

**THE TOWN PLANS OF GLASGOW, 1764 - 1865:
A HISTORY AND CARTOBIBLIOGRAPHY**

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**A Thesis submitted to the Faculty of Social Sciences of the
University of Glasgow for the degree of Master of Letters.**

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March, 1994

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ABSTRACT

This thesis lists and considers all of the town plans which depict the City of Glasgow up to and including the large scale maps produced by the Ordnance Survey. Earlier depictions of town layout are of great value in an interpretation of urban patterns and their development but their use needs to be based on an understanding of their original purpose, the ability of the cartographer and their correct dating. In the past, many false assumptions have been made about such documents and this research seeks to correct many of these. In addition to listing and describing the eighty-eight entries, significant elements of their individual production and their relationship to earlier surveys are detailed. The cartobibliography is preceded by a discussion of the history of the city's mapping and some of the most important figures involved in Glasgow surveying. A concluding appendix seeks to be a comprehensive list of surveyors resident and working in Glasgow for the period, 1700-1855.

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ACKNOWLEDGEMENTS

In 1983, Margaret Wilkes, Head of the Map Library at the National Library of Scotland, suggested I compile a listing of the town plans of Glasgow. Somehow other matters seemed more important at the time but I would like to record my sincere thanks to her for that original planting of the seed and her continued inspiration. Anyone who has dealings with the cartography of Scotland quickly realises the contribution she has made to the subject and I would like to acknowledge my debt to her and the staff at the Map Library for all their help over many years. I also recognise the invaluable encouragement of Dr. Jeffrey Stone of the University of Aberdeen who first gave me support. I hope that his placed trust has not been misfounded.

Inevitably, I have made demands on the time, effort and goodwill of the staff of several map collections. In particular, I have asked much of the unsung heroes, and more especially heroines, of the library world who fetch and carry and seek to find the answer to all those irritating enquiries which need a specific answer. I have received courtesy, assistance and service wherever I have turned which has confirmed a genuine pride in my profession. My sincere thanks are due to the staff of the Glasgow Room, the Mitchell Library for their patience and forbearance; to the staff of the Library of the Royal Faculty of Procurators in Glasgow for permission to consult the Hill Collection; to Francis Herbert, Map Librarian at the Royal Geographical Society, for his suggestion to visit thereby saving me the omission of two maps; to the many staff at the British Library who made every effort to facilitate my brief period of study there despite the organisational problems my requests may have caused and to Fiona Tait and the staff at Birmingham Central Library for their assistance in consulting the Boulton and Watt papers.

I wish to thank the University of Glasgow for the granting of two weeks study leave to allow me to travel in pursuit of several unique maps. My colleagues in Glasgow University Library have had to endure much discussion of maps, Glasgow history and the formatting of text on word processors. They have kept me as level headed as I am likely to be and have never tired of my inability to comprehend things at the first telling. My supervisor, David Forrest has had the difficult task of overseeing a member of staff from another department as a part-time student in a subject totally different from the mainstream of departmental research. He has provided support and advice and kept me on the right track.

Finally and most importantly, I want to thank my wife, Fiona and daughter, Susan for their understanding, patience and support. I hope they share my delight in belonging to our family.

AUTHOR'S DECLARATION

The results presented here are entirely the product of the author's own researches on the subject. No portion of the work referred to in this thesis has been submitted in support of an application for another degree or qualification in this, or any other, institute of learning

Lord, Let Glasgow Flourish by the Preaching of Thy Word and the Praising of Thy Name.

(Motto of the City of Glasgow taken from the Tron Church bell, cast in 1631.)

"An old map, like an old almanack, is seldom thought worthy of any particular notice; still, there is something in this record of the former extent and bearings of the city which, for the present, may entitle it perhaps to be looked upon as forming an exception to the rule. It does not indeed carry us back to a very remote period of our civic existence; but it possesses, nevertheless, a considerable degree of interest - enabling us, as it does, to judge at a glance of the great activities which have been at work during the last seventy years in promoting the extension of the city, and in conveying the grasp of this second Tyre over hill and plain to the southward and the west."

Views & Notices of Glasgow in Former Times, 1847, p.114.

CHAPTER ONE

INTRODUCTION

Scope

This thesis considers the maps and plans that depict Glasgow during the period between 1764 and 1865. Each plan which illustrates either the whole or a significant sector of the city is discussed and listed in chronological order up to and including the first "editions" of the large scale maps of the Ordnance Survey. These later maps give a picture of the urban form immediately prior to the major changes of the City Improvement schemes in the mid-1860s. This was a watershed period for the Improvement Trustees systematically removed the tenements of the former mediaeval old town and destroyed all but a few of the buildings there, radically altering the street pattern. Given this major change in the layout of the city, 1865 is felt to be a more appropriate cut-off date than an arbitrarily chosen year. The significant sector of the city is taken to be a street delineation greater than a minimum of Glasgow Cross and its radiating thoroughfares (High Street, Gallowgate, Saltmarket and Trongate), combined with some part of the River Clyde, at a scale larger than 1: 30000 (or 1": 2500 feet). Selection is further restricted to depictions which propose to display the city alone and not those showing Glasgow within its regional setting. This decision is intended to include as wide a range of town plans as possible but, inevitably, has led to the exclusion of several street, ward or smaller area, and district maps. Sheets prepared by antiquaries which purport to show the city at a much earlier period than their date of compilation are not included. Later reproductions published for antiquarian purposes are, however, listed under the entry for the original map but do not form a complete record.

The work is believed to be the first comprehensive, analytical and properly documented cartobibliography of the relevant plans of the city, whether manuscript or printed, providing full details of title, size, scale and source, and indicating, where appropriate, their relationships to one another and the locations of unique or rarer maps. It aims to be as complete a catalogue as possible. Although it is not easy to assess, it is doubtful whether any more than two or three other plans for the period are likely to be found in the future. Robert Karrow, of the Newberry Library, has described the four main functions of cartobibliography as discovery, location, comparison and

Each is important in its own right but increases in worth when in inter-relationship with the other purposes. This thesis unites these elements as a comprehensive study.

Although the number of entirely new surveys made during the period was comparatively small, some were to become the base for a series of subsequent depictions. It is very difficult to determine all the editions of these maps, let alone discover all the derivatives, but much effort has been made to be as exhaustive as possible. The bulk of the work consists of the plan list, with each document described and placed in its historical perspective, preceded by a detailed investigation of the development of mapping within Glasgow from the late sixteenth century, the major figures and the background environment, which was characterised by a complex inter-relationship between surveyors, instrument-makers and teachers. Two appendices complete the work. The former gives details of smaller-scale plans which are often included in map catalogues, thereby ensuring as full a record as possible, while the latter attempts a first comprehensive directory of land surveyors living and working within the city during the period under consideration.

This study was begun partially to atone for incorrect information passed to the former Secretary of the Royal Scottish Geographical Society, Donald Moir, in the preparation of the second volume of *The Early Maps of Scotland to 1850*. A reference work relies heavily on the accuracy of its sources and in the list of town plans of Glasgow (p.261), a manuscript plan of circa 1765 is recorded as held in Glasgow University Library. Although that institution does hold a copy of the plan, it is most assuredly not a manuscript. The error was never corrected and, as the history of the city's mapping was investigated in greater depth, it became increasingly obvious that the existence and dates of many depictions of Glasgow have been inaccurately recorded or discussed. Most noticeably, reproductions and copies have been confused with original sheets to the point where the more that is read, the more confusing and less reliable many sources become.

Cartographic history is very much a hybrid subject which encompasses interests in the fields of geography, local history, the history of science, the history of printing and design, and librarianship. Town plans introduce the additional strands of urban history and town planning. Despite the familiarity of maps, they are regarded as a specialist concern needing skilled treatment and storage. Unfortunately, in many instances their care and recording have a very low priority where budgets are already overstretched. The problems which can result from this have been highlighted by Hindle, "first, to find out what maps were originally drawn; second, to determine which repositories may have maps

of the town in which you are interested and, third, to find out what each repository actually does contain, given the often poor standard of cataloguing and indexing".² The style of detective work needed involves the checking of library catalogues not only for maps themselves but also for relevant guide books, topographies and histories, and their various editions. Often, there is no alternative to a systematic search of all records.

With this in mind, the research began by attempting to trace what has been written on the history of Scottish cartography and, in particular, on Glasgow's town plans. Fortunately, there is a detailed bibliography of the writings on the history of mapping in Scotland, recently published,³ which indicates both the strengths and weaknesses of scholarship in all aspects of the subject. This is the present author's own work and is the second edition of a listing first compiled in 1983. Although it is regarded as a standard and comprehensive study, it lists only 338 items, of which 47 entries cover town plans in any detail. Five items have been traced specifically for Glasgow itself,⁴ of which work by Brown⁵ and Niven⁶ are the most important. Brown's article was included in a special issue of the *Scottish Geographical Magazine* devoted to the city and its development. It discusses several of the maps in which Glasgow is depicted from Timothy Pont's survey of the Nether Ward of Clydesdale to those of the mid-nineteenth century Post Office directories and includes a chronological list of the more significant surveys combined with a valuable collection of reproductions. However, it is by no means exhaustive and the detail beyond description is quite limited. The monograph by Niven is an in-house publication for use in the Glasgow Room of the Mitchell Library. It is a compilation of the relevant section of Moir's work⁷ and the earlier research by Brown. In addition, it includes an inventory of 85 city plans drawn before 1860 which are held in the Glasgow Room. Unfortunately, it makes no differentiation between original plans, historical reconstructions or proposals, some of the maps cannot be traced and several erroneous assumptions are made. Furthermore, the work covers the holdings of only one library, albeit the city's major reference collection, and cannot provide a complete picture of what was produced or what has survived.

Forty-five plans are recorded in Moir's catalogue but, again, there is confusion between original and reproduced work, unique locations are omitted and errors occur in the dates of first issue. No distinction seems to be made between a large scale plan and a county survey which includes the city in its coverage (e.g. Forrest's map of 1816). In correspondence with other libraries, it also became clear that some plans have been discovered since its publication or were completely overlooked. This is particularly true of those appearing in

guide books, government reports or ephemeral publications. In addition, the bulk of the available reference sources take 1850 as an approximate cut-off date and there is very little guidance at all for the period, 1850 - 1865, or for the early work of the Ordnance Survey in Scotland. All the published research provides pointers to the city's cartography but there has, as yet, been no detailed analysis of any one map's depiction or history.

Maps are as important documents in the study of place as any other archival source but are as likely to need careful interpretation. They are not entirely neutral nor do they tell the whole story. Often, the story they do suggest can be confusing, contradictory or downright wrong but they do provide a visual impression of areal patterns, growth and development. Incorrect use will result in a lessening of the value of any research equal to poor interpretation of any other source type. As Hindle has stated clearly again, "all maps were made for a specific purpose and one has to be careful when using them for different ends".⁸ Although much has been written on town plans and many are used as illustrations to a variety of works, the discussion tends to concentrate on what is shown with little on the maps themselves.

In the most recent international directory of current research,⁹ 365 individuals are listed, of whom less than 10% (26) note an interest in urban cartography, with only sixteen recent publications given. A comprehensive history of town plans has still to be produced and this is a major area of Scottish cartography which remains underdeveloped. Compared with other European countries, Scotland has paid little attention to its town plans. In Italy, for example, "cartography is viewed as a direct key to the reading of the city's image from modern times to the early twentieth century".¹⁰ Since 1992, Dutch researchers have been working on a new series on the town plans produced by Jacob van Deventer during the 1560s and 1570s for Philip II¹¹ and a recently published bibliography of the history of Netherlands cartography records 56 entries for this cartographer alone. In addition, archivists, librarians and historians have contributed to a succession of detailed investigations of the historical plans of selected towns in the Netherlands (e.g. Ratsma's studies on Rotterdam).¹²

Publications covering English urban mapping have tended to fall into three separate strands - cartobibliographies of specific towns or cities, detailed studies of a single map or small group of plans and general historical discussions at varying academic levels. Of the cartobibliographies of town plans, London has been covered in great detail by two complementary works,¹³ which have set the standard for this style of catalogue. Chichester, Leeds and

Norwich are examples of the range of other English cities similarly described.¹⁴ These works tend to have been produced by specialists with either a librarianship or academic background.

Supplementing these catalogues, there has been a wealth of research on individual maps of particular towns or by specific surveyors. In this category, work by George and Pritchard on plans of Bristol¹⁵ reflect its rich heritage of pre-eighteenth century coverage. Constable, in considering Exeter,¹⁶ concentrates on the period up to 1724 and the influence on subsequent depictions of work by John Hooker, it being the original on which all others for the next 150 years were based. John Speed's plan of Dublin was looked at by Andrews¹⁷ in a detailed study of topographical information, subsequent history and derivatives. An example of research into a later period is well indicated in Harley and Manterfield's work on the Ordnance Survey 1:500 plan of Exeter.¹⁸ Manuscripts have also come under similar critical scrutiny (e.g. Harvey's essay on the Portsmouth map of 1545).¹⁹ Again, the major contributors have been the recognised and leading experts in the history of cartography or historians knowledgeable of a particular place.

The final element in this field has been produced in a variety of forms by a much wider range of scholars. Many studies take a popular, non-academic approach and are geared to local interest, the collecting world or the general reader.²⁰ Often, they are little more than arrangements of illustrations with only limited text or very brief articles of sketchy detail, occasionally of questionable validity. Furthermore, general histories of British mapping tend to omit discussion of Scottish plans in their thematic coverage, possibly a reflection of the richness of English archives more than a deliberate ignorance of what exists north of the border.²¹ The research presented here seeks to be not only a general historical review but also a synthesis of the analytical elements of the first two strands in its overall perspective.

Given the unreliability of the sources, it was considered imperative to make an in depth study of the existing records in order to establish, as far as possible, what maps of the city were produced and what information was available on them. The result of this research was to produce a fascinating and surprisingly detailed picture of the town's cartography built up from legal evidence, burgh records and the local press. A careful inspection of the eleven published volumes of the *Extracts from the Records of the Burgh of Glasgow*, which cover the period 1573-1833 provided many references in respect of the Council's early involvement in support of surveying. In March 1773, the City Council instituted the salaried post of "surveyor and measurer for the city", appointing James Barrie as the first incumbent. This innovative and, for

Scotland, somewhat unique establishment confirmed Barrie as the town's preferred surveyor for most of the schemes and projects of city extension. There is a possibility that such posts could only be created where resident men of ability had the capabilities to meet local municipal needs. Certainly, the general surveying of towns was an expensive undertaking, requiring sizeable support from those with money to purchase the plans. Although other provincial cities have records of the regular use of architects, measurers and surveyors, only Liverpool in its constant employment and appointment of members of the Eyes family, in particular Charles Eyes as general surveyor of the town in September 1786, appears to match Glasgow's record in this field.²² It is significant to record that whereas Barrie's initial salary was £15 sterling, Charles Eyes's position carried a fee of 100 guineas per annum. In Dublin, the first recorded appointment of a city surveyor was John Greene in October 1679, although the earliest map in the Surveyors' Book is dated 5 August 1695.²³ This post had largely been created in response to the need for accurate property records of corporation leases but, in spite of several unsuccessful attempts to introduce a regular salary, payment by survey remained the principal source of income for Dublin surveyors. Greene himself was to be given an allowance of not more than 20 shillings for each survey "to be paid him by the person or persons who imploy him therein".

Burgh records can give only a partial insight into what happened. Commercial enterprise did not have to rely on Council backing for success. Unfortunately, few papers of any cartographers or map publishers have survived. One invaluable source, however, is the local press. Students of Glasgow's modern history are fortunate in the survival of many early journals and it is a recognised point of local pride that the *Glasgow Herald* is Britain's longest running newspaper. For the purposes of this study, all issues of the available press coverage for the period up to 1800 and all issues of the *Glasgow Herald* from 1800 to 1865 were looked at. A painstaking investigation of the advertisements which appeared in them produced information on several maps which repaid the effort involved. In particular, such details as the timing of publication, method of subscription and cost of individual items was discovered. However, more valuable were the references to maps hitherto unrecorded or imaginative schemes, such as Peter Fleming's 1821 proposal, which were never realised.

The press sources are supported by two major archives relating to Glasgow and its mapping, namely the Boulton and Watt papers held in Birmingham Reference Library, which contain a sizeable proportion of the journals, ledgers, waste books and journeyman's books of James Watt's business during his



Figure 1: A Plan of Glasgow, 1773 by Charles Ross. (Reproduced by permission of The Librarian, Glasgow University Library).

period of residence in Glasgow, and the surviving registers of the Kyle and Frew partnership deposited with Strathclyde Regional Archives. Both provide valuable information and insights into the work of the mathematical practitioners of the period.

Glasgow's new found confidence has led to much being written recently on the growth and development of the city. This research seeks to demonstrate that, although not a place of strategic importance, Glasgow is an ideal model of a British provincial town with regard to the development and examples of its mapping, for the list contains examples of general, legal, administrative, transport and social cartography. The history of its mapping is not atypical of Scottish urban cartography. With the notable exception of Edinburgh, Scots burghs did not develop until the agricultural and commercial improvements of the eighteenth century began to percolate through society to provide the professional and mercantile environment with sufficient financial power to initiate the extensive schemes of the later Georgian period.

During the period under consideration, Glasgow's population increased over sixteenfold²⁴ - a quite phenomenal rise within the space of one hundred years but truly part of a pattern that had begun in the later years of the seventeenth century. Despite the fears and hostility of many of their fellow citizens to the Treaty of Union of 1707, the merchants of Glasgow were quick to exploit the opening up of the English colonies in North America and the West Indian islands to trade. The trans-Atlantic commerce, based on tobacco, sugar and, later, cotton, stimulated a steady expansion of the city as it developed processing and manufacturing industries and grew as an entrepot for much of western Europe. This, however, had been a steadily increasing feature of the later decades of the previous century and no single date can be taken as the turning point. It would be too simplistic to identify one particular year as the origin of progress in terms either of prosperity or in the more specific sense of urban form.

Between 1707 and the 1780s, the town's population trebled but its geographical extent remained remarkably limited. Charles Ross's plan of 1773 (figure 1) portrays a street pattern markedly mediaeval in layout and still dominated by the High Street-Saltmarket axis. Only one area is indicated as "laide out for building" - the projected but unrealised St. James Square in Calton. Yet, there are already signs of the nascent westward spread of the built-up area across the lands of those mansions erected by the successful tobacco lords. The plan shows the initial seeds of the later grid in the line of King Street-Candleriggs and the series of new thoroughfares (Virginia, Miller, and Queen Streets, 1753-1766) opened following the demolition of the West



Figure 2: Detail from Plan of the City of Glasgow, 1778 by John McArthur.

Port in the mid-eighteenth century. Collier's delineation of August 1776, based on the design by Ross, shows proposed layouts west of Queen Street, north of Rotten Row and in the lands between Candleriggs and Virginia Street but names them as gardens. Unfortunately, the siting of the key to references north of Queen Street has prevented any representation of the Ramshorn and Meadowflat lands.

The 1778 city plan (figure 2) confirms this slow and steady expansion, begun often as private speculation and, therefore, piecemeal. McArthur displays the spreading of the urban form in two directions - west, across the flat land lying between the Clyde and the raised ground of College Hill and Blythswood, and east into Calton. Significantly missing from his delineation, however, is any indication of the planned developments of the Ramshorn and Meadowflat lands specifically purchased by the Council in 1772 to meet the demand for building land. Barrie had prepared a grid plan for this area on a more extensive scale than any previous proposal and the nature of this is shown on his survey of 1782, emphasised in the outlining of streets by hypothetical building shading. This geometrical pattern was to be continued even further west over the adjoining Blythswood estate by the early 1800s. Fleming's map of 1807, in particular, displays these proposals. This expansion should be seen more in the light of a desire by the merchant class to move away from the overcrowding and discomforts of the old town than as a response to population growth alone. Schemes often took a long time to develop (e.g. St. Enoch's Square was planned in 1768 but, by 1778, only one house had been constructed) and some were signal failures.

South of the river, growth was directed both east and west of the village of Gorbals in a series of regular projects on land owned by the Council, the Trades House and Hutcheson's Hospital. These projects of Tradeston, Laurieston and Hutchesontown, which first appear on the 1797 plan by James Denholm, were based on the grid of the old field boundaries. Laurieston, in particular, was envisaged as an elegant residential district. However, delays in construction, combined with an inability to regulate building within the area, led to the incursion of industrial units. This inevitably resulted in a deterioration in prices and a gradual drift of the middle classes to the newer suburbs of the west. This concentration along one geographical sector was further strengthened by a similar lack of success in providing an integrated plan for the city's east side. In consequence, the series of plans of the early nineteenth century show the city's growth as an irresistible drive west away from the industries developing either within the old town or in the east and the south. Only in the west was this growth kept under strict control, either by the

Council itself or the major landowners (e.g. on the Campbell lands of Blythswood). The 1807 Fleming depiction is also valuable for what it shows of the individual industries and certain district specialisations, most notably in textiles. Gradually, suburban villages (e.g. Anderston) which had developed as small industrial localities were enveloped within Glasgow's expansion, creating an irregular contrast to the more formalised plan. Elsewhere, growth was a consequence of transport developments. Port Dundas, the canal terminus on Hundred Acre Hill, is a particularly notable example based on its wharves and distillery.

As the nineteenth century progressed, the formal grid layout was extended over areas to north and south of the original Blythswood "new town". This development saw the urban area expand over Garnethill to meet the built-up zone around Port Dundas. South of St. Vincent Street, the pattern was affected by the growth of warehouses, stores and small processing units which had come into being with the improvement of the harbour facilities at the Broomielaw. The history of the narrowing and dredging of the channel of the Clyde is well documented and stresses the value of the availability of extensive areas of flat land, free from flood, behind the retaining walls or embankments. These riparian sites were ideal for shipbuilding, the first yard opening at Stobcross in 1818. Three years later, David Napier constructed a small tidal basin beside his Lancefield engine works to facilitate the installation of boilers.²⁵ Although David Smith's map of that year shows a more extensive picture of the harbour quay, it is Gray's depiction of 1825 which first identifies this basin. Nevertheless, the maps of this period indicate the spread downstream of yards and works, accompanied by a widening of the harbour as each new quay was constructed. More significantly, they display two marked characteristics of the history of the Clyde at this time. Efforts to deepen the river had resulted in a narrow channel which led to several larger yards being established around the mouths of the Kelvin and Cart Rivers to maximise launching lengths. In addition, the desire of the merchant community to keep the loading and unloading of merchandise as close to their warehouses as possible resulted in a continued emphasis of the harbour facilities on the north bank. Suggestions for the creation of docks on the south bank were constantly affected by the prohibitive costs but, although the terms of the Navigation Act of 1840 empowered construction, the site at Windmill Croft continued to appear as a proposed dock from about 1838 onwards until building work began in 1864.

Harbour extensions were not the only transport improvements necessitated by the increased movement of raw materials and goods resulting from steady

industrialisation. Port Dundas grew at the junction of the Forth and Clyde and Monkland canals. The creation of an industrial zone of chemical works and foundries to the north of the city along the line of the canal was directly attributable to the ease of bulk movement of commodities such as coal and iron. From the 1820s onwards, this development can be traced in a series of maps beginning with Smith's detailed survey in 1821. Traffic was not limited to goods transport and, by the 1830s, an estimated 23,000 passengers per year were embarking at Kirkintilloch.²⁶ Canal construction south of the river was concentrated on the Glasgow, Paisley and Ardrossan scheme, terminating at Port Eglinton. The tendency on several plans to limit the mapping of the city area on the south side prevents a similar continuity of representation. By the 1830s, railway competition was beginning to affect traffic flows and, increasingly, the impact of rail routes is to be seen on the various contemporary plans - in particular, the intrusion of the Edinburgh line into the city centre. In addition, the opposition to, and legal arguments against, certain proposed lines resulted in the production of plans used by the protagonists. As with other major industrial areas, the rapid growth and arrival of the railways led to a more frequent updating of maps (e.g. there are only 29 maps and plans of Leeds recorded for the period before 1800 but the first half of the nineteenth century saw a further 90 produced). Greater ease of travel led to a development of tourism which supported a healthy growth in the publication of guide books, histories, gazetteers and directories. Town plans began to be regularly produced to accompany a variety of literature and it has been assumed that many of these depictions have been derivative or direct copies of earlier works. Careful comparison in this research has shown that, in general, these plans are rarely straight copies but tend more to combine elements from several sources and regularly introduce new features. Town growth engendered an interest in the overall urban form and the production of relatively small-scale, one sheet, popular maps was specifically geared to meet the needs of a wider and increasingly literate urban population. In contrast to the elegance of such plans as those by McArthur and Fleming, these works tend to be plain, relatively cheap and, on occasion, unreliable, as revisions tended to concentrate on marginal updating without great attention to internal change.

In 1836, an Act of Parliament authorised the construction of a road from St. George's Cross to Anniesland Toll. The resultant Great Western Road was only one of several routes along which more spaciouly planned suburbs were laid out. During the 1830s and 1840s, terraces and gardens characterise the city plan in the districts west of Blythswood, culminating in the expansive

Kelvingrove Park and Park Circus layout and the intended schemes often suggested on contemporary maps (e.g. McPhun, 1840 and Martin, 1842). The high-level bridging of the Kelvin aided the opening up of Kelvinside, Hillhead and Dowanhill, while, in the south, similarly grand suburbs can be seen in the villas of Pollokshields shown on the later Post Office directory maps. The increase in the production of maps also reflects growing government intervention in the administrative autonomy of the city. As the city continued to grow rapidly, it faced serious housing and public health problems which were to result in the improvement schemes inaugurated in the mid-1860s. With the advent of the Ordnance Survey, private plans tended to be based on their large scale surveys, thereby leading to a higher level of uniformity, but often indicating specialised aspects or topics (e.g. fire insurance plans).

Throughout the period under consideration, the degree of innovation, detail of documentation and level of expertise shown by many of the major figures have convinced the author that, at present, our conceptions of the development of urban cartography is markedly fragmentary and that there is much to learn from such study. Within the example of Glasgow alone, hitherto unrecorded maps have been located, earlier states have been discovered, thereby altering certain presumed points of chronology and several assumptions have been found to be mistaken (e.g. Walker's repeated claim that the 1783 plan is a revised and updated version of McArthur's map of 1778).²⁷

Inevitably, some documents seem not to have survived, including those by John Watt and the early works of James Barrie. However, later publications also come into this category (e.g. the city plan accompanying Murray's Monthly Timetables advertised in *Glasgow Herald*, no.4636, 5 July 1847 or the leviathan or total abstainers' map of the city, showing public houses, specially prepared for a public meeting in 1858).²⁸ When the tourist and railway timetable literature is considered, the complex changes and variants of title (e.g. those issued by Adam and Charles Black), combined with the limited survival of editions, can hamper a complete understanding of their associated plans.

In any study of a particular city map, it is important to consider it as part of a series and not in isolation. Only in this way can a map's selectivity be appreciated. The presence or absence of details has to be treated carefully and cannot be used as a reliable guide to the dating of content. If certain landscape features are not represented, it is not safe to deduce that they did not exist at the time of survey. It is more likely that such elements were ignored or omitted because they were not central to the purpose of production. Two examples of the choice of representation can give an indication of the need for

objectivity. In the first case, the indication of topography shows that the slopes on Glasgow Green were often more likely to be indicated than the drift features to the west of George Square. This may add strength to Reed's observation that "Glasgow's undulating terrain, of drumlins rising from the Clydesdale plain, has contributed few natural landmarks to influence the structure of the city".²⁹ Walker, in his discussion of feuing plans and street maps, stresses that they fail to convey "the hilly nature of the Blythwood New Town. Hitherto, the spreading Glasgow grid had been applied over flat country, but now, no less geometrically rigorous cartographically, it was laid down over a double drumlin landscape...This interaction of a regularized urban network with undulating topography, wholly new in Glasgow, is all but concealed on plan".³⁰

More significant is the appearance, disappearance and re-appearance of streets and street names which often show that original surveys did not always produce the most detailed maps. To illustrate this argument, Denholm's original engraving of 1797 indicates Madeira Street as the only named thoroughfare running off the Broomielaw. It continued to appear in the Chapman versions until 1818 when it was renamed Oswald Street. The two Fleming plans of 1807 and 1808 fail to show its location at all. As another example of variation, the frequent alternation between the choice of Canning or Barrowfield for a major route in Calton is not only a regular feature of nineteenth century depictions but also a useful guide to the genealogy of derivative maps. Finally, an element of care is required in assessing proposed development schemes, particularly in the mid-nineteenth century. These should not be taken as evidence of actual change but may represent an enthusiasm to anticipate or be up-to-date or be a calculated attempt to raise the value of land in advance of its purchase.

ARRANGEMENT

There are several problems in creating a list of this type for the maps clearly have a genealogical history of reliance on earlier surveys. The pioneering work of Harvey and Thorpe,³¹ and Hodson³² in the production of such catalogues relies on the identification of various states of original maps. It has set an excellent pattern of scholarly practice followed by the most important subsequent studies (e.g. Howgego). Initially, it was felt that a chronological sequence would be more preferable to facilitate the identification of individual editions of maps. In consequence, a restriction of the groupings

of editions of each map was pursued. This course of action may be acceptable where single versions of maps can be clearly identified by changes of title or date but it can pose difficult problems when handling the various lithographic transfers characteristic of the period from about 1826 onwards. Attention is drawn to Hodson's Hertfordshire catalogue and its invaluable account of printing methods³³ for anyone unaware of the complexities of this matter. In the event, a form of compromise has been reached, with the bulk of the work following the style and content established by Harvey and Thorpe. Arrangement of entries is based on their pattern with the exception that any change of map date or title, no matter how slight, is treated as a separate entry. In this way, it was felt that a wider public may trace a map more easily and speedily. Where this has occasioned a separation of editions, the text of subsequent entries will describe their relationship to earlier maps. In some cases (e.g. Smith's map of 1827-8), distinct entries are grouped above the one textual description to avoid unnecessary repetition of detail. Inevitably, this may appear idiosyncratic to the reader. It has been done for the best of intentions and the author must abide by his decision. Plans are listed together under date and author headings where there is no change of title. Most commonly, these groupings were found accompanying serial publications (e.g. the annual volumes of the Post Office directory and the several editions of Blacks' *Picturesque Tourist of Scotland*). In such cases, the maps tend to have no date and the unknowing user may not be aware of the number or chronology of impressions. The collocation of such editions was felt to be essential for the proper identification of unique states and the understanding of their position in the history of any single representation. Individual entries describe the relationship of states and editions of individual maps.

THE FORM OF THE ENTRIES

Order

The layout of the cartobibliography is chronological by date of first appearance. The date above each entry is the earliest date appearing on the first edition of the map, or, if the map is undated, the year of its first publication as nearly as it can be ascertained from the available evidence. When this can be reliably traced from the source work or other authority, it is placed within square brackets. Approximate dates are placed in round brackets and should be considered a best estimation. Evidence supporting them is

provided in the text of the individual entry. In the arrangement, definite dates precede those which are more tentative.

Heading

The heading is usually the name of the surveyor if known, or of the draughtsman, or of the engraver, or of the first publisher of the map. If none of these can be traced with a reasonable degree of certainty, the map has been headed "Anonymous". Again, if the name of the "author" is not printed on the map but is known from other sources, it is placed in brackets according to the reliability of the source. The title details are taken in full from the map as they appear, with the symbol / used to separate division into lines. Differing types and sizes of lettering are not reproduced but the spelling, punctuation and lettering (capitals or "lower case") of the titles are followed.

Size and scale

Size measurements are of the greatest lengths, first vertical then horizontal, between the inmost frame lines of the map to the nearest millimetre. Variations of different impressions often result from expansion or shrinkage of the paper and discrepancies in measurements occur when maps have been dissected and mounted for folding. In other words, the sizes given should not be taken as exact for all impressions. Where scale is not specifically stated on the map, it is calculated by measuring from the north end of Jamaica Street Bridge to the south-west corner of the Blackadder Aisle of Glasgow Cathedral (1 mile). In such cases, the scale as calculated is shown within square brackets.

Inscriptions

Any additional printing or engraving inscription from the sheet is included after the scale in quotation marks, separated for each feature, but no attempt has been made to reproduce the lettering of extra-marginal notes. Any dedications, coats of arms, compass indicators, scale bars, vignettes, views, or statistical or topographical notes which are found on a map are mentioned but not described in any great detail. Their positions on the map are indicated.

Descriptions of editions

In the description of a first edition are included any further inscriptions not already reproduced under the main heading, and notes of any other detail necessary for a map's identification. For subsequent editions, details of alterations made are given.

Publication of maps

The title and imprint are given of the major books in which a particular edition of a map was published. This does not necessarily mean that every copy of the book contains the map, since different versions of some nineteenth century guide books contain different editions of a map. The title, in italics, follows the spelling and punctuation of the title page. The number of the edition or volume, if mentioned on the title-page, is placed after the title. If the imprint gives Glasgow as the place of publication, this is omitted. All other locations are recorded and year of publication is taken from the title-page or is a best estimation based on the text. Where no book is named, the particular edition of the map has been found solely as a loose sheet. Where unique copies are concerned, location is provided but, otherwise maps should be assumed to be located in the major Glasgow libraries. Manuscript maps are so noted and the presence of colour is indicated in the heading of the relevant examples.

REFERENCES

1. KARROW, Robert W. "The role of cartobibliography in the history of cartography" *Association of Canadian Map Libraries Bulletin*, vol.57, 1985, pp.1-13.
2. HINDLE, Brian P. *Maps for Local History*. London, 1988. p.97
3. MOORE, John N. *The Historical Cartography of Scotland: a guide to the literature of Scottish maps and mapping prior to the Ordnance Survey*. 2nd ed. Aberdeen, 1991.
4. *ibid.* p.71.
5. BROWN, John A. "The cartography of Glasgow (with list of old maps and illustrations reproduced)" *Scottish Geographical Magazine*, vol.37, 1921, pp.67-75.
6. NIVEN, Alyson S. *Glasgow Early Maps: an index*. Glasgow, 1984.
7. ROYAL SCOTTISH GEOGRAPHICAL SOCIETY (henceforth R.S.G.S.) *The Early Maps of Scotland to 1850*. 3rd ed. Vol.2. Edinburgh, 1983. pp.261-265.
8. HINDLE *op. cit.* p.7.
9. LOWENTHAL, Mary (ed.) *D7: who's who in the history of cartography. An international directory of current research in the history of cartography, 1992*. Tring, 1992.
10. GIOVANNINI, Carla "Italy" in RODGER, Richard (ed.) *European Urban History: prospect and retrospect*. Leicester, 1993. p.28.
11. KOEMAN, C. and VISSER, J.C. *De Stadsplattegronden van Jacob van Deventer: map 4 Nederland Friesland*. Landsmeer, 1992.
12. RATSMA, Piet *Rotterdam: samengesteld en ingeleid door*. Alphen aan der Rijn, 1984 and personal communications from the author.
13. HOWGEGO, James L. *Printed Maps of London circa 1553-1850*. 2nd ed. Folkestone, 1978; HYDE, Ralph *Printed Maps of Victorian London, 1851-1900*. Folkestone, 1975.
14. BUTLER, David J. *The Town Plans of Chichester, 1595-1898*. Chichester, 1972; BONSER, K.G. and NICHOLS, H. *Printed Maps and Plans of Leeds, 1711-1900*. Leeds, 1960; STEPHEN, George A. *A Descriptive List of Norwich Plans and the Principal Early Views, 1541-1914*. Norwich, 1928.
15. Listed in MOORE, John N. "The mapping of Gloucestershire: a guide to the literature" *Gloucestershire Community Council Local History Bulletin*, no.50, 1984, pp.14-20.
16. CONSTABLE, K.M. "The early printed maps of Exeter, 1587-1724" *Transactions of the Devonshire Association for the Advancement of Science, Literature and Art*, vol.64, 1932, pp.455-473.
17. ANDREWS, John H. "The oldest map of Dublin" *Proceedings of the Royal Irish Academy*, vol.83 C, 1983, pp.205-237.
18. HARLEY, John B. and MANTERFIELD, J.B. "The Ordnance Survey 1:500 plans of Exeter, 1874-1877" *Devon and Cornwall Notes and Queries*, vol.34, 1978, pp.63-75.
19. HARVEY, Paul D.A. "The Portsmouth map of 1545 and the introduction of scale maps into England" in WEBB, J., YATES, N. and PEACOCK, S.

- (eds) *Hampshire Studies: presented to Dorothy Dymond on the occasion of her ninetieth birthday*. Portsmouth, 1981. pp.32-49.
20. Examples are BARRON, R. "The mapping of York" *Journal of the International Map Collectors Society*, vol.8, no.5 (35), 1988, pp.23-26,29; FIELD STUDIES COUNCIL *Old Maps of Shrewsbury*, n.d.
 21. HINDLE op. cit. pp.61-97.
 22. TOUZEAU, James *The Rise and Progress of Liverpool from 1551 to 1835*. Liverpool, 1910. pp.544, 588. STEWART-BROWN, R. "Maps and plans of Liverpool and District by the Eyes family of surveyors" *Transactions of the Historic Society of Lancashire and Cheshire*, vol.62, 1910, pp.143-174.
 23. CLARK, Mary *The Book of Maps of the Dublin City Surveyors, 1695-1827*. Dublin, 1983. pp.i, x, p.1.
 24. In 1755, the population was estimated at 23,546; the 1861 census gives a figure of 394,864.
 25. RIDDELL, John F. "Glasgow and the Clyde" in REED, Peter (ed.) *Glasgow: the forming of the city*. Edinburgh, 1993. p.43.
 26. GIBB, Andrew *Glasgow: the making of a city*. London, 1983. p.86
 27. Most recently expounded in WALKER, Frank A. "Glasgow's new towns" in REED op. cit. pp.30-31.
 28. *Glasgow Herald*, no.5905, 12 April 1858. p.6.
 29. REED, Peter "The forming of the city" in REED op. cit. p.1
 30. WALKER op.cit. p.38.
 31. HARVEY, Paul D.A. and THORPE, Harry *The Printed Maps of Warwickshire, 1576-1900*. Warwick, 1959.
 32. HODSON, Donald *The Printed Maps of Hertfordshire 1577-1900*. Folkestone, 1974.
 33. *ibid.* pp.4-7.

CHAPTER TWO

THE MAPPING OF GLASGOW

A town plan is a sophisticated paradigm of draughtsmanship. More than a guide to street layout, it gives a coherent visual impression of the complexity of land ownership and the arrangement of separate blocks of buildings. In consequence, care must be taken in the interpretation of what is indicated and documents should not be used entirely in isolation to avoid false assumptions based, for example, on a limited appreciation of the intended representation.

As historical documents, old town plans have been recognised as a most valuable source for students of the urban past since the late nineteenth century. However, despite their appearance in many town histories and the familiarity of some of the finest examples, the surveys of Scottish urban areas, with a few significant exceptions,^{1, 2} have been a neglected topic of study in the history of how the country has been put on the map. This disregard is more understandable when it is realised how confusing the term "town plan" can be, for it is used to describe not only the map, which has been defined as "the cartographic representation of a town's physical layout reduced to a predetermined scale",³ but has also come to signify that physical layout itself.⁴ In addition, there is the further complication of the "historical" map drawn at a date later than that depicted and largely based on written records.

Town plans would seem to have appeared later in Scotland than many other parts of Western Europe, following the general pattern of much of the country's cartographic history. The earliest contemporary illustrations of urban areas are related to Henry VIII's aggressive policy to his northern neighbour and the political turmoil of the Reformation, from which a sketch plan of Hertford's attack on Edinburgh in 1544, bird's-eye views of Annan and Kirkcudbright (circa 1563-66) and an illustration of the siege of Edinburgh Castle in 1573 survive. Clearly, these early representations were drawn with a military purpose in mind and it may be that they do not detail faithfully the urban topography of their time. With one outstanding exception - the panoramic view of St. Andrews of circa 1580 - Scotland was to wait until the 1640s before plans were produced that seem to be based on an accurate method of survey. Delineations of Cupar and St. Andrews appear on the 1642 manuscript of Fife drawn by James Gordon, who was also responsible for the rough sketch, "Nova Invernessa".⁵ Gordon had assisted his father, Robert Gordon of Straloch, in preparing certain regional maps for the atlas, *Theatrum*

Orbis Terrarum, published by the Dutch firm of W. and J. Blaeu. In 1647, the younger Gordon was employed by the Town Council of Edinburgh to produce a "draught of the Toun"⁶ for which he was paid fifty pound sterling.⁷ This was intended for inclusion in the Blaeu atlas and, like others of the time, was a bird's-eye perspective of the city, enabling the burgesses to appreciate the architectural features of its principal buildings as well as its layout. The disbursement of such a large sum on one plan emphasises the perceived importance of documents such as this and highlights just how expensive a survey could be. Fourteen years later, Gordon produced an equally elegant perspective plan of Aberdeen (i.e. a "true" plan with no ground scale distortion and the buildings shown in three-dimensional aspect).⁸

The military element in the production of town plans was to continue through the seventeenth century to meet the needs of the Protectorate and the later Stuart monarchs in controlling the kingdom. Plans of Ayr (1654) by Hans Tessin and Kirkcudbright (1684) and Fort William (1696) by Theodore Dury date from this period. Both these men were engineers and the locations chosen to be mapped were strategic. None of these burghs were particularly sizeable and there was no attempt to display their splendours for the benefit of their inhabitants. In fact, it is very doubtful whether many townsfolk would have seen these documents. In a similar way, during the campaigns of the Jacobite risings, Hanoverian army surveyors drew an impressive, and largely understudied, series of maps of the key towns of Inverness, Perth and Stirling between 1716 and 1746. Aberdeen and Edinburgh were also re-surveyed about this time and William Edgar's delineation of the capital is a superb example of both the cartographer's and the engraver's art. This, the only printed town plan of its time, is the first two-dimensional view of the city, detailing all its significant structures, closes and wynds. In fact, apart from Adair's representation of Montrose (1693) and two engravings of Peterhead from 1739, there are no other printed plans of any Scottish town recorded for the pre-1750 period.

The second half of the century saw a steady trickle of delineations, often appearing as insets on county maps (e.g. Haddington on the Armstrongs' map of the Lothians (1773)) or as illustrations to civic histories or descriptions. Few town councils could afford, or felt the need for, privately produced documents, except possibly in legal, particularly boundary, disputes. Some burghs were covered in general estate surveys (e.g. Annan and Callander). Furthermore, only a handful of burghs were large enough to support an individual surveyor's enterprise in town mapping. Scotland had to wait until 1828, when John Wood published his *Town Atlas of Scotland*, before it had

any comprehensive coverage comparable to the inset town plans of English cities which appeared in John Speed's *The Theatre of the Empire of Great Britaine* in 1611-12. Wood began his surveys of Scottish towns in 1818 but several of the forty-eight plans included in the atlas were not based on his own work. Each sheet could also be bought locally or from certain Edinburgh booksellers as individual copies. The atlas did not include all of Wood's town plans and a few - Dunbar, Stranraer and Kirkcudbright - were surveyed after its publication but, by its wide coverage and large scale, the work provided many towns with their first detailed delineation.

Following closely after this atlas, a series of plans were issued in the *Parliamentary Report upon the Boundaries of the Several Cities, Burghs and Towns in Scotland* of 1832, drawn as part of the preparation for parliamentary reform to show recommended new boundaries. They are all assumed to be drawn at a scale of six inches to the mile and, although by different engravers, are uniform in the style of their execution. Despite being large enough to cover more of the outskirts and converging roads of the burghs, this scale was insufficient for an accurate record of individual buildings or plots. It is unfortunate that such a wide coverage of burghs resulted in such schematic images. Towards the middle of the nineteenth century, the rapid changes in urban form and transport networks resulting from the growing industrialisation of the period, combined with the need for the thematic mapping of several social phenomena, were met increasingly by the work of civil engineers and the series of town plans at the scales of 1:1056 and 1:500 produced by the Ordnance Survey. Along with the continuing six-inch and twenty-five inch editions, these maps were highly accurate and accessible, forming what has been described as "a watershed in the history of urban cartography"⁹ and remaining the basis of most specialised mapping to the present day.

The Earliest Plans of Glasgow

Timothy Pont's manuscript survey of Clydesdale, with the textual inscription "... Sept et/Octob:/1596 Descri/pta"¹⁰ is the earliest extant sketch of the city of Glasgow's shape. This map was engraved in Amsterdam and published in the Blaeu atlas of 1654.¹¹ A few of the principal buildings - the Cathedral, the old bridge and what may be the Tron and Blackfriars' kirks - can be identified but, unfortunately, the view shown is at too small a scale (approximately 1": 2 - 2.5 miles) to provide much information. In addition, the street layout does not appear to be accurate, particularly in the positioning

of the High Kirk. A smaller sketch also is shown on the manuscript "Baronee of Renfrew".¹²

It is possible that, in association with the complicated events which led to the publication of the atlas, the Town Council sought to provide a better illustration of the city than that on the general map of the Clyde area, for there is an entry in the Council Minutes of the 12th June 1641¹³ ordaining the treasurer to pay James Colquhoun "fyve dollouris" for drawing the portrait of the town to be sent to Holland. The dating of this ordinance is of significance for it was at the General Assembly of the Church of Scotland in July-August 1641 that Sir John Scot of Scotstarvit, the Director of Chancery and a major figure in the negotiations with Blaeu, petitioned the Commissioners regarding "a description of our Shyredoms".¹⁴ As a later historian was to state, "this is the first plan of the town of which any record is made, but it is to be feared that neither original nor copy are now in existence",¹⁵ and it is doubtful if it was ever published. A James Colquhoun appears as a counsellor and, later, a baillie in the Burgh records,¹⁶ described as a wright. On several occasions, he was employed by the Council and had, at least, one other surveying commission, when in 1676 he was appointed "to sight the hie way at the Howgait heid and over the Sighthill, and to tak notice quhat places therof is neidfull to be repaired".¹⁷ Given the entry dates in the Burgh records, it may be that more than one individual is involved.

The Council was also involved with land measurement in a more indirect way by its support of the teaching of mathematics. James Corss, a leading almanac compiler and mathematician had been encouraged to set up such a school as early as 1660.¹⁸ However, Corss appears to have settled in Edinburgh, where an entry in the Town Council records dated 30th April 1658 notes the beginning of his career:

Admitts and receives James Corse to keip a publict schooll within this brugh for instructing of gentlemen and uthers in Arithmetique Geometrie Astronomie and all uthair airts and Sciences belonging theirto as horometrie Planimetrie Geographie Trigonometrie and siklyk for instructing of children in reading and wrytting.¹⁹

Corss's almanac of 1662 was printed in Glasgow by Robert Sanders and is dedicated to the Lord Provost and Council of his home town, earning him "ten dollours".²⁰ In the same year, he was acclaimed as "Great Glasgow's glory" in one of two books he wrote on mathematics.²¹ Despite these connections, Corss remained in Edinburgh until his death in 1679.

At least two other pre-1750 plans of Glasgow are mentioned in the Burgh records. In 1732, John Watt prepared a plan of "the sixteen merk land" within the royalty, "which has cost him great pains and trouble and taken a long time in the doing thereof"²² - a comment which suggests the plan may have been in some detail. This, in conjunction with a later map of the royalty drawn in the 1740s by James Barrie, was used to confirm the positioning of march stones on the eastern boundary of the town in 1769.²³ Neither of these maps is believed to have survived.

Watt, uncle of the more famous James, was a well-respected mathematician and teacher, having been in receipt of an annual salary of £5 sterling since 1720 to encourage him in instructing in "arithmetick, bookkeeping and navigation and the other parts of the mathematics".²⁴ His father Thomas, of Cartdyke, had also taught mathematics, surveying and navigation²⁵ and his brother James was a wright, merchant and ship-chandler, whose business included the adjustment and repair of nautical instruments. John Watt's commissions from the Glasgow Council included a survey of the lands of Provan,²⁶ plans of Port Glasgow in 1732²⁷ and the measuring of the Gorbals lands.²⁸ His contribution to Scots cartography, particularly in the west of Scotland, has been overlooked - mainly because much of his surviving work exists outside Scotland.²⁹ He is, nevertheless, a most important figure, linking the period of John Adair with the estate surveyors of the mid eighteenth century. Apart from plans of individual estates and divisions of commonry, he also prepared a manuscript map of Renfrewshire and an extensive chart of the west coast from Loch Ryan to Loch Sunart. Certainly, those plans which have his name appended are most carefully drawn, the lettering being particularly neat. He drew a map of the River Clyde and its estuary in 1734 which was published posthumously by his family in 1760.³⁰ Unfortunately, the scale of this chart is rather too small for the clear depiction of the town's layout. Anderston, Broomelaw, Gorbals, The Green, Observatory and Cathedral are all named but only a basic, and rather confusing, image of the street pattern is given, with little impression of a cross-roads at the town centre. There is no indication of the Camlachie or Molendinar Burns and it can be of only marginal practical value in a study of the town's development.³¹ Watt's death in 1737 robbed the Council of their preferred surveyor but, by the next decade, a worthy successor had been found in James Barrie.

The Military Survey of Scotland, 1747-1755

The manuscript representation of Glasgow on the Military Survey of Scotland, 1747-1755 should also be mentioned for its unique illustration of the city. Appearing on sheet five of the only draft of the southern part of Scotland, it is drawn, in black and red ink, in a coarser fashion than the "Fair Copy" of the north but designed to fit it as a single map of the mainland area.³² By the autumn of 1751, field surveying had been completed as far south as a line from the Clyde to the Forth. The following spring, the survey was extended north from the English border using two parties, the western under William Roy. The representation of Glasgow, therefore, is most likely to have been prepared by the man most closely identified with the operations of the whole exercise, possibly in the summer of 1753 or 1754. Certainly, a team was working in southern Lanarkshire by 1753. Although it is likely that pre-existing plans were used in certain areas, particularly in the case of a few burghs,³³ there is no evidence for another source for the illustration of Glasgow. By this time, the surveyors would be well experienced in the routine of their duties and would have found few problems in delineating the basic urban layout. Drawn at a scale of 1":1000 yards (or 1:36,000) by a team of draughtsmen in Edinburgh which included Paul Sandby, the plan is at too small a scale for very much detail. On the other hand, it is a far clearer and more accurate picture of the burgh than that on Watt's survey of the Clyde. The major axes of High Street-Saltmarket and Trongate-Gallowgate are well seen, although the continuation along Argyle Street is suspiciously "ruler-straight". Few names are marked on the map - Calton, Gorbels, Anderston - and there is no attempt to show the closes and wynds running off the main thoroughfares. A careful inspection suggests that both the High and North West Kirks have been marked by a standard cruciform shape and not according to their true plan. Whatever its strengths and weaknesses, the whole Survey passed into the hands of senior officers of the military establishment before becoming part of King George III's collection - thereby preventing its possible use by later surveyors.

The Mathematical Practitioners of Eighteenth-Century Glasgow

By the fourth and fifth decades of the eighteenth century, a complex network of craftsmen, teachers and professional surveyors who all contributed to the mapping business had been established in the city. Mathematics and its

related branches of mensuration, surveying and navigation were, by this time, familiar subjects of practical education and at least two other men³⁴ had been financially supported by the Burgh Council since the time of Corss. In addition, a third strand in the web of relationships was composed of mathematical instrument-makers and merchants selling such goods. It has been stated that this trade made little development until the beginning of the eighteenth century, which "tends to support the view that there was a poverty of scientific achievement in 17th century Scotland"³⁵ - a general situation which accords with the more specific development of Scots cartography.³⁶ Trade could only become viable within a setting where the activities of a range of practitioners created a demand and market for the craftsman's skills. A small number of such artisans eventually set up business in the city and, although the level of their trade was modest when compared with the major European centres, it would be comparable to that of many provincial towns. Edinburgh had experienced a similar growth at a slightly earlier date.

As in other locations, the careers of individual figures displayed a notable flexibility which may be indicative of the precarious nature of such employment. Provincial surveyors were rarely in the position where they could rely on their mapping commissions alone to make a living. One early advertisement in the Glasgow press shows the adaptability of such a business:

These are to give Notice.

That there is to be sold by James Millar at his Shop next to the Trone-Church of Glasgow, fresh Garden Seeds, new come Home, where are also to be sold Garden Tools, such as Spades, Howes, Rakes, Rills, Hatchets, Prunning Chizels, Hedge Bills, hedging Scissers, Sythes, and Garden Lines. Likewise all Sorts of dressed and undressed Flax and Tow, all at the lowest Prices. N.B. The said James Millar measures Land, and delivers Maps or Plans thereof, as well as gives the true Contents in Acres, if required.³⁷

There is no surviving evidence to indicate whether or not James Millar was employed as a land-measurer but, certainly, from this date onwards there is a periodic but regular mention of plans with the conditions of roup for property sales. Such work would be the normal stuff of the jobbing surveyor. The following year, two school-masters in Glasgow, Adam Stewart and Alexander Reid, announced not only the start of their classes, which included "Dialing, Surveying with the other Parts of the Mathematicks", but also their services as land surveyors, with the additional provision of "Dials delineated for any latitude".³⁸ As Taylor has stated, "the provincial land-surveyor was generally

engaged in several branches of mathematical practice as opportunity arose".³⁹ However, as the century progressed, advertisements specifying the services of land surveyors appeared in the journals (e.g. Thomas Mercer, in 1780, who indicated his training under Matthew Stobo, a leading cartographer of the day).⁴⁰

A close study of the contemporary newspaper columns shows that, from 1750 to 1780, the city had never less than two and, on occasions, up to six classes being taught in the practical mathematics, especially including land mensuration. Clearly, the surviving records are only partial and it is quite possible that not every class was given such publicity. Nevertheless, although small, the regular availability of such education throughout this period indicates both a ready demand for and supply of trained practitioners. Many of these teachers were extremely mobile within the city and several had only brief careers. Additionally, changes of partnership were frequent and the teaching of geography and mathematics may well have been of a quite varied calibre. However, it is clear that there were specialists within the subject; in particular, Robert Dobson and James Stirling are two with noticeably long careers. Both advertised the practice of surveying in the field and the subsequent neat plotting of maps. Stirling's notices regularly mention his university degree and refer to his long experience (over thirty years as a teacher). In 1752, the Town Council commissioned a silver tea kettle and lamp to present to Stirling in compliment for his service in surveying the Clyde.⁴¹ Dobson was a former student of Colin MacLaurin, Professor of Mathematics and Astronomy at Edinburgh, and began teaching in Glasgow about 1750, continuing until his death in 1771. He worked on mathematics and geography textbooks and is known to have purchased a compass, a pair of dividers and a six-inch protractor from James Watt in 1758.⁴² When his library and other possessions were sold by his widow in 1778, the mathematical instruments included a set of globes, a mariner's compass and a complete theodolite.⁴³ Despite the increasing specialisation within the professions, all remained in close contact with the instrument-makers, exchanging practical ideas on methods and design.

James Watt

The career of James Watt as mathematical instrument-maker to the University of Glasgow is a particular example of the association and influence of individuals, in a combination of technical ability and practical application. This mastery was to be continued into the nineteenth century by his senior

journeyman, John Gardner, who subsequently branched out into business himself as an instrument-maker and succeeded James Barrie in the post of town surveyor. Watt's early training and establishment within the College buildings are well documented⁴⁴ but it is the survival of a sizeable and unique archive of business records covering the period of his residence in Glasgow⁴⁵ that provides a detailed picture of the contemporary market and its network of business relationships.

Although Watt's family background and early education would have given him an early familiarity with instruments, it has been suggested that Glasgow had no one sufficiently skilled to train him in this craft.⁴⁶ Clarke is only the latest to state that Watt "had served a form of apprenticeship to an unknown Glasgow instrument-maker".⁴⁷ Whoever this may have been, local artisans had already established a tradition of practical assistance at Glasgow University by the 1730s. Henry Drew and George Jardin are recorded as exponents in this field, both involved in assisting Robert Dick, professor of Natural Philosophy, with his experiments and in repairing equipment. However, this work was largely concerned with physical experimentation⁴⁸ and both men's background were as craftsmen - Drew was a hammerman and clock-maker, Jardin a smith. Whatever was the case, it is clear that Watt's period of training in London in the workshop of John Morgan, where he learnt to make scales, sectors, quadrants and compasses,⁴⁹ was seen as an essential part of his professional education. His return to Glasgow in 1756 was most timely, coinciding as it did with the arrival of Alexander Macfarlane's bequest of astronomical instruments from Jamaica.⁵⁰ Robert Dick, junior, who had encouraged Watt's sojourn in London by providing an introduction to James Short, sought Watt's assistance in cleaning and repairing those pieces damaged by the long sea journey.⁵¹ Not only did Watt receive £5 for this but the good impression he made also enabled him to open up a business within the College itself when he did decide to move to Glasgow in August, 1757.

The ledgers show that instrument-making made up only a fraction of his business and employment also came from assisting in experimental classes and the production of musical instruments. However, the availability of a local supplier of known ability had distinct advantages for the customer who required a more personal professional service and Watt was commissioned by John Gray, the Greenock teacher of mathematics and surveying, to make a graphometer and bow-quadrant to his own design.⁵² In general, Watt's trade relied on the manufacture of Hadley's quadrants - an inset in his personal ledger, 1759-64 lists twenty-two, ranging in price from 27s. to 32s., as well as fifteen Davis's quadrants, priced from 6/6d to 9s., and some globes - and,

although several went to personal customers (e.g. Captain McCleish), a greater proportion appear to have been purchased by local merchants (e.g. John Carlile⁵³ and William McDowall in Greenock) for resale. Occasionally, clients came from further afield (e.g. eighteen sold to John Lean in Bristol in 1761 and twelve to Charles Cunningham in Jamaica in 1762). Watt himself clearly purchased material for resale. A record of a trip he made to London in 1759 lists sundry items bought from leading figures in the capital (e.g. from Messrs. Stark, Fisher & Co., four Davis quadrants at 10/6d, four Hadley's quadrants at 30s. and two dozen Gunter's scales at 14/9d per dozen).⁵⁴ The Glasgow teacher, Robert Dobson, was a sufficiently regular customer to have a separate record in Watt's ledger of personal accounts⁵⁵ and has already been mentioned as a purchaser of, at least, three instruments. Watt's experimentation with new instruments and equipment was to continue throughout his time in Glasgow. In 1765, he designed a perspective machine for Joseph Black which facilitated draughting level ground and map reduction,⁵⁶ while during the early 1770s he developed a micrometer for measuring distances accurately⁵⁷ as well as a new surveying quadrant.⁵⁸ It is also clear that he stocked other maps and charts for sale in addition to that of his uncle. Throughout his waste book are recorded such transactions (e.g. to John Wilson, Port Glasgow on 16.6.1760, twelve maps £1.3s. and a dozen maps of the Clyde to John Barry in December, 1762). Certainly, the sales rounp of his shop goods, dated 20 June 1776,⁵⁹ includes a series of maps of the American colonies and important sea channels, as well as two books on the art of navigation.

After opening a shop in the Saltmarket, Watt moved his business to the Trongate in 1763, by which time he had sixteen journeyman and apprentices working for him, including John Gardner, James Sym and Murray Osborne. His employees included musical instrument-makers (e.g. Robert Allen, George Taylor) but there are frequent references to the production of quadrants by lesser known figures (e.g. James Couper). The indenture of James Dunshie⁶⁰ obliged Watt "to teach and instruct...in the method of making mathematical instruments" for five years, for which Dunshie's salary was to be 3s. weekly, rising to 4s. in his final year of service. Piece work appears to have been a regular feature of production. Increasingly, Watt turned his attention to other interests, including investment in a local pottery, the improvement of steam engines and surveying itself, particularly civil engineering work. This latter included commissions from both private individuals and corporate bodies. His ledger of personal accounts for the period, January 1764 to May, 1769, record a four day surveying trip to Leadhills for James Stirling & Co.⁶¹ while his

work for the Monkland and Forth and Clyde Canals is well documented. Commissions also came for harbour improvements at Port Glasgow (1769-72) and Ayr (1771).⁶² In 1769 and 1770, Watt worked with Barrie on the Clyde survey and his notebooks also record the levelling of streets in the city for the Town Council.⁶³ Meanwhile his business may well have been under the daily supervision of Gardner, who followed Watt into survey work. In 1774, Watt moved to Birmingham and, two years later, his shop goods were put up for sale, suggesting the closing of his Glasgow business. The archive of Watt's papers is unique but cannot be taken as typical of the trade in provincial towns as a whole. However, it is related to Glasgow and involves most of the major figures concerned with instrument-making and the teaching and practice of surveying during the period 1757-1773.

James Barrie

According to his own evidence, Barrie came to Glasgow in 1734, possibly aged 19 and already a practised land-surveyor.⁶⁴ There is, at least, one record of a commission outside the town - his surveying an estate plan of Boghall, Stirlingshire in 1749⁶⁵ - but the earliest references to his work within Glasgow appear to be related to commissions for the Merchants House, of which he was collector in 1752. He executed a variety of town, road and river surveys (including bridge designs), as well as larger plans of the city and neighbourhood.

In 1759, the town's treasurer was instructed to pay him nearly £50 for various plans, including depictions of Port Glasgow and the laying out of Gallowgate, Argyle and Virginia Streets.⁶⁶ Virginia Street was the first of the new openings off Argyle Street in 1753, soon after the removal of the West Port, and Barrie was to be employed by both the municipal authorities and private speculators, often members of the Town Council or important merchants, in the drawing of plans as part of the expansion west of the Glasgow's new town development. Jamaica Street was divided into plots in 1761.⁶⁷ The following year, Miller Street was drawn out for John Miller⁶⁸ and, four years later, Walter Neilson had him prepare Queen Street. About 1772, Provost Colin Dunlop had a map of the intended Dunlop Street prepared. It was during the 1770s that Barrie was to have a major influence on the layout of the growing city, increasingly being employed by the Town Council as their preferred agent. In fact, he has been credited with creating the markedly geometrical grid pattern of what is now known as the Merchant City.⁶⁹ In September 1773, he was paid for a design of St. Enoch's Square

but, more significantly, for other plans of the major development of the Ramshorn grounds. Proposals for the sale of plots on these lands were first put forward in May, 1777 but, like St. Enoch's Square, purchase and development was slow. A Council committee inspected the area in April, 1781 to study Barrie's recommendations and give advice on the disposal of the plots⁷⁰ which called for further corrections in 1782 and 1785. A plan of the projected streets still exists and was used in several contracts between the city authorities and individual owners.

The Burgh Records for the period 1760 to 1780 have many references to a range of Barrie's commissions and services which earned him not only a regular, if intermittent, income but also a grant of an acre of land in 1776,⁷¹ which, in the enterprising spirit of the age, he subsequently laid out in steadings and offered for sale.⁷² Additional employment came from differing assignments and other external bodies. In 1760, described as "surveyor on the roads", a possible reference to work for the turnpike road trustees,⁷³ he supervised the construction of a road at the Gallowgate Butts.⁷⁴ In association with John Laurie, he was responsible for selecting the site of the new bridge across the Clyde at Jamaica Street in 1768, personally overseeing its construction. His competence and professional eye for detail can be deduced from the extracts relating to this particular appointment. Despite his salary of £25 being regarded as "by far too small a recompense for his labour", his "most punctuall and constant attendance" and "great pains, labour and trouble" so impressed the Council that they doubled his salary.⁷⁵ In addition, he was engaged with James Watt on the plan to improve the Clyde navigation in 1769.⁷⁶

On 29 March, 1773, Barrie was appointed inspector of the Black quarry. At the same meeting, the Council, in clear recognition of his services, established him in the post of "surveyor and measurer for the city of Glasgow". He was to be responsible for the levelling of all new streets, the repair of older thoroughfares and the confirmation of the correct boundaries. Furthermore, he was requested:

to attend the magistrates and councill at all councill visits respecting linings or otherways, and to officiate as surveyor on all occasions of that kind. And appoint and ordain a yearly sallery of £10 sterling to be paid by the toun to the said James Barrie for his trouble in inspecting the foresaid quarry, and the sum of £15 sterling for his trouble in acting as surveyor to the toun, preventing encroachments and attending at councill visits as before mentioned, payable the aforesaid sallerys at Martimas and Whitsunday yearly, by

equal portions, beginning the first terms payment at Martimas next and so furth to continue during the pleasure of the magistrates and council.⁷⁷

Four years earlier, in 1769, Barrie had inspected the royalty march stones and this new appointment is clearly linked to an authorisation to purchase from him a plan of the royalty of the city in February 1776.⁷⁸ The fact that the Council was "to cause the said plan to be engraven and copys thereof throun off so as the extent of the royalty of this city may be knoun and preserved" indicates this as a commission produced in his capacity as city surveyor. It would appear that the plan was drawn and ready for purchase a year later.⁷⁹ An inspection and perambulation of the boundary, using this map, took place in July 1780⁸⁰ but discrepancies in the numbering and siting of march stones called for certain revisions prior to its engraving. The finished work, engraved by Alexander Baillie, was published in 1782 (see map no.7), but it is quite possible that the date of the original survey was 1776.

Barrie continued his service to the Council (e.g. measuring off St. Andrew's Square to conform with William Hamilton's 1786 plan)⁸¹ but, as the decade progressed, the decline in references could indicate his increasing age and reduced capabilities - he would have been about 70 in 1785. In June 1789, John Gardner, by now an established instrument-maker and surveyor, was appointed as his assistant and there is no further record of Barrie until his death in the autumn of 1792. Barrie has no memorial or portrait but, in perambulating the Merchant City, it is his lines that are followed.

John Gardner

John Gardner began his career as one of James Watt's apprentices rising to become his senior journeyman by 1769. Some time before the autumn of 1773, he set up in business independently as a mathematical instrument-maker in the Candleriggs, opposite Bell's Wynd.⁸² The death of Watt's first wife in that year was to lead to his move to Birmingham in 1774 and the eventual industrial partnership with Matthew Boulton. The precise date of the closing of Watt's instrument-making business is not known but the sales roup of Watt's shop goods is dated June 1776 and the tenor of Gardner's advertisements in the contemporary press suggests that he sought to be regarded as Watt's successor:

...
JOHN GARDNER
MATHEMATICAL INSTRUMENT

MAKER,
Opposite to BELL'S-WYND, CANDLERIGGS
GLASGOW.

...
also Continues to MAKE
and SELL,
Theodelites of all kinds, with their apparatus,
Surveyors and Coaliers Compass Boxes,
Hoadley's, and Land Quadrants,
Electrical Machines with all their apparatus,
Perspective Machines, and Camera Obscuras,
Drawing Instruments, of all kinds,
Telescopic Levels, Weavers Microscopes,
With a great variety of other Articles.⁸³

The mention of perspective machines - an apparatus designed by Watt himself - in particular, strengthens this belief. In addition, the following year, Gardner announced his manufacture and sale of the solution of silver first used by Watt for marking linen in the bleaching industry,⁸⁴ the wording specifically stating that Watt had given up the making of it. Gardner was also alert to other business opportunities, most notably the public awareness of coin-clipping and counterfeiting. He not only made an improved balance "for weighing and detecting frauds in light or counterfeit coins" but also published an accompanying pamphlet on the instrument. His notice seeks to give his design a competitive advantage in a specialist market by stressing its construction not by "ignorant mechanics" but by a skilled manufacturer. Such diverse products made and sold are highlighted in a later press notice:

JOHN GARDNER,
MATHEMATICAL INSTRUMENT-MAKER,
At his Shop west end of Bell's Wynd,
Takes this opportunity to inform the PUBLIC, that he has just now received
from London, a fine assort-ment of Temple and Nose Spectacles ground in
brass
moulds, and a number of Day and Night Telescopes for
sea.
He also continues to make the following articles, viz.
Theodolites of all kinds, with their apparatus.
Circumferentors, being the principal instrument used by
land-surveyors in the West Indies.
Scots and English Land-measuring Chains.
Hadley's Quadrants of different sorts.
Electrical Machines, with their apparatus.
Drawing Instruments.
Parallel rulers, in brass, ivory or wood.
Weavers Microscopes, for counting the hundreds in lawn,

linen, cambric, and holland.

Telescope Levels.

Perspective Machines.

Weather-Glasses of different kinds.

He also constructs Barometers on the most improved principles, so as to admit of being carried to any distance with the greatest safety.

Likewise Barometers, for measuring the height of hills, which have a peculiar adjustment to regulate the lower surface of the Mercury to one place, and to have the Mercury boiled in the tube. In this branch of business he has been favoured with particular methods and directions, by some Gentlemen of this place of undoubted knowledge and skill in regard to this instrument.

He also repairs and adjusts Hadley's Quadrants, Telescopes, and Microscope, that are imperfect by the want of glasses, or other accidents.

N.B. At said shop may also be had the Solution of Silver for Bleachers.⁸⁵

It is not known whether or not Gardner trained other surveyors but it is possible that he attempted to assist at least one young man in his career and had connections with the mathematical teachers of his day for a notice in the *Glasgow Journal*, no.1583 for 7-14 November 1771 refers prospective employers of a recently trained practitioner to him.⁸⁶ His appointment as Barrie's assistant town surveyor, at a salary of £25 per annum, appears to be the first recognition of his surveying ability, although it has been suggested that he also worked with James Watt in his field work.⁸⁷ Certainly, the Town Council had previously made use of his practical talents in the repairing of the Cathedral's musical bells.⁸⁸ His proficiency as a surveyor was recognised by other bodies apart from the city authorities. Commissions came from the Glasgow Trades House (1791),⁸⁹ the University (1792)⁹⁰ and the Incorporation of Masons (1791).⁹¹ A sketch of an intended common sewer for St. Enoch's Burn, dated January 1791, survives in the City Archives⁹² and, particularly from 1795 on, there is regular mention of his work for the Council in the Burgh records, encompassing road alignment,⁹³ perambulation of the marches,⁹⁴ repair of march stones⁹⁵ and the assessment of water purity from a local well.⁹⁶

1792 was a year of considerable change for Gardner. Not only did he succeed Barrie as town surveyor but also, in his own business, James Sym, his apprentice, became a burgess⁹⁷ and started to advertise independently as an optical and mathematical-instrument maker,⁹⁸ initially in Ayton Court but from 1799, like Gardner himself, in Bell Street. In the same year, James Laurie joined the business.⁹⁹ It has been suggested that he either had trained under

Gardner or that he was not particularly active in the concern.¹⁰⁰ However, by 1796, Laurie was in business for himself in the Trongate as an instrument-maker, announcing in local newspapers that he also sold piano-fortes and musical instruments.¹⁰¹ Only the week before, Gardner and his son had given notice to the Glasgow public of the imminent arrival of pianos from a reputable maker, in addition to their usual stock of mathematical and optical instruments.¹⁰² The Gardners continued in business, trading as J. & J. Gardner until John junior's death in 1818 in the middle of sequestration proceedings. Four years later, the father died and, with his demise, the final separation of the mathematical professions seems complete.

Several later plans prepared by him are extant, including one of Clydebank dated 1795,¹⁰³ a survey of Glasgow's quarries of 1802¹⁰⁴ and a sketch, dated 25 September 1812, of the Ardrossan Canal in the Gorbals area.¹⁰⁵ However, it is important and significant to note that Gardner's succession to the post of town surveyor in 1792 did not exclude other local surveyors from Council employment (e.g. William Kyle in 1803 and 1807¹⁰⁶ and Peter Fleming in 1806).¹⁰⁷ In later years, particularly from about 1812 on, Kyle appears to have been preferred for Council commissions requiring drawn plans and it is notable that the Council did not continue the appointment of town surveyor after Gardner's death in 1822.

Surveying in early nineteenth century Glasgow

Although the cartography of Glasgow may appear to have had a late start and slow early development, it is salutary to note at least one map historian's view of the progress of British town mapping. In a recent study of early urban plans, Smith comments that "the vast majority of British townscapes...had to wait until well into the nineteenth century for the late-sixteenth and early-seventeenth century image...to be modernised by the Ordnance Survey and numerous private-sector surveyors who increasingly became involved in urban survey, particularly to meet the requirements of sanitary improvement and public health legislation".¹⁰⁸ Between 1801 and 1821, Glasgow's population very nearly doubled.¹⁰⁹ Such a rapid growth in the number of inhabitants affected the whole structure of the city and offered many more business opportunities, including those in the surveying and mathematical professions. A study of the street directories of the period shows a slight but stable growth in the three main elements of the city's map community. Reliance on such lists has its limitations, for there is little adequate information on their methods of compilation or revision and "rogue" entries do appear. Nevertheless, there is a

clear increase in numbers of surveyors and instrument-makers, and, as the century progressed, a developing specialisation in product and service.

The early decades of the new century in Glasgow can be seen as characteristic of the general contemporary trend in British mapping. Increasingly, the individuals involved in surveying and its related activities focussed on one specific aspect of the trade. After James Denholm's death in 1818, his successor, Alexander Watt, was concerned solely with teaching. With John Gardner's passing four years later, not only did the City Council close the post of town surveyor but Glasgow also lost the remaining figure who united surveying and instrument-making in the one career.

Although copper-plate engraving continued to be the principal method of production, the resultant plans were increasingly becoming practical rather than decorative as the demand for cheap and up-to-date depictions grew. Urban expansion itself also required a more constant revision of the cartographer's work - although the re-appearance of the same map with little or no change over a period of years was not unusual. Increasingly, plans were produced for specific purposes with a marked shift away from civic display. Two particular strands can be seen in the development of Glasgow's nineteenth century maps. In the first case is a regular appearance of relatively small illustrations in guide books and, later, histories of the city in line with the gradual increase in tourist literature relying, in several cases, on an earlier depiction for the basic layout of the city. Plans by Gray & Todd and Robert Scott are typical of this element. Contemporaneous with these was a series of larger scale representations, drawn in greater or lesser detail, produced for distinct administrative, transport or planning purposes. These were to become of greater importance as urban and network development increased and will be discussed in more detail in the following section. As the city grew, no one individual had the resources to produce a completely new survey of his own, which is reflected in a reliance on earlier work (e.g. Smith's use of the Fleming plates for his map of 1821 and later versions of his edition). Transport, particularly road, rail and canal, improvements and the demand for feuing plans as neighbouring estates were laid out were to lead to surveyors being increasingly employed in the role of civil engineers or in the proposing of design outlines (e.g. the work of William Kyle in Blythswood and Laurieston) rather than in the recording of the actual landscape.

The contemporary press columns show a lively interest in maps and plans for a variety of purposes, concentrating not only on Scotland (e.g. Kirkwood's two sheet depiction,¹¹⁰ George Langland's proposal for a county map of Inverness-shire,¹¹¹ Thomas Richardson's similar proposal for Lanark by

subscription)¹¹² but also on the theatres of war in Europe (e.g. Spain and Portugal)¹¹³ and further afield (e.g. John Mellis's six sheet map of the United States of America).¹¹⁴ In addition, globes were a popular sale item (e.g. Kirkwood's 12-inch globes, price £1-16s.)¹¹⁵ and were regularly mentioned in the notices of geography teachers. The 1800 notice announced by Richardson, a former apprentice of John Ainslie, further emphasises that surveying itself could still rarely support an individual in his career; in his case, he was also proprietor of a map and stationers shop in Argyll Street in addition to being surveyor for the city's Trade House between 1819 and 1829.¹¹⁶ Newspapers were increasingly used not only to advertise plans and the services of individual surveyors but also as a channel of recruitment of apprentices. A notice placed by William Kyle in 1818 gives an insight into his requirements and the practice of the day:

LAND SURVEYING.

AN APPRENTICE WANTED, to engage for seven years.
A young man, not less than 14, nor more than 16 years of age, who has discovered a decided taste for Drawing and Mathematics, and whose parents or guardians reside in Glasgow. No premium required. Particulars will be learned at no. 7, Great Hamilton Street, up one stair.¹¹⁷

Later decades

The Glasgow Directory of 1800 lists the names of two surveyors (Charles Abercrombie and Thomas Richardson) and five instrument-makers (James Crichton, J. & J. Gardner, Murray Osborne, James Sym and Telfer & Affleck). Twenty years later, the number of surveyors had risen to six, with Henry Creighton, a civil engineer, Peter Fleming, William Kyle, David Smith and John Warden joining Richardson. The businesses founded by Sym and Gardner were now competing with those of Andrew Brown, William Finlay, J. Steven, and William Ure. By the year of Queen Victoria's wedding, the composition of the professions had become far less clear. Nine land surveyors are listed - namely, Robert Climie, Robert Harvie, Thomas Kyle, William Low, Archibald McAslan, Andrew McFarlane, George Martin, Neil Robson and David Smith. However, several are described also as civil engineers in addition to five others solely listed under this category. Neil Robson is known to have advertised his additional ability to execute "surveys and plans of coal and other mining operations"¹¹⁸ and Alexander Meikle specifically described his new system of producing coal plans.¹¹⁹ Furthermore, specialist surveyors - John Craig (minerals) and Robert Murdoch and James Shanks (roads) - appear

in the directories of this period. The expansion in the numbers can be related to the transport developments of these decades, where precise skills, in particular levelling, called for their expertise.¹²⁰ Such men as Peter MacQuisten became associated with road proposals and this was extended in 1840 when he entered into partnership with William Low, described as an engineer on the Great Western Railway.¹²¹ A consequence of the demand for skill was that civil engineers could choose apprentices on a far more selective basis, requesting, on occasion, a premium of 100 guineas for a five-year apprenticeship.¹²² The columns of the Glasgow newspapers contain a steady trickle of notices seeking young men for drawing offices or engagements for surveyors of various specialisations. Depending on their experience, salaries in the region of £75 per annum could be earned by the late 1830s,¹²³ while the post of town surveyor for the borough of Londonderry was advertised in November 1848 at a salary of £150. A notice appearing in the *Glasgow Herald*, no.3956, 28 December 1840, in particular, gives a good impression of the kind of surveying services on offer. For a premium of fifty guineas, an experienced surveyor provided an opening for two apprentices, in addition to offering his services at the following rates:

Measuring Land, from 6d. to 8d. per Acre. Measuring Land, with Plan, from 9d. to 1s. per Acre. Large Enclosures, much lower. Charge by time, 15/- per day, exclusive of expenses, when from home. Plans completed, examined, and approved of, before receiving payment to account.

By the second quarter of the century, the trends of the previous decades had become well established. Glasgow was a microcosm of the general British pattern in which "it had become virtually impossible to pick out the mathematical practitioners as a distinct professional group".¹²⁴ As the rate of industrialisation increased, craftsmen were more and more absorbed into a factory operation and the difference between the true instrument-makers and those who only sold the products becomes very difficult to define. The *Glasgow Post Office Annual Directory for 1840-41* gives an impression not only of the number of establishments but also of the growing sophistication and specialisation of particular outlets. Eight businesses were associated directly with mathematical instruments alone - namely, Abraham Abraham, Alexander Dick, Andrew Dodd, John Dunn, Gardners, James Sym, William Ure and James Watt. It may be thought that 1840 was an exceptional year in that the British Association for the Advancement of Science met in Glasgow in the autumn but a consideration of the directory entries over the decades shows

TO CIVIL ENGINEERS AND LAND SURVEYORS.

ALEXANDER DICK,
LAND SURVEYING CHAIN-MAKER,

10, BUCHANAN BUILDINGS,

105, STOCKWELL STREET, GLASGOW,

RESPECTFULLY submits to their inspection the following unprecedented and Equitable List of Prices for Land Surveying Chains, which are made of the very best materials, and warranted accurate; and, from sixteen years' experience in the above line, and recent improvements made by him on his Chains, and as they are wholly made by himself, he can therefore with confidence recommend them as a superior article to any thing of the kind ever before offered.

Foot Link Surveying Chains.

100 Feet Long, 100 Links, 200 Round Rings, and both made of No. 8 Wire,	£0 9 6
100 Feet Long, 100 Links, made of No. 8 Wire, 300 Oval Rings, and made of No. 7 Wire,	0 14 6
N.B. Surveying Chains, with 300 Oval Rings, are warranted not to crank or twist up, and not so liable to stretch as when made with Round Rings.	
Scotch Surveying Chains, made with or without the the fractions, only to order.	
74 ^{11.55} / ₁₀₀₀ Feet Long, 100 Links, 200 Round Rings, and both made of No. 8 Wire,	0 8 0
74 ^{11.55} / ₁₀₀₀ Feet Long, 100 Links, made of No. 8 Wire, 300 Oval Rings, and made of No. 7 Wire,	0 13 0

Imperial Surveying Chains.

66 Feet Long, 100 Links, 200 Round Rings, and both made of No. 8 Wire,	0 7 6
66 Feet Long, 100 Links, made of No. 8 Wire, 300 Oval Rings, and made of No. 7 Wire,	0 12 6

Imperial Surveying Chains for Coal Mines.

66 Feet Long, 100 Links, made of No. 8 Brass Wire, 200 Round Rings, and made of No. 7 Brass Wire,	0 16 0
66 Feet Long, 100 Links, made of No. 8 Copper Wire, 200 Round Rings, and made of No. 6 Copper Wire,	0 17 6

N.B. Please observe the handle eyes are all soldered to keep them firm; and "*Dick, chain-maker, Glasgow,*" on the middle counter of his chains.

🔧 Surveying Chains made to any length, size of Wire or Pattern. Planting and Holing Chains made for the East or West Indies on the shortest notice.

Figure 3: Advertisement from *The Post Office Glasgow Annual Directory*, 1841-42, p.173 indicating Alexander Dick's range of land surveying chains. (Reproduced by permission of The Librarian, Glasgow University Library).

that it was typical in indicating the steady rate of growth of these professions. Both Abraham and Dunn have advertisements in that year's issue of the directory which describe the range of products and services on offer and further illustrate that both concerns were retail branches for businesses founded outside Glasgow. Abraham & Co. was a prominent firm of manufacturing scientific, optical and mathematical instrument-makers established in Liverpool in about 1817. The Glasgow branch was opened at 8, Exchange Square in 1838, subsequently moving to 82, Queen Street three years later. As an example of a retail outlet of an English manufacturer, its relatively brief period of business may be related to increasing local competition.¹²⁵ John Dunn was an important Edinburgh instrument-maker who opened a Glasgow branch at 157, Buchanan Street in 1840, a year before his death. He was an active maker of "all the apparatus necessary for a Surveyor", meeting the increasingly rapid demand of the time and, particularly, supplying schools. Although the size and structure of the Scottish market and its relations with England are yet to be fully examined, it is clear that local manufacturers had a market for their goods, as the examples of Alexander Dick, land surveying chain-maker at 105, Stockwell Street, and James Watt, measuring line-maker of Argyll Street, show. Dick was a wireworker but, from 1827, he had been engaged in this specialist business as well as being involved in the manufacture of safety lamps. In 1841, he took a full page advertisement in the Glasgow Directory (figure 3) which gives a very clear impression of his stock and capabilities. Watt, another established concern, had also branched into oil lamps by 1835. Such unique enterprises characterise a Scottish element which makes "the relationship with London somewhat different from that of an English region."¹²⁶ Of the other concerns, Gardner and Sym could trace their origins back to James Watt's workshop. New equipment was regularly announced by the Gardners (e.g. engine marked tape measures in March 1852). In 1825, Sym was advertising that he continued in the production of brass and wooden levels and measuring chains.¹²⁷ William Ure first appeared in the Glasgow Directory in 1812 while Andrew Dodd, although concentrating on optical and philosophical goods, was known to offer such items as a theodolite and mining compass for sale¹²⁸ and had branched out for himself after employment with Gardner & Co.¹²⁹

In addition to the businesses which specifically described themselves as mathematical instrument-makers, there were retail outlets concerned with a more general market, aimed at customers whose interest had been aroused by the popularisation of science. Although thermometers and barometers tended to be their most representative items of stock, drawing and surveying

instruments also appeared on their lists. However, Taylor's researches led her to the conclusion "that a name on an instrument indicated with increasing frequency only the retailer".¹³⁰ A variety of enterprises - opticians, hardware merchants, carvers and gilders - were involved in this trade, which contained a strong Italian flavour through the businesses of Antoni Corti, Antoni and John Galletti, Charles Gerletti and J. & M. Riva. The Gallettis, in particular, had a long trading history, mostly at 24, Argyll Arcade, commencing in 1805 and continuing until John, the son's, death in 1894. From 1826, Antoni was describing himself as "optician & mathematical instrument maker" and his trade card of that period includes rules, tapes and theodolites.¹³¹ Press advertisements bear a strong similarity to those of a century earlier, with their long lists of instruments sold and adjustment or repair offered as an additional service.¹³²

A further specialisation in the field resulted from the development of a demand for nautical instruments with the growth of shipping and shipbuilding on the Clyde. Ship chandlers, providing maps, charts, pilots, tables and other equipment from various makers, not only met such a local demand but also provided a retail outlet for small Glasgow concerns, which included, by 1840, three listed Glasgow compass-makers - Isaac Bell, formerly a brass-founder, on the Broomielaw, Robert and William Fyfe and Robert Trotter. As the gear grew more sophisticated, this branch became increasingly specialised.

The careful detailing and analysis of the possible outlets for manufacture and trade in mathematical instruments should not disguise the apparent tendency of many professionals, including surveyors, to prefer the London makers when purchasing equipment. Thomas Richardson took the trouble to specify that he had "procured from the first Mathematical instrument-makers in London, the very best instruments for surveying and planning of grounds" when he proposed his map of the Glasgow area in 1792¹³³ and Bryden, noting that William Kyle sent equipment to Edinburgh for repair, has suggested that "apart from cleaning and repairing, the Scottish land-surveyor was not a frequent customer of the local instrument-maker".¹³⁴ It is difficult to refute this argument but the continued appearance and survival of so many practitioners specifically describing themselves as mathematical instrument-makers does suggest that there was a demand for their services and stock. It is quite probable that the Glasgow outlets supplied teachers and surveyors from the surrounding counties as well as the city professions alone. There are the earlier examples of Dobson and Gray who used James Watt as a source of design and supply and this local element is bound to have continued in the relatively small community of the relevant professions.

Although many of the local teachers of mathematics were moving more into the mercantile and commercial fields, certain individuals continued to advertise instruction either in the practice of land surveying itself (e.g. David Mackie)¹³⁵ or in the use and construction of surveying instruments (e.g. Robert Wallace).¹³⁶ However, by far the greatest impact on the surveying profession within the city was the teaching of William Kyle, begun at his schoolroom for architectural drawing and surveying in Wilson Street in 1795.¹³⁷ Not only was he in association with Peter Fleming but he was also responsible for training David Smith, Robert Park,¹³⁸ John Austin, Andrew Laughlen, Thomas Kyle and Andrew MacFarlane.¹³⁹ His own abilities as a surveyor were recognised by the city. In 1807, he was paid £49-11s. for surveys relating to the town's mills¹⁴⁰ and six years later, his surveying account came to £36-9-11.¹⁴¹ When it is remembered that the city surveyor's post carried a salary of £50, it is clear that the city fathers were prepared to sanction additional expenditure to secure Kyle's expertise. In a career lasting forty years, he was responsible for a large number of estate, feuing, transport and public works plans in Glasgow and the neighbouring counties. He retired in 1837, handing over his business to his relative, Thomas Kyle.¹⁴²

By the beginning of the young queen's reign, advertisements offering instruction were appearing, aimed specifically at the field of civil engineering and the construction of railways, canals and roads.¹⁴³ This element was to become increasingly important and, with the advent of the Ordnance Survey, was an avenue open to many local surveyors.

One particular characteristic of the whole period under discussion is the longevity of several individual careers, both on the instrument-making side and in surveying. Kyle's forty years in practice was by no means unique. Although James Barrie is first mentioned in the Burgh records in 1759, he seems to have worked as a surveyor for, at least, a similar length of time to Kyle. Some continued to pursue their vocation elsewhere (e.g. Peter Fleming, who worked in Glasgow for twenty years before emigrating to Canada, where he was employed for about the same duration) whereas others appear to have found regular employment over many years in the immediate area (e.g. Thomas Richardson, about 28 years; David Smith, about 42 years). These may well prove to be the successful exceptions and the example of Fleming's move abroad may indicate that even able practitioners could not always survive in local business. Certainly, there are several cases of single appearances of notices for surveyors which reflect the speculative and tenuous nature of the profession and examples have already been provided of the additional services many offered to ensure a regular income. The instrument-makers also provide

examples of long service and diversification (e.g. Alexander Dick, James Sym and William Ure) but, in this case, the survival of a business cannot always be equated with an individual's career.

The major development during this period was the gradual introduction of the process of lithography which was to represent a profound revolution in the production of maps and plans.¹⁴⁴ Although of long term significance, this change was not immediately adopted, largely because of the several problems attending the weighty lithographic stones and their preparation. However, the gradual improvement in technology, in particular the introduction of the rotary steam-powered press, the transfer technique and the substitution of metal plates, enabled the economy of the procedure to be realised. The chemical process by which compact granular limestone attracts both grease and water, which have an antipathy to one another, had been realised by Alois Senefelder of Munich in 1796. Its development in Britain really dates from the publication of an English translation of his book, *A Complete Course of Lithography* in 1819.

In short, lithography did not require the engraving of a plate. The map was either drawn by hand on a stone or a transfer was taken from an existing plate. In this way there was not the same problem of plate wear and revisions were effected with far less difficulty. Features, such as the title cartouche, scale bar or any vignettes, could be positioned as required, which made the process suitable for special purposes, such as the indication of proposed railway lines or similar information of a tentative nature. The combined impact of economies of scale, mechanisation and the dwindling numbers of engravers all added weight to the transition away from intaglio printing.

Despite the slow start in Britain, lithography appears to have been well established by about 1825. Certainly, this was the date of its first appearance in Glasgow, if not Scotland, when James Miller commenced business at 30 Virginia Street.¹⁴⁵ Initially, the technique as applied in Scotland seemed to rely on lithographic stones imported from Bavaria. Nevertheless, its early application to map and plan production had been appreciated by several printers (e.g. Walter Ballantine).¹⁴⁶ Almost a decade later, the use of zinc plates was being advertised by Maclure & MacDonald, emphasising improved shading and tinting.¹⁴⁷ However, less than a year after this notice, their dissatisfaction with this adaptation indicates certain drawbacks with the development.¹⁴⁸ By 1840, the Post Office directory listed twenty-one lithographic printers and one lithographic press maker in the city, and such listed firms as Allen & Ferguson and Maclure & Macdonald are recognised for their involvement in map production.

As the century progressed, the demand for cheap maps to illustrate guide books or to record the many social and administrative developments inevitably meant that an adequate supply could only be provided by using lithography. Despite these fundamental changes in provision and production, map makers themselves took up these techniques only slowly, largely because of the poor products of many lithographic printers, and major Scottish map companies (e.g. W. & A.K. Johnston, John Bartholomew) did not change to this method until the second half of the century.¹⁴⁹

The Ordnance Survey

In 1823, the Ordnance Survey of Scotland was suspended to allow the use of the large theodolite in England and the work in Ireland to proceed. It was not recommenced until 1840 with a resumed scale of six inches to one mile, which had been found of great value in the Irish survey. Nine years later, a Select Committee on Ordnance and Army Expenditure recommended that precedence should be given to towns over rural districts. While it was recognised that such preference would increase the total cost, it was considered that this would not only relieve municipal authorities from undertaking their own local measurements but also facilitate the health improvements and adoption of sanitary measures which were dependent on accurate urban mapping.¹⁵⁰ However, the following years saw a protracted and confusing Parliamentary wrangle over the most appropriate scales to use. The indecision of various committees, the contradictory evidence of certain expert witnesses and concern about expenditure inevitably led to a delay in the progress of the mapping of Scotland and it was not until the end of the decade that agreement was reached, following the report of a Royal Commission in 1858, on 1: 2500 for cultivated districts and uncultivated areas at six-inch scale. This "Battle of the Scales" involved a considerable amount of political activity and representation on behalf of many interested groups, including scientific bodies, landowners and civic authorities. Eventually, in 1863, it was definitely laid down that the ten-foot town plans, the twenty-five inch parish plans and the six-inch county maps were to be the accepted representations. There was much agitation for larger scales to provide adequately for the coverage of urban areas, with the growing realisation that the social and economic changes of the era demanded more detailed and more accurately printed maps. As Harley has observed, "the booming exploitation of mineral resources, unprecedented town expansion and improvement, land drainage schemes and geological survey all emphasised the lack of adequate base maps.

The railway mania after 1845 had even enticed Board of Ordnance surveyors into its more lucrative service".¹⁵¹

In Scotland, the six-inch survey began in Wigtownshire in 1843. Glasgow Town Council was to play an influential role in the Scottish representation and the Council Act Book records a series of communications with the Government from 1851 regarding the Trigonometrical Survey. Unfortunately, as will be shown, the correspondence appears to have further delayed the mapping of the city by a disagreement over scales and cost. The renewed demand for greater activity on the Scottish fieldwork also had an impact on the surveying profession in general. In May 1851, a meeting of civil engineers and surveyors was called to be held in the Waterloo Hotel, Edinburgh, to consider "the means to be adopted by the Profession for the protection of their interests as respects the General Survey of the Kingdom in which the Government has been engaged for upwards of Forty Years; and for determining, if any, and what steps should now be taken, by the Civil Surveyors, not only for securing to them a proper share of the business of this Survey, but for accelerating the completion of that great national undertaking".¹⁵² It is not clear whether this sentiment was well supported and, certainly, it was later found that attempts to engage contract work (e.g. for Peeblesshire, Renfrewshire and Ayrshire)¹⁵³ proved a failure for Ordnance Survey purposes.¹⁵⁴

Responding to a communication from the council of the Royal Society of Edinburgh, the Glasgow Council resolved, in January 1851, to add their voice to the growing demand for a more energetic prosecution of the Survey in Scotland.¹⁵⁵ This was followed in December 1852 by a submission to the Board of Ordnance to the effect that work in Lanarkshire should be at six inches instead of one inch to the mile, in line with a report from the Convention of Royal Burghs.¹⁵⁶ The reported proceedings of the Council show that an informed and coherent debate was pursued on the matter of appropriate scale.¹⁵⁷ It was considered that Lanarkshire's particular condition, "which was so thickly studded with buildings, and other important works", necessitated a six-inch coverage, which could easily be reduced to a one-inch scale, whereas the latter could not be increased to a map of greater detail. The following year began with much discussion of the Survey in the city. Senior office bearers of the Philosophical Society of Glasgow sent a memorial to the Lords Commissioners of the Treasury in January, on behalf of the Society, in favour of a six-inch base for the counties of Lanarkshire, Ayrshire and Renfrewshire and the representation of relief by spot heights and contour lines.¹⁵⁸ Their memorial emphasises "the great advantages and facilities for

ascertaining the practicability of works of public improvement for estimating their probable cost" which detailed fieldwork would support. Early in February, the Council reinforced a similar memorial from the Commissioners of Supply and further requested that the survey of the city itself be made at ten foot to the mile (i.e. 1:500) "as had been done for several of the towns in England under the Health of Towns Act".¹⁵⁹ The suggestion for this larger scale had been made by the General Board of Health, with towns being mapped mainly on a repayment basis and the plans subsequently reduced to form part of the six-inch map. At the same time, several letters appeared in the local press on the whole question of official mapping.¹⁶⁰ Such activity may have been partially the result of the opening of an Ordnance Survey office in Glasgow in 1853, under the superintendence of Captain John Bayly, R.E., at 205 St. Vincent Street. It was not until the October of that year that the Ordnance Office's acknowledgement of the Council's requests was reported - an indication of the delay in procedure.¹⁶¹ In the meanwhile, some activity can be assumed from a notice appearing in October for a map of the Burgh of Partick "taken from the Official Survey".¹⁶² The Council, actively preparing to implement improvements in the city, had received a report from John F. Bateman, the Manchester engineer who had been appointed to examine sources of potential water supply, that no instructions had been given by the Treasury to proceed with surveying the city and that it would not be possible to have this done in time for the measures contemplated. Thomas Kyle was approached to determine the expense of a map of the city and his reply to Bateman gives a most valuable insight into the methods of the day:

"With regard to the conversations I had with you as to the preparation of an accurate map of the City of Glasgow, showing all streets, lanes, courts, and passages (without showing the details of buildings, &c), and marking the levels of every street crossing thereon, and laid down to a scale of 200 feet to an inch, I have been thinking over the matter very carefully as to the time that might be required, as well as to the probable expense of furnishing such a map. You are well aware that it is a very great disadvantage to a surveyor to commence such an extensive survey at this period of the year, with short days, and very likely wet and stormy; and when you consider the great difficulty, even with the aid of the police, in getting along our crowded streets and lanes during business hours, which should be

done in midsummer mornings, from 2 to 5 o' clock, when the streets are comparatively quiet; still, with such surveys and plans in my possession, and by engaging an additional number of assistants, I think were I instructed to proceed immediately I could have the map completed by the end of June, 1854. The map, if combined in one continuous sheet, will be 12 feet long by 8 feet broad; but, as you suggest, I think it will be better that it be divided into three sections, each 12 feet by 2 feet 8 inches."¹⁶³

As Kyle envisaged having to engage more staff, his estimated cost was £950 but, for a plan covering the city, the surrounding countryside as far down the river as Bowling and the general catchment area, he was prepared to charge £400. On consideration, the Improvement Committee recommended that the Council commission Kyle to proceed with the map. However, another approach to the Treasury to commence the City survey was agreed upon, with Bateman recommending a five-foot plan. He argued that the larger scheme would entail greater expense, partially charged to the city, and that it would take not less than another two and a half years to be ready. Even then the map would not be engraved, tracings being supplied at about £100. Correspondence from the Secretary to the Treasury suggested that there was no technical reason for any delay in proceeding with the work, removing the necessity of employing Kyle.¹⁶⁴ However, the Council were again pressed to memorialise the Treasury in the December "to proceed without delay". During the period when southern Scotland was being surveyed at six-inches to the mile, the five-foot scale was adopted for towns with over 4,000 population and the Council were clearly swayed by Bateman's advice in their petition. In fact, a Treasury reply in the following year acknowledged the limitations of the smaller base and recognised the need for the ten foot scale for towns.¹⁶⁵ As a result of the recommendations of a Committee which met in 1853, the town representation was altered to 1:500, to bring it into relation with the newly introduced ratio of 1:2500, and this larger scale coverage for towns of more than 4,000 inhabitants was extended to cover the whole country. From about 1855, a further 440 town plans were produced. With a few exceptions, only a single edition of the majority of these plans appeared.

Further Treasury correspondence with the City Council indicated that the Royal Engineer establishment was to be employed on completing those districts commenced before undertaking the survey of Glasgow. Such work,

involving as it would more staff and greater expense, would only be authorised on the following conditions:

"It has been ascertained by the numerous surveys of this description which have been executed of late years, that densely populated town districts cannot be delineated with sufficient distinctness for sanitary purposes on a smaller scale than ten feet to a mile; and my Lords therefore consider that the proposed survey of Glasgow, in order to be effectual, must be laid down on that scale.

"As, however, no ten feet survey has hitherto been executed without the imposition of a local charge, and as the mode of defraying the cost of the National Survey on a large scale is now under the consideration of her Majesty's Government, my Lords must require that the municipal authorities of Glasgow will consent to be bound in reference to the mode in which the expense of surveying their city shall be defrayed, by any general rules on this subject which may be determined upon for the rest of the country."¹⁶⁶

On this matter of financing the larger scale, the Council were in strong disagreement with the Treasury officials. They felt that work on the five-foot basis was amply sufficient and that they had never sought the extended survey, especially as Manchester, Liverpool and Edinburgh had been mapped at the smaller scale without any charge being made upon the municipal purse.¹⁶⁷ The assertion of never seeking the larger coverage is contradicted by the earlier petition of February 1853 but some impatience with the delay in the Treasury's reply may have given added edge to their argument. The whole matter of the Scottish survey was clearly causing great frustration to the extent that it was felt a further sufficient reason for the appointing of a Secretary of State for Scotland. In addition to the Commissioners of Supply and the Philosophical Society, the Glasgow Faculty of Procurators debated the issue. Elsewhere, county meetings in Aberdeen, Ayr, Dumfries and Fife were deciding to memorialise for a speedier progress of the six-inch fieldwork. However, it was the Philosophical Society, in particular, who pursued a resolute campaign in support of the ten-foot scale for a city like Glasgow "so crowded, so intricate and minute in its subdivisions, and where ground is so valuable and the underground works so complicated". Among its members, Professors

William Thomson and W.J. Macquorn Rankine, especially, argued for a sufficiently large survey to meet these problems and, in discussion with members of the Town Council, it became apparent that it was the Treasury insistence on the city paying the difference in the cost between the scales, estimated at about £2,000, which had caused the impasse.¹⁶⁸ At the same time, a Treasury reply confirmed that experience had proved the five-foot plan inadequate for all the purposes required, to the extent that London, Liverpool and Edinburgh had been re-surveyed on the larger scale with the expense either wholly or partly defrayed by the local authority.¹⁶⁹ Some degree of irritation may again be read in the wording of this communication which re-emphasised the whole cost and the need for the council to be bound by the general method of its financing. Two years later, in evidence to the Select Committee on Ordnance Survey of Scotland, Sir Charles Trevelyan, Assistant Secretary to the Treasury, particularly mentioned the correspondence with Glasgow in regard to the inadequacies of the smaller ratio, which were made apparent by the specific needs of sanitary reform for the description of individual houses and drains.¹⁷⁰ On his own admission, he stated that the Treasury forced a ten-foot map on the town council, despite their arguments, but it was found from other bodies in the city that the decision was well supported. This correspondence, particularly the disagreement over the propriety of calling upon the council to pay a portion of the cost, was certainly regarded as the cause of the long delay in mapping the city by the Ordnance Survey itself.¹⁷¹ However, it should also be noted that the relevant Treasury minute of May 1855 regarding contributions to the costs directs that these were only required in the case of special surveys made in the districts in which the general work is not in progress. In other words, the council were not wanting specialist treatment but only a priority given to the city.

By 1854, a total of 758 men, including six officers and 129 non-commissioned officers and sappers, were employed in Scotland. This figure was to rise by another 170 in 1856 and excludes an average figure of about 85 computers and engravers based in the Southampton Survey Office. The annual reports of the progress of the Ordnance Survey, combined with information from the maps themselves, provide some detail of the local developments in Glasgow. Bayly, the officer in charge of the Glasgow division, was responsible for the plan of the city, completed in 1858. He was considered highly able and was to remain in Glasgow until 1864 when, as a Lieutenant-Colonel, he was put in charge of the boundary department of England and of the survey of London. Later, he was to contribute to the section on field surveying in the *Account of the Methods and Processes*

Adopted For the Production of the Maps of the Ordnance Survey, published in 1875. It was customary to form sections of from eight to twelve surveyors under the superintendence of a non-commissioned officer. These sections based their work on right lines, with bolts being driven into the ground at street intersections or other open spots, upon which the lines were closed. Subsidiary stations were chosen, either on the level tops of houses or at angles of buildings, to observe these bolts and incorporate them in the mapping. Following the style of the day, fieldwork where there was the likelihood of crowded streets was made in the early morning, the lines running along either the house fronts or the kerb stones of one side of a street only and the measurements recorded in a field book to half a chain link. On this scale, no distance greater than twenty links from any detail line was permitted. These lines were laid down immediately to form the fair plans, with any inaccuracies being re-measured by the surveyor and corrected before being passed to the detail plotter. With regard to production, much use was made of photography for planimetric reduction of the 1:500 plans to a ratio of 1:2500 and from 1:2500 to the six-inch map. For the former, tracings were made from the photograph itself or drawings transferred to either a lithographic stone or zinc plate for printing. In 1855, zincography began to replace lithography as the zinc plate was cheaper and lighter - up to a thousand impressions could be pulled before the detail began to lose its quality. Owing to the slow rate of work and a desire for consistent appearance, copperplate engraving held firm in printing six-inch maps until the early 1880s, with photographs being used to provide detail reduced from the 1:2500 scale. Combined with manual reduction techniques, this method could not cope with the technical requirements of the 1:2500 series and the majority of these maps were produced by zincography.

Considerable progress was made in engraving the Glasgow plans during the year of completion of fieldwork but, given their number of nearly 250 sheets, there was an inevitable delay in publication. The 1858 Ordnance Survey report notes considerable progress but, two years later, only 54 sheets of the 1:500 scale had been published, in addition to a 1:2500 plan. Completion of the publication of the ten-foot map in 155 sheets was realised the following year, while the complete six-inch map of Lanarkshire, begun at a scale of two-inches to one mile but soon abandoned, did not appear until 1865. It is interesting to note that the 1863 report points out that "the demand for the plans of Glasgow has been very great, even for copies from the plates before they were perfectly engraved, and I was obliged to stop the issue for fear of injury to the plates before they were quite finished, and electrotypes

taken of them".¹⁷² The one-inch sheet of the Glasgow area was subsequently reduced from an electrotpe taken in 1874. By 1865, coverage of the city at the scales of 1:500, 1:2500 and 1:10560 had been published and the office in St. Vincent street, now under the charge of Lt. T.P. White, appears to have closed that year. After such lengthy debate and strongly held opinions, the final appearance of the Ordnance Survey maps of the city of Glasgow would seem to have been a very quiet affair. However, commercial map-sellers had advised that newspaper advertisements were not cost effective and notices tend to be simply lists of agents or areas where maps had been published.¹⁷³ The first intimation of the publication of these sheets appeared in the local press in February 1861,¹⁷⁴ when James Lumsden, one of the two Glasgow agents for the Ordnance Survey, announced that sheets of the new plan of the city, as far as published, may be had on application. This was developed, in slightly more detail, the following month,¹⁷⁵ with notice of ten twenty-five inch sheets at £1-5s. and the ten-foot map nearly complete. John Smith, the other city agent, was soon to follow with a more descriptive advertisement in the May of that year,¹⁷⁶ informing the public that 50 of the intended 155 sheets of the ten-foot map were now ready. These notices were to appear at regular intervals over the following years, with the twenty-five inch map being extended to twelve sheets, price £1-10s. As Harley has commented, for anyone who seeks to analyse urban growth, to assess changes in industrial activity or to study the communications network, these series provide invaluable details.¹⁷⁷ Certainly, the work of the Ordnance Survey altered the situation of local surveyors radically but their changing occupation had been influenced by a variety of other factors, including the demand for civil engineers for the many transport developments of the time. Independent surveyors moved increasingly into estate, public service and city planning, as can be seen in the works of Thomas Kyle. Elsewhere, cartographers were to use the Ordnance base as the framework for more specialist maps (e.g. Bartholomew's Post Office Directory plan). Although a new map environment had been established, it still provided opportunities for the talented individual.

Conclusion

Overall, this study has discovered and listed 88 plans of the city, which meet the criteria of content and scale, for the period, 1764 - 1865. Moir's list, which is the only other comprehensive record of recent years, identifies 45 individual items. Of these, three are entries for the same map, two are insets of an earlier representation on later works and others are either errors, street

plans of restricted areas or at a scale smaller than 1:30000. If similar parameters are applied to that catalogue, the total figure can be reduced to 35 maps up to 1850. In comparison, this research itemises 72 representations of the city for the same period, with corrected or definite dates provided for nine of Moir's more tentative entries. This significant increase in the number of plans now known to have been prepared during this era extends considerably our knowledge of urban cartography in Glasgow and, as the city can be regarded as a microcosm of the national pattern, it widens the perceptions on the mapping of British provincial towns. Of far greater importance, however, is an examination of the strength of influence of earlier representations on succeeding maps. Although it is recorded that the 1782 plan by Barrie was still being used for an inspection of the boundary marches forty years later (see no.7), the pre-1795 surveys, as a group in general, seem to have had little impression on later depictions of Glasgow. Certainly, elements of the McArthur 1778 layout were to re-appear in the trio of anonymous plans of the 1790s but, with the exception of the Denholm plate of 1797, the turn of the century saw a marked break in the continuity of the style of mapped features. Denholm's engraving was the base for a series of plans published in Chapman's *Picture of Glasgow* up to the second decade of the 1800s and, as such, influenced the representation of the city for over twenty years. However, by 1818, Gray's re-working of the original plan was no longer able to cope with the major alterations in design which resulted from the Blythswood development. Although he introduced a street grid to that state of the engraving, it is obscured by the strong hill shading of the original plate and results in an unsatisfactory depiction.

It is rather surprising to note that the earlier town plans had such a brief impact on later models, which is itself a contrast with the cartographic history of many English towns. This may be due partly to the relatively late date of the earliest illustrations, when considered alongside those of other major European cities. Even at the end of the eighteenth century, the pace of change was comparatively slow and steady and it may be that earlier maps could be used for far longer without any marked disadvantage. It is equally true that, given the population and wealth of the city, there may have been far less of a demand for new maps. The history of mapping in Scotland is littered with examples of schemes failing to attract a sufficient level of subscription to support production. When the costs of surveying and engraving are considered, it is perhaps understandable that the economic base could not maintain a greater range of depictions.

The start of the nineteenth century alone cannot be seen as the turning point in the way the city was depicted. Of far greater matter seems to be the illustration of the grid pattern of streets on the Blythwood estate and, in particular, Peter Fleming's original indication of this design in 1807. In contrast with the identification of the newly planned districts of Tradeston, Laurieston and Hutchesontown, earlier plans appear to have been insufficiently flexible to identify both the Blythwood layout and the topography across which it was built. Fleming's survey is, without doubt, the most influential of the pre-Ordnance surveys, especially through the later adaptations by Smith in 1821 and 1828 (see nos. 23 and 32) and Wilson's subsequent use of particular elements. In fact, a definite line of reliance can be traced from Fleming through to 1848 and features of Wilson's plan of that year were to be reproduced in the work of Rapkin and Swanston in the following decade. Equally, George Martin's map of 1842 - the only other significant survey of the period - was to be used as a later source for the Swan Post Office map, thereby influencing depictions for the next two decades.

Although this longer period of reliance on earlier sheets contrasts quite markedly with the case of the eighteenth century plan group, it does not contradict any statement on the supply of, or demand for, maps. Despite the rapid growth of nineteenth-century Glasgow, the rise in population and the many transport developments, most notably the coming of the railways and its subsequent impact on tourist literature, the costs of surveying the whole of a busy city were still very expensive. Growing demand was met by technical solutions, especially the use of lithography. This process not only reduced the cost of production but also gave the most reliable or readily available surveys a longer period of influence by the ease of updating. It has already been noted that revision of the central areas of maps produced by lithography was frequently ignored. The fact that the nineteenth century saw only two major surveys of the city, by Fleming and Martin, emphasises the restrictiveness of surveying costs and the relative dearth of new illustrations.

REFERENCES

1. COWAN, William *The Maps of Edinburgh, 1544-1929*. 2nd ed. Edinburgh, 1932.
2. McLAREN, T. "Early plans of Perth" *Transactions of the Perthshire Society of Natural Science*, vol.10, 1938-42, pp.1-22.
3. CONZEN, M.R.G. "The use of town plans in the study of urban history" in DYOS, H.J. (ed.) *The Study of Urban History*. London, 1968. p.116.
4. WHITEHAND, J.W.R. and ALAUDDIN, K. "The town plans of Scotland: some preliminary considerations" *Scottish Geographical Magazine*, vol.85, 1969, pp.109-121.
5. National Library of Scotland (henceforth N.L.S.) Adv. Mss. 15.1.1.f173 "Nova Invernessa urbis et arcis descriptio". Authore: Jacobo Gordono.
6. WOOD, Marguerite (ed.) *Extracts from the Records of the Burgh of Edinburgh, 1642-1655*. Edinburgh, 1938. p.116. (henceforth E.B.R.)
7. E.B.R., 1655-1665, 1940, p.117.
8. SMITH, David "The enduring image of early British townscapes" *Cartographic Journal*, vol.28, 1991, p.163.
9. HARLEY, John B. *Maps for the Local Historian: a guide to the British sources*. London, 1972. p.15.
10. N.L.S. Ms. Pont 34. See STONE, Jeffrey C. *The Pont Manuscript Maps of Scotland: sixteenth century origins of a Blaeu atlas*. Tring, 1989. pp.176-179.
11. *Theatrum Orbis Terrarum, sive Atlas Novus*. Pars Quinta. Amsterdam, 1654. The map is entitled "Glottiana Praefectura Inferior, cum Baronia Glascuensi. The Nether Warde of Clyds-dail, and Baronie of Glasco. Auct. Timoth. Pont" and follows p.83. A second edition of the atlas, with only minor alterations, appeared in 1662 entitled *Geographia Blaviana*. Vol.6.
12. N.L.S. Ms. Pont 33. See STONE op. cit. pp.169-174. The printed map "Praefectura Renfroana Vulgo dicta Baronia. The Baronie of Renfrow", following p.85, shows a slightly different layout, with 2 mills to the east of the town on the "Polindi B."
13. *Extracts from the Records of the Burgh of Glasgow* (henceforth G.B.R.), vol.1, 1573-1642, 1876, p.430.
14. STEVENSON, David "Cartography and the Kirk: aspects of the making of the first atlas of Scotland" *Scottish Studies*, vol.26, 1982, p.2. R.S.G.S. *The Early Maps of Scotland to 1850* 3rd ed. Vol.1. Edinburgh, 1973. p.46. The Presbytery of Lanark instructed "Mr. Jhon Carmichaell, commissare of Lanerick, with others, whom he shall choose, to meet for drawing up a mappe of the shire" in May, 1642. See *Extracts from the Records of the Royal Burgh of Lanark...1150-1722*, 1893. p.371.
15. PAGAN, James *Sketch of the History of Glasgow*, 1847. p.31. Had such an engraved plan survived, its value, pre-dating the great fire of June 1652 when a third of the town was destroyed, would have been

- inestimable. This example is not extraordinary in later Scots map history (e.g. the Dumfries Town Council Minutes record a map of the town published in 1796 by a Mr. Lewars which, as yet, is untraced). Private communication, Mr. D. Lockwood, Dumfries Museum.
16. MARWICK, James D.(ed.) *Charters and Other Documents Relating to the City of Glasgow, 1175-1649*, part 2, 1894, pp.359, 397; vol.2, 1649-1707, 1906, p.61. G.B.R., vol.1, 1573-1642, p.370; vol.2, 1630-1662, 1881, p.2. GIBSON, John *The History of Glasgow, from the earliest accounts to the present time*, 1777. p.96.
 17. G.B.R., vol.3, 1663-1690, 1905, p.216. According to the Burgess Roll, two James Colquhouns, father and son, both wrights, were elected in the seventeenth century. See ANDERSON, James R.(ed.) *The Burgesses and Guild Brethren of Glasgow, 1573-1750*. Edinburgh, 1925. pp.45, 154, 204. References to James Colquhoun also appear in *The Records of the Trades House of Glasgow, A.D. 1605-1678*, 1910; in particular, p.177, for 24th February 1636, mentions his involvement with work on the hospital steeple, and p.399, 13th December 1664, Colquhoun, with others, was "to meit and conveye the best maissounes and wrightes for drawing the forme and draught of the hows (the crafts hospital) and qt. the building thair of will draw to".
 18. G.B.R., vol.2, 1630-1662, pp.448-9.
 19. E.B.R., 1655-1665, p.93.
 20. G.B.R., vol.2, 1630-1662, p.469.
 21. McDONALD, William R. "Scottish seventeenth-century almanacs" *Bibliotheca*, vol.4, 1966, p.265.
 22. G.B.R., vol.5, 1718-38, 1909, pp.375-376.
 23. G.B.R., vol.7, 1760-80, 1912, p.287.
 24. G.B.R., vol.5, 1718-38, pp.76, 77, 79, 252. *Caledonian Mercury*, 19th February, 1730. It is more likely that he and not his brother was responsible for the plan of the division of the commonty of Paisley Moss in 1719 at a cost of £313-17-6d. See ADAMS, Ian H. (ed.) *Directory of Former Scottish Commonties*. Edinburgh, 1971. p.204.
 25. DICKINSON, H.W. *James Watt, Craftsman and Engineer*. Cambridge, 1935. pp.15-16. EDEN, Peter (ed.) *Dictionary of Land Surveyors and Local Cartographers of Great Britain and Ireland, 1550-1850*. Supplement. Folkestone, 1979. p.485.
 26. G.B.R., vol.5, 1718-38, pp.285, 321
 27. *ibid.* pp.387-8.
 28. *ibid.* pp.394, 408-9.
 29. At least a dozen maps and plans attributed to him are held in the Boulton & Watt Collection in Birmingham Central Library. Ref. Muirhead III/5.
 30. MUIRHEAD, J.P. *The Origin and Progress of the Mechanical Inventions of James Watt*. London, 1854. Vol.1. pp.cxxiii-cxxiv. The map was advertised in the *Glasgow Courant*, no.731, 15-22 October, 1759 as just published and sold by James Watt at his shop in the College of Glasgow, price 2/6d.
 31. A manuscript copy of this chart exists, possibly dated 1776 (see map 4a), giving a slightly improved image of the town's layout and indicating a second bridge across the river at the east end of the Broomielaw, which can be taken to be the New Bridge begun in 1768.

32. British Library. K.TOP.XLVIII.25.c.5 (Pressmark Maps C.9.b). SKELTON, Raleigh A. "The Military Survey of Scotland 1747-1755" *Scottish Geographical Magazine*, vol.83, 1967, p.14. The Royal Geographical Society Library has a facsimile reproduction of the sheet covering Glasgow (ref. S.35).
33. MALLETT, Robert J. The Military Survey of Scotland 1747-1755: an analysis utilising the dual concepts of map form and content. Unpublished Ph.D. thesis. University of Aberdeen, 1987. pp.199-207.
34. Apart from Corss, Hugh Saffley and Robert Whytingdale were the other named teachers in Glasgow. G.B.R., vol.3, 1663-90, pp.308, 505; vol.4, 1691-1717, 1908, p.187.
35. BRYDEN, David J. *Scottish Scientific Instrument-Makers 1600-1900*. Edinburgh, 1972. p.2.
36. ADAMS, Ian H. "The land surveyor and his influence on the Scottish rural landscape" *Scottish Geographical Magazine*, vol.84, 1968, p.249.
37. *Glasgow Journal*, no.30, 15-22 February 1742.
38. *Glasgow Journal*, no.120, 7-14 November 1743.
39. TAYLOR, Eva G.R. *The Mathematical Practitioners of Hanoverian England, 1714-1840*. Cambridge, 1966. p.302.
40. *Glasgow Mercury*, no.123, 4-11 May 1780, p.151.
41. G.B.R., vol.6, 1739-59, 1911, p.355.
42. BRYDEN op. cit. p.12.
43. *Glasgow Mercury*, no.42, 22 October 1778, p.337.
44. MUIRHEAD op. cit.. Vol.1, pp.xx-xxix. COUTTS, James *A History of the University of Glasgow from its Foundation in 1451 to 1909*. 1909. pp.263-5. DICKINSON op. cit. pp.20-27.
45. Birmingham Central Library. Boulton & Watt Collection. Muirhead I & III, hereafter B&W. M.
46. DICKINSON op. cit. p.20. DICKINSON, H.W. and VOWLES, H.P. *James Watt and the Industrial Revolution*. London, 1943. pp.25-36.
47. CLARKE, T.N. *Brass & Glass: scientific instrument making workshops in Scotland as illustrated by instruments from the Arthur Frank collection at the Royal Museum of Scotland*. Edinburgh, 1989. p.164.
48. COUTTS op. cit. p.196. LLOYD, J.T. "'Item Ane Shipe Skin': an account of early experimentation in the Natural Philosophy Department" *College Courant*, vol.21, no.43, 1969, pp.5-9.
49. MUIRHEAD op. cit. p.xxv.
50. See BRYDEN, David J. "The Jamaican observatories of Colin Campbell, F.R.S. and Alexander Macfarlane, F.R.S." *Notes and Records of the Royal Society of London*, vol.24, 1969, pp.261-272.
51. COUTTS op. cit. pp.229, 264. MUIRHEAD op. cit. p.xxxi.
52. B&W. MIII/3/1, Waste book, 1757-63; entries for 30.3.1757 & 24.9.1757; B&W. MIII/3/3, Impersonal ledger, Jan. - Apr. 1757; entries for 30.3.1757 (pp.4, 10, 11). Gray was the author of *The Art of Land-Measuring Explained*, published in Glasgow in 1757, in which he demonstrates the surveying of smaller parcels of land and discusses the use and construction of instruments, including the graphometer and quadrant. In the appendix (p.290), he writes "It is very proper, and even often necessary, for every land-measurer to know so much of the making or constructing his instruments, especially of the graduated kind, as may

enable him, not only to judge of their use and goodness, or accuracy of the workmanship, but also to give proper directions to any able workman for making or mending them". The work contains an illustration of both instruments (plate IX). Watt's Waste book records him paying George Jardin 10s. to divide the limbs of each one.

53. An advertisement in *Glasgow Courant*, no.516, 1-8 September 1755 for Carlile's wares as a general merchant includes instruments of interest to a variety of customers listed with such goods as hardware, backgammon tables and handkerchiefs.
54. B&W. MIII/3/1; entries for 16.8.1759 and 17.9.1759.
55. B&W. MIII/3/6. p.33.
56. MUIRHEAD op. cit. p.cxi.
57. ibid. p.cxxxi.
58. ibid. Vol.2, p.37.
59. B&W. MIII/3/9.
60. Birmingham Central Library. Muirhead Collection, (PF 1380); indenture, James Dunshie to James Watt, 3.12.1761.
61. B&W. MIII/3/6. p.54.
62. MUIRHEAD op. cit. pp.xlv, cxix-cxxv.
63. B&W. MI/2/42; entries for 21, 26, and 27.7.1773, 24 and 25.8.1773 and 6, 7 and 25 .1. 1774.
64. MURRAY, David *Early Burgh Organization in Scotland*. Vol.1 Glasgow, 1924. p.122n. However, Barrie is recorded as having been buried in Glasgow High Kirk on 24 September, 1792 aged 89. Glasgow High Kirk Parish Registers, vol.12; Burials 1789-92.
65. *Glasgow Journal*, no.1007, 13-20 November 1760.
66. G.B.R., vol.6, 1739-59, p.554.
67. G.B.R., vol.7, 1760-80, p.77.
68. SENEX (REID, Robert) *Glasgow Past and Present*. Vol.2, 1884, pp.408-9.
69. WALKER, Frank A. "The Glasgow grid" in MARKUS, T.A. (ed.) *Order in space and society: architectural form and its context in the Scottish Enlightenment*. Edinburgh, 1982. pp.163-5. WILLIAMSON, Elizabeth *Glasgow* (The Buildings of Scotland). London, 1990. p.104.
70. G.B.R., vol.8, 1781-95, 1913, pp.4-5.
71. G.B.R., vol.7, 1760-80, p.235.
72. *Glasgow Journal*, no.1567, 25 July - 1 August 1771.
73. See *Glasgow Journal*, no.983, 29 May - 5 June 1760 where Barrie is described as surveyor for the road leading from Cumbernauld to Glasgow.
74. G.B.R., vol.7, 1760-80, p.24.
75. ibid. pp.335-6.
76. *Reports by Eminent Engineers, on the Improvement of the Navigation on the River Clyde, from 1752 to 1834*. 1834. pp.7-8.
77. G.B.R., vol 7, 1760-80, p.399.
78. ibid. p.475.
79. ibid. p.492.
80. ibid. pp.605-6.
81. G.B.R., vol.8, 1781-95, p.214.

82. It can be noted that trade cards for Gardner & Co. issued between 1839 and 1859 give 1765 as the date of establishment of the business. See CLARKE op. cit. pp.165 and 167.
83. *Glasgow Journal*, no.1678, 2-9 September 1773.
84. *Glasgow Journal*, no.1730, 1-8 September 1774. Similar notices appeared in the *Glasgow Mercury*, no.78, 1 July 1779 and *Glasgow Courier*, no.80, 3 March 1792 (as Gardner and Laurie).
85. *Glasgow Mercury*, no.78, 1 July 1779. p.214.
86. Gardner would have been 37 by this date and, therefore, it is considered unlikely to be a personal advertisement.
87. CLARKE op. cit. p.164.
88. G.B.R., vol.8, 1781-95, pp.178, 370.
89. CRAWFORD, G. *A Sketch of the Rise and Progress of the Trades' House of Glasgow*. 1858. p.186.
90. Glasgow University Archives. G.U.A. Plans 3492, 8283.
91. Strathclyde Regional Archives (henceforth S.R.A.). T-Th12/11/1. Plan of Windmill Croft.
92. S.R.A. D-TC 13/620.
93. G.B.R., vol.8, 1781-95, p.609.
94. G.B.R., vol.9, 1796-1808, 1914, p.466.
95. ibid. pp.52-3.
96. ibid. p.375.
97. ANDERSON, James R. (ed.) *The Burgesses and Gild Brethren of Glasgow, 1751-1846*. Edinburgh, 1935. p.189.
98. *Glasgow Courier*, no.120, 5 June 1792. An advertisement very similar in design and layout to that of Gardner & Laurie, see no.63. Also *Glasgow Mercury*, no.754, 5-12 June 1792, p.191.
99. *Glasgow Courier*, no.80, 3 March 1792.
100. CLARKE op. cit. p.164.
101. *Glasgow Courier*, no.684, 12 January 1796.
102. *Glasgow Courier*, no.682, 7 January 1796.
103. S.R.A. T-CN14/37.
104. Scottish Record Office (henceforth S.R.O.) RHP16.
105. S.R.A. T-TH1/16/1.
106. G.B.R., vol.9, 1796-1808, pp.338, 622-3.
107. ibid. p.510.
108. SMITH, D. op. cit. p.172.
109. The official census figures are: 1801 - 77,385; 1821 - 147,043, although James Cleland calculated the true 1801 figure to be 83,769, including suburban dwellers.
110. *Glasgow Herald*, no.813, 17 September 1810.
111. *Herald and Advertiser*, no.1334, 1 November 1802.
112. *Glasgow Advertiser*, no.1513, 16 June 1800. p375.
113. *Glasgow Herald*, no.605, 15 August 1808.
114. *Glasgow Herald*, no.1589, 13 March 1818.
115. *Glasgow Herald*, no.557, 29 February 1808.
116. S.R.A. T-TH1.1. Vol.9, 1818-33, pp.82, 142, 171, 194, 218, 246, 282, 343.
117. *Glasgow Herald*, no.1578, 2 February 1818.
118. *Glasgow Herald*, no.3191, 29 July 1833.

119. *Glasgow Herald*, no.3591, 5 June 1837.
120. *Glasgow Herald*, no.3716, 7 September 1838.
121. *Glasgow Herald*, no.3854, 3 January 1840.
122. *Glasgow Herald*, no.3774, 29 March 1839.
123. *Glasgow Herald*, no.3442, 1 January 1836.
124. TAYLOR op. cit. p.3.
125. CLARKE op. cit. p.292.
126. ibid. p.ix.
127. *Glasgow Herald*, no.2358, 29 July 1825.
128. *Glasgow Herald*, no.3686, 7 May 1838.
129. *Glasgow Herald*, no.3532, 11 November 1836.
130. TAYLOR op. cit. p.100.
131. CLARKE op. cit. p.205.
132. *Glasgow Herald*, no.3629, 20 October 1837.
133. *Glasgow Courier*, no.176, 13 October 1792.
134. BRYDEN op. cit. pp.12-3.
135. *Glasgow Herald*, no.3418, 9 October 1835.
136. *Glasgow Herald*, no.3417, 5 October 1835; no.3818, 30 August 1839.
137. EDEN op. cit. p.435.
138. *Glasgow Herald*, no.3323, 10 November 1834.
139. *Glasgow Herald*, no.3629, 20 October 1837.
140. G.B.R., vol.9, 1796-1808, pp.622-3.
141. G.B.R., vol.10, 1809-1822, 1915, p.225.
142. *Glasgow Herald*, no.3587, 22 May 1837.
143. *Glasgow Herald*, no.3845, 2 December 1839; no.3852, 27 December 1839.
144. For a detailed contemporary description of the process, see *Encyclopaedia Britannica*. Supplement to the 4th, 5th and 6th editions. Edinburgh, 1824. Vol.5. pp.278-286.
145. *Glasgow Herald*, no.3807, 22 July 1839.
146. *Glasgow Herald*, no.2619, 28 January 1828; no.2749, 27 April 1829.
147. *Glasgow Herald*, no.3534, 18 November 1836.
148. *Glasgow Herald*, no.3616, 4 September 1837.
149. SMITH, David *Victorian Maps of the British Isles*. London, 1985. p.25.
150. Second Report from the Select Committee on Army and Ordnance Expenditure, 1849. H.C. Paper 1849 (499) IX.5.
151. HARLEY op. cit. p.18.
152. *Glasgow Herald*, no.5042, 26 May 1851.
153. *Glasgow Herald*, no.5431, 16 February 1855; no.5469, 29 June 1855.
154. Ministry of Agriculture and Fisheries. Final Report of the Departmental Committee on the Ordnance Survey. (Davidson Committee). London, 1938. p.34.
155. S.R.A. C1.1.(66). Minutes of the Corporation of Glasgow [Council Act Book, vol.61, 4 July 1850 to 27 October 1853]. p.122 for 30 January 1851.
156. ibid. p.530 for 23 December 1852. Reported in *Glasgow Herald*, no.5207, 24 December 1852.
157. *Glasgow Herald*, no.5213, 14 January 1853.
158. Reported in *Glasgow Herald*, no.5219, 4 February 1853.
159. S.R.A. C1.1.(66). op. cit. pp.570-1 for 10 February 1853.

160. See, for example, *Glasgow Herald*, no.5214, 17 January 1853; no.5217, 28 January 1853; no.5219, 4 February 1853.
161. S.R.A. C1.1.(66). op. cit. p.733 for 27 October 1853.
162. *Glasgow Herald*, no.5289, 7 October 1853.
163. *ibid.*
164. *Glasgow Herald*, no.5295, 28 October 1853; S.R.A. C1.1.(66). op. cit. p.743 for 27 October 1853.
165. S.R.A. C1.2.(26). Minutes of the Corporation of Glasgow, 21 December 1853 to 10 November 1859. pp.97-8 for 2 March 1854; letters dated 27 December 1853 and 7 February 1854.
166. *Glasgow Herald*, no.5319, 20 January 1854.
167. S.R.A. C1.2.(26). op. cit. pp.81-3 for 19 January 1854.
168. *Glasgow Herald*, no.5326, 13 February 1854. p.5, "Philosophical Society of Glasgow".
169. S.R.A. C1.2.(26). op. cit. pp.97-8 for 2 March 1854.
170. Report from the Select Committee on Ordnance Survey of Scotland, 1856. H.C. Paper 1849 (198) XIV.361.
171. Report on the Ordnance Survey of the United Kingdom for 1855-56. H.C. Paper 1857 (147. Sess.2) XXVII.309.
172. Report of the Progress of the Ordnance Survey and Topographical Depot to the 31st. December 1863. 1864 [3278] XXXV.645.
173. OLIVER, Richard The Ordnance Survey in Great Britain, 1835-1870. Unpublished D.Phil. thesis. University of Sussex, 1986. p.274.
174. *Glasgow Herald*, no.6583, 15 February 1861.
175. *Glasgow Herald*, no.6597, 4 March 1861.
176. *Glasgow Herald*, no.6666, 24 May 1861.
177. HARLEY op. cit. p.5.

Original in colour



Figure 4: Plan of part of the City of Glasgow, 1764 by James Barrie (S.R.O. RHP 3945). (Reproduced by permission of the Keeper of the Records of Scotland).

CHAPTER THREE

THE TOWN PLANS OF GLASGOW

1. **1764 [BARRIE, JAMES]**

Plan of part of the City of GLASGOW./ Exhibiting chiefly the course of the Rivulet/ MOLENDINAR, with it's Boundarys, Bridges and Dams:/ till where it is joined by the Brook called Camlaughie Burn./ And from thence till where they both fall into the/ River Clyde: below the Saw Mill etc, etc, etc. September 1764

Size: 670 x 480 mm. Scale: [1:1800] or 1": 150 feet.

S.R.O. RHP 3945. Manuscript. Coloured.

Although not covering the whole of the city, this unsigned plan (figure 4) is of great significance in being probably the earliest surviving map of Glasgow at a detailed scale. In addition, many copies have been produced over the years, with acknowledged datings ranging between 1752 and 1764. This, the original manuscript, was prepared as proof for the Magistrates and Town Council in an action for damages brought before the Court of Session by William Fleming, a timber merchant with an extensive business in the town.¹ Fleming had been involved in operating a saw mill on the Molendinar Burn from 1751 but, in 1764, his mill dam and other machinery were demolished under the instructions of the Magistrates, who had become dissatisfied with his contract. After a protracted litigation, the final judgement ruled in Fleming's favour, by which the Council were ordered to pay him the sum of £610-1-4 in damages and another £100 in costs. Over seventy witnesses were examined in the state of the process and their depositions throw much light not only on the process but also on the map and life in mid-eighteenth century Glasgow. The surviving Court of Session papers² and a printed copy of the state of the process,³ however, introduce an element of confusion into the proper assignation of authorship of the map. In the statements of the witnesses for the Pursuer's proof,⁴ John Riddell, a baker in the city, attested that Fleming caused him to measure the level of the burn and the distances between certain

dams. This is confirmed by a receipt, dated 27 June 1765, for the sum of £2-10-0 "for surveying and Drawing sundrie plans of the Molendinar Burn" from Riddell, styled "land surveyor".⁵ Elsewhere, Fleming's accounts of the money disbursed in the process show that he paid Riddell for three plans of the Burn mill. Taken at face value, it would seem that these three plans are this manuscript and the two following plans in the RHP sequence. These subsequent manuscripts are dated December 1765 and January 1766 and bear Riddell's name. Certainly, much of Riddell's and other witnesses' evidence is taken up with details of measurements made at the mill and dam in early 1766⁶ and these are indicated on RHP 3946. Nowhere in his evidence does Riddell mention surveying any of the town area away from the Molendinar but it does confirm his exhibiting two plans and two elevations of the mill, dam and the burn, showing its boundaries and the houses on either bank. However, these latter Register House plans are dominated largely by architectural elevations of the saw mill and mill wheel and the course of the Molendinar closely follows that of the topographical plan. In addition, a later account of expenses from Fleming's Edinburgh solicitor, dated 6 April 1767, has the following entry:

1765 January 17
To Borrowing the Bill of Suspension & and a plan given in
by the Magistrates. £-1-d

Clearly, the Council had caused this plan to be drawn prior to January 1765 and, again, this is confirmed in the statement of James Barrie, the first defence witness,⁷ that:

"He, in the month of December 1764, surveyed the burns called Molendinar burn and Camlachie burn, grounds on both sides of these burns, together with the saw-mill mentioned in the act and commission; and also surveyed and measured the height and wideness of the saw-mill dam, and height and wideness of the pillars, arches, and sluices thereof, and wideness of the burn where the saw-mill and dam thereof stands; and from these, and other surveys of the burns, he made the plans now exhibited by him, and marked by him and the commissioner, of this date, relative to this deposition, both the said plans being upon one sheet of paper, and affixed a scale to each of these plans; and that the said plans are just and true plans of the said burns, and

others before mentioned, to the best of his knowledge and skill."

Barrie was an experienced land surveyor with over thirty years of business behind him and had been employed on several occasions by the Council.⁸ From his own and other statements, it is clear that Barrie had been involved in viewing the dam, mill and burn frequently. His measurements differ from Riddell's but, more significantly, the memorial presented by the Magistrates in 1767 in their defence shows that the Barrie plan displays not only the course of the burn but also "the lying of the Streets and Grounds adjacent thereto".⁹

Concerning the map itself, it is centred on Glasgow Cross and shows the four main streets of the town radiating out as far as Stockwell Street, the River Clyde, Gallowgate Green and the New Vennel to the north of the College grounds. Nothing south of the river is mapped but, clearly, a wider area than the banks of the Molendinar is depicted. An eight point compass oriented slightly west of north and a scale bar of 200 yards lie below the centrally positioned title. The plan has no border and is slightly damaged along the right hand edge. As stated in the key, a sophisticated use of colours is used; brown for buildings, blue for water, green for gardens and enclosed fields, and yellow for waste ground. In particular, the street layout and burgh plot pattern are detailed - although street frontages tend to be drawn as continuous blocks - with many public buildings (e.g. Hutcheson's Hospital, Tron Kirk), markets and works named. Gardens, public walks, the washing house, two bowling greens, the horse ford and bridge are also indicated. Distances along the Molendinar, dams and bridges are noted, with elevations of four bridges and the Bark Mill dam showing the original purpose of the document. At this date, the Water Port still stood at the north end of the bridge.

Fleming's final account of 1767 lists the expenditure of £4-12-6 as half payment for the engraving of two plans, the Magistrates paying the other half. When this is compared with his solicitor's fee for "a very frequent and troublesome correspondence" of 15 guineas, the relative expense of producing such maps can be seen.

An engraving based on the manuscript exists in two states, both of which show exactly the same details but differ from the Register House plan in certain particulars. The manuscript has more features named, especially in the north-west of the town where the inclusion of the two end elevations of the saw mill from RHP 3946 has led to some loss on the engraved sheets. The scale bar has been removed to the Low Green and a sixteen point compass is

placed on the Clyde. Slight trimming on the left hand of the engraving has resulted in the loss of the Black Bull inn and the Town's Hospitle.

Both states have the same orientation as the manuscript. Size: 500 x 435 mm. Scale: [1:1920] or 1": 160 feet.

State I¹⁰ The engraving has been trimmed to the edge of the plate mark on two sides and is entitled "PLAN/ of the/ Course of the Burn Molendinor/ thro' the Town of Glasgow &/ relative to the Process/ William Fleming wright/ in Glasgow Agt the Magistra/ tes of Glasgow", in plain lettering. Some engraver's guide lines (e.g. at the scale bar and River Clyde) can be discerned.

State II¹¹ The full plate mark is seen and there are fewer guide lines noticeable. The title, in the same location (i.e. north of Edinburgh road) but in a decorative acanthus flowered cartouche, reads "A PLAN of/ Part of ye City of GLASGOW/ & Course of the Burn MOLEN/ DINAR leading to the Saw/ Mill erected by WILLIAM/ FLIMING wright in GLASGOW/ in 1750 & 1751 & Set agoeing/ in 1752 Demolished by the/ Magistrates of Glasgow/ on the 23 June 1764/ for which he then Commenced/ a process against the said Magistrates/ before the Court of Session and in/ Consequence of a final Judgement/ given on the 9 July 1768 the/ Magistrates paid the pursuer on the/ 18 Novr. following £610:1:4 Sterling/ and were also Obligated to relieve him/ of the expence of extracting the decreet".

Reproductions:

1) State II is reproduced in G.B.R., vol 7, 1760-80, with one error in the title, namely £610;4,4 and noted underneath "Reproduced for "Glasgow Records". Vol. VII." Size: 520 x 450 mm. Same scale.

2) From these maps also resulted three plans in SENEX (Reid, Robert) *Old Glasgow and its Environs, historical and topographical*, 1864.

a) PLAN/ OF THE/ LOW GREEN/ OF/ Glasgow,/ AND ITS ENVIRONS/ 1760.

Size: 275 x 320 mm. Scale: [1:1920] or 1": 160 feet. Lithographed. Shows an area south of Gallowgate and east from Saltmarket Street.

b) A "clue map" of the Clyde Bridge area.

c) CANDLERIGGS IN 1760. Size: 180 x 75 mm. Schematic diagram.

These re-appeared in SENEX *Glasgow Past and Present*, vol.3, 1884, with a difference from a) in lettering style and the position of the compass and scale bar. This map was lithographed by Robert Gardner & Co. and published by David Robertson & Co., Glasgow, in 1884.

3) State II appeared in GORDON, J.F.S.(ed.) *Glasghu Facies: a view of the city of Glasgow*, 1873 with the following annotation at its foot; "This Plate has been kindly presented to the Publisher, By J.G. Fleming, Esq. M.D.; President of the Faculty of Physicians & Surgeons, Glasgow, Grandson of the Pursuer in the "Saw Mill Case". May 1871. Published by John Tweed, 11, St. Enoch Square, Glasgow." In 1894, the copper-plate of the original map was exhibited at the Exhibition Illustrative of Old Glasgow, it having been lent by William James Fleming, M.D.¹² A reduced version of this map accompanied BROWN, J.A. op. cit. pp.67-75.

4) "Plan of/ Part of Glasgow/ and Course/ of Burn Malindinor,/ 1750-64./ For use in Action/ Fleming v. City of/ Glasgow." in MURRAY, D. op. cit. Size: 185 x 200 mm.

Appears as a reduced copy of State II covering that part south of Black Friars Wynd.

References:

1. See SENEX op. cit. Vol.3, 1884. pp.127-142. G.B.R., vol.6, 1739-59, pp.478-9; vol.7, 1760-80, pp.74-76, 118.
2. CS 228 EX U.P. Adams Dal. F/2/45.
3. *Molendinar Burn Case. William Fleming vs. Magistrates & Town Council of Glasgow, 1765-67.* (henceforth Murray). Held in Murray Collection, Special Collections Department, Glasgow University Library. Murray has annotated this, "Contains the earliest map of Glasgow by James Barry in 1764" and, elsewhere, "Unique".
4. *ibid.* pp.79-84.
5. CS 228 op. cit..
6. Murray. pp.74, 76, 79-84.
7. *ibid.* p.98.
8. G.B.R., vol.6, 1739-59, p.554; vol.7, 1760-80, pp.24, 77, 116-7, 140, 142-3.
9. Murray. Memorial for the Magistrates, p.2. Dated 10 January 1767.

10. Glasgow University Library. Mu1 - b.1.
11. Glasgow University Library. Bh23 - b.5.
12. *The Memorial Catalogue of the Old Glasgow Exhibition, 1894. 1896.* p.224.

2. 1773 ROSS, CHARLES

A PLAN OF GLASGOW

Size: 280 x 300 mm. [Scale: [c1:6500] or 1": 541.67 feet].

Inset to "A/ Map of the Shire/ OF LANARK/ Taken from
an Actual Survey and laid/ down from a Scale of an Inch to
a Mile/ By CHARLES ROSS of GREENLAW/ &
Engraved by Geo. Cameron/ 1773.

The plan is found in the south-west corner of Ross's county map of Lanarkshire (figure 1), appearing as if a separate sheet nailed to the larger map in its design. The map title lies at the top, to the right of the City coat of arms which are enclosed in a floral strapwork cartouche. To the left of this is a key of lettered references to specific buildings and streets. There is neither scale nor north point on the plan.

This first surviving plan of the whole city covers an area from the Cathedral to the village of Gorbels and from Calton to the Broomielaw. Main streets and district areas are named, while buildings are indicated, schematically, in block form. However, apart from the High Kirk and college, few are individually identified. Some elements of the town's business are indicated by the marking of tan works, a timber yard and slaughter house. Already, the westward development of the town can be seen along Argyle Street and the new Jamaica Street, with its bridge (1768), is shown. The new thoroughfares lying at right angles to the main east-west axis and determined by the alignment of the land rigs can be identified as Maxwell, Virginia, Miller and Queen Streets. In contrast, although the land around the site of the intended St. James's Square is marked as "laide out for building", no indication is given of the nascent development of St. Enoch Square or the planned streets of the Ramshorn-Meadowflats area. Gorbels is a sizeable village spreading southwards and along the roads to Rutherglen and Paisley. The improvements in the navigation of the Clyde have led to the disappearance of the horse ford,

whereas, to the north, the Bishop's palace, with its gatehouse and tower, continue to be depicted, in block plan.

Ross first issued his proposals for publishing his county map in November 1771.¹ His intention, following the practice of the day, was to rely on subscriptions to guarantee the undertaking. In this case, the map was to cost 12 shillings and be ready by 1st October 1772. The delay in eventual publication may have been related to difficulties in finding a sufficient number of subscribers - a common problem for eighteenth century cartographers. In his advertisement, Ross stated that he had twenty seven years experience in surveying and this county map was one of four completed during his long career which continued into the following century.

In comparison with Barrie's plan, Ross gives a better picture of the street alignment (e.g. Gallowgate) and of the layout of individual and blocks of buildings (e.g. the Cathedral and Tolbooth). There is a similar attention to the detail of closes and wynds but, in general, Barrie is stronger at identifying churches and other significant buildings. By the time of the Ross map, no Water Port is shown at the town end of the old bridge but, as yet, there is comparatively little infill of lands, particularly in the west end.

The reduced one sheet edition of the county map, engraved by Alexr. Baillie and dated 1775² does not carry the Glasgow town plan.

Reproductions:

- 1) "Facsimile Plan of Glasgow, Published in 1773". Issued by Maclure and MacDonald, lithographers, Glasgow and London, c1860.
- 2) A reduced photolithograph by W. & A.K. Johnston, Edinburgh in G.B.R., vol.1, 1573-1642, with the title "From Ross' Map of the Shire of Lanark, Published in 1773". Size: 255 x 277 mm.
- 3) A reduced version of this map accompanied BROWN, J.A. op. cit. pp.70-71. Size: 187 x 205 mm.
- 4) Facsimile reproduction issued by Glasgow District Libraries in 1982, named as 2).

References:

1. *Glasgow Journal*, no.1586, 28 Nov. - 5 Dec. 1771.

2. See Ross's proposals, *Glasgow Chronicle: or, Weekly Intelligencer*, no.387, 16 - 23 June 1774.

3. 1776 **COLLIER, Rd. [RICHARD]**

a) A PLAN OF/ GLASGOW

GLASGOW/ May 1776

Size: 396 x 470 mm. Extent of map area: 335 x 345 mm. Scale: [1:6400] or 1": 533.3 feet. True scale [c1:5700] or c1": 475 feet.

Admiralty Hydrographic Office Library. Ref. i44.
Manuscript.

Despite being drawn three years later, this is an enlarged, rough, but, overall, faithful copy of Ross's 1773 plan, with similar depiction, naming and orientation. Minor differences include the alignment of the Molendinar Burn east of the College Garden, the addition of a path to the Observatory, the change in shape of St. Andrew's Church, a different alignment at the west end of the Back Cow Loan and the addition of the Virginia mansion building at the head of Virginia Street. More obvious are the changes in the layout of the map; the title lies just left of centre with the city's coat of arms, again in a decorative cartouche, placed in the north-west corner. A plain eight-point compass, with north point oriented 20 degrees west of the top of the page, is positioned south of the river to the east of Gorbels. Below the mapped scroll, a scale bar of 400 yards is to the right of a crowned shield device bearing crossed anchors surmounting crossed palm leaves. The table of references has been extended, re-lettered and moved off the mapped area to the left of the sheet. Baxters Wynd and Gray Friars Gate are no longer noted whereas the Green Markets, New Church, Exchange and Tolbooth, and Virginia, Millar and Queen Streets are named.

This plan appears on the same sheet as a copy of "THE/ RIVER of CLYDE/ Surveyed by/ JOHN WATT" which indicates two bridges crossing the Clyde at Glasgow and may, therefore, be taken to be contemporaneous with the plan.

- b) A PLAN OF GLASGOW
 GLASGOW/ August 1776
 Size: 515 x 605 mm. Scale: [c1:3200] or c1":
 266.67 feet

British Library (henceforth B.L.). Add. Ms.
 33632c. Manuscript.

A neater copy of Ross but, again, the map has individual characteristics. In particular, much of the open area around the city is marked as "garden" and laid out showing proposed streets, especially west of Queen Street. Grahams Town is indicated and new features mapped include a toll bar, playhouse and manufactory. Several more streets and churches are named, as well as a bowling green on the east side of the town. Virginia mansion is noted by its owner's name. Orientation and extent are similar but layout differences include a smaller city crest in a plain double circle removed to below the map, the title placed in the north-west corner above a new table of references which include five churches and other important buildings, and a note of Glasgow's position west and north of Greenwich. A similar anchor device and reference number may relate to the plan's history prior to its presentation by the Lords of the Admiralty to the British Museum in 1890.

Nothing has been discovered so far about the author of these two copies.

Reproduction:

- 1) in MURRAY, D. op. cit. p.52. "PLAN OF GLASGOW BY RICHARD COLLIER, 1776". Size: 170 x 195 mm.

4. [1777] BARRIE, JAMES

Plan of the/ CITY OF GLASGOW/ and of the Villages of/
 CALTON & GORBELLS/ With a part of the adjacent
 Country/ Engraved from an actual survey of Mr. James
 Barry's/ by Andw. Ready Engraver in Glasgow.
 Size: 480 x 385 mm. Scale: [1:6000] or 1": 500 feet.

Frontispiece to: GIBSON, John *The History of Glasgow,
 from the earliest accounts to the present time, 1777.*

Barrie's first surviving plan of the whole city shows much more than the built up area, indicating the layout of fields and the road network in the rural hinterland. Overall, this is a far less detailed map than the earlier depictions. Large blocks cover the town area with no detailing of back-land development. Only the major streets are shown and the map gives the impression that the whole of the south side of Argyle Street as far west as Smithfield had been built on. The proposed, but never built, St. James's Square is laid out in plots. Few individual buildings are marked with only a generalised picture given (e.g. the High Kirk yard is mapped but not the Cathedral building itself).

The map title and scale bar of 1000 feet lie in a plain lined box in the north-west corner of the map. To their right is positioned a large 32-point compass, again oriented slightly west of north. There appears to be two slight variations of this map in the layout of the strip immediately south of Rottenrow, with the variants showing either a continuous hatched building strip or a split into building and open ground to the west.

Reproductions:

1) A lithographic facsimile was printed in 1875 by Frank Simpson, bookseller, 27 Sauchiehall Street, with "1775" preceding the title and described, on the cover, as "A Curious Old Map: Plan of Glasgow as it was One Hundred Years Ago, and the Villages of Calton and Gorbals, with a part of the Adjacent country in 1775". Price 6d.

2) Bemrose & Sons Ltd, Derby, Leeds and London, replicated the original (i.e. no date), with "Reproduced from Gibson's "History of Glasgow" published in 1777" below the map.

There is a copy of a map entitled "1778 Plan of the/ CITY OF GLASGOW/ and of the Villages of/ CALTON & GORBELLS/ With a part of the adjacent Country/ Engraved from an actual survey of Mr. James Barry's" held in the Mitchell Library, Glasgow. Although similarly named to the original of circa 1777, the indication and layout of streets and buildings is markedly different. Some common features with the Ross map, particularly east of St. Enoch's Square, can be discerned. Notes below the map give the 1776 population as 39,000 and the 1770 Clyde Trust Revenue as £147. This photolithographic reproduction has no date or other remarkable features but it is probable that it was produced at least a century later than its original source.

5. 1778 McARTHUR, JOHN

PLAN/ of the CITY of/ Glasgow :/ GORBELLS and CALTOUN,/ From an Actual Survey by/ John McArthur/ Surveyor in Glasgow./ Engraved by Alexr. Baillie/ and James Lumsden/ MDCCLXXVIII.

Size: 905 x 1200 mm. Scale: [1:2700] or 1": 225 feet.

"Published according to Act of Parliament Novr. 1st, 1778".

Originally issued on 4 sheets, each 455 x 600 mm.

Although it has been suggested that McArthur was not a native of Glasgow,¹ he had been advertising his services as a surveyor in the local press since at least 1768 with an address in "Mrs. Neilson's Land, Oldwynd".² In 1769, he was employed in surveying the south side of Loch Tay, including land valuations, for the Earl of Breadalbane but, two years later, his name appears again in the Glasgow newspapers as a teacher of mathematics and land surveying.³ By 1776, his enterprise had extended to the production of leather canteens and other goods, particularly for army officers.⁴ Alexander Baillie, the map's engraver, similarly advertised as a teacher of drawing.⁵

McArthur first issued his proposals for publishing his plan in October 1778.⁶ In his advertisement, it is stated that the plan is finished and ready for inspection, subscription papers being available after the standard practice of

the day. At the same time, he sent a copy to the Town Council who immediately authorised the purchase of ten copies, at a total cost of five guineas.⁷ On the strength of this work, the Council nominated the surveyor to the list of burgesses and gild brethren of the city, his fine being remitted. He is duly recorded on 4 February 1779.⁸ The map was clearly well received for, by early December 1778, the subscribers had been supplied with their copies and it was made available to the general public at 10/6d in sheets or 15/- pasted on canvas with rollers.⁹ Only four years later, in November 1782, the Council instructed the town's master of work to acquire another twelve copies coloured to indicate parish boundaries for each of the city's ministers.¹⁰ It is significant that it was McArthur's map which was chosen for this purpose and not Barrie's survey of that very year. Barrie, in fact, had been commissioned by the Council in 1776 specifically to produce "a plan of the royalty".

Of the map itself (figure 2), an ornamental title sketch depicting the Cathedral, Castle ruins and the Dean's manse lies in the north-west corner, with the title on a decorated rock face. A sixteen point compass oriented 30° west of north is placed centrally at the top, to the left of the dedication which is surmounted by the city crest. Two scale bars, of 20 Scotch chains and of 1500 feet, are separated from the mapped surface by the line of the Shaw Burn in the south-west corner. Recent commentators on Glasgow's urban development have remarked on the contrasting patterns shown on this map, with the medieval rigged backlands characterising the old town while the north-south streets running off Trongate and Argyle Street give evidence of the beginnings of the geometrical grid of the new town¹¹.

This most detailed depiction of the city, covering an area from Anderston to the lands of Barrowfield and Little Govan to the Barony Glebe, is comparable with the earlier Edgar plan of Edinburgh or many of the contemporary English town surveys. Major buildings are shown individually in plan form, the owners of the more sizeable properties being named. Within the city, there is a good impression of the closes and back-land development while the surrounding country has fields, parkland and land ownership shown. Tolls, works, factories and street names, along with the Royalty boundary, are all indicated. Unlike several of its later reproductions, the map has only limited slope shading around Gallowgate and the High Green, either side of Rottenrow and to the east of the Cathedral. By this date, the town's west end is seen to be increasing, with plots laid out in Buchanan Street and Clyde Street and, in addition, significant growth in the east, in Calton. However, only one house appears to have been erected in Buchanan Street and St. Enoch's burn still runs partly as an open stream. What is noticeable is the lack

of detail around St. Enoch's Square in comparison with the plots laid out on the Barrowfield property south of the Dalmarnock road, on Tobago and Cross Streets, and at Graham's Square. Nothing of the proposals for the Ramshorn or Meadowflats lands is indicated, possibly reflecting the Council's lack of final decision at this date.

Reproductions:

1) Lithograph produced by David Smith entitled "GLASGOW/ 82 YEARS AGO/ REDUCED BY DAVID SMITH, C.E./ FROM McARTHUR'S FOUR SHEET MAP IN 1778./ 1860./ THOMAS MURRAY & SON/ PUBLISHERS. Size: 465 x 610 mm. Scale: [1:5400] or 1": 450 feet.

An accurate copy of the street and name detail with some slight additions and changes (e.g. St. Andrew's Church shown in block form with Gothic lettering, there is no hachuring around Rottenrow but hill shading is drawn north of Blythswood, "Delph Work" is marked to the west of Graham's Square, the Clyde high water mark has been taken as the river level at the Low Green creating an oblique inlet east of the mouth of the Molendinar). This was advertised, price 2s.6d. or 5s. mounted on cloth, in *Glasgow Herald*, no.6272, 15 February 1860 but rose to £1-10s by September, when described as showing the progress of the city.

2) ANNAN, T. *Old Maps of Glasgow*. 1871. Size: 280 x 375 mm. Scale: [1:8400] or 1": 700 feet.

A photographic reduction of the original in which the sheet lines can be seen clearly. The margins have been slightly trimmed and some features lost (e.g. Barrowfield Avenue in the east). Some names north of the Cathedral are quite indistinct.

3) Lithograph, with same title, as endpiece to SENEX op. cit. Vol.1, 1884. p.584. Published by David Robertson & Co., Glasgow, 1883 and produced by Robert Gardner & Co., Engineering Lithographers. Size: 450 x 610 mm. Scale: [[c1:5400] or c1": 450 feet].

Has word "Copyright" in south-west corner.

4) As 3), but without "Copyright", as endpiece to G.B.R., vol.7, 1760-80.

5) As 4), but published by W. & A.K. Johnston, Edinburgh, as map 3 accompanying BROWN, J.A. op. cit. opp. p.40.

6) As 5), entitled *Old Glasgow* on cover and below map, "Reproduced for LAIDLAW & MACKENZIE, Printers, 97 Holm Street, Glasgow".

7) PLAN/ Of the/ CITY OF GLASGOW,/ GORBELLS & CALTON,/ Reduced from Mr. McArthur's Four Sheet Map./ Published in 1778./ With the Suburbs, as then existing./ Forrester & Nichol lithog. Edinr. Size: 755 x 780 mm. Scale: [1:5400] or 1": 450 feet.

Lithographic copy of the general design and layout but with far fewer streets or buildings named. All buildings are marked in solid black blocks. Much of the map is taken up by hill shading to the north and west of the city and the naming of several summits (e.g. Garngad, Cranston and Garnet Hills). In addition, there is a depiction of the Great Canal, its basin at Port Dundas and a link to the Monkland Canal south of St. Rollock's Works.

Reproductions 3) - 6) have slight variations from the original map (e.g. Gushetfaulds for Gushetfauld, additional hill shading immediately south of the title cartouche, different tree drawing, the shape of the building east of the English chapel on the Low Green, the path in the College garden, the plan of St. Andrew's church and the line of the royalty boundary west of Tobago Street). In addition, these variants have no scale bar indicated in the south-west corner. Versions v) and vi) have lost the illustration of the windmill south-west of the new bridge and version vii) has its title placed in the north-east corner.

References:

1. McARTHUR, M.M. (ed.) *Survey of Lochtayside 1769*. Edinburgh, 1936. p.xi.
2. *Glasgow Journal*, no.1412, 11-18 August 1768.
3. *Glasgow Journal*, no.1585, 21-28 November 1771.
4. *Glasgow Chronicle*, no.495, 11-18 July 1776. *Glasgow Mercury*, no.3, 22 January 1778. p.23.
5. *Glasgow Mercury*, no.261, 26 December 1782. p.8.
6. *Glasgow Mercury*, no.41, 15 October 1778. p.330.
7. G.B.R., vol.7, 1760-80, p.533.
8. ANDERSON (1935). op. cit. p.113.
9. *Glasgow Mercury*, no.50, 17 December 1778. p.403.
10. G.B.R., vol.8, 1781-1795, p.70.
11. GIBB, A. op. cit. p.78. WALKER, F.A. op. cit. pp.163-5.

6. 1779 McARTHUR, JOHN

Plan of the CITY of/ GLASGOW,/ Reduced by A.B.
Engraver, from/ John McArthur's four sheet/ Plan of it, &c,
while he was/ Engraving the same for him./ Published 1st.
Novr. 1779/ by John McArthur.
Size: 205 x 227 mm. Scale: [[c1:9180] or c1": 765 feet].

This extremely rare and little documented plan was published only a year after McArthur's original four sheet map, quite possibly as a cheaper, more portable and more saleable product. McArthur remained in the Glasgow area as a land surveyor until, at least, 1783, residing at Keppochhill and supplementing his earnings by letting summer lodgings.¹

Overall, the design is simple. A plain four-bar compass lies to the east of the title which is placed in the north-west corner, separated by a single curved line from the map itself. Inevitably, there is much less detail in this depiction but its compactness and the quality of the engraving compensate to result in most of the essential information being retained, with an overall impression of congestion in the old town. The mapped area is reduced on the south and, in particular, the east where there is a rather perfunctory and schematic block drawing of buildings in Calton. Fewer streets are named away from the centre but in the city itself most are marked or given reference letters to a table of the narrower wynds. The naming of individual buildings has been restricted by space and all named tend to be outside the central area (e.g. the theatre in Grahamston, Inle Manufactory). There is no indication of the Royalty boundary. Of other differences, the following can be discerned - no indication of land rigs north of Havana Street, Buchanan Street has no buildings, fewer houses marked in Dunlop and Miller Streets, less depiction of gardens and of building detail in the backlands (e.g. south of College gardens), and the shape of the Cathedral is changed. McArthur's desire to promote his other enterprises may have led to changing the direction of the road north-west of the Cathedral to read "to Keppoch-hill".

Reproduction:

1) PLAN/ of/ GLASGOW/ as in/ 1779. Size: 195 x 230 mm. Same scale. A very close copy appearing in the south-west corner of Fleming's 1807 map (no. 16), with some slight detail lost (e.g. Gallowgate Green and Rottenrow Street not named) and a different orientation of north at 6.5° west.

References:

1. *Glasgow Mercury*, no.121, 20 April 1780. p.136. He is listed in Tait's *Glasgow Directory* of 1783.

7. [1782] BARRIE, JAMES

PLAN/ of the City of/ GLASGOW,/ GORBELLS,
CALTOUN and ENVIRONS/ With an exact Delineation
of its/ Royalty./ From an actual Survey by JAMES
BARRY/ Surveyor in Glasgow/ Engraved by Alexr. Baillie.
Size: 950 x 672 mm. Scale: [1:6336] or 1": 528 feet.

Authorised by the Town Council in 1776, this map was reported as completed the following year. However, amendments to the positioning of march stones necessitated revision and the plan was not finally published until 1782. Since the map is specifically concerned with indicating the city's boundary, the immediate impression in comparison with McArthur is that this displays a much wider area, setting Glasgow's position within its immediate rural hinterland. The numbering of the boundary stones is a feature and results in the map stretching to Camlachie in the east, Anderston in the west and Balornock in the north to enclose the Royalty line. A smaller scale has led to the reduction in names, particularly those of individual buildings, proprietors and streets, and in the marking of factories and tolls. However, many more streets are depicted in the new town, especially in the Ramshorn and George Square area. These are drawn in markedly solid frontages and incorporate Barrie's proposals for development rather than show the contemporary situation. The grid pattern around Hanover, Ingram and Glassford Streets also underlines the geometric nature of his scheme - what Denholm described as " a

regular plan to the line of streets in which every purchaser was bound to keep."¹ Other noticeable changes of pattern include the portrayal of Charlotte Street laid out in plots and St. Andrew's Square blocked in with houses. This delineation seems premature as the construction of these buildings was not begun until 1786. In contrast, Dunlop Street has less infill and the Calton buildings are only schematically shown. A church is indicated in St. Enoch's Square but the proposed Graham's Square has now been dropped, as have the Clyde Street plots. There is no hill shading around Rottenrow and both the Cathedral and Hutcheson's Hospital are indicated by perspective drawings rather than plans.

In the map's rural area, roads, fields, steadings and gardens are illustrated, as well as the Great Canal in the north-west. Whereas McArthur's map is oriented 33° west of north, Barrie is only 12° west. The title cartouche is positioned in the south-west corner surmounted by the city's coat of arms and motto in a floral design of trees and shells, while an incomplete scale bar lies at the foot of the map. For the first time, ships appear on the Clyde at the Broomielaw. The city authorities clearly had faith in the competence of Barrie's work and relied on its portrayal for many years, as a copy of the map was used by William Kyle, the leading private surveyor in early nineteenth century Glasgow, when attending the perambulation of the marches in February 1822.²

Reproductions:

- 1) As endpiece to MARWICK, J.D. op. cit., vol.2, 1649-1707, 1906. Size: 610 x 435 mm. Scale: [c1:9270] or c1": 772.5 feet.

A lithographic copy by Gavin Watson, Glasgow, which dates the map 1782 and completes the scale bar at 5280 feet. Additional lettering and the delineation of streets and canals formed subsequent to 1782 are included from the hand of A.B. McDonald, City Engineer, dated 1st December 1906. These include New City Road, Parliamentary Road, New Garngad Road and the Monkland Canal.

- 2) As Map 4, accompanying BROWN, J.A. op. cit. opp. p.64, at a similar size and scale to 1). Lithographed by W. & A.K. Johnston, Edinburgh. This does not include all of McDonald's additions but retains the date, the full scale bar, Bryce Land and the indication of a ford in the Clyde.

3) Reduced copy (Size: 370 x 350 mm), covering the city itself, in *Glasgow Herald*, 22 July 1924. p.3, entitled "The City in 1783", accompanying an article on Glasgow's growth.

Reference:

1. DENHOLM, James *The History of the City of Glasgow and Suburbs*. 3rd ed. Glasgow, 1804. pp.115-6.
2. S.R.A. D-TC13/6D.

8. [1783] LUMSDEN, JAMES (engraver)

(a) PLAN/ of the City of/ GLASGOW
Engraved by J. Lumsden GLASGOW

(b) PLAN/ of the City of/ GLASGOW
J. Lumsden sculpt.
Size: 170 x 202 mm. Scale: [[c1:9600] or c1": 800 feet]

In *The Glasgow Magazine and Review; or Universal Miscellany*. Vol.1, 1783 and *The Glasgow Almanack*, 1784.

The original plate is amended in copy b) below the title cartouche and also has, printed above the map, "For the GLASGOW Almanack". There exists a copy, bound in with the *Glasgow Register* for 1781,¹ but this is most likely to be a later collocation, a possibility confirmed by a *Glasgow Mercury* advertisement of 11 December, 1783:

AN ENTIRE NEW WORK.

(Dedicated to the Honourable the Lord Provost, MAGISTRATES, and Town-Council of Glasgow.)

This day is Published by J. MENNONS, and sold at his Shop, Ingram's Land, head of the Gallowgate; and by all the Booksellers in Town and Country,
(Embellished with an elegant PLAN of the CITY of GLASGOW, and its Environs, engraved on purpose for the work)

THE GLASGOW ALMANACK
For the Year 1784.²

Despite what several historians have written,³ this plan is not based on McArthur but more closely resembles the 1782 Barrie map (e.g. the Cathedral is drawn in perspective; St. Enoch's Square has a centrally placed building; the grid design for the Ramshorn development is shown, but only in outline; Broomylaw is marked). However, this is not an exact reduction of Barrie for significant differences occur - the Ramshorn grid is of a different pattern and alignment, with George Square not at the top of Pitt Street and no block drawing of the building frontages. Additionally, the St. Andrew's Square development is not mapped. This is, in fact, Barrie without the future proposals. The map also covers a markedly smaller area, showing a similar space to the McArthur 1779 map. Other similarities with this plan are its orientation and the directional arrow in the River Clyde. Nevertheless, it is a different engraving, as a comparison of the south bank of the river shows. Furthermore, Buchanan Street is not laid out in plots nor is Dunlop Street marked but rigs are shown south of Drygate. Overall, only major streets are named with no reference to wynds or closes. Several individual buildings are located but none named.

The map title appears in a pedestal cartouche, surmounted by an urn, placed in the north-west corner to the west of a plain four bar compass oriented 17° west of north.

Reproductions:

copy a): 1) Frontispiece to MURRAY, D. op. cit. An exact, if rough, copy entitled "Lumsden's Map of Glasgow 1783".

copy b): 2) Exact facsimile lithograph by Allen & Ferguson in STUART, R. *Views and Notices of Glasgow in Former Times*, 1848. opp. p.113. Size: 170 x 205 mm. This has clearer lettering and, above the map, "Fac Simile of a Map which appeared in the Glasgow Magazine of 1783".

3) "PLAN OF/ GLASGOW/ IN 1783" in STEWART, G. *Curiosities of Glasgow Citizenship*, 1881. opp. p.134. A lithographic copy by Aitken & Fairie, Glasgow, but with no attribution to Lumsden.

4) "PLAN/ of the City of/ GLASGOW./1783." in MCGREGOR, G. *The History of Glasgow: from the earliest period to the present time*, 1881.

opp. p.368. A very degraded copy with different lettering, rougher detail and poorer illustration compared with 2). There are changes in the depiction of the College Garden, names are omitted (e.g. Herd's House, Blind Burn) and there is no compass. Again, there is no mention of Lumsden.

References:

1. Glasgow University Library. Bh14 - b.1
2. *Glasgow Mercury*, vol.6, no.311, 11-18 December 1783. p.408.
3. STUART, R. op. cit. pp.113-4. WALKER, F.A. op. cit. p.163.

9. 1790 ANONYMOUS

PLAN/ OF THE CITY OF/ Glasgow/ From an Actual
Survey 1790

Size: 365 x 544 mm. Scale: [[c1:6400] or c1": 533.3 feet].

Accompanies *Jones's Directory, or, Useful Pocket
Companion, for the Year 1791.*

This largely ignored plan (figure 5) gives a further and more extensive depiction of the city at the end of the eighteenth century. Most of the important streets are named, as are many new buildings (e.g. Chapel of Ease, Thistle Bank, Burger Meeting House, a theatre in Dunlop Street and Grammar School in Cochrane Street). Several new thoroughfares are indicated, including Jackson, Wilson, Hutchison and Brunswick Streets. There are noticeably more buildings on the east side of Buchanan Street while St. Enoch Square is marked out in plots. The recently developed Ramshorn ground is redrawn with George Square again at the top of Pitt Street and, as in the Barrie plan, stopping at St. Enoch's Burn. As with the streets in Calton and Anderston, the new town areas are markedly block drawn and fail to indicate individual buildings. Other slight changes include the removal of the Cathedral's north-east tower, fewer ships off the Broomielaw and the indication of tolls by crosses. In comparison, this plan has many similar features to McArthur's map, despite the scale difference, particularly with regard to building shape and field boundaries. There are equally many

additions of new elements (e.g. the layout of St. Andrew's Square in blocks) and certain differences (e.g. the siting of tolls).

A cartouche, similar to Lumsden (no.8) but larger and backed by two fully rigged ships, holds the title in the south-west corner of the map. Like the McArthur representation (no.5), it is separated from the mapped area by the line of the Shaw Burn. In the north-west quarter is sited an eight-point compass oriented 10° west of north. There is no attribution of authorship or of engraver.

10. 1792 ANONYMOUS

PLAN/ OF THE CITY OF/ GLASGOW/ From an Actual
Survey 1792

Size: 365 x 546 mm. Scale: [1:6400] or 1": 533.3 feet.

N.L.S. Ms.1647, Board of Ordnance Plan Z2/79a.

At first sight, this appears to be a copy of the 1790 plan with certain manuscript amendments. However, on closer inspection, it is apparent that the original plate has been revised to embody certain new features. These additions, of a somewhat inferior quality of engraving, include a scale bar to the east of the title cartouche, the indication of the infirmary building beside the Cathedral and the naming of Great Glassford Street together with an indication of its buildings and the Trades House. Stronger line hatching of a building block in Ingram Street may suggest the start of occupation of the proposed grid pattern. The manuscript alterations include the line of an intended road to Edinburgh east from Duke Street and the marking of the ground proposed for the Barracks. Again, there is no evidence of the surveyor's or engraver's name.

11. 1795 ANONYMOUS

PLAN/ OF THE CITY OF/ Glasgow/ From an Actual
Survey 1795

Size: 366 x 545 mm. Scale: [1:6400] or 1": 533.3 feet.

Cambridge University Library. Maps.aa.146.79.1.

A third, but markedly fainter, state of the 1790 plate, with several broken or missing lines (e.g. field boundaries north of Enoch Bank and in the River Clyde). The additions of this revision are the indication of buildings on the east side of St. Enoch's Square and the alteration of the south end of Hutchison Street to show an entry onto Trongate with buildings on both sides. None of the manuscript insertions of 1792 are yet incorporated but the plate alterations of that date are retained. Even yet, the faint traces of the original plate lines along Ingram Street at the head of Great Glassford Street and elsewhere can be discerned.

12. 1797 DENHOLM, JAMES

A PLAN/ of the/ City of Glasgow/ from a Survey, in/ 1797.

Size: 175 x 280 mm. Scale: [1:12800] or 1": 1066.67 feet.

"J. Denholm delt." "Engraved for Chapman, Stewart &
Meikle's Guide to Glasgow." "R. Scott sculpt."

Frontispiece to: DENHOLM, James *An Historical
Account and Topographical Description of the City of
Glasgow and Suburbs*, 1797 and *The History of the City of
Glasgow and Suburbs*, (i.e. 2nd. edition), 1798.

Denholm's *Historical and Descriptive Account* was first advertised "in the press" in the *Glasgow Courier*, no.839, 7 January 1797 to be printed by R. Chapman and, of greater importance, the notice states that, "to render this Work still more valuable, it will be ornamented with a new and accurate



Figure 6: A Plan of the City of Glasgow, 1797 by James Denholm. (Reproduced by permission of The Librarian, Glasgow University Library).

map...engraved in a very superior style from correct drawings taken on purpose for this publication". The previous year, Denholm, described as "writer, Lanark", had intimated his proposal for publishing, by subscription, a history of the parish and town of Lanark.¹ Although subscription papers were available in Glasgow, Edinburgh, Perth and Lanark, and only 200 subscribers were sought at 5/- each, the project appears to have failed. A similar plan to publish, by subscription, a history of the Vale of Clyde about this time appears to have been unsuccessful.² The *Account* was duly heralded as published, price 4/6d. in boards, in the *Glasgow Courier*, no.937, 24 August 1797. Denholm (1772-1818) was a teacher of drawing, an engraver of several views of important buildings in and around Glasgow and later became president of the Philosophical Society. In the *Glasgow Directory* of 1801, he is described as a miniaturist and landscape painter, residing in McAusland's Land, Trongate. By 1802, he was able to advertise an established curriculum of geography and associated subjects at his Academy, "first land east of Hutcheson Street, Trongate".³ By 1807, he was to offer his pupils the "principles of perspective, the drawing of machinery, land surveying and the protracting of maps and plans, &c".⁴ Robert Scott, (1777-1841), was an Edinburgh engraver, specialising in landscape and portrait illustrations for books. His cartographic output includes some small plans of Edinburgh and a map of Scotland in 1825.⁵

Although from a completely different and smaller plate, this map (figure 6) has many similarities to its immediate predecessor, covering the same area but in less detail. Fewer streets and individual buildings are named but there is a table of lettered references to 24 major public buildings, (e.g. the Tontine, Guard House and Weigh House), which are shaded darker on the map. Orientation corresponds exactly to the 1790 plate but the compass on this map is now placed within a double circle and three cardinal points are given. The title, in a plain oval plaque, is surmounted by the city crest and motto on a background of two sailing ships and a jetty, again in the south-west corner. Hill shading has been introduced in the Garnethill area and generally across the north of the map. The location of several tolls are taken from the 1790 map but there is less detail of the surrounding field pattern. Nine ships are now positioned at the Broomielaw.

New features indicated on this sheet include many more buildings fronting streets in the industrial villages of Anderston and Calton, the inclusion of the 1792 manuscript additions (i.e. the line of Duke Street carried east to meet the Carntyne road and the location of the barracks) and, in particular, the very noticeable appearance of Trades Town and Hutchison Town south of the

river. These latter developments are shown in a markedly uniform layout with stippled central squares, similar to the street proposals for the Ramshorn area of earlier maps. Other additions include a street between Hanover and Frederick Streets, the new Bridewell and Taylor and Weaver Streets in Townhead. Gallowgate Green has been re-named Caltoun Green and the Infirmary has been sited due west of the Cathedral.

References:

1. *Glasgow Courier*, no.809, 29 October 1796.
2. *Glasgow Courier*, no.867, 14 March 1797.
3. *Glasgow Courier*, no.1649, 13 March 1802.
4. *Glasgow Herald*, no.494, 24 July 1807. Following his death, his Glasgow Academy was continued by Alexander Watt through the 1820's.
5. R.S.G.S. op. cit. Vol.1, 1973. p.142.

13. [1801] SCOTT, ROBERT (engraver)

A PLAN/ of the/ CITY of GLASGOW/ from/ Actual
Survey./ R. Scott sct.

Size: 170 x 280 mm. Scale: [1:12800] or 1": 1066.67 feet.

Frontispiece to: *The Glasgow Directory...Corrected till
July, 1801,...Printed...for W. McFeat, 1801.*

This map shows exactly the same features as the 1797 plate with only two additions, namely the indication of the New Barony Church, south of the Infirmary, and the line of a proposed street and bridge south from the Saltmarket to Hutchison Town. Other less obvious differences include the re-positioning and omission of certain letters and names (e.g. Caltoun Green is now placed on one line) and the alteration of several boundaries and paths into pecked lines. The circus is re-named the Tabernacle and the table of references has been re-arranged. The most prominent variation from 1797 is the title cartouche, again placed in the south-west corner. In this version, the title lies on a foliated rock face with a foreground of two fishermen drawing in a net. Behind is an illustration of the Old Bridge, the Merchants' Steeple and the buildings of south Bridge-gait. Unlike the 1797 map, there is no inscription outside the map margins.

It is quite possible that Scott engraved more than one plate when he prepared his original engraving for Denholm since the third edition of his *History of the City of Glasgow*, published in 1804, includes a map with a title cartouche similar to 1797. In other words, it is doubtful if the 1801 map is a second state of the 1797 plate but possibly a second version which was to re-appear in the Glasgow Directories of 1803 and 1804, without alteration. Although the 1801 *Directory* is advertised in the *Glasgow Courier*, 8 August 1801, there is no mention of any map.

14. 1804 DENHOLM, JAMES

A PLAN/ of the / City of Glasgow/ from a Survey, in/
1804.

Size: 177 x 285 mm. Scale: [1:12800] or 1": 1066.67 feet.

"Engraved for Denholm's History of Glasgow." "R. Scott
sculpt."

Frontispiece to: DENHOLM, James *The History of the
City of Glasgow and Suburbs*. 3rd ed, 1804.

This second state of the 1797 plate has several revisions, alterations and additions which indicate the increased growth and development of the city in several quarters at the turn of the century. South of the river, new buildings east of Hutchison Town and an embryonic street network in Laurieston, the latter following old field patterns, are marked while three roads are shown entering from Greenock and the west. New names include Clyde Buildings and Carlton Place. Expansion of building blocks in the east is also discernible to the north east of Calton. Westwards, York Street continues the urban infill of land between Anderston and the city, while a new road in the north runs west from Cowcaddens. Within the city itself, there is increased building in Townhead and in the area between Maxwell and Dunlop Streets. Union Place, Gordon Street and Camperdown Place are named and, combined with the tentative indication of new street lines, reflect the increasing western movement of the city across the Meadowflat lands. New public buildings added to the table of references include Hutcheson's Hospital, a theatre at the

top of Queen Street and the new Barony Church. In addition, the Hunterian Museum constructed in 1804 is now depicted within the College Gardens. Possibly the most significant new feature of this state is the mapping of a timber bridge across the Clyde, built in 1803 to replace one washed away in 1795,¹ indicated at the foot of Saltmarket Street.

Much of the fresh information has been added in a crude fashion with uniformly straight lines for the streets, often blocked off at their junctions. Furthermore, marked wearing or scraping of the original plate can be seen in the loss of detail of the Serpentine walks and pleasure grounds between the river and Bridge Town. The name "Taylor" from Taylor Street has been lost and the lines of hill and river shading are noticeably fainter. This edition of the guide also includes a map of the Loch Lomond and Loch Long area, engraved by Gray and Todd.

Reference:

1. CLELAND, J. *Annals of Glasgow*, 1816. vol.1, pp.39-40. G.B.R., vol.8, 1781-95, pp.621-3; vol.9, 1796-1808, pp.323, 355, 396-7, 423.

15. 1806 GRAY & TODD (engravers)

Plan/ of/ GLASGOW/ Engraved for the/ Picture/ of
Glasgow.

Size: 175 x 285 mm. Scale: [1:12800] or 1": 1066.67 feet.

"Engraved for Chapman's Picture of Glasgow 1806" "Gray
& Todd Sculpt."

In: *The Picture of Glasgow; or, Stranger's Guide*, 1806.

The Picture of Glasgow is recorded, price 3/6d. and "embellished with a new map of the city" in the *Glasgow Herald*, no.374, 2 June 1806. A note of its relative worth may be taken from the contemporary cost of Denholm's history, which was available at 7/6d. Todd and Gray are first listed in the Glasgow Directory for 1801 as engravers based in McNair's Close, Trongate. From 1803, Robert Gray appears as the senior partner at 34, Trongate, until 1808, when Todd's name is dropped altogether. Little can be discovered

about either of these men¹ or their work. This map is a copy of the second state of the Denholm plate but the work is crude and inferior to that of the original. The differences are quite minimal and relate to the placing of lettering and words, combined with a new title without cartouche. Some pecked lines are engraved here as continuous. "Fir Park" has been omitted, tree symbols are larger and clumsier, the hill shading is stronger but the drawing of building blocks is less finely detailed (e.g. in St. Andrew's Square). The only additions this map shows are the naming of Portland and Nicholsons Streets in Laurieston, a new block south of the latter and a new thoroughfare running off the Cowcaddens road, which appears to follow a poorly erased error of the 1804 state. It is interesting to note that within the Guide itself, Chapman lists James Denholm as a lecturer in Drawing and Painting at the University.

Reference:

1. A Robert Gray, merchant and son of Robert Gray, goldsmith and jeweller, was elected burghess and guild brother on 16 January 1807. See ANDERSON (1935). op. cit. p.242. BUSHNELL, G.H. *Scottish Engravers*. London, 1949. p.22 lists Gray and Son, fl.1768-1830 as Glasgow engravers involved in the 1830 edition of McUre's *View of the City of Glasgow*.

16. 1807 FLEMING, PETER

MAP/ of the/ City of Glasgow/ and/ SUBURBS./
SURVEYED/ and corrected till January 1807/ BY/ PETER
FLEMING/ Member of the Phil. Soc. of Glasgow/
Engraved by R. Scott Edinburgh./ Sold by D. NIVEN &
Co. GLASGOW & other Booksellers in Town & Country./
Glasgow Published 1st. May 1807.

Size: 1200 x 1725 mm. Scale: [1:2220] or 1": 190 feet.

Originally issued on 6 sheets, each 600 x 570 mm.

Peter Fleming announced his commencement of "the business of surveying estates, farms, or measurement of ground-cutting, &c in an accurate manner" in 1802¹ and is first listed in the Glasgow Directory for 1803 as a land surveyor at William Kyle's, Kent Street. Among the early working papers of

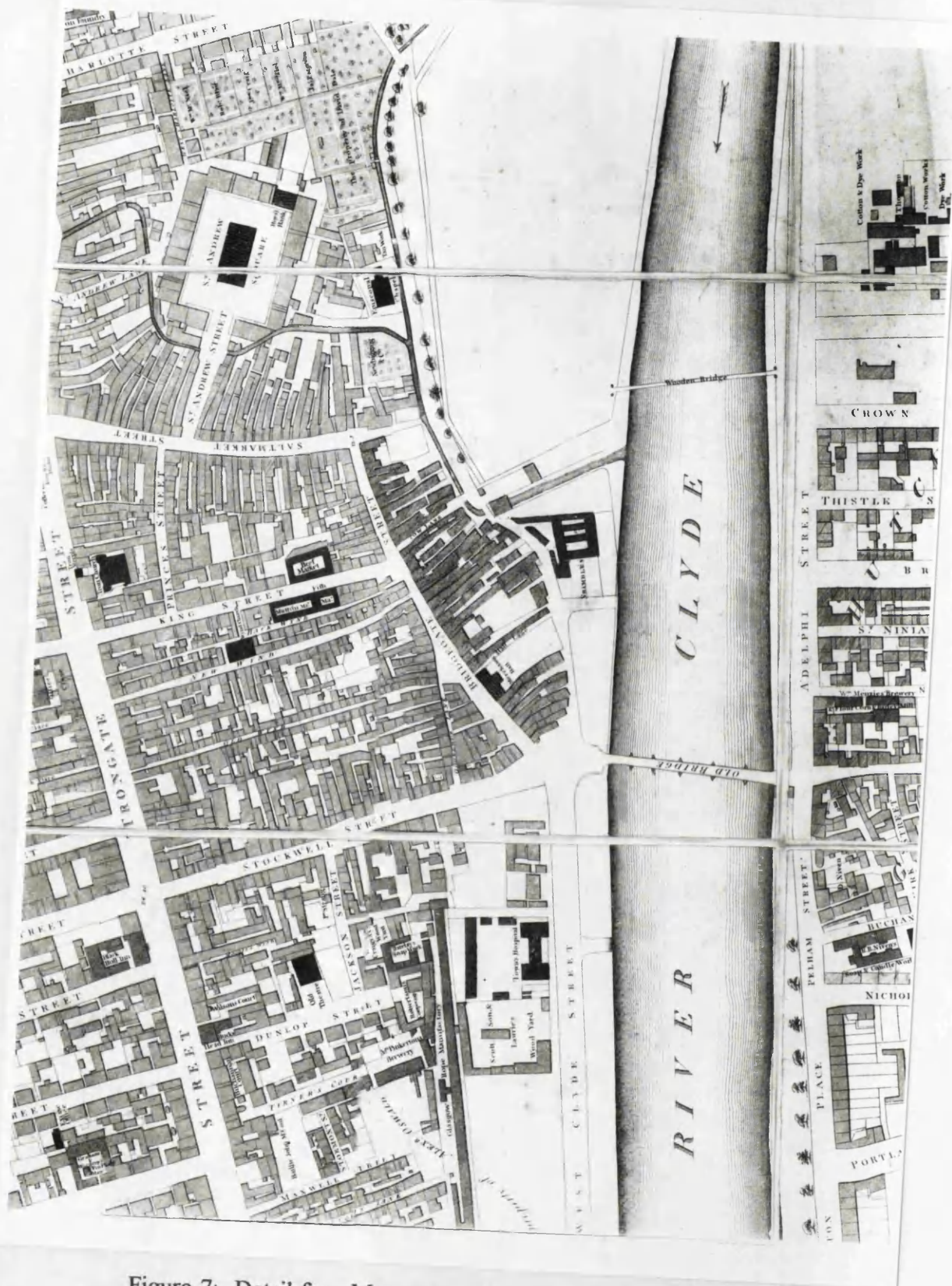


Figure 7: Detail from Map of the City of Glasgow and Suburbs, 1807 by Peter Fleming. (Reproduced by permission of The Librarian, Glasgow University Library).

William Kyle, - in particular, Kyle's register for 1798-1804² - Fleming's name is connected with just over one dozen pieces of work, including farm surveys and land and crop measurement during the period June 1803 to October 1804. Of greatest significance is an entry for late 1804³ which records dates of work associated with a feued plot of land off Argyle Street extracted from the books of William Kyle and Kyle and Fleming, land surveyors, Glasgow. This partnership can have been of only very brief standing. Few of the many surviving Kyle plans are directly attributable to Fleming but he is further recorded as preparing a plan of lands to be affected by a proposed railway line from Govan collieries to the basin of the Ardrossan Canal in 1810, surveying the village of New Lanark in 1813 and charting the Clyde estuary from Dumbarton Castle to Fort Matilda in 1821. It is stated that he was born in 1783⁴ and it is quite possible that he received his training from Kyle at his schoolroom in Glasgow, prior to working as his assistant and partner. His other work included industrial, river and estate plans, including division of common, in Ayrshire, Lanarkshire and Stirlingshire. A Peter Fleming, merchant, purchased his entry as a Glasgow burgess and guild brother on 19 April 1808.⁵ In 1806, he was employed by the City Council to draw street maps for submission to Parliament⁶ and, again, in 1819, he prepared a plan of properties owned by the College in Barrack Street for a council committee on landed property. His intention to publish a map of the low counties of Scotland by subscription⁷ appears to have met with no success. The final entry for him in the 1822 Glasgow Directory indicates that he was resident at 48, George Street. Some time after this date, Fleming seems to have emigrated to North America where he carried on the profession of surveying from about 1829 until at least 1851.⁸

This map (figure 7) was first advertised as just published in the *Glasgow Herald* of 21 August 1807, at a cost of two guineas coloured and mounted on rollers or £2-10s. varnished, and follows on in sequence from the surveys of McArthur and Barrie of the previous century. In his notice, Fleming states that the map is based on actual survey at a scale of two-fifths on an inch to one Scots chain of seventy-four feet (i.e. 1" to 185 feet - a slight difference from the actual measurement of the scale bar) and that the city was distinguished into parishes and wards. Already the city's spread to both the east and west is quite marked and several designs for new streets are indicated (e.g. in the Blythswood area). However, although Tradeston and Blythswood are laid out in a strict grid fashion, the building blocks are only lightly shaded with the occasional established structure in a darker tone. The angled intrusion of Alston Street into the Blythswood plan indicates the indefinite nature of what

are, as yet, proposals and nothing, other than streets, is named in either area. There is much detail of various industries developing in and around the city, with many quarries, works and factories named or their owners shown. Furthermore, a degree of industrial specialisation in certain areas of the town can be noted (e.g. in Calton and Bridgeton, nine cotton works and mills are mapped). Tolls, monuments and the two canal systems to the north of the city are indicated. Public buildings, places of worship, hotels, and markets are marked in darker shading. The Royalty boundary with its marker stones and the date of their renewal is shown. Gardens and nurseries are detailed in the suburban area and spot heights (in feet and inches) are given above the low water level of the Clyde at the wooden bridge. However, the map has no hill shading or hachuring to indicate the shape of the ground. Like McArthur, the surveyor troubles to show a slight change in the direction of the Clyde's south bank beside the New Bridge. In addition, Fleming has taken pains to indicate the Philosophical Society's rooms in St. Enoch's Square. A table of references to parishes clearly suggests an intention to delineate the individual parishes by colour wash but, as no boundaries are shown, it would appear that the actual depiction was left to the purchaser. In association with this matter, the Council, at a meeting on 16 October 1807, resolved to purchase and present to each of the city ministers a copy of Fleming's map, coloured to distinguish the different parishes.⁹

Of the map itself, the title is placed north of centre on the right hand margin on a foliated rock face backed by illustrations of three sailing vessels, a quay and, to its right, the old bridge and buildings at the foot of Bridgegate Street. In the foreground are rocks, barrels and a sketch of three mariners beside a small boat named Clyde. The dedication to the Lord Provost, Magistrates and Town Council is positioned in the north-west corner, separated from the map by a double line margin. A copy of the 1779 plan of the city by McArthur lies in the map's south-west corner and two scale bars, of Scots chains and feet, are marked in the extreme south-east. An eight barred compass indicator oriented with north at 30° west is located east of centre at the map foot, beside a latitude and longitude position of $55^{\circ} 50$ min. North and $4^{\circ} 30$ min. West.

In 1815, Fleming published *A System of Land Surveying and Levelling* (printed by Robert Chapman), which was intended to be a complete treatise on chain survey, emphasising the use of geometric calculations and arguing against the reliance on the cross-staff for long lines. He concludes the work by observing that "sometimes a bad practice [of surveying] with a painted plan, or low charges, is preferred to true results, which preference must alone arise

from not observing that all methods of measuring land have not alike verifications" - a cause of encroachments and land disputes. Seven years later, he produced a *New Method of Finding the True Length of a Base Line for Trigonometrical Surveys*. Two further geometrical texts by him were published in Montreal in 1850 and 1851.

Reproduction:

1) ANNAN, T. op. cit. Size: 258 x 368 mm. Scale: [cl:10320] or cl": 860 feet.

References:

1. *Glasgow Courier*, no.1632, 2 February 1802.
2. S.R.A. T-KF6/1. These registers contain survey statements and plans, field notes, tables of contents to plans, reports to clients, correspondence, feuing lists, schedules of properties and estimates of costs for improvements.
3. S.R.A. T-KF6/1. p.384.
4. EDEN op. cit. p.411.
5. ANDERSON (1935) op. cit. p.250.
6. G.B.R., vol.9, 1796-1808, p.510. See S.R.A. D-TC 13/439.
7. S.R.A. TD 200/119. Notice dated 30 August 1809. A copy of subscribers' names on the verso commenced January 1810 lists only 45 names. Fleming's proposals were duly advertised in the *Glasgow Herald*, no.729, 23 October 1809.
8. BOND, C.C. entry for Fleming in *Dictionnaire Biographique du Canada*. Vol.VIII. De 1851 a 1860. Toronto, 1985. pp.330-1. In particular, he appears to have concentrated on railway, harbour and road plans in Canada.
9. G.B.R., vol.9, 1796-1808, p.601.

17. 1808 FLEMING, PETER

MAP/ of the/ CITY of GLASGOW/ and/ SUBURBS/
Reduced from the same in six sheets/ from Actual Survey/
by/ P. FLEMING./ Engd. by R. Scott.

Size: 257 x 405 mm. Scale: State 1 [1:5400] or 1": 450
feet; State 2 (i.e. truer scale) [1:10800] or 1": 900 feet.
Plate imprint measures 385 x 430 mm.

"Glasgow Published as the Act Directs 20. April 1808 by P.
Fleming".

In: LAURIE, David *A Project for Erecting Public
Markets, and a Grand Academy, on Improved Principles,
in the Gorbals*, 1810.

This reduced version of the six-sheet map covers the same area as its parent survey but has neither dedication nor copy of the 1779 plan. The plain title appears, in a similar position, within a shaded hexagonal box. A similar compass lies in the south-west corner oriented to 19⁰ west of north. Many fewer streets and properties are named with far less detail of gardens and other features on the city's outskirts. The new grid patterns of Tradeston and Blythswood, however, continue to be shown. A large table of references below the map lists public buildings, places of worship, public works and market places, with a slight differentiation in that business and industrial premises (e.g. seventeen banks, eleven insurance offices and sixteen cotton works) tend to be given by address only, whereas others are indicated on the map by reference letter. Even here, the Philosophical Society is recorded both in the table and map. Few new features are added and these are in the suburbs (e.g. Whitevale Nursery). From a careful inspection of surviving copies of this map, two states appear to exist, with several significant differences. The second state could possibly be dated from the time of Laurie's book. Possibly the most immediately noticeable difference is that of scale bar, with two alternatives equalling 1000 feet or 500 yards. The latter, giving a representative fraction of 1: 10800, is the truer scale but is the second state, as can be discerned from close inspection of the plate imprint. Other variations include the mapping of the buildings at the foot of Saltmarket. State I shows the Shambles whereas the second state indicates the new Town House and Jail

built between 1809 and 1814. In addition, a new street and bridge across the river are sketched in the latter version. South of the river, there are several additions in the later variation, including the Ardrossan Canal basin, a proposed new church and academy off Marleborough Street, the naming of two more streets and the projected Gorbals markets of the accompanying text.

It is important to note that the press notice for this project¹ does not mention the Fleming plan which may have been a later addition.

Reproduction:

1) A lithographic copy of state 1 by W. & A.K. Johnston appears as map 5 accompanying BROWN, J.A. op. cit. opp. p.72. It is drawn at the same size and scale as the original.

Reference:

1. *Glasgow Herald*, no.786, 11 May 1810.

18. 1812 GRAY, ROBERT (engraver)

Plan/ of/ GLASGOW/ Engraved for the/ Picture/ of
Glasgow.

Size: 175 x 285 mm. Scale: [1:12800] or 1": 1066.67 feet.

"Engraved for Chapman's Picture of Glasgow 1812" "R.
Gray sculpt."

Opposite p.1 in: *The Picture of Glasgow; or, Strangers'
Guide*. New ed, 1812.

By this date, Chapman's *Picture* had expanded to 288 pages and included a tour of Loch Lomond and the Falls of Clyde. The second state of the 1806 working is now attributed to Robert Gray alone and includes several changes to the table of lettered references, including the introduction of St. George's and New Gorbals Churches. In addition, a further list of numbered locations, placed east of the title, indicates an increased attempt to identify more of the public buildings discussed in the guide. Only now does Gray indicate St.

Andrew-By-The-Green as the English chapel. The map surface itself also shows new named features (e.g. Glasgow Water Works reservoir, Lunatic Asylum, Gorbals Public School and the Nelson Monument erected in 1806 but not shown on the plate of that year). It is significant that there is no indication of the Blythwood or Tradeston development proposals so obvious on Fleming's two earlier plans. In fact, apart from some buildings marked on the new Sauchiehall road and a new thoroughfare at its eastern end, the only additional street change shown is the mapping of Portland and Balmanno Streets. Gray, it would seem, was concerned more with displaying the existing city plan and not with future schemes.

19. 1818 GRAY, ROBERT (engraver)

Plan/ of/ GLASGOW/ Engraved for the/ Picture/ of
Glasgow.

Size: 175 x 285 mm. Scale: [1:12800] or 1": 1066.67 feet.

"Engraved for Chapman's Picture of Glasgow 1818" "R.
Gray Sc."

Opposite p.1 in: *The Picture of Glasgow; and, Strangers' Guide*. 3rd ed, 1818 and *The Topographical Picture of Glasgow in its Ancient and Modern State*. 3rd ed, 1820 and 1822.

Now running to 396 pages, the *Picture's* text had been extended to cover descriptions of many new buildings, several of which are added to the map's numbered references. The newspaper notice of the day¹ mentions a map of the city appearing in the guide but not that it is updated. In addition to the new Roman Catholic chapel of 1814-17 in Clyde Street, the growth of industry can be seen in the indication of bonding warehouses and the new gas works. However, the most consequential addition of this third state of the Gray plate is the strict grid plan of the Blythwood estate running west from Camperdown Place and lying between Argyle and Sauchiehall Streets. By contrast, the eastern extension of Wellington Place is the only additional feature south of the Clyde. In Smithfield, Madeira Street is renamed Oswald

and Robertson's Street is now marked, while, in the east of the city, McFarlane Street is shown opened up in Calton. Within the city proper, Howard Street is now named and the Candleriggs Bazaar, fore-runner of the City Markets and founded in 1817 by James Cleland, is indicated. An illustration of the increase in Glasgow's trade may be taken from an additional two vessels, including an early steam boat, shown in the Clyde west of the Broomielaw. The map impression is, by this date, noticeably fainter (e.g. lines in the River Clyde). A chart of the Clyde engraved specifically by Gray for this edition is also included.

Reference:

1. *Glasgow Herald*, no.1614, 8 June 1818.

20. 1820 SMITH, DAVID

Map/ Of the ROYALTY of/ GLASGOW/ Shewing its connection with the/ Suburbs/ And the Boundaries of the different/ PARISHES/ Into which it is divided/ 1820.

Size: 570 x 430 mm. Scale: [1:10800] or 1": 900 feet.

Inset plan: Map/ OF/ THE BARONY PARISH/ and/ Royalty of Glasgow/ Laid down to a small scale/ 1820.

Size: 170 x 210 mm. (widest dimensions). Scale: [[1:95040] or 1": 1.5 miles].

S.R.A. D-TC 13/11. Manuscript. Coloured.

This carefully executed plan outlines the Royalty boundary in red, with the march stones individually numbered. Streets and district areas are named while there is some attention to the identification of suburban country houses. Hills and woodlands are indicated, the former with a grey wash. The inset plan shows an area stretching from Rutherglen to Killermont and the general map covers the city as far north as Possil. Despite the title of the map, the boundary divisions of the nine named parishes are not marked. However, the individual church buildings are identified - the only establishments so indicated. The table of parishes has space for a tenth, unnamed parish which may reflect

the preparation for an additional established church, based on a Council decision in July 1820, the new parish being St. James's in Great Hamilton Street¹ (not indicated on the map). Certain other features are named (e.g. barracks, water works, powder magazine) but, in general, the map concentrates on the street grid which is noticeably less detailed outwith the Royalty boundary, tending to be more a guide than a proper representation (e.g. south of the Clyde and the omission of the grid street pattern of the Blythswood estate).

David Smith had been trained as one of William Kyle's assistants² and some of this map's detail could be based on the Fleming plan of 1808 (e.g. the depiction of the Clyde). However, Smith's map covers a far wider area and there are marked differences in the spelling of district names (e.g. Smith has Bridgeton, Fleming Brigton). A perambulation of the burgh marches was conducted on 19th April 1817³ at which Kyle and James Cleland, as assistant to the superintendent of public works were present. This plan, although hand drawn, was evidently intended for publication as "Engraved by" is inserted at its foot. It is possible that its details were based on this perambulation and that the map is, in fact, a manuscript draft for Cleland's Map of the Ten Parishes (see no.26). Equally, the map could have been prepared for the census of Glasgow compiled by Cleland in 1820.⁴

The map title, not separated by any border, is positioned in the north-east corner, above the table of parishes, and is characterised by ornate calligraphy. In the opposite upper corner is placed the inset map of the Barony Parish. A scale bar of 1000 yards lies at the map foot. The north orientation of the plan is at approximately 8° west.

References:

1. G.B.R., vol.10, 1809-1822, pp.542, 563, 567.
2. S.R.A. T-KF 6/1 p391 for 19 December 1804. "This day my assistant David Smith, attended in Laurieston..."
3. G.B.R., vol.10, 1809-1822, p.386.
4. CLELAND, J. *Enumeration of the Inhabitants of the City of Glasgow and its Connected Suburbs*, 1820. The survey was conducted between October 1819 and February 1820.

21. 1821 GRAY, ROBERT (engraver)

OUTLINE MAP/ OF THE/ CITY OF GLASGOW/ AND/
SUBURBS./ 1821./ Engraved by R. Gray.

Size: 260 x 390 mm. Scale: [1:11160] or 1": 930 feet.

Frontispiece to: *A Guide to Glasgow, arranged in walks throughout the city.* W. McFeat, 1821.

McFeat, a Glasgow stationer and librarian, designed his guide for visitors and residents unfamiliar with many of the new streets as a series of eight circular walks through the city beginning from Glasgow Cross or King William III's statue. Neither of these two features are displayed on the map but a number of public buildings are either named or indicated. Several suburban country houses are also mapped, particularly in the west and north-east. In general, however, the map concentrates on depicting the street layout of the city.

This is a completely different map from Gray's earlier depictions, covering a wider area in slightly more exact detail, particularly in the orientation of the new street patterns both north and south of the river. The general outline bears a close similarity to the second state of Fleming's 1808 map, with certain additional features of the intervening years now included. Particular similarities with Fleming include the area covered, the shape and dimensions of the River Clyde and Monkland Canal, the depiction of individual elements of the street layout (e.g. the Broad Street area, north-east of Barrowfield Street) and the indication of the shape of several major buildings. In the surrounding areas of the city, many of Fleming's details are omitted but, of the new additional elements, many new street names (or changes of name) are noticeable (e.g. in the Blythswood area, Saughyhall, Regent, Renfrew and Buccleuch Streets). A slightly altered layout is marked immediately north of Argyle Street in the Waterloo-Cadogan-Holm Street vicinity, especially at Alston Street, which is a truer reflection of the actual pattern. Comparing the two maps, there is relatively little new development shown on Gray. Between Cowcaddens and Port Dundas, and south of Hutchesontown, new street networks appear, with only Union Street named. In addition, Monteith Row, begun in 1818, and development in the Armour Street area is also shown.

As with its Fleming precursor, the title, in ornate lettering, scale bar (of 800 yards) and compass - a plain four-barred indicator oriented to 17° west, are in similar positions. The guide was advertised in the *Glasgow Herald*, 20 August 1821 along with the *Glasgow Directory* for that year but in neither case is a map mentioned.

22. 1821 SCOTT, ROBERT (engraver)

PLAN/ of the/ CITY OF GLASGOW/ ACCURATELY
EXHIBITED./ Engraved to Accompany/ Glasgow
Delineated./ R. Scott Sc. Edinr.

Size: 188 x 275 mm. Scale: [1:12400] or 1": 1033.3 feet.

"Pubd. by Wardlaw & Cunningham. Glasgow, 9th. June,
1821."

In: *Glasgow Delineated, or a description of that city*, 1821.
Plate 1, opp. p.1.

Two versions of this guide were published by separate Glasgow printers, namely Wardlaw & Cunningham and Khull, Blackie & Co., the only difference being the title page. First advertised in August 1821¹, price 4/6d, the guide was re-issued and re-advertised in 1822 and 1823, at least one 1822 copy having a map printed on paper with a water-mark reading "JOHN HAYES 1822". The map reappears in the 1824 issue of the guide where the original printers have extended the engravings to forty-two and now describe the same map as "accurate". It is from a markedly different plate from either Scott's previous work or Gray's various depictions, despite being at a similar scale and size to several earlier plans. In areal coverage and depiction of the Clyde, there are similarities to Fleming's 1808 map but the orientation and naming of streets are not uniform. In attempting to illustrate the new development around the Port Dundas basin, the mapping of the city south of the river has been noticeably curtailed and the line of the Monkland Canal is carried beyond the plan border. Exceptionally for this period, the built-up areas of the city are shown in blocked shading with no indication of particular building alignment. Major public buildings are highlighted and named, with an additional table of

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Publishing by Subscription;
**A NEW PLAN OR MAP OF THE
CITY OF GLASGOW AND SUBURBS,
IN A SERIES OF SHEETS,
To Be Constructed from actual Measurement,
And to be printed from Stone,
BY PETER FLEMING,**

Civil Engineer and Land Surveyor, Glasgow,
Author of the Six Sheet Map of Glasgow and Suburbs.
This NEW MAP to be published under the following
Conditions:—

1st, To be Published in Single Sheets successively, till
the Series of the whole Map be complete.

2d, The Scale of the Plan upon each Sheet to be one
fourth of an inch for every Ten Feet, and which will be of
an entire position of the City—that is the Boundaries of
the Plan shall be Streets, Lanes, or some permanent bound-
ary. The Plan shall exhibit accurately every Building,
Cross, Street, Lane or Alley; and the several Properties
always entire.

3d, The Lines of proposed New Streets, and all other
projected alterations of parts of the City, will be shown in
their respective and proper places.

4th, The size of each Sheet to be about thirty inches by
twenty-two inches, and to be printed from Stone, in the
best style of this new art. Each Sheet shall contain or be
accompanied with a List of the Proprietors' Names, with
marks of reference upon their respective Properties. The
price of each sheet, to subscribers for only one sheet, seven
shillings and sixpence; and to subscribers for the whole
work, five shillings each sheet; to be paid upon the delivery
of the copies. The names of Subscribers to be distinguish-
ed as such upon the Map or List.

The Publisher most respectfully requests the attention
of the Proprietors of Houses and Ground of the City of
Glasgow and Suburbs to this new Work. He is more par-
ticularly encouraged to do this from the acknowledged use-
fulness of his Six Sheet Map of this City and Suburbs
which he published in 1807; but when the scale of that
Map is applied to the continual multiplication of Ground
Property in a large City such as Glasgow, its smallness
limits its uses more to a reference only regarding figures
than real dimensions; whereas the series of Sheets now
proposed are each to be of a scale five times greater than
that Map, and which will therefore afford every facility
towards ascertaining the smallest dimension of extent with
the greatest accuracy as may be required in any projected
improvement or alteration throughout several properties,
or that which may require the smallest single property.—
To the Gentlemen of the Faculty of Writers, this Work
will be particularly interesting, by affording them every
part for the describing of property, whether relating to its
figure, position, or boundaries. It is to be printed from
Stone, will give the whole map all the accuracy with which
the survey is made, and render the impressions wholly free
from that error of copying which is unavoidable by the cop-
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CONTRACTORS WANTED,

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Figure 8: Peter Fleming's proposals for a new plan of Glasgow, *Glasgow Herald*, no.1902, 16 March 1821. (Reproduced by permission of The Librarian, Glasgow University Library).

ten numbered references. There is a particular concern to depict meeting houses and other places of worship. The new cattle market and relief hospital are marked and many streets are named, if often in very small lettering. Sulburban and other parkland is depicted by tree symbols but there is no attempt to indicate slope by hachuring - clearly prevented by the use of hatching for building. Again, the importance of the Broomielaw Quay is stressed by a great concentration of vessels alongside, with a steamship marked downstream.

The title, in plain letters and not separate from the map, is in the north-east corner with a small scale bar of 2000 feet diametrically opposite. An eight point compass, oriented to 3.5° west, is placed centrally on the eastern margin.

Reference:

1. *Glasgow Herald*, no.1948, 24 August 1821.

23. 1821 SMITH, DAVID

MAP/ of the/ City of Glasgow/ AND/ SUBURBS./
Originally Published by Mr. Fleming in 1807/ SURVEYED
& BROUGHT DOWN/ To May 1821 By/ David Smith/
Engd. by R. Scott Edinr.

Size: 1220 x 1725 mm. Scale: [1:2280] or 1": 190 feet.

Originally issued on six sheets, each 610 x 575 mm. with a plate size of 625-650 x 600 mm.

Note below title cartouche: "The former Survey of this Map was executed & Published by Mr. P. Fleming in 1807. The additional Surveying for laying down the extension of the City & Suburbs by David Smith to May 1821."

Coloured.

In March 1821,¹ Peter Fleming advertised his proposals for possibly the most ambitious mapping project in Glasgow prior to the Ordnance Survey (figure 8). Using the most up-to-date techniques, including printing by



Figure 9: Detail from Map of the City of Glasgow and Suburbs, 1821 by David Smith.

lithography, his scheme was to produce a plan of the city, at a scale of one inch to forty feet, showing every building and all the proposed alterations, accompanied by a list of proprietors' names. The project was again to be financed by public subscription at the price of 7/6d per sheet or 5/- each if contracting for the whole work. In his notice, Fleming discusses the acknowledged usefulness of his six sheet map of 1807 but points out its limitations for ascertaining accurate dimensions, particularly for projected improvements. He aimed to satisfy the needs of the day, stressing its value to Writers in particular and the increased accuracy of the lithographic process. A fortnight later,² a press notice intimated that the first sheet would be published in a few weeks. Nothing more of this imaginative project can be discovered. However, almost a year to the day following this second notice,³ a new six sheet map was advertised, published by Alexander Finlay, a Glasgow carver and gilder, and William Turnbull, a local bookseller. This notice mentions neither Fleming nor Smith and dates the earlier survey to 1811.⁴ Nevertheless, it undoubtedly refers to the present map under discussion for the publicity notes that the alterations had been brought down to Whitsunday 1821. In addition, this map is dedicated to the City authorities by Finlay and Turnbull. The degree to which they were responsible for the new survey and how they procured Fleming's original plates is more open to question. It cannot be ascertained whether the sale of the plates was prompted by the failure of Fleming's scheme - unlikely, given the time scale involved - or by the necessity to raise capital for the plan. The fact of the exclusion of Fleming's name and the lack of any further cartographic evidence prior to his departure for Canada suggests that he had little to do with this plan. Smith, however, makes full reference to Fleming's original work and this 1821 version has clearly used the same plates, covering the same area of the city with similar lettering, positioning of names, orientation, size and scale. This is a most interesting map (figure 9) for, although much of the detail is exactly similar to the Fleming original, the many carefully marked additions and alterations since 1807, particularly in the Garnethill - Blythswood and Bridgeton areas, are most significant. In addition to many new features and buildings, Smith has added hachuring and hatching to indicate both hill shape and the town's several quarries. In many parts, Smith's corrections amount to a virtual re-drawing of the original survey with significant alterations of the layout of the street pattern in the north-west. Apart from the changes resulting from the city's rapid growth in the intervening years, the increased and meticulous detailing of property names and usage make this map a most valuable document. Gardens, pleasure grounds and footpaths are delineated with care. In some instances,

buildings are re-positioned (e.g. observatory) and there is much valuable information on new industries and manufactories. New transport developments (e.g. the rail road and coal store in Barrowfield) are mapped. In certain cases, Smith has taken the trouble to detail individual buildings (e.g. within the barracks). Many new streets are named, some re-named and several property changes are marked. Parishes are now named in bold Gothic lettering, Police Wards distinguished in Roman numerals and their divisions are indicated by colour wash. The Royalty boundary is delineated and care has been taken to distinguish which areas are within, and which outwith, the Royalty, as well as the Burgh of Calton.

Slight differences can be noted in the map's features. The dedication lies in the same position with a similar layout and lettering in a double-lined box, now scalloped at the corners. One alteration in the title cartouche reflects the changes of the intervening years for a steam vessel has replaced one of the offshore sailing craft. Again, the foliage above the title is more abundant - a possible allusion to the city's healthy prosperity. While the scale bars of Scots chains and feet remain the same, the compass ornamentation has increased. In the south-west corner, the same 1779 plan appears but there is no longer a table of references to the parishes, this being replaced by a note below the compass. The western margin has been broken in places by the extension of the mapped area.

Of the changes shown, perhaps the most notable are the increased detail of the industrial concerns and the harbour quay downstream of the Broomielaw combined with the tracking path and basin on the opposite bank at Windmill Croft. The grid layout in Blythwood, particularly Cadogan, Copenhagen, Wellington and Bothwell Streets, is a markedly different pattern, while some confusion of detail to the north has resulted in a somewhat unusual line at Blythwood Terrace created by hachuring and a line of tree symbols spreading over the street lines combined with a series of possible property lines running across this pattern.

References:

1. *Glasgow Herald*, no.1902, 16 March 1821.
2. *Glasgow Herald*, no.1906, 30 March 1821.
3. *Glasgow Herald*, no.2011, 1 April 1822.
4. The date 1811 may refer to the second smaller version of Fleming's survey (see no.17) which also accompanied *Analysis of a New System of General Education...accompanied with plans of Glasgow and the neighbourhood* published in London in 1811.

24. 1822 JOHNSON, WILLIAM

GLASGOW

Size: 375 x 260 mm. (widest dimensions). Scale: [1:5520]
or 1": 460 feet. True scale: [c1:10800] or c1": 900 feet.

"Drawn by W. Johnson Edinr. Engd. by Sidy. Hall
London. Published by John Thomson & Co. Edinburgh
1822."

Inset on: *Southern Part of Lanarkshire*, being map 11, part
2nd. of THOMSON, John *The Atlas of Scotland*,
containing maps of each county... Edinburgh, 1832.

This map is nothing more than a copy of the first state of Fleming's 1808 plan with a different orientation, a different lettering and certain features omitted. Despite its date, the map fails to indicate Great Hamilton Street or Monteith Row and the town shambles is still shown on the site of the new Town House and jail. The unusual street pattern of Alston Street and the particulars of the layout of Blythswood and Tradeston remain as first mapped by Fleming. The selection, positioning and spelling of district and street names are entirely based on the earlier surveyor (e.g. Huntrean Museum, Brigton), the only difference being the style of the lettering. Nothing new has been added by Johnson but he does omit the lines of the St. Enoch and Shaw Burns. Several of the public buildings highlighted in the original map remain darker and in one particular instance - incontrovertible evidence of the map's origin - Johnson or Hall has copied the reference letter "i" erroneously from Fleming where it denotes the Assembly Rooms in Ingram street, resulting in the appearance of Zingram Street. The only marked variations are the stippling of gardens and the re-aligning of tree symbols and street names to accord with a north orientation of 106° west (i.e. the top of the map is approximately east).

The title lies above the map outside its border while the scale bar, in a plain box, is placed in the bottom right corner. A four bar compass lies in the opposite lower corner and the whole map is enclosed within a double lined margin of five unequal sides.

Although Thomson's *Atlas of Scotland* was not published until 1832, the individual county sheets were issued and sold separately when ready between 1820 and 1830.¹ Despite his long experience as a publisher, this ambitious

plan was to bankrupt Thomson eventually. The first counties to appear, Linlithgowshire and Stirlingshire, were advertised in the city press in 1821,² price 10/6d, with the original intention being to complete the project within eighteen or twenty-four months. Emphasis was laid on exactness and careful checking of existing surveys by "at least four persons of credit and respectability". The authenticated map of Lanarkshire, in two sheets and again priced 10/6d, subsequently appeared for sale in 1823.³ By 1834, the county maps were being offered for sale at 5/- per sheet, while an Imperial folio of the whole atlas cost seventeen guineas.⁴ The atlas plates were acquired about 1838 and re-issued by W. & A.K. Johnston separately with their name on all the maps, either alone or in conjunction with R. Weir, Lumsden & Son of Glasgow.

References:

1. R.S.G.S. op. cit. Vol.1, p143; vol.2, p.155.
2. *Glasgow Herald*, no.1892, 9 February 1821.
3. *Glasgow Herald*, no.2140, 30 June 1823.
4. *Glasgow Herald*, no.3304, 5 September 1834.

25. 1822 KYLE, WILLIAM

A REDUCED MAP/ of the CITY and ROYALTY of/
GLASGOW,/ exhibiting the tracks of the / PUBLIC
ROADS/ leading into and crossing the same/ Glasgow,
10th April/ 1822.

Size: 555 x 440 mm. Scale: [1:12000] or 1": 1000 feet.

"Watsons Lithographic Press. 169 George Street,
Glasgow."

"Glasgow, 13th April, 1822. This is the Plan referred to in
my affidavit of this date. William Kyle."

Royal Faculty of Procurators Library. Hill Collection.
Maps vol.2.(5).

This crudely produced lithograph is little more than a reduced copy of the general layout depicted on the Smith map of 1822 (no.26). However, the first

press notice of that map's appearance was in April 1822, with an intended publication two or three weeks later, and it is probable that Kyle consulted either his pupil's earlier manuscript of 1820 (no.20) or the prepared engraved plate before printing. Only major streets are named and few buildings (e.g. college, court house and jail) noted. The toll bars of the Inchbelly and Garngad Trusts are indicated, as are the sites of the former city ports. None of the hills or woodlands of the earlier plan are shown but Kyle has identified additional streets, particularly in the Blythswood and Bridgeton areas.

The title is placed in the north-west corner, with the scale bar in the south-west. Given the sheet's style and Kyle's reputation, it can be assumed that the plan was prepared to meet the needs of the testimony without undue attention to detail or accuracy. John Watson operated his lithographic printing office in George Street from 1821 until 1830.

26. 1822 SMITH, DAVID

To/ THE HONOURABLE/ John Thomas Alston/ LORD
 PROVOST OF GLASGOW/ This MAP of the/ TEN
 PARISHES Within the ROYALTY/ And the Parishes of
 Gorbals & Barony/ of/ Glasgow/ (Prepared for the
 Enumeration of the Inhabitants)/ Is very Respectfully
 Inscribed/ By his Faithful and Obedient Servt./ James
 Cleland/ Engd. by Kirkwood & Son.

Size: 730 x 430 mm. Scale: [1:10560] or 1": 880 feet.

Engraved note: "This Map, After undergoing the strictest
 scrutiny by the Publisher & Surveyor, has been revised &
 corrected, by persons whose Local situation, and general
 information, have rendered them eminently qualified for
 judging of its accuracy". "This Map is Constructed under
 the direction of Mr. CLELAND from a number of other
 detached maps & plans of acknowledged accuracy by
 DAVID SMITH Surveyor".

Inset: MAP OF/ THE BARONY PARISH/ and/ Royalty of
 Glasgow/ Laid down to a small Scale/ 1822

Size: 183 x 245 mm. (widest dimensions). Scale:
 [[1:95040] or 1": 1.5 miles].

Although generally described as "Cleland's Map", this is heavily based on Smith's earlier work, particularly his manuscript draft of 1820 (see no.20). Cleland was basically a statistician, being employed by the city authorities in 1819 to take a census of Glasgow, followed by others in 1821 and 1831. Over a period of twenty years, he produced mortality tables for the city and, between 1814 and 1834, held the post of superintendent of public works, in which he was concerned with the building of St. David's Church and the Candleriggs Bazaar. Smith, still based in Glasgow, was subsequently to develop a career in civil engineering, working with Telfer on the Crinan Canal in 1823 as well as preparing colliery, road and river plans.

In April 1822, an announcement in the local press¹ gave notice of a new map of Glasgow, and the parishes of Barony and Gorbals, to be published in two or three weeks, price 15 shillings plain or one guinea, coloured on rollers.

The notice attests that the map was based on actual measurement, its appearance being delayed to introduce some important alterations in the line of the Royalty. Two years later, another Glasgow Herald notice,² this time bearing Cleland's name, announced a map of a markedly similar area and price to be available at the beginning of February, "under the patronage of the public bodies". The column discusses the emphasis placed on careful delineation of the boundary and the reliance upon local title deeds, surveyors and their plans. It points out that, being on one sheet, it does not show individual buildings but specifically states its relation to the earlier announcement - "the subscriber about two years ago resolved to publish a map descriptive of the whole boundaries". No map dated 1824 has, so far, been discovered and it is considered that this refers to the map under discussion, although it poses a question about its first appearance. Given its detailed delineation of the boundary and its march stones, along with the various notes on jurisdiction, the validity of boundaries and neighbouring parishes, there can be little doubt that this is the map so advertised. Once again, it is concerned primarily with the layout within the designated area, where most streets are named and some projected developments are indicated, particularly at the east end of the Trongate. Parish churches are identified but, apart from Shawfield Printfield and Mr. Tennent's Brewery, there is no effort to map any of the city's businesses, offices or works. The boundaries of the ten city parishes are marked, with a reference table to their names. North of the river, there has been an attempt to display the drumlins on which the spreading city was being built. Relief is indicated by hachuring with several hills named, their selection and naming being taken from Smith's hand-drawn work. This, however, is not a mere copy, for additional features include the location of the lunatic and Magdalene asylums, the depiction of additional roads and a far wider, and more detailed, coverage south of the Clyde, stretching to Strathbungo and including the Glasgow, Paisley and Ardrossan Canal and the first indication of a railway, running from its basin. Large country houses appear to be taken from the earlier manuscript but few individual buildings are mapped within the city.

Following the layout of the 1820 draft, a smaller scale inset map of the Barony Parish and Royalty of Glasgow is positioned in the map's north-west corner, in a similarly shaped box. Although the orientation, calligraphy and ornamentation differ, this is the same map with additional notes on areal dimensions. Overall, the title position remains the same, the scale bar has been displaced west, changed from 1000 yards to 8 furlongs, and the table of



Figure 10: Map of the City of Glasgow and Suburbs, 1825 by Robert Gray. (Reproduced by permission of The Librarian, Glasgow University Library).

parishes re-arranged and moved to the south-west corner. A four bar compass now lies below the title, oriented to 23° west.

This map also appeared in John Wood's untitled town atlas of Scotland. Although this work is undated, an accompanying *Descriptive Account of the Principal Towns in Scotland* was published in 1828, the two volumes being priced five guineas. The account makes clear that the plans were issued and collected with the intention of suggesting future urban extension and improvement.³ A topographical and historical description of each town is included, with Glasgow being given over twenty pages which concentrate on the city's trade, industries and exports.

References:

1. *Glasgow Herald*, no.2012, 5 April 1822.
2. *Glasgow Herald*, no.2196, 12 January 1824.
3. *Descriptive Account of the Principal Towns in Scotland; to accompany Wood's Town Atlas*. Edinburgh, 1828. pp.iv-v.

27. 1825 GRAY, ROBERT (engraver)

MAP/ OF THE/ CITY OF GLASGOW/ AND/
SUBURBS./ 1825./ Engraved by R. Gray.

Size: 260 x 390 mm. Scale: [1:11160] or 1": 930 feet.

Frontispiece to: *The Glasgow Directory:...corrected till July, 1825*. W. McFeat, 1825.

In this map (figure 10), the title, scale bar and compass are exactly similar in lettering, style and position to the 1821 map by Gray (no.21) except for the slight title change. There are, however, several new additions to the plate, particularly in the naming of streets (e.g. in the east, Rose, Whitevale and Brook Streets; in the west, Kent Road and Washington Street; in the south, York Street and Wellington Place; in the north, Parson and Maitland Streets) and depiction of service lanes around Blythwood and Cowcaddens. In addition, shading has been added to identify street frontages and to distinguish separate establishments. The majority of the city's streets are named but few public buildings are individually indicated.

Minor alterations include the indication of Sir John Moore's statue in George Square, the cattle market, Cranstonhill water works, the wharf at Port Dundas, Blythswood Square gardens and additional buildings in the Bridewell, as well as the re-location of the washing house to the foot of William Street. St. Enoch's, Camlachie and Molendinar Burns are named, while on the Clyde, Steam Boat Quay and a dock at Lancefield are identified across the river from the Windmill Croft basin.

Another version of this map is recorded with the slight variation of "Engraved by Gray & Son" as the only change. In purchasing the directory, customers had a choice of product - 3/- sewed, 3/6d bound, 4/- with a map. The directories for 1826 to 1828 also offer maps but no later versions of the map have been discovered.

Reproduction:

1) In *Glasgow a Hundred Years Ago: an illustrated souvenir of the one-hundredth issue of the Post Office Glasgow Directory*. Edinburgh, 1927. Published, at the same and scale, by John Bartholomew & Son. The map identifies and numbers twenty-one public buildings in red with a table of references.

28. 1826 GRAY & SON (engravers)

MAP/ OF THE/ CITY OF GLASGOW/ AND/
SUBURBS./ 1826./ Published by W. McFeat./ Engraved by
Gray & Son.

Size: 305 x 390 mm. Scale: [1:11160] or 1": 930 feet.

Frontispiece to: *The Glasgow Directory:...corrected till
July, 1825*. W. McFeat, 1825.

This map is an interesting hybrid of, at least, two sources. North of the river, the detail is closely based on the 1825 Gray plate, with similar shading, lettering and positioning of the map's features. Once again, there are a few small alterations - the addition of Knox's monument, erected in 1825, the change in the position of "Garden Place" and the depiction of further buildings in Lancefield Street. More significant is the increased mapping of the city

south of the Clyde, stretching beyond the Cavalry Barracks. Much of this information parallels that of Smith's 1822 map (see no.26), (e.g. the Barracks, the Glasgow, Paisley and Ardrossan Canal and the railway from its basin). However, the southern half is not wholly taken from Smith for the street frontage shading is noticeably different and other items (e.g. Polmadie and Little Govan) are now shown. The most significant feature of this map is the series of concentric semi-circles, spaced at 1/4 mile intervals radiating from a point on Steam Boat Quay north of the Clyde and from the centre of Jamaica Street Bridge on the south bank. As the distances to the south begin at 3/4 mile, the measurements indicate the range of various parts of the city from this wharf. As a result of the greater coverage in the south, the scale bar has been moved to the south-west corner and extended to 1000 yards.

29. 1826 SCOTT, ROBERT (engraver)

PLAN/ of the / CITY OF GLASGOW/ ACCURATELY
EXHIBITED./ Engraved to Accompany/ Glasgow
Delineated./ R. Scott Sc. Edinr.

Size: 190 x 280 mm. Scale: [1:12400] or 1": 1033.3 feet.

"Pubd. by Wardlaw & Cunninghame. Glasgow, 9th June
1826."

*In: Glasgow Delineated; in its institutions, manufactures,
and commerce: with a map of the city. 2nd ed, 1827.*

This second state of the 1821 Scott plate (see no.22) indicates many of the changes within the city in the intervening five years but does not extend the areal extent or detail of coverage. The table of numbered references has been extended to eighteen and re-arranged while several new features (e.g. Knox's monument, New Grammar School, the Deaf and Dumb Institution and Ship Bank) are individually recorded. New street layouts are shown at Port Dundas, Ann Street, around Waterloo and Cadogan Streets and at Blythwood Square and a new pathway appears on the Calton Green. The Bridewell extension has also been indicated. Certain elements of the earlier state have now been removed (e.g. Harley's Establishment, Relief Hospital).

By this date, the guide itself had expanded, with much new and original material. A leading feature in the *Glasgow Herald*, no.2487 for 23 October 1826 described the work as a "very meritorious and elegant little work, which, in the hands of the present editor, has risen from the rank of a superficial, and not over-accurate catalogue of the curiosities and antiquities of Glasgow, to a comprehensive and useful manual of the political, statistical, and commercial history of this great city". An 1836 edition of the work, published by A. Lottimer, was illustrated by this 1826 state.

30. 1827 GRAHAM, JOHN

THIS SKETCH/ of the/ Stations of the several Watchmen/
within the/ Royalty OF THE CITY OF Glasgow,/ is
respectfully dedicated to/ THE HONBLE. THE LORD
PROVOST, MAGISTRATES,/ AND/ Commissioners of/
POLICE by their most Obedt. Servt./ JOHN GRAHAM,
Superintendent of Police 1827.

Size: 290 x 425 mm. Scale: [[c1:9000] or c1": 750 feet].

Coloured.

This plan divides the Royalty into the twenty-four wards of the city by Roman numeral, with 102 individual beats indicated, each marked by lines and identified by separate colour wash. Nothing south of the river is mapped but the majority of streets within the Royalty boundary are named and several of the most important public buildings, including the Police offices, jail, the city churches and Trades Hall are recorded. Other features (e.g. infantry barracks, Mr. Tennent's brewery and cattle market) are only named. Once more, there is little detail outside the Royalty bounds. The map has neither scale bar nor compass point while the title takes up most of the area south of the Clyde. The delineation and alignment of streets, combined with the choice and position of street names, closely resembles Smith's map of 1822 (see no.26) but with some minor differences, particularly where Graham does not copy Smith's proposed or projected streets. Certain features of the city not shown on Smith (e.g. the cattle market, Trades Hall and Police Office) are, however,

marked and some additional lanes and streets are shown (e.g. Spoutmouth, Tile Field Street) or named (Adams Lane, St. Enoch's Wynd).

31. 1827 SMITH, [DAVID]

PLAN/ of/ THE City OF/ GLASGOW AND ITS
ENVIRONS/ WITH ALL/ THE LATEST
IMPROVEMENTS/ Accurately Surveyed/ BY/ Mr.
SMITH./ 1827.

Size: 600 x 915 mm. Scale: [1:4752] or 1": 396 feet.

"Published by...Glasgow and R. Scott Engraver, Edinburgh,
1st. Sepr. 1827."

S.R.A. TD822/1.

The discussion of this plan is included under that for no. 32.

32. 1828 SMITH, DAVID

PLAN/ of/ THE City OF/ GLASGOW AND ITS
ENVIRONS/ WITH ALL/ THE LATEST
IMPROVEMENTS/ Accurately Surveyed/ BY/ Mr.
DAVID SMITH./ 1828./ Engd. by R. Scott Edinr.

Size: 595 x 925 mm. Scale: [1:4752] or 1": 396 feet.

Size of plate: 615 x 940 mm.

"Published by Wardlaw & Co. Glasgow. 20th June 1828."

Coloured.

As early as December 1825,¹ Wardlaw and Cunninghame had been advertising a new map of the city based on actual survey and indicating all the most recent improvements, particularly in the west. The plan was to be

engraved by Robert Scott on a single sheet and available by subscription for one guinea. Two years later, the sheet map was again announced as "published soon".² However, towards the end of that year, a more definite notice was to appear:

Publishing by Subscription,
By WARDLAW & Co., 48, Trongate,
And dedicated to Mr. CAMPBELL of Blythswood, M.P.
AN ELEGANT
PLAN OF THE CITY OF GLASGOW,
Comprehending a greater extent of ground than any
hitherto published, and embracing all the latest execut-
ed, and intended, improvements. Surveyed and laid
down in the most accurate manner by Mr. DAVID
SMITH, on a scale peculiarly well adapted for Counting-
houses.
Price 12s. Plain, 15s. Coloured, and 20s. Coloured
and Mounted.
As the Map is nearly ready such as wish for early
impressions will please call and leave their names with
the publishers, who will be glad to receive any hints or
suggestions that may be made within ten days from this
date.³

Until recently, it may have been assumed that the map did not appear until the following year, although the next newspaper announcement was not until June 1829.⁴ Certainly, most existing copies held in the major British libraries are dated 1828 but, in 1983, Strathclyde Regional Archives purchased, at auction, a copy of a map clearly similar to the more familiar sheet but dated 1827. Apart from the slight changes in title and publisher detail, the two versions are closely similar and clearly taken from the same plate. However, there are several additional differences in depiction between the two versions which make the comparison a fascinating study of the cartographic practice of the time. The existence of this document confirms that the plate was ready by late 1827, probably some time between August and November. A manuscript note on the map, dated 22 December 1827, indicates that it had been coloured and subscribed by Smith, showing the ancient Royalty boundaries, the city ports and the turnpike toll-bars, while a further inscription on the back, signed by Robert Davidson, John Scouller and Smith on 4 January 1828, notes that the plan was referred to in their depositions in the case, *Lawson and Mitchell v. Magistrates of Glasgow*. A detailed investigation of its contents shows several striking variations from the 1828 sheet. In particular, there is no table of reference numbers to the City parishes south of the Rutherglen road, the

Original in colour



Figure 11: Detail from Plan of the City of Glasgow and its Environs, 1828 by David Smith.

space being filled by the compass indicator (placed on Flesher's Haugh in the later version). Although a wooden bridge is marked, there is no indication of the Hutcheson Town bridge at the top of Crown Street. The 1828 continuation of this thoroughfare to the south is absent, as are the woollen factory and dye works west of Shawfield. Although the Little Govan Nursery is marked, Smith's later street layout imposition is not. Fewer sheds are displayed on the harbour quays; in fact, none are shown for Steam Boat Quay. On occasion, there are name changes between the two plans (e.g. in 1827, the Finnieston dye and print works are credited to Mr. Glass; the following year, Messrs. Watson & Lennox are shown as proprietors; Barrowfield Street, extended by a *proposed* New London Road, is re-named Canning Street). The earlier plan has none of the pecked line street proposals of 1828 and omits some of the later margin detail (e.g. Mr. Pollock and Geo. Fosters Mill in the north and the Royal Botanic Garden in the west). Conversely, some additional detail was clearly later removed (e.g. the *Universalist* Chapel in Great Hamilton Street and the description of Parliamentary Road as "proposed street to be opened up by Act of Parliament").

It is possible that this perhaps unique copy was a printer's proof of the plate, used for this particular court case but before the final corrections and amendments, suggested in the November 1827 press notice, were made. It is further assumed that the obvious erasing of "Wardlaw & Co." from this version may reflect their desire not to be associated with an uncorrected copy of the plan. However, some indication of its usefulness or popularity can be gained from a later notice⁵ indicating that a smaller scale reduction was also planned.

Considering the general depiction, this is a most detailed and well engraved single sheet map (figure 11), with many of the significant public buildings, places of worship and factories named. Overall, it is based on the 1821 map by Smith (no.23), particularly in the repetition of the odd configuration of streets around Blythswood Terrace and the cross line pattern to the south. Glasgow's latitude and longitude are again given and the eight-point compass is similarly oriented to 30° west. However, there is a wider coverage of land in the west of the city, extending beyond Finnieston Street, and more detail in Camlachie and the north-west with the removal of the larger-scale map's title and dedication. Despite the smaller scale, Smith continues to give a remarkably particular illustration which includes the several changes of the intervening years. Most of the city's streets are identified, with some name changes (e.g. Canning Street), while the Royalty boundary is again delineated. Many owners names appear beside their properties, particularly in

the suburbs and the Blythswood area, and (in 1828) parishes are indicated by Roman numeral with a table of references. Hachuring is once more used to depict hill slope and identify the town quarries. Smith's attention to features includes the mapping of toll bars, the gates at the entrances to Glasgow Green, the gardens in George Square and the sheds and quays of the harbour, including Lancefield Basin. Although a tracking path is marked south of the river, no inlet is mapped. Other transport elements include more extensive indication of the rail road at Barrowfield, the addition of the Garnkirk railway in the north, the depiction of the Paisley and Ardrossan Canal basin and the inclusion of two projected roads, running north-east from Glasgow Cross and west from Blythswood Terrace, in addition to a proposed street along the line of Parliamentary Road. South of the river, York Street and the extension of Crown Street are new features, combined with the new Hutcheson Town Bridge of 1829-34, designed by Stevenson and shown to the west of the wooden crossing. The New Gorbals Burying Ground is marked and there is more detail of the Greenlaw and Mavisbank properties. Elsewhere, new streets are shown (e.g. Washington Street) but, apart from the more definite grid pattern of the layout in Blythswood, surprisingly little has been added from the intervening period.

Three scale bars are given, in standard chains, Scots chains and feet, placed in the south-east corner while the title, in a plain double lined box lies in the north-east corner.

References:

1. *Glasgow Herald*, no.2396, 12 December 1825.
2. *Glasgow Herald*, no.2572, 17 August 1827.
3. *Glasgow Herald*, no.2602, 30 November 1827.
4. *Glasgow Herald*, no.2765, 22 June 1829. This notice also mentions a map of the city in a case for the pocket, 1s. which could be a separate issue of that accompanying *Glasgow Delineated*.
5. *Glasgow Herald*, no.2841, 15 March 1830.

33. 1829 ANONYMOUS

PLAN/ of part of the/ CITY OF GLASGOW/ Shewing the
line of a Proposed/ Tunnel & Railway/ TO CONNECT
THE/ RIVER CLYDE/ At the Broomielaw Harbour,/ With
the Inland Communications which/ terminate at the upper
level & the/ NORTHERN ENVIRONS/ of that City/
August 1829

Size: 330 x 275 mm. Scale: [1:11160] or 1": 930 feet.

N.L.S. Stevenson Deposit.

In 1829, Thomas Grainger and John Miller put forward a proposal to tunnel under Blythswood Square as part of their Edinburgh, Glasgow and Leith railway scheme to reach a terminal on the Clyde at the Broomielaw. This early project failed partly because the railway lacked sufficient capital but also because of the power of the argument of the Blythswood Trustees. Subsequent criticism of the project (see no. 34) discussed an engraved plan and section of the line, prepared for the use of the promoters, which was never circulated. It is now believed that the present plan is that document.

Two versions of this representation exist, within the one collection, both with the same title. In the dated delineation, a manuscript explanation of the colour shading has been added immediately south of the river and above the scale bar of eight furlongs. Additionally, a short cross-section running from Dobie's Loan to Argyle Street has been placed, at right angles, over the mapped area in the south-west corner. This state is characterised by hachuring to indicate both hills and quarries and marks the proposed railway from the Monkland Canal Basin, along with a suggested spur on the Garnkirk Railway to the Junction Canal at Broomhill. The dating is confirmed by a manuscript note on the verso. In the second state, there is neither hill shading nor date. The explanation has been engraved and extended to differentiate between the rail route above ground and tunnelled. Removal of the section has allowed an extended delineation in the Anderston area, while the scale bar has been moved nearer the margin. Given this uncovering of detail, it is a question whether this copy pre-dates that of August 1829. More noticeably, different routes are marked replacing those of the alternative state. Here, two spurs swing west, then south, from the Garnkirk line. One runs to the Rockvale Distillery and subsequently follows an almost straight line to the Broomielaw.

The second traces a shorter curve to Provanside Quarry. A third proposed route links these lines to the Monkland Canal near its basin. This delineation portrays more detail, particularly of industrial premises, in the north-west along the intended communication and carries an extended section above the plan, covering the route from the Garnkirk Railway to the Broomielaw. Conversely, the line of the proposed Parliamentary Road, relatively clear on the dated copy, has been all but erased on this sheet. A manuscript note on the verso states "Tunnel: Garnkirk Railway Glasgow 1832" but, given the details of representation, it is as likely that this plan can be dated similarly to 1829.

Proposals apart, the information provided on the city layout has been taken from the larger-scale 1827-8 map by David Smith with the striking exception of the omission of the street pattern south of Blythwood Hill. Building, property and area names are based on his survey and features are detailed down to the identification of a toll house in Cowcaddens and the careful transcription of the shape of Wellington Church. However, in the copying and reduction of elements, certain errors have crept in - Renfrew Street has become Camel Place, Stirlings Road has been placed on the line of Rotten Row, Alston Place names the thoroughfare to the east of Blythwood Square, not the west as on Smith, and Candlerigg Street is marked as Candeling Street.

34. [1829] MILLER, [JAMES] (lithographer)

(Untitled map)

Size: 550 x 455 mm. Scale: [[c1:10560] or c1": 880 feet.

"Miller lithog. 85 Trongate"

In: Remarks on the Report, by Messers Grainger and Miller, on the subject of the proposed railway and tunnel, from Saint Rollox, in the north quarter of the City of Glasgow, to the Broomielaw. 1829

This untitled map accompanies a criticism of proposals for a northern rail approach to the city and a tunnel linking the line to the Clyde at the Broomielaw. As a consequence, the plan indicates a far greater area north of

the city than is usual, reaching to Balgray at its furthest extent. Nothing is shown south of the Clyde but the street pattern, particularly within the Royalty boundary, is detailed and most main thoroughfares are named. Few buildings, mostly the city churches, are located and, of these, only a limited number are named. Attention is paid to proposed road and rail links, particularly the author's scheme for a new road from Springburn and the north to the head of Buchanan Street. This and the delineation of Cleland's proposed Parliamentary Road are the only alterations to the original plan

Given the extent of the map's coverage, it is difficult to judge the depiction on which it is based but its scale, general delineation and indication of places of worship alone suggests the Smith map of 1822 (no.26). Additionally, the layout of buildings and the street pattern appear similar. More significant are certain lines and the breaks in the course of the Molendinar Burn which correspond with Smith. Some streets are re-named and there is a noticeable addition to the layout in Blythswood and Garnethill which may be based on the earlier Smith map (no.23) or, less likely, the later version of 1828 (no.32). The pamphlet and plan were advertised in the *Glasgow Herald*, no.2793, 28 September 1829 and, in his attack on the railway scheme promoters, the author indicates that his sketch of the railway line was taken from a copy of the engraved plan not circulated with the original report. Throughout the remarks, he emphasises the danger, inconvenience and loss a railway would bring to this part of the city.

James Miller was the first to introduce lithography into Glasgow in 1825 and he pursued a successful career in this business until his retiral in 1839.

35. [1830] [KING, BERKELEY (lithographer)]

PLAN/ OF THE CITY OF/ GLASGOW/ and its/
ENVIRONS

Size: 325 x 595 mm. Scale: [1:7920] or 1" : 660 feet.

"Lithographic Press No. 11 Charlotte Street Rathbone Place".

In : Case of the Parliamentary Trustees of the Blythswood Estate, and of Archibald Campbell, Esq., M.P., the Heir of Entail in Possession, Petitioners against the Glasgow Railway and Tunnel Bill. London, 1830.

Mitchell Library. Miscellaneous Railway Pamphlets, B53154-7: Royal Faculty of Procurators Library. Hill Collection. Maps vol.1.(40).

Coloured.

The Campbells of Blythswood owned an extensive tract of central land in the city which was feued under strict control to prevent industrial uses. High rentals enabled them to argue against and defeat certain railway proposals. This plan, coloured to indicate the estate, was used in the dispute against the Grainger and Miller scheme to tunnel below Blythswood Square (see no.33). The accompanying printed case reasoned that the estate was occupied by higher quality housing and that the project would destroy its amenity. A stronger argument may well have been the final comment that the whole capital of the company was insufficient to meet compensation demands.

The plan is a reduced lithographic copy of the features of Smith's survey of 1827-8, covering the same area and indicating in less detail comparable elements. King has paid attention to the careful and correct naming of streets and reproduction of building shapes but lettering and general style is cruder overall. As on the Smith original, the title is located in the north-east corner, the compass on Flesher's Haugh and the scale bar in the south-east. This representation is unique, however, in having a western-most strip of about 100 millimetres width extending the city layout to the River Kelvin beyond that shown on Smith's version. The additional portion indicates Clayslaps Flour

Mills, Woodside Village, the Royal Botanic Gardens and Woodlands Castle but, by the discontinuity of linework, it is clearly a separate entity from the main map. In general, very few public buildings are named and the built-up area is indicated by block shading in preference to the outline of individual shapes. Curiously, this map carries features from both versions of the 1829 anonymous delineation of the proposals, for it marks the line of the route from Rockvale Distillery to the Broomielaw, while retaining the hachuring and intended Parliamentary Road.

It is the western section which brings another new insight into the maps of this period by introducing an entirely novel element of consideration to another depiction of the city, namely that by James Gardner for the Boundaries Report (see no.41). Gardner's plan carries the nearest contemporary representation of the lands of Kelvingrove and Clairmont up to the Kelvin. However, a perusal of both surveys shows that each has unique and differing features (e.g. King alone identifies Eldon Street and Woodlands Avenue). Despite the error in transcribing Stobcross as Stobeross, this significant portion suggests that King relied on an earlier, more detailed plan in this district, possibly prepared for estate purposes. Furthermore, it suggests that the Gardner map may also rely on information from other local sources, with implications for the bases of the other Boundary Report plans.

Berkeley King is first listed in Robson's London Commercial Directory at this address in 1830, remaining there until 1834.

36. 1830 WILSON, HUGH (engraver)

CITY of GLASGOW and SUBURBS, Corrected up to 1830.

Size: 260 x 420 mm. Scale: [1:10800] or 1": 900 feet.

"Published by James Lumsden & Son & H. Wilson Engraver Glasgow 1t. June 1830. Price One Shilling & Sixpence Plain & Two Shillings Coloured."

N.L.S. EMS.b.2.104.

There are many similarities between this map and Smith's depiction of 1827-8, most notably the odd delineation of the street layout immediately south of Blythswood Terrace but without the cross line pattern. It is possible that this may be an updated, uncoloured version of that smaller scale reduction advertised in 1830 by Wardlaw.¹ The existing copy has once been folded in sections and it is equally true that it may have been intended to illustrate a guidebook. There is the same areal coverage and a similarly remarkable attention to the naming of works, foundries and factories, the identification of places of worship, toll bars and quarries, and the detailing of the harbour features. Again, the Barrowfield rail road and the proposed route of Parliamentary Road appear but the map is no mere copy for the difference in scales has led to a decrease in names, particularly property and ownership details. There is no hachuring on this plan, much less mapping of gardens and pleasure grounds, and noticeable changes in the shape of individual buildings (e.g. the New Jail, Hunterian Museum). The wooden bridge at the foot of the Saltmarket is no longer marked and neither of Smith's projected roads are developed. A similar street plan to Smith is shown in Holland Place but there are also several new developments marked (e.g. south of Crown Street in the Gorbals and, more particularly, in the Sandyford Place - Woodside area). Another slight variation is the re-drawing of Paddock Row Street as a direct continuation of Bedford Street. Although the naming of the major thoroughfares remains the same, Barrowfield Street re-appears.

The city's eleven parishes are delineated by pecked line and again indicated by Roman numeral with a table of references moved to the north-east corner. However, the arrangement and numbering has been altered. An eight bar compass of similar design and orientation has been placed on the High Green

and a single scale bar of 500 yards lies in the south-east corner. Additional features include a cotton factory in the grounds of Little Govan nursery, a weaving factory west of Finnieston Street and a new shed on the South Quay.

James Lumsden and Son were responsible for several guides published during this period, including the *Steam Boat Companion and Guide to the Romantic Scenery of Loch Lomond*, both of which ran to three editions.² They collaborated in work with W. & A.K. Johnston. Hugh Wilson, engraver, copper-plate and lithographic printer, first appears in the Glasgow Directory for 1822 and in the 1825 directory there is an elegant example of his work. In 1829, his business moved to 197, Trongate where he engraved a district map of the area eight miles round the city. Ten years later, he was styling himself "engraver and lithographer to Her Majesty" and in 1846 he was responsible another city plan but little else is known of him.

Reference:

1. *Glasgow Herald*, no.2841, 15 March 1830.
2. Advertisements in the 1835 and 1838 editions of this work are found for a plan of Glasgow and Suburbs, corrected to the present time, price 1s. in sheets or 1s 6d on cloth.

37. (1830) KING, BERKELEY (lithographer)

MAP/ OF THE CITY OF/ GLASGOW

Size: 190 x 530 mm. Scale: [1:10800] or 1": 900 feet.

"B. King's Transfer Lithoy. 11 Charlotte Str. Rathbone place".

Royal Faculty of Procurators Library. Hill Collection.
Maps vol.1.(39)

On first consideration, this appears to be a reduction of the larger-scale plan by King of the same date. Certainly, the style of depiction and area of coverage, particularly the westward extension to the River Kelvin, are comparable. However, when the detail is looked at closely, considerable dissimilarities are obvious and it is most likely that this map was prepared for a different purpose from that of the larger representation. No proposed railway

lines are marked whereas the reference table, which lies below the title in the north-west quarter, indicates the identification of the Royalty, the neighbouring burghs and the proposed extensions by separate colour tinges. It is this widening of the jurisdiction of the city over the lands of Blythswood that suggests the date of 1830 for the map's creation.¹

Many of the noted variations are relatively minor but, in combination, they suggest a different source for some of the illustration of features. A few changes are merely cosmetic and display the flexibility afforded by lithography (e.g. the compass arrow has been moved to High Green; the lettering positions and sizes of names on the Greens are changed; a boundary line is added on the Annfield property; there is no hachuring on Garnethill). On the other hand, there are several features and streets now identified (e.g. the observatory on Garnethill, St. George's Church, Royal Bank and Exchange, Greenhill Place, Bothwell Street, Cochran Street). Other alterations include the renaming of some thoroughfares (e.g. in Calton, Canning becomes Barrowfield Street and Kent is changed to Main Street). Only one bridge is indicated crossing the Clyde to Hutchesontown but, downstream, two ferries, the new harbour and a lighthouse are shown. More streets are marked in the Gorbals at the south end of Crown Street while there are alterations in the building shapes between East Clyde Street and Bridgegate and east of High Montrose Street. Errors have crept into the transcription of a few names (e.g. Road from Parbick, Irongate Street). The most significant differences are in the west, in the area corresponding to that additional strip of the larger King depiction. Quarries are mapped east of Woodside Village but no Woodlands Castle is shown. Minor name changes occur (e.g. Woodside Street for Road) but, in general, this is a more informative record of the area with notes of land ownership (e.g. Overnewton, Mr. Taylor; Kelvinbank, Mr. Wilson; Kelvingrove, Mr. Dennistoun) and the indication of more features (e.g. Cranstonhill Water Works, weaving factories, Anderston printfield, gasometer, Printfield Pond). It is difficult to assess what may be the unique source for this delineation - some features clearly are based on the same Smith source as the larger King work - but, again, local estate surveys may explain the information detail of the western sector.

Reference:

1. BELL, J. and PATON, J. *Glasgow: its municipal organization and administration*, 1896. p.26.

38. 1831 CLELAND, JAMES

To/ THE HONOURABLE/ Robert Dalglish/ LORD
PROVOST OF GLASGOW/ This Map of the/ TEN
PARISHES Within the ROYALTY/ And the Parishes of
Gorbals & Barony/ of/ Glasgow/ Is very Respectfully
Inscribed/ By his Faithful and Obedient Servt./ James
Cleland.

Size: 740 x 440 mm. Scale: [1:10560] or 1": 880 feet.

"Prepared for the Enumeration of the Inhabitants in 1831".

Inset: MAP OF/ THE BARONY PARISH/ and/ Royalty of
Glasgow/ Laid down to a small Scale/ 1831.

Size: 183 x 245 mm. (widest dimensions).

Scale:[1:95040] or 1": 1.5 miles].

In 1831, James Cleland produced his *Enumeration of the Inhabitants of the City of Glasgow and County of Lanark* prepared for the national census of that year. The following year, a much expanded second edition which included biographical sketches of eminent citizens and valuable information on the city and its institutions, appeared. This map was produced to accompany these reports¹ and, despite the lack of attribution, is a second state of Smith's 1822 map (no.26), with the same orientation, lettering, detail and areal coverage. The inset map of the Barony parish and Royalty is exactly similar to 1822 whereas additions to the general plan include the indication of the Garnkirk and Glasgow railway line, with its coal depots, the marking of the Parliamentary Road approach, "projected by Mr. Cleland and executing under his direction in 1831", and the depiction of the dock basin at the south end of Gillespie Street. South of the Clyde and to the west of Windmill Croft, the note on the Barony of Provan has been replaced by the South Quay, the road from Greenock and property details while in Anderston and Blythswood, the hachuring of hills has been removed to allow the increased depiction of the developing street pattern, particularly in the area between Shamrock Street and the continuation of Argyll Street. Hill shading has been retained only in the areas beyond the advancing street grid. An additional note on the extension of jurisdiction over the nine wards of Blythswood in 1830 is included and a heading note details that the plan exhibits "the Ten Parishes of

the City, the Burghs of Calton, and Anderston, the nine Wards of Blythswood Town, and the Parishes of Gorbals and Barony". Although Smith's 1828 plan (see no.32) indicates both bridges at the foot of the Saltmarket, Cleland continues to mark only the wooden crossing.

State II A third state of the map was printed the succeeding year,² with the following alterations; the dates were changed to 1832, a note "The Profits applied to charitable purposes" heads the title and a further entry indicates that the Boundaries of the Burgh of Glasgow as fixed by the Commissioners under the Scotch Reform Act, 1832 are shown by a deep black line. A newspaper advertisement of November 1832³ confirms this further state, since it discusses a new city plan, indicating Royalty stones, about to be published by Cleland, specifically including the coverage of Anderston and Blythswood, previously not included, and the proposed boundaries of the Reform Bill. Profits from the sale of this plan, price £1.1s. varnished and put on rollers, were to be given to local charities. Although the map under discussion does not indicate the proposed Parliamentary boundary fully, it is indicated on the inset plan of the Barony Parish, complete with reference numbers (see no.41), while that part of the boundary crossing the general map is shown. Clearly, printing costs were saved by re-using the original plate.

Reference:

1. *Glasgow Herald*, no.3006, 21 October 1831. "A Map of the City and Suburbs, exhibiting the Royalty Stones...and the west end of the Garnkirk Railroad, is appended to the work".
2. Glasgow University Library. Case Maps C18:45 Glasgow 3.
3. *Glasgow Herald*, no.3118, 16 November 1832.

39. 1832 ANONYMOUS

Franchise Map/ OF/ GLASGOW/ Shewing its extent with
all the latest improvements/ and exhibiting the Boundaries
as laid down/ By the/ Parliamentary Commissioners/ Within
which Ten Pound Voters exercise/ the Burgh Franchise./
1832.

Size: 420 x 545 mm. Scale: [1:15840] or 1": 1320 feet.

N.L.S. Stevenson Deposit.

A cruder, unattributed version of the following reduction which follows its layout and features in almost exact replication. Minor changes include a slight alteration in the title layout, and the addition (e.g. Humane Society House, Napiers Dock) and omission (e.g. Tradeston, Rutherglen Bridge) of some names, while a few spellings are varied (e.g. Ruglen for Rutherglen and the incorrect copying of Blockearn as Flockearn). More noticeable is the diminution of the compass point to a four-bar arrow relocated in the north-west corner and introduction of a roughly drawn title vignette depicting a seated figure resting on a shield bearing the city's coat of arms and extending her arm to display steam and sailing vessels in a possible reference to Glasgow's wealth being founded on trade. Behind her are illustrated the Cathedral, Knox's monument and a collection of smoking chimneys.

40. 1832 ATKINSON, THOMAS & CO. (publishers)

Franchise Map/ of/ GLASGOW/ Shewing its extent. with all the latest improve-/ments. and exhibiting the Boundaries as laid down/ by the/ Parliamentary Commissioners/ Within which Ten Pound/ Voters exercise/ the Burgh Franchise./ PUBLISHED BY ATKINSON & CO./ 1832.

Size: 400 x 530 mm. Scale: [1:15840] or 1": 1320 feet.

Frontispiece to: *An Appeal to the Middle Classes of Glasgow on the Right Use of the Elective Franchise*. 3rd ed., 1832.

Mitchell Library. B311187a. Coloured.

Atkinson was a Glasgow bookseller and stationer and, at first sight, this plan seems to be a reduced version of the Gardner Boundaries Report map of that year (see no.41), with a similar coverage and orientation. However, the style of lettering and its internal arrangement is quite different and it may be assumed that this is, in fact, a corrected lithographic reduction. Several more streets on both sides of the river and other features are named (e.g. Fleshers' Haugh, Post Office, Hunterian Museum). Another wooden bridge (used temporarily between about 1833 and 1846) is indicated between Carlton Place and Great Clyde Street. The scale bars have been removed to the south-east corner but the boundary continues to be coloured red. Both Partick and Canning have been corrected from the original but the distances at the boundary points and the names of burns south of the Clyde have been omitted. This map was first advertised in the local press in June 1832¹ and was announced as published the following month,² priced sixpence for the whole pamphlet or one shilling for the map delineated with a coloured line. £10 was the significant value of property entitling a householder to vote in the cities, burghs or towns.

References:

1. *Glasgow Herald*, no.3073, 15 June 1832.
2. *Glasgow Herald*, no.3086, 27 July 1832.

41. [1832] (GARDNER, JAMES (engraver))

GLASGOW

Size: 505 x 755 mm. Scale: [1:10800] or 1": 900 feet.

True scale: [1:10560] or 1": 880 feet.

Opposite p.11 in: *Reports Upon the Boundaries of the Several Cities, Burghs, and Towns in Scotland, in respect to the election of members to serve in parliament.* 1832.

H.C. Paper 1831-2 (408.) XLII.1. Coloured.

The reports contain plans of 73 Scottish burghs prepared for the purposes of the impending Reform Bill.¹ These plans are all drawn at a uniform scale, although, when measured, the scale bar is not that claimed of six inches to one mile, and are uniform in style despite being executed by several London engravers, namely James Gardner, Henry Martin, J. Henshall, Thomas Ellis and Benjamin R. Davies. Although unattributed, the likelihood is that the Glasgow plan is the work of Gardner who was responsible for the neighbouring maps of Edinburgh and Leith, Aberdeen, Paisley and Dundee. Gardner was a map engraver and seller, who was later to act as an agent for the sale of Ordnance Survey maps.²

Inevitably, given the new boundaries, the plan shows a far wider area than many of its predecessors, stretching as it does from the River Kelvin to Parkhead. A basic street pattern is given but very much in shaded block form (e.g. no attempt is made to distinguish clearly the warren of closes and wynds off the Saltmarket). Major thoroughfares are named, as are several of the most important public buildings. Further from the city centre, individual buildings are indicated by solid blocks. The plan also locates major industrial units (e.g. St. Rollocks foundry, Port Dundas distillery), tolls, the Paisley and Ardrossan Canal, Garnkirk Railway, the harbour basin and slip docks, as well as surrounding farm steadings and villages. Quarries are identified by hachuring but only one hill (Kenny Hill) is shown, cut through by the boundary line. The map is not intended to detail new developments within the city (e.g. the street pattern in the Woodside - Sandyford area mapped by Wilson in 1830 (see no.36) does not appear). This plan does, however, illustrate both Hutcheson Town Bridge and the wooden construction to the east. It is

possible that the map was rushed in preparation for there are certain signs of error (e.g. Patrick Bridge, Cannig Street).

The map distinguishes the proposed Parliamentary boundary in red with significant points numbered to correspond with the report. All substantial bodies of water have been coloured blue. Two scale bars, of furlongs and yards, lie in the south-west corner below an eight point compass with north oriented at 28⁰ west.

Reproductions:

1) PLAN/ REFERRED TO IN/ REPORT UPON THE PARLIAMENTARY BOUNDARIES/ OF THE/ BURGH OF GLASGOW/ 1832./ Reproduced for Glasgow Records, Vol.XI. (Report printed pp.683-4). in G.B.R., vol.11, 1823-32, as endpiece.

A somewhat faded lithographic transfer (e.g. incomplete path lines on Glasgow Green and hazy tree symbols) with the same scale, size, errors, colouring and orientation

2) PLAN OF GLASGOW/ SHOWING ITS PARLIAMENTARY BOUNDARY IN 1832/ (Reproduced from Reports upon the Boundaries of the several Cities, Burghs and Towns in Scotland, 1832) opp. p.204 of MARWICK, J.D. *The River Clyde and the Clyde Burghs*, 1909.
Size: 340 x 490 mm. Scale: [c1:18100] or c1": 1510 feet.

A reduced but clearer reproduction, uncoloured and without a scale of inches above the upper scale bar.

References:

1. 2 and 3 Gul.IV 1832. c65. An Act to amend the Representation of the People in Scotland.
2. TAYLOR, E.G.R. op. cit. p.363.

42. (1832) DOWER, JOHN

GLASGOW

Size: 195 x 250 mm. Scale: [1:16560] or 1": 1380 feet.

"London, Published by Orr & Smith, Amen Corner, Paternoster Row. Drawn & Engraved by J. Dower, Pentonville, London."

N.L.S. EMS.s.69.B.

John Crane Dower (c1790-1847) established his map engraving and printing business in Pentonville, London in 1820.¹ During his career, he produced several town plans and county maps for both England and Scotland, railway maps and a general world atlas. This map would seem to be a reduced copy of Wilson's 1830 plan (see no.36) with a slightly smaller areal coverage. However, there are again particular differences in what has been chosen for reproduction. Inevitably, given the smaller scale, detail is lost in the depiction, particularly that of minor streets, boundaries, gardens and smaller buildings. However, the reliance on Lumsden runs to the same shape for the Huntarian (sic) Museum and Royal Infirmary, the copying of the new street layout south of Crown Street, including the line of Paddock Row Street, the street pattern at Blythswood Terrace, the proposed Parliamentary Road, the cotton works in the Govan Nursery and the naming of Mr. Heugh's Church in Old Vennal. On the other hand, the new street layouts in Woodside and Holland Place are not shown. The naming of Gillespie Street in Finnieston appears to be Dower's only addition and may be taken from Cleland's map of 1831 (see no.38). Following Wilson's delineation, Hutchisonton (sic) Bridge alone is shown. It is on the assumption of a publication date of late 1831 for Cleland's map that this map's date is based.

In layout, the title and map are surrounded by a wide lined box with corner bosses, giving an impression of framing. The map has no compass but is of a similar orientation to Lumsden. A scale bar of 440 yards is in the same position south of the Clyde but an illustration of the New Exchange replaces the references to parishes. This plan has a table of 63 reference numbers running across the bottom. By using one number to indicate a particular type of works (e.g. 4: Chemical works), Dower is able to give an instant impression

of certain areal specialisations within the city (e.g. a concentration of dye-works in Hutchesontown). Hachuring and the shading of the quarries has been re-introduced.

Reference:

1. HUNNISETT, B. *An Illustrated Dictionary of British Steel Engravers*. Aldershot, 1989. p.29.

43. [1833] SWAN, JOSEPH (engraver)

McPHUN'S GUIDE/ THROUGH/ GLASGOW./ Swan Sc.

Size: 190 x 345 mm. Scale: [1:12400] or 1": 1033.3 feet.

Opp. p.1 of: *M'Phun's Guide through Glasgow*, 1833.

M'Phun's *Guide* first received notice in the local press in August 1833,¹ "bound in pocket size, 2s.6d." and illustrated by a "neatly engraved plan of the city". This plan was available separately as a pocket map, sold either in a case at 1/- or as a sheet for 6d. The guide quickly became popular and was well received by contemporary journals.

The plan is, in fact, an extended third state of the Scott 1821 plate (see no.22), widened to east and west to encompass the developments of the growing city. Such elements as the steamboat in the Clyde, boundary lines, the design of compass, and the choice and lettering of names reveal the map's origin. However, more significant is the close similarity of the reference key, which, although expanded, replicates the first eighteen numbers of Scott with only one exception. In addition, traces of the original scale bar and map margin, inexpertly erased from the plate, can still be discerned in the present map's south-west corner and to the east of the compass respectively. The expanded table, placed in the south-west, again concentrates on places of worship and banks, but with some errors (e.g. St. Enoch Church is confused with the Chapel of Ease for the Barony Parish).

Many of the additional features (e.g. naming of the property of the Glasgow Water Coy.) or alterations (e.g. the re-appearance of Canning Street) may be based on Smith's map of 1828 (see no.32) - certainly, the best and most detailed map then available. New features illustrated by Swan tend to be

restricted to the western extension where there is a most detailed delineation of grounds in the proposed Douglas Crescent-Brandon Crescent area, distinguished by a different style of lettering. The new Parliamentary Road is named Asylum Road and the Carlton Place bridge is shown. The map has two marked flaw lines cutting across the impression, running north-east from the Hunterian Museum and the Episcopal Chapel.

Joseph Swan appears to have commenced his trade as an engraver in Glasgow in 1819. By 1832, his entry in the Glasgow directory describes him as "engraver and publisher of the Lakes of Scotland". In 1834,² he announced the opening of a new lithographic printing office after a two years sojourn in Belfast, emphasising the "neatness, cheapness and despatch" of the technique. Two years later, he was actively advertising lithography for a range of products including plans.³

References:

1. *Glasgow Herald*, no.3196, 16 August 1833.
2. *Glasgow Herald*, no.3314, 10 October 1834.
3. *Glasgow Herald*, no.3502, 29 July 1836.

44. 1833 WILSON, HUGH (engraver)

CITY of GLASGOW and SUBURBS, Corrected up to 1833.

Size: 260 x 420 mm. Scale: [1:10800] or 1": 900 feet.

"Published by James Lumsden & Son & H. Wilson Engraver Glasgow 1t. June 1833. Price One Shilling Plain & One Shilling & Sixpence Coloured".

S.R.A. D-TC13/20.

A second state of the 1830 plate (see no.36) with the only apparent alterations being the changes of date and the reduction in price, which may reflect the lack of any new topographical detail. There is an attached label to this copy allowing the distinction of districts by separate colours.

45. [1834] SWAN, JOSEPH (engraver)

McPHUN'S GUIDE/ THROUGH/ GLASGOW./ Swan Sc.

Size: 190 x 345 mm. Scale: [1:12400] or 1": 1033.3 feet.

Headed "GLASGOW NEW BURGH DISTRICT MAP".

Opp. p.1 of: *M'Phun's Guide through Glasgow*. 2nd ed., 1834.

A further state of the 1833 plate with noticeably fainter shading, the added heading and few, relatively minor alterations, which include the identification of South and North Woodside Roads, the introduction of tree symbols on Glasgow Green and the very north-west corner, and a re-alignment of the lettering indicating the Infantry Barracks. The flaw marks of the earlier impression can be detected on this later state of the plate.

The guide itself would appear to be a re-issue, rather than a new edition, with the only obvious change being the dedication to the *late* Lord Provost, James Ewing. By 1835, the accompanying plan was being described as "a very clear and accurate Map of the City brought down with all the improvements to the present time".¹ This same map illustrates the fourth edition of 1837 and copies exist with an attached label enabling five individual districts to be distinguished by separate colours. At the same time, McPhun also published other tourist literature, including *The Scottish Tourist's Steam-Boat Pocket Guide* and *The Pocket Guide to the Picturesque Scenery of Scotland*. It may be significant to note an 1838 advertisement for *The Pocket Guide through Glasgow*, which describes the issue as the fourth thousand.² If it was the case that each edition was limited to an issue of 1,000 copies, but remembering that additional sheets may have been produced for single sheet issues, it gives some idea of the number of impressions pulled from the one plate. This level of production may be confirmed by contemporary estimates of the accepted "life" of an engraved plate.³ Where too many impressions were taken, the wear created faint, broken or blurred and heavy black lines which was a problem many map producers appreciated.

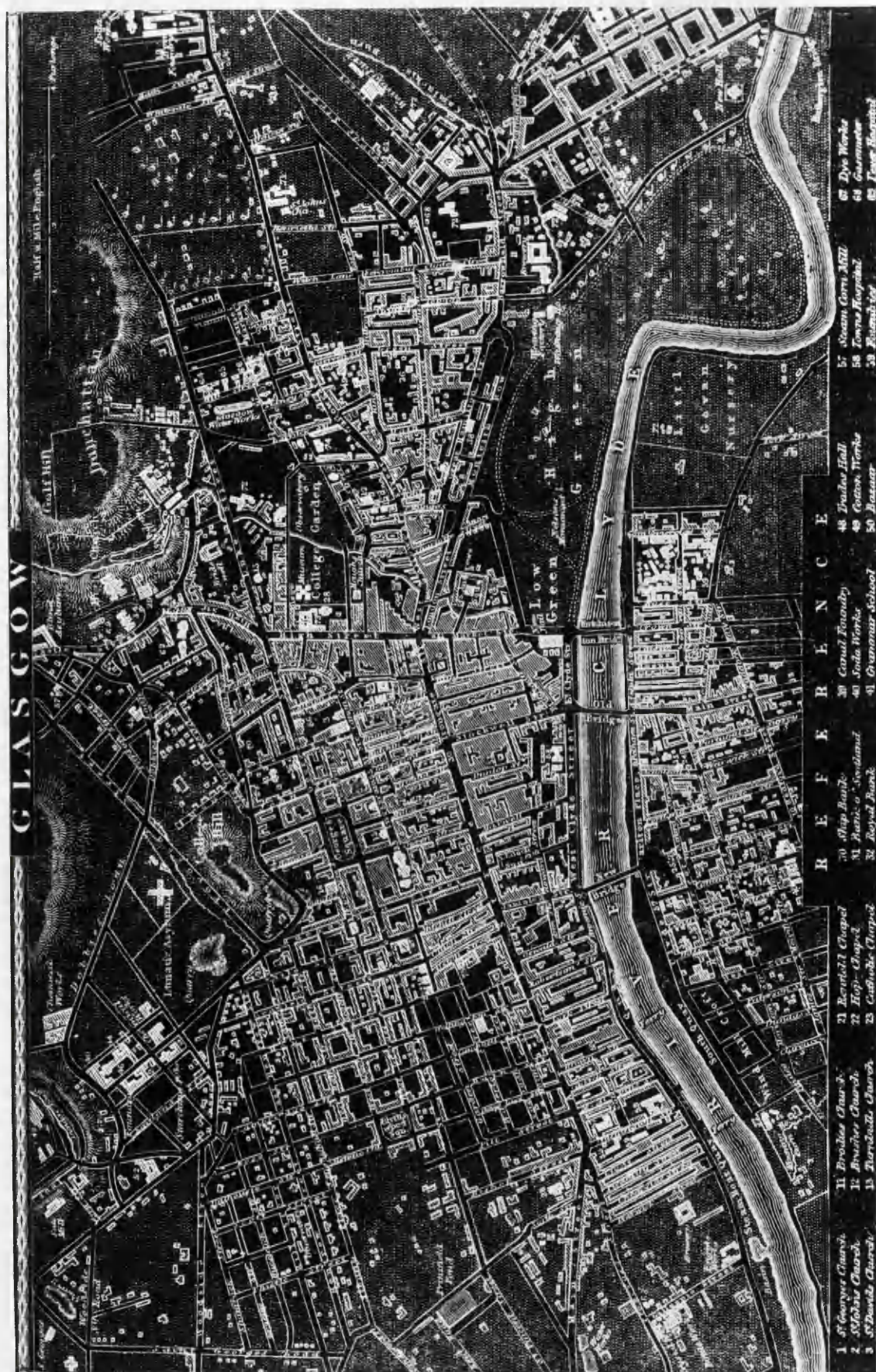


Figure 12: Glasgow, 1835 by Joshua Archer. (Reproduced by permission of The Librarian, Glasgow University Library).

References:

1. *Glasgow Herald*, no.3400, 7 August 1835.
2. *Glasgow Herald*, no.3678, 9 April 1838.
3. SMITH, D. (1985) op. cit. p.18.

46. [1835] ARCHER, JOSHUA (engraver)

GLASGOW

Size: 165 x 225 mm. Scale: [c1:18720] or c1": 1560 feet.

"London, Published for the Proprietors, by W. Edwards, 12 Ave-Maria Lane." "J. Archer sc."

On p.153 of: PINNOCK, W. (ed.) *The Guide to Knowledge*. Vol.III. London, 1835; being the first page of issue no. CLXX for 30 April 1835.

William Pinnock (1782-1843) was a publisher and writer of cheap educational works and catechisms, who produced a successful series of county histories. His *Guide to Knowledge* appeared in weekly penny issues of eight pages, illustrated by several town plans, county and celestial maps, and this issue is given over to a detailed description of Glasgow and its present state. This plan (figure 12) is distinctive in being an example of white line engraving, which cut or punched the image into the surface of a wood or metal block to appear white on the inked ground when printed. Although not a new technique, this style gained a limited popularity in the nineteenth century. However, the technical difficulties in obtaining a good print from the inevitably variable inking of a wide surface unbroken by engraving combined with the limitations in the amount of detail which could be depicted often resulted in crude prints and the method was not developed.¹

The plan very closely follows the design and layout of Dower's map (see no.42) without his illustration of the New Exchange (replaced by the scale bar) and slightly reduced in the north. Joshua Archer, a draughtsman and engraver, who produced several county maps and a plan of London, is also recorded as working in Pentonville, strengthening the connection with Dower. There is a

similar choice and naming of features (e.g. the line of Kinning House Burn, the selection of hills) but the map is not a complete reproduction, for names are placed differently and certain features are indicated but not named. A similarly thick border with corner studs boxes the map, combined with a central title to the top mirrored by an extensive table of references across the bottom. Despite the different style, trees, quarries and hill hachuring are quite clear. The table of references has been completely redrawn and extended to reduce lettering on the map itself. This plan was exhibited at the Glasgow International Exhibition of 1901² but appears to have been ignored subsequently for it is not listed in any Scottish or other major cartobibliography.

References:

1. SMITH, D. (1985) op. cit. p.25.
2. Glasgow International Exhibition, 1901 *Official Catalogue of the Scottish History and Archaeology Section*, 1901. p.183, no.2038.

47. (1835) WILSON, HUGH (engraver)

GLASGOW AND SUBURBS, PARLIAMENTARY DISTRICTS

Size: 260 x 420 mm. Scale: [1:10800] or 1": 900 feet.

"Published by James Lumsden & Son & H. Wilson
Engraver Glasgow."

Royal Faculty of Procurators Library. Hill Collection.
Maps vol.1.(50).

A further edition of the Wilson original of 1830 (see no.36), but post-dating the 1833 state (see no.44) since a fourth unnamed bridge is shown crossing the Clyde at Carlton Place. In addition, New Parliament Road is recorded but there is no mapping of the railway depot or route to Edinburgh. South of the Clyde, the later Wilson depiction of 1844 (see no.62) shows the proposed dock at Windmill Croft and a station at North Bridge Street. Neither features are noted on this plan. There are several other elements from

the later sheet which do not appear here, including the house of refuge north of Annfield, houses on the Keppoch Hill road, the street system north of Anderston printfield, Elmbank Crescent, Clarendon Place and New City Road. Apsley Place and Queen's Crescent are not identified but there is some indication of houses on the eastern half of Woodside Terrace. Furthermore, the double line track along West Street is marked. Unlike the 1844 plan, the scale bar is retained.

The one distinctive feature of this version is the numbering of individual parliamentary districts, emphasised by separate colour washes and this may help to suggest a possible date of publication. Between 1833 and 1844, there were three parliamentary and three bye-elections in Glasgow.¹ Given the presence or absence of certain elements (e.g. Provanside Quarry is omitted), it is tentatively suggested that this map relates to the parliamentary election of January 1835.

Reference:

1. WILKIE, T. *The Representation of Scotland*. Paisley, 1895. pp.140-141.

48. 1836 HODGE, ROBERT and THOM, ROBERT

PLAN/ [OF THE]/ CITY OF GLASGOW/ AND ITS/
SUBURBS/ SURVEYED AND DRAWN/ FOR THE/
GLASGOW/ NEW WATER COMPANY/ BY/ ROBERT
HODGE/ under the directions of/ ROBERT THOM/ Civil
Engineer./ 1836

Size: 1620 x 2070 mm. Scale: [c1:2286] or c1": 190.5
feet.

S.R.A. D-TC13/21. Manuscript. Coloured.

This very large manuscript shows, in some detail, the street pattern with heights above sea level given for every major road junction. A note on the map states that the primary level for these heights is 200 feet above high water mark of the River Clyde taken at Rutherglen Bridge. Combined with the attention given to the Water Company's cisterns and reservoirs, mill dams and the course of the Molendinar Burn, this document is clearly an important early

example of planning for the city's water supply. However, the plan also is a valuable record of other features including the line of the Garnkirk Railway, quarries, factories, certain public buildings (e.g. the Asylum), churches and city gardens. Care has been taken to detail the layout of George Square and indicate the harbour features of the slip dock, Lancefield Basin, and the South and Steam Boat Quays. An additional note by Thom informs that the measurements and levels were taken in October and November 1836 by Hodge. Given its size and comparable scale, the plan appears to be based on Smith's large scale work of 1821 (no.23), particularly when the detail of individual buildings (e.g. the College, Asylum and Cathedral) is considered. However, there are many omissions of streets, especially at the periphery of the city (e.g. Little Govan Nursery), and several additions. Most noticeable are the inclusion of the New Parliamentary Road, the accommodation bridge across the Clyde and the Garnkirk Railway. Several thoroughfares have been given name changes (e.g. Barrowfield Street is re-named Canning Street) and there is increased detail of the layout in Camlachie and in the north west, where Smith's original intended design is given more substance. New streets also appear within the general city layout (e.g. Fox Street, Ure Place). Some, but not all, of these additions could be based on Smith's later work of 1827-8. Overall, this plan extends slightly further north and south than Smith, with more detail in the eastern section but less in the western suburbs.

The work is oriented with north 55° west of the top of the sheet and two scale bars are placed at the foot, the compass point being placed in the north east corner. Robert Hodge later worked under Andrew Thomson before moving south, eventually becoming surveyor and engineer to Plymouth Corporation.

49. (1838) McPHUN, WILLIAM (publisher)

GLASGOW AND SUBURBS

Size: 280 x 465 mm. Scale: [[c1:10140] or c1": 845 feet.

"Published by W.R. McPhun. 86 Trongate. Glasgow."

Cover description: *McPhun's New Pocket Map of Glasgow and Suburbs.*

Mitchell Library. B546378.

Although this map is catalogued with a tentative date of 1848, it is extremely unlikely that the map could date later than 1839 since the Glasgow Directories show that McPhun's business transferred to 84, Argyle Street in 1840. His address had been in the Trongate since 1826 but the indication of the Bridge of Sighs along with the Paisley and the Glasgow and Edinburgh Railways suggest a later dating of 1838 or 1839. Certainly, a comparison with the McPhun depiction of 1840 (no.52) shows several new elements in the later map which do not appear on this sheet (e.g. the proposed dock at Windmill Croft, the design of the path layout on the Green, the Custom House), although, in general, the area covered, size and scale of the two plans are similar. This map is, however, cruder in the overall illustration of features. Far fewer street or place, and no building, names are indicated, with a marked concentration on the city centre. None of the later street proposals for Sandyford, the New City Road or south of the river are marked but a significant pattern in the north-west corner could reflect an elaboration of the earlier McPhun maps of 1833 and 1834 (nos.43 and 45). Nevertheless, this delineation is clearly a transitory state between the 1834 depiction and the 1840 sheet. It is possible that this copy is a draft proof or transfer rushed out to compete with the contemporary Lumsden plan - the map is similarly priced at 1s. The comparison of this sheet with the map engraved by Hugh Wilson and published by the Lumsdens, in particular the 1833 state (see no.44), shows a very close similarity in the representation of several significant features. Most notably, the design of the paths on the Green, the shape of East Cowcaddens Quarry, and the choice, position and lettering of street names suggest a common base. Conversely, this McPhun map introduces changes or

elements not recorded by Wilson (e.g. the street layout in the north-west). However, there is sufficient correlation in the mapping of the central area to support the presumption that the present plan is a lithographic transfer, at a slightly different orientation, based on the details of the Wilson plate. A close inspection reveals a degree of distortion in the peripheral areas and a thickening of the shapes of many elements. Unlike the earlier McPhun maps, there is neither a table of references nor a scale bar.

State II: (1839)

R.G.S. Library. S/ S.13.

A slightly later version with many more place, street and building names added and the Custom House and light house on Steam Boat Quay identified. McPhun's address is still given as 86, Trongate and, given the features shown, it is assumed that this plan was prepared about the time of his move as a finished form of the original draft. Again, in comparison with the later McPhun depiction, there are noticeable differences in building and street layout (e.g. west of Windmill Croft) although much of the basic pattern remains the same.

50. [1839] AIKMAN, GEORGE (engraver)

PLAN/ OF/ GLASGOW

Size: 140 x 225 mm. Scale: [1:20880] or 1": 1740 feet.

"G. Aikman. Sc. Edin."

In: *Black's Economical Guide Through Glasgow; with a plan of the city*. Edinburgh: Adam and Charles Black, 1839.

B.L. 10351. aa. 28(1).

Re-appearing in: *Black's Picturesque Tourist of Scotland*. Edinburgh, 1840 and subsequent editions.

In June 1840, Adam and Charles Black first gave notice of their guide book, *Picturesque Tourist of Scotland*, published at a price of 7/6d and containing engraved plans of Edinburgh and Glasgow.¹ The same notice indicated that their *Economical Guide Through Glasgow* had also recently appeared and it is in this publication that the map first appeared in 1839. The guide was well received, being described as "comprehensive, intelligent and well-arranged".² George Aikman is known as an Edinburgh line engraver of small bookplates which included landscapes and architectural views. His name first appears in the Edinburgh Directory for 1823. Between 1827 and 1830, he resided at Warriston's Close and from 1830 until his death, his address was 29, North Bridge.

This is yet another small plan with some very interesting features which make it difficult to discern its exact origin. Its coverage extends from the River Kelvin to Bridgeton and from the Paisley Canal Basin to north of the St. Rollox Chemical Works, giving it areal dimensions similar to both McPhun's new map of that year and the earlier Boundaries Report plan (no.41). This similarity with the 1832 depiction extends to the repetition of the particular linework at Golfhill and Broom Park, the re-appearance of the quarry east of Woodside, the identification of St. George's in the Fields, the street pattern on the site of Little Govan Nursery and the very obvious narrowing of the Clyde at Steam Boat Quay - although somewhat exaggerated in the present case. However, apart from the obvious disparity in the extent of what is depicted, this plan is no mere reduction of the Boundary map, for it incorporates many

additional features, some of which may be taken from other contemporary illustrations while others appear to be new. The railway lines to Edinburgh, Paisley and Garnkirk are all delineated while the proposed docks at Windmill Croft and the Carlton Place accommodation bridge are also included. On the other hand, the line of the Pollok Railway along West Street is not shown. New elements on this sheet include the Normal Seminary, founded by David Stow and built in 1836-7, situated in Garnethill, the proposed cemetery of the Southern Necropolis (opened in 1840), the indication of building yards beside the slip docks and basin on the Clyde and the marking of the Zoological Gardens on the former Cranstonhill Water Works ground.

Much of the shading of buildings and block shape is similar in detail to the 1832 plan but many more streets are named, several new thoroughfares are identified (e.g. Elmbank Crescent, Woodside Crescent, New City Road) and a greater number of public buildings are located, often by darker marking (e.g. Custom House, Dr. Wardlaw's Chapel, Clairmont House). The particular pattern south of Parliamentary Road may be taken from Smith and Collie's 1839 depiction, indicating that Aikman spread his net wide to use many sources. Throughout its compass, new buildings have been added, updating and providing a remarkably contemporary illustration of the city. The *Picturesque Tourist* itself was issued repeatedly during the period under consideration up to the seventeenth edition in 1865. The map also appeared in several of the Blacks' other publications and is placed on different pages in the various editions but, in general, it is located opposite that part of the text describing the city. Although the basic plan and layout remained the same, several significant alterations were made to the original depiction, of which the most important are:

- State II 3 ed. (1843) Scale bar of 1500 yards and three coloured routes indicating walking tours encompassing the city's major points of interest as described in the guide are added; Greenhill Place named. Also appears in: *Black's Economical Guide Through Glasgow*. 2nd ed., 1843.
- State III 9 ed. (1852) Line of the Caledonian Railway and terminus included, obliterating East Cowcaddens Quarry. Also appears in: *Black's Picturesque Guide to Glasgow and the West Coast*, 1852.
- State IV 11 ed. (1854) Southern Necropolis replaces earlier identified proposed cemetery and streets to the north have additional building

shading; South-side terminus and General Terminus Railway marked; Goods Station off Eglinton Street shown and more building blocks mapped south of the river (e.g. at Paisley Road); river at Steam Boat Quay broadened and additional shed placed at Windmill Croft; Old and wooden bridges replaced by Victoria and suspension bridges; Royal Circus, Queen's Crescent, Lansdowne Crescent, Lyndoch Crescent, Woodlands Terrace, Royal Crescent and St. Vincent Crescent are identified or marked; more buildings are shown west of Port Dundas Road, north of Argyll Street, and along Sauchiehall Street; a new street pattern is indicated north of Queen Street Station; Kelvingrove Park is named while the Asylum is altered to Poor's House; a four-bar compass is placed below the title; the Zoological Garden and building yard at Steam Boat Quay are removed. Also appears in: *The Clyde and its Watering Places*, 1854.

- State V 12 ed. (1856) Extensive additions in the West End include the naming of Woodland Road, Sandyford Road, Kent Road and Stobcross Street, and the depiction of buildings in Park Circus and north of St. Vincent Crescent; the coloured routes have been removed; another shed is added at Windmill Croft and "Printed by Schenck & McFarlane, Edinr." appears below the southern margin; Villafield is identified north of Stirlings Road and the shading of the Caledonian Terminus is changed.
- State VI 13 ed. (1857) Imprint reduced to "Schenck & Macfarlane"; "Published by A. & C. Black, Edinburgh." added below scale bar.
- State VII 14 ed. (1859) Imprint removed completely and publishing note altered to read "Edinburgh. Published by A. & C. Black."; reference table of five hotels added in north-west corner with numbers placed in the appropriate locations on the map.
- State VIII 15 ed. (1861) New imprint below southern margin reads "Printed by W.H. Macfarlane, Edinr."; table of hotels reduced to four and two names changed slightly; an extra-marginal indication to the Cathedral lies above the northern border; publishing note reverts to State VI.

- State IX 16 ed. (1863) Fish Market indicated opposite jail; bridge marked east of Humane Society House; Finnieston Street named and Elliot Street added; streets in the Park Circus development (Park Terrace, Cliff Terrace, Park Quadrant) are identified; imprint and publishing notes deleted.
- State X 17 ed. (1865) Engraving note deleted; dock at Windmill Croft indicated and extensive sheds marked on south bank opposite the named Stobcross Wharf; Caledonia Road identified with wider areas of building shaded to north; the Harbour is identified; Craigpark Street, Broompark Drive and Westercraigs Street depicted in Dennistoun; additional building marked around Villafield; Kyle Street off Dobbies Loan marked: more extensive built-up area around Port Dundas; Berkeley Street and West St. Vincent Street, with an altered street pattern, represented; hotel references reduced to three; extra-marginal notes identify the neighbouring districts of Maryhill, Partick and Govan, the railway stations and Sighthill Cemetery.

After careful scrutiny of alternative contemporary sources, it is very difficult to make any firm conclusions about the timing or source of additions or alterations to this depiction. The closest plan to display a series of states of illustration is the Swan map which accompanies the Post Office directories (see no.69). Comparison shows that many features on the Swan original of 1848 do not appear on Aikman until much later (e.g. Swan identifies the Southern Necropolis, Woodland Road, Sandyford Road, Finnieston Street and several other features from the outset). On the other hand, Victoria Bridge is not named by Swan until 1865.

References:

1. *Glasgow Herald*, no.3902, 22 June 1840
2. *Glasgow Herald*, no.4313, 31 May 1844.

51. 1839 SMITH, DAVID and COLLIE, JAMES

PLAN OF THE CITY/ OF/ GLASGOW/ AND ITS/
 ENVIRONS/ ACCURATELY SURVEYED./ AND
 BROUGHT DOWN TO THE PRESENT TIME/ BY/
 DAVID SMITH & JAMES COLLIE ESQRS./ 1839

Size: 575 x 940 mm. Scale: [1:4752] or 1": 396 feet.

"Engraved and Published by R. Scott, 65 Princes Street
 Edinburgh & John Symington & Co. Glasgow"

This revision of the Smith 1827-8 plate was advertised as just published in the *Glasgow Courier*, no.8733, 28 May 1839, at a price of 4s. plain, 5s. coloured and 10s.6d. mounted on rollers. The general layout, lettering, hachuring, orientation, size, scale and position of features (e.g. compass, scale bars and title) are similar but many new features are added - in particular, the delineation of the Glasgow, Greenock and Ayr Railway line and the proposed Edinburgh and Glasgow line. Several changes of ownership are recorded (e.g. Sandyfaulds, now the property of the heirs of William Scott) and many new buildings, of various function, added (e.g. Anderston Parochial School, Bridgeton Church and School House, Tomson's Pottery, St. Paul's Church). New streets are marked (e.g. Cleland Street, Albion Place, Soho Place and Canal Street) and several areas show signs of new building development (e.g. the lands of the former Govan Nursery, which now include an iron works, dye work and mill; the area around Woodside Place). Although Blythswood, Garnethill and the area north of the High Kirk are distinguished by hill shading, hachuring on this map is relatively limited. Superimposed on the existing layout, there is a proposed plan for crescents of villas to the south east, matched by a similar pattern around the New City Road in the north west. Surprisingly, the pecked line street proposals of the earlier map are still apparent on this state. The harbour area shows new sheds on the South Quay and Windmill Croft is marked as intended for wet docks. Portland Bridge is now shown, other bridges are re-named and a new wharf by Hutchesontown Bridge has been marked. Hyde Park Quay and a building yard are depicted beside Lancefield Basin. New paths and gates are indicated on the High Green and the depiction of George Square now includes the monuments to Sir Walter Scott (erected in 1837) and James Watt (1832). Although there is no

marking of Royal Crescent, begun in 1839, the Customs House on Great Clyde Street is shown. On the Necropolis, John Bryce's 1834 monument to William McGavin is added and the Bridge of Sighs is included for the first time. A new position for the city is given as latitude $55^{\circ} 52' 10''$ North and longitude $4^{\circ} 15' 51''$ West.

Most alterations are consistent with the style of the earlier map but the title and reference table have noticeably less ornate lettering. James Collie was a Glasgow architect who produced a volume of *Plans, Elevations...and Views of the Cathedral of Glasgow* in 1835. This work appears to be his only association with Smith.

52. 1840 JOHNSON, WILLIAM

**SKELETON PLAN/ OF/ GLASGOW/ SHEWING THE
TERMINI/ OF THE RAILWAYS.**

Size: 375 x 260 mm. (widest dimensions). Scale: [1:5520]
or 1": 460 feet. True scale: [c1:10800] or c1": 900 feet.

"Drawn by W. Johnson Edinr. Engd by Sidy. Hall London."

Inset on: *Lanarkshire Shewing the Lines of Railway
Completed or Intended from Accurate Surveys; the New
Lines of Road &c.*, 1840. (sheet 11. Part 2nd.)

R.G.S. Library. S/D.26.

This map is a new state of the Thomson atlas original of 1822 (no.24), assumably re-issued by W. & A.K. Johnston after their acquisition of the atlas plates about 1838. There is no accreditation naming the Johnstons which contradicts the belief that they added their imprint on acquiring the plates. It has been thought that little alteration was made to the city plan, apart from the augmentation of the title and addition of certain railway lines, namely the Glasgow, Paisley, Kilmarnock and Ayr, and Edinburgh and Glasgow routes. However, closer study indicates that the publishers have taken great pains to update the plan and correct earlier errors (e.g. the rectification of Zingram Street). The Clyde has been broadened west of Glasgow Bridge and the

South Quay is indicated. In addition, the accommodation bridge at Carlton Place and that to Hutchesontown are marked. Additional streets are named (e.g. Adelphi, Malta, Bedford Streets and Paddock Row) while others are re-named (e.g. Bloomsbury and Marleborough have become N. Bridge and Eglinton Streets). North of the river, the washing house has been removed from the Green and the pattern of Great Hamilton Street, Monteith Row and London Street is depicted. This latter alteration has resulted in the removal of the line of the Camlachie Burn across Calton Green. The plan has been updated further to indicate the replacement of the Shambles by the Town House and jail, along with the Saltmarket continuation. Further north and west, the New Parliamentary Road and the lunatic and Magdalen asylums are marked, while many more streets are named in the Blythwood area with a new pattern of street blocks south of Gordon Street.

State II 1841

Same title, but with imprint "Published by W. & A.K. Johnston, Edinburgh and R. Weir, Lumsden & Son, Glasgow" at the bottom of the map.

Inset on: JOHNSTON, W.& A.K. To the Nobility, Gentry & Clergy of the County of LANARK, This Map Shewing all the Railways, New Lines of Road, &c. Is Respectfully Dedicated By the Proprietors, 1841.

N.L.S. EMS.s.669: Royal Faculty of Procurators Library.
Hill Collection.

Until now, it has been accepted that W. & A.K. Johnston made the one set of major additions to the plate and only added railway lines at a later date. Comparison with the 1840 state, however, shows that there are many more differences between these versions. In particular, the 1841 plan records the new Custom House and many sheds along both quay sides, while the Pollok and Govan Railway on West Street is marked. More building and street development is mapped in Gorbals east of Crown Street. North of the river, Royal Exchange and Blythwood Squares and some additional streets (e.g. Maxwell and Washington) have been added. More noticeable is the new layout around Maitland Street, between Cowcaddens and Port Dundas.

State III (1850)

Same title.

A later state, dating from about 1850,¹ exists with the addition of the Garnkirk line as well as proposed tunnels bringing a track down to Steam Boat Quay and a river crossing to the west of Jamaica Street Bridge. It re-appeared in an 1869 edition of the atlas by William Blackwood as an inset to the county map, *Lanarkshire Shewing the Lines of Railway Completed or Intended from Accurate Survey*.

Reference:

1. N.L.S. EMS.b.1.37.

53. [1840] McPHUN, WILLIAM (publisher)

GLASGOW AND SUBURBS

Size: 280 x 480 mm. Scale: [[c1:10140] or c1": 845 feet.]

"Published by W.R. McPhun. 84 Argyle St. Glasgow."

In: *McPhun's Stranger's Pocket Guide through Glasgow*.
New ed., 1840.

This would seem to be the first in a short series of plans appearing in a sequence of seemingly unrelated works published between 1840 and 1844. Contrary to the attribution of current listings, the map seems to have been published first to accompany a much enlarged and improved edition of McPhun's *Stranger's Guide* in 1840. Although the press announcement mentions the new edition,¹ it says nothing of a change of map style from the previous depictions. Nevertheless, this plan is markedly different from those illustrating earlier editions of the guide. In September 1840, the British Association met in Glasgow and it may be that McPhun decided to produce a more extensive and updated work to meet the increased interest in the city. Nothing has been discovered to confirm this supposition.

On closer inspection, the plan has many features which may be based on the Smith and Collie depiction of the previous year (no.51), in particular the indication of the new pattern of paths on the High Green, the proposed dock at Windmill Croft and the new City Wharf. The identification of the Custom House, the Bridge of Sighs and the parallel railway lines running down the middle of West Street are taken from his own earlier plan in the 1838-9 state (see no.49). There are, however, significant differences which make this plan much more than a copy of the larger work. Although many important public buildings and works are highlighted by darker shading, far fewer owner's names are given. New engine works at Greenlaw, a more extensive water works at Cranstonhill and the Royal Botanic Gardens off Clairmont Road are marked. Several entirely new streets are indicated (e.g. Queen and Royal Crescents) and the map has, at least, three areas of proposed layouts which are not based on Smith and Collie. These new patterns are in the Sandyford area, south west of Kingston and north of Woodside Road. Conversely, some of the proposals from the 1839 map are not copied onto this depiction, most notably the street development south of Parliamentary Road and the villa scheme for the south east. Street names are changed from the earlier map (e.g. Barrowfield Street rather than Canning Street, Woodside Crescent for Britania Place). Name changes can also be discerned in the railway lines where the Glasgow, Greenock and Ayr line has become the Greenock, Ayr and Paisley Railway. Although four bridges are shown to cross the river, following the pattern of the 1838-9 transitional state, they are also differently named. Furthermore, by extending west to Woodside and south to Cavendish Street, a slightly wider illustration of the city is given for these quarters, whereas the northern margin fails to encompass St. Rollox. An eight point compass, oriented 25° west of north, is positioned in the north-east while the title is placed off the map.

The plan also has some striking resemblances to the earlier work of Hugh Wilson (no.39), particularly in the choice and placing of names (e.g. Ayr Road by Kilmarnock, the Burying Ground at the Cathedral) and the shape of some of the line work (e.g. at Campbell field). Subsequently, this depiction appeared in three separate states, namely:

State II **[1841]**

PLAN OF/ GLASGOW./ NICHOL LITHO.

State III [1841]

PLAN OF/ GLASGOW./ Pubd. by J. & D. Nichol, Montrose./
Nichol lithog. Edinr.

State IV [1844]

PLAN OF/ GLASGOW./ Published by Francis Orr & Sons/
Glasgow./ Nichol lithog. Edinr.

Size: 335 x 485 mm. Same scale.

States II and III are found in: *Glasgow Illustrated in Twenty One Views, with Explanatory Remarks, Plan of the City...* Montrose: J. & D. Nichol, 1841. The work was also issued in a portfolio collection of prints as *Nichol's Cities & Towns of Scotland Illustrated*. Part III. Glasgow. Plate 16. Plan of the City. State IV was issued by Francis Orr & Sons in 1844 as a separate sheet, price one shilling, in a folder, entitled "Plan of the City of Glasgow & Suburbs". There are some differences between these three variants as a group and the 1840 original but, apart from the change of title, they are uniform. All three have their title placed in the north-east corner to the east of a less ornate but longer, and similarly oriented, compass point. However, the most significant alteration is the introduction of three vignettes at the bottom of the map, namely views of Jamaica Street Bridge and the harbour, flanked by the Justiciary Building and the Hunterian Museum to left and right respectively. The incorporation of these illustrations has led to an increase in size but also the removal of most of the map's detail from the area south of Bedford Street. A slightly less obvious change is the removal of the street names at Queen Crescent and Melrose Street and the reduction of building shading to only the east side of the crescent.

Reference:

1. *Glasgow Herald*, no.3924, 3927, 7 and 18 September 1840.

54. 1841 MACLURE & MACDONALD (draughtsmen and lithographers)

Parliamentary franchise Map/ OF/ CITY OF GLASGOW/
Shewing the same as divided into/ POLICE DISTRICTS &
WARDS,/ 1841.

Size: 510 x 770 mm. Scale: [[c1:9748] or c1": 812.3 feet.

"Maclure & Macdonald, Draughtsmen & Lithographers. 57
Buchanan Street, Glasgow."

S.R.A. D-TC13/22B. Coloured.

This is a most interesting composite map of a similar size and areal coverage to that of the 1832 Boundaries Report (no.41), indicating the spread of the city from Gilmourhill to Parkhead. However, much of its detail closely resembles the 1840 McPhun depiction (no.53), in, for example, the layout of the paths on the High Green, the indication of the Bridge of Sighs and the delineation of the Necropolis boundary. The line of the Edinburgh and Glasgow Railway is marked, along with its depot, and other routes include the Garnkirk and Glasgow, Paisley and Ayr lines. Once again, the parallel tracks down West Street are marked. The street pattern and boundary lines along New Parliamentary Road also follow McPhun closely, while the proposed dock at Windmill Croft is indicated. However, this is no mere copy but more of a simplification, performed in a cruder style. Far fewer streets are named and the number of individual buildings denoted is minimal. Shading is used to indicate the built-up area with no marked attempt to show any public buildings and a general concentration on showing blocks rather than separate single units. Although the line of several of the city's burns (e.g. Camlachie, Kinning House) are delineated, none are named. More significant is the absence of many of McPhun's proposed street arrangements on this version. Although New City Road and Queen Crescent are identified, the latter with shading to the McPhun original, none of the Sandyford layout or the pattern west of North Street is marked. Similarly, the proposed plan south of the river is omitted. McPhun's Queen's Bridge is not copied, whereas the whole of Royal Crescent is shaded as built-up and, for the first time, Lynedoch Street

occupied. Elsewhere, there are more field boundaries and a slightly different road alignment in the area east of Dunchattan.

The plan indicates, by colour wash, the four districts and twelve wards of the city, with a table of notes explaining the boundary colouring in the north-west corner. An eight point compass with ornate head oriented 23° west is placed in the south-west while the whole depiction is surrounded by a heavy black key design border. The map was re-issued in 1846 as a second state (see no.64).

55. [1842] [FRASER & Co. (publisher)]

PLAN OF THE CITY OF GLASGOW.

Size: 140 x 185 mm. Scale: [[1:20880] or 1": 1740 feet].

In: *Fraser's Companion for the Edinburgh and Glasgow Railway, and Tourist's Guide to Edinburgh and Glasgow.*
Edinburgh: John Thomson, (1842).

Royal Faculty of Procurators Library; Hill Collection. Maps
vol.1.(16).

The railway link between Edinburgh and Glasgow was opened on 18th February 1842. This small plan appears on the back of a four page threepenny broadsheet which also includes a plan of Edinburgh and a map of the railway line. It lies above a descriptive "Stranger's Guide to Glasgow" with a table of 36 references to significant buildings listed either side of the map. Although overlooked before, this depiction was advertised in the local press on the day the opening of the line was reported¹ and is another example of a small map produced to meet the increasing demand from tourists and railway travellers. It identifies the major areas of the city and names most of the important streets. The Edinburgh, Paisley and Garnkirk lines are delineated and many of the larger public buildings are indicated by heavier shading and numbers. Additionally, the line of the Molendinar Burn, although shown, terminates north of the Gallowgate. Although not named, shading represents the lines of Elmbank Crescent and one half of Queen's Crescent, while the layout of the area about Woodside Crescent is detailed. A street grid pattern is indicated on

College Hill with the line of East Cowcaddens Quarry also recorded. It is this feature, combined with such elements as the design of paths on Glasgow Green, the layout of the former Little Govan Nursery grounds, the position of names and the particular identification of Golfhill and Broom Park, which provide evidence to confirm, without doubt, that this is a copy based on Aikman's engraving of 1839 (no.50). Furthermore, given its selectivity of the original's detail and the uniformity of the lettering style, it is highly probable that this is a direct lithographic transfer of the central section of the earlier sheet. There is no compass or scale bar. The map re-appeared, and is probably better known, in John Thomson's *Guide to the Edinburgh and Glasgow Railway, including guide to Edinburgh and Glasgow*, published in 1845 but, surprisingly, Thomson fails to include the reference numbers to buildings in either a table or the guide itself. Fraser & Co. are listed at 15, Waterloo Place for the years 1841-42 only. From 1843, they are described as booksellers and sole agents in Scotland for the Irish national school books and between 1845 and 1861, their address was in George Street.

Reference:

1. *Glasgow Herald*, no.4076, 21 February 1842.

**56. [1842] JOHNSTON, WILLIAM & ALEXANDER
KEITH (publishers)**

GLASGOW/ BY/ W. & A.K. JOHNSTON

Size: 95 x 130 mm. Scale: [[c1:28200] or c1": 2350 feet].

"Edinburgh: W. & A.K. Johnston, Publishers of
Geographical Works 4 St. Andrew Square."

In: WILLOX, John *Guide to the Edinburgh and Glasgow
Railway*. Edinburgh, 1842; between pp.96 and 97.

A pre-publication notice had been given the year before, informing that this work was to be ready on the morning of the opening of the railway¹ and it was duly advertised in the press the following March, price 2s, specifically mentioning plans of Glasgow, Edinburgh and the termini.²

Although a small plan (figure 13), the quality of the engraving has produced a clear and detailed impression of the city layout. It has been mentioned earlier that James Lumsden and Son collaborated with W. & A.K. Johnston and a comparison of this map with examples of earlier plans by Hugh Wilson, but published by the Lumsdens, shows some very striking similarities - in particular, the shape of the river bend at Flesher's Haugh, which is much more open than the contemporary McPhun depiction. The pattern of paths on the Green, the angle of Glasgow Bridge crossing the river, the arrangement of the College buildings, the line of the Kinning House Burn, combined with the selection and orientation of street and works names (e.g. the weaving factory and washing house south of Barrowfield Street) reflect a heavy reliance on the work of Wilson, which even goes down to the location of Mr. Heugh's church in Old Vennal once again. This, in association with a similarly simplified shape of the Lunatic Asylum building, the mis-copying of Provanside Quarry as Dovanside, the indication of Parliamentary Road as a proposed street and the return of hachuring and the shading of quarries, could further suggest that the Dower delineation (no.42) may have been consulted.

This illustration, however, is not a mere copy for it contains several examples of updating, including the lines of the Paisley and, of course, the Edinburgh and Glasgow Railways, the Custom House and the Carlton Place bridge. Curiously, although no indication of the layout in Woodside Crescent is shown, the McPhun continuation of Elmbank Place into Queen's Bridge is suggested by pecked lines, while Elmbank Crescent is marked as partially constructed. Windmill Croft, on the other hand, shows no sign of the proposed docks. In a throwback to earlier styles, a vessel is shown on the Clyde.

In design, the map is surrounded by a broad patterned border with foliated corner bosses, again similar to the Dower map. Below the title, placed in the north-east corner, is a scroll of "Objects of Interest to Strangers". The map is further decorated by a series of twelve illustrations of significant buildings and statues across the bottom.

References:

1. *Glasgow Herald*, no.4024, 23 August 1841.
2. *Glasgow Herald*, no.4086, 28 March 1842; *Glasgow Courier*, no.9177, 29 March 1842.

57. 1842 KYLE, THOMAS

MAP/ SHEWING THE RESPECTIVE LOCALITIES/ of
the different Portions of the/ ENTAILED ESTATE OF
MILTON/ BELONGING IN/ PROPERTY &
SUPERIORITY,/ TO/ William Stuart Stirling Crawford
Esq./ OF MILTON./ Maclure & MacDonald, Draughtsmen
& Lithographers,/ 57 Buchanan Street, Glasgow.

Size: 720 x 965 mm. Scale: [1:8640] or 1": 720 feet.

"Glasgow, 15th March, 1842. - This map is carefully
prepared partly by connecting detailed Plans by sundry
Surveyors, and partly by actual surveys, executed by
Thomas Kyle".

N.L.S. EMS.s.579. Coloured.

Lying north of the Clyde, the entailed estate of W.S.S. Crawford lay in the path of the Buchanan Street and Queen Street rail termini. Crawford himself has been regarded as one of several landowners who were less than enthusiastic about the impact of the railways around the city¹ but, by 1842, his estate was beginning to take on a markedly industrial character. In that year, he obtained a Private Act of Parliament to enable him to apply funds from the estate to lay it out for feuing purposes and to purchase further parcels to continue his development. This intention to design for residential use, or possibly to raise the land value of the area for sale, may well be the background to the production of this plan and related contemporaneous sheets prepared by Thomas Kyle.²

This very extensive map covers an area extending from Whiteinch in the west to Hillhead of Milton on the eastern margin and, while little is shown south of the river, coverage stretches on the north beyond Kenmure Quarry, thereby providing a full delineation of the city and its hinterland north of the Clyde. The tracks of the Edinburgh and Glasgow, and Garnkirk Railways are indicated, along with projected lines to the west and an intended extension of the Garnkirk depot, with basins and a wharf, beside the canal. Although unnamed, the track of the Pollok and Govan line down West Street is marked.

Within the city, the built-up area is indicated by shaded blocks, with only the occasional public building named and several more identified in outline only. The majority of street names are given.

Despite the generalised nature of the shading, which only gives a crude picture of layout and is indeterminate about where building stops, and the lack of detail concerning structures and districts, this is a very informative, if deceptive, map. In particular, it supplies a far greater number of street names and proposals in certain areas than the Martin delineation of the same year (see no.59), particularly west and north of the Asylum. However, the similarities of choice of name and layout (e.g the number and pattern of blocks at the south end of St. George's Road and the shape of the Royal Infirmary) suggest either some reliance on Martin or another common source. In the suburban districts, generalisation has led to the omission of quarries and building names, with often only boundary lines mapped. The purpose of the map has meant that, unlike Martin, Kyle has left out any depiction of Hillhead and the lands east of the Cathedral. Once more, this plan presents the reader with new elements of city detail drawn from unique, local sources which have not been represented elsewhere.

The title, placed above two scale bars of 5000 feet, and yards and furlongs, and a compass oriented with north at 20° west, is situated in the map's north-west corner. A table of references to six localities within the estate, identified in red, lies on the eastern margin above Kyle's survey note.

References:

1. KELLETT, J.R. *Railways and Victorian Cities*. London, 1979. pp.212-213.
2. A larger plan (1115 x 965 mm.), similarly coloured and bearing the same title and dated note, is also held at the NLS Map Library; Ref. Maps. Rol.b.24. Although the sheet's coverage stretches further north beyond Claddings, the depiction of the city is comparable, with certain manuscript additions indicating Lynedoch Street and Crescent, Woodlands Terrace, the layout of walks on the Green, the town's quarry on the Necropolis and more detail of suburban houses (e.g. Whitehill, Meadowpark, Annfield, Possil and Keppoch). A third scale bar of 70 Scotch chains is added while the table of references is removed.

58. 1842 MACLURE, DAVID (lithographer)

SKETCH/ PLAN OF THE CITY/ of/ GLASGOW./
Having the Boundaries within the/ Royalty divided into
Seventeen Districts.

Size: 310 x 340 mm. Scale: [[1:14100] or c1": 1175 feet.

"Lithographed by David Maclure, 99, Trongate."

"Glasgow. June 30th. 1842."

In: *Division of the City into Districts*, 1842.

Glasgow University Library. Mu22 - a.14. Coloured.

During the 1832 cholera epidemic, the Board of Health divided the city into fourteen districts, each with a surgeon appointed by the Town's Hospital Directors to attend the poor. This pamphlet gives a detailed description of each of seventeen districts proposed in May 1842 by a committee of the Board of Directors. In the minutes, it was proposed that the description of the boundaries be printed and lithographed, and circulated amongst the Directors, elders and deacons of the City kirk sessions, and the district surgeons. About this time, there were several investigations into the conditions of the poor and labouring populations within British cities, including Charles Baird's contribution on sanitary conditions in Glasgow for the *Reports on the Sanitary Condition of the Labouring Population of Scotland*, which indicated a mean annual mortality for the years 1836-40 of nearly 1 in 32. These reports were presented to Parliament in July 1842 along with the more famous report of the Poor Law Commissioners, by Edwin Chadwick, *On an Inquiry into the Sanitary Condition of the Labouring Population of Great Britain*, which stated that "it appeared to us that both the structural arrangements and the condition of the population in Glasgow was the worst of any we had seen in any part of Britain".¹

The plan is very much a basic sketch of the city north of the river to Springburn, with colour washes used to identify individual districts. Few public buildings are marked (e.g. the College and St. Andrew's Kirks are omitted) and only a generalised impression of the street layout within the

Royalty is given. The lines of the Garnkirk and Edinburgh Railways are mapped and parts of the Royalty boundary are indicated to confirm the divisions but little detail of any feature is given.

Reference:

1. CHADWICK, E. *Report on the Sanitary Condition of the Labouring Population of Great Britain*, 1842. p.25.

59. 1842 MARTIN, GEORGE

Map of the City/ OF/ GLASGOW/ Brought down to the
Present time Including the/ Parliamentary Boundaries/
DIVISION OF PARISHES, POLICE WARDS OF THE
CITY, & SUBURBS &c. &c./ With/ Intended
Improvements/ by/ George Martin Esqre./ Civil Engineer &
Surveyor./ ENGRAVED BY W. & A.K. JOHNSTON/
GEOGRAPHERS TO THE QUEEN/ Edinburgh.

Size: 1150 x 1780 mm. Scale: [1:4620] or 1": 385 feet.

"TO/ James Campbell Esqr./ The honorable the Lord
Provost/ OF THE CITY OF GLASGOW/ This Map/ IS
RESPECTFULLY DEDICATED/ By the Publishers/
1842."

"Glasgow, James Lumsden & Son and Robert Weir.
Edinburgh, John Johnstone and W. & A.K. Johnston."

This large and excellently detailed map follows on, in succession, from the careful delineations of McArthur, Fleming and Smith but at a noticeably reduced scale to encompass the wider area enclosed by the parliamentary boundary. The plan, in fact, depicts the urban form from Partickhill to Parkhead and from Germeston to Coplawhill south of the river, making this clearly one of the most extensive of the detailed pre-Ordnance surveys.

Overall, a variety of features are shown including pits, mills, tolls, factories, foundries, places of worship and other important public buildings, reflecting the developing industrial patterns of the growing metropolis. Proprietors of larger grounds are named and many individual structures identified. Gardens, pleasure grounds and parks are detailed, while hachuring

is used to indicate quarries, within the built-up area, and hill slopes, including all the noticeable risings of ground on the periphery of the built-up area (e.g. Yorkhill, Gilmourhill, Whitehill). Although there is no shading on Glasgow Green, it has been added around the Cranstonhill Water Works in the south-east. A more extensive path layout is displayed on the Green, however. Both Parliamentary and Royalty boundaries are delineated, the latter with its march stones. Many of the new features of the city (e.g. the Edinburgh and Glasgow Railway and its station, the Southern Necropolis, the new Royal Botanic Garden on Great Western Road) are shown, while many more dock, rail and street development proposals are included. These latter range from large scale schemes for the laying out of extensive areas such as Kelvinside and Queen's Park to the street pattern of College Hill and the marking of individual thoroughfares (e.g. the proposed continuation of Argyle Street). Elmbank, Royal and Queen's Crescents, New City Road and Woodside Place are all identified with shading and the proposed bridge linking India Street to Blythswood Terrace is suggested. It is interesting to note that the link from Glasgow Cross to Duke Street which first appeared on Smith's plan of 1827-8 is marked on this depiction. South of the river, intended schemes are shown for an extensive area around a Park Crescent, south of Parkhouse Toll Bars, and a more regular pattern for the lands north of Scotland Street. A most detailed depiction of the Broomielaw Harbour is given, with the marked narrowing of the river at Steam Boat Quay. Depths of the main channel are given while breadths are marked at the ferry and bridge crossings. The proposed wharf for the upper navigation is shown at Great Clyde Street, along with the intended dock proposals for Windmill Croft and William Bald's plan for a new harbour at Stobcross. Railway schemes include branch lines to the Pollok and Govan and the Hamilton Railways.

The map is constructed in several pieces and there are occasional examples of discrepancy in the continuation of building shading (e.g. Queen's Crescent), hachuring, and hedge or tree drawing along field or road boundaries. The representation of the southern suburbs of the city has been reduced by a sequence of four index maps of the parliamentary districts, municipal districts, police wards and quoad civilia parishes, drawn at a smaller scale of 1": 1980 feet (size: 185 x 320 mm.). These are reduced simplifications of the street pattern of the 1832 Boundary Report plan. Strangely, although these are the same layout, there are noticeable differences in the selection of individual place, street and building names. Each index marks its divisions by number and, in all but one, has an accompanying table. In the north-west corner is a reproduction PLAN/ OF the City OF/ GLASGOW/ in the Year/ 1778 [Size:

160 x 235 mm. Scale: [[c1:9180] or c1": 765 feet]]. This appears to be a copy of the McArthur 1779 plan (no.6), simplified in outline and omitting several names. To the east of this is placed a sixteen-point compass indicating magnetic north and north at an orientation of 30° west. The title lies in the north-east corner, the dedication is positioned in the south-east and four scale bars of Imperial and Scots chains, feet and furlongs separate the index maps into two pairs. Glasgow's position is given as $55^{\circ} 51' 32''$ North and $4^{\circ} 17' 54''$ East, being 8 miles further south than Edinburgh. In addition to the index maps, the quoad sacra parishes are identified by letter on the general plan, while a series of concentric circles, at half mile intervals from the Cross, are described across the main map. Martin notes the city and suburban population for 1841 as 282,134 - a 39.37% increase from 1831. The whole map is surrounded by a broad key-board patterned border.

60. [1842] MITCHELL, JAMES

GLASGOW

Size: 95 x 145 mm. Scale: [[c1:28200] or c1": 2350 feet.

"Engraved by James Mitchell & Co."

Opp. p.621 of: *The Topographical, Statistical, and Historical Gazetteer of Scotland*. Vol.1. Edinburgh: Fullarton, 1842.

Fullarton's gazetteer was claimed as a careful digest of information contained in several of the parliamentary and Royal Commission reports of the previous decade. The depiction of the city which accompanies the volume is equally reliant on an earlier plan and bears a close relation to the contemporary work by W. & A.K. Johnston (no.56). A comparison of the two engravings shows that they are drawn on the same scale and share similar features of the general layout. In particular, the plan of the buildings west of Little Govan Nursery and the shape of the bend of the Clyde at Flesher's Haugh suggest a common origin. Other notable elements include the Carlton Place bridge and the indication of Parliamentary Road as a proposed street. However, it is equally clear that Mitchell's work is no straight copy of the Johnston plan for

there are marked differences in the indication of many other features (e.g. the pattern of paths on Glasgow Green, the layout either side of Ingram Street, the shape of the college buildings and the arrangement of the building block immediately south of the College). More obvious alterations include the omission of the quarries, list of objects of interest, illustrations of significant buildings and shading of open ground, which appeared on the Johnstons' map, from this representation. Mitchell provides a slightly wider image of the city, particularly in the west and south, allowing the depiction of New City Road and Woodside Crescent and an area south of the river not covered by Lumsden (e.g. the road to Rutherglen). In addition, there are occasional changes of name (e.g. the Johnstons' King's Park returns to being Flesher's Haugh, Pelham Street becomes Clyde Place) and the style of lettering is markedly dissimilar. Equally, Mitchell shows or names many more features than the guide plan (e.g. monuments in the Necropolis, the indication of the Scott and Watt statues in George Square and the identification of several foundries and works). Although both plans mark the two railway approaches to the city, Mitchell further notes the intended dock at Wind Mill Croft. This latter feature cannot, in itself, be taken to suggest any reference to another (e.g. the McPhun) engraving. One clear error is the naming of the new jail facing the Low Green as "new hall". Finally, the Mitchell plan is a far plainer work with no scale bar, compass point or scroll. It is surrounded by a double lined margin and the title is in unblocked capitals in the north-east corner.

In spite of the variations, it is believed that, as with the Johnstons, Mitchell relied on either a state of Hugh Wilson's "City of Glasgow and Suburbs" or a subsequent derivative plan - the unusual line of the rail road and loop of the coal store at Camlachie suggests a close relationship. It should also be noted that comparison with other plans shows this depiction of the Glasgow Green paths and the identification of a road across Golf Hill and a neighbouring quarry, along with some of the additional street names and identification of works, to be based on the Smith and Collie version of 1839 (no.51). The addition of the Necropolis monuments, however, remains unique. Here again, a small, apparently simple map shows a complexity of sources, selectivity and individual features on closer inspection. The gazetteer was re-issued in 1844, 1845 and 1848 but with no change made to the plan. James Mitchell & Co. were engravers whose address is recorded at 94, Pleasance for the years 1830-57.

61. [1844] AIKMAN, GEORGE (engraver)

McDOWALL'S/ PLAN/ OF/ GLASGOW/ AND/
RAILWAY LINE

Size: 95 x 145 mm. Scale: [[c1:28200] or c1": 2350 feet].

"Geo. Aikman sc." "Engraved for McDowall's Guide through Glasgow Edinr. T. & W. McDowall 14 North Bridge."

In: *M'Dowall's New Guide To Glasgow, Trossachs, Loch Katrine, &c. &c. and Railway Companion*. Edinburgh: McDowall, 1844.

Aikman had engraved the plan which accompanies Black's *Picturesque Tourist of Scotland* (no.50) but this depiction is an entirely separate production, at a smaller scale, which has Woodside Crescent as its western margin. The most significant difference between the two illustrations is that the earlier map indicates the built-up area by block shading while this example attempts to give an impression of building shape. In addition, hachuring has been added to indicate the hills on the northern edge of the town. There is no narrowing of the river at the harbour which again differs from the 1839 map. Although area names are omitted, the identification of places and individual buildings is stronger in this later image. There are, however, some notable omissions (e.g. the Normal Seminary, Custom House, Zoological gardens) and certain streets (e.g. Queen's Crescent, New City Road) are not shown. Surprisingly, Aikman changes the name of Canning Street back to Borrowfield Street on this occasion. Furthermore, there is no indication of the new layout east of Stonefield, which is still described as Little Govan Nursery, or of the proposed dock at Windmill Croft. On the other hand, the lines of the Paisley, Edinburgh and Garnkirk railways are marked, as is the grid pattern on College Hill. A close inspection of this plan shows differing lettering styles with a change to a larger, less tidy format on marginal roads (e.g. Woodside Street, Crown Street). It is possible that this is a corrected and up-dated version of a plate prepared prior to the earlier Aikman engraving but it is equally true that the two plates merely reflect an individual selectivity of recorded information. The McDowalls, publishers and booksellers in Edinburgh, are also recorded as

producing a guide to Edinburgh which began in 1836 and ran to, at least, a twelfth edition in 1851.

The plan is surrounded by a lined border with corner studs bearing a fleur-de-lis. A four bar compass angled to 30° west is placed on King's Park and the title lies in the map's north-east corner. The whole frame is surrounded by illustrations of the coat of arms of Glasgow, a plan of the Edinburgh and Glasgow railway line, the coat of arms of Edinburgh and sketches of the Glasgow statues to Tennant, Scott, Watt, McGavin, Knox and Moore, along with two views of Edinburgh from the south, and the Broomielaw at Glasgow Bridge.

State II **[1848]**

McDOWALL'S/ PLAN/ OF/ GLASGOW

Same size and scale.

"Geo. Aikman sc."

In: *McDowall's Penny Guide Through Glasgow*, 1848.

The map re-appeared in this later guide-book with a shorter title and no marginal illustrations. However, given the slightly different lettering in the title of the 1844 state, it could be the case that this state is the original with the earlier a variant.

Original in colour



Figure 14: Glasgow and Suburbs, 1844 by Hugh Wilson. (Reproduced by permission of The Librarian, Glasgow University Library).

62. [1844] (WILSON, HUGH) (engraver)

GLASGOW and SUBURBS

Size: 255 x 420 mm. Scale: [1:10800] or 1": 900 feet.

In: PERRY, Robert *Facts and Observations on the Sanitary State of Glasgow during the last year...*, 1844.

Coloured.

The development of thematic mapping of such major social issues as health and crime was particularly notable in the towns and cities of Victorian Britain. Maps were increasingly used to illustrate reports, the techniques becoming more sophisticated through time. In 1843, an outbreak of relapsing fever attacked more than a quarter of the inhabitants of the poorer districts of the city, where overcrowding and a lack of pure water supply created ideal conditions for the spread of disease. Perry was Senior Physician to the Royal Infirmary and his report, combined with those of the district surgeons, gives a detailed picture of the epidemic and the scale of its effect on the health services. To indicate the progress of the attacks, Perry laid down and numbered the different city districts on an accompanying map of the city (figure 14), marking with a darker shade the parts of highest prevalence, which showed that the most densely inhabited and poorest areas suffered most severely.

The map in question is a new state of the Lumsden original plate of 1830 (no.36), although no attribution is made. Its size, scale and areal coverage are similar to the earlier versions, while the references to parishes, lettering and orientation remain unchanged. Several alterations have been made, however, including the widening of the Clyde downstream of Jamaica Street Bridge as well as the indication of more sheds on the South Quay and the proposed docks at Windmill Croft. The scale bar in the south-eastern corner has been replaced by a new road while the Carlton Place accommodation bridge is added, in addition to the Paisley and Pollok railway lines, the former with its station on N. Bridge Street. North of the river, the Edinburgh and Glasgow line and its depot are mapped, obliterating the former Provanside Quarry. Fir Park is replaced by the Necropolis, while, further east, the House of Refuge is

now shown. In many parts of the city only the occasional building or new street has been added (e.g. the rope-work east of Cumberland Street, the eastern extension of Govan Street, the infant school on Stirlings Road or the additional shading on George and Broad Streets in Calton). However, in the newly expanding west, several major developments of the town's pattern have been included at Elmbank Crescent, Clarendon Place and Queen's Crescent (here named King Grove Crescent). In addition, the street layout of the South Woodside area now has shading to indicate occupation.

As Perry indicates in his report, the plan is divided into the numbered city districts with the localities where the disease principally prevailed being noted by black dots, which appear to have been plotted by the district surgeons. Both the report and map served another humane purpose in that they were published by the press at Gartnavel Royal Asylum, the printing and colouring of the maps being the work of the inmates.

63. 1846 MACDONALD & MACGREGOR

PLAN/ OF/ GLASGOW/ SHEWING PROPOSED
RAILWAY TERMINI./ 1846./ MACDONALD &
MACGREGOR, LONDON.

Size: 425 x 470 mm. Scale: [1:10500] or 1": 875 feet.

S.R.O. RHP. 4165. Coloured.

In 1846, the general mania for rail proposals resulted in no fewer than three projects for large urban termini being laid before Parliament by three companies competing for local influence and traffic. These terminals were to be a goods station at the College site (intended by the Glasgow, Airdrie and Monklands Junction Company), a site on Blythswood land (suggested by the West of Scotland Junction) and a central terminus almost on the site of the later St. Enoch station (put forward by the Caledonian Company). Fierce criticism of each scheme was based on considerations of safety, disturbance and congestion. The failure to effect a satisfactory river crossing or locate a new station within the city left Glasgow without these facilities until the mid-1860s. This plan and two of the succeeding entries (see nos. 65 and 67) are related to the proposals of that year. In effect, none of these schemes came

into effect, largely because of the combined tactical opposition of other parties. The Blythswood scheme, in particular, met with additional opposition from the estate trustees, the Clyde Navigation Trust, the City Corporation and the Tidal Harbours Commission, resulting in a final and permanent abandonment of projects in this area.

This indication of the proposals displays railways authorised by Parliament (namely the Pollok and Govan; the joint lines of the Glasgow, Paisley, Kilmarnock and Ayr, and Glasgow, Paisley and Greenock; the Edinburgh and Glasgow; the Glasgow, Garnkirk and Coatbridge and the Glasgow, Barrhead and Neilston lines), the projected routes of the Caledonian branches and the Glasgow, Airdrie and Monkland line, and the planned termini at Argyll Street, the College and the Garnkirk extension. These are emphasised by colouring, with an explanatory key in the south-east corner, and are laid down on an unshaded street pattern which names only the major thoroughfares. Several of the principal public buildings are identified as solid blocks, with a selected number identified (e.g. Custom House, Tron Kirk, Royal Exchange). Four concentric circles, centred on the Post Office, are described across the plan, while an eight-bar compass oriented 30° west is placed on the High Green. The title is located centrally at the top of the map, balancing scale bars of furlongs and feet placed to the west of the key. Features marked include Steam Boat Quay, the proposed dock at Windmill Croft, four bridges across the Clyde, the layout of Queen's Crescent, Lynedoch Street and Woodside Place, and the line of local quarries.

An initial consideration of the particular design of this sheet may suggest that this is a rather crude copy of the following Maclure and Macdonald plan (see no.65). Certainly, the choice of names is exactly similar and much of the linework, although noticeably rougher here, is comparable. Such an assumption, however, would be incorrect as closer investigation shows that this version is more extensive in its delineation of the city's western fringe (e.g. New City Road and Queen's Crescent are unique to this map). Conversely, the definite linework in the Cowcaddens north of Sauchiehall Street which is a feature of the Maclure and Macdonald version is not replicated here. In the case of these two lithographs, the layout has been taken from a common source, which appears to be a version of Hugh Wilson's depiction of the city. As the detail has been selectively copied, it is difficult to identify the particular edition but the pattern of linework (e.g. the paths on the Green, the building lines in Woodside and the field boundaries) suggests either the 1844 plan (no.62) or the larger Parliamentary & Municipal Franchise Map of 1846 (no.66).

64. 1846 MACLURE AND MACDONALD (lithographers)

Parliamentary/ FRANCHISE MAP/ OF THE/ CITY OF
GLASGOW/ SHEWING THE PRESENT/ POLICE
DISTRICTS &c/ 1846.

Size: 525 x 795 mm. Same scale.

"Maclure & Macdonald, Lithographers. 57, Buchanan
Street. Glasgow"

S.R.A. D-TC13/28B. Coloured.

In this later version of the 1841 plan (see no.54), the compass and explanatory note of boundary colours are interchanged and no wards shown. Many names are altered in style or position and some few more added. Major district names are indicated in heavy black lettering. The occasional additional building is marked in peripheral areas (e.g. south-east of Bridgeton). The map border has been changed to one with a floral ropework pattern.

65. 1846 MACLURE & MACDONALD (lithographers)

PLAN/ OF/ GLASGOW/ SHEWING/ PROPOSED
RAILWAY TERMINI./ 1846./ Maclure & Macdonald,
Lithographers./ 57, Buchanan St. Glasgow.

Size: 390 x 495 mm. Scale: [1:10500] or 1": 875 feet.

Mitchell Library. SR 205.

A similarly basic street pattern to the preceding MacDonald and MacGregor entry (no.63) is given but, in general, the linework and lettering is neater. The same public buildings are identified and named, while the four concentric circles also appear. However, as stated earlier, the two depictions

have variant elements. In addition to the difference in the street design in particular districts already highlighted, this plan marks a further two proposed stations at Blythswood Holm and immediately south of the Trongate, with spurs crossing the Clyde. Otherwise, the indication of lines and proposals is identical. Design alterations include the replacing of the title, in the north-east corner, the relocation of the scale bars, below the explanation and a more ornate compass, with north at 33⁰ west, sited on the eastern margin.

It is of interest to note that Maclure and Macdonald based their layout on a Wilson plan and not on their own more generalised delineation of that year for the Parliamentary Franchise map of the city (no.64).

66. 1846 WILSON, HUGH (publisher)

Parliamentary & Municipal/ FRANCHISE MAP,/ OF THE/
CITY OF GLASGOW,/ DIVIDED INTO 16
STATUTORY WARDS./ 1846.

Size: 460 x 715 mm. Scale: [[1:10800] or 1": 900 feet.]

"Published by H. Wilson & Sold by James Lumsden &
Son."

S.R.A. D-TC13/28A: Royal Faculty of Procurators
Library. Hill Collection. Maps vol.1.(8).

The *Glasgow Herald*, no.4554, 21 September 1846 carries a notice that this plan would be published in a few days to conform with the new Act of Parliament extending the city. This enlargement of the 1844 state of Wilson's depiction is yet another administrative plan, indicating the separate wards by superimposed number, but provides a far more detailed illustration of the city than the contemporary Maclure and Macdonald map (no.64). It is an almost exact reproduction of the earlier plan, drawn at the same scale but expanded to accommodate a representation of the whole of the city and its suburbs within the parliamentary boundary. It is clear that the intention is to concentrate on the area within this march for very little is noted beyond this line. Replication extends to the inclusion of the compass placed on the High Green and the Roman numerals used in 1844 to indicate the various city parishes, despite the

omission of the table of references to them. The only apparent alterations to this central core are the addition of building blocks south of Bedford Street and in Cadogan and Waterloo Streets, the complete shading of King Grove Crescent, the introduction of a railway marshalling yard beside Gorbals Burying Ground and the complete redrawing of the former Little Govan Nursery into a pattern of streets, buildings and public works. These latter changes have been carried out in a slightly cruder style, with lettering clearly different from that of the original, and seem to be based on the 1842 Martin map (no.59) - although the Govan Nursery development is more extensive. When the extended areas outwith the 1844 representation are investigated, the similarity in the depiction of features which appear on Martin (e.g. where Great Western Road crosses a belt of trees north of Hillhead, the lines of field boundaries) and changed lettering style is striking but is not comprehensive (e.g. Wilson does not indicate coal pits, the detail of Cranstonhill Water Works or the extensive street schemes both north and south of the river). Again, there are marked differences in particular items (e.g. Elmbank and Royal Crescents are completely shaded, the layout of the Southern Necropolis is extended and a new urban design is proposed south-west of Gloucester Street). In all, this hybrid map is an updated version of, at least, two main sources with contemporary additions.

A second compass is located in the north-west corner, to the left of the title, and the whole plan is surrounded by a framed border.

**67. (1846) JOHNSTON, WILLIAM & ALEXANDER
KEITH**

**PLAN/ OF/ GLASGOW/ SHEWING THE TERMINI/ OF
THE/ RAILWAYS./ W. & A.K. JOHNSTON, Edinr.**

Size: 405 x 370 mm. Scale: [1:10920] or 1": 910 feet.

**Royal Faculty of Procurators Library. Hill Collection.
Maps vol.2.(46). Coloured.**

This plan is based on a later edition of the Johnson original of 1822, with a similar orientation and placing of names. As with the W. & A.K. Johnston versions which post-date 1840, Washington Street has been added to the

delineation. However, in contrast to those plans which are inset on the county sheet, this representation identifies many more hotels, churches, inns and other large buildings (e.g. bonded warehouses in York Street, Grammar School, Slaughter houses), often in a darker but rougher lettering style. The same railway lines are again differentiated by colour and the Johnstons follow Maclure and Macdonald in marking two river crossings, one to link up with the West of Scotland Junction line and the other to terminate west of Dunlop Street. In addition, tunnels are noted.

One striking contrast with other states of this plan is an extension southward to encompass the Paisley Canal, gasworks, cavalry barracks and Govan iron works. The area of this expansion matches the coverage on an unattributed map, of approximately similar size, which immediately precedes this sheet in the Hill volume. Although it carries only the name Glasgow in its south-west corner and has a manuscript note "John Thomson, 3 College Glasgow 1848", it is clearly a version of Hugh Wilson's plan prepared later than his 1844 edition. It also covers a wider area south of the river than earlier states and includes the barracks and the Southern Necropolis. Railway proposals are indicated in colour and incorporate the projected line to the College terminal from the south. The similarity between these two illustrations is not exact (e.g. the Johnston sheet alone marks marshalling yards beside the iron works) but many features (e.g. the street pattern in the south-west and east of the Ayr Road) are comparable in design and layout. On this lithograph, title, scale bar and a table of references are all placed on the eastern margin.

68. 1847 **ALLAN & FERGUSON (lithographers)**

PLAN/ OF THE CITY OF/ GLASGOW./ 1847./ Allan & Ferguson lith/ Glasgow.

Size: 195 x 365 mm. Scale: [1:15840] or 1": 1320 feet.

"Published by Robert Stuart & Co., 159 Ingram Street,"

Opp. p.1 of: PAGAN, James *Sketch of the History of Glasgow*, 1847.

Although this can be viewed as another lithographed, and somewhat crude, depiction of the city's features used to illustrate a contemporary historical sketch, there are again unique elements which indicate a certain independence in the selection of material. In many respects, this appears to be a reduced and simplified version of the Martin map (no.59), restricted in area to Bridgeton in the east and Broomhill in the north and similarly limited in what is shown south of the Clyde. The close affinity between the two delineations of such features as the building layout on the former Little Govan Nursery, the scheme of properties running east from Govan, including the intended circus at Park Crescent and the proposed Wellington and James Streets, and the street pattern on College Hill between New Parliamentary Road and Cathedral Street suggest that they are related. This may even extend to the erroneous copying of the belt of trees north of Hillhead as a road and the repetition of a line running as a rough arc from Bath Street to Dumbarton Road in this instance. Once more, the transference of detail has been selective (e.g. Martin's proposals for Kelvinside, his circus on New City Road, and his scheme east of Dunchattan are not included here). Furthermore, the Pollok and Govan marshalling yard is omitted and the detail of paths on Glasgow Green is different. On the other hand, the layout of the Southern Necropolis is more detailed and additional building is indicated in many sectors of the city (e.g. Hillhead, Royal Crescent, Little Govan and College Hill). In this plan, there is no narrowing of the Clyde downstream of the Broomielaw and only three bridges cross the river. Although many streets are named, no individual buildings are identified within the city centre, contrasting with the indication of separate houses on the outskirts, again apparently based on Martin. Shading is

used to demarcate the built-up area while the lines of the Harbour Terminus, Caledonian and Airdrie and Monklands Junction Railways, including the Cowlares Branch, are added to the transport details of the general layout.

The map title is located in the north-west corner, separated from a simple four bar compass oriented to 30^O west by Great Western Road. A scale bar of two furlongs lies in the south-west corner. Some very slight variations in the lithograph include the omission of the belt of trees north of the buildings in the canal loop at Port Dundas.

Pagan's work was first advertised in the *Glasgow Herald*, no.4659, 24 September 1847 "embellished with...an entirely new map". The map was also issued as "Stuart's New Map of Glasgow", presumably as a separate issue. A second and much rarer version of the sheet exists in the Mitchell Library as:

State II (c1852) ALLEN & FERGUSON (lithographers)

GLASGOW.

Size: 195 x 370 mm. Same scale.

"Glasgow; Published by Allen & Ferguson, Lithographers
& Engravers, 74 Buchanan Street."

Although the dating of 1847 is given in manuscript on the map, it is possible that it relies on information which appears later elsewhere, in particular the Swan maps accompanying the Post Office directories of 1852 and 1853. There are several differences between the two states, with this version omitting the lines of the railway tracks of the Airdrie and Monklands Junction, the Cowlares branch and the coal depot line in Camlachie. In some areas, more buildings are shown (e.g. Woodside, Hillhead, Windmill Croft) and several additional streets are identified (e.g. St. Vincent Crescent, Buckingham Terrace, Windsor Terrace). The new suspension bridge at South Portland Street is shown and a terminus for two lines is marked north of the Govan Iron Works.

69. [1848] SWAN, JOSEPH (engraver)

PLAN/ OF/ Glasgow and Suburbs,/ ENGRAVED
EXPRESSLY FOR/ THE POST OFFICE/ DIRECTORY,/ BY JOSEPH SWAN./ 65 St. Vincent Street.

Size: 395 x 540 mm. Scale: [1:12400] or 1": 1033.3 feet.

In: *The Post-Office Annual Glasgow Directory for 1848-1849*, 1848.

This is the first of a series of directory plans of the city but is a cruder and much less detailed delineation of urban features than many contemporary sources (e.g. the work of Hugh Wilson), despite having several elements drawn from Martin's map of 1842 (no.59), of which the shape of field boundaries, the street pattern of Kingston and the layout of the Cranstonhill Water Works are examples. Many streets are named but, although several public buildings are identified, few are specifically named and the bulk of the built-up area is shown only by block shading. Furthermore, although the plan extends to Germiston and Partick, much of the peripheral vicinity is largely empty. Strangely, Swan follows the Wilson depiction of that year in his identification of bridges over the Clyde, with an accommodation bridge marked linking East Clyde and Adelphi Streets.

The engraver has taken care to mark, in heavy black, the tracks of the many railways entering the city and, in particular, the routes of the Caledonian line (both north and south of the Clyde), the Dumbartonshire Junction, and the Airdrie and Monklands Junction Railways are depicted. Although based on other sources, the map is no mere copy. New unnamed street patterns are shown in the sector north of Parliamentary Road and Dobbie's Loan.

The work is oriented to a north point 24° west of the top of the sheet, a plain four bar compass lying to the left of the title in the north-west corner. A graduated scale bar of 5000 feet is situated in the south-west sector. Maps accompanied the subsequent issues of the directory but a marked improvement can be seen after 1865 when John Bartholomew took over their preparation at a six-inch scale, with revision based on the Ordnance and additional surveys. Several changes to the map are noted in the introductory prefaces to individual years, for example:

- 1855 "The Map of the City has been revised, on which is laid down, among other places, the West-end Park and buildings".
- 1857 "certain new features introduced into the Map, which, so far as Glasgow is concerned, have not hitherto been attempted by the publishers of any other Map of the City. These consist of an alphabetical arrangement of the Names of about six hundred Streets, &c. with Index, guiding at once to the locality where such Streets are to be found; together with Lists of places of interest...Copies of the Map, laid on cloth, in neat cases, can be had at the Post-Office, Railway Stations, and of all Booksellers. Price 1s. 6d".
- 1858 "The Publishers, however, have it in contemplation, at no distant period...to have a fresh plate engraved, which, perhaps may be extended so as to include a larger area".
- 1863 "The Publishers, having deemed it expedient to revise the Map, made the necessary arrangements for this purpose, and their endeavours in this direction, although attended with great expense, have resulted in presenting a Map of the City as a worthy accompaniment to the Directory." The title page notes the directory is "accompanied with a map of the city, revised to the present time" and copies were on sale separately at 1s. in a case or 1s. 6d. mounted on cloth.
- 1865 "Some time ago the Publishers intimated their intention of having a new Plan of Glasgow; that intention has this year been carried into effect. The new Plan embraces a much larger area than the one which it supersedes. It includes towards the west the Towns of Partick and Govan, the Suburbs of Dowanhill, Hillhead, and all the Terraces on the Great Western Road; towards the north, East-park, Possil House, and Springburn; on the east, the Village of Camlachie; and towards the south the area has also been considerably extended".

- 1867 "The fine Map of the City which accompanies the Directory and first published in 1865, is revised annually, thus showing the improvements and extensions made in each succeeding year".

The amendments and additions to the original state of Swan's plan include the following:

- State II 1850 Firhill timber basin; Spring Bank Foundry; Stobcross Crescent; Lansdowne Crescent; Clairmont Terrace and additional shading in several areas.
- State III 1852 Stobcross Crescent re-named St. Vincent Crescent; much more detail in Hillhead and un-named terraces marked on Great Western Road; Lansdowne Crescent extended; Kelvinhaugh Street and Franklin Terrace; extensive scheme shaded in area of Charles Street, north-east of St. Rollox Works; more buildings indicated on Waterloo Street and an extensive development off Shields Road based on St. Andrews Road, Princes Street and Maxwell Place; five bridges cross the Clyde with the indication of George Martin's South Portland Street suspension bridge, built 1851-3.
- State IV 1853 additional shading on Great Western Road, of areas east of Bellgrove Street and in Finnieston; Buckingham Terrace and church on Brook Street indicated; Spring Place.
- State V 1855 Kelvingrove Park; Park Circus; Cliff Terrace; grid pattern between Kelvingrove Park and Dumbarton Road laid out and whole area between Royal Terrace-Woodside Place and West St. Vincent Place shaded.
- State VI 1856 New Post Office marked in George Square; Swan's addresss removed from title.
- State VII 1857 Superimposed grid (A-P; 1-22) and index to streets and places of interest (170 x 575 mm) placed below foot of map; South Shamrock, Mathieson, Great Wellington, Houston, Sandyford, Teviot and Minerva Streets among new roads named; Cavalry Barracks changed to Barony and Govan Poor House; Park Street Church and the Free Church College (built 1856-7) indicated; line

of Airdrie and Monklands Junction Railway omitted; railway offices replace church at Queen Street station; Glasgow Green suspension bridge marked while accommodation bridge at East Clyde Street omitted but not completely erased; Lancefield and Anderston Quays identified; graduated scale bar of 1 mile added in south-east corner "For measuring Cab & Porter distances". This sheet was issued separately, price 1s.6d., cased and on cloth.

State VIII 1858 Royal Botanic Gardens laid out; Maryhill Road shown with buildings; Govan and Partick greatly extended, including the mapping of several ship builders' yards; more detail in Hillhead and additional terraces on Great Western Road; crane shown at Finnieston; Caledonian Railway Station and works, as well as Sighthill Cemetery laid out; Camlachie Village shaded and Eastern Necropolis marked; Southern Necropolis extended; Glasgow Iron Works, Haghill Distillery, Carntyne Toll and Forge identified; Hunterian Museum re-appears; Fish Market Lock marked at Glasgow Green and weir marked; index increased to about 700 places; Pollokshields now named and the Clyde no longer shown as narrowing at the Harbour.

State IX 1859 Swan's name removed from title and replaced, below index, with "BY SWAN & SON, 77 ST. VINCENT ST." This version also appears to have been sold separately as "General Post Office Map of Glasgow and Vicinity: new survey with street index" by Thomas Murray & Son, price 1s.

State X 1861 "BY JOSEPH SWAN" re-appears on title.

State XI 1863 Swan's name omitted from title.

70. 1848 WILSON, HUGH (publisher)

Parliamentary & Municipal/ FRANCHISE MAP,/ OF THE/
CITY OF GLASGOW,/ DIVIDED INTO 16
STATUTORY WARDS./ 1848.

Size: 465 x 715 mm. Scale: [[1:10800] or 1": 900 feet.]

"Published by H. Wilson & Sold by James Lumsden &
Son."

S.R.A. D-TC13/29B.

A further state of the Wilson depiction (see no.66), closely similar in all details to the 1846 map but with several significant alterations. The Kingston area, south of the river, has had its projected street pattern removed and replaced by a small number of buildings and the indication of Pollock Street. In addition, the line of Kinning House Burn has been altered, Parkholm Printfield removed, Windmill Croft is no longer shown as a proposed dock and the sheds of South Quay are extended. The lines of the Harbour Mineral Railway, branching from the Pollok and Govan main route, and the Barrhead and Neilston Railway are shown, while the marshalling yard beside the Gorbals Burying Ground is omitted.

Elsewhere, additional buildings are marked in Hillhead, Woodside, Port Dundas, Royal Terrace, Camlachie and Barrowfield - a clear updating of the detail of the earlier work. However, in the College Hill area, whereas the lands south of New Parliamentary Road have been redrawn to indicate a new layout, the delineation of East Cowcaddens Quarry, missing in 1846, reappears. Both the Eastern Necropolis at Parkhead and the new City Gas Work in Calton are laid out in detail. One major alteration is the positioning of one of the bridges crossing the Clyde, whereby the Carlton Place accommodation bridge has been removed and replaced by an un-named crossing upstream from the Old Bridge. This particular copy of the map indicates, in manuscript addition, the route of Queen Victoria's visit to the city in August 1849.

71. [1850] LIZARS, WILLIAM HOME (engraver)

CITY/ of/ GLASGOW

Size: 195 x 257 mm. Scale: [[1:15840] or 1": 1320 feet].

"W.H. Lizars. Edinburgh."

In: WILLOX, John *The Glasgow Tourist and Itinerary. Edinburgh*, 1850. Also described on the cover as *Lizar's Guide through Glasgow and Environs*.

William Home Lizars began as an Edinburgh portrait painter but, on his father's death, he took over his engraving and printing business, based from 1817 in St. James Square. To illustrate this guide to the city and its surrounding district, Lizars appears to have turned to the Allen & Ferguson lithograph of 1847 (no.68) as a source. A comparison of the two maps shows a very strong correlation of street and area name selection, spelling and position. In addition, the layout of the Southern Necropolis and the choice and identification of the individual railways are identical. Although this map's margin runs only to Woodside in the west, there is sufficient coverage to enable the re-appearance of the circus design, along with Wellington and James Streets, on the Kinning House estate. One further similarity is the layout of buildings and streets on the former Little Govan Nursery grounds. Despite having no compass, this plan follows the orientation of the 1847 lithograph.

If anything, this depiction is less detailed and drawn in a cruder fashion than its apparent source. Certain area names (e.g. Kingston, Anderston), as well as Whitevale Nursery, are omitted and the shading used to indicate the built-up area is more generalised (e.g. the shape of the block lying between East Clyde Street and Bridgegate Street). Furthermore, the illustration of several of the larger suburban houses is more basic. However, this map follows the previously experienced pattern of containing several unique features. In this case, there is a noticeable difference in the layout of the paths on Glasgow Green and the Carlton Place bridge is again marked. Sheds are indicated on both sides of the river at the Broomielaw Harbour and Windmill Croft is clearly mapped as a dock. Lesser changes include the splitting of the St. Rollox Works into two separate units, the marking of new buildings along

the streets in Garnethill and an alteration in the shading of the housing on Monteith Row and Great Hamilton Street. Once again, the title is situated in the north-west corner but, in addition, Lizars has added, in the south-east corner, an illustration of the city's crest surrounded by a belt bearing Glasgow's motto, and supported by a thistle and a rose - a clear allusion to the city's prosperity through the Union. On some copies of this map, the extra-marginal accreditation to Lizars is omitted.

72. [1850] STANDIDGE & CO.(lithographers)

PLAN OF GLASGOW./ Exhibiting the arrangements for the Medical Relief of/ Cholera during the Epidemic of 1848-1849.

Size: 310 x 475 mm. Scale: [[1:12400] or 1": 1033.3 feet].

"233-P115. Standidge & Co. Litho: 36 Old Jewry".

Facing title page of: *Appendix (A) to the Report of the General Board of Health on the Epidemic Cholera of 1848 & 1849. Report by Dr. Sutherland.* 1850. H.C. Paper 1850 [1274] XXI.185. Coloured.

In 1848-49, a second cholera epidemic caused the death of over 3,700 individuals in Glasgow and this plan exhibits the arrangements adopted within the city for medical relief, based on a system of visitation developed by Sutherland in Dumfries. It is one of a series produced to indicate the spread or impact of disease in several British towns, including Exeter (1832), Leeds (1833), London (1850) and Hull (1853). This lithograph displays the earliest use of colour printing, as opposed to a colour wash, on a Glasgow plan, for the boundaries of the twenty-three City and Barony parish districts, identified by number, are delineated in red, while hospitals and dispensaries are identified by coloured dots and circles. More significant is the marking of the epidemic centre and the areas most affected by blue diagonal lines, with the strength of the impact of the disease being shown by the comparative proximity of the shading. This innovative use of thematic mapping to indicate not only the districts affected but the degree of mortality in individual areas was to be

developed by Augustus Petermann in his Cholera map of the British Isles two years later and helped emphasise the advantages of cartographic representation for a particular purpose. Within the Glasgow setting, it again highlighted the concentration on the narrow closes and wynds of the High Street, Saltmarket and Briggate.

The plan itself is a version of the Swan Post Office map of 1848 (no.69), with all names removed except for a few important streets, the identification of Springbank as the epidemic centre and a slightly smaller areal coverage. All other lines, boundaries and building shading are the same. The report on the measures taken during the outbreak in Glasgow appears on pp.70-87. Standidge & Co. were lithographers for Hansard in the mid-nineteenth century, producing a variety of maps between, at least, 1838 and the 1850s. The company appears to have carved out a niche for itself in the field of semi-official health maps and may have had an official contract or relationship with public authorities.

73. [1852] BAIRD, D.N.L. (publisher)

Map of Glasgow

Size: 372 x 502 mm. Scale: [1:12400] or 1": 1033.3 feet.

"Published by D.N.L. Baird, Stationer, 3 Buchanan Street.
Glasgow."

In: *Baird's Guide Through the City of Glasgow...*
embellished with a new, large, and correct map of the city,
circa 1852.

Baird's name appears in the directories for the years 1852-1854 only, being described as a bookseller, printer and account-book maker. Internal evidence from the Guide suggests that the map can be dated to 1852 and, certainly, it is a copy of the Post Office map of that year (see no.69). In fact, the guide and map were advertised as just published in the *Glasgow Herald*, no.5131, 2 April 1852, price 3d. However, the transference of detail has again been selective and a limited number of new features are added - in particular, an entirely new style of block shading for the houses on West Renfrew Street.

This plan omits any depiction of the developments in Pollokshields and the Charles Street area, has no narrowing of the Clyde at the harbour and does not indicate such features as the Cross, the Infantry Barracks, Franklin Terrace and the church in Waterloo Street. The line of the Airdrie and Monklands Junction Railway is no longer shown, while a new station is marked at the junction of the Caledonian and Barrhead lines, east of Salisbury Street. It was not until 1858 that such appeared on the Post Office map. Less comprehensive coverage is given of the layout in Hillhead, although Kew Terrace is identified - again not named until 1858 by Swan. Only four city bridges cross the Clyde but the new suspension bridge is included. As additions, Hydepark and Finnieston Quays are named and the former Cavalry Barracks is already stated to be the Poor's House. North of Stirling Road, Grafton Street is identified and shaded. As befits a guide map, the Knox and McGavin monuments on the Necropolis are named. An ornate eight bar arrow design compass replaces Swan's simple cross in the same position and orientation.

74. [1852] GELLATLY, JOHN

PLAN OF THE CITY OF GLASGOW

Size: 150 x 190 mm. Scale: [[c1:28200] or c1": 2350 feet].

"J. Gellatly, Edinr."

In: *Menzies' Tourist's Pocket Guide for Scotland*.
Edinburgh: John Menzies, 1852.

Once again, this map presents a complex variety of similarities and differences which suggests several sources for the information portrayed. In general, the map appears to be a reduced version of the Allen and Ferguson lithograph of 1847 (no.68), at a slightly smaller scale, covering an area from Royal Terrace in the west to Canning Street in Calton. The lettering style, combined with choice and position of street names, closely resembles that depiction. Both maps show only three bridges crossing the Clyde and omit any indication of sheds on the Broomielaw. The pattern of paths on Glasgow

Green and the layout of buildings across the river in Hutchesontown also bear a striking similarity. Both plans are oriented with north 30° west, although in this instance the compass arrow is placed on Flesher's Haugh. Certain other field boundaries and plan features (e.g. the shape of the asylum building, the plan of the Southern Necropolis, the lines north of Parliamentary Road and the layout of the circus south of Apsley Place) suggest a strong correlation. Although this could allude to an association of similarities with the later Lizars plan of 1850 (no.71), a comparison throws up as many differences (e.g. the depiction of Windmill Croft, the shading of certain building blocks). A stronger likelihood is that Gellatly based his illustration on Allen and Ferguson but selectively added details from the Swan Post Office map (no.69) or, more probably the 1852 state, given the shape of Lansdowne Crescent and shading at Windsor Terrace. In particular, Gellatly included the new canal basins north east of Port Dundas, the Glasgow Harbour Railway and its depot at Greenlaw, the lines of the Barrhead, and Caledonian and Dunbartonshire Railways, the depiction of Royal Circus and the shading of Lymedoch and Royal Crescents. Closer inspection shows the addition of minor, but no less important, details (e.g. Normal Seminary, the splitting of the block between the Briggate and East Clyde Street). It is of value to note that the Bridewell, the college museum and church are named on Gellatly but only the first is identified on Swan. On the other hand, no additional bridges are marked nor is the Swan street pattern north-east of the asylum copied. Gellatly has taken care to emphasise many public buildings by heavier shading and, although not indicated, this suggests the intention of the map to illustrate a guide book.

John Gellatly (1803-59) worked as a landscape engraver, and plate and lithographic printer in Edinburgh, being recorded in the city directories from 1828 until 1860, when the partnership of Gellatly and White began. His addresses were at 8 and 10 West Register Street and George Street. In 1851, he employed 12 men and 8 apprentices. He also engraved a plan of Edinburgh and map of Trossachs in the same guide, which was reviewed in the supplement of the *Glasgow Herald*, no.5241, 22 April 1853.

75. [1852] REGNIER & DOURDET (engravers)

GLASGOW

Size: 225 x 245 mm. Scale: [[c1:12000] or c1": 1000 feet].

"Grave par Regnier et Dourdet, 8. Passage Ste. Marie (R. du Bac)." "Lithie. de Gratia." "Itineraire de l'Ecosse, de A. JOANNE." "L. Maison, Editeur, Paris."

In: JOANNE, Adolphe *Itineraire descriptif et historique de l' Ecosse*. Paris: L. Maison, 1852.

B.L. 10370. a. 42

This is a very close replication of the central area of the 1852 state of Aikman's engraving (no.50) prepared at a slightly larger scale. The area covered displays the city from just east of Clyde Street to the westernmost extent of Woodside Crescent. Certain unique features, in particular the naming of Greenhill Place, the shape of the building block between East Clyde Street and Bridgegate, and the identification of Cleland Testimonial, give a clear guide to the map's origin. The depiction of the Caledonian Railway and terminus building shows that this version has relied on the very latest state of the map. It is also apparent that there is nothing on this plan which does not appear on Aikman. There are, however, a small number of alterations. Several building, place or street names are omitted, lettering style is altered and district names are re-positioned. Occasionally, some names have been slightly changed (e.g. Anderson's University for Andersonian, Gallowgate Street for Road). One unique element is the re-naming of selected public buildings in French (e.g. Douane, Chapelle Catholique, Post des Lettres).

76. [1852] ROBERTSON, J. & W. (lithographers)

NEW/ MAP OF GLASGOW.

Size: 375 x 505 mm. Scale: [1:12400] or 1": 1033.3 feet.

"J. & W. Robertson. Lith."

In: *Kyle's Description of Glasgow, and guide to the chief places of interest in the West of Scotland*, [1852].

Coloured.

Another state of the Baird version of Swan's map of 1852 with the same alterations and additions. Both states show a slightly reduced area on the eastern margin, with the edge cutting through Cranstonhill Water Works. In this state, the plan is divided into four districts by separate colour wash to accord with the layout of the text. The guide and, therefore, the plan can be definitely dated to 1852 from the text, with such detail as Kyle's naming of the new river crossing as Victoria Bridge, described as "rapidly approaching completion" and, thereby, suggesting that the work post-dates Baird's volume. The guide, complete with a large coloured map of the city, was advertised as now ready in the *Glasgow Herald*, no.5166, 2 August 1852.

77. (1855) RAPKIN, JOHN (engraver)

GLASGOW.

Size: 310 x 445 mm. Scale: [[c1:14520] or c1": 1210 feet.]

"The Plan, Drawn & Engraved by J. Rapkin." "The Illustrations, Drawn & Engraved by H. Winkles." "Published by John Tallis & Company. London & New York."

Issued in Part 43 of: MARTIN, Robert Montgomery (ed.) *The Illustrated Atlas, and Modern History of the World: geographical, political, commercial, and statistical.* London: John Tallis, [1850-55].

B.L.: N.L.S.

Martin's *Illustrated Atlas* was originally issued in serial form in 66 parts, at a price of one shilling or 25 cents, and published by Tallis in 1851 to coincide with the Great Exhibition. Varying numbers of town plans were added later, unindexed, in only some copies of the atlas, perhaps about 1855. The title page notes that the maps were drawn and engraved on steel by Rapkin from government and other authentic sources. The atlas was re-issued, with a large collection of British town plans, under the same title or *Index Gazetteer of the World...Illustrated With Plans of the Principal Towns in Great Britain...* in about 1857. Members of the Tallis family, trading from London, Edinburgh, Dublin and New York, were among the first to publish atlases from both the British Isles and the United States. By the use of steel plate engravings, a high quality of production was achieved and the plans are characterised by delicate decorative frames holding the town name and several titled vignette scenes which tend to emphasise prominent buildings and monuments. In the case of Glasgow, the surrounding illustrations are of the Royal Bank of Scotland, the University, a view of Glasgow from the Green, the New Bridge, the Royal Exchange and the Cathedral.

Certainly, the plan provides a very clear and detailed impression of the layout of the city, covering an area from Partick to Westmuir. Built-up areas

are shaded in but some indication of shape is given. Most streets and many public buildings are named or identified. Parkland is distinguished by delicate shrub symbols. Occasionally, the engraver's guide lines have not been completely erased (e.g. Lands of Barrowfield). In its overall illustration, the plan is a reduction of Martin's large-scale work (see no.59), marking the Parliamentary boundary, and several named features (e.g. Harveys Dyke, Carntyne Toll Bar) help identify its origin. However, Rapkin has not simply scaled down the earlier survey for there are considerable differences and additions, including new structures on Kelvin and Royal Terraces. New streets and several more railway lines are shown. Changes of name occur (e.g. High Garngad Road becomes Provan Mill Road). Again, many of Martin's proposed street schemes are ignored and Windmill Croft is no longer marked as a proposed dock. Few district names are included and the pattern of paths on the Green is notably simplified while the bridges marked crossing the Clyde are more akin to the Swan depiction. Other elements (e.g. the indication of sheds, ferries and a light house on Steam Boat Quay, the shape of East Cowcaddens Quarry, the paths on the Green, the identification of Apsley and Clarendon Places) suggest some reliance on an edition of Hugh Wilson's plan. It would appear that Rapkin used several sources for this one plan to ensure as correct as possible a representation. Nevertheless, some transcription errors occur (e.g. Elythswood Hill, Airdale & Monkhouse Junction Railway).

A later state of the plan has a scale bar of 4000 feet added at the bottom centre and an arrow-style north point, oriented to 30° west, placed above the coat of arms on the eastern border. In some instances, the publishing note has been abbreviated or deleted.

78. (1855) ROBIN & LINDSAY (engravers)

NEW/ Pictorial Map of Glasgow,/ ENGRAVED &
PUBLISHED/ BY/ ROBIN & LINDSAY/ 3 BUCHANAN
STREET.

Size: 380 x 520 mm. Scale: [1:12400] or 1": 1033.3 feet.

*In: Robin & Lindsay's New and Complete Guide Through
Glasgow...embellished with a large and beautifully-
finished pictorial map of the city, (1855).*

A further example of a crude version of Swan's map for the Post Office directories - in this case, the state accompanying the 1855 volume, but with noticeably rougher lettering and line work, in addition to the occasional error (e.g. Colehill for Golfhill and Slip Dook at Kelvinhaugh). Once more, the depiction of features is selective and independent from that of the Baird and Robertson versions. Unlike their copies, the narrowing of the Clyde at the harbour and the four bar compass (although smaller) are retained, while their identification of the Necropolis monuments is omitted. Although Kelvingrove Park is shown, none of the grid to the south is displayed and, overall, far fewer buildings are identified, especially churches. Again, no railway line is marked running into the College buildings nor is a station marked east of Salisbury Street. Pollokshields is named but no development shown while the Charles Street district is shaded. Conversely, the Glasgow Green suspension bridge, built between 1854 and 1855, is indicated two years before it is noted by Swan.

The plan is decorated by five illustrations, placed in the four corners and top centre, of the Royal Exchange, Queen Victoria Statue, New Post Office (but not marked on the map), Glasgow Cathedral (incorrectly spelt) and Glasgow Bridge. A sketch of the city's coat of arms, on a roundel decorated with a shell and garland design and flanked by cherubs flourishing the city's motto on a pennant, is positioned bottom centre. The map was sold separately and both guide and, presumably, plan can be dated to 1855 from the text. Offered in three styles (on millboard at 2s., for the pocket, cased and on thick cartridge paper, at 6d., or mounted on cloth for 1s.), the map was particularly aimed for use in counting houses. It is interesting to note that both guide and

map were still being advertised and, presumably, meeting a market need in August 1859.¹

Reference:

1. *Glasgow Herald*, no.6215, 19 August 1859.

79. [1857] BRADSHAW, GEORGE & CO. (publishers)

BRADSHAW'S/ PLAN OF/ GLASGOW

Size: 245 x 365 mm. Scale: [[1:15840] or 1": 1320 feet.]

In: *Bradshaw's Monthly Descriptive Railway Guide and Illustrated Hand-Book of England, Wales, Scotland & Ireland*, January, 1857 and subsequent issues.

Re-appearing in: i) *Bradshaw's Shilling Handbook of Great Britain and Ireland*. Section IV, 1858; ii) *Bradshaw's Descriptive Railway Hand-Book of Great Britain and Ireland: Bradshaw's tours*. Section III, 1861.

N.L.S.

A "New Railway Map of Great Britain and Ireland" with inset plans of several cities, including Glasgow, first appeared in *Bradshaw's General Railway Directory, Shareholder's Guide, Manual, and Almanack* for 1851. These plans, however, are at a relatively small scale and are intended to indicate the individual places in relation to a wider rail network. Earlier copies of the company's *Railway Companion*, from 1840 onwards, are illustrated by plans of several other provincial cities (e.g. Leeds, Birmingham), often with a note of engraving and publishing by Bradshaw. This depiction of Glasgow has not been found in any earlier Bradshaw publication and has no textual detail other than the title. With the March 1857 issue, the accompanying maps were arranged alphabetically at the end of the volume but, while the "New Map of London" was given an ornate leaf design border, the Glasgow plan remained plain.

Once again, this plan presents an interesting amalgamation of sources in its delineation of features. The basic outlay and shape of the city would appear to

be taken from the Allen & Ferguson lithograph of 1847 (see no.68), as indicated by such elements as the design of buildings on the former Little Govan nursery grounds, the shape of the Poor House and the width of depiction. However, this is no mere revision of the 1847 sheet for it displays a more extensive area to both the north, covering the Charles Street district beside St. Rollox works, and south, allowing the introduction of the Pollokshields villa development around St. Andrews Road which first appeared on the 1852 edition of the Swan Post Office map. Nor is the map a copy of this Swan plan for it displays in full the large projected circus south of Apsley Place, which is absent on that delineation and only appears partially on the 1847 illustration. A further example of variation from Swan is the layout of the Southern and Eastern Necropoleis.

Although many of the public buildings are marked by heavier shading, relatively few are named. Again, these are taken from neither Allen and Ferguson nor Swan. Despite the addition of streets (e.g. St. Vincent Crescent), bridges and some place names, the map has, overall, a rougher appearance than the 1847 edition. Linework tends to be crudely drawn in places (e.g. in the south-west sector) and the tree symbol for parkland has been removed. It is possible that the drawing of the complete circus south of Apsley Place is not based on any other map but merely an extension of what is shown on the Allen & Ferguson lithograph.

Most surprisingly, the plan makes no attempt to depict the railway stations at North Bridge Street or Buchanan Street nor does it show the Airdrie and Monklands route to the College site. It is possible that the publishers sought only to indicate operational lines and not proposals. Certainly, the routes that are marked all appear on the Swan edition of 1857 but the following year his depiction chose to detail the Caledonian terminus, its railway workshops and the Sighthill station while omitting the track of the Caledonian and Dumbartonshire Junction line. Clearly the Bradshaw plan makes little attempt to be original in its mapping of railway features. Transcription errors are again noticeable (e.g. Kimbank Crescent, Parkshn).

80. (1857) SWANSTON, GEORGE H. (engraver)

GLASGOW/ Drawn & Engraved by G.H. Swanston Edinr.
Size: 135 x 220 mm. Scale: [[c1:26680] or c1": 2223.3
feet].

"A. Fullarton & Co. London & Edinburgh".

In: WILSON, John M. (ed) *The Imperial Gazetteer of
Scotland; or dictionary of Scottish topography*. Vol.1.
Edinburgh: A. Fullarton, [1857].

B.L. 10370.f.19. Coloured.

During the nineteenth century, it became increasingly common to issue maps in serial form to spread costs, finance further work and encourage sales in a wider market. On occasion, publishers offered a variety of formats to meet differing requirements (e.g. Fullarton advertised the *Imperial Gazetteer* to be published in monthly parts at two shillings, in issues at one and four shillings, and in half volumes, in elegant boards, at 11/6d. to be completed in twenty parts to form two volumes).¹ The map of Glasgow first appeared in section 9 of this work.

Although the British Library Catalogue records the gazetteer with a publication date of 1854-7, a reading of the text makes it clear that the part containing this plan is definitely post 1856. However, a further confusion is that volume two of the work was reviewed in the *Glasgow Herald*, no. 5 March 1856, noting that the description of Glasgow was brought down to 1855. The review mentions maps of ports and harbours but says nothing of a town plan. Where a serial style of publication was used, it is difficult to ascertain the exact date of appearance but 1857 would seem to be approximately correct.

The plan provides yet another extensive view of the growing city encompassing an area from Camlachie to the River Kelvin and detailing the railway lines and termini. Despite the small scale, most street names are given and many public buildings, quarries and factories noted. Several new street layouts (e.g. north-west of New Parliamentary Road) continue to be sketched

in outline while others (e.g. Park Circus) are marked with some building shading. St. Vincent Crescent, Kelvinhaugh Street and Grafton Square are indicated, while other significant landmarks include the fish market and the suspension bridge at Glasgow Green. There is no marking of Windmill Croft as a dock area but, surprisingly, Lansdowne Crescent is displayed as a complete cul-de-sac. Colour has been used to identify water bodies (blue), railways (red) and parks (green). This would appear to be based on an amalgamation of sources and not clearly identifiable with any one parent sheet. Some elements resemble Rapkin (e.g. the shape of lines around Craig Park) but many more (e.g. the pattern of buildings on the former Little Govan nursery grounds, the indication of Park Circus, St. Vincent Crescent and the streets north-west of Parliamentary Road) are noticeably variant. Swanston has clearly attempted to provide an up-to-date plan using the best available representations.

In design, the title is positioned in the south-west corner, while an eight-bar compass, oriented to 30° west and with directions for each point, lies in the north-west. G.H. Swanston was also responsible for engraving the maps appearing in *The Companion Atlas to the Gazetteer of the World*, published in eighteen parts by Fullarton between 1852 and 1860.

The National Library of Scotland has a copy of *A Gazetteer of the World*,² in volume 7 of which is a similar plan by Swanston entitled "CITY OF/ GLASGOW". In spite of the title page being dated 1856, this is a much later map, showing both the Windmill Croft Dock and the proposed Stobcross Docks. Many more streets, works, civic buildings and suburban houses (e.g. between Govan and the city) are named or indicated. The Airdrie and Monkland Junction Railway and Cowlares branch have been removed in this version, while south of the river, a loop runs to the Govan Iron Works. Parks are depicted by shrub symbols. A plain four-bar arrow replaces the ornate compass and its removal has allowed the representation of more detail in the north-west. This map is likely to date from the later 1860s.

References:

1. SMITH, D. (1985) op. cit. p.137.
2. N.L.S. E.118.a4.

81. 1859-61 ORDNANCE SURVEY

GLASGOW

Size: 640 x 960 mm. Scale: [1:500] or 10.56 feet to a mile.

"Surveyed..., by Captain Bayly, R.E. Engraved..., under the direction of Lt. Colonel Cameron, R.E. at the ORDNANCE SURVEY OFFICE, SOUTHAMPTON, and Published by Colonel Sir H. James, R.E. F.R.S. M.R.I.A. &c. Superintendent,...The Altitudes are given in feet above the approximate Mean Water at Liverpool, and those indicated thus (B.M. 54.7) refer to Marks made on Buildings, Walls, &c."

On 155 sheets, being Lanarkshire sheets VI.5.5, 8, 9, 10, 13, 14, 15, 18, 19, 20, 23, 24, 25; 6.1-25; 7.11-25; 8.16, 21; 9.3, 4, 5, 8, 9, 10, 14, 15, 20; 10.1-25; 11.1-25; 12.1, 6, 11, 16, 21; 14.3, 4, 5, 8, 9, 10, 13, 14, 15, 19, 20; 15.1-25.

The original survey of the city appears to have been conducted under the sole direction of Captain Bayly, carried out contemporaneously with the other large scale surveys of the area. It was initially published on 155 sheets with an index map, at the six-inch scale, showing the streets into which the city was divided and detailing their layout and the prominent buildings. Working from the information on the individual sheets, the city was surveyed between 1857 and 1858, the greater number (87) being recorded for 1857. Although engraving began in 1857, this work was not completed until 1861. Publishing, however, began in January 1859, with three sheets, but the programme was somewhat sporadic until the June of the following year. In fact, the bulk of the survey (88 sheets) was published in the period, 15 May to 31 October 1861, normally at fortnightly intervals. The sheets were sold at 2s. each and the price of a complete set was £21-12-0d. In 1862, a further 61 zincographed sheets were produced extending the area covered to include Rutherglen and surrounding suburban districts, under the direction of Captain A. de C. Scott, with an index to the whole survey at four inches to a mile. The Rutherglen plans from the initial survey, on fourteen sheets, are specifically

named, and have their own title sheet and index at a scale of three inches to a mile. Zincographed plans could be purchased coloured or uncoloured. The price of later sheets ranged from 2/6d to 5s. each. Each plan represents a rectangle of 16 chains by 24 chains covering an area of 38.4 acres and the sheet lines are divisions, numbered 1-25, of the 1: 2500 county sheets. They provide an invaluable record of the names of buildings and the uses of commercial and industrial premises. The clarity and detail of the layout and internal divisions of larger public buildings can be seen in the depiction of the Barony Poorhouse (figure 15) and the Barracks, while each church has a note of its number of "sittings". Spot heights are indicated across each sheet to aid the planning of sewers and other public works. Sheets covering the peripheral areas of the city tend to have a mapped area which finishes just beyond the boundary lines and, for economy, on a number of marginal sheets, small sections of adjoining areas have been transferred rather than produced separately. Marginal information on the plans includes adjoining sheet numbers, ward and parish names, and the identification of certain thoroughfares and railway lines. Colouring for the town plans followed a standard pattern of blue (for water), carmine (for stone and brick buildings), grey (for outhouses) and sand yellow (for roads). Some of the engravings and several of the later lithographic sheets have a markedly rougher quality of linework, particularly in the delineation of railway lines and turntables, while the occasional sheet has been produced without stipple shading for the buildings. The availability of such an unprecedented and detailed record of the city immediately prior to the changes wrought by the City Improvement Trust cannot be underestimated. Given the high level of planimetric accuracy and scale, the survey is a superb base for research on Victorian Glasgow and the reconstruction of its earlier topography.

In 1882 and 1883, zincographic transfers were made of several of the sheets of the original survey. This was not a new edition but a replenishing of depleted stocks of sheets from plates prepared for the purpose. Minor changes are noticeable but the general content is identical. In the left hand side of the bottom margin, a new imprint appears (e.g. "Surveyed in 1857, and printed from a transfer to Zinc in 1882"), while the original survey detail placed in the centre of this margin has been deleted and replaced by "Zincographed and Published at the Ordnance Survey Office, Southampton. 1861". On the sheets themselves, names can be repositioned, details of rooms within larger buildings may be omitted and initials from the original expanded. These plans are uncoloured. Different, and slightly larger, lettering styles for certain names may be related to a general Ordnance Survey instruction of

1879 affecting the styles for administrative areas. Marginal names are frequently re-aligned or added, while colouring of water bodies has increased from the marginal to a complete cover. Although it is recorded that the Scottish town plan series was discontinued in 1894,¹ a complete revision was undertaken between 1892 and 1894, with 369 lithographic sheets published in 1894-95. This revision was entitled "Glasgow and its Environs" and the individual sheets are noted as either revised or re-surveyed. An index, in two parts, at a six-inch scale accompanied these plans. Certainly, a Treasury Minute of 30 January 1894 withdrew revision facilities for the 1: 500 series and henceforth they appear to have been maintained only at the request of individual towns. The series, however, remained at least partially in print until after the Second World War. Sheets cost 2/6d each. In the revision, hill shading was introduced, in addition to clearer tree symbols, but colouring was restricted to blue only. Houses were ruled and marginal additions include a table of characteristics and symbols for boundaries and notes on rights of reproduction and representation of paths. Only one scale bar of 500 links and 296 feet is indicated. By the end of the 1890s, reprints by heliozincography of individual sheets were being produced. Imprints on these sheets were regularly up-dated and incorporated an Ordnance Survey printing-date code in the lower left hand margin (e.g. "Reprint by Heliozincography...20/09" refers to a print run of 20 sheets in 1909). These reprinted sheets were renamed either First or Second Edition, 1894 or 1895, or Edition of 1895.

Reference:

1. HARLEY *op. cit.* p.50.

82. [1860] MACLURE, HUGH H.

MACLURE & MACDONALD'S/ MAP/ OF THE CITY
OF/ GLASGOW/ Surveyed & Compiled from the best
authorities by/ HUGH H. MACLURE C.E./ Glasgow,
Published by Maclure & Macdonald,/ Engravers,
Draughtsmen & Lithographers to the Queen.

Size: 630 x 1035 mm. Scale: [1:8640] or 1": 720 feet.

B.L. 9555.(3): Mitchell Library, B241820: Royal Faculty
of Procurators Library. Hill Collection.

Although this work was first advertised as "in the press, and will be speedily published" in the *Glasgow Herald*, no.6213, 12 December 1859, the announcement of its publication was delayed until March of the following year, at a price of £1-1s, mounted on rollers, coloured and varnished.¹ The plan is, in effect, the last large-scale delineation by a private surveyor before the work of the Ordnance Survey became generally available, being a more extensive and detailed impression than that of Bartholomew in 1865. In its coverage of the city, it provides a most detailed and clear representation of the built-up area and its suburbs, stretching from Partickhill to Parkhead and from Sighthill Cemetery to Pollokshields, at a scale sufficiently large to allow the representation of a variety of public buildings, monuments, paths, works and other minor features. Great attention is paid to the River Clyde itself, where many shipbuilding yards are identified, cranes indicated and the proposed new docks both north and south of the channel outlined. Up river, the spans of the major bridges are given and the weir is marked. The surrounding districts are also mapped with care shown in the depiction of policies and field boundaries, in addition to the location of pits, the Royal Observatory and the Clydesdale Cricket Club ground. The layout of railway tracks and depots include the Caledonian Station and workshops and the track of the Hamilton line. A sophisticated use of lettering style differentiates separate types of information. Maclure has sketched out the design of a series of projected street schemes in Craig Park, Pollokshields, Woodside and Dowanhill which are characterised by circuses and crescents. Although this plan's coverage is very similar to that of Martin's 1842 survey (see no.59), these street proposals are entirely

unrelated in arrangement. When compared with selected sheets from the Ordnance Survey, at the 1:2500 scale in particular, it would appear that Maclure has based much of his mapping on its work. On occasion, he has given a more definite impression of buildings than his source (e.g. in Park Circus, Holyrood Crescent, Royal Circus) but he also adds unique local detail (e.g. shipyard names). In this, Maclure was part of a new trend beginning in British cartography whereby the exact detail of the Ordnance Survey maps was used as a base for, and developed by, the commercial requirements of private map publishers.

The map's title lies in the south-west corner, while two scale bars of 3000 feet and four furlongs are positioned in the south-east. An accompanying table of notes indicate the estimated population for 1858, the city rental, and customs, bridge and other revenues. In some cases, this overlies an ornate eight-point compass indicating true and magnetic north, oriented 30° west. The plan is surrounded by a black and white keyboard border and colour washes have been used to identify separate wards.

Reference:

1. *Glasgow Herald*, no.6301, 23 March 1860.

83. [1860] NELSON, THOMAS (publisher)

GLASGOW

Size: 150 x 250 mm. Scale: [[c1:26680] or c1": 2223.3 feet.]

"Map 7". "Seventh Division". "The Plan is divided into 1/2 Mile Squares from the Post Office George Square". "The Routes described in the Guide are coloured Red".

In: WILSON, John M. *Nelsons' Handbook to Scotland: for tourists*. London: Thomas Nelson, 1860.

N.L.S. Coloured.

Nelson's *Handbook* was advertised at 6/6d. in *Glasgow Herald*, no.6414, 2 August 1860, specifically mentioning the plan of the city. As stated in the marginal notes, the plan is crossed by a grid of half mile squares based on the Post Office and colour has been used to depict parks (green), water (blue) and routes (red). This is very much a street plan, with no shading of the built-up area and only selective naming of the public buildings indicated by hatching. In essence, this is a generalised simplification of the major features of the 1858 edition of Swan's Post Office map (no.69), reduced to a smaller scale. The plan retains a similar scale bar, depicts the same river crossings and identifies comparable items (e.g Haghill Distillery, Crown Circus, Hamiltonhill). In addition, the street pattern mirrors Swan to include his breaks (e.g south of Canning Street). Once more, the design of the paths on Glasgow Green correspond. The choice of street names tends to replicate that of the source but, inevitably, the smaller scale has reduced the number identified. Occasional changes occur (e.g. Kelvinside) and there is less detail of buildings in certain districts (e.g. Govan).

84. [1860] OLIVER & BOYD (publishers)

CITY/ of/ GLASGOW

Size: 195 x 370 mm. Scale: [[1:15840] or 1": 1320 feet.]

In: *Oliver & Boyd's Scottish Tourist: guide to Glasgow and its neighbourhood*. 20th ed. Edinburgh: Oliver & Boyd, 1860.

Oliver and Boyd succeeded Lizars as the publisher of the *Scottish Tourist* and in their nineteenth edition of the work, dated 1852, the plan of Glasgow is similar to that engraved by Lizars for the *Glasgow Tourist* of 1850 (no.71). However, for the next edition, an extended map was prepared which, on examination is a fascinating combination of old and new. The bulk of this depiction is a revision of the 1850 state, with several alterations but the title and coat of arms remaining in the same positions. These changes include the deletion of the lines of the Airdrie and Monklands Railway and the Cowlares Branch. Careful inspection shows that the heavy line at the University buildings on the High Street was overlooked in this correction. Other modifications on this sector of the plan include the re-naming of the cavalry barracks as a poor house, the re-drawing of the wet dock south of the river as Windmill Croft and Caernarvon Street changed to West Princes Street. Several other new street names are introduced (e.g. Maxwellton Place, Houston Street, Magazine Street) and much more of the built-up area is shaded (e.g. in Garnethill and in the Kent Road - St. Vincent Street area). As with the completely new additions which appear across the plan, the lettering is marginally heavier in type. New streets are identified (e.g. Caledonian Road, Royal Circus, Abercorn Street) and more sheds on the harbour quays are displayed, in addition to a burying ground at Hutchesontown and the south side terminus at Cathcart Street. Of greater interest is a westward extension of the map which increases its depiction to encompass Hillhead and Partick - in fact, returning the illustration to something similar to that of the Allen & Ferguson lithograph of 1847 on which Lizars based his work. A comparison of these two sheets, however, shows this to be a markedly different version. A clear split in the shading of the built-up area shows where the extension abuts the Lizars original and, along this join, as elsewhere, the new linework has

been added without removing the earlier depiction. In general, this western segment is plainer, having little indication of parks, with the exception of the Botanic Garden, and less differentiation of the lettering style. The position and selection of place names (e.g. Lands of Stobcross, Crown Circus, Public Park Kelvenside, Lillybank Ho.) shows a very strong relationship to the 1858 state of Swan's Post Office Directory plan. A comparison with this edition shows that many of the alterations in the area of the original map have also been taken from Swan. However, it is of value to note that the circus south of Apsley Place is retained despite its absence from that representation. In other words, Swan has been used to update the depiction but not for a complete revision.

85. 1860 ORDNANCE SURVEY

ORDNANCE SURVEY OF GLASGOW

Size: 640 x 950 mm. Scale: [1:2500] or 25.344" to a mile.

"Surveyed by Major Bayly, R.E. Engraved under the direction of Lt. Colonel Cameron, R.E. at the Ordnance Survey Office Southampton. Published by Colonel Sir Henry James, R.E. F.R.S. M.R.I.A. &c. Superintendent. 31st. December 1860."

On 12 sheets, being Lanarkshire sheets VI. 5-16 and the title taken from sheet VI.8

Much of what has been written already in the introductory essay and the entry for the 1: 500 town plan also covers the map of Glasgow produced at the 1: 2500 scale and need not be repeated. Harley has described the series as "a standard topographical authority" for the whole of the built-up area, drawn with a wide range of conventional signs and writings and at a scale sufficient to identify almost every feature of the landscape. The individual sheets were sold at 2/6d each or £1-10s for a set but were only available hand coloured on demand, with standard features (e.g. brick and stone buildings in carmine). Again, the number of contiguous sheets are noted in the margins. Surveyed between 1856 and 1858, the twenty-five inch series for the whole of Lanarkshire, based on a meridian of Lanark Kirk spire, was ready for sale by

June 1862. It was published initially by parish, in conjunction with books of reference which contain land use information. Zincograph transfers were also made in the 1880s and sheets were often printed with "City of Glasgow" as a heading. A revision, in 183 quarter sheets, was prepared in 1892-97 and a second revision, with relevening, in 1908-11 (on 172 quarter sheets), published in 1912-17. A partial revision also took place in 1933-36. These revisions covered both the twenty-five and six-inch scales.

86. (1863) MILLER, J. DAVIS (engraver)

NEW/ Pictorial Map of Glasgow,/ ENGRAVED &
PUBLISHED/ BY/ J. DAVIS MILLER/ 3 BUCHANAN
STREET.

Size: 380 x 520 mm. Scale: [1:12300] or 1": 1025 feet.

In: *Miller's New and Complete Guide Through
Glasgow...with a large and beautifully-finished pictorial
map of the city*, circa 1863.

Miller replaced Robin & Lindsay at their Buchanan Street address in 1862, but his name is only listed for this and the following year, this guide being an abbreviated version of their work. The map is a copy of that accompanying the earlier volume, with the same errors and illustrations, but with additions taken from the 1858 state of the Swan map accompanying the Post Office directory (e.g. Caledonian Railway marshalling yards, the layout of Sighthill Cemetery and the Southern Necropolis, details of Hillhead's development). Selectivity in what is depicted is again noticeable in the omission of certain street names (e.g. Kelvin Row, Houston Street) and the identification of churches. Guide and map date can be assumed from textual description of city features.

87. 1865 **BARTHOLOMEW, JOHN (engraver)**

NEW PLAN OF/ GLASGOW/ WITH SUBURBS,/ from
Ordnance and Actual Surveys,/ Constructed for the/ POST
OFFICE DIRECTORY./ BY JOHN BARTHOLOMEW,
F.R.G.S./ 1865.

Size: 540 x 660 mm. Scale: [1:10560] or 1": 880 feet.

"Engraved & Printed at J. Bartholomew's Establishment, 4
North Bridge, Edinburgh."

In: *Post Office Directory for 1865, 1866, 1865.*

In 1865, John Bartholomew took over the production of the plan which accompanied the Post Office Directory, basing his depiction on the six-inch Ordnance Survey sheet published that year. This representation is entirely different from the Swan map, covering a roughly similar area but in far greater detail. Although the plan is clearly identifiable with its source, it is neither a direct nor complete copy for it omits several elements, including acreages, ward numbers, boundaries, contours and spot heights. In addition, some of the fine detail of the pattern of paths around the Poorhouse, Albert Gardens and elsewhere is absent. Bartholomew has also added proposed developments (e.g. in Pollokshields, the intended Stobcross Docks and the lines of various rail routes, including the Union Railway and Central Station), names additional streets (e.g. Wilton Terrace, Broompark Drive) and identifies new features (e.g. Blythswood Cricket Club ground, Lansdowne Church). In general, the two plans complement each other in their wealth of topographical information.

John Bartholomew was the grandson of the founder of the famous line of cartographers and was responsible for establishing the firm's own printing works.

88. 1865 ORDNANCE SURVEY

Lanarkshire. Sheet VI.

Size: 605 x 910 mm. Scale: [1:10560] or 1": 880 feet (6" to a mile).

"Surveyed in 1858 by Captain Bayly R.E. Contoured in 1863, by Capt. O'Grady R.E. Engraved in 1863, under the direction of Colonel Cameron R.E. at the ORDNANCE SURVEY OFFICE, SOUTHAMPTON, and Published by Colonel Sir H. James R.E. F.R.S. M.R.I.A. &c. Superintendent, 28th Febry. 1865. The Altitudes are given in feet above the Approximate Mean Water at Liverpool, and those indicated thus (B.M. 54.7.) refer to Marks made on Buildings, Walls, &c. Outline engraved by T. McLeod, Junr. the Writing by J. Arnold the Ornament by R. McFadden".

The survey of Lanarkshire was commenced in June 1856 and completed in 1859, being published, at this scale, as 55 sheets on 52 separate plans plus an index at a price of 2/6d or 2s per half sheet. It was usual for the six-inch maps to be published later than the twenty-five inch sheets on which they were based but they do bear the same date of survey. A study of the individual sheets of the six-inch survey show that it was conducted by two teams under the overall supervision of Bayly and Lt. Pratt and done in the period 1858-59. The engraving of this work was carried out between 1861 and 1863, with the contouring being continued into 1863. Publication of the sheets began on 30th November 1863 and proceeded until 30th September in the following year, the maps appearing at roughly fortnightly intervals. The sheet covering Glasgow itself was the final issue, published five months later in February, 1865. These six-inch maps were reduced from the twenty-five inch survey and, as with the general arrangement of the series, sheet lines were organised on the county basis and the individual maps numbered in Roman figures. County index maps to both series were published on a scale of one inch to four miles. The six-inch maps published before 1881 were engraved on copper plates and issued as large sheets of 36" x 24", thereafter being produced by photographic

reduction. Only minor details are omitted at this scale (e.g. the numbers and acreage of different land parcels are not shown, buildings in close town areas are blocked in rather than shown as individual properties, certain boundaries are not included, some streets are not shown to scale and railways are marked conventionally rather than in plan). On the other hand, contours, which are absent from the twenty-five inch, which only show spot heights, appear on the six-inch sheets and there remains great detail in the naming of streets and industrial establishments.

APPENDIX A

SMALL SCALE PLANS

Two plans, which specifically intend to show the city itself rather than a wider area, fall outside the defined scale of 1: 30000. These are listed in certain catalogues and are included here to complete the record.

1. (1827) LOTHIAN, JOHN

GLASGOW

Size: 51 x 73 mm. Scale: [1:57600] or 1": 4800 feet.

Inset on: "LANARK", map 5 of *Lothian's County Atlas of Scotland*. Edinburgh, 1829.

Lothian's atlas of Scotland was originally intended for publication in 1826 but the whole sequence of maps was not ready until the March of the following year. All the maps were dated 1827 and sold separately as single sheets or in cases as "Lothian's Scotch Counties". It is most likely that the complete atlas was not published until 1829, as suggested by the date of the frontispiece and advertisement, by which time the date had been erased from most of the maps. Later issues of the work are dated 1830, 1834, 1835 and 1838, the latter two being recorded as the third edition.¹

This is a markedly diagrammatic indication of the grid layout of streets and building frontages, with no names other than River Clyde and Green. From the extent of coverage, the street grid and orientation, it would appear that Lothian relied on Gray's larger scale 1825 map (see no.27), for the depiction of the Clyde, the canals and the streets of the Gorbals and Blythswood areas are strikingly similar.

The title and scale bar are placed in the north-east corner, with a four bar compass oriented with north at 15° west on the eastern margin.

Reference:

1. R.S.G.S. op. cit. Vol.2, p.154. The 1838 edition was entitled *Atlas of Modern Scotland Containing Maps of all the Counties* with the same map of Lanark and plan of Glasgow included but with "Lothian's Maps of Scotland by John Sutherland 12 Calton St. Edinburgh 10th. Sep. 1838" printed below and a grid of longitude and latitude and railways and roads indicated. In 1834-5, the maps were issued loose, but in four cases, as *Lothian's County Maps of Scotland for Tourists and Sportsmen*. The maps were re-issued by Adam and Charles Black in *Black's County Atlas of Scotland* in 1848 and their *Tourist's and Sportsman's Companion to the Counties of Scotland*, c1852. Lanark appears as map 24, dated 1847, with the same plan of Glasgow but with the addition of two un-named railway lines, the Edinburgh and Glasgow line in the north and the Glasgow, Paisley, Kilmarnock and Ayr line in the south.

2. (1852) KNIGHT, CHARLES (publisher)

GLASGOW

Size: 65 x 140 mm. Scale: [1:32000] or 1": 2666.7 feet.

"London: Charles Knight, 1851"

Opp. columns 1287-8 of *The Imperial Cyclopaedia. Sub-division: the cyclopaedia of the British Empire*. Vol.1.
London: Charles Knight, 1852.

N.L.S.: R.G.S. Library.

This small-scale depiction appears on the same page as illustrations of the Royal Exchange, College, Corn Exchange, Cross, Cathedral and Crypt. It provides a basic street pattern with the built-up area shaded in and several important public buildings (e.g. Normal Seminary, Exchange) identified. Although on a small scale, many names and much information is shown. Significant items marked include the proposed dock at Windmill Croft, the four bridges crossing the Clyde, the Zoological Gardens and the lines of the Edinburgh and Caledonian Railways. In spite of the date of publication, the representation of the city's western fringe appears quite restricted (e.g. only one part of Queen's Crescent is mapped, no building is shown on Elmbank

Crescent or Woodside Crescent and little is indicated west of these places). One transcription error would appear to be the appearance of Luke for Duke Street.

When compared with its contemporaries, the plan is seen to be a reduction and simplification of the 1852 edition of Aikman's engraving which accompanied the Blacks' *Picturesque Tourist of Scotland*, as can be discerned from the selection and siting of place names, boundary lines and other elements, in addition to the marking of the Caledonian Railway Station. This explains the dating of the plan as later than that marked on the page. Although it bears no title, a scale bar of 1000 yards is placed in the north-east corner.

APPENDIX B

GLASGOW SURVEYORS, 1700-1855.

The following is a tentative attempt at listing those individuals actively working or involved in the field of land surveying in Glasgow during the period under discussion. It is difficult to decide exactly those to be included, for there is a problem in the use of the term "surveyor", particularly in the later decades of the nineteenth century, and in the question of residence. Earlier notices were as likely to describe a person as "measurer" whereas later listings would include surveyors of police, taxes and other assessments. In addition, the differences between surveying and civil engineering or architecture are less easy to define by the 1830s. The selection has been based on a study of the major map lists, dictionaries of surveyors and local directories. Cartographers who produced maps and plans of Glasgow and its neighbourhood but who were resident elsewhere are excluded for the list tries to give an impression of those working within the city. It is also possible that certain individuals were resident in Glasgow but whose careers involved surveys elsewhere. Where there is a record of extant plans by these practitioners, their names are included. Overall, the names listed are those of men describing themselves at some stage in their careers, and, therefore, believing themselves to be known, as land surveyors and who were available for employment in that capacity. A supplementary list of names is included of those who are mentioned in notices or directories but for whom no surviving surveys can be found. The dates should be regarded as an estimate of their active life in Glasgow alone and not their whole career. Open ended entries denote a career continuing beyond 1855.

Surveying in Glasgow: an overview

When a broad perspective of the surveying profession in Glasgow is taken for the period up to 1855, certain significant trends can be discerned. Overall, the relatively small number of practitioners is quite remarkable. Only 41 surveyors have been definitely identified as resident in the city and successfully active in the field, in the sense that plans or commissions by them survive. Another 41 names have been recorded as possible additions to this total but have no recorded corpus of work. Given the brief nature of certain of these

careers, it can be tentatively assumed that fewer than 65 individuals were able to achieve something of a career, albeit brief in certain cases, in the business of producing maps and plans. If the initial group of 41 individuals is considered in detail, with allowances for employment commencing just prior to the terminal date, slightly less than one third (i.e. 31.7%) had careers lasting for 20 years or more; in the case of James Barrie, 56 years and David Smith, 50 years. Many had to supplement their incomes by embracing a variety of other occupations - teacher, bookseller and instrument-maker amongst others. Naturally, work from outside the Glasgow area would also support them (e.g. McArthur's engagement on the Breadalbane estates). Twenty-seven surveyors (i.e. 65.85% of the total) began their businesses after 1825 - a clear indication of the later development of the Scottish profession and of the impact of urban and social change, particularly from the 1830s onwards.

1. **ABERCROMBIE, Charles** 1780 - 1801.
A notice appears for him in the *Glasgow Mercury*, no.123, 4-11 May 1780 indicating earlier experience in England and he is recorded in the Glasgow directories up to 1801. From 1805, he was working in Ayrshire but in 1813 reported on roads in Hamilton.
2. **BARRIE, James** 1734 - 1789.
See introductory essay for details of Barrie's career and surveys.
3. **CLIMIE, Robert** 1836 - 1848.
Climie eventually settled at 36 Argyll Arcade in 1841 and several plans exist from this period.
4. **CORSAR, James** 1845 - 1848.
Although plans of areas in Perthshire and Angus by him have survived dating between 1834 and 1839, nothing appears to exist from his time in Glasgow when working alone. Between 1845 and 1846, he was in business with William Low and a plan of Campbelltown survives.
5. **FLEMING, Peter** 1802 - 1822.
Fleming announced his setting up in business in 1802 and was initially resident at William Kyle's in Kent Street. His career continued after emigration to Canada some time about 1822.
6. **GALE, William** 1834 -
Describing himself as a civil engineer and architect, he was in business with a series of other practitioners. Between 1834 and 1842, with Robert Scott and Stephen as Scott, Stephen and Gale, architects, surveyors and civil engineers. In 1842, with Cousin as architects and civil engineers in Edinburgh and Glasgow, at 153 Queen Street. From 1847, resident at 172 Buchanan Street.
7. **GARDNER, John** 1785 - 1822.
See introductory essay for details of Gardner's career and surveys. Surveyor for the city from 1792 and resident at 43 Bell Street from, at least, 1803.

8. GEMMELL, Alexander 1835 - 1850.
From 1844, at 121 Crown Street. Produced a series of plans for Hutcheson's Hospital between 1835 and 1844.

9. HALL, Francis 1813 - 1816.
Worked with Hugh Baird, surveyor to the Forth and Clyde Canal Company but, in addition, was known to be resident and surveying in the Glasgow area.

10. HARVIE, Robert 1828 - 1839.
In business with John Scouller in Ingram Street until May, 1833, and named as a trustee of William Kyle's will in 1839.

11. HEDDERWICK & KYLE 1847 - 1848.
A brief partnership at 57 West George Street, with a surviving Dunbartonshire plan of 1847. An advertisement appeared in *Glasgow Herald*, no.4631, 18 June 1847.

12. HODGE, Robert 1841 - 1842.
Born in Cardross in 1810 and surveyor of a plan of the city for the Glasgow New Water Company. Until 1842, he worked for Andrew Thomson before moving to England to be employed on the government survey. He later became surveyor and engineer to Plymouth Corporation.

13. JOHNSTONE, Ronald 1846 -
At 32 St. Enoch Square. Responsible mostly for mineral, particularly coal, surveys.

14. KIRKLAND, Alexander 1846 -
Of several addresses, with a surviving plan of Stobcross. More renowned as an important architect, he was responsible for the design of St. Vincent Crescent, 1850-55 and several other buildings. It is thought that he may have been more of a businessman using the talents of others. After emigrating to America, he became Commissioner of Public Buildings in Chicago in 1879.

15. KYLE, Thomas 1830 -
A relative of William Kyle, taking up his practice in May, 1837. From 1840, his address was 40 St. Vincent Place. One of the principal designers

of Kelvingrove Park. Regularly employed by the Council and Clyde River Trust.

16. KYLE, William 1796 - 1837.
 Founder of the major surveying business of the early nineteenth century. Beginning at his schoolroom in Wilson Street in 1795, Kyle was responsible for training several leading Glasgow surveyors, including David Smith. Employed by the Campbell family in feuing their Blythswood estate.

17. LAUGHLEN, Andrew 1821 - 1827; 1841 -
 An apprentice to William Kyle in the earlier period, thence working in Irvine (circa 1839). From 1842, his address was 58 St. Vincent Street.

18. LOW, William 1836 - 1846.
 Between 1836 and 1839, he was the junior partner of Robertson and Low at 68 St. Vincent Street. In 1840, he entered into partnership with Peter MacQuisten and appears to have succeeded him at 4 Dunlop Street. For the last two years of his recorded address, he was working with James Corsar. In 1843, he published proposed improvements for the line of the Caledonian Railway between Carlisle and Glasgow.

19. McARTHUR, John 1769 - 1783.
 Responsible for the first detailed plan of the whole city. A teacher and tradesman, elected burgess in 1779.

20. McCALLUM, Duncan 1801 - 1818.
 No record has been found of his address but responsible for several measurements and, at least, one surviving plan.

21. McCLURE, Hugh H. 1854 -
 At 8 Princes Square. His map surveyed in 1858 was the final independent plan of the city before the Ordnance Survey.

22. McFARLANE, Andrew 1837 - 1850.
 Trained by William Kyle, he was named as one of his trustees in 1839. His business began at 135 Buchanan Street and plans of Anderston, Greenock and Partickhill survive. He died on 13th January 1850.

23. McGHIE, R. & T. 1850 - 1855.
Produced several Lanarkshire plans. From 1852, at 189, then 187 Buchanan Street.

24. MACQUISTEN, Peter 1826 - 1840.
Responsible for road proposals and a plan of Dalmuir, MacQuisten was based at 4 Dunlop Street. In 1840, he entered into partnership with William Low, described as an engineer on the Great Western Railway, who appears to have succeeded to the business. Designed a plan for the Kinning House estate, centred on a large circus, which may be that shown on George Martin's city map of 1842.

25. MARSHALL, Thomas B. 1828 - 1836.
From 1831, Marshall described himself as a lithographic printer, as well as land surveyor.

26. MARTIN, George 1838 -
An engineer who produced plans of both Paisley and Glasgow.

27. MEIKLEHAM, Edward 1848 - 1852.
Resident in West Regent Street, Meikleham prepared a plan of the Glasgow area in 1852.

28. RICHARDSON, Thomas 1792 - 1829.
Apprenticed to John Ainslie and teacher of John James Roy, 1801 - 1808. Richardson drew a map of the Glasgow area published in 1795 and produced several urban, road and canal plans.

29. ROBERTSON, William 1850 -
Prepared feuing plans of Bothwell and Neilston.

30. ROBSON, Neil 1833 -
From 1841, resident in St. Vincent Street. Several coal, railway, road and feuing plans survive.

31. SCOULLER, John 1828 - 1833.
In partnership with Robert Harvie at 131 Ingram Street until the partnership dissolved in May, 1833. Harvie continued in business. Some estate and urban plans remain from this period.

32. SHANKS, James 1826 - 1855.
Shanks described himself as "civil engineer and road surveyor" but prepared a number of estate plans. From 1835, at 23 Garscube Place. He died in 1855.

33. SMITH, David 1804 - 1854.
Trained by William Kyle, Smith's first separate address was Double Dykes, Calton in 1811. From 1827, at 37 Virginia Street. He died on 6 October 1854.

34. SMITH, James 1842 -
In 1850, he announced himself successor to Andrew MacFarlane. From 1853 he was resident at 54 St. Vincent Street. Produced a feuing plan of the lands of Dowanhill in 1853.

35. TAYLOR, Alexander 1837 - 1846.
Taylor prepared several feuing plans, including parts of Ibrox and Partickhill, as well as a farm plan of Gartnavel. From 1842, his address was 68 St. Vincent Street, probably succeeding Robertson and Low. It is possible that he was the architect who designed Royal Crescent. He died in 1846.

36. THOMSON, Andrew 1834 - 1843.
From 1837, at 62 Buchanan Street. A plan of a canal branch at St. Rollox survives. His instruments, plans and office furniture were offered for sale in the *Glasgow Herald*, no.4287, 1 March 1844.

37. THOMSON, John 1836 - 1844.
Elected burgess in March 1839. His addresss between 1842 and 1844 was "at T. Kyle's".

38. WATT, James 1766 - 1771.
Although his career as an instrument-maker is well recorded, Watt's other interests included several surveys, particularly civil engineering work. Commissions came both from private concerns and municipal bodies (see Introduction).

39. WATT, John 1719 - 1737.
A teacher of mathematics in Glasgow with a council salary from 1720. Several plans of Renfrewshire and the West of Scotland are held in Birmingham Public Library.
40. WILSON, John 1795 - 1814.
Possibly working with William Kyle at the start of his career, Wilson was later surveyor and, subsequently, manager of the Kilmarnock - Troon Railway.
41. WILSON, William 1830 - 1833; 1843 - 1845.
Worked with Robert Scott between 1830 and 1833, during which time he surveyed sections of the Pollok and Govan Railway. His address during the later period was 13 Exchange Place.

SURVEYORS WITH NO EXTANT PLANS

1. AIRD, James 1841.
At 121 Fife Place

2. ALLAN & STEPHENSON 1847 - 1848.
1847 - 51 Ingram Street; 1848 - 49 West George Street.

3. BAYLISS, James 1841.
Sought employment as civil engineer, land surveyor, draughtsman and general measurer in *Glasgow Herald*, no.4039, 15 October 1841 and offered instruction in practical levelling and land surveying at 12 Great Clyde Street.

4. BLYTH, John 1808 - 1825.
Recorded in the Glasgow directories, variously described as surveyor, land surveyor, measurer or ordained measurer. In 1817 - 18, described as land surveyor, he was resident at 117 Saltmarket.

5. BROADFOOT & ADAMS 1827.
At 69 Ingram Street.

6. CARSWELL, James 1851.
At 106 South Portland Street, described as mining and land surveyor. A James Carsewell later became district resident engineer of the North British Railway, responsible for the design of Queen Street Station in 1878 - 1880.

7. CRAIG, Andrew 1833 - 1834.
At 67 Buchanan Street.

8. DAVIDSON, John 1834.
At 7 Park Place.

9. DODDS, Isaac 1847 - 1848.
At 172 Buchanan Street.

10. DODDS, John 1848 - 1850.
Described as civil engineer, land and mineral surveyor and referee, at 59 St. Vincent Street. Offered surveys and plans of every description of estate, as well as railway, canal and other public works in *Glasgow Herald*, no.4708, 13 March 1848.

11. JARVAYS (or JERVEY), John 1785 - 1806.
A notice in the *Glasgow Mercury*, no.405, 29 September - 6 October 1785 offers his surveying services, based on twenty years experience. He is variously described as vintner, inn and tavern keeper, land surveyor and sworn measurer, at the Bason Inn, west end of the Great Canal.

12. JONES, William 1808 - 1815; 1831 - 1834; 1842 - 1845.
Listed as gardener and land surveyor and in business for the first two years as Jones & Fleming. Of Lodgemyloons, Cowlairs, during the first notice of residence, thereafter at Green-market, with his house at Huntingdondale.

13. KYLE, William 1848.
At 57 West George Street, possibly a relation of William Kyle. Reappears in 1856-57, employed in the laying out and valuation of Queen's Park and working under Mr. Thomson, according to the Town Council proceedings in *Glasgow Herald*, no.5745, 3 April 1857.

14. McASLAN, Archibald 1840 - 1841.
At 62 North Frederick Street.

15. McCALL, Thomas 1852 -
At 48 Gordon Street.

16. McKENZIE, J. Munro 1854.
At 160 Hope Street.

17. MEIKLE, Alexander 1837.
A notice in *Glasgow Herald*, 5 June 1837, announced his land and mineral surveying business commencing at 75 Miller Street.

18. MERCER, Thomas 1780.
At Mr. John Wilson's, seed merchant, Tron Street. Later measurements of Rutherglen Green in 1798 and 1800 suggest he may have removed to that burgh.

19. MILLAR, James 1742.
Possibly later a schoolmaster in Rutherglen, fl.1755 -1760.

20. PARK, Robert 1834 - 1836.
Commenced business at 7 Park Place after seven years with William Kyle.

21. RAE, John 1832 -1835.
At Whitevale, Gallowgate.

22. REID, Alexander 1743.
An advertisement in *Glasgow Journal*, 7-14 November 1743 (see Introduction).

23. REID, James 1823 - 1827.
Of various addresses, including 611 and 74 Argyll Street.

24. RHIND, David 1810 - 1815.
Address given as Broomielaw. A David Rhind was also an important Edinburgh architect who made occasional visits to Glasgow and was responsible for the Scott Monument in George Square (1837) and the Commercial Bank Building in Gordon Street.

25. ROBERTSON & LOW 1836 - 1839.
At 68 St. Vincent Street.

26. SCOTT, Robert 1830 - 1840.
In partnership with William Wilson as Scott & Wilson, architects and surveyors (1830 - 1833), mostly at 118 Argyll Street. From 1834, at 23 South Hanover Street as Scott, Stephen & Gale until this dissolved in 1842.

27. SHEPHERD, Alexander 1760.
Near the College Kirk.

28. SLATER, J.R. 1844 - 1846.
At 16 St. Enoch Square.

29. SMITH, William 1847 - 1854.
Initially at 52 Brunswick Street.

30. STEEDMAN, J. 1832 - 1834.
At 9 Gordon Street and noted as contractor for Hutcheson's Bridge in 1833.

31. STEVEN 1789 - 1792.
South side of Argyle Street, by Horn's Land.

32. STEWART, Adam 1743.
(see REID, Alexander)

33. STRANG, William 1827 - 1837.
At 78 Great Hamilton Street. In 1832-3, described as "of Scott and Strang".

34. TAIT, John 1854 -
At addresses in West George Street.

35. THOM & MACKIE 1841.
At 45 Queen Street.

36. THOMSON, A.G. 1854.
Architect and civil engineer at 146 Buchanan Street. A notice in *Glasgow Herald*, no.5327, 17 February 1854, seeking to enter into a working partnership, includes surveying and the levelling of estates.

37. WARDEN, John 1819 - 1822.
At Commercial Inn Court, 413 Gallowgate.

38. WATERSON, John 1841 - 1845.
At 49 Renfield Street. Advertised as land and road surveyor in *Glasgow Herald*, no.4051, 26 November 1841.
39. WATSON, Robert 1854 -
At addresses in Buchanan Street.
40. WHARRIE & STEEL 1853 -
At 36 Renfield Street; later Wharrie & Dennison, mining engineers and land surveyors.
41. WIGHT, James 1853.
At 49 Oxford Street. It was only for 1853 that Wight described himself as a land surveyor, otherwise his entry in the Glasgow directory states he was an assurance agent and teacher of arithmetic and geography.

BIBLIOGRAPHY

- BARNETT, Muriel J.F. "Early map-makers and nineteenth-century surveyors of Aberdeen" *Scottish Geographical Magazine*, vol.79, 1963, pp.114-117.
- BROWN, John A. "The cartography of Glasgow (with list of old maps and illustrations reproduced)" *Scottish Geographical Magazine*, vol.37, 1921, pp.67-75.
- BRYDEN, David J. *Scottish Scientific Instrument-Makers, 1600-1900*. Edinburgh: Royal Scottish Museum, 1972.
- CLARKE, T.N. et al. *Brass & Glass: scientific instrument making workshops in Scotland as illustrated by instruments from the Arthur Frank collection at the Royal Museum of Scotland*. Edinburgh: National Museums of Scotland, 1989.
- CONZEN, M.R.G. "The use of town plans in the study of urban history" in DYOS, H.J. (ed.) *The Study of Urban History*. London: Arnold, 1968. pp.113-130.
- COWAN, William *The Maps of Edinburgh, 1544-1929*. 2nd ed. Edinburgh: Edinburgh Public Libraries, 1932.
- EDEN, Peter (ed.) *Dictionary of Land Surveyors and Local Cartographers of Great Britain and Ireland, 1550-1850*. Folkestone: Dawson, 1975-79. 3 vols. and supplement; as 1 volume, 1979.
- ELLIOT, James *The City in Maps: urban mapping to 1900*. London: British Library, 1987.
- GIBB, Andrew *Glasgow: the making of a city*. London: Croom Helm, 1983.
- GOMME, Andor and WALKER, David *Architecture of Glasgow*. London: Lund Humphries, 1968.
- HARLEY, John B. *The Historian's Guide to Ordnance Survey Maps*. London: National Council of Social Service, 1964.
- HODSON, Donald *The Printed Maps of Hertfordshire, 1577-1900*. Folkestone: Dawson, 1974.
- HOWGEGO, James L. *Printed Maps of London circa 1553-1850*. 2nd ed. Folkestone: Dawson, 1978.

INGLIS, Harry R.G., MATHIESON, John and WATSON, C.B. Boog *The Early Maps of Scotland with an account of the Ordnance Survey*. Edinburgh: R.S.G.S., 1934.

JOHNSTON, Duncan A. *Account of the Methods and Processes Adopted for the Production of the Maps of the Ordnance Survey*. 2nd ed. London: H.M.S.O., 1902.

KELLETT, J.R. "Glasgow" in LOBEL, M.D. (ed.) *Historic Towns: maps and plans of towns and cities in the British Isles, with historical commentaries, from earliest times to 1800*. Vol.1. London: Lovell Johns, 1969.

LOMAX, Eric S. "Bradshaw - the timetable man" *Antiquarian Book Monthly Review*, vol.2, 1975, no.9, pp.2-10; no.10, pp.13-16.

McLAREN, T. "Early plans of Perth" *Transactions of the Perthshire Society of Natural Science*, vol.10, 1938-42, pp.1-22.

MALLETT, Robert J. *The Military Survey of Scotland 1747-1755: an analysis utilising the dual concepts of map form and content*. Unpublished Ph.D. thesis, University of Aberdeen, 1987.

MELLOR, Roy E.H. "A note on the plan of Aberdeen by John Tallis circa 1852" *Aberdeen University Review*, vol.48, 1979, pp.204-207.

MOORE, John N. *The Historical Cartography of Scotland: a guide to the literature of Scottish maps and mapping prior to the Ordnance Survey*. 2nd ed. Aberdeen: Department of Geography, University of Aberdeen, 1991.

NIVEN, Alyson S. *Early Glasgow Maps: an index*. Glasgow: Mitchell Library, 1984.

OWEN, Tim and PILBEAM, Elaine *Ordnance Survey: map makers to Britain since 1791*. London: H.M.S.O., 1992.

REED, Peter (ed.) *Glasgow: the forming of the city*. Edinburgh: Edinburgh University Press, 1993.

Report on the Ordnance Survey of the United Kingdom for 1855-56. H.C. Paper 1857 (147. Sess.2) XXVII.309.

Report of the Progress of the Ordnance Survey and Topographical Depot, to the 31st. December 1858-65.

ROYAL SCOTTISH GEOGRAPHICAL SOCIETY *The Early Maps of Scotland with an account of the Ordnance Survey*. 2nd ed. Edinburgh: R.S.G.S., 1936.

ROYAL SCOTTISH GEOGRAPHICAL SOCIETY *The Early Maps of Scotland to 1850*. 3rd ed. Edinburgh: R.S.G.S., 1973, 1983. 2 vols.

ROYAL SCOTTISH GEOGRAPHICAL SOCIETY (Glasgow Centre) *Scotland on the Map: an exhibition of maps held in the Kelvingrove Museum, Glasgow, from March 24th to April 22nd, 1956, to mark the seventieth session of the Society in Glasgow*. Glasgow: R.S.G.S., 1956.

SKELTON, Raleigh A. "The Military Survey of Scotland 1747-1755" *Scottish Geographical Magazine*, vol.83, 1967, pp.5-16.

SMITH, David *Victorian Maps of the British Isles*. London: Batsford, 1985.

SMITH, David "The enduring image of early British townscapes" *Cartographic Journal*, vol.28, 1991, pp.163-175.

STONE, Jeffrey C. *The Pont Manuscript Maps of Scotland: sixteenth century origins of a Blaeu atlas*. Tring: Map Collector, 1989.

TAYLOR, Eva G.R. *The Mathematical Practitioners of Hanoverian England, 1714-1840*. Cambridge: Cambridge University Press, 1966.

WALKER, Frank A. "The Glasgow grid" in MARKUS, Thomas A. (ed.) *Order in space and society: architectural form and its context in the Scottish Enlightenment*. Edinburgh: Mainstream, 1982. pp.155-199.

WILLIAMSON, Elizabeth, RICHES, Anne and HIGGS, Malcolm *Glasgow. (The Buildings of Scotland)*. London: Penguin, 1990.

"Wood's town atlas" *British Museum Quarterly*, vol.27, 1963, pp.59-60.

