the two world wars, the impact of which was not confined to those countries actively engaged in them (LONG 1940, pp. 210–212).

Conclusions

The data presented here have various shortcomings, not least the fact that they are merely for those countries and cities for which an extensive, but by no means exhaustive, search has produced usable information. This should not obscure the fact, however, that major regularities in the changing character of urban development have been revealed over diverse areas and at a wide variety of scales. Considered in conjunction with previous studies the data that have been compiled suggest the presence of a marked cyclical element in the development of urban areas in western countries during at least the greater part of the industrial era in spite of major variations over time and space in the organization of society.

Further support has been provided for the view that non-residential development as a whole was less subject to the pronounced long-term slumps that characterized residential development and that there was a consequent tendency for the relative importance of non-residential development to have increased during slumps in house-building. This was related, in particular, to the lesser susceptibility of public/institutional building to major long-term fluctuations, although locally this was not necessarily apparent, and the fact that land-extensive developments, such as public parks, often continued unabated during slumps in house-building and in some cases actually increased in number. The study of land acquisitions for different types of development within a small part of a single city reveals that they varied over time in a cyclical manner that can be reconciled with findings at national and city scales. Reference to other studies suggests that during house-building slumps the building of high-class dwellings was less adversely affected than other types of house-building.

These variations between types of development may be attributed to a number of factors, including the contrasting ways in which developments were initiated, especially their differing financial bases, and the cyclical fluctuations in land values whereby land-extensive uses, though handicapped by the general shortage of credit during a building slump, were able to benefit from the accompanying depressed land values. Furthermore, whereas some developments (notably housing) were heavily dependent on population increments and to some degree fluctuated according to the extent of these, others were not constrained in this way.

These explanations are no more than the drawing together of some of the threads that may be discerned in a large and diverse literature. They may seem remote from the descriptive accounts of local historians investigating specific locali-

⁸⁾ For Paris for the period 1935–61 compare the graph of building activity in SUTCLIFFE 1970, p. 348, Fig. 9 with the data on land prices in GRANELLE 1973, p. 237. See also DARIN-DRABKIN 1977, p. 57.

ties. Yet the systematic analysis of local developments reveals an accord with regularities at the national scale that is reassuring for those seeking to place the explanation of individual developments within a more general framework.

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BEOBACHTUNGEN ZUM SÜDINDISCHEN LÄNDLICHEN WOCHENMARKT

Mit 7 Abbildungen und 1 Übersicht

HANS-GEORG BOHLE

Summary: Observations on the South Indian Rural Weekly Market

The weekly markets of the study area, the northwestern part of Salem District, have been important trading centres for the last millennium. Today, with one weekly market for every eight villages, rural weekly markets still show a remarkable density in distribution. In recent years, they even seem to have increased in economic importance.

By analysing the position of weekly markets within the regional exchange system, three basic functional types are recognized and discussed in case studies. At the lowest order, local weekly markets, not integrated in the regional system of weekly markets, are functioning as small import centres for local consumption goods. In regional weekly markets, however, internal trade becomes the leading function, thus linking the weekly markets of the region into a system. Central weekly markets, on the top of the periodic market hierarchy, play an additional role as important bulking and wholesale centres of agricultural produce for urban supply.

For the distinction of the various types of weekly markets, the dominant categories of marketing, trading and servicing participants in these markets are analysed, acting part-time as well as half-time of full-time. Regarding the weekly circuits of the professional mobile traders in the study area, a highly complex and integrated pattern of market-rings is recognized.

As informal sector institutions par excellence, the rural weekly markets of India may be considered as potential foci for the promotion of rural development programmes that aim at decentralisation as well as participation of the rural poor.

1. Bedeutung des Untersuchungsobjektes

Auch heute gilt für Indien noch, was vor mehr als 50 Jahren die Royal Commission on Agriculture in India (1928) betonte, daß nämlich der Erfolg jeder landwirtschaftlichen Entwicklungspolitik zu einem großen Teil dadurch bestimmt wird, über welche Vermarktungsmöglichkeiten die bäuerliche Bevölkerung verfügt (MUKHERJEE, 1960², S. 8). Untersuchungen zu landwirtschaftlichen Entwicklungsproblemen Indiens konzentrieren sich bisher jedoch – und das

gilt auch für geographische Arbeiten¹⁾ – mehr auf den *produktiven* als auf den *distributiven* Sektor der indischen Agrarwirtschaft.

Die wenigen Studien aber, die sich mit dem ländlichen Marktsystem Indiens auseinandersetzen, legen ihr Hauptaugenmerk i. d. R. auf die höheren Stufen der ländlichen indischen Markthierarchie und dabei insbesondere auf die „modernen“ Formen, d. h. auf staatlich regulierte ländliche Erzeugergroßmärkte („regulated markets“²⁾), auf ländliche zentrale Orte (DIXIT, 1979) und auf städtische agrare Großmärkte³⁾. Die unteren, „traditionellen“ Stufen in der ländlichen Vermarktungskette jedoch, und das sind vor allem die innerdörflichen Märkte und die ihnen übergeordneten etwa 22 000 Wochenmärkte (MITTENDORF und LEE, 1979, S. 20), finden kaum Beachtung, obwohl durch sie in Indien nach Schätzung der FAO (1978, S. 5) rund 80% der Ernteüberschüsse vermarktet werden.

Innerdörflicher Markt und Wochenmarkt sind gleichzeitig diejenigen Markteinrichtungen, die allein ein direktes Verbindungsglied zwischen ländlichem Produzenten und übergeordnetem Markt bilden (Abb. 1). Hier kann der Bauer seine Produkte gegen Bargeld vermarkten, und dadurch werden diese unteren Stufen in der ländlichen Vermarktungskette zu dem Ort, an dem sich entscheidende Rückwirkungen, Impulse oder Entmutigungen für eine potentielle Produktionssteigerung ergeben⁴⁾.

Der Kenntnisstand über Formen, Funktionen und Differenzierung des ländlichen indischen Marktwesens ist jedoch sehr beschränkt: „In almost all the Asian countries, little is

¹⁾ z. B. BIEHL, 1968; AURADA, 1961; BRONGER, 1972; UHLIG, 1971; WEIGT, 1961; BLENCK, BRONGER, UHLIG, 1977.

²⁾ *Centre for Market Planning and Design*, 1978.

³⁾ z. B. BRONGER, 1976, S. 91–122; BLENCK, BRONGER, UHLIG, 1977, S. 331–334.

⁴⁾ z. B. BRONGER, 1976, S. 91–122; GORMSEN, 1971a, S. 387; SINHA, 1967, S. 100; WARD et al., 1978, S. 103.