

CMH

Centre for  
Metropolitan  
History

*Annual Report 1992–3*



University of London  
School of Advanced Study

Institute of Historical Research

UNIVERSITY OF LONDON  
INSTITUTE OF HISTORICAL RESEARCH

**CENTRE  
FOR  
METROPOLITAN  
HISTORY**

*Annual Report 1992-3*

	Page
<b>Message from the Chairman of the Patrons</b> .....	2
<b>1. Director's Report</b> .....	3
<b>2. Project Reports</b>	
i Feeding the City: London's Impact on the Agrarian Economy of Southern England, c.1250–1400.....	9
ii Before the Bank.....	16
iii The Growth of a Skilled Workforce in London, c.1500–c.1750.....	16
iv Metropolitan London in the 1690s.....	21
v From Craft to Industry: London's Scientific Instrument Makers' Workshops, 1780–1820 .....	27
vi Bibliographical and Information Services:	
a) Bibliography of Printed Works on London History to 1939.....	31
b) Research in Progress on the History of London.....	31
c) London Cases in the Eighteenth-Century Court of Exchequer .....	31
<b>Appendices:</b>	
I Patrons .....	32
II Advisory Committee .....	33
III Associate Supervisors of Projects.....	33
IV Staff of the Centre.....	34
V Conference and Seminar Papers Given by Members of Staff.....	36
VI Publications.....	38
VII Seminar on Metropolitan History .....	39
VIII Sources of Funding.....	40

## **MESSAGE FROM THE CHAIRMAN OF THE PATRONS OF THE CENTRE**

The Centre's programme of research and publication is going from strength to strength, tackling a diverse range of issues concerning metropolitan development and society, despite a financial climate in which new enterprise does not always prosper. My fellow patrons and I are grateful to the funding organisations which have made this achievement possible. In making available for the Centre new accommodation within Senate House, the University of London has helped the Centre consolidate its position, and above all to operate effectively as a part of the Institute of Historical Research.

A particularly welcome development this year has been the public conferences and other meetings arranged in conjunction with outside bodies. The production of knowledge, including a knowledge of the past, is a vital activity in the modern world. London has an unrivalled endowment of institutions which play that part, but they have not always found it easy to develop their collective strength. The growing collaboration between the university, museums and other bodies in the capital in promoting an understanding of its past is thus a hopeful sign that they will be able to fulfil their proper role in metropolitan life.

## 1. DIRECTOR'S REPORT

During 1992-3, with a full-time staff of eleven, a researcher on part-time secondment, one linked post-graduate student, an associated research fellow, and several advisers and associates the Centre pursued an active and varied programme. This has concentrated on five main projects, on which detailed reports appear below. In addition, the Centre has organised or promoted several different types of conference or seminar during the year.

The continuing uncertainty over the future of our accommodation at 34 Tavistock Square was compounded by a series of forced entries and burglaries which took place during the Spring and Summer. The vital equipment lost on those occasions has in some cases taken months to replace, and the overall effect on the Centre was disruptive and unsettling. Burglaries of this type are perhaps now an inevitable feature of metropolitan life, although the location of Tavistock Square near the boundary between two highly-distinctive and contrasting areas of London (Bloomsbury and King's Cross) suggests that in this case some very localised needs and sets of social relations played a part. This experience has made the Centre acutely sensitive to the issues being raised in the current world-wide debate on the prevalence or otherwise of disorder in late twentieth-century cities. Fortunately, the Centre's problem has now been resolved by a move to rooms in Senate House, accomplished during September and October 1993. The new offices form a convenient group on the third floor, immediately over the Chancellor's Hall at the base of the great tower, and have commanding views along Store Street to the west and towards Russell Square on the east. The way in is by the stair or lift leading up to the University Library. While still separate from the main body of the Institute of Historical Research, the Centre is physically much closer than formerly, to the convenience and profit of all concerned. We are especially grateful to the Academic Secretary of the Institute for his vigilance and energy in securing the rooms for us.

This year the Metropolitan History Seminar focused on the themes 'Social Policy' and the 'Art Market'. Topics ranged from 'Marketing British Modernism in London during the 1920s and '30s' to 'Social Policy and Mental Deficiency in London before the Welfare State'. The presentation of the latter paper led to it being published in *The London Journal*. We are very grateful to Dr Andrew Stephenson of Oxford Brookes University who suggested the Art Market theme and recruited the speakers. The Centre is always open to suggestions from outsiders as to suitable themes for seminars, conferences, and research projects which it might pursue itself or help others pursue.

On 4 June 1993 a one-day symposium was held on 'Port Projects: current research on the history of British ports'. Organised in conjunction with Queen Mary and Westfield College and the Merseyside Maritime Museum, it was intended to help develop a distinctive identity as a field of study for Port History, in which recently there have been many projects reflecting a wide variety of concerns and disciplines. Much of this work has concerned London, and among contributions to the colloquium were papers arising from the Museum of London's archaeological work in the city, from research in the University of London concerning the port between the seventeenth and the nineteenth century, and from the Survey of London's comprehensive investigation of the Isle of Dogs to be published in 1994. One measure of the success of the meeting was that the participants agreed to turn it into a regular event. The conference on 'London and the Regions', planned for September with the Conference of Regional and Local Historians, had to be cancelled: while this has long been established as the traditional season for the CORAL conference, the month is increasingly difficult for academic audiences.

A major success of the year was the conference on the Aristocratic Town House in London, held on 15-17 July. The conference reviewed the role of these palaces in the life of the metropolis, and in that of the aristocratic families who occupied them, between 1400 and 1930. In so doing it directed attention to a neglected aspect of London's character as a capital city and to the prime importance, for many families, of the London house rather than the country seat as a site for display, artistic patronage and social life. Overview papers for each period were complemented by studies of individual houses, and by discussions of furnishings, decorative schemes and the collections displayed. The event was fully subscribed and moved from the austere surroundings of the Institute of Historical Research, to Burlington House, where we were the guests of the Royal Academy of Arts, and to the splendours of the newly-restored Spencer House overlooking Green Park. Spencer House Limited and St. James's Place Capital generously supported the enterprise, which was notable for the high quality of many of the papers given and for its successful intermingling of social historians, art historians, geographers, architects, and members of the public. One highlight was provided by a former Director of the Institute of Historical Research who concluded that it was all balls after 1832, supporting his argument with statistics on the construction of ballrooms. Nevertheless, changes in patterns of sociability and in the marriage market, arising from new modes of transport, seem to have contributed as much to the end of the great London houses as political developments and heavy taxation. Several of the overview papers will be published in a special issue of *The London Journal*, and similar arrangements are being made for publishing other groups of papers.

This year the Centre published the first volume in an intended series of working papers. It brought together papers given at a symposium on studies of epidemic disease in London held in 1992. Plans for other similar volumes are now in hand. The Centre also published a guide to Kentish manorial accounts, a by-product of the 'Feeding the City' project. The text for these and other volumes, incorporating maps, diagrams, and other illustrations, was elegantly set and put together in-house by Olwen Myhill, who in this way now makes an important contribution to the Centre's output as well as to its research and administration.

Much of the Director's time this year was spent in writing parts of and in editing the major publication on grain production and distribution in the London region *c.* 1300, which is described below in the report on the 'Feeding the City' project. That project is now dealing with livestock and their products, and with comparisons between the earlier period and the very different conditions which prevailed after the Black Death. As part of his continuing contribution to the project, the Director is turning his attention to the trade of the London butchers and to the operation of the grain markets in later periods. A further series of publications arising from the project is planned. Plans have also been made for a new stage of research, which would focus on the role of local markets and higher-order towns in supplying the capital. The Director has also been involved in planning a project which is intended to complete and publish Dr Richard Britnell's gazetteer of markets and fairs in medieval England, which will be an invaluable tool for economic historians of that period and for students of market evolution generally.

The 'Metropolitan London in the 1690s' project moved from collecting and editing records of taxation to analysis and writing up for the social atlas of London based on this material which is to be published in 1994. The funding for the project is drawing to a close, and so Janet Barnes left the Centre at the end of her contract in September, while Craig Spence remains on a part-time basis.

The great London bibliography project is also drawing to a close, and in the course of the year we said good-bye to Tony Trowles who had done so much to help it along. The Bibliography itself is well on target for being published in April 1994.

The study of the 'Growth of the Skilled Workforce' in early modern London is at a halfway stage, and its investigation of particular industries and themes has continued. Through the 'Achievement Project', of which it forms part, it has participated in and contributed to conferences in Oxford, Paris and Baltimore, addressing issues concerning work and culture, the consumption of material goods, and the relationship between 'higher learning' and the world of

manufacture. On its own initiative it established a series of seminars and other meetings focusing on the examination of artefacts as a means of understanding the accumulation of skill. The Director gave short papers or formal responses at several of these conferences and meetings, and also pursued some lines of enquiry which will contribute to the final outcome of the project. Anita McConnell's short but productive investigation of scientific instrument makers in London, while separately funded from the 'Skilled Workforce' project, was nevertheless closely associated with it and addressed many of the same concerns. The 'artefact seminars' were held in conjunction with the Museum of London, the Science Museum, and the Victoria and Albert Museum. Apart from producing some good material for the project, they fostered a growing realisation that the university and museums in the metropolis can and should work more closely together, both in arranging events such as these and in developing new debates and historical interpretations. To this end plans are afoot to establish a new seminar, to meet at the Institute of Historical Research and elsewhere, with the theme of 'artefacts and history'.

The Paris meeting made a useful contribution to developing contacts with historians of that city. The Centre has a more formal plan to do that in the form of a conference on the histories of the two cities, to be held in December 1993 in conjunction with the British Institute in Paris and the University of Paris IV-Sorbonne.

One concern of the Achievement Project is with the operation of intellectual and creative networks, and the ways in which new forms of communication can be employed. In this connection it is planned, as an experiment, to make a visual and textual record of the 'artefact seminars' in the form of a computerised database, which will serve as a tool for research and as a platform for continuing discussion. In the longer term, if the experiment is successful, this collection might form part of a much larger database on London, incorporating information sets and mapping facilities, such as those arising from the studies of 'Feeding the City', 'Metropolitan London in the 1690s', the plague in 1665, and the development of the financial district in the nineteenth-century city and in more accessible and usable forms than as deposited in the fastnesses of the ESRC Data Archive. As a result of its research programmes the Centre is now approaching a time when its value as a source of data on metropolitan history (not all of it in electronic form) will be very great indeed. The recently-established information network at the Institute of Historical Research, provides a potential means of making the data accessible via international networks. The new discussion network for urban historians based at the University of Illinois Chicago shows the growing interest in this sort of facility, at least in the USA. Towards the end of the year the CMH was a successful participant with

colleagues in Cambridge, Oxford, Glasgow and Middlesex Universities in a bid to the Higher Education Funding Council for England for funding for a project now entitled 'The Virtual Teaching Collection'. From late in 1994 the CMH will serve as a test site for technology which will allow collections of images, in this case relevant to London history, to be used interactively as an aid to both teaching and research. By these means it is hoped to make the Centre's holdings more readily usable within the University of London as a whole.

The new knowledge and understanding of London's history arising from the CMH's work could almost certainly have a wider application in London's schools. Primary and secondary education is an area in which the CMH has neither expertise nor responsibility, but with the aid of a generous grant from the Mercers' Company the Centre will during 1993-4 commission an assessment of the possibilities of providing information and training packs for London schools which make use of new discoveries.

Apart from the plans for future research projects which have already been mentioned, some further progress was made during the year in working out the best approach to adopt with a wide ranging investigation of mortality, disease and environment in nineteenth-century London. An initial approach, intended to check the degree to which the Registrar General's returns can be used to indicate local differences within London, might involve comparison between the metropolis and some provincial towns. However, funds for the project have yet to be raised.

During the year the Director completed a piece of research and writing concerning the experience of tanners' widows in medieval London. Arising from the topographical investigation of property holding undertaken in the 'Social and Economic Study of Medieval London', the study cast light on social relations and family strategies within a relatively humble artisan group for the period around 1300 in a way which would have been impossible with more traditional approaches to the surviving records. He lectured on Medieval London, but less widely than in the previous year. He also served as a member of the Royal Commission on the Historical Monuments of England and of the Fabric Advisory Committee of St. Paul's Cathedral, as managing trustee of the London Journal, and as an adviser to the 'Winchester Pipe Roll Project' at the Hampshire Record Office, and to the Centre for East Anglian Studies at the University of East Anglia.

The Centre welcomed many visitors during the year. They included our former colleague Justin Champion, whose study of the 1665 plague continues, and David Ormrod of the University of Kent, who as a Visiting Fellow of the



Institute was based at the Centre throughout the year and worked closely with the 'Skilled Workforce' project. Visitors from outside the British Isles included those from Budapest, Chicago, Leiden, Lübeck, New York, Paris, St. Petersburg, and Vienna, indicating the Centre's growing role in the networks of metropolitan history.

## 2. PROJECT REPORTS

### i FEEDING THE CITY: LONDON'S IMPACT ON THE AGRARIAN ECONOMY OF SOUTHERN ENGLAND, c.1250-1400

The period covered by the current report was a productive one for the 'Feeding the City' project. It saw the completion of work on, and the subsequent appearance of, an extended study of the grain trade in the London region. *A Medieval Capital and its Grain Supply: Agrarian Production and its Distribution in the London Region c.1300* was published in the Historical Geography Research Group's research series in mid 1993. This 60,000-word book enabled the project team to develop and exemplify new methods of analysing data drawn from manorial accounts, and to relate the evidence of rural production and marketing both to a theoretical model of London's requirements and to an examination of the organisation of the grain trade within the city. The publication format allowed the presentation of substantial amounts of data through the inclusion of twenty-nine maps, nineteen tables and five appendices. Many of the methods of analysing and mapping data from manorial accounts pioneered in *A Medieval Capital* will be applicable to other aspects of the project's investigation of London's impact upon its agrarian hinterland.

Also published in the summer of 1993 was *Kentish Demesne Accounts to 1350: A Catalogue*, a by-product of the project's work on manorial accounts. The catalogue, which was published in-house, gives a full listing of all known demesne accounts for Kent dating from before 1350, and a summary listing of those from 1350–1500. Kent is particularly well served with surviving accounts, which shed light on many aspects of the county's rural economy. The close links which parts of the county had with the capital in the medieval period should mean that the catalogue will be of value to those studying London and its region in the Middle Ages, as well as to local historians of Kent and to economic historians in general.

During the year an extensive analysis was undertaken of the income from the sale of produce and livestock in the period 1288–1315. This provides the foundation for a paper, to be published in 1994, investigating spatial patterns in the commercialisation of agrarian production in the London region, and the differences between the various categories of landlord.

The collection of data from later fourteenth-century manorial accounts was a major feature of the year's work and was completed close to schedule in early May 1993. The period originally chosen for study was 1376–1392. After an

initial period of collection it became apparent that in order to complete a database similar in size to that created for 1288–1315 it would be necessary to extend this period slightly. Rather than collect data from accounts which predated the collapse in grain prices of the mid-1370s (a key event in the agrarian history of the later Middle Ages) it was decided to extend the period of study up to the year 1400, and thus to obtain as full a view as possible of farming systems which progressively came to be established in the years after the Black Death.

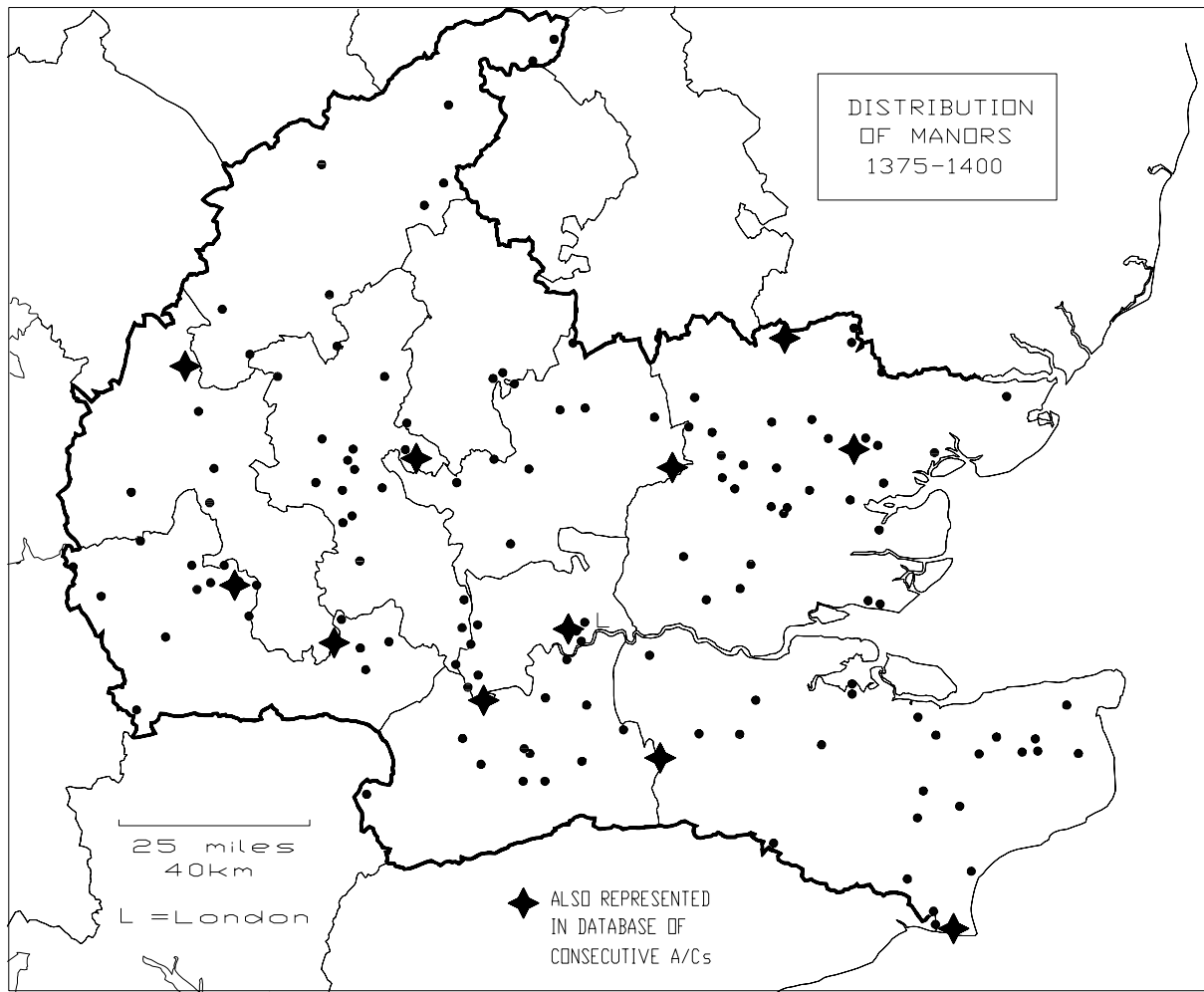


FIG. 1. Manors represented in the later fourteenth-century 'Feeding the City' database of account rolls.

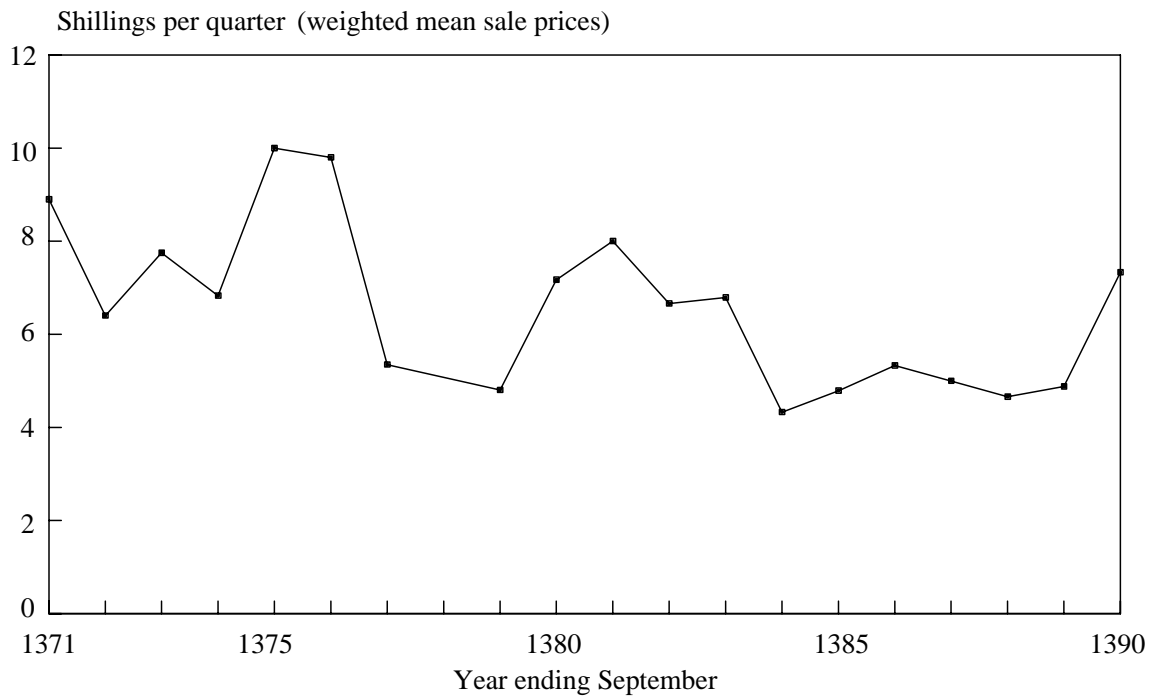
During the course of account-data collection a total of twenty-five different archives was visited. In addition to the major collections in the Public Record Office, Westminster Abbey and Canterbury Cathedral, smaller but valuable collections of documents were consulted in the various county record offices, in college archives, notably those of Merton and New College, Oxford, and in private collections of muniments, such as the Duke of Norfolk's archive at Arundel Castle. The resulting database contains information drawn from a total of 360 accounts, representing 141 different manors (see Fig. 1). Although this is

a slightly smaller number of manors than were drawn upon for the database from *c.*1300 (160), the two databases are of similar size on account of the greater detail found in the later fourteenth-century documents and an increase in the range of variables collected. The geographical distribution of the manors is generally satisfactory, although as with the earlier database there are some poorly covered areas, including much of Bedfordshire and parts of Middlesex.

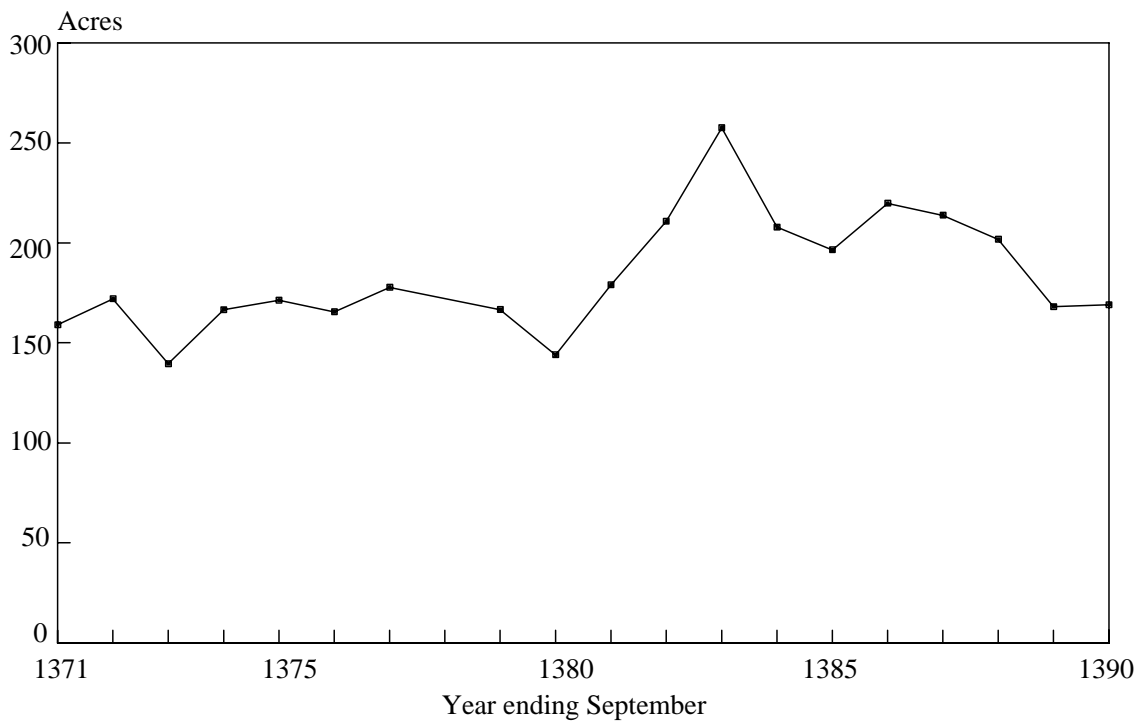
In addition, an ancillary database drawn from runs of up to twenty-five consecutive annual accounts for six carefully selected demesnes is being created. Shorter runs of data are also being taken from a further four demesnes, bringing the total number of accounts used to about 510. These ten demesnes are identified on Figure 1. A smaller range of variables has been collected from these runs of accounts. They will allow greater understanding of change over time through the study of year-by-year variations in the patterns of sale and purchase of agricultural produce, of prices and wages, and of livestock densities and sown acreages. They will also facilitate the reconstruction of rotational systems for the selected demesnes, a vital part of estimating absolute and relative productivity levels within the arable sector. Their purpose is thus to provide a context within which to locate the more ‘cross-sectional’ data of the main accounts database.

Figure 2 illustrates some of the variables which can be traced in this way, drawing upon the accounts of the manor of Westerham in Kent. Wheat prices, for example, fell sharply in 1377, after a period of generally high prices in the early and mid-1370s (Fig. 2a). Temporary recovery around 1380 was followed by a further fall to levels little more than half those prevailing in the early ’70s. The pick-up apparent at the end of the 1380s would, if national trends applied at Westerham, also be short-lived.

This generally downward trend in grain prices, and the sustained increase in wages, were the background against which many major landlords abandoned direct cultivation of their demesnes at the end of the fourteenth century, letting the land to tenant cultivators. The immediate reaction to falling prices, however, might be to increase rather than decrease the area under crops. At Westerham both the acreage under wheat and the total sown acreage rose sharply after 1379, reaching a peak in the accounting year 1382-3 (Fig. 2b-c). The trend in wheat yields (Fig. 2d) shows some association between particularly good or bad yields and year-by-year prices, but there is no apparent connection between yields and the longer-term trend in prices. In the case of this manor at least, it seems that the landlord (Westminster Abbey) may initially

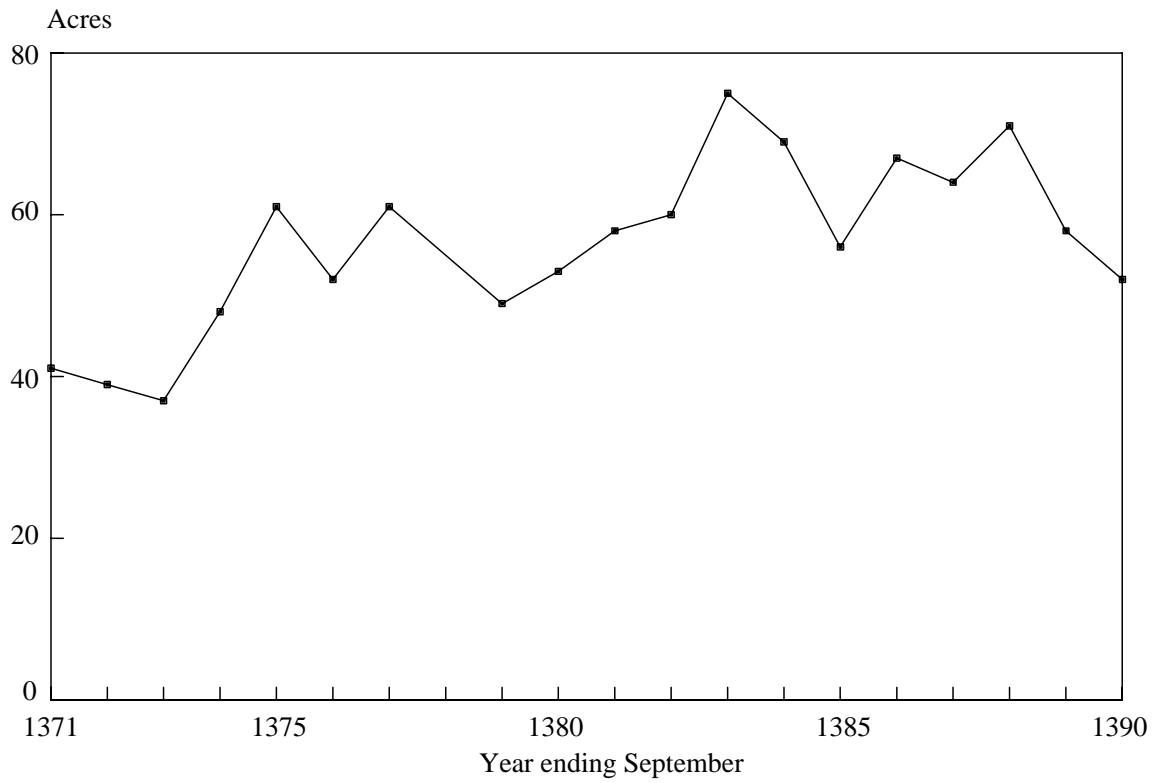


a) Wheat Prices



b) Total sown acreage

FIG. 2. Some agrarian trends at



c) Acreage sown with wheat



d) Wheat Yields

Westerham, Kent, 1371-1390

have attempted to compensate for a loss of income arising from the fall in wheat prices by increasing the quantity of wheat produced.

Differences and similarities between the movement of prices on the six demesnes for which long runs of data have been collected should shed much light on the contrasting fortunes of different parts of the study area. Of particular interest will be the possible influence of London upon the movement of prices at different locations. A major addition to our knowledge of the metropolitan grain supply system *c.*1300 was the London wheat prices series for the period 1277-1320, based on the records of the city's assize of bread and published in *A Medieval Capital*. The series enabled us to investigate the influence of London upon regional grain prices by comparing local prices with London prices from the same year. While there is no comparable London price information for the later fourteenth century, the 20-year run of accounts for the Westminster Abbey manor of Hyde (located in the vicinity of the present Hyde Park) provides an almost complete price series for wheat and oats based on sales from a demesne very close to the city. In one year the sales were said to have taken place 'on the Pavement in London', indicating that they had been made in one of the city's major grain markets.

During the year a substantial amount of research time was spent on editing and preliminary analysis of the data relating to demesne livestock *c.*1300. This data is drawn from those parts of the rolls which list the numbers of each livestock type present on the demesne at the start and end of the accounting year, and detail all the additions (births, purchases, heriots etc.) and subtractions (deaths, sales, slaughter, etc.) which occurred. The datafile assembled from the 460 account rolls contained 146,139 pieces of information and it represented the largest single piece of editing work undertaken on the project.

The editing of the numerical data had to incorporate checking for data-inputting errors, scribal errors, and frequently encountered accounting vagaries. In addition time was spent on standardising the names of the livestock types, which range from oxen and carthorses to capons and doves. There is substantial variation between accounts both in the terms used for individual livestock types and in the degree to which the animals are subdivided by age and gender. While some accounts divide bovine stock into adults, juveniles and calves, others employ up to seven different categories to classify juveniles alone. Even after rigorous editing the livestock file contained 80 'unique' livestock names. In order to facilitate some of the more complex analyses a system of coding was devised.

The livestock data can be used to provide straightforward totals of different animal types present on each manor in the sample. However, identifying manors engaging in certain types of livestock husbandry and comparing manors with very different livestock profiles calls for more complex manipulation of data. Historians of medieval agriculture have devised various systems of livestock weightings to facilitate comparison of herds with quite different structures. The project has devised a system of 'price-weighting' which uses data drawn from the sales section of the demesne account in order to weight each type and age-set of livestock.

Detailed analysis of the livestock sector will be undertaken by the Belfast end of the project team during the coming months. In London, further work on the arable sector — including grain prices and the production and consumption of legumes — is underway, together with an exploration of fourteenth-century London's requirements for wood as fuel and building timber and the region's capacity to meet these needs. This work will result in a series of papers, production of which should be substantially complete by the end of the project on 31 July 1994.

*The first three years of this project was funded by the Leverhulme Trust. The second three-year phase of the project is funded by the Economic and Social Research Council (Ref. No. R000233157)*



## ii BEFORE THE BANK

That part of the city now dominated by the Bank of England, the Royal Exchange and the Stock Exchange had a striking and distinctive early history which can be traced in some detail between the late eleventh and the early sixteenth centuries. The background to the project and the broad conclusions arising from it were fully described in last year's report. This year Dr Patricia Croot, working part-time on secondment from the Victoria History of the County of Middlesex, has almost completed a full account of the histories of the properties in the area up to 1500 using source material collected at an earlier stage of the project.

*The project is funded by contributions from the Bank of England and other City financial institutions.*

## iii THE GROWTH OF A SKILLED WORKFORCE IN LONDON, c.1500–c.1750

The 'Skilled Workforce Project' entered its second year in 1993. Under the umbrella of the 'Achievement Project', it is part of a network of similar enquiries in Europe and the United States concerned with manufacturing, science, and innovation between the Renaissance and the late twentieth century. The purpose of the London project is to investigate and explain the processes by which the city increased its stock of skills, especially those associated with manufacturing, during the period in which it emerged as a dominant European centre. London's peripheral status at the beginning of the period found expression in, among other things, its heavy reliance on places overseas for high-quality goods. By 1750 the products of many of its workshops set European standards. While the roles of financial and commercial factors in London's surge forward have been examined in the past, the notion of the metropolis as a nurturer of indigenous skills — and as a site to which external expertise was attracted — has received only cursory attention. The project was intended to be innovative and wide-ranging in its analysis, and it was envisaged that the team members (David Mitchell, Michael Berlin and Robert Iliffe) would draw from a wide variety of disciplines and approaches, including urban history, history of science and technology, the history and sociology of work, artefact studies, and economic history. In particular, it has stressed the relationship of London to other towns and its role within the networks of the European and Atlantic economies. Furthermore, the investigation was to have a strong

comparative element, and awareness of the fates of the other major European cities of the time (such as Amsterdam, Antwerp and Paris) has exerted a key influence on research. While a part of the brief was to devise an account of the general causes of London's success, the team was also urged to consider the motives directing the careers of individuals who made a particular contribution to London's new reputation. Finally, the research team has been careful to bear in mind the meaning which aspects of this growth may have had for contemporaries.

The central focus of research has been the notion of skill. In its broadest sense, it has been determined that there was a substantial connection between the increase in material prosperity of large numbers of Londoners, and the quality and marketability of skills exhibited by London artisans in this period. Contemporaries were aware of this relationship, and viewed the collection, accumulation and intensification of these skills as the major source of economic growth. Although the primary exports between 1500 and 1650 were textiles woven outside London, a massive increase in the exports of all sorts of London-produced quality goods in the period 1660–1750 attests to the extraordinary rise in production and to the enhanced appreciation of these goods by foreigners. For example, the export of wrought iron increased sixfold, and the glass and earthenware from England and Wales increased nearly fifteenfold between 1700 and 1750. A great deal of wrought iron passed through London while nearly all the glass and a substantial proportion of ceramic exports were manufactured in the London area. The environs of London came to be characterised by a distinctive concentration of sites of skilled production. In the textile sector the value added by the increasingly sophisticated finishing processes which were applied to the cloth in London played an important part in capturing overseas markets. In addition, London also functioned as the centre for the re-export of commodities and luxury goods, an example of this being its export of beaver hats which increased nearly tenfold in the same period.

Research has gone beyond the confines of secondary materials, and each contributor to the project has examined both manuscript and printed evidence in order to gain a greater purchase on the kinds of skills and work organisation involved in the manufacture of individual artefacts. These sources include the archives of the major city livery companies of the period, as well as the manuscript holdings of institutions like the Royal Society. The project has concentrated on individual industries or crafts which exemplified high levels of individual skill or workshop organisation, such as clock making, scientific instrument making, dyeing and cloth finishing, goldsmithing, shipbuilding, ceramics, coach-building and gun making. On top of this, Derek Keene has been assessing the standing of London and its products at the beginning of the period,

and attempting to place the material skills associated with the city in a longer term context. Penelope Gouk, of the Achievement Project, has looked at musical instrument-making in seventeenth- and eighteenth-century London, and Lien Bich Luu, a graduate student associated with the project, has examined the impact on London manufactures of immigrants (particularly from the Low Countries) in the late sixteenth century. David Ormrod, of the University of Kent and a visiting fellow at the Centre, has liaised with the team during 1993 and will contribute a study of the significance of engraving skills for the London manufacturing trades. Anita McConnell's study of London scientific instrument makers in a later period, reported on below, is also contributing some important insights.

During the year David Mitchell completed his study of the goldsmiths' trade in the seventeenth century. This led to a study day on innovation and workshop practice in that trade, and its links with the developing world of banking, organised in association with the history of design course based at the Victoria and Albert Museum and the Royal College of Art. Mitchell is also continuing a wide-ranging study on aspects of textile manufacture in London, including dyeing, cloth finishing, silk-throwing, silk stocking trimming and camlet weaving. He has also examined the appearance of drawing schools and their importance for design in the early eighteenth century. Michael Berlin has completed his work on the growth of the shipbuilding industry between 1550 and 1750, and has investigated the setting up of institutionalised mathematical education for mariners in seventeenth-century London. Berlin also devised a highly successful series of seminars on the material evidence for the products made or consumed in early modern London which took place in conjunction with the Museum of London and the Science Museum. With Robert Iliffe, he has also been engaged in an analysis of the 'search', the means by which livery companies ensured control over manufacturing and retail practices both within the city and beyond. Iliffe completed work on the growth of the mathematical and optical instrument-making trades in early modern London, and has looked at the broad spectrum of technical and mathematical education that was available in the metropolis for sailors and even gentlemen in this period. He is currently examining the interdependence of such socially diverse individuals as natural philosophers, surveyors, architects and ordinary artificers, and the networks and locations in which they exchanged their skills by an informal system of barter.

Not all the trades and industries in this period can be classed as 'innovative', and in some highly-skilled crafts there appears to have been little change in practice and organisation. Moreover, the impact of newly-developed instruments for measurement or of labour-saving machines, both of which had

potential for transforming working relations and employment patterns, remains unclear. Rather, the picture is of crafts and industries which were responding to internal and external pressures and were thus being changed (or not) for a variety of reasons, including vagaries such as the interpretation of local by-laws and the resilience of traditional work practices. In this regard, the team has paid attention to changes in the geography of industry and manufacture, as well as the apparent demise, in many crafts, of the guild apprenticeship systems in the early eighteenth century. The geographical approach has also been helpful in defining the interdependence of crafts and the proliferation of specialisms. Of crucial significance in this story is the role of immigrants who could bring skills that might be considered superior to those of native craftsmen but whose expertise might also be invaluable because it had the advantage of being intrinsically exotic. The extent to which the direct transfer of skills from these people to natives by apprenticeship, or the natives' capacity to imitate or improve on foreign models, contributed to the growth of London's overall stock of skill remains unclear and is a topic for further research. Outside the market, other issues at present under consideration include the role of the state in urging manufacturers to improve skills and products, and in promoting important naval and military sites of production close to the metropolis.

It is intended that the outcome of the group's research will take the form of a book. This will initially set down the goals of the project and the background to the metropolitan social, commercial and material infrastructure, before dealing with the following themes and topics: the transformation of work organisation; industrial geographies (including 'clusters' of skill); immigration and skill transfer; case studies involving individual trades and industries; and a final, general, analysis of the dynamics of innovation and skill transformation in the period under review.

*This three-year project is funded by the Renaissance Trust.*

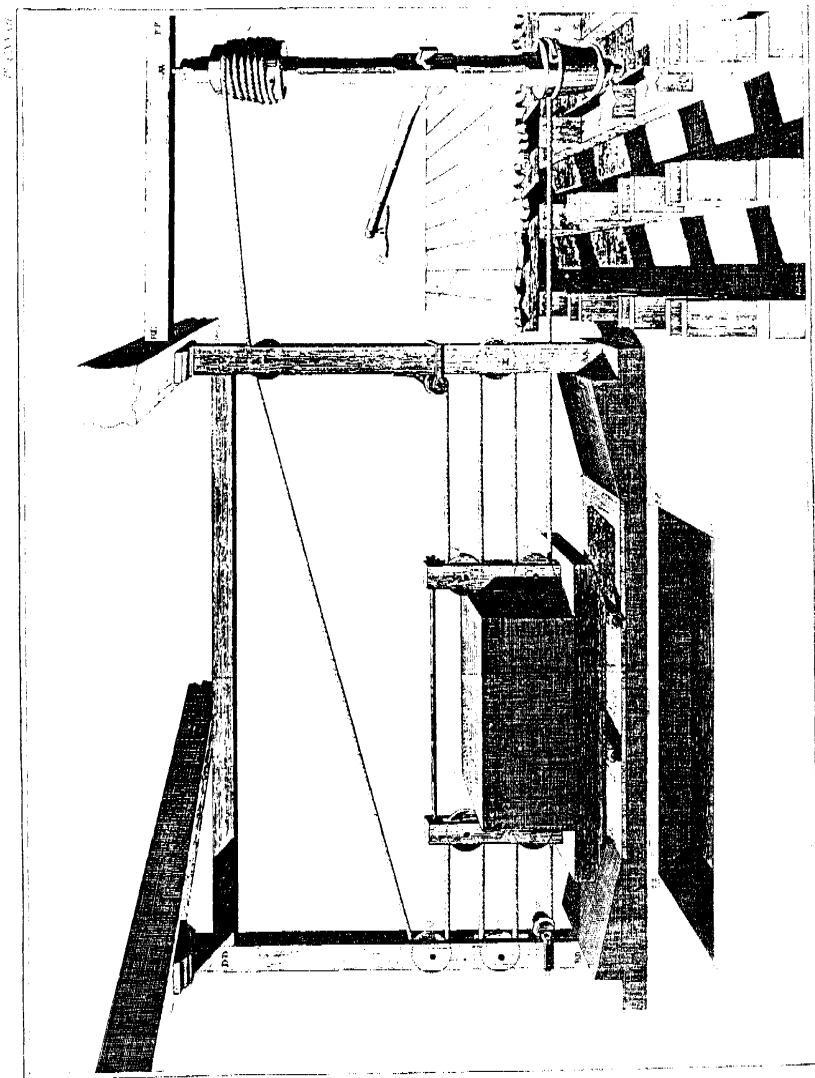


FIG. 3. The 'Royal' or 'English' calender as depicted in Diderot's Encyclopédie (Paris, 1751 onwards).

Calenders were used to produce impressed patterns upon various fabrics, including certain camlets and silk. Both 'Dutch' and 'English' calenders were used in late seventeenth-century London, the English calenders being valued at about double their Dutch counterparts. Diderot's perception of this machining implies recognition of the distinctive standing of the English industry and its use of machinery. Motive power was supplied by a blind horse harnessed to the horizontal pole attached to the post on the right hand side of the illustration.

At the end of the seventeenth century London, with a population of around half a million, was the largest city in Christian Europe, and was poised to emerge as a vital centre of world trade and finance. The overall objective of this project is to provide the detailed basis for a critical examination of the social and economic structure of the metropolis at this important stage in its development.

The study is based primarily on the assessments made for the Four Shillings in the Pound Aid in 1693–4, one of the taxes raised to finance the European war of King William III. Returns survive for metropolitan London north of the Thames (i.e. the City and a large area of Middlesex), but unfortunately not for districts south of the river. Extensive use has been made of computer technology to store and analyse the data. The resulting database extends to 61,588 records, and is complemented by a database derived from the 1692 poll tax returns for the City of London. A subsidiary database has been derived from that of the 1693–4 Aid so as to facilitate analysis. It contains 4,397 references to properties where the building-type or land-use is defined: in most cases the properties of the householders or occupants are not described. The raw information was assembled in an earlier stage of the project, and most of this year was spent in editing and checking it, in structuring the databases, and in analysis.

The principal database contains the following information: the names and status of householders and of some lodgers; the rack-rent value of the property occupied; sometimes a characterisation of the property; the value of stocks, both material and financial, where they were the basis of the income of the householder; salaries, in the case of government and some other office-holders; and in some areas a record of landlords. Additional information on household structure and wealth in the city of London is provided by the 1692 Poll Tax. Overall, there are returns for some 55,000 householders in the metropolis north of the Thames, the other records in the database concerning either lodgers or open land, structures and installations which were not inhabited. The original assessments are arranged by parish and ward units, and often provide street or other headings, so that the material is amenable to geographical analysis.

A major exercise this year concerned the production of general sets of summary data, and the detailed analysis of factors which characterised the different areas of the metropolis. The latter was undertaken by means of a computer mapping exercise using specially constructed and digitised maps. These include maps of physical and administrative features and maps incorporating 128 topographically-coherent analytical sub-divisions, each of which contains 400 to 500 households. A range of working maps was constructed using data such as

the numbers of assessments and households, the incidence of female householders and other indicators of status, and the totals and means for rental and stock values. Where appropriate, measures of density and of value in relation to area have been calculated.

In the course of the year an arrangement was made with Scolar Press and the London Topographical Society whereby an overview of this information will be published in 1994 in the form of a social atlas of London in the 1690s. The main funding for the project came to an end in September 1993, when Janet Barnes completed her work on the analysis of the data and left the CMH. With the aid of a further small grant, Craig Spence is now working on the production of the atlas.

The atlas will present a range of results arising from the analysis of the database in their historical and geographical context, incorporating information on land-use, the extent of the built-up area, building characteristics, and the general infrastructure of the metropolis derived from contemporary cartographic and other sources. Computer-generated maps and statistics will be presented within a thematic text dealing with social and economic patterns. Household density, property values, social rank, and the relative wealth of stock-holders are just some of the facets of London life which it is possible to explore systematically across the metropolis as a whole. Some examples of the approach are presented in the remainder of this report.

The atlas's chapter on metropolitan infrastructure includes a review of transport. A cartographic delineation of patterns of communication can be supplemented by information drawn from the Aid assessments on coachhouses and stables. Although these buildings were only recorded when they were not incorporated within the house or house-plot of the person who used them, the distribution of coachhouses nevertheless points strongly to the incidence of coach ownership in the more fashionable and spacious districts to the west of the city (Fig. 4).

In assessing household densities the concept of the 'net residential area' was employed. That comprised the overall built-up area as plotted from contemporary maps less the area occupied by squares, market places, and other significant open spaces. Then values were calculated for 'households per residential hectare', the nearest to which it is possible to approximate a measure for population or housing density across the whole metropolitan area. The pattern (Fig. 5) clearly identifies areas of overcrowded poverty such as the

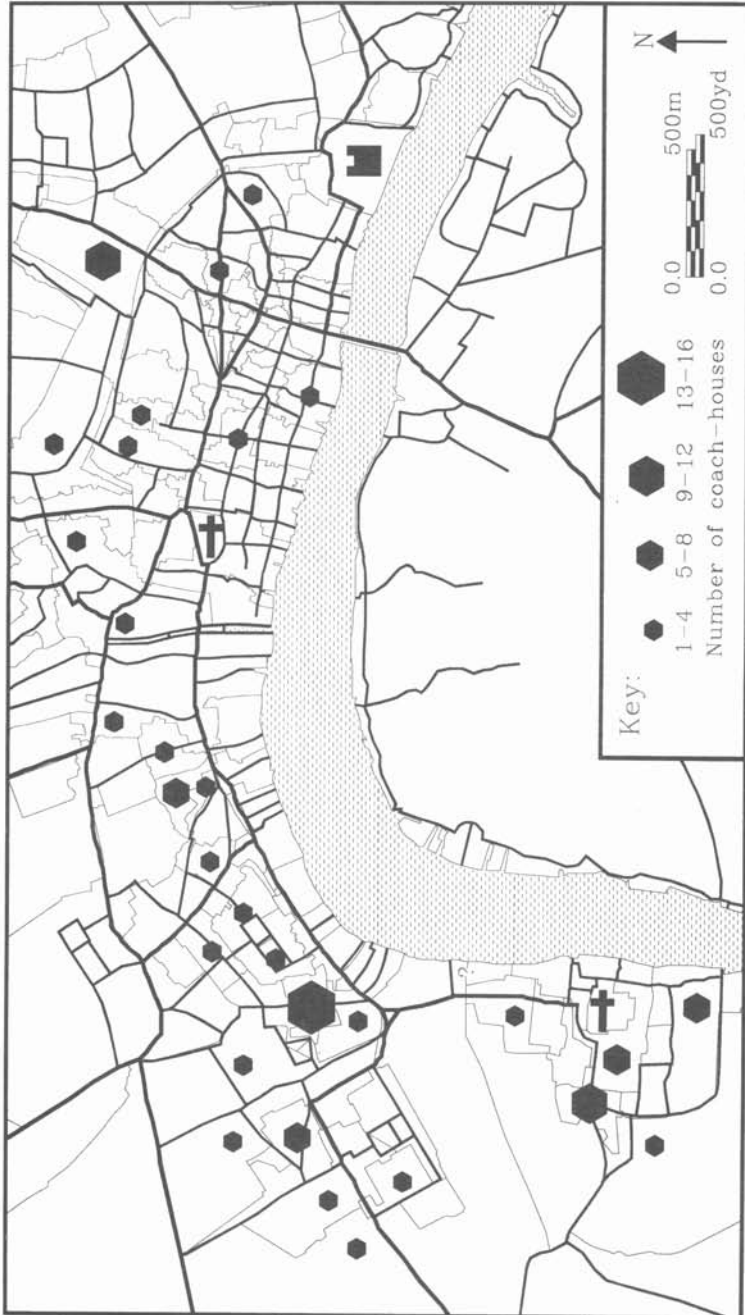


FIG. 4. The distribution of coach-houses assessed for taxation by ward, 1694  
 (Source: 1693-4 AId database)



precinct of St Katherine by the Tower (185 households per hectare) or Saffron Hill (114 households per hectare). Similar densities, however, were revealed in the wealthy central commercial districts of the city and along the primary thoroughfare of the Strand, while in some of the new fashionable areas densities were much lower. In the northern part of the parish of St James Westminster and near Red Lion Square in the parish of St Giles in the Fields household densities were high, despite their location at the limits of the built up area. This is probably to be explained by multiple occupancy in closely-set terrace rows of houses, which at the time of the assessment were no more than a few years old.

The pattern of land values (which include the value of buildings standing on the land) is more readily interpreted (Fig. 6). Broadly, values diminished concentrically with distance from the two major commercial foci of the metropolis. The first comprised that part of the city within the walls which extended along Cheapside and Cornhill and then down towards London Bridge, a district which had for long contained London's main concentrations of business and included the highest land values in the metropolis (£5,699 rental value per hectare near the Royal Exchange). The second was represented by a less concentrated grouping of high values along the Strand, where commercial activity in the neighbourhood of Charing Cross (£3,114 rental value per acre) appears to have had a distinctive effect. Despite the density of households and building in some outlying areas such as Saffron Hill their land values were low (£620 rental value per hectare).

*This 32-month project is funded by the Economic and Social Research Council (Ref. No. R000232527).*

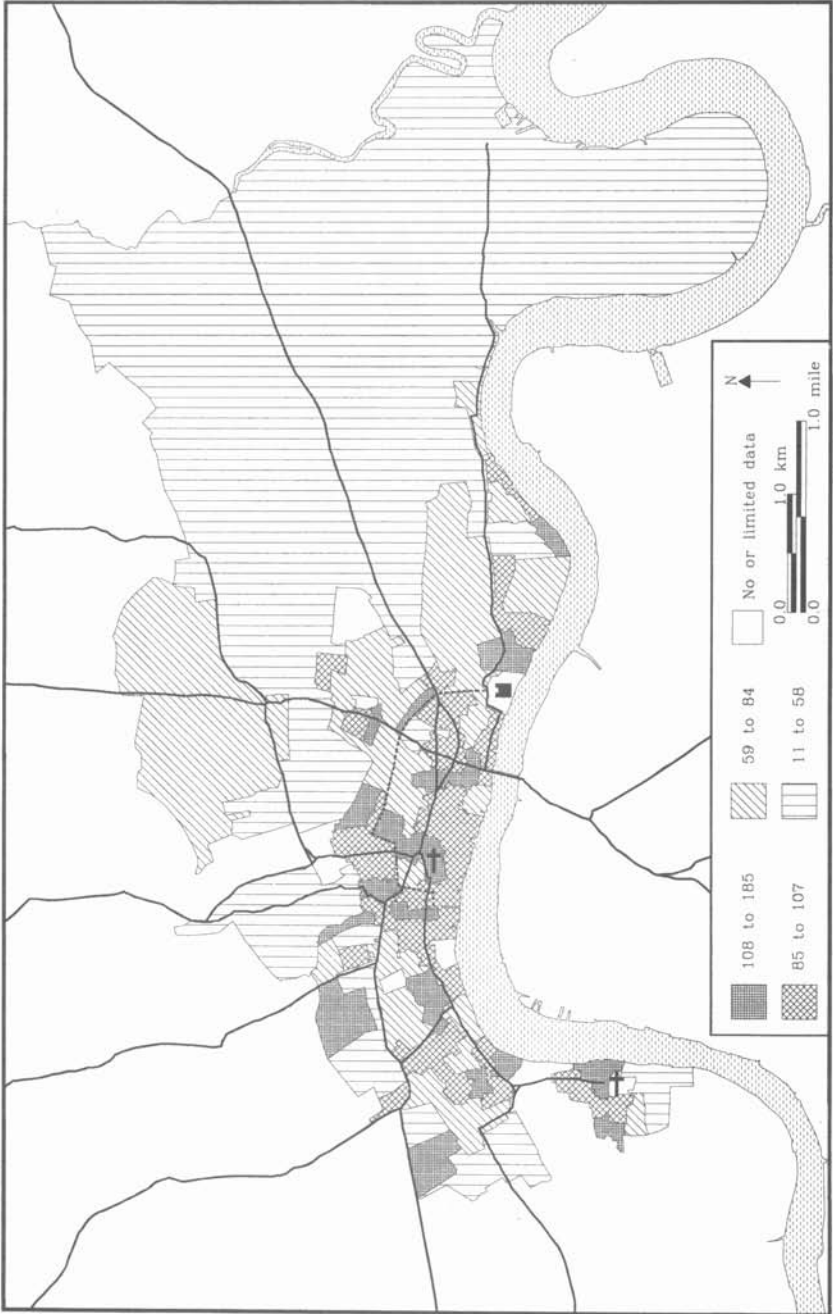


FIG. 5. Household density in households per net residential hectare  
(Source: 1693-4 Aid database)



FIG. 6. Land values for the central metropolitan area, in pounds per hectare  
(Source: 1693-4 Aid database)

This project looks at the ways in which leading instrument makers reorganised their workshop practices in response to increased demand during the period 1780–1820. It soon became apparent that practices had been changing earlier than 1780, and so the starting date for research was taken back to 1750. The period concerned, therefore, now runs on from that being investigated by the Skilled Workforce team.

In 1750 the London scientific instrument trade supported a substantial body of craftsmen working within the city boundary, in Westminster, and down-river towards Wapping. They supplied a growing number of customers with a wide variety of apparatus, for work, teaching and amusement. Mathematical instruments enabled architects, surveyors, navigators and gunners to make accurate measurements and calculation. Optical instruments, telescopes and microscopes, extended the power of the human eye. Philosophical instruments registered such intangibles as air pressure, temperature and magnetism, and included models to demonstrate the laws of physics, or those of cosmography in the form of globes and orreries, and were sought after by teachers, itinerant lecturers and dilettanti. The majority of items, being small in size, could be made by a few men working in their own attic or backyard workshops. The materials could be bought in London and hand tools and a hand-powered lathe sufficed to shape them.

The second half of the century brought a sharp increase in both the volume and the nature of trade. With Britain at war for much of the time, the fighting forces and their trainees needed quantities of telescopes and drawing and gunnery instruments. On a more peaceful front, throughout Europe, those with the taste and a purse to suit, from kings and princes downwards, indulged their curiosity in the fields of astronomy and natural philosophy. Probate inventories and sale catalogues show how wide the ownership of items such as barometers or telescopes became. Aristocrats spent hundreds of pounds to build up cabinets of physics and installed observatories to pursue their interests. In the 1750s the achromatic telescope and sextant came into use, and these, together with the marine chronometer, and the first Nautical Almanac (for 1767) brought enormous benefit to astronomy and navigation. At the same time, in Britain, on the Continent, in North America and India, major observatories were founded, with the ultimate purpose of compiling national almanacs and establishing the geographic frameworks needed for mapping large areas. London makers supplied a large proportion of these needs.

It was generally recognised throughout Europe that the most dependable instruments came from a few London workshops, yet it is obvious that the leading makers were putting their names to far more items than they could have made with their own hands, even assisted by journeymen and apprentices.

The practices of four leading makers were investigated: John Bird (1709–76), Jesse Ramsden (1735–1800), the Troughton brothers, active throughout most of this period, and W. and T.D. Gilbert, active in the early nineteenth century. Bird, Ramsden and the Troughtons all supplied large apparatus for astronomy and surveying. Ramsden, the Troughtons and the Gilberts sold numerous examples of a wide range of apparatus. The Gilberts unwisely took on the manufacture of large apparatus but probably through lack of experience lost money on these pieces and were declared bankrupt in 1828. Nairne and Blunt, and the Adams family, were also volume suppliers but have not been examined in detail (the Adams family is the subject of a book in preparation elsewhere).

Most studies of instrument makers have concentrated on the advancement of design and function as shown by their surviving signed apparatus. This research has focused on the business aspect of manufacture, principally the location and size of premises, the workforce, the finances, and some of the relationships with customers. Sources used include the correspondence of the makers concerned, which is widely scattered across Europe, and the papers of such official bodies as the Board of Longitude and the Royal Society. Leases and maps, insurance policies, and parish records supply evidence concerning workshops and premises. Bank accounts throw much light on finances and relationships with workmen. Efforts have also been made to find ‘third-party’ reports, especially those written by knowledgeable foreign visitors to London. Such visitors usually remark on aspects which appear strange to them, so their diaries and letters are often more illuminating than those of local people who ignore what to them is commonplace.

The four firms responded differently to the need to expand. Bird moved from the Strand to the northern margin of Westminster, but remained in a domestic setting. While his contribution to design should not be underrated, Bird made the smallest number of instruments, confined himself to a few major orders at any one time, and generally completed them within months. Ramsden moved from smaller premises to Piccadilly, where he employed some fifty men in extensive workshops, and produced all but the most common items. The Troughtons found themselves in cramped premises in Fleet Street and solved their problems by having some of the smaller items made by subcontractors and sending all their large casting and assembly work to Bryan Donkin’s engineering works in Bermondsey. The Gilberts came of a long line of

craftsmen who had expanded from their original speciality of nautical instruments. By the late eighteenth century their shop was in Leadenhall Street, conveniently close to their most important customer, the East India Company. By 1820 they had established themselves on a rural site near Woodford, Essex. In 1828 they went bankrupt and inventories of their premises revealed an extensive manufactory consisting of two forges, several brick-built workshops and stores, quantities of hand tools and materials, and the patterns for manufacturing most of the apparatus listed in their catalogue.

Those few firms which sold the most instruments were run by men with a sound business sense, underpinned by a grasp of mathematics and engineering principles. Patronised by the élite and influential customers, Nairne, George Adams senior, Ramsden and Edward Troughton were all elected to the Royal Society and treated as far more than mere tradesmen. But all the evidence shows that they relied heavily on the skills of a broad base of subcontractors located in the back streets. These subcontractors supplied most of the small high-quality instruments which were signed by, and retailed by, the few major firms. The leading subcontractors did on occasion sign their own instruments, but it remains to bring their working lives under the spotlight and give them the credit they undoubtedly deserve.

*This six-month project, spread over the year 1993, is funded by the Leverhulme Trust.*

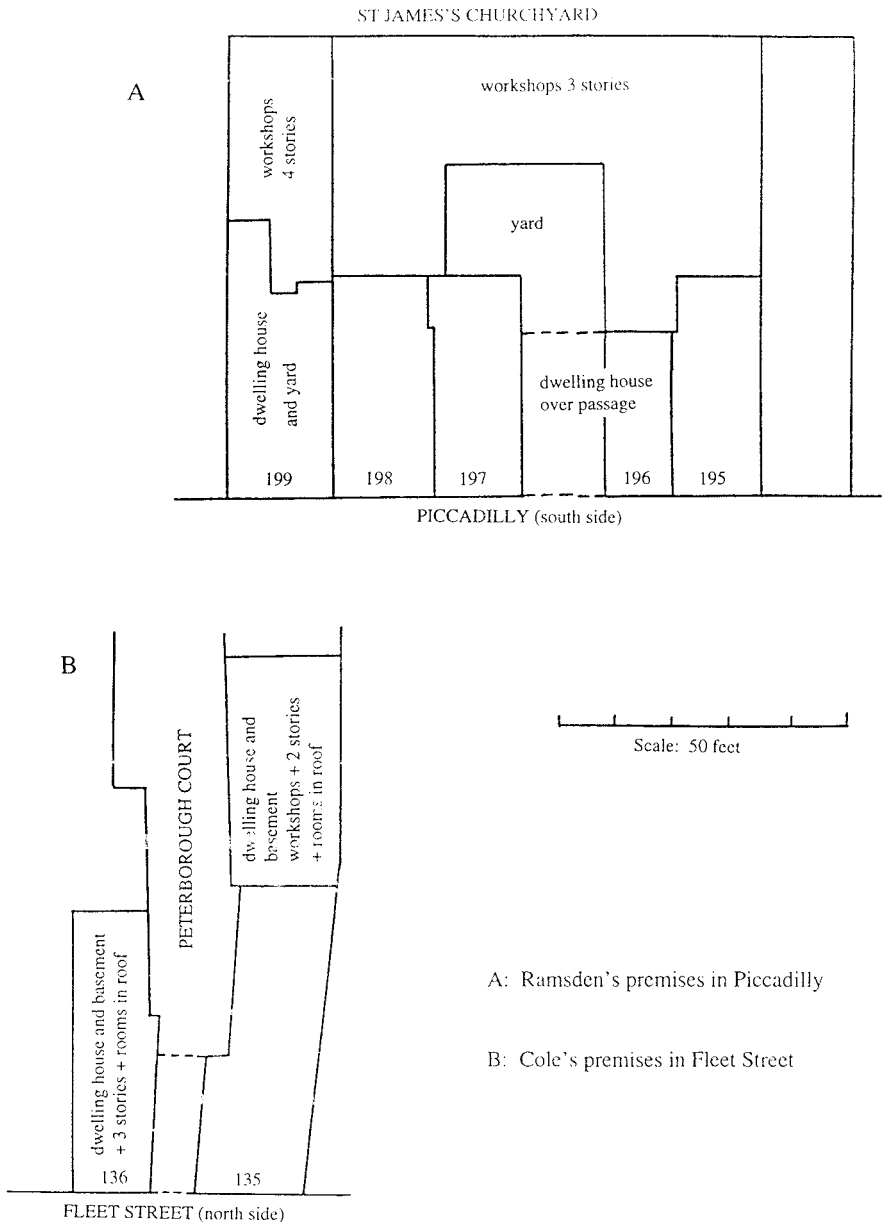


FIG. 7. The premises of Ramsden in Piccadilly and those of Cole in Fleet Street (later belonging to Troughton), c.1780

Such information, compiled from maps and leases, illustrates the contrast in workshop area available to each of these major businesses.

*a) BIBLIOGRAPHY OF PRINTED WORKS ON LONDON HISTORY TO 1939*

The year has been fully occupied in finishing the last of the editing for this enormous project, and with indexing the text and producing camera-ready copy for Library Association Publishing Ltd. The bibliography is scheduled to appear in book form in April 1994. The Corporation of London and the Scouloudi Foundation have generously provided some assistance towards publishing costs with a view to keeping the sale price at a reasonable level. Material appearing since the bibliography's cut-off date (1990) is being collated for a future supplement.

*This project has also been assisted over the years by grants from the Economic and Social Research Council (Ref. Nos. R000231020 and R000232425), the Corporation of London, English Heritage and the Society of Antiquaries.*

*b) RESEARCH IN PROGRESS ON THE HISTORY OF LONDON*

We have continued to collect information for this database from as many sources as possible, and a supplementary list of work in progress appeared in the *London Journal* vol. 18 no. 2 (1993). Many enquiries have been received and answered from researchers wondering whether anyone is currently working on a specific topic, and from conference organisers looking for likely speakers.

*c) LONDON CASES IN THE EIGHTEENTH-CENTURY COURT OF EXCHEQUER*

To our great regret we were unable to obtain further funding to undertake this listing project. Dr Tony Trowles, who conducted our preliminary survey of the subject and wrote up its findings, has now been appointed Assistant Librarian at Westminster Abbey.

*The preliminary survey was funded by contributions from The Pilgrim Trust; The Worshipful Company of Scriveners; The Honourable Society of Gray's Inn; Clifford Chance; and Linklaters & Paines.*



## APPENDICES

### I

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## II

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J.M. LANDERS, B.A., Ph.D., Fellow, All Souls College, Oxford

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R. ORESKO, Ph.D. Research Fellow, Institute of Historical Research

S.R. PALMER, B.A., M.A., Ph.D., Senior Lecturer, Queen Mary and Westfield College (from 1 August 1993)

M.H. PORT, M.A., B.Litt., F.S.A. (to 31 July 1993)

H. SOUTHALL, B.A., Ph.D., Lecturer in Geography, Queen Mary and Westfield College

E.A. WRIGLEY, M.A., Ph.D., F.B.A., Fellow, All Souls College, Oxford (to 31 July 1993)

## III

### ASSOCIATE SUPERVISORS OF RESEARCH PROJECTS

BRUCE M.S. CAMPBELL, B.A., Ph.D. (The Queen's University of Belfast), 'Feeding the City'

PETER EARLE, B.Sc. (Econ.), Ph.D., 'Metropolitan London in the 1690s'

## IV

### STAFF OF THE CENTRE

*Director:* DEREK KEENE, M.A., D.Phil. (Oxford)

*Deputy Director (and Editor of Bibliography):* HEATHER CREATON, B.A.,  
M.Phil. (London), A.L.A.

*Administrative and Research Assistant:* OLWEN R. MYHILL, B.A.  
(Birmingham), Dip. R.S.A.

Feeding the City: London's Impact on the Agrarian Economy of Southern  
England, c.1250-1350:

*Researchers:* JAMES A. GALLOWAY, M.A., Ph.D. (Edinburgh);  
MARGARET MURPHY, B.A., Ph.D. (Trinity College, Dublin)

Before the Bank (to 30 April 1993):

*Researcher:* PATRICIA E.C. CROOT, B.A., Ph.D. (Leeds)

The Growth of a Skilled Workforce in London, c.1500-c.1750:

*Researchers:* MICHAEL BERLIN, B.A. (Kent); ROBERT ILIFFE, B.Sc.  
(Leeds), M.Phil., Ph.D. (Cambridge); DAVID MITCHELL, B.Sc.  
(Oxford), M.I.C.E.

*Postgraduate Student:* LIEN BICH LUU, B.A. (Sussex)

(The following are associated with the project: Dr David Ormrod, Lecturer, University of Kent; Billy Dann, postgraduate student, University College London; Patricia Fara, postgraduate student, Imperial College; Tim Meldrum, postgraduate student, London School of Economics; Martha Morris, postgraduate student, London School of Economics.)

Metropolitan London in the 1690s:

*Researchers:* JANET BARNES, B.Sc. (Soc.), B.Sc., M.A. (London); CRAIG  
G. SPENCE, B.Sc. (Surrey), M.A. (London), M.I.F.A.

From Craft to Industry: London's Scientific Instrument Makers' Workshops,  
1780-1820 (from 1 January 1993):

*Researcher:* ANITA McCONNELL, B.Sc. (London), Ph.D. (Leicester),  
F.R.S.A., F.R.G.S., F.R. Met.S.

Bibliography of Printed Works on London History to 1939 and London Cases in the Eighteenth Century Court of Exchequer (to 30 September 1992):

*Researcher:* TONY TROWLES, B.A. (C.N.A.A.), D.Phil (Oxford)

JANET BARNES's current research interest is in medieval medicine; her M.A. dissertation was on 'Signs of subversion in the *Roman de la Rose*'. MICHAEL BERLIN's main research interest is in the public rituals of early modern towns. After varied experience as a reference librarian, HEATHER CREATON edited *Writings on British History* for many years; in addition to her bibliographical work she runs a regular introductory course for new postgraduate students. PATRICIA CROOT's doctoral research concerned various aspects of agrarian economy and society in the Somerset Levels in the early modern period, which she is currently developing further. She has wide interests in the history of the Greater London area, particularly in early medieval landholding in the hinterland of the City. JIM GALLOWAY's Ph.D. research examined industry, wealth and mobility in Colchester and its region, 1310-1560; he has broad interests in medieval and early modern historical geography, including the issues of urban development, and industrial and agrarian change. ROB ILIFFE's current areas of interest are: anti-Catholicism and natural philosophy, 1550-1700; the history of the body in the sixteenth and seventeenth centuries and its relation to the power of the 'state'; and seventeenth- and eighteenth-century theories of vision and colour in art and natural philosophy. DEREK KEENE has written extensively on the society, economy, topography and archaeology of medieval and early modern towns, and especially on Winchester and London; he is a Royal Commissioner on the Historical Monuments of England. LIEN LUU's research interests lie within the history of migration. She is currently researching on the contribution of strangers from Europe to the economy of London in the sixteenth century; the research focuses in particular on stranger skills and skill transfer. ANITA McCONNELL serves on the Committees of the Society for Nautical Research and the Royal Meteorological Society History Group. She is also currently helping to prepare the Royal Historical Society's *Guide to the locations of pre-1990 maps in British repositories*. DAVID MITCHELL's current research interests include the developments in the trade of the goldsmith in the seventeenth century together with a continuing concern with the provision and use of table linen in England from 1450. MARGARET MURPHY's main research interests lie within the field of ecclesiastical history; her Ph.D. thesis and publications examine the archbishopric of Dublin in the middle ages, covering such themes as piety, administration, and church and society. Apart from grappling with the Centre's computers and administration, OLWEN MYHILL's main historical interest is the impact of religious nonconformity on rural society in the nineteenth century. CRAIG SPENCE was

formerly an archaeologist at the Museum of London, where he directed a number of excavations. He is currently undertaking an M.Phil. researching sudden death in the early modern city and is a part-time lecturer in Early Modern History at the London Centre of Syracuse University, Goldsmiths' College and Royal Holloway College. TONY TROWLES has research interests in the cultural history of London, especially during the eighteenth century. His D.Phil on the rôle of the ode in English musical life, 1660-1800 was awarded in October 1992. In May 1993 he became Assistant Librarian at Westminster Abbey.

## V

### CONFERENCE AND SEMINAR PAPERS GIVEN BY MEMBERS OF STAFF

Michael Berlin:

‘Skill and Innovation in Early Modern London’, at Economic History Seminar, University of Kent, March 1993.

‘Sites of Production: an Introduction’, at Skilled Workforce Seminar, Museum of London, March 1993.

‘The growth of a skilled workforce in early modern London: an interdisciplinary approach’, at Rethinking the Decorative Arts Conference, Manchester University, July 1993.

‘The pathway to knowledge: navigational instruction in early modern London’, at Dreams of Reason: Worlds of practice: Science, skill and higher learning since 1550 (Achievement Project annual network meeting), Baltimore, October 1993.

‘The places of skill in early modern London’, at Metropolitan History Seminar, Institute of Historical Research, October 1993.

Heather Creaton:

‘Compiling a local history database’, at ASLIB Social Sciences Information Group meeting, London, May 1993.

‘An overall view of medical sources’, at British Records Association Annual Conference ‘Archives of sickness and health’, Wellcome Institute, London, November 1993.

Robert Iliffe:

‘Fertility and idolatry: the transmission of historiography between France and Britain’, at the Annual meeting of the European Association of Young Historians, London, September 1992.

‘Deceit and the audience-relation. Anti-Catholicism as a resource for making knowledge in Europe, 1530-1680’, at the History seminar, University College London, February 1993.

‘The Protestant work ethic and the care of the self. The healthy body and the meaning of labour for the godly natural philosopher’, Wellcome Unit for the History of Medicine seminar, London, March 1993.

‘Foreign bodies: English attitudes to continental science, 1650-1680’, Seminar on European History 1500-1800, Institute of Historical Research, May 1993.

‘The teaching of mathematics and the mathematical schools in London, Amsterdam and Paris, 1550-1750’, at a conference on the relations between pure science, skill and technology since 1550, John Hopkins University, October 1993.

Derek Keene:

‘Medieval London’ at ‘London: the first 2000 years’ conference, October 1992.

‘Work, discipline and the apprentice’, at Vocation, work and culture in Early Modern England conference, December 1992.

‘The Skilled Workforce Project’ at ‘Les métiers d’art à Paris, 1500-1800’ conference, April 1993.

Anita McConnell:

‘The Dines family and its instrument makers’, at the Royal Meteorological Society History Group, London, October 1993.

‘London instrument makers and their workshops in the late 18th century’, at CMH, November 1993.

David Mitchell:

‘Innovation and the transfer of skill in London in the second half of the seventeenth century’, at Innovation and skill in Goldsmiths’ work study day, Victoria and Albert Museum, London, November 1993.

Craig Spence:

‘Computers, maps and metropolitan history: not GIS’, Association of History and Computing, University of York, March 1993.

(with Janet Barnes) ‘Metropolitan London in the 1690s’, Economic and Social History of Pre-Industrial England seminar, Institute of Historical Research, May 1993.

## VI

### PUBLICATIONS

Bruce M.S. CAMPBELL, James A. GALLOWAY, Derek KEENE and Margaret MURPHY, *A Medieval Capital and its Grain Supply: Agrarian production and distribution in the London region c.1300* (Historical Geography Research Series, No. 30, 1993) 233pp.

J.A.I. CHAMPION (ed.), *Epidemic Disease in London* (Centre for Metropolitan History, Working Papers Series, No.1, 1993) 88pp.

Justin CHAMPION, 'Relational Databases and the Great Plague in London 1665', *History and Computing*, 5:1 (1993), pp. 2-12.

Heather CREATON, 'A local history database: the bibliography of printed works on London history', *ASSIG* (Aslib Social Sciences Information Journal) XI no.1 (1993), 22-4.

Heather CREATON, 'Register of research in progress on the history of London: a supplement', *London Journal*, 18 no.2 (1993).

James A. GALLOWAY, Margaret MURPHY and Olwen MYHILL (eds.), *Kentish Demesne Accounts up to 1350: A Catalogue* (Centre for Metropolitan History, 1993) 66pp.

Rob ILIFFE, 'Mécanique céleste de Newton', *Les Cahiers de Science et Vie* (February 1993), 40-68.

Rob ILIFFE, "'Aplatisseur du monde et de Cassini": Maupertuis, precision measurement, and the shape of the Earth in the 1730s', *History of Science*, xxxi (1993), 335-75.

Anita McCONNELL, 'The aneroid barometer comes to London', *Bulletin of the Scientific Instrument Society*, No. 39 (September 1993), 20-22.

Anita McCONNELL, 'L.F. Marsigli's visit to London in 1721, and his report on the Royal Society', *Notes and Records of the Royal Society* 47 (1993), 179-204.

Anita McCONNELL, *R.B. Bate of the Poultry 1782-1847: the life and times of a scientific instrument maker* (Scientific Instrument Society, Monograph No. 1, Pershore, 1993) viii+74 pp.

David MITCHELL, 'Dressing plate by the "unknown" London Silversmith "WF"', *The Burlington Magazine*, Vol. CXXXV, No. 1083 (June 1993), pp. 386-400.

## VII

### SEMINAR ON METROPOLITAN HISTORY

October 1992-March 1993

(Wednesdays, fortnightly, 5.30 pm, at the Institute of Historical Research)

'Social Policy' and 'The Art Market' in the Metropolis

- 'Congestion or Obsolescence? London housing problems and policies, 1900-1945', Dr Jim Yelling (Birkbeck College, London).
- 'Social Policy and Mental Deficiency in London before the Welfare State', Mathew Thomson (Wellcome Unit for the History of Medicine, Oxford).
- 'Housing Policy and Philanthropy: some transatlantic comparisons - London and Toronto, 1880-1939', Dr Richard Dennis (University College London).
- '"Sympathy and Tact": some problems concerning "women" and "social policy" and the LCC, 1889-1914', Dr Susan Pennybacker (Trinity College, Hartford, Connecticut and City College of New York).
- 'Artists and Dealers in mid-Victorian London', Professor Will Vaughan (Birkbeck College, London).
- 'The London Print Market in the 18th century', Mr David Alexander.
- 'Artisan Capitalists in a Commodity Culture: Prints for Sale on the street in London 1810-50', Dr Tom Gretton (University College London).
- 'The Development of Local Government in the Dagenham Estate during the Inter-War Period', Dr Andrzej Olechnowicz (St John's College, Oxford).
- 'Artists, dealers and "names": Marketing British Modernism in London in the 1920s and '30s', Dr Andrew Stephenson (Oxford Brookes University).



## VIII

### SOURCES OF FUNDING

#### Projects:

Bank of England  
Clifford Chance  
Corporation of London  
Economic and Social Research Council  
The Honourable Society of Gray's Inn  
The Leverhulme Trust  
Linklaters & Paines  
The Pilgrim Trust  
The Renaissance Trust  
The Scouloudi Foundation  
The Worshipful Company of Scriveners

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## CENTRE FOR METROPOLITAN HISTORY

Since Roman times London has been one of the leading European cities. For the last three hundred years it has been a metropolis on a world scale. Its history and development as a great centre of population, trade, finance, society, and political power are recorded in a rich store of documentary, graphic, and material remains. This growing body of evidence is unparalleled for any other city. A long and vigorous tradition of study has illuminated many aspects of London's past, providing a firm foundation for advancing understanding in the future. London is a laboratory of unique importance for the study of urban affairs. It offers the opportunity of setting our knowledge and experience of metropolitan life today in the context of two thousand years of continuous development.

Established in 1987, in collaboration with the Museum of London and other organisations, the Centre fulfils a long standing need in London. It promotes the study and wide appreciation of London's character and development from its beginnings to the present day, and is concerned to set the history of London in the wider context provided by knowledge of other metropolises. It:

1. Provides a forum for the interchange of ideas on metropolitan history through seminars, conferences and other meetings;
2. Undertakes original research into the society, economy, culture and fabric of London, with regard to its role both within the British Isles and the world at large;
3. Provides a practical service for those interested in the history of London by bibliographical work, by organising raw data so that they are more readily usable, and by collecting and publishing news of research in progress;
4. Promotes research into the history of other metropolitan centres by inviting scholars from other parts of the world to take part in its activities, and by undertaking projects which compare London with other centres.

The Centre for Metropolitan History is part of the Institute of Historical Research